A Report on Global Illicit Drug Markets 1998-2007

Full Report

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
JUSTICE, FREEDOM AND SECURITY

A Report on
Global Illicit Drugs Markets 1998-2007

Full Report

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EUROPEAN COMMISSION

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The authors are solely responsible for the views in this book.

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Foreword

This report on the world's illicit drugs markets has been produced by an international team of experts on behalf of the European Commission.

The EU Strategy on Drugs 2005-2012 calls for evidence-based policies. The Action Plans on Drugs that the Commission has proposed in its Communications of 2005 and 2008 strongly emphasise this.

The European Union is relatively advanced in the understanding of the drugs problem in its own territory. Our data are getting better, and the way they are being collected and processed through the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) helps the EU and its Member States to deal with a highly complex problem. I believe that it is one of the reasons why the overall level of drug use and drug problems in most EU Member States is relatively modest compared to similar societies around the world and why it is broadly stable – even if some member states continue to face serious problems.

The situation in Europe is however far from ideal and much more work needs to be done. Drug abuse is also clearly part of a world-wide phenomenon, just as our policies are part of the multilateral drug control system.

In 1998 the UN, at a special session of the General Assembly, issued a declaration and action plans aimed at rolling back drug abuse and trafficking world-wide (UNGASS 98). In 2006, the UN's Commission on Narcotic Drugs, in order to determine to what extent UNGASS 98 had achieved its goals, adopted an EU Resolution calling for *"(..) an objective, scientific, balanced and transparent assessment by Member States of the global progress achieved and of the difficulties encountered in meeting the goals and targets set by the General Assembly at its twentieth special session (..)"*

The EU is aware of the fact that what is possible at its own regional level in terms of policy analysis is not necessarily within the reach of the UN or many of its member states. For this reason the European Commission provided the finance for the expert working groups convened by the Commission on Narcotic Drugs to prepare the assessment process. It is also with this in mind that the Commission had the present study carried out: to provide a dispassionate overview of the true nature and extent of the problem today, and to assist policy makers at national and regional levels to deal with it.

The approach we have chosen is to look at the drugs issue as if it were a licit market, in order to get an objective view of the way it works. This may help us to find better ways of dealing with it.

The report before you will in the future be followed by further work on policy options and those practices and approaches that are most effective in any given setting, region or country.

Jacques Barrot
Vice-President of the European Commission
Responsible for Justice, Freedom and Security

Some highlights from the report

1. The study has found no evidence that the global drug problem was reduced during the UNGASS period from 1998 to 2007. For some nations the problem declined but for others it worsened and for some of those it worsened sharply and substantially. The drug problem generally lessened in rich countries and worsened in a few large developing or transitional countries.

2. Production of opium was relatively stable until 2006, after which estimates show a large increase in Afghanistan. These estimates are somewhat troubling as there is no evidence in the world of unusual price declines or increases in consumption.

3. The global number of users of cocaine and heroin expanded over the period. In most Western countries the number of frequent users of heroin has declined through most of the last ten years, while a serious epidemic of opiate use occurred in some countries in Eastern Europe and Central Asia. The total number of cannabis users worldwide has probably declined.

4. Cannabis use has become part of adolescent development in many Western countries. For example in Australia, Switzerland and the United States about half of everyone born since 1980 will have tried the drug by age 21.

5. The markets for illegal drugs are mostly competitive, not vertically integrated or dominated by major dealers or cartels. The ties to terrorism and armed insurrection are important but only in a few places, such as Afghanistan and Colombia.

6. For cocaine and heroin the cost of production and refining in the source countries is only one to two percent of retail price in developing or transitional countries. The same is true for ATS manufacturers in rich countries. Only cannabis growers in rich countries receive a substantially larger share of the retail price. Trafficking across national boundaries accounts for perhaps 10 percent of the retail price of heroin and cocaine. The vast majority of costs for distribution are accounted for by payments to retailers and low level wholesalers in the consumer country.

7. Though illicit drug markets generate more than one hundred billion Euros in sales, the overwhelming majority of those involved in the drug trade make very modest incomes. Only a few individuals in the trafficking, smuggling and wholesale sector make great fortunes but that accounts for a small share of the total income.

8. The study concludes that the total revenues generated by illicit drug sales are smaller than the €285 Billion estimated by UNODC in 2002/2003. The study estimates a range for the total global cannabis retail market in 2005 between €40 Billion and €120 Billion, with the best estimate being about half of the UNODC's €125 Billion estimate (these values are in €2005).

9. Drug retail prices have generally declined in Western countries, including those that increased the stringency of their enforcement against sellers, such as the U.K. and the U.S.A. The study concludes that the declines in heroin and cocaine prices in these major markets have been large enough that total revenues are probably smaller in 2007 than in 1998. There are no indications that drugs have become more difficult to obtain. With the exception of one or two production and trafficking countries, the drug trade forms no major part of the national GDP.

10. Interventions against production can affect where drugs are produced, such as the changing location of coca growing within the Andean region which is plausibly related to the actions of the governments of Bolivia, Colombia and Peru to control the problem. However, there is a lack of evidence that controls can reduce total global production. The same applies to trafficking.

11. In general there is evidence of convergence of national drug policies. Demand reduction receives increasing emphasis. Harm reduction, still controversial in some countries, is finding wider acceptance. Some countries for whom tough enforcement had been absolutely central now accept measures such as substitution treatment as an important instrument for reducing heroin related problems. Policies towards sellers and traffickers have toughened.

12. Enforcement of drug prohibitions has caused substantial unintended harms; many were predictable.

13. A major limitation for the description of problems and policies regarding the world drug problem, as well as for the assessment of the effectiveness of policies, is the weakness of existing and lack of availability of relevant data.

Key findings

This document provides the key findings of a project assessing how the global market for drugs developed from 1998 to 2007 and describing drug policy around the globe during that period. To the extent data allows, the project assessed how much policy measures, at the national and sub-national levels, have influenced drug problems. The analysis is focused on policy relevant matters but it does not attempt to make recommendations to governments. The work was performed by the Trimbos Institute and the RAND Corporation under contract to the European Commission Directorate-General for Freedom, Justice and Security. This document is a shortened print version of the full study report. The full report includes the Main Report and six additional reports, of which abstracts have been included at the end of this document.

Operation of the world drugs market

For cocaine and heroin the cost of production and refining, as opposed to distribution, is a trivial share of the final price in Western countries, roughly one to two per cent. ATS manufacturers also receive a small share of the retail price. Only cannabis growers in rich countries receive a substantially larger share of the retail price. Smuggling across national boundaries, accounts for perhaps 10 percent of the retail price of heroin or cocaine. The vast majority of costs are accounted for by domestic distribution in the consumer country.

The overwhelming majority of those involved in the drug trade make very modest incomes. For example, the hundreds of thousands of heroin retailers in rich countries have net earnings of a few thousand Euros per annum. A few individuals in the trafficking, smuggling and wholesale sector make great fortunes but that accounts for a small share of the total income.

Production

UNODC and the United States government both produce annual estimates of production of cocaine and opium. Though the two sets of figures are inconsistent, reflecting the difficulty of making these estimates they both show that (1) production since 1998 has fluctuated around a fairly constant level for cocaine and, until 2006, also for opium. (2) production is increasingly concentrated in Afghanistan (opium) and Colombia (coca). These two drugs have always been produced by only a handful of countries but the dominant country now has an even higher share.

Cannabis is produced in over 170 countries, often indoors and in very small plots. Global production estimates are pure speculation. ATS (Amphetamine Type Stimulants) are manufactured in a few countries but still more countries than either coca or opium. The producer countries include rich ones (e.g. Netherlands for ecstasy), transition countries (the Russian Federation for amphetamines) and developing countries (e.g. Myanmar for methamphetamine). Moreover new countries enter the market on the production side in contrast to coca and opium where there is only redistribution of markets shares among the existing production countries. It is impossible to determine whether the global quantity of ATS production has increased or declined.

Consumption

The global number of users of cocaine and heroin expanded over the period; declines in some major mature markets were compensated by new user populations in countries previously little affected. For cannabis the total number of users worldwide has probably declined. For ATS no definite statement is possible.

For countries where cannabis use was common by the early 1990s (e.g. Australia, Canada, the United Kingdom and the United States) prevalence rates rose for the early part of the period, coming to a peak roughly between 1998 and 2002, and then fell substantially through 2006. For Brazil, China, India and Mexico cannabis use rates remain low relative to Western levels.

In most Western countries the number of frequent heroin users has declined through most of the last ten years while a serious epidemic of opiate use occurred in the Russian Federation and Central Asia. Iran may have the most severe opiate

consumption problem (2.8% of the 15-64 population). There is no evidence of much increase in heroin use in China or India, both traditional consumers of opiates.

From 1998 to 2007 cocaine prevalence declined in the United States and expanded in Europe, particularly in Spain and the United Kingdom. Cocaine use is rare in any country outside of North America, Europe and a few countries in South America (notably Brazil).

Revenues

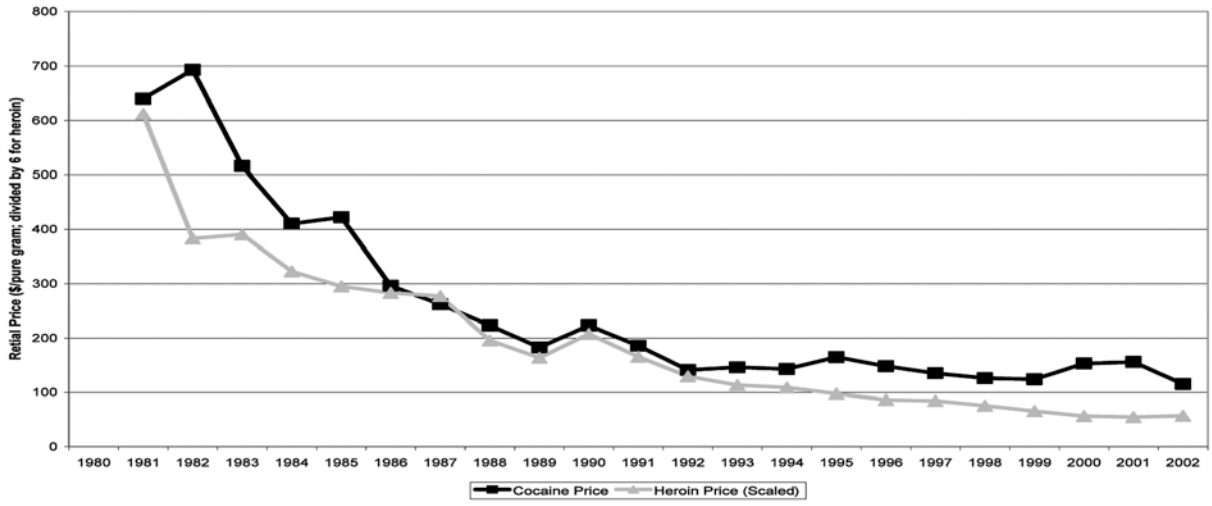
The project developed new estimates of total revenues in 2005 and of their distribution across the various levels of distribution and production. UNODC estimated total sales revenues in 2003 as $322 billion and wholesale revenues as $94 billion. Our retail and trafficking estimates for 2005 are substantially lower. Table 1 presents UNODC and project estimates for cannabis for the major consuming regions; cannabis was estimated by UNODC as generating the highest revenues of any drug. Our best estimates of retail revenues are less than one half those of the UNODC, though there is considerable uncertainty. Our estimates of the international trade value is also substantially less than that provided by UNODC.

Table 1: Estimates of the size of the retail cannabis market

		UNODC circa 2003	RAND Low	RAND Best	RAND High
North America	Expenditures (Billions)	€56.6	€7.8	€17.3	€36.1
	Metric Tons Consumed	6,034	1,609	3,600	7,492
Oceania	Expenditures (Billions)	€5.5	€1.4	€3.1	€6.5
	Metric Tons Consumed	684	118.9	266.1	553.6
West/Central Europe	Expenditures (Billions)	€35.2	€6.1	€13.5	€28.5
	Metric Tons Consumed	6,051	1,165	2,607	5,424

Global retail revenues have probably fallen because cocaine and heroin prices in major markets have fallen sharply. Figure 1, shows the decline in prices in the United States through 2003.

Figure: Cocaine and heroin prices, United States, 1980-2003



Drug-related problems

A nation's drug problem is not simply measured by the share of the population that uses some illicit drugs. It is also a function of the harms resulting, which differ among drugs and use patterns. Unfortunately very limited data were available on such major harms as the number of drug related deaths (DRDs), HIV/AIDS and drug-related crime.

In many Western countries the number of drug-related deaths has declined since about 2000. For example, in the European Union the EMCDDA estimates that the number of DRDs approximately doubled from 1990 to 2000 but then fell by about 15% to 2005. Australia experienced a decline of more than 50% between 2000 and 2005. For the major developing countries, including Brazil, China and India, no data were available on DRDs. For HIV many countries were able to reduce the incidence of new cases related to injecting drug use. There were no consistent sources of data on drug related crime for any country.

In a few developed countries there are estimates of the economic costs of drug use. The project analyzed these estimates with a goal of developing a global figure. There are so many fundamental differences in the methodology and quality of data series that the exercise was judged infeasible.

Policies

Countries use many different approaches to controlling illegal drugs. Some governments provide many services for individuals experiencing drug problems and regard the enforcement of the criminal law as a last resort, aimed primarily at protecting the public from predatory and dangerous activities related to drug selling; this list includes the Netherlands and Switzerland. Other nations see law enforcement as central to controlling drug use and related problems, with services for problematic users available only on a very limited basis; the Russian Federation and the United States are leading countries of this group. In practice, many countries have no clear strategy or policy, even if they may have a formal "Drug Strategy".

Policies appear to be converging across countries. Harm reduction (HR) has been accepted in a growing number of countries, albeit implemented in an inconsistent fashion. Some countries for whom tough enforcement had been central, notably China and Iran, now accept methadone maintenance. Globally, methadone maintenance has become much more widely available. Sweden, rhetorically opposed to Harm Reduction, has also adopted many HR programs. Even in the United States, whose federal government has continuously challenged HR in international fora, some state and municipal governments implement needle exchange. Iran, long among the very toughest in its response to violators of drug laws, now provides methadone to more than 100,000 opiate addicts.

Legal changes have reduced the criminal sanctions against drug users, both in Western countries and elsewhere. Marijuana in particular has seen reductions in legal penalties in many countries. More countries are finding ways of diverting from the criminal justice system criminal offenders whose activities are motivated by drug abuse. For example, the United Kingdom has used such programs since 2000 to massively increase the number of drug users in treatment from 100,000 in 2000 to 180,000 in 2005.

There has been simultaneously a modest toughening of enforcement against sellers in many countries. For example, the United Kingdom actively espouses harm reduction programs but has sharply increased the number of incarcerated drug sellers. Data from non-Western countries do not show a clear trend of increasingly punitive measures toward drug sellers and producers.

Prevention

The limited available evidence suggests that – in comparison to total spending on the illicit drug phenomenon - little is spent on primary prevention activities and that programs are generally of limited effectiveness. The principal funded programs are school based; some countries eschew mass media campaigns.

Though there is research evidence that effective school based programs are possible the programs that are adopted often have no demonstrated effectiveness; the US-based DARE program is the leading example. Moreover, programs are often poorly implemented. In countries facing major drug use for the first time, the prevention response has been uneven.

Treatment

There is a substantial body of evaluations of implemented treatment programs with positive outcome. However, only a few evaluations have been done outside Western countries. Opiates dominate treatment demand in most countries. Cannabis treatment demand has been rising throughout the Western world.

The total number of patients in methadone maintenance programs has grown substantially across the world and may now exceed 1 million. In some countries (e.g. Switzerland, the Netherlands and the United Kingdom) over half of the estimated opiate dependent population is now in treatment, mostly methadone maintenance.

Harm reduction

Harm reduction aims to reduce drug problems by directly targeting the adverse health- and social consequences of drug abuse; lowering the prevalence of drug use is not the goal of these interventions. Many harm reduction programs have been controversial since inception.

Most harm reduction efforts focus on injecting drug use. The canonical program involves the provision of clean needles by legally sanctioned operators (SEP: Syringe Exchange Programs). Other Harm Reduction interventions may include the provision of Naloxone to injecting drug users so that they can revive friends who have overdosed; distribution of condoms for safer sex and – in a very small number of countries – provision of safe injecting facilities.

Most Western countries have implemented many HR programs. Even amongst these countries though there is resistance to some elements of Harm Reduction. For example, heroin maintenance treatment, pioneered in Switzerland, is available on a routine basis in only five countries so far. The Russian Federation and Iran have recently begun to implement a variety of HR programs. A few Asian countries have begun implementing SEP as well.

Some countries continue to resist HR. Most are countries that have modest drug problems, such as Egypt and a group of Middle Eastern nations. HR remains essentially unknown in Latin America, where injecting drug use is not a primary concern.

Enforcement

Drug enforcement efforts take many forms.

Production controls

Efforts to control opium production have been of mixed intensity. In Burma the controlling separatist groups have cracked down on opium farmers in the Shan State. However in Afghanistan, the dominant producer, the government has opposed crop spraying, which might threaten its political stability, and has been unable to implement alternative livelihoods programs to a satisfactory level so far.

Eradication efforts against coca growing in Colombia and Peru have been consistently intense. In Bolivia relatively large sums were spent on developing legitimate economic opportunities in the principal coca growing area, the Chapare.

Because cannabis production is so dispersed around the globe, it is much more difficult to describe actions against growers. Mexico has aggressively sprayed marijuana fields. Morocco has adopted a more varied set of programs, including alternative livelihoods. Enforcement elsewhere has generally been modest. Enforcement against ATS producers is much more like investigation of traffickers or interdiction.

Interdiction

Interdiction activities (aimed at seizing drugs and smugglers in international traffic) are implemented on a large scale by a variety of countries including Iran, Mexico, the Netherlands, Turkey and the United States. The results are large seizures and the arrest of many smugglers. Global seizures, as a share of estimated global production, have risen substantially for both cocaine (from 23% in 1998 to 42% in 2007) and heroin (from 13% in 1996 to 23% in 2006).

Retail enforcement

Most drug enforcement targets retail sellers or users; retailing has the largest number of participants and is often the most visible sector. Numerous countries report active street markets for heroin while for marijuana the retail transactions often occur in private settings imbedded in social networks.

Table 2 provides data on drug arrests, by type of drug, in the European Union.

Table 2: Index of European arrests for drug offences, by drug, 2001-2006

	2001	2006
All reports (936,866)	100	136
Cannabis (550,878)	100	134
Heroin (77,242)	100	86
Cocaine (100,117)	100	161
Amphetamine (41,069)	100	141
Ecstasy (17,598)	100	102

(European Monitoring Centre for Drugs and Drug Addiction; http://www.emcdda.europa.eu/stats08/pppfig1)

Drug specific arrest rates are not available for the developing and transitional countries. Incarceration is reserved for dug sellers in most countries. The United States incarcerates far more drug dealers per capita than any other nation, roughly 500,000 in federal, state and local facilities.

Cannabis possession accounts for most arrests in almost all Western countries. Though the numbers of persons arrested is large for some countries, even in the United States a cannabis user has less than a 1 in 3,000 risk of being arrested for any given incident of marijuana use. Almost no cannabis possession arrests produce jail sentences.

Despite the expansion of the international money laundering control system the seizures of drug related assets have been slight in all countries, relative to the estimated scale of the trade.

Policy assessment

Though the international regime consisting of the three major UN conventions and the UN institutions (CND, INCB and UNODC) constitute an important influence, policy is made primarily at the national and sub-national level and needs to be assessed against the specific problems and goals of the country, province or city.

The variety of national problems

National drug problems differ substantially. For example, Colombia is greatly harmed by drug production and trafficking; they generate high levels of violence, corruption and political instability. Consumption of drugs is modest. For Turkey, the problem is largely confined to the corruption surrounding transhipment of heroin. In contrast, European countries such as Sweden, Switzerland and the United Kingdom have large domestic populations of dependent users of expensive drugs and minimal problems of violence, corruption or political instability related to production or trafficking. The differences in problems imply that policy has different goals.

Unintended consequences

Drug policy, particularly enforcement, has many unintended negative consequences. For example, Mexico's efforts to crack-down on drug trafficking is one factor generating a wave of horrifying killings. Incarceration for drug selling in the United States has resulted in many children deprived of the presence of their parents for extended periods.

We identified the various mechanisms that generate the unintended consequences. There are seven mechanisms that can generate unintended consequences: behavioural responses of participants (users, dealers and producers), behavioural responses of non-participants, market forces, program characteristics, program management, the inevitable effects of intended consequences and technological adaptation. The mechanisms can inform policy choices.

Drug epidemics

In examining variation across countries and over time, it is useful to think of drug use as spreading through 'epidemics'. Drug use is a learned behaviour, transmitted from one person to another. There is not literally an epidemic but the metaphor provides important statistical tools. Heroin is the drug classically associated with 'epidemics'. The model also works for cocaine powder and crack cocaine but does not seem to apply to cannabis.

This model helps assessment of changes in the number of Problem Drug Users in different nations in the same year. In the early stages of an epidemic the goal will be to prevent rapid growth in the number of new users; later, after the explosive phase is past, it will be to accelerate the numbers who quit or at least substantially reduce their consumption levels.

In many Western countries (e.g. Netherlands, Switzerland, and the United States) the population dependent on heroin is aging, as the result of a low rate of initiation, which brings in few younger users, and the long drug using careers of cocaine and heroin addicts. Treatment may reduce client drug use and has many beneficial effects for both users and society but it leads to long-term desistance by a small fraction of those who first enter.

Thus in assessing the effectiveness of drug policy at that stage of an epidemic, the number of drug users, even the number of problematic drug users, is not an appropriate indicator. Instead, governments can aim to reduce the adverse consequences of drug use by its current population of problematic drug users.

Is it possible to prevent an epidemic? Prevention is in principle the most useful. However both cocaine and heroin use have started at post-high school age, well after individuals have been exposed to prevention programs. Moreover prevention has not yet proven successful at the population level.

Treatment only indirectly effects initiation rates, since it aims at current heavy users. Harm reduction does not target either initiation or prevalence. That leaves enforcement as the one tool for preventing the start of an epidemic. There is no evidence that enforcement can prevent formation of a new market.

Production and trafficking controls

Interventions aimed at production and trafficking can affects where drugs are produced or trafficked but have not been able to reduce global output. As a consequence, the well intended efforts of one country to control production can harm other countries; thus the intensive efforts at control of production by Peru may well have worsened Colombia's problems.

The same analysis applies within a country. Large sections of Afghanistan are under the control of the Taliban, for which the drug trade is an important source of revenue. A government crack-down on opium production may shift production to the Taliban-controlled areas and enhance its funding and political base.

A rare and controversial enforcement success is the Australian "heroin drought". In late 2000, Australian heroin markets experienced an abrupt and large reduction in drug availability. Seven years later the market remains depressed. Probably this resulted from operations by the Australian and Asian governments aimed at major importers but little is known about the intervention.

Domestic enforcement

Could the higher enforcement against sellers account for the reduction in drug problems that has been observed in various countries? Tougher enforcement should reduce drug use by making drugs more expensive and/or less available. Retail prices have generally declined in Western countries, even those that intensified enforcement. There are no indications that the drugs have become more difficult to obtain.

Conclusions

We note again that this study aims to inform policy makers and not to provide recommendations.

The global drug problem clearly did not get better during the UNGASS period. For some countries (mostly rich ones) the problem declined but for others (mostly developing or transitional) it worsened, in some cases sharply and substantially. The pattern for drugs was also uneven. For example, the number of cannabis users may have declined but the sudden and substantial rise in cannabis treatment seeking suggests that consumption and harms may have gone up. On the other hand, for cocaine a roughly stable consumption was redistributed among more countries. In aggregate, given the limitations of the data, a fair judgment is that the problem became somewhat more severe.

Policy changes complicate policy assessment. We think that drug policy had no more than a marginal positive influence. Production and trafficking controls only redistributed activities. Enforcement against local markets failed in most countries

to prevent continued availability at lower price. Treatment reduced harms both of dependent users and of society without reducing the prevalence of drug use. Prevention efforts, though broad in many Western countries, were handicapped by the lack of programs of proven efficacy. Harm reduction diminished specific elements of the problem in some countries.

Enforcement of drug prohibitions has caused substantial unintended harms; many were predictable. The challenge for the next ten years will be to finwd a constructive way of building on these lessons so that the positive benefits of policy interventions are increased and the negative ones averted.

Observations clés

Ce document présente les observations clés d'un projet visant à évaluer l'évolution du marché mondial de la drogue de 1998 à 2007 et à décrire la politique menée dans le monde en matière de drogue au cours de cette période. Dans la mesure où les données disponibles le permettent, le projet évalue le rôle des politiques mises en place, à la fois au niveau national et local, vis-à-vis du problème de la drogue. L'analyse se concentre sur les questions d'ordre politique mais n'entend pas formuler de recommandations aux gouvernements. La recherche a été menée par l'Institut Trimbos et la RAND Corporation, au terme d'un contrat avec la Direction Générale Justice, Liberté et Sécurité de la Commission européenne.

Fonctionnement du marché mondial de la drogue

Le coût de production et de raffinage de la cocaïne et de l'héroïne, contrairement à celui de la distribution, ne représente qu'une infime partie du prix de vente final dans les pays occidentaux, soit environ 1% à 2%. Les fabricants de stimulants de type amphétaminique reçoivent également une faible part du prix de détail. Seuls les cultivateurs de cannabis établis dans les pays riches reçoivent une part sensiblement plus importante du prix de détail. Le passage en contrebande aux frontières représente peut-être 10% du prix de détail de l'héroïne ou de la cocaïne. La distribution dans le pays consommateur représente quant à elle la plus grande part des coûts.

L'écrasante majorité des individus impliqués dans le commerce de la drogue n'ont que de très modestes revenus. Par exemple, les centaines de milliers de petits dealers d'héroïne actifs dans les pays riches ont des revenus nets de quelques milliers d'Euros par an. Quelques individus actifs dans le trafic, la contrebande et la vente de gros font de grandes fortunes, mais cela ne représente qu'une faible part du revenu total.

Production

L'Office des Nations Unies contre la Drogue et le Crime (ONUDC) et le gouvernement des États-Unis produisent tous deux des estimations annuelles sur la production de la cocaïne et de l'opium. Bien que ces deux séries d'estimations ne se recoupent pas, reflétant ainsi la difficulté à établir de telles estimations, elles montrent toutes deux que (1) depuis 1998, la production fluctue autour d'un niveau constant pour la cocaïne et, jusqu'en 2006, également pour l'opium, et (2) que la production se concentre de plus en plus en Afghanistan (opium) et en Colombie (coca). La production de ces deux drogues est depuis toujours le fait d'une poignée de pays, toutefois le pays dominant détient à présent une part plus importante encore.

Le cannabis est produit dans plus de 170 pays, souvent en intérieur et en petits lots. Les estimations de la production mondiale ne sont que pure spéculation. Les stimulants de type amphétaminique sont produits dans un nombre restreint de pays, supérieur toutefois à celui des pays producteurs de coca ou d'opium. Les pays producteurs regroupent des pays riches, par exemple les Pays-Bas pour l'ecstasy, des pays en transition, par exemple la Fédération russe pour les amphétamines, et des pays en développement, par exemple le Myanmar pour la méthamphétamine. De plus, de nouveaux pays entrent sur le marché du point de vue de la production, contrairement à la coca et à l'opium, pour lesquels une redistribution des parts de marchés n'intervient que parmi les pays producteurs existants. Il est impossible de déterminer si la production mondiale de stimulants de type amphétaminique a augmenté ou reculé.

Consommation

Le nombre de consommateurs de cocaïne et d'héroïne dans le monde a augmenté pendant la période considérée; le déclin observé dans quelques marchés majeurs arrivés à maturité a été compensé par l'émergence de nouvelles populations de consommateurs dans des pays qui étaient jusqu'alors peu affectés. Le nombre total de consommateurs de cannabis dans le monde a probablement baissé. Enfin, aucun jugement définitif ne peut être porté sur les stimulants de type amphétaminique.

Dans les pays où la consommation de cannabis était courante au début des années 1990 (par exemple l'Australie, le Canada, le Royaume-Uni et les États-Unis), les taux de prévalence ont augmenté au tout début de la période, atteint un pic entre

1998 et 2002 environ, puis ont accusé un considérable recul jusqu'en 2006. Pour le Brésil, la Chine, l'Inde et le Mexique, les taux de consommation de cannabis restent faibles par rapport aux niveaux occidentaux.

Dans la plupart des pays occidentaux, le nombre de consommateurs fréquents d'héroïne a diminué quasiment tout au long des dix dernières années, alors qu'une importante propagation de la consommation d'opium a eu lieu dans la Fédération de Russie et en Asie centrale. C'est peut-être l'Iran qui a le plus gros problème de consommation d'opiacés (2,8 % de la population des 15 - 64 ans). Il n'y a pas de signes d'une particulière augmentation de la consommation d'héroïne en Chine ou en Inde, ces deux pays étant traditionnellement des consommateurs d'opiacés.

De 1998 à 2007, la prévalence de la consommation de cocaïne a reculé aux États-Unis et augmenté en Europe, en particulier en Espagne et au Royaume-Uni. La consommation de cocaïne demeure rare en dehors de l'Amérique du Nord, de l'Europe et de quelques pays d'Amérique du Sud (notamment le Brésil).

Revenus

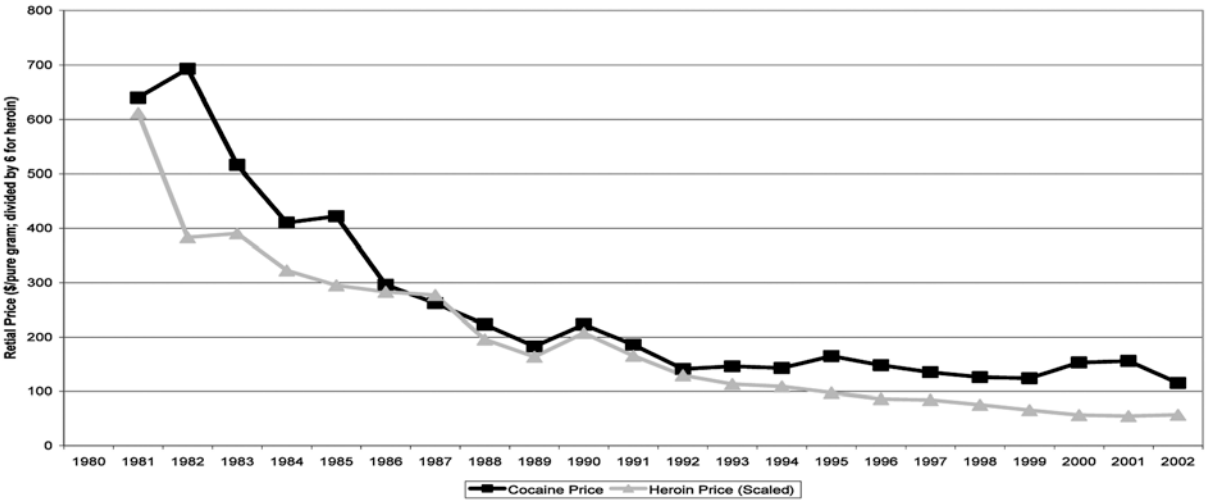
Notre projet a développé de nouvelles estimations du total des revenus générés par la drogue en 2005 et de la répartition de ces revenus entre les différents niveaux de distribution et de production. L'Office des Nations Unies contre la Drogue le Crime (ONUDC) a estimé le total des revenus tirés de la vente en 2003 à 322 milliards de dollars (USD) et celui des revenus de la vente de gros à 94 milliards de dollars (USD). Nos estimations pour la vente de détail et pour le trafic en 2005 se situent à un niveau sensiblement inférieur. Le Tableau 1 présente nos estimations et celles de l'ONUDC pour le cannabis dans les principales régions de consommation ; selon les estimations de l'ONUDC, le cannabis est la drogue qui génère les revenus les plus importants. Nos estimations hautes des revenus tirés de la vente au détail n'atteignent pas la moitié des valeurs formulées par l'ONUDC, bien qu'une grande incertitude demeure. Nos estimations de la valeur du commerce international sont également considérablement inférieures à celles fournies par l'ONUDC.

Tableau 1: Estimations de la taille du marché de détail du cannabis

		ONUDC environ 2003	RAND Estimation basse	RAND Estimation moyenne	RAND Estimation haute
Amérique du Nord	Dépenses (Milliards)	56,6 €	7,8 €	17,3 €	36,1 €
	Consommation en tonnes métriques	6 034	1 609	3 600	7 492
Océanie	Dépenses (Milliards)	5,5 €	1,4 €	3,1 €	6,5 €
	Consommation en tonnes métriques	684	118,9	266,1	553,6
Europe de l'Ouest/ Europe Centrale	Dépenses (Milliards)	35,2 €	6,1 €	13,5 €	28,5 €
	Consommation en tonnes métriques	6 051	1 165	2 607	5 424

Les revenus mondiaux tirés de la vente au détail ont probablement chuté en raison de la forte baisse du prix de la cocaïne et de l'héroïne sur les principaux marchés. Le graphique 1 montre la chute des prix aux États-Unis jusqu'en 2003.

Graphique 1: Prix de la cocaïne et de l'héroïne, États-Unis, 1980-2003



Problèmes liés à la drogue

Le problème d'une nation vis-à-vis de la drogue ne se mesure pas simplement à l'aune du pourcentage de la population qui consomme des drogues illicites. Il est aussi fonction des dommages engendrés, ces derniers variant selon les drogues et les modes de consommation. Très peu de données sont malheureusement disponibles concernant des dommages majeurs, tels que le nombre de décès liés à la drogue, la contamination par le VIH/Sida et la criminalité liée à la drogue.

Le nombre de décès liés à la drogue a reculé dans de nombreux pays occidentaux depuis environ l'an 2000. Au sein de l'Union Européenne par exemple, l'Observatoire européen des drogues et des toxicomanies (OEDT) estime que le nombre de décès liés à la drogue a plus ou moins doublé entre 1990 et 2000, mais qu'il a ensuite chuté d'environ 15 % jusqu'en 2005. L'Australie a vu ce nombre reculer de plus de 50 % entre 2000 et 2005. Pour les principaux pays en développement, y compris le Brésil, la Chine et l'Inde, il n'y a pas de données disponibles sur les décès liés à la drogue. Concernant le VIH, de nombreux pays ont réussi à réduire le nombre de nouvelles contaminations liées à la consommation de drogue par injection. Aucun pays ne dispose de sources d'informations fiables sur la criminalité liée à la drogue.

Quelques pays développés disposent d'estimations des coûts économiques de la consommation de drogue. Notre projet a analysé ces dernières afin de développer une estimation mondiale. Etant donné les différences fondamentales de méthodologie et de qualité des données, l'exercice a été jugé impossible.

Politiques

Les pays utilisent des approches différentes pour contrôler les drogues illicites. Certains gouvernements fournissent de nombreux services et prises en charge aux individus ayant des problèmes de drogue, et considèrent le volet pénal en dernier ressort, ce dernier étant principalement destiné à protéger la société des activités criminelles liées à la vente de la drogue; parmi ces pays, on trouve notamment les Pays-Bas et la Suisse. D'autres pays considèrent au contraire la répression comme l'élément central du contrôle de la consommation de drogue et des problèmes qui y sont liés, ne proposant des services en faveur des consommateurs problématiques que de façon très limitée. On retrouve en tête de ce groupe la Fédération de Russie et les États-Unis. En pratique, nombreux sont les pays sans réelle stratégie ou politique, même si formellement ils se sont parfois dotés d'une « Stratégie sur la drogue ».

Les politiques en matière de drogue semblent indiquer une convergence certaine entre les nations. La réduction des dommages (*Harm Reduction)* est acceptée dans un nombre croissant de pays, bien qu'appliquée de différentes manières. Certains pays où l'accent majeur est mis sur la répression, notamment la Chine et l'Iran, acceptent désormais des traitements de substitution à la méthadone. De façon générale le traitement à base de méthadone est à présent beaucoup plus répandu dans le monde. La Suède, théoriquement opposée au concept, a aussi adopté plusieurs programmes de réduction des dommages. Même aux

États-Unis, dont le gouvernement fédéral s'est constamment opposé à de tels programmes au sein des instances internationales, certains Etats et autorités municipales mettent en œuvre des programmes d'échange de seringues. Enfin l'Iran, pendant longtemps parmi les Etats les plus répressifs, fournit désormais de la méthadone à plus de 100 000 opiomanes.

Des réformes législatives ont réduit les sanctions pénales à l'encontre des toxicomanes, à la fois dans les pays occidentaux et ailleurs dans le monde. Les sanctions pénales pour la consommation de cannabis en particulier ont été révisées à la baisse dans de nombreux pays. Des solutions alternatives au règlement pénal des infractions commises par les toxicomanes et liées à leur addiction sont de plus en plus mises en œuvre. Le Royaume-Uni a par exemple mis en place de tels programmes depuis 2000 et a ainsi vu passer le nombre de toxicomanes en cure de 100 000 à 180 000 personnes entre 2000 et 2005.

Parallèlement on a pu observer un léger renforcement de la répression à l'encontre des dealers dans de nombreux pays. Par exemple, le Royaume-Uni soutient activement les programmes de réduction des dommages, mais a vu nettement augmenter le nombre d'incarcérations de dealers. Les données issues des pays non occidentaux ne démontrent pas un clair renforcement de la répression pénale à l'encontre des dealers et des producteurs.

Prévention

Les rares études disponibles suggèrent que – par rapport au montant total des dépenses consacrées au phénomène des drogues illicites – la part réservée aux activités de prévention est minime et que l'efficacité de tels programmes est généralement limitée. Les principaux programmes subventionnés sont réalisés en milieu scolaire, et certains pays évitent les campagnes dans les média.

Bien que des études aient démontré la potentielle efficacité de programmes de prévention en milieu scolaire, en pratique les programmes adoptés se révèlent souvent inutiles, comme en témoigne le fameux programme américain DARE. En outre, ils sont souvent mal appliqués. Dans les pays confrontés à une consommation importante de drogue pour la première fois, une réponse inégale à la politique de prévention est constatée.

Traitement

Il existe une quantité considérable d'évaluations des programmes de traitement de substitution qui ont obtenu des résultats positifs. Cependant, seules quelques évaluations ont été réalisées en dehors des pays occidentaux. La principale demande de traitement concerne les opiacés dans la plupart des pays. La demande de traitement vis-à-vis du cannabis ne cesse d'augmenter dans le monde occidental.

Le nombre total de patients pris en charge dans des programmes de traitement à la méthadone a considérablement augmenté à travers le monde et pourrait à présent dépasser le million d'individus. Dans certains pays, par exemple la Suisse, les Pays-Bas et le Royaume-Uni, plus de la moitié de la population estimée dépendante aux opiacés est à présent sous traitement, pour la plupart à la méthadone.

Réduction des dommages (Harm Reduction)

La réduction des dommages vise à réduire les problèmes liés à la drogue en ciblant directement les conséquences sanitaires et sociales découlant de l'abus de drogue; diminuer la prévalence de la consommation de drogues n'est pas le but de ces interventions. De nombreux programmes de réduction de dommages sont controversés depuis le début.

La plupart des efforts fournis pour la réduction des dommages se concentrent sur la consommation de drogue par injection. Le programme classique implique la fourniture de seringues propres par des opérateurs légalement autorisés (SEP: Syringe Exchange Programs – Programmes d'échanges de seringues). D'autres opérations de réduction des dommages peuvent comprendre la distribution de Naloxone aux consommateurs de drogue par injection pour leur permettre de réanimer des amis en cas d'overdose, la distribution de préservatifs, et – dans de rares pays – la mise à disposition de salles d'injection surveillées.

La plupart des pays occidentaux ont mis en place de nombreux programmes de réduction des dommages. Toutefois même dans ces pays il peut exister des résistances à certaines composantes de ces programmes. Par exemple, le programme de traitement à l'héroïne, lancé en Suisse, n'est réellement disponible que dans cinq pays jusqu'à présent. La Fédération de Russie et l'Iran ont récemment commencé à mettre en place divers programmes de réduction des dommages, tandis que quelques pays asiatiques se sont également engagés dans des programmes d'échange de seringues.

Quelques pays s'opposent encore aux programmes de réduction des dommages. La plupart de ces pays n'ont pas de problèmes de drogue majeurs, comme l'Egypte et quelques pays du Moyen-Orient par exemple. De tels programmes sont même largement inconnus en Amérique latine, où la consommation de drogue par injection est un problème marginal.

Répression

Les efforts du point de vue de la répression se présentent sous plusieurs formes.

Contrôles de la production

Les efforts réalisés pour contrôler la production de l'opium diffèrent en intensité. Au Myanmar, les groupes séparatistes dominants ont durement sévi contre les cultivateurs de pavot dans la région du Shan. En Afghanistan, le plus gros producteur d'opium, le gouvernement s'est opposé à l'éradication des plants de pavot par fumigation, car cela pourrait menacer sa stabilité politique, et a été jusqu'à présent incapable de mettre en place des programmes de développement alternatif satisfaisants.

Des efforts intenses d'éradication des cultures de coca ont été menés en Colombie et au Pérou. En Bolivie, des sommes relativement importantes ont été mobilisées pour développer des activités économiques licites dans la principale région de culture de coca, la province de Chapare.

La production de cannabis est tellement dispersée à travers le monde qu'il est beaucoup plus difficile de décrire les actions entreprises contre les cultivateurs. Le Mexique a entrepris une éradication agressive des champs de cannabis par fumigation. Le Maroc a adopté des programmes plus variés, y compris de développement alternatif. Ailleurs, la répression a été généralement modeste. Enfin, la lutte contre les fabricants de stimulants de type amphétaminique repose davantage sur la poursuite des trafiquants ou sur l'interdiction.

Interdiction

Les activités relatives à l'interdiction, qui visent la saisie des drogues et l'arrestation des trafiquants internationaux, sont réalisées à grande échelle dans plusieurs pays, y compris l'Iran, le Mexique, les Pays-Bas, la Turquie et les États-Unis. D'importantes saisies de drogues et l'arrestation de nombreux trafiquants en sont le résultat. Les saisies réalisées, en tant que part de la production mondiale estimée, ont considérablement augmenté pour la cocaïne (de 23 % en 1998 à 42 % en 2007) comme pour l'héroïne (de 13 % en 1996 à 23 % en 2006).

Répression contre la vente de détail

La plupart des mesures de répression visent les dealers ou les consommateurs; la vente de détail compte en effet le plus grand nombre de participants et constitue souvent le secteur le plus visible. De nombreux pays constatent pour l'héroïne une vente très active dans les rues, tandis que pour le cannabis les transactions se font souvent dans des espaces privés par l'intermédiaire de réseaux sociaux.

Le Tableau 2 présente l'évolution des arrestations, par type de drogue, dans l'Union européenne.

Tableau 2: Arrestations pour infractions liées à la drogue dans l'UE, 2001-2006

	2001	2006
Tous les cas signalés (936 866)	100	136
Cannabis (550 878)	100	134
Héroïne (77 242)	100	86
Cocaïne (100 117)	100	161
Amphétamine (41 069)	100	141
Ecstasy (17 598)	100	102

(Observatoire européen des drogues et des toxicomanies (OEDT); http://www.emcdda.europa.eu/stats08/pppfig1)

Les taux d'arrestations pour les infractions spécifiquement liées à la drogue ne sont pas disponibles pour les pays en développement et les pays en transition. L'emprisonnement est réservé aux dealers dans la plupart des pays, et les Etats-Unis sont le pays qui possède le taux le plus important de dealers emprisonnés à l'échelle de la population nationale, soit environ 500 000 détenus dans les prisons fédérales et locales.

Dans presque tous les pays occidentaux, la plupart des arrestations concernent la possession de cannabis. Bien que le nombre de personnes arrêtées soit considérable pour certains pays, même aux États-Unis un consommateur de cannabis a moins d'une chance sur 3000 d'être arrêté pour un incident lié à la consommation de cannabis. Par ailleurs, quasiment aucune arrestation pour possession de cannabis ne débouche sur une peine de prison.

Malgré le développement du système de contrôle international du blanchiment d'argent, les saisies des avoirs criminels issus du trafic de drogue demeurent faibles dans tous les pays par rapport à l'ampleur estimée du trafic.

Évaluation de la politique

Bien que le régime international, constitué des trois principales conventions des Nations Unies contre le trafic illicite de stupéfiants et de substances psychotropes, et des institutions des Nations Unies (la Commission des stupéfiants *CND*, l'Organe International de contrôle des stupéfiants *OICS* et l'Office des Nations Unies contre la Drogue et le Crime *ONUDC*), ait un rôle important, la politique est définie principalement au niveau national et régional et doit être évaluée en fonction des problèmes et objectifs spécifiques du pays, de la province ou de la ville.

Variété des problèmes nationaux

Les problèmes nationaux liés à la drogue varient considérablement. La Colombie est par exemple très touchée par des problèmes de production et de trafic, qui entraînent un niveau élevé de violence, de corruption et d'instabilité politique, alors que la consommation de drogue est faible. En Turquie, le problème réside essentiellement dans la corruption liée au transbordement de l'héroïne, alors que des pays européens comme la Suède, la Suisse ou le Royaume-Uni ont une importante population toxicomane et consommatrice de drogues onéreuses, mais de faibles problèmes de violence, de corruption ou d'instabilité politique liés à la production ou au trafic de drogue. Cette différence de nature implique ainsi des objectifs politiques différents.

Conséquences non voulues

La politique en matière de drogue, et en particulier son volet répressif, entraîne de nombreuses conséquences négatives non voulues. Les efforts du Mexique vis-à-vis de la répression du trafic ont par exemple constitué un facteur déclenchant pour des vagues d'assassinats sauvages. Aux États-Unis, les nombreuses incarcérations de dealers ont privé beaucoup d'enfants de la présence de leurs parents pendant de longues périodes.

Nous avons identifié divers mécanismes qui génèrent des conséquences non voulues, et ils sont au nombre de sept: la réaction comportementale des participants (consommateurs, dealers et producteurs), la réaction comportementale des non-participants, les forces du marché, les caractéristiques du programme, la gestion du programme, les effets inévitables des conséquences anticipées, et l'adaptation technologique. Ces mécanismes peuvent orienter les choix politiques.

La drogue et le concept d'épidémie

En observant les variations à travers les pays et les périodes, il est utile de penser la consommation de drogue comme la propagation d'une épidémie. La consommation de drogue est un comportement acquis, transmis d'un individu à l'autre. Il ne faut pas prendre le mot épidémie à la lettre, mais la métaphore fournit d'importants outils statistiques. L'héroïne est la drogue qui est classiquement associée au mot « épidémie ». Le modèle s'applique aussi à la poudre de cocaïne et au crack mais ne semble pas s'appliquer au cannabis.

Ce modèle permet d'analyser l'évolution du nombre de consommateurs problématiques dans différents pays, au cours de la même année. L'objectif à atteindre au cours des premiers stades d'une épidémie est d'empêcher une augmentation rapide du nombre de nouveaux consommateurs; ensuite, une fois le pic passé, il s'agit de favoriser une augmentation du nombre de consommateurs qui renoncent ou au moins diminuent sensiblement leur consommation.

Dans de nombreux pays occidentaux (par exemple les Pays-Bas, la Suisse et les États-Unis) la population dépendante à l'héroïne vieillit, en raison d'un faible taux d'initiation de jeunes consommateurs potentiels et de la longue durée de la toxicomanie pour la cocaïne et l'héroïne. Les traitements peuvent réduire la consommation et présentent de nombreux effets bénéfiques pour les toxicomanes et la société, mais ils entraînent aussi un abandon prolongé de cure par une petite fraction de patients.

Par conséquent, en évaluant l'efficacité de la politique en matière de drogue à ce stade de l'épidémie, le nombre de consommateurs de drogue, y compris le nombre de consommateurs problématiques, ne constitue pas un indicateur approprié. Au lieu de cela, les gouvernements peuvent tenter de réduire les conséquences indésirables découlant de la consommation de drogue de leur population actuelle de consommateurs problématiques.

Est-il possible de prévenir une épidémie? La prévention est en principe le moyen le plus utile. Cependant, la consommation de cocaïne et d'héroïne commence après les études secondaires, bien après le suivi des programmes de prévention en milieu scolaire. De plus, la prévention ne s'est pas encore révélée efficace à l'échelle de la population.

Le traitement n'affecte que de manière indirecte les taux d'initiation, puisqu'il ne s'adresse qu'aux gros consommateurs avérés. La réduction des dommages ne cible ni l'initiation ni la prévalence de la consommation. Il ne reste comme seul outil pour prévenir le déclenchement d'une épidémie que la répression, et il n'est pas prouvé que la répression puisse empêcher la formation d'un nouveau marché.

Contrôles de la production et du trafic

Les interventions axées sur la production et sur le trafic peuvent avoir un effet sur les lieux de production ou de trafic, mais elles n'ont pas réussi à réduire la production mondiale. Par conséquent, les efforts bien intentionnés d'un pays pour contrôler la production peuvent nuire à d'autres pays; ainsi, les efforts intensifs menés par le Pérou pour le contrôle de la production pourraient bien avoir aggravé les problèmes en Colombie.

La même analyse s'applique au sein même d'un pays. De larges régions en Afghanistan sont contrôlées par les talibans, pour qui le commerce de la drogue est une importante source de revenus. Une répression gouvernementale de la production d'opium pourrait déplacer la production vers les régions qui sont sous contrôle des talibans et renforcer ainsi leurs finances et leur base politique.

Un cas rare et controversé d'une opération de répression réussie est celui de l'Australie (*«heroin drought»)*. Vers la fin de l'année 2000, le marché de l'héroïne en Australie a subi une chute brutale et généralisée de l'offre disponible. Sept ans plus tard, le marché est toujours déprimé. C'est probablement le résultat des opérations menées par les gouvernements australien et asiatiques à l'encontre des plus grands importateurs mais les détails sont très peu connus.

Répression nationale

La répression accrue contre les dealers peut-elle avoir participé à la diminution des problèmes liés à la drogue observée dans différents pays? Une répression plus sévère devrait réduire la consommation en faisant augmenter les prix et/ou en réduisant la disponibilité. Les prix de détail ont généralement chuté dans les pays occidentaux, même parmi ceux qui ont intensifié la répression. Aucune indication ne permet en outre de conclure qu'il est devenu plus difficile de se procurer de la drogue.

Conclusions

Nous soulignons de nouveau le fait que cette étude vise à informer les décideurs politiques et non à formuler des recommandations.

Le problème mondial de la drogue ne s'est manifestement pas amélioré pendant la période de l'UNGASS (Session Spéciale de l'Assemblée Générale des Nations Unies). Pour certains pays, riches pour la plupart, le problème a faibli, mais pour d'autres, en développement ou en transition pour la plupart, le problème a empiré, brutalement dans certains cas. Les tendances se sont révélées contrastées. Par exemple, le nombre de consommateurs de cannabis a peut-être diminué mais la hausse soudaine et considérable de la demande de traitement pour le cannabis suggère que la consommation et les dommages se sont peut-être accentués. D'un autre côté, la consommation à peu près stable de cocaïne a été redistribuée entre de plus nombreux pays. Au total, étant donné les données limitées, il paraît légitime de penser que le problème s'est aggravé dans une certaine mesure.

Les changements de politiques en compliquent l'évaluation. Nous sommes d'avis que la politique en matière de drogue n'a eu qu'une influence positive marginale. Les contrôles au niveau de la production et du trafic n'ont fait que redistribuer les activités. La répression sur les marchés locaux pour réduire la disponibilité continue de la drogue à des prix plus bas a échoué dans la plupart des pays. Les traitements ont réduit les dommages causés aux toxicomanes ainsi que les dommages sociaux,

sans réduire la prévalence de la consommation. Les efforts de prévention, quoiqu'importants dans plusieurs pays occidentaux, ont été désavantagés par le manque de programmes dont l'efficacité serait prouvée. La réduction des dommages a quant à elle agi sur certains éléments spécifiques du problème dans quelques pays.

La mise en œuvre des interdictions en matière de drogue a causé de considérables dommages non voulus, dont une large part était prévisible. Le défi à relever pour les dix prochaines années consiste ainsi à trouver une manière constructive de tirer les leçons du passé afin que les effets positifs des actions politiques soient accentués et que les effets négatifs soient écartés.

Main Report

Assessing changes in global drug problems, 1998-2007

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1 Introduction and methodology

This Report provides an assessment of how the global market for drugs developed from 1998 to 2007[1] and describes drug policy around the globe during that period. To the extent data allow, it then assesses how much policy measures, at the national and international levels, have influenced drug problems. The Report is intended to help inform the deliberations about the 1998 UNGASS resolution at the 2009 session of the Commission on Narcotic Drugs in Vienna, as well as longer-term discussions of drug policy at the national level. The analysis is focused on policy relevant matters but it does not attempt to make recommendations to governments, reflecting the diversity of contexts and values in which policy is implemented.

This document provides the main Report of a project conducted over a period of 12 months by the Trimbos Institute and the RAND Corporation under contract to the European Commission. The Report draws on a number of other supporting documents from the study that are briefly described in the following paragraphs, along with the methodology of the project.

The European Commission launched this project by seeking an analysis of the main characteristics, mechanisms and factors that govern the global illicit drugs market and to examine the extent to which perception of this issue matches reality. The project was to address, inter alia, both supply and demand in the different parts of the world, estimate the size of the global illicit drugs market and also its costs for society, taking into account the costs of international control measures. Other objectives included an assessment of how the illicit drugs phenomenon developed over the past decade and how these developments can be explained.

In addition the Commission called for an analysis and description of the main drug policy models that have been implemented in different countries to tackle the drugs phenomenon in the past decade. This was to include a comparative analysis of the character and perceived impacts of drug-demand-reduction and supply-reduction policies on the drug problems, including health and social well-being, corruption and socio-economic development. The Commission also sought assessment of the possible unintended consequences of drug policy interventions.

Not all of these questions turned out to be answerable. We did conclude that during the period 1998 to 2007 the size of the global illicit drug problem did not decline; indeed, it has most probably grown somewhat worse over that time. Some countries' drug problems (especially the heroin and cannabis problems in many developed countries) have stabilized and probably declined but drug problems have worsened substantially in some developing and transitional countries. While it was not possible to produce a robust estimate of the total revenues from drug sales, it does appear that the existing estimates substantially overstate both the retail value and the international trade component of the drug market. Close examination of the methods used to produce estimates of the economic costs of the drug problem in various nations showed such differences in concepts used and the nature of the available data that it was judged impossible to produce estimates of the global costs of drug use and distribution.

We examined 18 countries in detail. Though there are many differences in drug policy across nations, we found that national drug policies changed in a moderately consistent fashion over the period, with an increased focus on helping users and, less strongly, on punishing traffickers and sellers. Though there is a strong research base for the claim that treatment can reduce the adverse effects of drug use for both users and society, there is no evidence that any specific policy instrument can reduce the number of drug users. The relationship between drug policy and changes for the better in drug use or drug problems is marginal at best. The strongest evidence for this conclusion is the marked similarity in drug trends (if not in levels of drug problems) in countries with very different drug policies e.g. the United States of America, the United Kingdom, the Netherlands, Switzerland and Australia.

There are many unintended negative consequences of drug policy interventions, particularly on the supply side. Building on an innovative analysis of the issue by the Executive Director of the United Nations Office for Drugs and Crime (UNODC), we present a new framework for understanding what generates these consequences.

1 Though we aim to present data through 2007, for many countries and series data are available only through 2006 or even 2005.

The study covered four drugs in detail; cannabis, cocaine, heroin, and Amphetamine Type Stimulants (ATS[2]). These four drugs account for most of the global drug problem and certainly they dominate both discussion and measurement. In some nations other drugs are important but they either contribute little to the total global market for illicit drugs or they are not the subject of much explicit policy making. For example sniffing of volatiles by adolescents is common in countries as different as Scotland and Mexico; however little is known about this phenomenon and there are few interventions specifically targeted at it.

The project relies primarily on existing studies and data from national and international sources, particularly the EMCDDA (European Monitoring Centre for Drugs and Drug Addiction), and the UNODC (United Nations Office on Drugs and Crime). We did however attempt to augment these data sources for individual countries. Given that nations differ widely in the nature of their problems and policies, and given limitations of time and budget, we could not collect data in every country. Instead we selected 18 countries to examine in detail. Representing the various regions of the world we included: the largest by population (China, India, the United States Brazil and Russia); some countries that had particularly important roles in the drug market (Colombia, Mexico and Turkey); some countries that had recently transitioned from Communist regimes (e.g. the Czech Republic, Hungary and Russia); and others that had tried a variety of drug policy approaches (e.g. Australia, the Netherlands, Switzerland and Sweden). South Africa was picked as the only major African nation for which adequate data might be available. In each country we interviewed selected experts to supplement the written data. Report 4 ("National drug problems and policies: an integration of 18 country studies") presents the 18 individual country reports, as well as an integrating essay describing the patterns of change in problems and policies in those countries.

For Afghanistan, central to the heroin market, we relied on the many published studies. For Iran, an important nation for both problems and policies with respect to opiates, we were dependent on a much smaller published literature and on expert judgement.

This main report relies heavily on the other project activities. We developed new estimates of the size of the world drug market, summing a series of estimates of the major national markets and covering the retail, trafficking and production levels (Report 2 "Estimating the size of the global drug market revenues"). An effort was also made to estimate the economic costs of drug use in those countries for which appropriate data were available (Report 3 "Estimating social costs of illicit drugs across countries"). The study concluded that existing data and concepts varied so much across countries that it was possible neither to aggregate over countries nor to track how economic costs had changed over time in countries.

The study is analytically focused on the markets for drugs and brings a largely economic approach to the issue as reflected in Report 1 ("Assessing the operation of the global illicit drug markets"). That does not mean that we analyzed only those things that can be measured in money terms. Thus Report 5 ("The unintended consequences of drug policy") assesses what is known about the unintended effects of drug control measures, many of which are essentially not susceptible to economic valuation.

A major limitation for our description of problems and policies, as well as for the assessment of the effectiveness of policies, is the weakness of existing data. Rather than provided detailed caveats for every component of the study, many of which draw on the same or similar data sources, we have described the most important methodological problems confronting this area of monitoring and analysis in a single document, Report 6 ("Methodological problems confronting cross-national assessments of drug problems and policies").

2 The three main types of ATS are amphetamines, ecstasy and methamphetamines.

2 Markets and quantities

2.1 Operation of the markets

Efforts to control drug production and distribution rest on assumptions about how the markets for these substances are organized, who participates and how the market responds to enforcement and other control efforts. This is the subject of Report 1.

A great deal can be learned simply from observation of the price of drugs as they flow through the distribution system from farm to retail. Table 1 presents some data for cocaine and heroin from about the middle of our study period, tracking the flow from growing in Colombia and Afghanistan to sale in Chicago or London.[3] These figures are indicative rather than precise. A similar mark-up from production to retail sale can be observed with ATS[4] but the mark-up from production to final sale is less for cannabis produced in the consuming country, probably both because the distribution chain is shorter[5] and the penalties following detection are generally lower when compared to cocaine and heroin. The propositions emerge from this Table:

1. The cost of production, as opposed to distribution, is a trivial share of the final price in Western countries, roughly one to two per cent. That statement holds true even if one adds the cost of refining.
2. The vast majority of costs are accounted for by domestic distribution in the consumer country. Smuggling, which is the principal transnational activity, accounts for a modest share but much more than production and refining in the source country.
3. Most of the domestic distribution revenues go to the lowest levels of the distribution system, even though the great individual fortunes are made at the higher levels of the trade. The high costs of distribution represent primarily the need to compensate low level dealers for the risks of arrest or incarceration and, in some countries, of violence by other participants. This does not require that retailers be at higher risk of detection and punishment compared to wholesalers and traffickers; it is just that the risk is distributed over a much smaller quantity of drug at the retail level.[6]

Table 1: Prices of cocaine and heroin through the distribution system ca. 2000 (per pure kilogram equivalent)

Stage	Cocaine	Heroin
Farm gate	$650 (Leaf in Colombia)	$550 (Opium in Afghanistan)
Export	$1,000 (Colombia)	$2,000-4,000 (Afghanistan)
Import	$15-20,000 (Miami)	$35,000
Wholesale (Kilo)	$33,000 (Chicago)	$50,000 (London)
Wholesale (Oz)	$52,000 (Chicago)	$65,000
Retail[7] (100 mg. pure)	$120,000 (Chicago)	$135,000 (London)

(Drug Enforcement Administration; EMCDDA; UNODC; Matrix Kownledge Group, 2007)

Farmers in both Afghanistan and Colombia are independent entrepreneurs, though paying taxes to various quasi-state authorities like the Taliban and the FARC (The Revolutionary Armed Forces in Colombia). In the case of Afghanistani opium farmers, they are imbedded in a web of complex credit relations with richer farmers, which to some extent traps them in opium growing (Buddenberg and Byrd, 2006). Trading in Afghanistan is also characterized by many small traders, at least at the initial stage; there may be some degree of regional cartelization closer to the point of export (Byrd and Jonglez, 2006).

3 These figures, like many others in this report, are presented in dollars rather than Euros. This is a consequence of how they appear in the source documents. Dates are often not precise, so conversion to Euros would also be approximate.

4 For example, the UNODC reported that pills manufactured in the Netherlands cost 1-3 Euros per tablet and sold at retail in Germany for 8-22 Euro per tablet [http://www.unodc.org/documents/commissions/CND-Session51/CND-UNGASS-CRPs/ECN72008CRP04.pdf: accessed February 12 2009]

5 The smaller number of transactions from producer to final user means that fewer individuals have to be compensated for taking risks.

6 This is easily explained in the standard risk compensation model used by economists. Assume that a trafficker sells 1 kilogram of cocaine and has a 1 percent probability of being imprisoned for one year as a result of the transaction; the rich trafficker values a year in prison at 100,000 Euros. A retailer sells 1 gram of cocaine and has only a 1 in 1,000 chance of the same imprisonment; he values a year in prison at 25,000 Euros. The trafficker will charge 1 Euro per gram to cover the risk, while the retailer, even though he has a lower chance of being jailed and values that less highly, needs 25 Euro to cover the risk associated with one gram The figures are intended to be illustrative only.

7 The ratio of the retail price to the export price is misleading as a measure of the relative costs of the different chains in the distribution system because of seizures. For example, if one third of all cocaine exports are seized, then it takes three kilos of export level cocaine to support two kilos of retail sales and the cost share associated with exports should be increased by half. However, this makes small difference here because the export price is so low relative to retail.

The industry is not vertically integrated; for example, smugglers mostly sell to independent wholesalers, who in turn sell to independent retailers.[8] There is no indication of monopoly or even of cartels in most markets.[9] While in some countries, such as Mexico, there is a great deal of competitive violence, in other nations there is also considerable working collaboration among operators in the same market, at the same time as they compete on price for the same customers (Pearson and Hobbes, 2001). Paoli (2002), in a detailed study of drug markets in Frankfurt and Milan conclude that the sellers were essentially price takers rather than price setters.

The connection of drug production and trafficking to organized crime varies across countries but analysis is bedevilled by ambiguity about the proper use of the term "organized crime". Since drug distribution often requires a degree of co-ordination in order to be efficient, it will involve at least a modicum of organization among criminals. The more useful question is whether it is connected to organized crime involving other criminal activity, such as gambling, prostitution, extortion etc. That seems to depend on the degree of centralized corruption in a country. For example in some countries it appears that the same police officials who protect corrupt public procurement rackets are also involved with drug trafficking. In contrast drug distributors in the United States over the last two decades have been specialized and independent of other racketeering organizations, as shown in a detailed study of large scale cocaine distribution organizations in the early 1990s (Fuentes, 1998). ATS production and distribution is frequently connected to gangs with broader interests, particularly motor cycle gangs. This may in part represent the lack of a strong ethnic base for importing of the drug, particularly if it is produced domestically. For example, in Australia, where the importation of heroin has been dominated by Chinese and Vietnamese groups, the amphetamine market is primarily composed of groups of local residents that produce domestically (Andreas, 2007).

There is also great interest currently in the connection between drug trafficking and terrorist and guerrilla groups. Al Quaeda and the Taliban certainly generate earnings from both the production of opium and early stage trafficking of heroin. FARC in Colombia has in the last decade depended heavily on taxation of coca growers and perhaps also on cocaine exports (Sheehan, 2000). The PKK (the principal Kurdish terrorist organization in Turkey) has earned money from heroin distribution in Western Europe (Bovenkerk and Yesilgöz, 2004) and there are occasional allegations of connections between drug trafficking and the Tamil Tigers in Sri Lanka (Cillufo, 2000) and the IRA in Northern Ireland (Cillufo, 2000). Drug trafficking may be an important source of income for these groups, even if they do not account for a large share of drug trafficking revenues. Separatist groups in Myanmar have long relied on opium and heroin related industries for income (Kramer, 2005).

A striking characteristic of drug distribution in the Western world is the prominence of immigrant groups. For example, in Australia, Chinese and Vietnamese organizations have been prominent in heroin smuggling and high level distribution (Parliament of the Commonwealth of Australia, 1995). In the United States Colombian and Mexican groups have dominated cocaine smuggling and are important in high level domestic distribution. Throughout Western Europe, immigrant groups from various transhipment countries have been important (Paoli and Reuter, 2008). This probably reflects on the one hand the advantages such groups have in dealing with exporters from the transhipping countries (such as Albania, Pakistan and Turkey) as well as in evading local police efforts[10] and on the other their relatively weak legitimate opportunities in their host countries[11]. However in many of the same Western European nations, non-immigrant groups appear to be dominant in the distribution of cannabis and ATS.

Though drug markets generate hundreds of billions of dollars in sales and have created great wealth for some traffickers, it is important to understand that the overwhelming majority of those involved in the drug trade make very modest incomes. For example, though growing opium is much more profitable than growing other crops in Afghanistan, the average opium producing household probably earns less than $3,000 from that activity throughout much of this period.[12] At the other end of the distribution chain, in retail markets in rich countries, a few studies of drug sellers in the United States have found net earnings in the order of a few thousand dollars per annum (e.g. Levitt and Venkatesh, 2000; Bourgois, 2002). Partly this reflects the fact

8 There is no agreed terminology for the various levels of the market. We use the term smuggler or trafficker for those that bring drugs in large quantities (e.g. kilograms of heroin) across international boundaries. Those who handle large quantities domestically will be referred to as wholesalers and those who sell to final customers are designated retailers. Those who operate at intermediate levels, involving for example the sale of a few grams to heroin retailers, will be characterized as low level wholesalers.

9 References to the Medellin "cartel" were inaccurate. There was no evidence that it had the ability to restrict production or export. Rather it was a complex set of collaborative and competitive relationships for which the term "syndicate" would have been more appropriate.

10 For example, language can be a major barrier. Few European police are able to understand the various dialects spoken in Albanian immigrant communities.

11 In this respect Paoli and Reuter observe that the large Iranian diaspora in Europe, though coming from a major trans-shipment and consuming country, are little involved in drug trafficking. This probably reflects their more middle-class origins and better opportunities in their new countries.

12 UNODC (2003) estimated per farmer income for the period 1994-2000at $475-950 per annum (pp.62-64). In 2002, with opium prices ten times as high, the UNODC tentatively estimated that the figure might be $5,000; prices have fallen substantially since then so that the per farmer income figure has also declined a great deal.

that those who sell are themselves often heavy users of drugs and thus have poor legitimate earning prospects; this means that they are willing to sell drugs for relatively low wages.

The usual explanation for high earnings in the drug trade is compensation for risks. It is thus surprising that a number of studies of mid-level dealers (e.g. Matrix Knowledge Group, 2007; Pearson and Hobbs, 2001) find that these individuals earn very large incomes indeed, in the hundreds of thousands of Euros annually, though the risk of incarceration or of experiencing violence seem to be small.[13]

Critical for understanding how drug markets respond to government interventions are two parameters, the elasticities of demand and supply. There is a great deal of work on the first (see e.g. the survey of Grossman, 2004) in Western countries, particularly the United States and Australia. In general the research finds that for cocaine and cannabis the elasticity of demand (the percentage decrease in demand in response to a one percent increase in price) is about -0.5, similar to that for tobacco. Thus an increase in the price of those drugs will reduce consumption but will also result in higher revenues for the distributors. For heroin there are few studies and these often draw on long-past experiences in countries where the opiates were legal.[14] A rare exception is Bretteville-Jensen (2006), who estimates the elasticity of demand among heroin addicts in Oslo using interview data from 1993-2006; she finds that for those who are not active drug sellers the price elasticity of demand is -0.33 and for active sellers it is -0.77.

There are no estimates of the elasticity of supply, i.e. of how much supply increases in response to a 1% increase in price. Many economists (e.g. Becker et al., 2006) assume that there are no fixed factors of production and that the elasticity is infinite. I.e. producers and distributors are willing to produce any quantity at the existing price. This implies that shifting down demand, for example through effective prevention or treatment, will not result in any decline in price. Kleiman (1993) suggests that the supply curve may actually be downward sloping, since the principal cost of drug distribution is the risk of punishment, which declines when the market expands (i.e., moves along the supply curve). Plausible though that idea may be, it has not been readily accepted by economists (e.g. Manski, Pepper and Petrie, 2001).

The markets for cocaine and other psychoactive drugs are indeed markets and subject to the laws of economics. However they are not just markets; the absence of legal protections has consequences for example in determining the size and scope of enterprises. Economics is a useful frame for understanding these markets but the standard analysis may have to be modified at points. No published article examines specifically what modifications might be necessary, though there is a growing literature examining distinctive features that might explain the paradoxical decline in drug prices while enforcement became tougher.[15]

2.2 Production

Cocaine and heroin

Amongst the most widely reported measures of drug related phenomena globally is production of coca and opium. Each year the United Nations Office on Drug and Crime, relying both on aerial observations and ground surveys, produces estimates in the *World Drug Report* of the area under cultivation for these two crops and also of the production of the raw materials and certain refined products (opium and cocaine). This is widely reported in media around the world.

The United States government also produces an annual estimate in its *International Narcotics Control Strategy Report*. This receives little attention. The two estimates differ substantially, as seen in Table 1 for the 5 year period 1998-2006.[16] For example, in 2004, the UN estimate showed an increase in cocaine production of over 15%, while the US estimate showed a decline of almost 4%.[17] In some years the figures have differed by as much as one third in absolute value (e.g. opium in 1999).

13 The claim of the low risk of incarceration is speculative but derives from the observation that many of the subjects interviewed by Matrix Knowledge Group (2007) had operated for years before being arrested The sample is small and the response rate low, so that those who chose to participate may be systematically different from the larger universe of dealers.

14 For example, Chandra (2000) uses data from the opium regie in the Dutch East Indies in the early 20th century to show that higher prices reduced consumption by licensed opium users.

15 For example Caulkins, Reuter and Taylor (2005) developed a model in which tougher enforcement, if it removed more violent dealers first, would lead to price declines. They assume that sellers need to be compensated both for the risk of violence from other participants as well as for the risk of imprisonment. That may capture an element of reality but makes no claim to be a complete model of the determination of drug prices.

16 The U.S. has not yet published estimates for 2007.

17 Indeed, it is worth noting that for every year between 1998 and 2005, the UN and US cocaine estimates moved in opposite directions; i.e. if the UN estimate rose from the previous year, the UN estimate fell.

Table 2: United Nations and United States estimates of cocaine and opium potential production 1998-2007

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Cocaine potential production										
UNODC	825	925	879	827	800	859	1,008	980	984	994
U.S.	825	765	777	780	975	805	775	910	970	n.a.
Potential opium production										
UNODC	4,346	5,764	4,691	1,630	4,250	4,783	4,850	4,620	6,610	8,870
U.S.	4,453	4,263	5,004	1,236	2,237	3,757	5,445	4,990	6,063	8,275

(World Drug Report 2008; International Narcotics Control Strategy Report annual)

The purpose of presenting the comparison is not to be critical of the two agencies but rather to demonstrate how difficult it is to estimate these quantities. In many cases the cultivation takes place in scattered and concealed settings; these estimates are developed under very adverse circumstances, faithfully described in the technical sections of the reporting documents.[18] Moreover the most basic story for the period of interest is consistent in the two sets of estimates. First, production since 1998 has fluctuated around a fairly constant level for cocaine and, until 2006, for opium; the increases in 2006 and 2007 for opium are hard to reconcile with other data.[19] Second, though not shows in Table 2, production is increasingly concentrated in Afghanistan (opium) and Colombia (coca). A handful of countries have always accounted for most of total production but the dominant country now has an even higher share.

The shift of production to these two nations is itself an important phenomenon, partly driven by changes in other major producing countries (Myanmar for opium and Bolivia and Peru for coca) and partly by developments in the two nations themselves. In Myanmar opium production has long been concentrated in the Shan States, which have not been under the control of the central government for some decades. The ruling quasi-state, the United Wa State Army (UWSA) announced in 1998 its intention to end production of opium within ten years. Though they have not accomplished that, by 2005 they had reduced total production by about three quarters; despite a slight upturn in the last couple of years they have managed to keep the figure low by historic standards. This has been accomplished by highly coercive means, including the forced migration of hundreds of thousands of individuals from their traditional hill towns to a new area alongside the Mekong River (Kramer, 2005). The UWSA has been more successful than any government in suppressing opium production over the course of a decade; however its methods are not those that could be imitated by a democratic government.

The increase in production in Afghanistan over the long term has been chronicled and analyzed in many studies, including an important collaboration between the UNODC and the World Bank (Buddenberg and Byrd, 2006). By 1998 the Taliban had authority over 90 percent of the country; in 2000 it used that authority to effectively prohibit the growing of opium, though not its trade; production fell by 94% in 2001. After the fall of the Taliban regime following the post September 11 invasion by the United States and allies, opium production resumed and quickly reached previous levels, before surpassing them substantially starting in 2006. The rising weakness of the central government, a proposition attested to in public statements by the most senior officials of Western Europe and the United States in 2008 (e.g., Gebauer, 2008), helps explain the expansion of opium production (Schweich, 2008). Though opium growing is formally banned, the central government lacks the authority to coerce or persuade the large number of rural households dependent on opium for their livelihood to turn to other crops that constitute a far less reliable source of earnings (Paoli, Greenfield and Reuter, 2009, Chapter 6).

The effect of the sudden and sharp decline in opium production in Afghanistan in 2001 on the world heroin market was surprisingly slight. As shown in Table 2, world production fell by 60 percent in 2001. This did have an effect on various opiate markets, traced in detail by Paoli Greenfield and Reuter (2009, Chapter 4). For example, there are signs that it reduced

18 For example, after describing difficulties in estimating yields per hectare the UNODC goes on to say "The transformation ratios used to calculate the potential cocaine production from coca leaf or the heroin production from opium are even more problematic." (WDR 2008; p.292.)

19 The very large increases in estimated production for 2006 and 2007, entirely explained by rises in Afghanistan estimates, are troubling. The decline in farmgate prices, reported in the *World Drug Report 2008* (p.40) to be only about 20% in 2007 seem very small relative to the two year rise of more than 100 percent in production. The period 2002-2005 probably saw a re-stocking of inventory drawn down in 2001 when production fell so dramatically, so it is unlikely that a desire to build inventory would lead to higher demand in 2007. Nor is there evidence in the rest of the world of unusual price declines or increases in demand.

availability in the transhipment heroin market in Turkey in 2002 and may have accounted for observed purity declines in Western Europe in 2003. However it is clear that there were large stocks of opium and/or heroin in Afghanistan at the time of the ban, probably reflecting the bumper crops in the late 1990s. These were adequate to meet the needs caused by a one year dip in production.[20]

For coca the story of the shift to Colombia in the 1990s is similar to that of the shift to Afghanistan for opium; it reflected both internal problems and pressures against growers in other countries. Bolivia and Peru undertook a variety of interventions against coca growing in the late 1990s and the early part of this decade. In the case of Bolivia, where coca was primarily grown in a relatively new area (the Chapare), the interventions were an unusual combination of alternative livelihoods, funded by many Western countries, and eradication, promoted by the United States The Chapare production fell substantially between 1994 and 2000 and has remained low even after the election to the Bolivian presidency of the former head of the indigenous coca growers (Evo Morales) in late 2005. In Peru a combination of a mid-1990s fungus that attacked the coca plants in the Upper Huallaga, eradication during the administration of President Fujimori and aggressive interception of air smuggling (supported by the United States) from Peru to Colombia made Peru a less attractive production site (Thoumi, 2003).

Colombia had long been the principal location for final processing, from cocaine base to cocaine hydrochloride, and for export to the principal market, the United States[21]. During the late 1990s and the early part of this decade there was an intensification of the civil war involving the FARC (Revolutionary Armed Forces of Colombia) and a relatively new set of players, the paramilitary (the AUC; the United Self-Defence Forces of Colombia). This led to a number of massacres in well settled rural areas, generating in turn mass migration to unsettled areas away from this conflict. The displaced farmers needed a source of revenue that was not dependent on good infrastructure. Coca growing was far superior to any other crop in that setting. Combined with the deteriorating conditions (from the producers' point of view) in Bolivia and Peru, this led to a large scale transfer of coca growing to Colombia. The UNODC estimates that in 1995 Colombia accounted for about 22% of total cocaine production; by 2000 that figure had risen to almost 80%; by 2007 it had fallen but was still over 60%.

These changes are reminders that the location of production can move rapidly. Afghanistan has dominated opium production for fifteen years, overtaking Myanmar in less than a decade; similarly Colombia moved to a dominant position in coca production in a very short time. If they become less attractive production sites, other nations are likely to emerge in a very few years to take their place. The question of why coca and opium production have settled in only a few countries and what determines which country dominates is one that has been analyzed by Thoumi (2003) and by almost no other scholars. Thoumi stresses the importance of social and political factors, a theme taken up by Paoli, Greenfield and Reuter (2009, Chapter 10).

Cannabis and ATS

Even though clandestinely planted and dispersed, coca and opium production are much easier to observe than the production of either cannabis or ATS. Cannabis is produced in over 170 countries[22], often indoors and in very small plots. Regular official estimates, though of dubious provenance (Reuter, 1995), are available for Mexico and Morocco, which are thought to be by far the largest producers of the drug (Leggett and Pietschmann, 2008). For other countries, production estimates are nothing more than guesswork.

Estimating the production of ATS, itself a heterogeneous collection of substances with different production technologies and different user groups is even more difficult. Production in this case frequently occurs in small movable facilities. Methamphetamine in the United States in particular can be produced literally in kitchens, with batches of just a few thousand doses. It is hard to imagine a sampling and observation strategy that can develop defensible estimates of actual production. Existing estimates rely on seizure data, a questionable source, as discussed below, because it is impossible to determine from the available data whether a change in seizures is a function of a shift in enforcement effort and effectiveness or in the amount being produced in a specific country.

ATS production is distributed in a very different fashion geographically than are the other drugs. It is produced in a few countries but a higher number than for either coca or opium. The producer countries include Western countries (e.g. The Netherlands for ecstasy), transition countries (Russia for amphetamines) and developing countries (e.g. Myanmar for methamphetamine). Moreover new countries enter the market on the production side quite freely (e.g., Myanmar for methamphetamine in the 1990s), in contrast to coca and opium where there is only redistribution of markets shares among the existing production

20 The interesting analytic question is why the industry in Afghanistan seeks such a high ratio of inventory to annual shipments.
21 Brazil may now be comparably important for shipment to the growing European market.
22 This reflects statements about national responses to the UNODC Annual Reports Questionnaire.

countries; occasionally a country leaves production (e.g. the United Kingdom). This may reflect the fact that manufacture of synthetics is the quintessential "footloose" industry; it requires minimal fixed capital and a uses a small labour force. In contrast opium and coca growing require hundreds of thousands of hectares and workers. ATS also offers instances of producers in rich countries selling to consumers in poor countries.

ATS production seems more tied to the growing globalization of industry and labour generally, with skilled manpower being recruited in one country to help produce inputs for a manufacturer in another (Europol, 2007). Moreover, this is an industry in which specific and easily targeted precursors, such as ephedrine and pseudo-ephedrine, play an important role and involve other countries. Most precursors for ATS are made in China and India, neither of which is an important source of the final product. Amphetamine, produced primarily in Europe, seems to offer an unusual instance of the rich Western world exporting an illicit drug to other poorer nations, though these exports account for a small share of the total production.

Thus it is hard to make definite statements about whether production of ATS and cannabis has increased or decreased over the period 1998-2007. Changes in the scale of the market will rely on consumption based estimates to make the determination, taking into account seizures as well.

2.3 Consumption[23]

There has almost certainly been an expansion in the global number of users of cocaine and heroin over the period; the changes have been very uneven across countries, with declines in some major mature markets compensated by the emergence of user populations in countries that had quite modest consumption before. For cannabis there may have been a modest decline in the total number of users worldwide; the quantity consumed may only have stabilized. For ATS the data are exceptionally weak and no definite statement is possible.

As with production, it is necessary to analyze each of the four drugs separately. An added difficulty here is that the available data speak almost entirely to the numbers of users in individual countries, and not the quantities they consume. Since for cocaine and heroin an experienced user on average consumes more per annum than a new user, counts of users are insufficient to determine whether quantity consumed has increased. We developed quantity estimates for many countries in the course of estimating revenues (Report 3) but only in a very few countries is it possible to compare quantities in 1998 and 2007.

Measurement

Though in general we have consigned technical measurement issues to Report 6 ("Methodological problems confronting cross-national assessments of drug problems and policies"), a discussion of consumption measurement cannot be avoided here. The most widely reported statistics come from general population surveys, either of the household population or of specific age groups in schools. For example, ESPAD (the European School Survey Project on Alcohol and Other Drugs www.espad.org) collects data every four years in classrooms from school children aged 15-16 in most Western European nations. There are no comparable consistent cross-national household surveys; instead each nation conducts its own from time to time. A few nations do it annually (e.g. the UK through the British Crime Survey) but most do it every two to five years (e.g. Australia conducts the National Drug Strategy Household Survey every three years).

These surveys provide good indicators of trends in occasional use of many drugs and useful information about heavy cannabis use. They are however of little value in estimating the size, or rate of change, of the much smaller populations that use psychoactive drugs frequently, particularly those drugs that are expensive and lead to high criminal offending rates among frequent users, notably cocaine and heroin. These populations have high rates of homelessness, lead erratic life-styles that make them hard to contact through a survey, have high rates of interview refusal and under-report consumption (Rehm et al., 2005). As a consequence, in every country where efforts have been made to develop estimates of the extent of "problematic drug use" the term developed by the European Monitoring Centre for Drugs and Drug Addiction, they have been found to be much higher than suggested by the surveys. For example, in the United States for 1998 the National Household Survey on Drug Abuse (now the National Survey on Drug Use and Health) estimated that 253,000 persons had used heroin in the past year. In contrast, estimates that took account of drug tests and self-reports of arrestees estimated that roughly 900,000 individuals consumed heroin at least ten times in the previous month (ONDCP, 2001).

23 We use the term consumption rather than demand, an economic term, because the latter refers to the relationship between price and the quantity desired by customers at that price. All that we observe in many settings is the quantity consumed; hence the analysis is based on consumption measurement. This also parallels the earlier section labeled Production rather than Supply.

In what follows we rely primarily on general population surveys for cannabis and ATS. For cocaine and heroin we use instead estimates that come from a variety of other data sources, including criminal justice and treatment client populations. We consider each drug separately and then briefly discuss countries as the unit of aggregation.

Cannabis

For countries where cannabis use was common by the early 1990s (e.g. Australia, Canada, the United Kingdom and the United States) there has been a broadly common pattern of change over the period 1992 to 2006. Prevalence rates rose for the early part of the period, coming to a peak roughly between 1998 and 2002, and then fell substantially through to 2006, For example, in Australia the past year rate of cannabis consumption for the population over age 14 rose from 12.7% in 1993 to 17.9% in 1998 and then fell to 9.1% by 2007. Similarly in the United Kingdom, for the population aged 16-59, prevalence rose from 8.4% in 1994 to 10.9% in 2003 before falling back to 8.2% in 2007. The pattern is particularly pronounced for adolescents across countries. The EMCDDA in its 2008 Annual Report (EMCDDA, 2008) concluded that throughout the European Union cannabis use had stabilized.[24]

For some countries in which cannabis use was not well established the rise of the 1990s did not come to an end early in this decade. For example, France, where the prevalence rate for the 15-64 year range was only 3.9% in 1992, that rate rose in the following three surveys to 10.8% in 2005. However in the two of our sample of 18 countries that represent transitional countries (the Czech Republic and Hungary), in which cannabis use was very slight under the pre-1990 Communist regime, there were clear indicators that prevalence had begun to decline by the middle of this decade after a long rise to Western levels. Russia has a high rate in the middle of this decade but trend data are unavailable.

Table 3 shows prevalence rates from national surveys of the household population for seven Western countries. Though the age ranges are somewhat different, the Table shows that experience with cannabis is a normative experience in many but not all countries, a part of the process of growing up. In some countries more than 50 percent of all those born since 1980 will have tried cannabis before they have reached the age of 25.

Table 3: Prevalence of past year and lifetime marijuana use, among younger age groups, in 8 nations ca. 2004

Country (age range)	Lifetime	Last Year
France (15-34)	43.6	16.7
UK (15-34)	41.4	16.3
Netherlands (15-34)	32.3	9.5
USA (26-34)	56.7	19.9
Canada (25-34)	56.8	18.0
Australia (20-29)	54.5	26.0
Sweden (15-34)	19.1	4.8
New Zealand (25-34)	62.0	18.0

(Various national household surveys)

For the four major developing countries in our 18-country sample, cannabis use remains low. China does not have a tradition of cannabis use and the drug continues to be rare there (Hao et al, 2004). India has a long tradition of cannabis use in ceremonies and a few state licensed shops dispense the drug but again national prevalence is very low; it is estimated that 3.2% of the population had tried cannabis some time in their lifetime, barely one tenth the rate in countries such as Australia and Switzerland. Even Brazil, with a growing problem of drug trafficking and consumption of cocaine shows quite modest rates, an estimated 6.9% lifetime for the population over age 14 (Galduroz et al., 2005). Mexico, the principal foreign producer for the United States cannabis market, also does not have a high level of use in the most recent surveys, even among youth; for example, only 3.2% of 12-17 year olds in a 2005 Mexico City school survey reported ever having used the drug (Benjet et al., 2007).

24 "Information from recent national surveys suggests that cannabis use is stabilising in many countries. Of the 16 countries for which it is possible to analyse the trend from 2001 and 2006, last year prevalence among young adults increased by 15% or more in six countries, decreased in three by a similar amount and was stable in seven." (p 42)

Heroin

In most Western countries there is evidence that the number of frequent heroin users has been in decline through most of the last ten years. For example in Britain, the European Union member country most adversely affected by heroin following a twenty five year rise in incidence (De Angelis, Hickman and Yang, 2004) it is estimated that the number of dependent users declined between 2000 and 2005. In Australia, which also experienced a major heroin epidemic in the 1990s, there has been a marked reduction post-2000. For no major Western country is there any indication of growth in the heroin using population over since 2000.[25]

In the same period there has been a serious epidemic of opiate use in the Russian Federation[26] and many of its CIS neighbours, particularly in Central Asia. For Russia, the UNODC reports an estimate of 1.6% (ages 15-64) in the middle of this decade, giving a total opiate user population of about 1.5 million[27]. Rates in some Central Asia countries are comparably high but the population base is small, so they contribute little to the global problem.

China experienced an epidemic of heroin dependence in the western provinces near the border with Myanmar in the 1990s (Chu and Levy, 2005). There is no evidence of much expansion of that epidemic since the late 1990s to other regions. Though the absolute number of heroin users is large (approximately 2 million, double the United States figure) in the context of China's huge population, it is a low prevalence, barely 0.25% of the population aged 15-64. India, like China a country with a long history of opiate addiction, has a modest reported prevalence, a high absolute total and no evidence of much expansion in the last decade.[28]

Iranian data indicate that it probably has the most severe opiate[29] consumption problem (2.8% of the 15-64 population). However the prevalence estimates are too crude to determine whether the number has grown since 1998.

This has so far been an analysis of prevalence, not consumption. Heroin prices generally have fallen. Given the evidence reviewed above that consumption of current users is responsive to price (i.e. that a heroin user consumes more if the drug becomes cheaper), it is likely that consumption levels per user have risen during the period. ONDCP (2001) reports an increase in total consumption of heroin in the United States during the period 1988-1998, during a period in which the number of chronic heroin users fell, while the price of heroin declined precipitously; the implication is that average heroin consumption per user rose substantially. There are no other countries for which average per user or total heroin consumption over time has been estimated. Given the paucity of data on quantity per user, it is impossible to develop robust estimates of how global consumption has changed over time or to match production and consumption for any recent year.[30]

Cocaine

The United States has been the dominant market for cocaine, in terms of both users and quantity, since the emergence of the modern cocaine epidemic in the 1980s. In the study period there was a decline in estimated United States prevalence[31] and a substantial expansion in the European market, particularly in Spain and the United Kingdom. The European change is reflected most clearly in treatment statistics; for the first time there were nations in Europe in which cocaine was the primary drug of abuse for a substantial fraction of those entering treatment. In Spain 21% of 1998 treatment entries were for cocaine; by 2005 that had risen to 63%.[32] No other EU country had a rate higher than 35% in 2005, but many had seen a large

25 In the press release accompanying publication of its 2008 Annual Report, the EMCDDA was more cautious "across Europe, data suggest that new recruitment to heroin use is still occurring at a rate that will ensure that the problem will not decline significantly in the foreseeable future". The specific countries cited by the EMCDDA in support were either small, new to the EU or (mostly) both.

26 A substantial percentage of Russia's opiate users continue to consume a variety of less refined domestic products other than heroin or opium.

27 The *World Drug Report 2008* (p.56) reports considerable uncertainty about this number. It does not appear that there is a documented base for the estimate.

28 Even compared to other countries, where male rates exceed female, the Indian problem is disproportionately male, so that surveys are occasionally only of the male population.

29 Iran continues to be a major consumer of smoked opium, though heroin's chare of the market has risen in recent decades. Given that heroin is a more efficient mode of consumption, that may have reduced per addict annual consumption in morphine equivalents.

30 Paoli, Greenfield and Reuter (2009, Chapter 5) show that it is possible to reconcile consumption and production data for the years 1996-2003. In each year except 2001 there is a surplus of production (after taking into account seizures); in 2001 consumption plus seizures substantially exceeded production. No reconciliation has been done for any more recent year. Over the entire period the difference was not very large relative to the total estimated production.

31 Changes in the methodology of the household survey in 2002 prevent comparison of the 1998 and 2007 figures for cocaine use in the household population. The new methodology appears to have resulted in higher estimated prevalence for cannabis and cocaine. Over the period 2002 to 2007 the estimated number of past year users of cocaine stayed essentially the same, around 5.8 million [http://www.oas.samhsa.gov/nsduh/2k7nsduh/tabs/Sect8peTabs1to21.pdf, last accessed February 14, 2009]. The evidence for the decline in consumption is that the population in treatment for cocaine continued to age: whereas in 1992 over 50% of those entering treatment were under the age of 31, that figure had dropped to less than 20% in 2005 (unpublished analysis of .the Treatment Episode Data System).

32 Data from the EMCDDA Table TD1 http://www.emcdda.europa.eu/stats08/tditab3b [accessed December 7, 2008].

relative increase in the first half of this decade. The rise in treatment numbers for cocaine in Europe also indicates that the cocaine epidemic has reached a new stage at which a larger share of those who use the drug are using frequently and are experiencing problems with it.

There remains little evidence of wide-spread cocaine use in any country outside of North America, Europe and a few countries in South America (notably Brazil). This is a reminder that the spread of use of specific drugs is dependent on a variety of factors about which little is known.

ATS

We note once again the heterogeneity of ATS as a group and the difficulty of making general statements about the category for that reason. Patterns of change have varied considerably across the globe, with less consistency within groupings such as Western countries or Asia than even for cocaine and heroin. For example, methamphetamine, which seemed on the point of becoming common recreational drugs in the United States in the late 1990s, has since faded in the general population, even as the number of methamphetamine users showing up in treatment has increased.[33] Australia on the other hand seems still to be in the midst of a methamphetamine and amphetamine epidemic[34] Japan has experienced an occasional outbreak of amphetamine use since 1945 but there is no sign of recent increases (UNODC, 2005).

Modelling the patterns of change

The total number of users globally is dominated by the number of cannabis users; that is true both of 2007 and 1998. For example in 2007 there were an estimated 160 million past year cannabis users, compared to a total of just 40 million for the other listed drugs (ATS, cocaine and heroin). Statements about the change in the global prevalence of drug use thus are statements about cannabis, even though that drug accounts, in terms of health and social harms, for a small share of the global burden of drug-related harms. Thus we focus on individual drugs rather than on the total.

The crudest summary would be that consumption ten years after UNGASS is only moderately changed. The major changes in the decade since UNGASS are (1) the broad decline in the prevalence of cannabis use in many Western countries, many of which have also seen a modest decline in the number of heroin users; (2) the expansion of the Russian and neighbouring country heroin markets, now probably stabilized[35]; (3) the growth of cocaine use in Western Europe apparently roughly compensated for a decline in the United States and (4) the stabilizing of the numbers of ATS users, though the pattern is uneven across countries.

An interesting feature is the variability of prevalence across countries. For example, amongst wealthy nations there is huge variation in the extent of cannabis use; for Sweden Life Time Prevalence (ages 15-64) was only 12% compared to 44.5% in Canada. Cocaine is hardly known in rich countries of Asia, such as Japan, Korea and Singapore, despite their deep integration into the global consumer culture. Some countries through which heroin has flowed for decades, such as Mexico and Turkey, have seen minimal local use emerging while the countries of Central Asia have been seen a serious epidemic following the development of the transhipment route of heroin to the Russian market.

2.4 Revenues

One adverse consequence of illicit drugs for global society is that they create large illegal incomes. It is these incomes that generate the corruption and violence that accompany drug markets in some countries and which lead many young people (mostly men) in those countries to abandon education and legitimate employment to seek their fortunes illegally. Thus one measure of how the world's drug problem has changed since 1998 is the change in revenues generated by drug sales. Report 2 ("Estimating the size of the global drug market revenues") presents new estimates, paying attention to their distribution across the various levels of distribution and production.

33 For example, the prevalence of last month methamphetamine use in the household population aged 18-25 rose from 0.3% in 2000 to 0.7% in 2001 but then has never risen higher than that. In 2007, the figure was 0.6%. Meanwhile the total number of treatment admissions for methamphetamine rose from 67,000 in 2000 to 148,000 in 2005.

34 McKetin et al. (2005) estimate that the number of heavy methamphetamine users in Australia at about 100,000, comparable to the peak number of heroin users and equivalent to about 5 per 1,000 population. While methamphetamine is the amphetamine most commonly used in Australia, other forms are also used.

35 The evidence on the heroin market in the Russian Federation is exceptionally weak; the statement about the end of the epidemic, i.e. a sharp decline in annual initiation rates, is based on expert judgment. Weak support can be found in the time pattern of the number of "registered users", partly generated by criminal justice activities. This rose ten fold in the decade up to 2002 and then was constant over the next three years; approximately three quarters of that number are opiate addicts.

The United Nations Office on Drugs and Crime (2005) developed the first documented estimates of the global retail market for cannabis. Their estimate of the cannabis market circa 2003 is about €130B, which implies a larger retail market for cannabis than for cocaine and opiates combined.[36] The UNODC acknowledged the uncertainty surrounding this figure because of data inconsistencies. They suggested that the difference between their estimate and the "true value of the cannabis market could be significant . . ." (2005, 134). Table 4 compares UNODC's figures with our low, best, and high estimates for North America, Oceania, and Western and Central Europe.

Table 4: Estimates of the size of the retail cannabis market

		UNODC circa 2003	RAND Low	RAND Best	RAND High
North America	Expenditures (Billions)	€56.6	€7.8	€17.3	€36.1
	Metric Tons Consumed	6,034	1,609	3,600	7,492
Oceania	Expenditures (Billions)	€5.5	€1.4	€3.1	€6.5
	Metric Tons Consumed	684	118.9	266.1	553.6
West/Central Europe	Expenditures (Billions)	€35.2	€6.1	€13.5	€28.5
	Metric Tons Consumed	6,051	1,165	2,607	5,424

While Table 4 only includes estimates from three of the 16 regions used in the UNODC calculations, the UNODC reports that these three regions account for 78% of the global cannabis retail market and hence represent the bulk of their global estimate. Because adequate data are not available for the other 13 regions (22%), the work presented in this chapter focuses on improving the estimates for the three regions and takes as correct those estimates constructed by the UNODC for the other 13. Assuming that consumption patterns have remained relatively stable in these 13 regions between 2002/2003 and 2005 (not an unreasonable assumption), adding this figure to the sum of the best estimates for North America, Oceania, and Western and Central Europe generates a global estimate of the retail market for cannabis of approximately €70B—about half of what the UNODC estimated for 2002/2003. A similar computation employing the low and high estimates for the three main regions generates an approximate range for the global retail market of €40B and €120B.

A number of assumptions in the UNODC calculations also seem likely to raise the estimate of total revenues for other drugs above plausible levels. For example, UNODC assumes a very high annual consumption of heroin per user in the region with the highest price; in Oceania (mostly Australia) the annual consumption per user is 57 grams (vs. 17 in the US) though the price is almost €500 per gram (vs. €350 in the US).

We do not report a total estimate for all drugs globally. There are too many countries for which the data are simply lacking or suspect, particularly on prices. For ATS there are simply too many prices and products for which the quality and quantity of price data are inadequate. For opiates, Iran, a very important market, is a nation for which data are conspicuously lacking.

Our stylized model suggests that the annual value of the cocaine trade (i.e., the revenue generated by shipping it from Colombia to Europe and North America) is likely to be between €6 billion and €9 billion. This value includes transportation costs, payoffs, compensation for trafficker risk, and other markups. As previously mentioned, this model does not cover all consuming countries, but it accounts for those where the most of the trafficker revenue is generated. For opiates the intra-Asia trade is hard to value because of the dearth of import price data. Out rough calculations again suggest that total world international heroin trade can be no more than €20 billion.

36 The UNODC estimate for the United States (the largest market) is larger than ours since it implies that every past year user consumes on average 165 grams annually whereas we assume an average of 96 grams. Since the average joint has probably 0.30-0.50 grams of cannabis (see Report 2), this is equivalent to the average user being a daily smoker of cannabis. No survey suggests that more than about one fifth of last year users fall into that category. Further, the UNODC applies an average retail price that is more than twice as high as the figure we use (€4.8 per gram and €12.5, respectively). We prefer our price figure since it is based on self-reported information from cannabis buyers who consumed or gave their cannabis away, and hence has been purged of individuals who might have also resold some of their cannabis at a higher level. Further, our estimate accounts for the quantity discounts that often occur at the retail level (Wilkins et al., 2005; Caulkins and Pacula, 2006).

This suggests that illicit drugs constitute a very modest item in international trade. The conclusion is different from that reached by UNODC in 2005; UNODC compared trade revenues for wine and beer (totalling €22 billion) with the wholesale value of illicit drugs. Wholesale prices are much higher than import prices; the difference is part of domestic value-added and thus not appropriately compared with other international trade figures. The use of wholesale rather than import prices overstates the value of the trade in illicit drugs.

Of similar importance for the current study is whether revenues have fallen or risen over the period 1998-2007. Revenues are a function of prices and quantities sold. Unfortunately the price data for a systematic estimate of 1998 global revenues for any of the four drugs are not available. However we think it likely that revenues have fallen because prices have generally declined and production quantities have fluctuated around a stable level for cocaine and heroin. Over the period, retail cocaine and heroin prices have fallen in much of the world; in the case of the United States and Europe, two major markets accounting for a large share of total revenues, the fall has been precipitous. For cannabis the prevalence estimates suggest no increase in total consumption and prices have also not had an upward trend.[37] For ATS the picture across countries is so mixed that no statement about change is possible.

For a handful of countries the revenues from the drug trade have macroeconomic significance, another dimension of the problem. It is well known that heroin exports may add nearly 50 percent to Afghanistan's GDP (Buddenberg and Byrd, 2006). For Tajikistan, a major transhipment country for those exports, the percentage GDP contribution may be comparable; Paoli, Greenfield and Reuter (2009; Appendix C) estimate that early in this decade the percentage was at least 30 percent. Given the crude nature of GDP and revenue estimates for Afghanistan in 1998, it is hard to assess whether the percentage has increased. There are no earlier estimates for Tajikistan. There is no indication that cannabis production is of macroeconomic significance for any nation.

With the possible exception of some small island states in the Caribbean, there is no country for which drug production or trafficking is as economically significant as it is in Afghanistan and Tajikistan. It has been moderately important for the Andean countries but the estimates of GDP contribution for Bolivia, Colombia and Peru never exceeded 10 percent (e.g., Alvarez, 1995) and have been much lower than that for the last decade, reflecting the stagnation of cocaine production and growth of the legitimate economy.

Prices

The fall of retail prices in many markets since 1998 is itself an important phenomenon. In terms of the subject of this section, revenues, the fall is desirable; lower prices will reduce criminal revenues for a given level of drug consumption and also reduce incentives for crime and theft related to drugs. On the other hand lower prices may lead to heavier consumption by current users and increase their health risks.

Prices have not fallen throughout the production and distribution chain. In particular, opium farm-gate prices in Afghanistan remain above their 1998 ($60) levels in 2007 ($120), even after adjusting for inflation.[38] They are much below the levels reached after the end of the Taliban opium production ban (ca. $600 in early 2003). The ban depleted inventories and thus created higher demand in 2002-2003. However, even with the massive expansion in production that surely has restored inventories, the price remains well above earlier levels. This may reflect improved agricultural productivity generally, which would raise the price of land and rural labour, the two major inputs to opium production. However this increase in opium price has little consequence for the retail price of heroin, since the price of the opium input accounts for less than 1 percent of that retail price.

In the United States, the fall in retail prices for cocaine and heroin has occurred over more than a twenty year period. Figure 1 shows (inflation adjusted) prices for a pure gram of cocaine and heroin for the period 1980-2003.[39] As will be discussed in the policy section of this report, what is striking about these declines is that they have occurred during a period of massive increase in incarceration of sellers of cocaine and heroin. Nor are the falls found for every drug. Cannabis prices remained

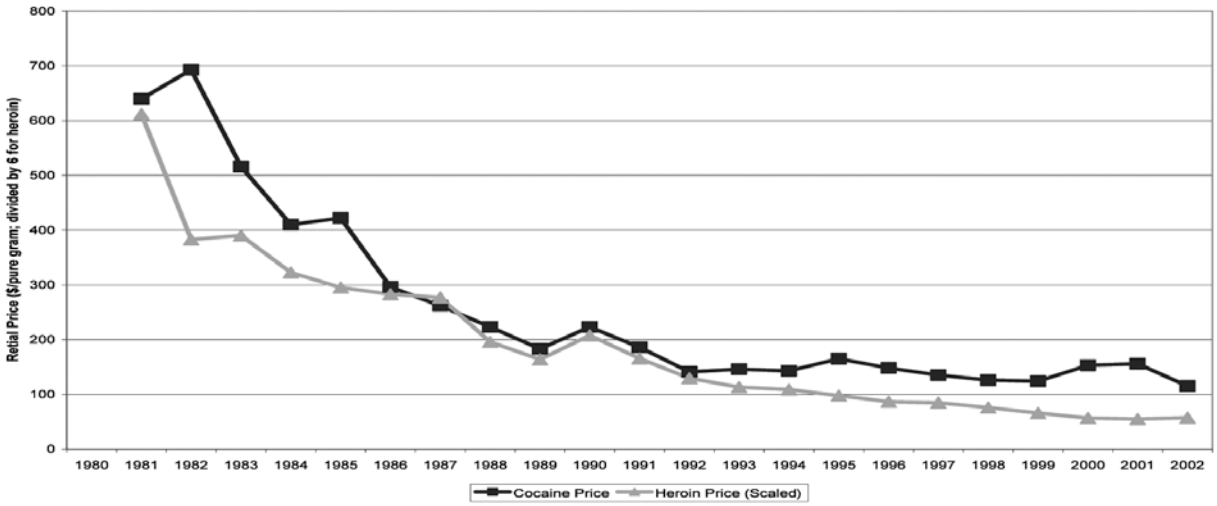
37 Another complication for cannabis is that a substantial share of users receive the drug as a gift and some of that is self-produced. Thus total retail revenues are less than the result of multiplying total consumption by average retail price; the share that is self-produced may have changed over the study period.

38 The prices reported here are unweighted averages of the provincial prices, which can vary a great deal. For example, in March 1998 the prices in the two major provinces were $41for Kandahar and $95 for Nangahar. Since the composition of production across provinces changes substantially both year to year and in the long-run, a simple average may be misleading.

39 Though the Office of National Drug Control Policy has issued brief statements about prices post-2003, the lack of documentation of the methods used for generating those estimates and the lack of match with the documented estimates in the short period of overlap give them low credibility; see http://voices.washingtonpost.com/fact-checker/2007/11/is_there_a_cocaine_shortage_1.html. There is evidence that the prices of cocaine and methamphetamine rose in 2007. See http://www.usdoj.gov/dea/concern/meth_prices_purity.html, last accessed 15 January 2009.

fairly constant over the period 1998-2003, increasing just slightly in inflation adjusted terms, though that may reflect a rise in potency.[40]

Figure 1: Cocaine and heroin prices, United States, 1980-2003



(Office of National Drug Control Policy, 2004)

For no European country except Norway is there a comparable price series based on individual observations of price and purity in seizures and undercover purchases. However the available data do suggest that there has been a decrease in inflation-adjusted prices for all drugs at least for the period 2001-2006. Table 5 reports an index of prices without adjustment for purity or potency (for cannabis).

Table 5: Indexed trends in EU retail prices for major drug types, adjusting for inflation, 2001–06

Drug type	2001	2002	2003	2004	2005	2006
Cannabis resin	100	99	90	70	73	70
Herbal cannabis	100	98	88	80	85	83
Cocaine	100	93	88	83	79	76
Heroin brown	100	90	82	81	91	87
Amphetamines	100	91	93	85	80	89

(European Monitoring Centre for Drugs and Drug Addiction; http://www.emcdda.europa.eu/stats08/pppfig1)

Consistent and systematic price data are available for only a few other countries, not including any of the other major consumer countries (Brazil, China, India, Iran, Russia). Thus it is impossible to assess what happened to revenues in those countries over the study period.

40 The prices are unadjusted for potency. Data from a sample of the same seizures and purchases show that average potency has risen but this cannot be related to the individual observations.

3 Drug related problems

3.1 Introduction

The drug problem of a nation is not measured simply by the number of drug users or even by the aggregation of the adverse effects of their drug use. A nation such as Turkey or Peru, with relatively few users, may still be seen as having a major drug problem because it either serves as a major trafficking route (Turkey) or a producer (Peru), with the attendant corruption and large illegal incomes. The UNODC has attempted to take account of this by constructing an Illicit Drug Index (IDI), which measures each nation's contribution to the global drug problem, summing those associated separately with consumption, production and trafficking (UNODC, 2005). Though the IDI has many weaknesses (e.g. its effort to turn all adverse consequences into health harms, its assumption that all grams of a given drug are equally harmful) it does represent an important step forward in aggregating across the many dimensions of drug problems.

For purposes of the UNGASS assessment it would be highly desirable to use something like the IDI and aggregate problems across nations for 1998 and 2007. Even putting aside the conceptual problems, this is impossible because of limited data availability. We were able to obtain data for only a very small number of the adverse consequences for most nations in our 18 country sample. We collected data on three measures: drug-related deaths (DRD), HIV, and crime.

3.2 Drug related deaths

These data are available for a few Western countries. Comparability across countries is limited by differences both in the definition of a DRD and also in the methods by which death certificates are generated.[41] The procedure for determining whether death is the consequence of a drug overdose ranges from a full post-mortem to superficial medical check by a GP. Nations also differ in how the data are aggregated. In some countries data on overdose deaths are registered separately; in others these data are included in the general mortality register. The latter is the case in the Netherlands which guarantees national coverage but includes on the other hand only residents of the Netherlands. However, though cross-country comparisons are of doubtful validity, it is possible to make comparisons of the number of overdose deaths within a country at two different points in time. Note that we are including only deaths in which drug use was the direct, acute cause. Not included are those in which drug use is the 'indirect' cause, e.g. death by drug use related diseases and accidents. For example, deaths related to Hepatitis B, in which the cause of the infection was previous injecting drug use are not counted as drug related deaths. Nor are homicides which result from drug-related disputes included in these figures.

In a large number of countries the number of such deaths has declined somewhat in the second half of our study period. For example, in the European Union the EMCDDA estimates that the number of DRD approximately doubled from 1990 to 2000 but then fell by about 15% to 2005 (Table DRD5 http://www.emcdda.europa.eu/html.cfm/index52843EN.html) There was a decline of more than 50% in Australia over the period 2000-2005, reflecting presumably the influence of the heroin "drought" that started at the end of 2000.[42]

No data on drug-related deaths are available for most non-Western countries, including Brazil, China, India, Iran or Russia. In Mexico there are regular newspaper statements about the number of drug-related homicides (approximately 4,000 in 2008) but they have not been verified and in any case fall outside the scope of drug-related deaths recorded in other nations. Given that these countries account for such a large share of all heroin addicts globally, it is impossible to make statements about how drug-related deaths have changed globally between 1998 and 2007.

41 The EMCDDA studied this issue extensively in the 1990s (e.g. EMCDDA, 1997) and has developed guidelines for the reporting of deaths but compliance remains low.

42 Opiod death figures rose rapidly through the 1990s to a peak of 1116 in 1999. Thereafter they fell sharply to 374 in 2005, close to the figures around 1990. http://ndarc.med.unsw.edu.au/NDARCWeb.nsf/resources/NIDIP_FactSheet_Opioid/$file/OPIOIDS+OVERDOSE+2005.pdf [accessed February 14, 2009].

3.3 HIV

The extent of drug related HIV varies substantially across countries, both expressed as the fraction of injecting drug users who are HIV positive or the share of HIV cases for which injecting drug use is the most likely vector of transmission. Among our 18 countries, the rates of HIV in IDUs are low (i.e. less than 5%) for most Western countries. These are mostly nations that undertook aggressive campaigns against HIV early on. Though the contribution of explicitly harm reduction programs such as Syringe Exchange Programs (SEP) to keeping the rates low remains controversial, the weight of the evidence is usually read as favouring that proposition (e.g. Institute of Medicine, 2006).

For HIV we were able to make use of the relatively sophisticated data systems that have been developed in many countries, including some impoverished nations, to track the spread of the AIDS virus. However, numbers on HIV+ drug users are frequently calculations based on samples and on assumptions of the actual source of infection, either sexual behaviours or injecting drug use. The way they are collected differs substantially among countries. But recently a few global overview studies in the field of HIV prevalence and prevalence of injecting drug use were published that we considered useful for our purpose (Mathers et al., 2008; Cook & Kanaef, 2008). The HIV infection rate among IDU is high for Iran and the United States both of which started their control campaigns only after the epidemic was well established among injecting drug users. HIV among injecting drug users is also a major problem in Russia, where IDU account for over 60% of all new HIV infections in the middle of this decade; the same was true for Iran. For India the best data suggest a modest level, about 10% among IDU; they account for a small share of the estimated 5 million HIV infections in the country. This last statement is in contrast to the situation in China where the estimated number of HIV infected drug users went up from 12,536 in 1998 to 637,000 in 2007, though again there are substantial differences between available estimates.

3.4 Crime

In Western countries there is considerable evidence from surveys of arrestees that drug use is much higher among the criminally active than it is in the general population. For example, in the United Kingdom voluntary urine tests of arrestees in eight sites found that about 30% tested positive for heroin use (Bennett and Holloway, 2005). The question of whether the relationship between drug use and crime is causal is a vexed one (Stevens, 2007) but the extent of drug use among arrestees is often cited as an indication of the extent of drug-related crime.

Much of the drug-related crime in Western countries is property crime, intended to generate income for the purchase of expensive illicit drugs. Though numerous studies show that offenders commit more property crimes when using drugs than when abstinent (e.g. Gossop, Marsden, Stewart and Kidd, 2003), there are no population level indicators that would permit tracking the change over time for a country.

In a few countries the more important crime is the violence related to drug markets themselves. For example, in Brazil it is asserted that many of the killings associated with gangs in the favelas surrounding Rio de Janeiro and Sao Paulo arise from the struggle to control drug markets (e.g. Zaluar, 2004). Similar competitive and transactional violence has been observed on a large scale in Mexico, the United States and Russia.

There is no systematic measure of this particular manifestation of drug-related crime in any country. Impressionistically, it seems that the violence has declined in the United States, perhaps because of the aging of the buyers and sellers in cocaine markets and perhaps because the more violent dealers are more likely to be incarcerated. For other countries there is no basis for making statements about change over the ten year period.

3.5 Economic cost estimates

One way of aggregating the severity of a nation's drug problems is to try to estimate the economic costs arising from use, production and distribution. A small literature is now available for a few Western countries; for cross-country comparisons see Single et al. (2003).

Proper identification of the harms within a society is important for understanding the extent to which the individual drug problem affects individuals and the broader society vis-à-vis other societal problems. Inconsistencies in how harms are

identified, how they are measured over time, and the extent to which they are measured consistently with other harms within the same geopolitical boundaries or across geopolitical boundaries makes it difficult to develop a solid understanding of the magnitude of the problem and how/whether it is changing over time. Report 3 reports the results of efforts to develop new estimates that use a consistent methodology for nine Western countries, Australia, Canada and the United States, along with the six of the largest member States of the European Union. It is based on a close examination of the published estimates for seven nations.

The most powerful finding from the study is simply that the exercise is infeasible even for the countries with the most advanced monitoring and data systems. To return to an issue previously discussed, drug related deaths (DRDs), we are faced with the following implausible comparison: DRDs are estimated to be 1,979 in the Unite Kingdom and 2612 in the United States. Yet the US is estimated to have at least five times as many cocaine and heroin dependent users as does the United Kingdom. It is simply not credible that the mortality rate amongst these users is so much lower in the United States. Similarly, the Hepatitis C. figure for IDU in Australia is 62,000 while for France it is only 1,000; given that France has more users in OST than does Australia and there are high rates of Hep C. in treatment populations, this is completely implausible.

4 Policies

4.1 Introduction

Just as drug problems vary across nations, there is a great deal of diversity in the approaches that nations take to deal with illegal drugs, even though all countries prohibit the same psychoactive substances and almost the same activities related to those substances, reflecting the three international conventions on psychoactive drugs.[43] Some governments provide many services for individuals experiencing drug problems and treat the enforcement of the criminal law as a last resort, aimed primarily at protecting the public from predatory and dangerous activities related to drug selling; this list includes the Netherlands and Switzerland. Other nations see law enforcement as central to controlling drug use and related problems, with services for problematic users available only on a very limited basis; Russia and the United States are leading instances of this group. Many countries have no clear strategy or policy, even if they have a formal document labelled "Drug Strategy"; that is true for example of Brazil and South Africa. The purpose of this section is to describe the variation in actual policies; the next section provides an assessment of the consequences of the differences.

In general we see evidence of convergence of policies. Harm reduction (HR), once controversial as a concept, has been accepted in a growing number of countries, albeit in an inconsistent fashion. Some countries for whom tough enforcement had been absolutely central, notably China and Iran, now accept methadone maintenance as an important instrument for reducing heroin related problems. Globally, methadone maintenance has become much more widely available. Sweden, rhetorically at the forefront of the opposition to Harm Reduction in Europe, has now adopted many HR programmes (Van der Gouwe et al., 2006). Even in the United States, whose federal government has aggressively challenged HR in international fora, state and municipal governments have begun to implement such programs domestically. Iran, long among the very toughest in its response to violators of drug laws, has moved toward the provision of services instead; literally hundreds of thousands are now being treated in methadone and other harm reduction programs (UNODC, 2008).

A variety of legal changes have reduced the criminal sanctions against drug users, both in Western countries and elsewhere. Cannabis in particular has been the subject of reductions in legal penalties in many countries (EMCDDA, 2008; Room et al., 2008). Portugal removed criminal sanctions for simple possession of any illegal drug in 2001. In a complementary fashion, more countries are finding ways of diverting criminal offenders whose activities are motivated by drug use, from the criminal justice system, an initiative which has been very much inspired by United States efforts to develop drug courts that use the power of judges to get drug-dependent offenders to seek treatment (e.g. Nolan, 2008). For example, the United Kingdom has used such programs since 2000 to massively increase the number of drug users in treatment from 100,000 in 2000 to 180,000 in 2005 (Reuter & Stevens, 2007).

At the same time, there has been a modest toughening of enforcement against sellers in many countries, including most of the European Union Member States. Even the Netherlands, an early and prominent proponent of more tolerant approaches to drug users, has become tough in its efforts to control cannabis production and trafficking, while also attempting to cut down on the number of coffee shops that sell primarily to foreign tourists. It undertook an extremely aggressive effort to deal with the smuggling of cocaine from the Netherlands Antilles into Amsterdam airport (World Bank/UNODC, 2007). The United Kingdom may actively espouse harm reduction programs but it has increased the number and length of sentencing for drug sellers in the last decade (Reuter & Stevens, 2007).

Data from non-Western countries do not show a clear trend of increasingly punitive measures toward drug sellers and producers.

43 The three conventions are the 1961 Single Convention on Narcotic Drugs, the 1971 Convention on Psychotropic Drugs and the 1988 Convention against Illicit Trafficking of Narcotic Drugs and Psychotropic Substances.

4.2 Prevention

Prevention programs are increasingly central to the rhetoric of drug policy. All strategy documents emphasize that in the long-run, stopping youth from beginning drug use is essentially to controlling the drug problem. For example, in the United Kingdom the national strategy of 1998 *Tackling drugs to build a better Britain* identified "to help young people to resist drugs" as the first of its four goals.

However the limited available evidence suggests that little money is spent on primary prevention activities[44] and that programs are generally of limited effectiveness. Estimates of drug control expenditures for the Netherlands (Rigter, 2006) and Sweden (Ramsted, 2006) show that prevention programs account for a very small part of the total, 2% in the case of the Netherlands and 1% in the case of Sweden. Australia is an outlier, with an estimated 23 percent of the drug control budget going to prevention (Moore, 2005). For most countries such estimates are not available. The principal funded programs are school based; some countries eschew mass media campaigns.

Though there is research evidence that effective school based programs are possible the programs that are adopted often have no demonstrated effectiveness (EMCDDA, 2008). Moreover, they are poorly implemented (see e.g. Gottfredson, 1997). Most prominently, in the United States by far the most popular school-based prevention program is DARE (Drug Abuse Resistance Education), which has been frequently evaluated, with generally negative results (Samples and Aber, 1998) and is now being redesigned .

In countries facing major drug use for the first time, the prevention response has been uneven. China, despite very low prevalence of drug use, has both wide spread school based prevention programs and mass media campaigns involving sports and media stars. For Brazil and Russia there also appears to be increasing numbers of prevention programs. On the other hand India still has little systematic prevention efforts. For most countries, systematic data are not available on changes in the extent and nature of prevention services between 1998 and 2007.

4.3 Treatment

In contrast to prevention, there is a substantial body of positive evaluations of implemented treatment programs (e.g., McLellan and Meyers, 2004) though few of the evaluations have been done outside of rich Western nations. Studies show that on average treatment reduces the extent of drug use and related health and social problems in those who enter programs. Few of those who enter become lifelong abstinent thereafter but they are abstinent more frequently and for longer episodes over the following years. The evidence is much stronger for opiate substitution treatment (OST) than for any other kind of service. Opiates dominate treatment demand in most countries around the world; however that is not true for the United States and is decreasingly true for a number of European Union countries. Cannabis treatment demand has been rising throughout the Western world. For example, a study of Ontario treatment admissions in 2000 found that cannabis was the drug most frequently cited as the primary cause for admission (Urbanoski, Strike and Rush, 2005). The EMCDDA reports that cannabis treatment admissions accounted for 30 percent of entries in France and the Netherlands in recent years (EMCDDA, 2008).

Nonetheless, the total number of patients in methadone maintenance programs has grown substantially across the world. In the European Union alone, there is now an estimated 600,000 methadone clients, much increased from the late 1990s[45]. The new programs in Iran and China have added substantially to the totals; for Iran the number of methadone patients may be close to 200,000 in late 2008. In some countries (e.g. Switzerland, the Netherlands and the United Kingdom) over half of the estimated opiate dependent population is now in treatment, mostly involving OST. Buprenorphine, a much more recently developed opiate agonist/antagonist substitute, is also now available in many countries, but is used extensively only in France and the Czech Republic.

However, some other countries, with established methadone programs, such as the United States and Sweden, continue to serve quite a small fraction, perhaps less than one quarter. Russia, despite its large population of dependent heroin users, continues to stand firmly against allowing any substitution programs. India, with a large addict population, provides few treatment services of any kind; the total number of service facilities is less than 500. Limited services are

44 There are some indications that expenditure is rising.

45 It is unclear whether this number includes all patients receiving their methadone from general practitioners, a common practice in countries such as Switzerland and France.

available in Brazil, Colombia and Mexico as well, though for none of them is heroin dependence a major element of their drug problem.

For drugs other than opiates the available treatments are psychosocial rather than substitution therapy. There are efficacy studies with positive results of such interventions for cannabis, cocaine and methamphetamine but the reductions in drug use are smaller and less reliable than for opiate substitution treatment.[46] In almost all countries the share of those in need of treatment for these other drugs who are receiving services is smaller than for opiates.

4.4 Harm reduction

Starting in the 1980s in the United Kingdom, when HIV related to needle sharing first emerged, and in the Netherlands a set of programs were developed that focused on reducing drug problems not by lowering the prevalence of drug use but by directly targeting the harms of drug use. These have been controversial since inception. Opponents argue that the programs are dangerous because they condone an illegal and dangerous behaviour; proponents argue that they are founded on the reality that some individuals will not be persuaded to give up drug use (MacCoun & Reuter, 2001).

Most harm reduction efforts are focused on injecting drug use. The canonical program, debated in many settings, involves the provision of clean needles by legally sanctioned operators (SEP: Syringe Exchange Programs). Other Harm Reduction interventions include safe injecting facilities or provision of Naloxone to injecting drug users so that they can revive friends who have overdosed. See Van der Gouwe et al. (2006) for an inventory of HR programmes in the European Union and a summary of the available evidence on their effectiveness.

Most European Union member states have implemented many HR programs, as have Australia, Canada and Switzerland among the eighteen countries in our sample. Even amongst these countries though there is resistance to some elements of Harm Reduction. For example, safe injecting rooms are rare and heron maintenance, pioneered in Switzerland, is so far available on a routine basis in only two other countries, Germany[47] and the Netherlands (Fischer et al., 2007).

The Russian Federation, until the early part of this decade amongst the most punitive of nations in its response to drug use, has begun to implement a variety of HR programs, such as SEP and safe use education, even though it does not explicitly acknowledge the change in policy and continues to prohibit the distribution of methadone. A few Asian countries have begun implementing SEP as well (International Harm Reduction Association, 2008).

There continues to be vigorous resistance in some countries. Apart from the United States, the opponents are mostly countries that have modest drug problems, such as Egypt and a group of Middle Eastern nations. HR remains essentially unknown in Latin America, where injecting drug use is not a primary concern. The United States government, though a major sponsor of methadone maintenance (which is now viewed as a Harm Reduction intervention), in international fora resists formal endorsement of SEP and other HR interventions. However SEP is available in many United States cities, funded either by private organizations or municipal government; the same is true for safe use programmes.[48]

4.5 Enforcement

Drug enforcement efforts take many forms. The categorization used here focuses on the targeted activity: production, smuggling, high level trafficking and retailing. Though it is properly a demand reduction activity, we also consider enforcement targeted against use in this sub-section. Table 6 presents a matching of programs to targets: It provides the basis for assessing program effectiveness, since it suggests which part of the distribution chain should be primarily affected by a specific type of enforcement.

46 For example, Higgins et al., 1994 report improvement in outcomes for treatment of cocaine dependence from offering incentives for abstinence, typical of a growing literature on such interventions. However a review of interventions aimed at amphetamines (Srisurapanont , Jarusuraisin and Kittirattanapaiboon, 2001) found limited evidence on treatment outcomes and most of that evidence pointing to modest effects.

47 In Germany implementation remains very partial.

48 "Many states moved to amend their legal code to allow for or authorize syringe-exchange programs to operate legally and generally extended some legal protection to drug injectors participating in these programs… An estimated 225 syringe-exchange programs currently operate in the United States, run by a variety of community-based nonprofit groups, health clinics and hospitals, and city public health departments" (Clear, n.d.) See also Beckwith e al. (2006) for an example of a state level intervention.

Table 6: Enforcement targets and program

Target	Programs
Production	Eradication, alternative livelihoods, enforcement against manufacturers, growers
Smuggling	Interdiction
High level trafficking	Investigation, incarceration
Retailing	Arrest, confiscation
Consumption	Arrest, diversion

Production controls

Efforts to control opium production have been of mixed intensity during most of the study period. Myanmar has seen tough enforcement against the opium farmers in the Shan State by the separatist group in charge of that region of the country (the United Wa State Army) rather than the national government. The governments of Colombia and Mexico have been aggressive in their efforts against poppy growers, as indicated by the high share of planted poppy fields that have been sprayed with herbicides. However, Afghanistan, far and away the dominant producer throughout the period 1998-2007, has lacked an effective government for most of the time. The President of Afghanistan has often spoken of the need for stringent enforcement of the ban on opium growing and trafficking (Islamic Republic of Afghanistan, 2005, 2006); however his government has been opposed to the spraying of planted crops, a program pressed by the United States, which might threaten the political stability of the country. The government has been unable to consistently mount to mount either other kinds of eradication or effective alternative livelihoods programs (Rubin and Sherman, 2008).

The eradication efforts against coca fields in the Andes have been consistently intense. Colombia, where coca growing is now centered, has, with the support of the United States backed Plan Colombia, sprayed hundreds of thousands of hectares each year; it now also offers alternative livelihoods, a new initiative. In Bolivia relatively large sums (much provided by European and United States agencies) were spent on an array of programs aimed at developing legitimate economic opportunities in the principal coca growing area, the Chapare.[49] For example, European funders invested in developing roads and schools. Following, the election of Evo Morales, former head of the coca growers association, as president in late 2005 there was some reduction in foreign funding of such programs. Bolivia also maintained its eradication program, employing the military for manual destruction of crops. In Peru the effort was primarily enforcement.

Because cannabis production is so dispersed around the globe, it is much more difficult to describe actions against growers. Mexico, one of the two major exporting countries, has been aggressive in spraying cannabis fields. Morocco, the other major international supplier, has adopted a more varied set of programs to deal with the problem, including alternative livelihoods (Gamella and Rodrigo, 2008; Department of State, 2008). In the consumer countries that are also producers, enforcement has generally been modest, partly reflecting the elusiveness of the target. The Netherlands, which is believed to be an exporter to Europe, is aggressive against the growers who supply the tolerated coffee shop outlets; it arrests over 4,000 individuals each year for cannabis production. The United States has regular eradication and enforcement campaigns against domestic cannabis growers (Drug Enforcement Administration, n.d.). Elsewhere enforcement is haphazard.

Enforcement against ATS producers involves quite different techniques, in part because the production itself is so unlike the growing of opium and coca. It is much more like investigation of traffickers or interdiction.

Interdiction

The flow of drugs across international borders, particularly those of Europe, is a disturbing reminder of the failure of rich and powerful governments to control what enters their countries. That may explain why there has been increasing attention to interdiction, the effort to seize drugs, couriers and vehicles on their way into major markets. For example, the UK 2008 Strategy gives emphasis to "creat[ing] more international partnerships to intercept drugs being trafficked to the United Kingdom and to implement[ing] border controls in countries of departure." (U.K. Home Office, 2008, p 14)

However, interdiction is not only a rich country activity. Indeed, perhaps the most intense national efforts are those of the Iranian government, which has tried to intercept opiate shipments from Afghanistan (some indirectly through Turkmenistan).

49 It is estimated that the U.S. narcotics related assistance amounted to about 1-2% of Bolivia's GDP between 2000 and 2005. The majority of that assistance was for programs other than eradication and law enforcement.

Iran estimates that 250 border guards have died in recent years in these efforts and invests substantial sums in the effort.[50] The smugglers are heavily armed, even occasionally using military tanks for these purposes. Mexico has also targeted drug smugglers from its side of the border with the United States.

Global seizures have risen substantially for both cocaine and heroin, both in absolute terms and as a share of estimated global production. The most recent estimate, for 2007, suggests that 42 percent of cocaine is seized, up from 29 percent in 1998. The figure for heroin is lower but has also risen sharply from 13 percent in 1996 to 23 percent in 2006. The figures for cannabis are less reliable, both with respect to production (as discussed above) and to the interceptions; often these latter are denominated in "plants" rather than the quantity of drugs and thus cannot be summed.[51]

Investigation of high level dealers

Though high level dealers make attractive targets for law enforcement, offering the opportunity to remove entrepreneurial energy and organizational leadership from the drug trade, there is almost no systematic information available about programs aimed at accomplishing this. The 18 country reports rarely contained any description of targeted efforts.

In the United States the federal government targets such dealers and now has about 100,000 persons incarcerated for drug offenses, the vast majority for some involvement in high level trafficking (Mumola and Karberg, 2006). However, many of those incarcerated for such offenses were convicted because they were caught with large quantities; their actual responsibilities may have been minor. State prisons and local jails in the United States include approximately another 400,000 inmates incarcerated because of drug offenses; most are imprisoned for low level drug dealing.[52]

Retail enforcement

Most drug enforcement efforts in any country are aimed at the retail market, either at the seller or the user. That is in part because most participants in the trade operate at that level; if each high level dealer has ten low level dealers as customers (a plausible but untested figure) [Ref.], then about 90 percent of the dealers are at the retail end, some as look-outs or protectors rather than sellers themselves.

The retail market is also the most visible part of the market, at least in some countries and for some drugs. For example, numerous countries report active street markets for heroin addicts, whose needs are urgent and unpredictable and whose behaviour is threatening enough that a dealer may want to avoid exposing himself to in his own home. In contrast, for cannabis the retail market is not a major target because such a small share of transactions takes place in public or near-public spaces; many sales are conducted in the house or apartment of the seller and are hardly accessible to the police at all.[53]

Thus most of those arrested and incarcerated are low level dealers. Information in many countries is restricted to the number arrested. Table 7 provides data on drug arrests, by type of drug, in the European Union over the period 2001-2006. Earlier data are available only on an occasional basis.

Table 7: Index of European arrests for drug offenses, by drug, 2001-2006

	2001	2002	2003	2004	2005	2006
All reports (936866)	100	108	114	130	135	136
Cannabis (550878)	100	109	117	135	134	134
Heroin (77242)	100	90	81	85	89	86
Cocaine (100117)	100	119	128	148	167	161
Amphetamine (41069)	100	104	130	151	133	141
Ecstasy (17598)	100	115	99	136	115	102

(EMCDDA Fig. DLO-3.)

50 For example, Sami (2006) reports a senior Iranian official statement that his government had spent more than $900 million on building fences, towers etc. to protect borders with Afghanistan and Pakistan from drug smugglers.

51 Note also that there is no adjustment for potency. Increased seizures from Mexico, known as a low potency producer, might not balance out declines in seizures of high quality Canadian exports, in terms of the total THC content removed from the market.

52 Local jails include a substantial number of persons who have not yet been tried. Some of those classified as in jail for drug offenses may in fact not be found guilty of those charges. On the composition of the state and federal prison drug offender populations see Sevigny and Caulkins (2004).

53 Caulkins and Pacula (2006) analyze responses to the U.S. National Survey on Drug Use and Health to show that much marijuana dealing is imbedded in social relations.

Note that cannabis dominates arrests for European nations, accounting for nearly 60 percent of the total. The same is true for other Western countries. In the United States cannabis arrests account for nearly one half of all drug arrests in recent years. For Switzerland the figure is about 60 percent. Drug specific arrest rates are not available for the developing and transitional countries.

It turns out that the offense of arrest is usually possession; that is discussed below. Incarceration, a much rarer event, involves drug sellers. Weatherburn and Jones (2001) report that in the Australian state of New South Wales in 1999, just 1.2 percent of those convicted of cannabis possession or use were sentenced to prison, and such punishments typically came when the cannabis use offense happened in conjunction with other offenses and/or the offender had an extensive criminal record. In the United States an analysis of self-report data from those incarcerated for drug offenses found that a majority of those who said that they were in prison for conviction on drug possession chares reported that they had in fact been involved in drug selling in some way (Sevigny and Caulkins, 2004). This represents the effect of plea bargaining.[54]

Enforcement against users

A majority of arrests in most countries (typically over 60%) are for possession rather than distribution of drugs; the Netherlands, because of its de facto legalization of cannabis in coffee houses, has a much lower percentage. In some arrests the offender maybe guilty of distribution but the police officer was unable to obtain evidence for that and could only charge possession of the drug. The numbers of persons arrested is large for some countries. For example, in Switzerland, the total number of possession arrests, mostly for cannabis, amounted to about 25,000 in 2006, a rate of about 500 per 100,000 inhabitants over the age of 12. In the United States cannabis possession arrest rates were about 250 per 100,000. More relevant though is the rate of arrests per user or per use episode. Even in the United States it is likely that a cannabis user has less than a 1 in 3,000 risk of being arrested for any given incident of cannabis use.

Considerable prominence has been given to efforts aimed at seizing the assets of drug dealers. Much of the initial impetus for creating the international money laundering control system arose from the belief that this could be used to cripple the international drug trade. In fact the seizures of drug related assets have been slight in all countries, at least relative to what is believed to be the scale of the trade (Reuter and Truman, 2004).

54 In a plea bargain, the defendant agrees to plead guilty to a lesser charge in return for a reduced penalty.

5 Policy assessment

5.1 Introduction

Though the international regime consisting of the three major UN drug conventions and the UN bodies (CND, INCB and UNODC) constitute an important influence, policy is made primarily at the national and sub-national level and needs to be assessed against the specific problems and goals of the country, province or city. Moreover, assessing a specific intervention, such as prevention or harm reduction, requires a statement of what links that intervention to the various goals of policy.

The international regime

Reference has already been made to the three major international conventions that essentially every nation has signed. The last of these was negotiated 20 years ago and the process of amendment is extremely cumbersome (Room et al., 2008; Chapter VI), so they are unlikely to be changed in the near future.

Three bodies operate the international regime: (1) The International Narcotics Control Board (INCB) which has responsibility for assuring the availability of medications that fall under the control system, notably the opioids. It also monitors compliance with the conventions and has not hesitated in recent years to issue critical reports of national innovations (2) The Commission on Narcotic Drugs (CND), a group of 53 nations which meets annually to set policy (3) the United Nations Office on Drugs and Crime (UNODC) which provides technical services to national governments, particularly in developing nations, and supports the work of the CND. It also publishes the now annual *World Drug Report* which has become the most cited document on the state of the world drug problem.

It is difficult to assess the effects specifically of the international system for at least two reasons. First, the three bodies have no policy powers outside of the convention; the INCB can administer no sanctions against nations that it judges not in compliance with the system. Second, the resources of the system are tiny; in 2006 UNODC had a staff of about 500 worldwide and a budget of less than $70 million.

That is not to say that the system has no effect. First, countries that have been censured by the INCB react strongly; that suggests the censure stings. Moreover experts involved in drug policy believe that some policy changes have not been adopted because of concerns about such censures. Second, the UNODC does offer a unique and valued service in such activities as price monitoring in the opium and coca producing countries and its flagship publications.

However it is clear that in assessing the progress globally since UNGASS that the international bodies are at most a marginal influence. National policy is the principal focus for assessment.

The variety of national problems

We start by noting again that nations differ substantially in the nature of their drug problems. For example, Colombia is greatly harmed by drug production and trafficking, both of which generate high levels of violence, corruption and political instability; consumption of drugs is modest, whether expressed as a share of the nation's drug problems or compared to many other countries. For Turkey, the problem is largely confined to the corruption surrounding transhipment of heroin. In contrast, rich European countries such as Sweden, Switzerland and the United Kingdom have large domestic populations of dependent users of expensive drugs and minimal problems of violence, corruption or political instability related to production or trafficking. The differences in problems imply that policy has different goals across countries.

In Table 8, we present a very brief assessment of the principal drug related problems of 10 of the 18 countries that we studied, simply to illustrate their variety. These assessments are based on the studies in Report 4 and are intended as rough judgments rather than nuanced statements.[55] Countries rarely present "pure" cases. For example, Canada does have some problems of violence around drug trafficking, particularly biker gangs in Quebec, while Turkey does have some heroin consumption. However these judgments do provide an indication of what problems the government in each nation is most likely to target in its policy decisions.

55 Western refers both to a cultural identity and to a high level of wealth. Some nations could clearly be placed in more than one category. For example, Portugal having emerged from fifty years of military rule and isolation in the mid-1970s might be regarded in 1998 as still in the process of transition to a Western nation with established democratic institutions and a predominantly middle class populace.

Table 8: Assessment of principal drug problems for 10 countries

Country	Category	Major problems
Australia	Western	Consumption
Brazil	Developing	Trafficking violence
Canada	Western	Production and consumption
China	Developing	Use
Colombia	Developing	Production, trafficking violence and corruption
Mexico	Developing	Production, trafficking violence
Portugal	Western	Trafficking, consumption
Russia	Transitional	Consumption
Turkey	Developing	Heroin trafficking
United States	Western	Consumption, market violence

5.2 Unintended consequences

A distinctive characteristic of drug policy is the prominence and variety of unintended consequences, primarily negative. Indeed, in a much cited essay for the Commission on Narcotic Drugs meeting in 2008, the Executive Director of the UNODC identified five broad classes of unintended consequences of prohibition as implemented that should play a role in discussions of policy: creation of huge criminal black markets, policy displacement (from health to enforcement against those markets), geographic displacement, substance displacement (to less controllable drugs) and displacement in the wav we perceive and deal with the users of illicit drugs (Costa, 2008). Report 5 provides an analytic categorization of the sources of unintended consequences that aims to extend Costa's discussion.

It is not hard to find illustrative unintended consequences. For example bans on the possession of syringes, intended to reduce drug use, lead to increases in needle sharing among injecting drug use and the spread of blood borne diseases such as HIV. In some settings tough enforcement of criminal laws against the possession of cannabis, intended to reduce the number of people who use cannabis, has large consequences in reducing the employment prospects of the arbitrarily selected set of cannabis users who end up convicted of a criminal offense.[56] These are gross statements about effects, not assessments about whether the interventions have a positive net benefit for society.

We focus here on the unintended negative consequences of enforcement. Some are at the macro-level. Colombia's political stability has been affected over a long period of time by the intense efforts to control coca production, which have given a lucrative role to the rebel movement, the FARC, in protecting coca farmers from the government. The crack-down on drug trafficking in Mexico since 2006 is one factor generating a wave of horrifying killings that has undercut the legitimacy of governments at all levels in Mexico. Spraying coca fields has caused considerable environmental damage not just directly but by creating a need to plant a larger area with coca, a crop whose cultivation itself has adverse consequences for the soil. The incarceration of numerous individuals for drug selling has resulted in many children deprived of the presence of a parent for extended periods.

There are also positive unintended consequences; these receive little attention. For example, since many heroin addicts who enter treatment are also drug sellers, the effect of treatment is partly to reduce the supply of drug selling labour. Similarly, many of those locked up for drug selling offenses are also drug users, so that the incarceration lowers drug demand.

The "balloon effect", i.e. the ability of drug production to move to a new location, either within a country or across international borders, in response to events that reduce the attractiveness of existing production areas, has been much noted as an unintended consequence. This causes damage because the positive effects of reducing production in the initial country are in general more than outweighed by the damage done in the new producer country. We take up its policy implications below.

Report 5 ("The unintended consequences of drug policy") identifies the various mechanisms that generate the unintended consequences. It distinguishes between those consequences that arise from prohibition per se, such as the lack of quality

56 This was an important element of the argument for removing criminal penalties for simple possession of marijuana in Western Australia in 2002. See, for example, Lenton et al. (2000).

control, and those that are a function of the intensity and characteristics of enforcement. It identifies seven mechanisms that can generate unintended consequences: behavioural responses of participants (users, dealers and producers), behavioural responses of non-participants, market forces, program characteristics, program management, the inevitable effects of intended consequences and technological adaptation. The mechanisms, presented through analysis of specific example in Table 9, are useful for policy choices. Table 9 also highlights the variation in who bears the unintended consequences.

Table 9: Taxonomy of some major unintended consequences

Short name	Description	Mechanism	Bearers of consequences	Nature of harms
Geographic displacement	Shift of production in response to targeted enforcement	Behavioural response of growers	Countries	Increased corruption in new producer, possible environmental damage
Lack of quality control	Users purchase drugs of unknown composition	Government service restriction [consequence of intended effect]	Users	Morbidity and mortality
Needle sharing	Enforcement makes needles unavailable or incriminating	Behavioural response of users	Users, intimates	Morbidity and mortality
Inaccurate spraying	Herbicides affect legitimate crops	Program characteristics	Innocent farmers	Economic loss
Expanding production areas through eradication	Eradication forces opening of new areas for coca cultivation	Behavioural response of growers [participants]	Countries	Environmental damage
Supply reduction effect of treatment (+ve)	Many users in treatment programs are also sellers	Consequence of intended effect	Dealers, neighbours	Reduction in consumption (benefit)
Intensified interdiction	Seizing higher percentage of smuggled cocaine	Market forces	Countries	Corruption, environmental damage etc.

5.3 Drug epidemics

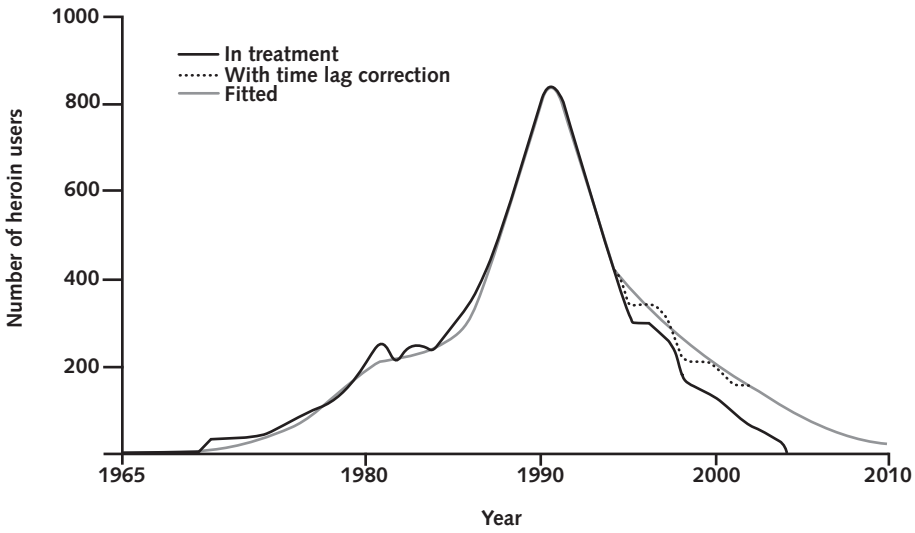
Another important construct for policy assessment is a simple model of the spread of drug use in a population. In examining variation across countries and over time, it is useful to think of drug use as spreading as though there were an "epidemic" of the behaviour. There is not literally an epidemic but it is a useful metaphor and provides important statistical tools.

The notion of a drug epidemic captures the fact that drug use is a learned behaviour, transmitted from one person to another. Although there are individuals – drug importers and distributors – who consciously seek to create new markets for their drugs, it is now clear that almost all first drug experiences are the result of being offered the drug by a friend or family member. Drug use thus spreads much like a communicable disease. Users are 'contagious', and some of those with whom they come into contact are willing and thus become 'infected'.

In an epidemic, rates of initiation in a given area rise sharply as new users of a drug initiate friends and peers. At least with heroin, cocaine, and crack, long-term addicts are not particularly 'contagious'. They are often socially isolated from new users. Moreover, they usually present an unappealing picture of the consequences of addiction to the specific drug. In the next stage of the epidemic, initiation declines rapidly as the susceptible population shrinks, because there are fewer non-users to infect, and because the drug's reputation sours, as a result of better knowledge of its effects. The number of dependent users stabilizes and typically gradually declines.

Heroin is the drug that is classically associated with 'epidemics' (Hunt 1974). In most Western countries there has been just one discrete heroin epidemic. That is true for example of the Netherlands and the United States, both of which experienced an epidemic of heroin use between the late 1960s and early 1970s; since then each has had only moderate endemic levels of initiation. Figure 2 shows this pattern for Zurich, using heroin treatment admission reports of year of first regular use (Nordt and Stohler, 2006).

Figure 2: Incidence of regular heroin use among methadone patients, Zurich



However not all countries show this pattern for heroin. For example in the United Kingdom there was an increase in heroin initiation rates from about 1975 to 2000 (Reuter and Stevens, 2007).

The model also works for cocaine powder and crack cocaine in the United States (Caulkins et al. 2004). It has not been fitted to the spread of cocaine in European countries; the required data are not available in those countries. Nor has it yet been fit to the distribution of methamphetamine in the United States.

The model does not seem to apply to cannabis, in part because the adverse effects of cannabis use appear modest to users (Hall and Pacula, 2003). It is not plausible for drugs that are not dependency creating, such as ecstasy.

It is however useful to keep this model in mind when considering changes in the number of Problem Drug Users in different nations in the same year. One country might be early in its epidemic, with the "natural" change from the past year being a substantial increase in new initiates; simply preventing an increase in the number of current users would be a major success. Another nation may be at the end of its epidemic, with the undisturbed trajectory being a modest decline from the previous year; an observed decline might then not indicate any particular policy success.

An important characteristic of a drug epidemic is that the distribution of drug use changes over its course. In the early stages of the epidemic there are many occasional users of drugs and few who are yet dependent. As the epidemic of new use comes to an end, many light users desist, while a few go on to become frequent and dependent users. Thus the numbers of drug users may decrease even as total quantity consumed goes up. This is precisely the finding of Everingham and Rydell (1994) with respect to cocaine in the United States. The number of cocaine users declined sharply after about 1982, but because of the contemporaneous growth in the number of frequent users, total consumption continued to rise until 1988 at least, and declined only slowly after that.[57]

This has two consequences for assessing policy toward cocaine and heroin. First, what can be accomplished through policy is a function of where a nation is in terms of the epidemic it is experiencing. Second, what policy interventions are likely to be effective will also depend on the epidemic stage.

In the early stages the goal will be to prevent rapid growth in the number of new users; later, after the explosive phase is past, it will be to accelerate the numbers who quit or at least substantially reduce their consumption levels. Caulkins and collaborators in a long series of papers (e.g. Tragler, Caulkins and Feichtinger, 2001), have explored the policy implications of these factors on the optimal choice of policy instruments.

57 The consumption increase also reflected the decline in price that probably led to an increase in annual consumption per dependent user.

In many Western countries the population dependent on heroin is aging. For example, the same aging pattern can be found in the Netherlands, Switzerland and the United States, despite different policy stances.[58] In the United States it can be observed very clearly in the cocaine population as well. It represents the consequences of a combination of a low rate of initiation, which brings in few younger users, and the long drug using careers of those persons dependent on cocaine and heroin.[59] Treatment may reduce client drug use and has many beneficial effects for both users and society but it leads to long-term desistance by a small fraction of those who first enter.

Thus in assessing the effectiveness of drug policy at that stage of an epidemic, the number of drug users, even the number of problematic drug users, is not an appropriate indicator. Instead, governments can aim to reduce the adverse consequences of drug use by its current population of problematic drug users. Thus cocaine, there is then a sharp difference between the situation of the United States on the one hand and, say, Portugal on the other. Portugal may still be in the explosive stage of the epidemic and might reasonably aim at reducing the number of new problematic users. That should probably only a secondary goal for the United States.

Is it possible to prevent an epidemic from starting? The first problem is that of detecting it, since surveillance systems are largely backward looking. The Drug Abuse Warning Network, set up in the United States in the early 1970s, was an attempt to use the appearance of Emergency Room patients with problems related to their drug use to rapidly detect the arrival of new drugs and thus allow for preventative policies. There has been no evaluation of how well it has worked in that respect but it does not seem to have provided valuable early warning for example of the spread of methamphetamine from its West Coast base in the 1990s. Moreover not all drugs with great potential for harm will manifest that harm in the early phases, defeating an Emergency Room based system. Other systems may be possible but have not yet been implemented.

We observe only those outbreaks of drug use that actually occur and not those that might have been, so analysis of past experiences will not be informative as to what actions might prevent an epidemic from occurring once it has begun. Instead one can only consider the plausibility of the various instruments that are available. Prevention is in principle the most useful; if youth can be persuaded that psychoactive substances are dangerous, then the potential for a new epidemic is limited. However both cocaine and heroin use have started at post-high school age, well after individuals have been exposed to prevention programs. Given the lack of evidence at the population level that prevention can substantially reduce the number of initiates among 12-17 year olds, there seems little potential for preventing a new epidemic in, say, 18-24 year olds.

Treatment can have only indirect effects on initiation rates, since it is an intervention aimed at those who have already become heavily involved with the drug.[60] Harm reduction does not target either initiation or prevalence. That leaves enforcement as the one tool for preventing the start of an epidemic. Enforcement is not generic but rather aims at specific drug markets. Hence it is likely to lag in its effects for a new drug; moreover new drugs are often distributed through social networks rather than through markets and thus are particularly hard to police.

5.4 Production and trafficking controls

There is little doubt that interventions aimed at production can affect where drugs are produced. We noted above the changing location of coca growing within the Andean region that are plausibly related to the actions of the governments of Bolivia, Colombia and Peru. Changes in the location of ATS production over the last decade may also reflect such actions.

What is far less clear is that government interventions have been able to reduce total output, as opposed to where and in what way the drugs are produced. This is the essence of the claimed "balloon effect", frequently noted by critics of the existing control system (e.g. Nadelmann, 1988) as well as by Costa (2008). What has not been developed is the implications of that balloon effect for policies at the national and international level. The well intended efforts of one nation to control production can harm other nations; thus the aggressive efforts at control of production by Peru may well have worsened Colombia's problems.

58 The most explicit modeling of this phenomenon is Nordt and Stohler (2006) using treatment entry data for Zurich.

59 The length of heroin using careers is best documented in a remarkable 33 year follow-up of a sample of dependent users recruited in the 1960s, many of whom were still using 30 years later (Hser et al, 2001).

60 As already mentioned , treatment may reduce the supply of drug selling labor since many of those treated for heroin or cocaine dependence are also drug distributors.

Even within a country, the same analysis can provide useful conclusions. Large sections of Afghanistan are under the control of the Taliban, for which the drug trade is an important source of revenue. If the government cracks down on opium production in the territories it controls, it may shift production to the Taliban-controlled areas and thus enhance the funding and political base of the guerrillas. This presents a serious dilemma for the government, since ignoring opium growing undercuts its authority, in part by providing an independent source of finance for local warlords who may challenge the government.

Exactly the same argument can be made about efforts to control international trafficking. There are typically many paths by which drugs can travel from their production point to their final market. If tough enforcement makes smuggling along one route difficult, traffickers may try another.

In recent years this kind of interaction has been conspicuous with respect to trafficking of cocaine. We illustrate the phenomenon by taking advantage of an unusually detailed analysis of a successful control effort by the Dutch government.

The Netherlands Antilles is conveniently located for Colombian traffickers shipping to Europe; it has many direct flights to one of Europe's busiest airports, Schiphol in Amsterdam. In response to evidence of growing trafficking of cocaine primarily from Curacao to the Amsterdam airport, the Netherlands government implemented a 100 percent search policy for airline passengers in Curacao in March 2004 (World Bank and UNODC, 2007). Whereas cocaine seizures in the Netherlands Antilles had not exceeded 1.3 tons before 2003, in 2004 they reached 9 tons, a remarkable figure for a jurisdiction with fewer than 200,000 inhabitants; the United States seizes only about 150 tons. Seizures of cocaine at Schiphol airport have fallen sharply.

Very probably as a consequence new trafficking routes have opened up from South America to Europe via West Africa (EMCDDA, 2008).[61] For example, the nation of Guinea-Bissau is impoverished and small; it has no military or police capacity to deal with smugglers and the government is easily corrupted. Smugglers have started using landing strips there for large shipments. In 2007 there was one seizure of three quarters of a ton and it is believed that an even larger quantity from that shipment made it out of the country (Sullivan, 2008).

Ghana, a larger nation but one also with fragile institutions, has also seen a sudden influx of cocaine traffickers; in 2005 Accra accounted for more seized cocaine at London's Heathrow than did any other city. There are now regular reports of multi-kilo seizures of the drug either in Ghana itself or at airports after flights from Ghana.

Assuming that Ghana and Guinea-Bissau are serving as trafficking nations at least in part because of the effective crack-down on an existing route through Curacao, is the world better off as a result of the crack-down? Certainly the Netherlands has helped itself and one can not be critical of a country making a strong effort to minimize its involvement in the drug trade. However one can reasonably ask whether in making these decisions, the Netherlands should take into account the likely effects of their actions on other, more vulnerable countries. We raise this not as a criticism of any government but to point to an interdependency that has not been explicitly recognized in discussions of international enforcement.

More generally, though, it appears that trafficking control efforts have had little effect in the last ten years. Iran remains a major transhipment country, despite its long-standing commitment of large resources to interdiction of opiates from Afghanistan and its willingness to administer tough punishment on convicted smugglers. Mexico in recent years has also made intense efforts to control smuggling of cocaine from Colombia to the United States. Though there is some indication of a reduction of export levels in 2007, perhaps reflecting the intensified violence in the market, there is good reason to see this as a temporary respite. This was the pattern when the flow of cocaine from Colombia was interrupted during the battle between the Medellin traffickers and Colombian government took place in 1989-1990; the flow resumed at comparable rates after the conflict subsided with government victory and the re-ordering of the cocaine trade. United States destined cocaine still seems to flow primarily through Mexico, even two years after the government's crack-down.

For Mexico corruption may have been a major factor explaining the ineffectiveness of the effort to reduce trans-shipment. Even in late 2008, two years after President Calderon made the effort against the traffickers a prominent part of his administration's agenda, there have been revelations of corruption at the very highest levels of the drug enforcement system (e.g., Stevenson, 2008). Too little is known about Iranian enforcement to make statements about the role of corruption in its lack of success in shifting the trans-shipment traffic to Europe to other routes).

61 In response to the emergence of this new route, seven European nations in the middle of 2007 set up a new entity named MAOC-N (Maritime Analysis and Operations Center-Narcotics). By the end of 2008, MAOC-N had helped in the seizure of 40 tons of cocaine http://www.guardian.co.uk/world/2009/feb/09/drugs-patrol-cocaine-seizure [accessed 15 February 2009].

A rare and controversial exception to the failure of interdiction is the Australian "heroin drought". In late 2000, Australian heroin markets experienced an abrupt and large reduction in drug availability (Weatherburn, Jone, Freeman and Makkai, 2003). Though there has been some recovery in availability in the following seven years, this event appears to have had long-term effects. The most likely cause of this interruption is an operation by the Australian authorities (together with agencies of other governments in Asia) aimed at the small number of major heroin shippers, in particular a seizure and set of arrests in Fiji (Degenhardt, Reuter, Collins and Hall, 2005). While Degenhardt et al. argue against other interpretations that give a role to treatment or supply side shifts in the Golden Triangle, so little is known about the specific cause of this drying up of the heroin market that one can say little more than that perhaps effective interdiction against an isolated market is possible.

5.5 Domestic enforcement

We noted earlier that there has been a decline in the drug problems of some nations that have been particularly damaged by drugs in the past and that there has also been an increase in the stringency of enforcement against sellers. Could the more aggressive enforcement against traffickers and retailers account for the reduction in problems?

That question cannot be answered in a rigorous fashion, for a variety of methodological reasons and because of the lack of data on enforcement intensity and outcomes.[62] However the available evidence is roughly inconsistent with the hypothesis.

Tougher enforcement should reduce drug use by making drugs more expensive and/or less available. The underlying model is that the risk of arrest, imprisonment, seizure of drugs, money and assets are all costs to producers and distributors (Reuter and Kalian, 1986). The higher those risks, the more suppliers will charge for the service. The one published effort, in the United States, to model rigorously the effects of increased enforcement found that a tripling of cocaine selling arrests had led to an increase of between 5 and 15% in the price of cocaine, a small return for such a large increase (Kuziemko and Levitt, 2004). [Bushway et al.]

We have already noted that retail prices have generally declined in Western countries, including those that increased the stringency of their enforcement against sellers, such as the United Kingdom and the United States There are no indications that the drugs have become more difficult to obtain. Indeed, survey data such as Monitoring the Future, show very little evidence of changes in perceived availability (Johnston et al., 2007).

5.6 Methodological issues

Drug problems and drug policy may attract considerable policy and political attention but that has not been matched by large scale data collection and analysis. There remains a dearth of data sets or indicators for comparing how one nation's drug problem compares to that of other nations; for describing how a nation's drug problem has changed over time; and for assessing how drug policies contributed to observed changes in national drug problems over time. Report 6 ("Methodological problems confronting cross-national assessments of drug problems and policies") describes some of the major data limitations facing assessments of drug problems (demand, supply, harms) and policies; it focused particularly on challenges to cross-national comparisons. It identifies both conceptual and empirical elements of those limitations.

Conceptual challenges include inconsistencies in definition and operationalisation of concepts. A well-known conceptual difficulty is the lack of consensus in defining problematic drug use. Another example is the very concept of "drug" itself. In English speaking countries this concept covers both illicit drugs and medical prescription drugs; in other countries (e.g. the Netherlands) the term drug is reserved for illicit drugs. This difference has large consequences for the registration of drug-related deaths. A third example is the question "What is drug-related crime?" The relationship between drugs and crime is complex. It has for example been noted that this relationship can be dynamic and may vary over time (EMCDDA, 2007a).

62 The fundamental problem is the lack of sub-national measures of the size of drug markets that would allow the estimation of the intensity of enforcement. Is an increase in drug seller arrests or incarceration the consequence of more drug sellers or more effective enforcement? Without being able to measure variation in enforcement intensity within a country over time, the potential empirical analyses are weak.

Even simple differences across countries can create problems of comparison. For example, in Britain the household survey data is reported for ages 16-59, whereas in Australia it covers all persons over the age of 14. Though this would not present a problem for an analyst with access to all the data, the published data do not allow for exact comparisons of prevalence between the two nations, except for specific age groups. Some countries conduct in-person interviews, while others use telephones for interviews; the latter is known to result in lower prevalence rates. The cumulative effect of these differences is to make the comparative analysis very approximate.

6 Conclusions

This study is intended to inform policy makers, not to provide recommendations, except for a few about data and research. Policy decisions reflect not only research findings but also the specific values, institutional arrangements and concerns of a nation.

We find no evidence that the global drug problem was reduced during the UNGASS period. For some nations the problem declined but for others it worsened and for some of those it worsened sharply and substantially. The problem generally lessened in richer countries and worsened in a few large developing or transitional countries. The pattern for drugs was also uneven. For example, the number of cannabis users may have declined but the sudden and substantial rise in cannabis treatment seeking may suggest that the number of heavy users and harms have gone up. On the other hand, for cocaine a roughly stable consumption was redistributed among more countries. In aggregate, given the limitations of the data, a fair judgment is that the problem became somewhat more severe.

Between 1998 and 2007 policy changed in many ways. There was an expansion of efforts to help drug users, whether through treatment or other harm reduction measures, at the same time that there was generally a tougher policy toward sellers. There seemed to be a growing convergence of implemented policies, even if the rhetoric of international political debates did not shift much.

The fact that policy changed substantially of course makes a policy assessment difficult but again we think a fair judgment is that policy had no more than a marginal positive influence. Production controls had some local successes (for example in Myanmar and Peru) but were unable to affect the availability of drugs globally; trafficking controls were no more successful. Enforcement against local markets failed in most nations to prevent continued availability at lower price. Treatment reduced harms both of dependent users and of society without reducing the prevalence of drug use. Prevention efforts, though broad in many Western countries, were handicapped by the lack of programs of proven efficacy. Harm reduction has helped an increasing number of countries but is focused on a narrow element of the drug problem.

The enforcement of drug prohibitions has caused substantial harms, unevenly distributed across countries. No matter how well intentioned, there were predictable adverse effects to stringent enforcement; some of the effects were borne by nations other than the one doing the enforcement. The challenge for the next ten years will be to find a constructive way of building on these lessons so that the positive benefits of policy interventions are increased and the negative ones averted.

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Report 1

Assessing the operation of the global drug market*

Peter Reuter

* This paper expands and updates Reuter (2003).

Abstract

Illicit drugs, predominantly cocaine and heroin, now generate a substantial international and domestic trade. For these two drugs, production is concentrated in poor nations and the bulk of revenues, though not of consumption, is generated by users in wealthy countries. Earnings have an odd shape; most of the money goes to a very large number of low level retailers in wealthy countries while the fortunes are made by a small number of entrepreneurs, many of whom come from the producing countries. Actual producers and refiners receive one or two percent of the total; almost all the rest is payment for distribution labour. The industry is in general competitive, though some sectors in some countries have small numbers of competing organizations.

It is not difficult to explain why cocaine heroin production occurs primarily in poor countries and only a little harder to understand why the accounting profits are downstream. Almost everything else about the trade presents a challenge, both descriptively and analytically. Why is the production of cocaine and heroin concentrated in such a small number of poor countries? How are the different sectors organized, in terms of enterprise size and internal structure? What is the relationship of drug trafficking and distribution to other transnational and organized criminal activities?

Cannabis and ATS provide a contrast in several dimensions. For cannabis a high percentage is produced in rich consuming countries and a larger share goes to the growers. ATS is produced in both rich and poor countries and traded in both directions.

These questions serve to organize the paper, which reviews what is known about the operation of these various markets. It offers a theoretical account for a number of the features.

1 Introduction and overview

Illicit drugs, predominantly Amphetamine Type Stimulants (ATS), cannabis, cocaine and heroin, now generate a substantial international and domestic trade. There are substantial differences among the drugs in the distribution of production across countries, but more similarity in the distribution of income across different levels of the trade and in the ways in which the drugs are distributed.

For cocaine and heroin, production is concentrated in a tiny number of poor nations and the bulk of revenues, though not of consumption, is generated by users in wealthy countries. Earnings have an odd shape; most of the money goes to a very large number of low level retailers in wealthy countries while the fortunes are made by a small number of entrepreneurs, many of whom come from the producing countries. Actual producers and refiners receive one or two percent of the total; almost all the rest is payment for distribution labour. The industry is in general competitive, though some sectors in some countries have small numbers of competing organizations.

The principal costs of the cocaine and heroin industries are associated with distribution rather than production; Table 1 provides approximate figures on the cost of cocaine at different points in the distribution system to the United States and generates three observations, which are also true for heroin and for Western Europe:

Table 1: Prices of cocaine and heroin through the distribution system ca. 2000 (per pure kilogram equivalent)

Stage	Cocaine	Heroin
Farm gate	$650 (Leaf in Colombia)	$550 (Opium in Afghanistan)
Export	$1,000 (Colombia)	$2,000-4,000 (Afghanistan)
Import	$15-20,000 (Miami)	$35,000
Wholesale (Kilo)	$33,000 (Chicago)	$50,000 (London)
Wholesale (Oz)	$52,000 (Chicago)	$65,000
Retail (100 mg. pure)	$120,000 (Chicago)	$135,000 (London)

(Drug Enforcement Administration; EMCDDA; UNODC; Matrix, 2007)

These figures, which are indicative rather than precise, suggest three general propositions:

1. The cost of production, as opposed to distribution, is a trivial share of the final price. That statement holds true even if one adds the cost of refining.
2. The vast majority of costs are accounted for by domestic distribution in the consumer country. Smuggling, which is the principal transnational activity, accounts for a modest share but much more than production and refining.
3. Most of the domestic distribution revenues go to the lowest levels of the distribution system. If the retailer and lowest level wholesaler each raise their purchase price by 75 percent, which until recently was a low estimate of the margin, they account for two thirds of the final price. This is consistent with the enormous increase in price from the ounce level to retail observed in Table 1. The high costs of distribution represent primarily the need to compensate low level dealers for the risks of arrest or incarceration and, in some countries, of violence by other participants. This does not require that retailers be at higher risk of detection and punishment compared to wholesalers and traffickers; it is just that the risk is distributed over a much smaller quantity of drug at the retail level, as discussed below.

For marijuana the location and distribution of earnings are very different. Production occurs in most nations that also consume and domestic producers account for most of the total. Only two developing countries, Mexico and Morocco, both in the Middle Income category, are regarded as having a major role in supplying rich countries. A larger share of the total revenues go to the producers, though there are no comprehensive data that would allow for a global estimate of the share going to producers as opposed to traffickers and sellers. The international trade component is slight.

ATS, a diverse set of substances including amphetamines, ecstasy and methamphetamine, present yet another configuration. The number of producing countries is more than the handful in the cocaine and heroin industries but much less than for cannabis. While there is a large flow from production of methamphetamine in poor countries to consumers in rich countries, there is also a flow of ecstasy the other way. As with cocaine and heroin, poor country producers receive a very small share of total revenues.

It is not difficult to explain why production of cocaine and heroin occurs primarily in poor countries and only a little harder to understand why the accounting profits[1] for those drugs are downstream or the higher share going to cannabis growers in rich countries. Almost everything else about the trade presents a challenge, both descriptively and analytically. Why is the production of cocaine and heroin concentrated in such a small number of poor countries? How are the different sectors organized, in terms of enterprise size and internal structure? What is the relationship of drug trafficking and distribution to other transnational and organized criminal activities? Why are the compensation for mid-level dealers in cannabis and ATS so high, in face of apparently low risks of either arrest or violent victimization?

The next chapter discusses the location of production. Chapter 3 presents information about the smuggling sector, which leads to chapter 4: on immigrants and drug distribution, since smuggling and immigration have been closely linked in many countries. Chapter 5 describes the organization of the market at higher levels. Chapter 6 provides a summary description of the large literature on retailing and chapter 7 gives concluding comments.

1 The distinction here is between true economic profits, which take account of opportunity costs, and a more common-language concept of profits as revenues in excess of actual payments for labor, transportation, rental etc. In a very risky business, accounting profits may be high while true economic profits are low or even negative, once risk compensation is included in costs. See Boyum (1992).

2 Which nations produce and why

A small number of nations account for the vast bulk of production of coca and opium. According to official estimates (e.g. U.S. Department of State, 2008; UNODC, 2008), Myanmar and Afghanistan have accounted for over 80 percent of global production of opium since the mid-1980s. Since the turn of the century, Afghanistan has increasingly dominated, so that in 2007 it was estimated to account for 93% of the total (8,200 tons out of 8,870 tons). A total of six countries account for 98% of world production.

Bolivia, Colombia and Peru account for all of coca production. The distribution of production among them has changed over time. In the 1980s, when the illegal market in the U.S. first emerged, it was produced primarily in Peru, Bolivia was second and Colombia a distant third. Since the mid-1990s this has changed markedly, with Colombia responsible for about two thirds of total production. Though other nations in the Andes, particularly Ecuador, are always rumoured to be about to enter the coca growing sector, none has so far done so.

There is no technical reason for not producing cocaine or heroin in the United States or Western Europe. Hydroponic techniques could be used for both coca and opium poppies. However the enforcement risks faced by producers in the U.S. or Western Europe are substantial and the risk compensation costs sufficiently high, that even with transportation costs and associated interdiction risks, local production of coca and opium poppies have never developed; indeed, these drugs are not even refined in the Western world.

Francisco Thoumi (2003) contrasts the distribution of coca and opium production across nations with that for legitimate agricultural products. Coffee can be grown in many countries; in fact, a large number of those countries do have coffee producing and exporting industries. Many countries are capable of producing opium or coca; very few of them do. For example, opium has at various times been grown in China, Lebanon, Macedonia and Turkey. However none of these are currently active producers for the illicit market.

It is useful to contrast this configuration with that for cannabis. One hundred and thirty four countries report to UNODC that cannabis is produced in their territory (Legget & Pieschmann, 2008). U.S. production accounts for a substantial (though unknown) share of U.S. consumption, apparently much of it grown indoors. The Netherlands estimates domestic production that approximately 18,000 "cannabis farms" produced between 130 and 300 tons of cannabis in the early part of this decade (van der Heiden, 2007), far more than might be consumed by Dutch users and the coffee shop visitors (less than 80 tons). Some of this is exported to other Western European nations. Bouchard (2008) estimates that production in the province of Quebec in 2004 totalled 300 tons, of which less than one third was consumed in the province. Most of the rest was presumably shipped across the land border with the United States or trafficked to Ontario.

Mexico and Morocco are the only nations identified as major exporters, Mexico exclusively to the United States and Morocco to Europe. There are no estimates of what share of consumption in these markets are accounted for by imports from these producers. However it is unlikely that the total international trade component of the cannabis trade is large.

Cannabis' exceptional status in terms of disbursed production probably rests on four factors: the bulkiness per unit value[2]; which raises smuggling costs substantially; the high yields per square meter, which allow a grower to produce substantial revenues from a small area; and the existence of a boutique market of user/growers interested in developing better breeds of the plant; and the ease of entry, since the seeds are widely available and there are probably few economies of scale beyond quite a small number of plants.

ATS production is scattered around the world but not in many countries and not always in developing countries. It is useful to consider the three component drugs (amphetamine, ecstasy and methamphetamine) separately.

Amphetamine is primarily consumed in Europe and that is the locus of production as well. Manufacturing requires neither highly specialized skills nor sophisticated facilities. The United Kingdom was for some years the principal production centre but other Western and Eastern European nations (notably Belgium, the Netherlands and Poland) have become more prominent in recent years.

2 A kilogram of cocaine might have a border price of 10,000 Euros entering Europe; a kilogram of cannabis would be only a few hundred Euros.

Methamphetamine is produced mostly in East Asia and North America. In Asia the UNODC (2008) reports substantial methamphetamine production in China, Indonesia, Myanmar and the Philippines; these countries service both large domestic markets and markets in other Asian countries such as Japan and Korea. However methamphetamine is also produced in Australia, where a substantial domestic market has developed. Mexico produces for the U.S. market; however tough enforcement at the border and perhaps effective precursor controls in Mexico itself have led to the development of a U.S. based production capacity.[3]

For ecstasy on the other hand, rich nations (such as the Netherlands and the U.K.) are major exporters to many countries, including developing countries such as Brazil (e.g., Barrionuevo, 2009). The production process requires considerable sophistication both of technicians and equipment; this may explain the location of the producers in the developed world.

Risks and the costs of bearing them provide a plausible, though still untested, explanation for all these observations (Reuter & Kleiman, 1986). Coca and opium are grown in countries characterized by labour and land that have low prices relative to those in Europe and North America (Kennedy et al., 1993). The comparative advantage of these countries is reinforced by the reluctance or inability of governments in Bolivia, Colombia and Peru (for coca) and Afghanistan and Myanmar (for opium/heroin) to act aggressively against growers or early stage refiners. Low opportunity cost for factors of production plus low enforcement risks produce very modest prices for the refined product and also ensure that production does not move upstream geographically.

It is also useful to consider why neighbouring countries, involved in transhipment, have not been major producers. Consider for example Thailand. In the early 1970s it was a major producer of opium. It also has had a substantial addict population (predominantly heroin using). It continues to suffer from high levels of corruption, both in the powerful military and in the civilian government. It would seem to be a strong candidate for a large opium production sector.

Yet Thailand now produces little and serves primarily as a consuming and transhipment country for Myanmar (Kramer, 2008). The explanation can probably be found in economic factors. Over the past thirty years Thailand has had high rates of growth, raising the opportunity cost of land and labour relative to impoverished Myanmar[4]. Thus, Thai farmers have not been able to compete in the opium growing sector, particularly since the illegality of the product has inhibited the development of more technologically advanced growing methods. Targeted alternative development programs, sponsored by the Thai king, may also have contributed to the decline of production in Thailand. The Thai government, despite the corruption of its border drug controls, has also been more willing to act aggressively against growers.

Until the mid-1990s Colombia was the other anomaly, a nation that would have been expected to dominate coca growing, given that coca grew readily there and domestic production would reduce the risk of interdiction. Though the principal source of refined exports to the United States, and an important source for Western Europe, it was a distant third in coca production until the mid-1990s. The subsequent and rather sudden expansion of coca growing in Colombia, which has accompanied a decline in Peruvian and, to a lesser extent, Bolivian production may be the result of specific political factors and developments in the other two producers. The upturn in political violence in Colombia has led to a large internal migration from more settled agricultural regions, where the paramilitary are most active, to unsettled areas in which there are few economic opportunities other than coca growing and in which the guerrillas can provide effective protection (Thoumi, 2003). The decline in Peruvian production may also be the consequence of an extended blight, the first to hit the coca crop in recent decades, and a period of intense enforcement against air traffic of coca base between Peru and Colombia. In Bolivia a broad programme of developmental support in the principal producing area (the Chapare) and perhaps actions of the governments prior to the 2006 election of Evo Morales as president led to sharp decline in production.[5] If peace and stability ever return to rural Colombia, the coca trade may shift back to the poorer Bolivia; the recent loss of leadership and membership in the FARC, along with the demilitarization of the paramilitary, may allow a test of that proposition.

One might more usefully ask whether the new republics of Central Asia are likely to become major players in the international heroin business. They certainly have low cost land and labour, as well as apparently good ecological conditions for growing

3 Typical of the uncertainty about quantities related to the methamphetamine market, Brouwer et al, (2006) report that Mexico based groups accounted for 70-90% of the U.S. methamphetamine market in the early part of this decade, despite the large number of labs detected inside the United States.

4 The per capita GDP for Thailand is more than ten times that of Myanmar.

5 The governments cracked down on illegal production and then negotiated an agreement with the cocoleros in the Chapare that allowed each household to produce coca in a small area. Ostensibly this production went to the small licit market for coca leaves; in fact most of it went into the illegal market for cocaine.

opium and a traditional expertise; Uzbekistan had a licit opium production industry in the Soviet era. Some governments, such as that of Tajikistan, are desperate for foreign currency, have few alternative sources and little concern about their standing in international organizations; they are unlikely to aggressively enforce prohibitions against growing opium poppies or to have the capability to do so even if they desired to. They are certain to be low cost producers, just as they are currently low cost smugglers to the Russian market.

But are they advantaged, compared to current low cost producers, notably Afghanistan and Myanmar? Though closer to Europe and with significant populations resident in Russia and perhaps even in Western Europe, the commercial connections with Western Europe are likely to be weak compared to Myanmar, through established Thai and Chinese trafficking networks, imbedded in growing legitimate traffic. The Central Asian republics will only become major players in the European opium markets if there are disruptions (including rapid economic development) in the current major supplier countries.

Both in the Andes and in Afghanistan the growers are small producers and there is no suggestion that they have any collective power in bargaining. Mansfield, in a series of studies over the last decade (e.g. Mansfield, 2007; 2008) has shown that opium is just another crop that farmers choose to grow with the amount grown depending on access to water, availability of infrastructure, prices of other agricultural commodities, availability of family labour etc. At that level, it is a typical agricultural product, produced by many independent decision makers. Even at the level of traders, the market appears to be competitive (Byrd & Jongelez, 2006). Only at the highest level of the domestic Afghanistan trade is there any indication of possible market power. While there are no similarly detailed studies of the coca producing and cocaine refining sectors in Colombia, there is little indication of any control. Observations of opium latex industry in Colombia by Sergio Uribe reported in Paoli, Greenfield & Reuter (2009, Chapter 8) show that this has also been a decentralized industry of small farmers, with perhaps monopolistic competition in the financing and processing sectors.

There is an emerging literature on cannabis production in wealthy countries. For example, Bouchard (in press) provides a fine-grained description of marijuana growing in Quebec, an important supplier to the U.S. market according to his careful estimates. Again what emerges is an industry of many small producers with minimal co-ordination, often employing teenagers as workers (Bouchard, forthcoming). Less is available on production in poor countries that serve as suppliers to the West. In Morocco, cannabis growing is a major agricultural activity in some regions, again involving small farmers who sell to numerous middle-men (Gamella & Jimenez-Rodrigo, 2008). There are no published studies of cannabis production in Mexico.

ATS production is very lightly studied. Countries emerge and depart the market from time to time. Manufacturing facilities are typically small and mobile. The relationship between production activity and other criminal activities vary across nations and drugs. For example, in Australia methamphetamine production is associated with motorcycle gangs (Andreas, 2007), while in the United States it has shifted from such gangs to criminal groups of Mexican origin. Production in Myanmar on the other hand is controlled by a variety of different political groups (Kramer et al., 2008).

3 Smuggling

The modest share of retail price associated with international cocaine and heroin smuggling is easily explained.[6] First, consider cocaine, which travels in large bundles at that stage; seizures suggest that shipments of 250-500 kilograms are quite common. Though large sums may be paid to pilots for flying small planes carrying cocaine or to Honduran colonels in return for ignoring their landing, these costs are defrayed over a large quantity. A pilot who demands $500,000 for flying a plane with 250 kilograms is generating costs of only $2,000 per kilogram, about 2 percent of the retail price in the United States. Even if the plane has to be abandoned after one flight, that adds only another $2,000 to the kilogram price. For Europe, where courier smuggling may be more important, since it is remote from production areas for both cocaine and heroin, payments to the couriers again amount to only a few thousand Euros per kilo.[7] For shipments in container cargo, seizure constitutes little more than random tax collection; replacement cost of the seized drugs is substantially less than the landed price[8], so high seizure rates have modest effect even on wholesale prices.[9]

A large share of cocaine in the 1980s was smuggled to the United States in dedicated vessels, either small boats or planes. Intense interdiction has changed both routes and patterns. Small (and sometimes not so small) planes are still used to carry a substantial fraction of cocaine to Mexico, from where it enters the U.S. in regular cargo, either by truck or cargo vessel. Patterns of seizure also suggest that in recent years even shipments direct from Colombia have tended to travel in commercial traffic, both air and sea. The drug is found concealed in an enormous variety of cargoes; frozen fruit pulp containers, wooden furniture and suspended in other liquids. European smuggling patterns are influenced by the simple distance from Colombia to Western Europe; dedicated small planes and boats are less feasible. An increasing share is now coming through West African transit countries, such as Ghana and Guinea-Bissau (Sullivan, 2008).

Heroin smuggling appears to be less efficient, at least as measured in dollars per kilogram. Heroin that exits Myanmar at $1,000 per kilogram (in bundles of ten kilograms or more) sells on arrival in the United States for $50,000 per kilogram. There have been a few multi-hundred kilogram shipments of heroin but they are very rare compared to those for cocaine. The drug often travels in small bundles carried internally by individual couriers.[10] "Body-packing" where the couriers are low wage earners, produces per kilogram smuggling costs of less than $10,000. A body-packer can apparently carry about 3/4 of a kilogram. A payment of $5,000 for incurring a 1 in 10 risk in prison (perhaps acceptable for couriers whose legitimate wages are only about $2,000 per annum), along with $3,000 in travel expenses, produces a kilogram cost of just over $11,000[11] compared to a retail price of $1 million. The remainder of the smugglers' margin is for assuming other kinds of risk. Body packing is also a common mode of smuggling from Central Asia, particularly Tajikistan, into Russia. The payments to couriers there are much lower, perhaps as little as $200, reflecting both the greater poverty of that region compared to Mexico (a Middle Income country now by World Bank standards) and the lower risk of apprehension.

Note however that, as a share of the retail price, the ratio for heroin is actually less than for cocaine, about 5-10 percent compared to 15 percent for cocaine. This is one of many unresolved puzzles about the relationship between cocaine and heroin prices, which maintain, at least in the United States, a remarkably constant ratio of 1 to 10 (Caulkins et al., 2005).

Smuggling costs depend on the ability to conceal drugs in a flow of legitimate commerce and traffic. Colombia and Mexico serve as the principal smuggling platforms to the United States because they have large immigrant populations in the United States and extensive air traffic and trade. In the case of Mexico, there is also a lengthy porous land border. Though Mexico is a high cost producer, farm-gate prices for opium in Mexico being typically $2,000 to $5,000 per kilo, compared to a few hundred dollars in Myanmar, the low smuggling costs equalize total landed price. Colombia, a source for heroin that emerged

6 This analysis draws heavily on Reuter (1988).

7 For a revealing analysis of the role of courier smuggling through the Netherlands Antilles, see UNODC and World Bank (2007), Chapter 7.

8 The exit price of cocaine from Colombia may be no more than 2,000 Euros; the price at first sale in Europe may be ten times as high. What is replacement cost for the smuggler depends on what costs have already been incurred at the point of seizure. Near the entry point to Europe that may include payments to corrupt officials in transshipment countries and some part of the courier's fees. It is impossible to determine where the replacement cost in general falls between the export and import prices.

9 This is not an argument for abandoning interdiction but for recognizing the limits of its effectiveness in making cocaine more expensive and less available in mature markets.

10 Nigerian traffickers seem to specialize in such smuggling. Mark Kleiman has estimated that Nigerian couriers' body packing heroin into New York in the early 1990s accounted for over 500 kilograms per annum, 3 to 5 percent of estimated U.S. consumption. That requires only three body packers every two days.

11 The risk and payment figures here are moderately informed guesses; the purpose is simply to provide a sense of the magnitudes involved.

in the early 1990s, also represents high farm gate production with relatively low smuggling costs.[12] Colombia and Mexico are minor producers of opium worldwide, accounting for perhaps three percent of the total but have been source of nearly two thirds of U.S. heroin.[13]

Nigeria is an interesting anomaly, a nation that seems to have little potential role in the international drug trade. It is isolated from the any of the principal producer or consumer countries and lacks a significant base of traditional domestic production or consumption. Nonetheless, Nigerian traffickers have come to play a significant role in the shipping of heroin between Southeast Asia and the U.S.[14] and also to Europe. They have even been identified as important figures in the early stages of heroin trafficking in Central Asia. More recently Nigerian traffickers have even entered the cocaine business, though the production centres are still more remote from their home country.

The explanation is probably to be found in a complex of factors. Nigerians are highly entrepreneurial, have been misruled by corrupt governments over a long time, have large overseas populations, weak civil society, very low domestic wages and moderately good commercial links to the rest of the world. Thus it is relatively easy to buy protection for transactions in Nigerian airports (corruption and a weak governmental tradition), to establish connections in both the source and consumption nations (large overseas populations) and to use existing commercial transportation[15]; smuggling labour is cheap (low domestic wages) and the entrepreneurial tradition produces many competent and enthusiastic smuggling organizers. Nigeria is not unique in most of these dimensions (except for size and connections with the rest of the world) and there is perhaps an accidental quality to its initiation into the trade, but these other factors plausibly play a major role. The country of Nigeria may have been supplanted by other West African states as a transit location in recent years, as indicated by the origin of seizures at London's Heathrow Airport, but it is less clear that Nigerians have been supplanted as smugglers.

The drug trade frequently takes indirect paths for smuggling. Seizures in Germany may turn out to have travelled through Scandinavia into Russia and then exited through Poland to their final market. Ruggiero and South (1995) describe "a joint Czech-Colombia venture to ship sugar rice and soya to Czechoslovakia…This operation was used to smuggle cocaine, destined for Western Europe. In 1991, police say that 440 lbs. of cocaine were seized in Bohemia and at Gdansk in Poland, which would have been smuggled onward to the Netherlands and Britain" (p 75). A large share of UK heroin has been transported through Jamaica (McSweeney, Turnbull and Hough, 2008).

Immigrants have advantages in exporting, with better knowledge of potential sellers and corruption opportunities. Few potential US importers speak any of the languages of the Golden Triangle (Myanmar, Laos and Thailand); English has more currency in Pakistan but not much in Afghanistan. Corrupt officials may be much more at ease in dealing with traffickers whose families they can hold in mutual hostage. Moreover, non-native traffickers are likely to be conspicuous in the growing regions. Nor are the exporters merely agents for wealthy country nations, in sharp contrast to the international trade in refined agricultural products. Khun Sa, an exotic figure associated with irredentist ethnic groups on the periphery of Myanmar was the dominant figure in opium exports from the Golden Triangle for many years (Booth, 1996). The Colombian cocaine trade has spawned some spectacular figures, such as Pablo Escobar and Carlos Lehder, all of them of Colombian descent. If there are major US or European exporters in the source countries, they have managed to escape detection.

Cannabis smuggling accounts, as already noted, for a modest share of total traffic. Gamella & Rodrigo (2008) in the only detailed analysis of this smuggling, from Morocco, describe an industry which is once again characterized by many small enterprises, though they describe two major entrepreneurs who acquired prominence before being convicted and incarcerated by the government of Morocco. For ATS we were unable to find any systematic research on smuggling activities.

The smuggling sector is where great fortunes appear to be made. Most prominent have been the Colombian entrepreneurs such as Carlos Lehder and Pablo Escobar whose extravagant lifestyles provided an important part of the imagery of the failure of the state to prevent their accumulation of power and wealth. Though there are no documented estimates of their actual earnings, there is no doubt that they accumulated many hundreds of millions of Euros during their careers. Khun Sa, the dominant figure in Myanmar's heroin industry (both production and exporting) also became extraordinarily wealthy and was

12 There are indications that the Colombian heroin production has declined sharply since the early part of this decade; see U.S. Department of State (2008). However seizures of heroin in Colombia have barely fallen (Paoli, Greenfield and Reuter, in press).

13 Whether the share is as high as officially estimated is questionable; see Drug Availability Steering Group (2002) and Paoli, Greenfield and Reuter (2009). However they certainly have supplied a substantial share of U.S. consumption in recent years.

14 In 1991 Nigerian nationals accounted for 60 percent of the heroin seized at JFK Airport, the principal international airport for New York City (Akyeampong, 2005).

15 Note that, as expected, the drugs travel with passengers rather than cargo, since Nigerian exports apart from oil, are modest.

able to negotiate with the national government an exit from the trade that may well have involved payment of large sums. The principal figures in the Mexican drug trade, which is mostly smuggling to the U.S., are also reputed to have very large fortunes. Though Pearson & Hobbs (2001) in their study of mid-level distributors in Britain do not report income figures, they provide data that suggest some participants were making many hundreds of thousands of pounds per annum though merely middlemen.[16]

16 For example one dealer was buying 1-2 kilograms of heroin per week at £21,000 per kilogram and selling it at £800-1,000 per ounce. Even at the lower of price figure this would yield about £7,000 per kilogram. If selling 1.5 kilograms per week that would yield roughly £500,000 per annum.

4 Immigrants and trafficking in consumer countries

Dominance in the exporting sector does not imply dominance by the same nationalities in the smuggling business or in high level distribution in the consuming countries. However that seems to be the case for cocaine and heroin (Paoli & Reuter, 2008).

Immigrant communities have substantial advantages in the consuming country as well as their own. For example, their communities are likely to provide less co-operation with the police. Even language can be a major asset; for example, few police departments are able to conduct effective wiretaps or other electronic surveillances of various Chinese languages. They have better opportunities for exit and weaker licit market opportunities than most of the native population. Continuing immigration can serve as a source of new entrepreneurs and reduce the effectiveness of enforcement interventions, as may have been the case with organized crime and Italian immigration in the early part of the 20th century.

Many wealthy nations see foreign groups as critical to the import of drugs. Table 2 lists a few consumer countries and the immigrant groups thought to play a major role in the heroin or cocaine industry:

Table 2: Immigrant groups involved in drug trafficking[17]

Consuming Country	Drug	Immigrant groups
Australia	Heroin	Chinese, Vietnamese
Denmark	Heroin	West African
Britain	Heroin	Turkish
France	Marijuana	Moroccan
Switzerland	Heroin	Balkan, Lebanese
United States	Cocaine	Colombian

Most of these associations are easily explicable, since the immigrant groups come from the trafficking regions. There are few Afghanis in Britain but many immigrants from the neighbouring Pakistan. Morocco a traditional producer and consumer of hashish, has sent many emigrants to France. The Balkans has long been a transhipment area for heroin entering Europe. The only one that is difficult to explain is the involvement of West Africans in the Scandinavian heroin trade but that may reflect the considerations discussed in the Smuggling section.

The European literature is particularly rich and consistent on the role of immigrants. For example, Killias (1997) reports the dominance of immigrants in every level of the drug trade in Zurich; "In 1992, in Zurich Canton, Swiss nationals were only 37 percent of suspected drug traffickers and 14 percent of suspected drug importers." (p 386). Interpol (n.d.) reports that seizures of heroin involving Turkish nationals accounted for 40 percent of the total 11.2 tonnes seized in 1996 in Europe. "The existence of Turkish communities, roughly totalling over 3 million in Western European countries, had given the opportunity among Turkish criminal groups to create a ready network for transport and redistribution of heroin in Western Europe." (p 18).

The variety of groups involved is impressive. Albrecht (1997; p 64-65) reports on the shift in the nationality of drug sellers in Frankfurt. In the 1980s, there were many from Sub-Saharan Africa; intense enforcement eliminated these nationalities from the trade and they were then replaced by North Africans. Albanians are prominent in the Swiss market (Killias, 1997). Ruggiero (2000) supplements this finding through his study of the source country Albanian population, finding that drug dealing and importation are important activities for immigrants, many of whom go to Italy. Paoli & Reuter (2008) note that Albanians from Albania, Kosovo and Macedonia are all active in the trade, suggesting the importance of ethnic and kinship ties rather than nationality. Arlacchi 2004 notes that Albanian immigration to Western Europe totals almost 1.4 million, about 20 percent of the Albanian populations of the sending region.

17 These broad statements come from interviews with officials and researchers in these nations, as well as the literature, much of it not scholarly.

Even in the United States, where traffickers are forced to be much more discreet than in the source country, it appears that the high levels of the cocaine trade are primarily the province of immigrant groups. That is, the principal figures in the import sector are not US nationals but come from the producer or transhipment countries; China, Colombia, Mexico for heroin; Colombia and Mexico for cocaine.

Paoli & Reuter (2008) suggest five factors that may explain why certain drug markets are dominated by particular immigrant groups associated with producing or transhipment countries: low socio-economic status and cultural marginalization; a large diaspora; strong family and locality ties; close proximity to the production and trafficking routes; lax enforcement in their home countries. It is also interesting that the immigrant role is specific to imported drugs (not synthetics) and to certain sales settings (mostly street markets rather than closed locations).

5 The organization of the trade

Though for a long time it was assumed that illegal drug markets were typically monopolized, in fact monopoly control is rare: Desroches (2007) in a recent review noted that the available research on high level trafficking in Canada, the Netherlands, U.K. and U.S. points consistently to small organizations with limited scope of activities. Prior to 1980, it was widely believed that the Mafia had dominated the major illegal markets such as those for bookmaking and loan sharking, and even for heroin importation into New York City until the late 1960s (e.g., Cressey, 1969). Despite finding that some dealers within the U.S. have enormous incomes and traffic in large quantities, no researcher has found evidence, except on the most local basis (e.g., a few blocks), that a dealer organization has the ability to exclude others or to set prices[18], the hallmarks of market power (Katz & Rosen, 1994; Chapter 13).

Even at the trafficker level, market power seems elusive. Notwithstanding references to the Medellin and Cali "cartels", these groups seem to have been only loose syndicates of independent entrepreneurs, who sometimes collaborated but also had to compete with other, smaller, Colombian smuggling enterprises (Clawson & Lee, 1998: Epilogue). The small share of the retail price accounted for by all activities up to import is strong, but not conclusive, evidence of competition at this level[19]. The continuing decline of prices over an almost twenty year period at all levels of the market suggests that, if market power ever existed, it has now been dissipated. Thus there is no level at which policy makers need be worried that tough enforcement will lead to price declines because a cartel is broken, a matter raised thirty years ago by Tom Schelling in his classic paper on organized crime (Schelling, 1967). The explanation for the lack of market power may also be contained in Schelling's paper; the Mafia may have been collecting rents on behalf of corrupt police departments that had exclusive jurisdiction and little external scrutiny; those departments are less systemically corrupt and face substantial oversight from federal investigative agencies.

Some characteristics of smuggling organizations seem quite general. For example, smuggling is rarely integrated with downstream distribution activities. Organizations which import 250 kilogram shipments of cocaine do not distribute beyond the initial transaction, selling in loads of 10 kilograms or more. The explanation for this probably lies in risk management; lower level transactions are more visible and the purchasers less reliable. Integration thus increases risk of arrest. Only very small scale importers are likely to operate close to the retail level.

Markets for smuggling services contain many forms and sizes of organization. A credible case can be made that the 1990s US cocaine market has been dominated by a few large organizations. For other eras, countries and drugs, smaller and more ephemeral organizations may account for a significant share of the total.

The remainder of this chapter describes different types of organizations that have functioned in the cocaine market as it has evolved in the U.S. over the last twenty-five years and currently operating in Europe.

5.1 The early U.S. cocaine market

Adler (1985) reported observations on 65 high level dealers and smugglers in Southern California, whom she and her husband met through contacts while in graduate school. Adler noted considerable range in the closeness and stability of relationships among participants. Some formed close and enduring partnerships that were quite exclusive; for example, one pilot was constantly being recruited by a smuggler neighbour but refused to work for him because of his loyalty to his regular employer (p 66). Other dealers, characterized as "less reputable", existed in a network of shifting alliances.

The organizations Adler studied were microenterprises. Those of cocaine dealers typically consisted of only two or three people. Marijuana, because it is bulkier, required more elaborate transportation organizations. She concluded that "this is not

18 The best evidence is simply the ease with which new sellers enter and the speed with which they depart. There may be rents for various capacities but certainly no power to exclude.

19 If demand is inelastic with respect to price, then a seller with market power can increase revenues and decrease costs by cutting production, until reaching a level at which the demand is elastic. Though the demand for cocaine and heroin may have elasticity of greater than one with respect to final price at current levels, it is very likely that that elasticity is less than one with respect to high level prices, though there are extreme models of price mark-up from import to trafficking which would yield a different result; see Caulkins (1990).

an arena dominated by a criminal syndicate but an illicit market populated by individuals and small groups of wheeler-dealers who operate competitively and entrepreneurially." (p 2).

Reuter & Haaga (1989) interviewed mid to high-level U.S. traffickers in cocaine and marijuana in the mid-1980s; the sample was recruited from low security federal prisons. They found importers that were small, opportunistic and niche-oriented. "All one needs is a good connection and a set of reliable customers." (p 39). Though many of those interviewed regarded themselves as part of an organization, "most of the arrangements would be better described as small partnerships, in which each partner is also involved in trading on his own account, or as long-term, but not exclusive, supplier-customer relationships." (p 40).

Here is their account of one small scale importing operation:

> One couple residing in Florida would travel with another couple to South America, posing as tourists, and would then hand off their packages to the owner of a sailboat in a Caribbean port for delivery to a Florida location. The husband had a contact in Bolivia, whom he had met during a short stay in federal prison for a non-drug related offense. The sailboat owner was a friend of a friend, also tracing back to a contact made in prison. The two couples would part company after each trip, each taking a share of the proceeds….
>
> Thanks to prison and his former life as a small businessman, the husband … had enough contracts in different part of the country to get his large quantities of cocaine and Quaaludes distributed within a short time after arrival. In some five years of operation…about a dozen people had taken part (p 42-43).

Both Adler and Reuter and Haaga were describing the cocaine market in an early stage of its development. In 1978 cocaine consumption was estimated to be approximately 100 tons; by 1988 it had grown to approximately 300 tons (Everingham & Rydell, 1994). Prices had plunged, the consequence of the emergence of more efficient distribution systems. It seems plausible that the generally amateur, small scale smuggling operations described in the two studies, often involving well educated principals with at least modestly successful legitimate careers, had been replaced by more professional and large scale smuggling operations.

5.2 Colombian smuggling organizations

Fuentes (1998) has provided the most fine grained description of the operation of the high levels of the international drug trade since the shift to large scale smuggling; hence we provide more detail than for other studies. He relied on transcripts from court proceedings (including extensive wiretaps) on two major organizations and lengthy interviews with five senior traffickers, who have co-operated with federal agencies. These are accounts of organizations, and by participants, that were detected and punished. Thus they might be atypical. In fact both organizations had lasted for at least five years, while the informants had also been successful over even a longer period.

Each trafficking organization accounted for a non-trivial share of the total cocaine market in the United States. On a monthly basis, a dozen or so customers bought in loads of hundreds of kilograms; a 250 kilogram purchase at $20,000 per kilo involves payment of $5 million. There were a number of multi-ton shipments from Colombia; during the period August 1991 and April 1992 five shipments totalling 20 tons were warehoused by one warehouse operation[20]. In the context of a market delivering about 300 tons to final users, these are substantial quantities.

Fuentes described organizations that were durable, bureaucratic, violent and strategic. For example, recruitment of new staff for U.S. operations was highly systematized, with interviews by senior traffickers in Colombia, and provision of collateral, in the form of identification of family members who could be held hostage. "References for prospective workers had to come from within the organization." Non-Colombians were considered higher risk employees because it was more difficult to threaten them if they defected with money or drugs; providing familial details did help, though threats were harder to execute in the Dominican Republic than in Colombia. Recruitment was very selective. There was a strong preference for relatives in leadership positions and cell managers were usually well educated, with college degrees.

20 There is an ambiguity as to whether this total was for a single organization or a confederation associated with Miguel Rodriguez-Orejuela, a principal figure in the Cali Cartel.

Exit was allowed, provided the circumstances did not arouse suspicion that the agent had defected to the police. Colombians who were recruited to work in the United States were issued visas that expired shortly after entry, so as to limit their mobility.

The system was designed to move shipments very rapidly, since inventory in the United States represented risk. Twenty four hours was the goal for getting rid of a shipment once it had reached the destination city. Stockpiles were held in Colombia, where the enforcement risk was vastly smaller. The organizations had their own domestic transportation systems, drivers who would carry shipments of 100 kilos or more for prices ranging from $300 to $1,000 per kilo, depending on the length of the trip[21].

The scale of the organization was impressive. One large cell was estimated to have 300 workers in it, occupying at least six identifiable roles; it was estimated to have employed a total of 1200 individuals during its lifetime. Most received modest salaries; $7,000 per month for cell manager, $2,000 for stash house sitter. Given the volume and margins for the organization, that still generated annual incomes totalling millions of dollars for the principals[22].

Natarajan (2000) describes a similarly large organization. She documents one surprising phenomenon, namely that the principal U.S. operative talks to numerous individuals; twenty four are identified from wiretaps, including fifteen customers. This is hardly consistent with maintaining low exposure, since any one of the fifteen can obtain relief from lengthy prison sentences through providing information about his supplier. Perhaps what we observe here is the endgame of successful operations that become increasingly confident of their own invulnerability.

5.3 European smuggling

The literature on drug smuggling in Europe is smaller than that on the U.S. market; Dorn, Levi and King (2005) provide a recent review.

There is evidence that smaller smuggling entities can still survive in the European market. Ruggiero and South (1995) describe opportunistic smugglers of less than a kilo of cocaine or hashish, concealing it in bicycles. Disposal of smaller quantities requires less organizational capacity; a single domestic customer may be sufficient. Given that the UK cocaine market has emerged much more recently, probably around 2000 as a mass market, it is perhaps useful in this respect to also consider the study by Pearson & Hobbs (2002) of the "middle market" for cocaine in the U.K. as paralleling the work of Adler and Reuter and Haaga. They also find no evidence of large and hierarchical organizations in the cocaine trade but rather evidence of networks of traders.

However European heroin seizures of more than 25 kilograms are regularly reported. For example, Interpol reported in 1996 8 seizures of between 65 kilograms and 373 kilograms, totalling over 1 ton, from truck traffic alone. Other large seizures were made at ports; for example in May and June of 1996 reported seizures included 217 kg (Venice), 108 kg (Madrid [sic]) and 134 kg (Ipsala, Turkey) (Interpol, p 10).

It is impossible to systematically estimate what share of total European heroin imports are accounted for by large shipments i.e. groups with the financial, organizational and personnel capacities to assemble, purchase, ship and distribute large quantities. Large shipments appear to account for the majority of all heroin seized but that could reflect the higher per kilo risk associated with larger bundles.

5.4 Drug smuggling and legitimate institutions

If drugs travel in legitimate commerce and traffic, then transportation companies, as well as financial institutions, may be active accomplices. For example, American Airlines has paid substantial fines in the past for inadequate monitoring; its planes were importing clandestine cocaine shipments. Revelations at the Miami International Airport in the late 1990s showed that employees of the airline have continued to find opportunities for large scale smuggling; these ones involved baggage handlers at the U.S. landing point.

21 This appeared not to be so much compensation for longer time as for the number of potential police encounters.
22 This vague statement is all that can be gleaned from either Fuentes or Natarajan (forthcoming).

Corruption in the consuming countries seems to be less central to the business, an assertion that arouses considerable scepticism in producer countries. Corruption, like scientific hypotheses, presents a problem of epistemological asymmetry. Scientific hypotheses can only be disproved, not proven; corruption can be found but its existence never disproved. Nonetheless, U.S. prosecutors pursue corrupt agents with considerable zeal when they find them; at the same time the overlapping authority of enforcement agencies creates a situation in which any corrupt agent, no matter how well protected in her own department, has to be concerned with possible investigation by another agency. The market for corruption will shrink in such an environment. In many Western European countries with large drug markets, such as the United Kingdom and Switzerland, there simply is a dearth of credible corruption allegations beyond the occasional individual police officer who takes drugs or money.

6 Retail markets

The final sale of drugs to users is the sector accounting for most of the enforcement effort, participants and revenues. It is the easiest and best studied sector of the market, resulting in studies in many Western countries. Even ATS markets are starting to produce studies on retailing (e.g. Massari, 2005).

The large fraction of sellers operating at the retail level is simply a consequence of the incentives for concealment, which lead to a very tiered distribution system. High level dealers will seek to sell to small numbers of customers in order to reduce the number of potential informants against them. It is plausible, though empirically untested, that the number of customers a dealer is willing to transact with will rise as the drug moves down the distribution system; since the higher level dealers earn more and face higher penalties if caught, they are likely to be more cautious than those further down the distribution system. If each high level dealer will transaction with, say, only five customers (themselves dealers) and there are just three distribution levels in the market, retailers will account for almost five sixths of sellers. Thus is it hardly surprising that most of those who are incarcerated for drug selling operate at the bottom of the system.

The low level of earnings of participants in the retail markets is shown in a number of studies. Levitt & Venkatesh (2000) used the financial records of a cocaine dealing organization in Chicago to show that most participants earned less than the minimum wage; they worked in the organization in the hope of rising to the top, where earnings were very large indeed. Reuter, MacCoun and Murphy, collecting data ten years earlier when the crack and cocaine markets in Washington, D.C. were near their peak, found that street level dealers earned more than the minimum wage but still quite modest sums, in part because they were able to work profitably only for a few hours each week. Paoli (2000) collecting data in Frankfurt and Milan, also reported modest earnings.

The high share of the retail price accounted for by low level distributors is easily explained in the standard risk compensation model used by economists. Assume that a higher level trafficker sells 1 kilogram of cocaine and has a 1 percent probability of being imprisoned for one year as a result of the transaction; the rich trafficker values a year in prison at 100,000 Euros. Assume a retailer sells 1 gram of cocaine and has only a 1 in 1,000 chance of the same imprisonment; he values a year in prison at 25,000 Euros. The trafficker will charge 1 Euro per gram to cover the risk, while the retailer, even though he has a lower chance of being jailed and values that less highly, needs 25 Euros to cover the risk associated with one gram. The figures are intended to be illustrative only.

Retail markets are characterized by varying levels of violence. Coomber & Maher (2007) interviewing participants in the two major street markets in Sydney, Australia, found that few felt threatened or had experienced violence. Bocerus (2007) studying Frankfurt's immigrant drug sellers, from Islamic countries, reports minimal use of weapons and that violence was confined to disputes about honour rather than business. On the other hand, Reuter, MacCoun and Murphy (1990) estimated that in Washington D.C. at the end of the 1980s a dealer had a roughly one in 70 chance of being killed in the trade; the risk of serious injury was about one in 14. The higher levels of lethal violence in the United States generally, particularly gun violence, may explain the higher violence of the drug trade.

Much of the retailing of cannabis and ecstasy seems to take place not in formal markets and through arms-length transactions. Coomber & Turnbull (2007) report that most of their sample of 192 cannabis users in England obtained the drug through friends. Caulkins & Pacula (2006) report a similar phenomenon in their analysis of cannabis acquisition in the U.S. National Survey on Drug Use and Health.

7 Concluding comments

Drug markets lend themselves to mythologizing, because they are difficult to study and because the effects of the drugs themselves create a good deal of glamour to what is in fact a banal and grubby business. The common view that drug markets are lucrative, violent and monopolistic is, for most drugs, places and time exactly wrong. Mostly participants earn low incomes from engaging in routine activities in the context of small organizations with no capacity to control their customers. There are important exceptions at the higher levels of the markets, particularly for cocaine and heroin, in which a few individuals earn large incomes and control great violence. These constitute a specific social problem which needs to be dealt with but nothing is gained by generalizing the exceptional few to the mass market in which millions of participants are engaged on a daily basis.

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Report 2

Estimating the size of the global drug market: A demand-side approach

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Abstract

The size of a market is based on factors influencing both demand and supply. Changes in market size, therefore, provide valuable information about the net effects of movements in both parts of the market. For example, while the number of users may decrease in response to a prevention policy targeting initiation, total expenditures may simultaneously increase due to factors shifting more light users into heavy use or an increase in supply. Therefore, estimating the size of the market, in terms of both participants and expenditures, is critical to fully understanding the impact of interventions intended to influence demand and/or supply.

This report uses data on the prevalence of drug use, retail prices, and consumption patterns to generate country-level consumption and retail expenditure estimates for cannabis, heroin, cocaine, and amphetamine-type substances. Inadequate information is available for generating credible estimates for every country or making comparisons between 1998 and 2007, but the estimates presented here offer an important starting place for future work and comparisons. Given the substantial uncertainty of these figures, a range of estimates is provided rather than one specific number. Even with this uncertainty, there are useful insights for both policymakers and researchers. Major findings include:

- Global retail expenditures on cannabis to range from €40B-€120B. Our best estimate is close to half of the previous global estimate of approximately €125B.
- Exporting cocaine hydrochloride from Colombia to consuming countries generates a value of no more than €10B annually (import price-replacement cost). The equivalent value for opiates exported from Asia and the Americas is no more than €20B.
- Surprisingly little is known about typical quantities consumed of illicit drugs, which makes generating demand-side estimates difficult. This report summarizes the small literature on this topic and highlights actions that could be taken to improve understanding of both consumption patterns and retail expenditures. For cannabis, much could be learned by adding a few questions to existing surveys. For harder drugs, arrestee surveys can provide a wealth of information.

1 Introduction

The size of a market is based on factors influencing both demand and supply. Changes in market size, therefore, provide valuable information about the net effects of movements in both parts of the market. For example, while the number of users may decrease in response to a prevention policy targeting initiation, total expenditures may simultaneously increase due to factors shifting more light users into heavy use or an increase in supply. Therefore, estimating the size of the market, in terms of both participants and expenditures, is critical to fully understanding the impact of interventions intended to influence demand and/or supply.

Further, understanding the size of the market for specific illicit drugs is critical for improving government decision-making and evaluating alternative policy approaches. On one hand, knowing how much revenue is generated for different substances within a country can help decision makers target enforcement resources. On the other hand, knowing the size of a market is necessary but not sufficient for projecting the revenue from a legalization and tax regime. Information about drug markets may also be used to guide decisions in other policy areas. For example, Reuter & Greenfield (2001) suggest that before September 11, 2001, the focus on international money laundering controls was largely based on what was known about the size of the international drug trade. Additionally, understanding the magnitude of the opium trade in Afghanistan and how it has changed may improve military strategies for addressing opium-funded insurgents.

The goal of this report is to generate country-level consumption and retail expenditure estimates for cannabis, heroin, cocaine, and amphetamine-type substances. Unfortunately, most of the information required for such an effort is unavailable and the data that do exist are often not comparable across countries and time. This confines researchers to simplifying assumptions that make it easy and appropriate to question the validity of the results. It also means that most of the focus is on countries with well-developed data collection systems.

There are a variety of methods for calculating the size of an illicit drug market. The supply-side approach uses estimates about production and how much is seized or lost on the way to its final destination. Combining these figures with information about prices generates estimates of the total size of the market. There are at least two different methods on the demand side. One is based on self-reported information about what individuals spend on illicit drugs, and the other uses prevalence estimates and combines them with assumptions about quantity consumed and retail prices to generate expenditure estimates. Each method has its own advantages and drawbacks, but in most cases the decision regarding which approach to use is a practical one determined by the available data for the market considered. It is important to note that the methods are not mutually exclusive and ideally multiple methods could be used to try to triangulate available information from each, as has been done in previous attempts to measure the size of the drug market (e.g., Abt, 2001; UNODC, 2005).

Given the objective to estimate the size of the drug market for individual countries, this report adopts the prevalence-based approach for calculating country-specific consumption and retail expenditure estimates. The focus is on a handful of readily available parameters and evidence-based assumptions about quantity consumed to generate estimates that are reasonably close to what is available in the peer–reviewed and grey literatures. This approach may prove most insightful for developed countries for which drug data are relatively scarce or where efforts are currently under way to collect information, as it could guide them on what type of information is necessary for constructing a similar estimate. This approach remains hampered by the lack of information about typical quantities consumed, so it is necessary to draw on a broad array of sources about drug user behaviour and evidence-based assumption to fill in gaps using this method.

This report contributes to the literature on sizing drug markets in at least four different ways. First, it presents country-specific estimates for countries which account for the major share of consumption and/or retail expenditures for cannabis, heroin, cocaine, and amphetamine-type substances (ATS). Previous studies either provide expenditure estimates for different regions of the world or for a specific country. With respect to the latter, many of these studies only include cannabis. Second, it presents most results in term of ranges, not just point estimates. In doing so, it enables readers to better understand the uncertainty associated with generating any point estimate for these markets. Third, it presents statistics from a variety of international data sources (published and unpublished) that should be useful to other researchers in this field. Fourth, throughout the text insights are given regarding data elements that could be improved to generate a better understanding of global consumption and retail expenditures. As better data are collected, there should be less reliance on controversial assumptions.

Given the popularity of cannabis across the globe, there is relatively more information available about cannabis prevalence and consumption patterns. Thus, more confidence can be placed in these estimates than those for the other drug markets. Furthermore, direct comparisons of results for cannabis can be made to those by other researchers given growing number of studies which focus on the size of the retail cannabis market in specific countries (e.g., Bramley-Harker 2001; ABT, 2001; Wilkins et al. 2002; Wilkins et al. 2005; Clements & Zhao, 2005; Pudney et al. 2006; Gettman, 2007; Hakkarainen et al., 2007; Legleye et al., 2008). The general comparability of findings across studies provides additional confidence that the results generated for cannabis here are indeed reasonable. Because of the lack of data and the stigma associated with self-identifying as a cocaine user in surveys, less confidence can be placed in our best cocaine estimates for Europe. The large differences in our low and high estimates reflect this uncertainty, and it is imperative that efforts be made to improve the available data given the growth in European cocaine use in recent years (EMCDDA, 2007b).

It is also important to note that this report does not provide country-specific estimates for every country in the world. Such an effort would be impossible given the relatively poor data collection in some countries. Nonetheless, estimates are generated for those countries that represent the major share of consumption and/or retail expenditures for each substance. Since retail prices are larger in developed countries (and hence the currency value of the market is larger), most of the focus is on Europe, North America, and Oceania.

The report proceeds as follows. The second section discusses some of the methodological issues associated with using demand-side estimates to generate consumption and expenditure figures. The third section focuses on the retail market for cannabis and is followed by the markets for heroin, cocaine, and amphetamine-type substances. The final section discusses some of the results and ideas for obtaining information that would improve these estimates.[1]

1 We also include a brief section on farm-gate and international trade values for cocaine and opiates in Annex 1.

2 Methodological issues associated with demand-side estimates

Demand-side estimates of illicit drug markets are usually based on self-report information about expenditures and consumption. This information can be obtained from a variety of populations, including those in treatment, those involved in the criminal justice system, students attending school, and respondents to general population surveys. Since many developed countries conduct nationally representative drug use surveys of the general populations (often based on households), we rely heavily—but not exclusively—on these figures for our consumption and expenditure estimates.

The obvious advantage of using information from general surveys is that we can generate country-specific estimates for a large number of countries. There are, however, three important drawbacks: 1) The survey collection/analysis methods often differ across borders, 2) Respondents are not always honest, and 3) General population surveys often miss heavy drug users who are in treatment, in jail/prison, in an unstable housing situation, hard to locate, or unwilling to talk about their substance use. The latter is more likely to be a concern for highly addictive drugs (e.g., heroin) compared to those that are commonly used in the general population (e.g., cannabis). Each section discusses how these missing populations are addressed, but in some cases we are only able to provide estimates from those covered by the general population surveys.

As for underreporting, a number of studies have examined this by comparing self-report information with information from a drug test, usually urinalysis. Much of this research has occurred in North America, and here we highlight a large U.S. study examining concordance for almost 4,000 individuals aged 12-25 who participated in the 2000/2001 National Household Survey on Drug Abuse (Harrison et al., 2007a). Based on the results of this study, Table 2.1 presents the share of those testing positive who actually reported using the substance in the previous thirty days (this is known as sensitivity of the test).[2] While these tests are not 100% accurate (e.g., there are false positives), they provide useful insight into the honesty of those reporting information about drug consumption in surveys. As we would expect, the sensitivity of the test is inversely related to the stigma (and legal penalties) associated with the substance. These results suggest that nearly 80% of tobacco users in the household population were honest about their use; the comparable figures for cannabis and cocaine are close to 60% and 20%, respectively.

Table 2.1: Share of those testing positive who self-report use in previous 30 days in the United States

	Household survey respondents aged 12-25 in 2000/2001 (N=~4,000)	Male arrestees in 2003 (N=9,000)
Tobacco	80%	na
Cannabis	61%	82%
Cocaine	21%	56%

Sources: Harrison et al., 2007a (pages: 30, 61, and 84); Author's analysis of ADAM (NIJ, 2004)

For comparison, Table 2.1 also presents the sensitivity rates for a large sample of arrestees. While there are several differences between these two populations (e.g., arrestee rates are only based on men, arrestees are older, do not cover the same time period), the magnitude of the difference is still striking. It appears as if these arrestees were more honest about their drug use than the household population, which is consistent with other studies (e.g., Hser et al., 1999). Whether or not this pattern holds outside of the United States is an empirical question.

As noted in the previous section, another drawback to the demand-side approach is that little is known about the typical quantities consumed per use day. Thus, even if we did not have to worry about underreporting and missing populations, there would still be uncertainty. While this report makes a useful contribution by reviewing the available international evidence on quantity consumed for each substance, large uncertainty remains. We address this uncertainty (for this

2 There were not enough heroin users in the sample to make comparisons and the study was unable to distinguish between legal, illegal, and OTC amphetamines.

measure and others) by presenting low and high estimates for all of our calculations In most cases we provide a best estimate, but we are not comfortable doing this for ATS in Europe given the extremely large ranges for quantity consumed. Readers should consider these ranges as extreme values that allow us to understand the order of magnitude.[3]

3 We seriously considered using a simulation approach, which would involve making assumptions about the distributions for the values and then picking a range for the estimates; however, we ultimately decided against this approach since we wanted the readers to understand that the large uncertainty comes from different, but reasonable assumptions about the values. We did not want readers to associate this range with uncertainty coming from a simulation.

3 Cannabis

There is a growing literature on the size of retail cannabis markets in particular countries and/or regions. Most studies either provide expenditure estimates for a specific country (micro approach) or for different regions of the world (macro approach). Each study relies on idiosyncratic assumptions, which has led to wildly different estimates of the size of this market even within the same country. This section uses a demand-side model that makes it easy to combine micro and macro approaches to produce country- or region-specific estimates with readily available prevalence and price data. While this approach is not without its own limitations and caveats, it can be broadly and consistently applied to most countries and hence should help advance our understanding of the size of world cannabis market.

Table 3.1 presents the published retail cannabis market estimates for individual countries and the world. Since each study employs different assumptions and methodologies, extreme caution should be used when making comparisons. The UNODC (2005) estimates that the world retail market for cannabis was about €125 Billion[4] circa 2003; more than the retail markets for cocaine and opiates combined. The US is believed to be the largest contributor to this estimate, but the exact size of that market is far from settled. Indeed, some of the estimates of the US market vary by a factor of 10.

Table 3.1: Existing estimates of the retail market for cannabis

Country	Source	Year	Amount (Metric Tons)	Nominal Value	2005 Euros (Billions)	% GDP
Australia	Clements & Zhao 2005	1998	339	AU$ 5.35 B	4.14	0.90%
Finland	Hakkarainen et al 2007	2004	1.7 – 4.3	--	--	--
France	Legleye et al. 2008	2005	--	€ 746-832 M	0.75-0.83	0.05%
NZ(1)	Wilkins et al. 2002	1998	--	NZ$ 131-170 M	0.09-0.11	0.15%
NZ(2)	Wilkins et al. 2005	2001	--	NZ$ 190 M (131-249 M)	0.12	0.16%
UK(1)	Bramley-Harker 2001	1998	486	GBP 1.58	2.55	0.29%
UK(2)	Pudney et al. 2006	2003/4	412 +/- 155	GBP 1.031 B +/- 0.433 B	1.55	0.09%
US (1)	ABT 2001	2000	1,047	US$ 10.5 B	9.92	0.10%
US (2)	DEA, unpublished	2000	4,270	--	--	--
US (3)	Drug Availability Steering Committee, 2002[5]	2001	10,000– 24,000 *	--	--	--
US (4)	Gettman 2007	2005	9,830	US$ 113 B	99.97	0.91%
World (1)	UNDCP 1997	1995	--	US$ 75 B	80.10	0.25%
World (2)	UNODC 2005	2003	35,663	US$ 142 B	125.6	0.38%

*Notes: *Based on estimates of availability, not necessarily consumption (e.g., some could be exported or confiscated by local authorities). Estimates not directly comparable because of different populations and methods. Nominal values are inflated using the CPI published by the OECD° and then converted to Euros using the conversion rate for July 1, 2005 from xe.com/ict. GDP figures were obtained from EconStats.com.°*

The UNODC's macro estimates indicate that North America and Western/Central Europe account for 45% and 28% of the world cannabis market, respectively. The UNODC's input-output model suggests that each past year user in North America consumed 165 grams of cannabis herb at almost €10 per gram. With approximately 25 million past-year users in the US during this time, the UNODC calculations imply that retail cannabis expenditures in the US exceeded €40 billion. This is more than four times the retail estimate generated by the White House's Office of National Drug Control Policy for 2000. There are obvious differences in the methodologies employed by the ABT and UNODC (e.g., the former focused on past-month users and the latter focused on past-year users), but the large discrepancies raise important questions about how to generate reliable market estimates. This particular discrepancy is especially disturbing since we know more about drug use patterns and markets in the US than in most countries. While Abt suggests that its estimate may be low and the UNODC suggests

4 Unless noted, all monetary values are in €2005.
5 Publicly available at: www.whitehousedrugpolicy.gov/publications/drugfact/drug_avail/

the error in their estimate could be significant, it is important to note that neither source provides a range for their estimates. Thus, it is difficult to know how much confidence one should place on either of these point estimates.

3.1 Calculating total consumption of cannabis

We begin with a simple formula for calculating the number of grams consumed in country (*c*):

(1) $\text{TotalGrams}_c = \sum_u \text{Users}_{cu} * \text{UseDays}_u * \text{GramsPerUseDay}_u$,

Where *u* denotes the type of user. In the model, we consider consumption separately for two different types of users: recent users who report use in the past month and users who report use in the past year but not in the past month. There are two reasons for distinguishing consumption between these two groups: 1) To better reflect the fact that heavy users of cannabis may consume cannabis far more frequently and/or in higher doses than individuals who do not use cannabis regularly, and 2) Most countries collect data for these two groups.. Total consumption, therefore, is constructed as the sum of user-specific amounts consumed in a given year. The amount consumed, in turn, is the product of the number of days in which the drug was reportedly consumed, the typical amount consumed on those days, and the number of users who fall into a specific user-group category. We now consider the estimation of each of these in turn.

3.1.1 Number of users

Most developed countries regularly collect and report information on past year and past month consumption from surveys conducted of their household populations. This information is used to create two mutually exclusive user types (*u*): 1) User in the past month and 2) User in the past year but not in past month. These figures, along with retail prices which will be discussed shortly, are reported in Table 3.2.

Table 3.2: Prevalence of cannabis use and retail cannabis prices circa 2005 (Imputed values in *italics*)

Country	Past month users (000s)	Past year users (000s)	Price per bulk gram[6]
Austria	211	416	4.58
Belgium	204	340	5.90
Cyprus	7	11	9.47
Czech	331	641	6.92
Denmark	92	184	*8.00*
Estonia	13	41	8.38
Finland	56	101	12.12
France	1,968	3,525	5.60
Germany	1,604	3,254	6.57
Greece	64	121	3.22
Hungary	75	209	8.84
Ireland	71	136	*3.36*
Italy	2,246	4,338	6.41
Latvia	29	60	14.30
Lithuania	17	54	7.52
Luxembourg	*9*	*16*	7.48
Netherlands	367	600	5.28
Norway	66	139	15.20
Poland	346	745	6.73
Portugal	168	231	2.81
Slovakia	66	158	4.74
Slovenia	*82*	*159*	6.33
Spain	2,386	3,072	3.47
Sweden	46	115	8.49
Switzerland	*135*	225	*6.00*
United Kingdom	2,250	3,738	3.36
Canada	*2,049*	3,414	6.75
Mexico	*1,210*	2,017	1.50
United States	14,626	25,375	4.82
Australia	1,104	1,848	12.58
New Zealand	*224*	373	7.14

Notes: Unless noted below, all European price and prevalence data are based on the EMCDDA's 2007 Statistical Bulletin. For the UK, the EMCDDA specifies whether the estimate is for England & Wales, Northern Ireland, or Scotland. For 2004, this figure is reported for the United Kingdom. The prevalence rate is multiplied by 2005 population aged 15-64 except in these instances: Czech Republic (18-64), Denmark (16-64), Germany (18-59), Hungary (18-54), Malta (18-64), Poland (16-64), and Sweden (16-64). Swiss prevalence is for those 15-64 in 2002 (Drewe et al., 2004). Sources for the number of users outside of Europe: Australia (14+, 2004; Australian Institute on Health and Welfare), Canada (15+, 2004; Canadian Addiction Survey), Mexico (15-64, 2005; UNODC 2007), New Zealand (13-64, 2005/2006; Slack et al. 2008), and US (12+, 2005; NHSDA 2005). Missing price data was imputed based on neighbouring countries: Switzerland (geometric mean[7] of France, Germany, and Italy), Denmark (geometric mean of Germany and Sweden), and Ireland (UK). Missing prevalence data was also imputed based on neighbouring countries: Luxembourg (Belgium) and Slovenia (Italy). Past month prevalence was not available for Switzerland, Mexico, New Zealand, and Canada. In these cases we multiplied the annual prevalence rate by 60%, which is close to what we saw for many of the other countries.

6 To account for the highly skewed nature of drug price data, we use the geometric mean instead of arithmetic mean when generating price information.

7 To account for the highly skewed nature of drug price data, we use the geometric mean instead of arithmetic mean when generating price information from ranges.

3.1.2 Number of use days

Information from a variety of surveys suggests that the average number of days in which cannabis is consumed is fairly similar across developed countries. Rigter & van Laar (2002) find that the frequency of past month cannabis consumption in the Netherlands compares well with the US and footnote that "Roughly similar frequency distributions have been reported for Australia, France, and Germany" (29). Cannabis users in the US and Australia also appear to have similar number of use days in the past year. A detailed frequency distribution based on the 2004 Australian household survey yields a mean number of consumption days for past year users to be 87 to 98 days, depending on whether one assumes weekly but non-daily users use 2 or 3 times a week.[8] Micro data analysis of past-year users in the 2005 US household survey suggests the average number of use days reported in the household survey is 98.8 days.

While there are clearly similarities across countries in the frequency of cannabis use, there are also clearly differences in terms of the time frame in which cannabis use is measured across countries. In an attempt to make the estimates more consistent we make use of US data which provides detailed information regarding the frequency of use by types of user groups. In light of the aforementioned similarities across countries, the reliance on US data for identifying the number of days used in the past year among each user group should introduce only a small amount of measurement error into the model. Table 3.3 presents the median and mean estimates of the number of days in which cannabis is used for the two user groups using data from the 2005 National Survey on Drug Use or Health (NSDUH).

Table 3.3: Number of days of cannabis use per year, for different types of users, as reported in the 2005 U.S. NSDUH Survey

	Median	Mean	95% CI L	95% CI H
Reported use in past month	104	150.3	146.86	153.69
Reported use in past year but not past month	5	29.8	28.04	31.66

Sources: A 95% confidence interval "is an interval computed from sample data by a method that has probability [95%] of producing an interval containing the true value of the parameter" (Moore & McCabe, 2003, p 420). Weighted mean and 95% CI values were calculated using the 2005 National Survey on Drug Use and Health (US) on-line analysis tool at www.icpsr.umich.edu/cocoon/ICPSR/DAS/04596.xml. The weighted median was calculated using the "pctile" function with the weighting option in Stata 9.2.

Given the potential bias that could be introduced by relying on information from a household population for an illegal activity, it is important to consider how similar these estimates are to those obtained from other relevant populations. Surprisingly, these past-month use day estimates are indeed similar to those derived from a national sample of arrestees in the United States. Approximately 10,000 male arrestees in the most recent ADAM survey (2003) reported using cannabis in the month before arrest, with a median and mean equal to 10 and 13.5 days, respectively. If we assume that past month consumption is consistent with use in the previous 11 months, we can generate estimates of past year use days that are reasonably similar to what is derived from the household population (For arrestees: Median = 120 days; Mean = 162 days).

England conducts a similar arrestee survey, and like the US ADAM program, it includes voluntary drug tests. An analysis of these data published by the US National Institute of Justice (the research arm of the Department of Justice) found that after controlling for a host of demographic and criminal offense variables, there was no statistically significant country difference in the rate of positive tests for cannabis (n = 4,833; Taylor & Bennett, 1999). Since a urinalysis for cannabis can either identify recent users or heavy users who recently quit, we cannot definitively state that the levels of cannabis use are similar among arrestees in the US and England. However, this is consistent with the household survey data indicating that quantity consumed among past month users is fairly similar for the US and other Western developed countries.

3.1.3 Quantity consumed per use day

The lack of information about typical quantities consumed on a use day (for cannabis and other drugs) severely limits the accuracy of demand-side estimates. Not only is this information hard to find, differences in consumption patterns make international comparisons difficult (e.g., joints vs. bongs, resin vs. herbal, with or without tobacco). For lack of better information, Pudney et al.'s UK market estimates (2006) rely on daily consumption estimates from an Australian household survey. For those who used cannabis >= 3 times in the previous week, Pudney et al. assumed that the mean quantity used per day of use was 1.2 grams +/- 0.4 for individuals consuming cannabis in the UK. For everyone else in the UK, the quantity assumed

8 98 days = (365 days * 0.164) + (52 weeks * 3 days * 0.228) + (12 months * 1 day * 0.119) + (6 days * 0.178) + (1.5 days * 0.331).

was 0.55 grams +/- 0.4. Similarly, Bouchard (2008) uses Pudney et al.'s (2006) figures to estimate the size of the cannabis retail market in Quebec. The need to draw on estimates from Australian data to predict market estimates for the UK and part of Canada demonstrates the dearth of country-specific information even in countries that have relatively developed monitoring systems.

Before 1995, the National Household Survey on Drug Abuse (NHSDA) in the United States asked past-month marijuana smokers how many joints they consumed on a typical day. In the 1994 NHSDA the average was 2.5 (95% confidence interval 1.91 and 3.09). To compare this to the figures used by Pudney et al. (2006), we must make an assumption regarding the consistency in amount consumed over time as well as an assumption about the average amount of marijuana in a typical joint. No data exist from which to assess the appropriateness of the first assumption (regarding consistency in amount consumed per use day), so it will just be assumed from illustrative purposes. Data do exist for considering the assumptions regarding average amount of marijuana in a typical joint. Table 2.4 highlights a variety of estimates of marijuana grams per joint for different countries, with many of the estimates hovering between 0.3 and 0.5 grams per joint. Rigter and van Laar's (2002) review of cannabis consumption in Europe note: "The corresponding number of 'units of use' depends on the manner of consumption, users' preferences, and the type, origin and perhaps strength of the cannabis. When smoked with tobacco, for instance, one gram may be processed into two to five joints"; thus suggesting 0.2 to 0.5 grams per joint in Europe. This is consistent with a more recent estimate from France (0.29-0.37g; Legleye et al., 2008).

Table 3.4: A variety of assumptions about the number of cannabis grams per joint

Cannabis grams/joint	Country/Continent	Source
0.2-0.5g of cannabis in joint with tobacco	Europe	Rigter & van Laar (2002)
0.29-0.37g	France	Legleye et al. (2008)
0.33g	New Zealand	Slack et al. (2008)
0.39g	United States	Abt (2001)
0.4-0.5g	United States	MacCoun & Reuter (2001)
0.5g	New Zealand	Wilkins et al. (2005)
Slightly less than 0.5g	Canada	Bouchard (2008)
~0.5g	New Zealand	Wilkins & Sweetur (2007)
0.75g	United States	Gettman (2007)

Using the joints per day range from the U.S. and reasonable range about the grams of cannabis per joint from the international literature, we generate figures that are consistent with Pudney et al. (2006). Using 0.4 grams as our best estimate, this suggests that past-month users consumed about 1 gram of marijuana a day (2.5 joints * 0.4 grams). We would expect this figure to be somewhat smaller than Pudney et al.'s estimate for intensive users (1.2 grams) since they focus on the far right tail of the distribution (>=3 times in the previous week). We are most comfortable using 0.3 grams and 0.5 grams as our low and high estimates, which gives us a range 0.57 grams (1.91 joints * 0.3 grams) and 1.55 grams (3.09 joints * 0.5 grams).

Since we do not have grams per joint estimates for non-monthly users, we simply divide the number of joints by two. Although arbitrary, it is important to note that this is an inconsequential assumption as past month users account for the vast majority of consumption and expenditures. It also generates a range (~0.3-0.9g) that is consistent with Pudney et al (0.15-0.95g).

While much of the previous discussion focused on joints, this does not mean that we are excluding consumption via other mechanisms (e.g., bongs, pipes, blunts, one-hitters). Our estimates of the number of users, type of users, and number of use days are independent of the delivery mechanism. Further, the consumption estimates used by Pundey et al. (2006) were not specific to joints. Ultimately the main focus on grams consumed, but we do examine the joint consumption distribution since is the only information we have to help us develop 95% confidence intervals.

3.1.4 Underreporting

Table 2.1 suggests that nearly 40% of the young marijuana users in the household population lied about their use. This is higher than most figures in the literature and so we consider this our upper bound. For the lower bound we assume no underreporting (0%) and for the best estimate we assume 20%. This is not only conveniently the midpoint between these bounds, but also consistent with other estimates: Fendrich et al.'s (2004) household survey in Chicago suggests 78% of cannabis users were honest, and this is similar to the 82% calculated for adult male arrestees in 2003 (Table 2.1). This adjustment assumes that underreporting is not correlated with intensity of use.

3.1.5 Assessing the face validity of these consumption assumptions

Table 2.5 summarizes the information used in the construction of each country's estimate of total consumption of cannabis. The goal here is to make explicit where assumptions have to be made for the construction of an estimate, so that these assumptions can be tested when new information and data become available.

Table 3.5: Key assumptions about cannabis consumption

		Low	Best	High
All users	Grams per joint	0.3	0.4	0.5
Past month users	Days used in 2005	146.86	150.27	153.69
	Joint per use day	1.91	2.5	3.09
	Grams per use day	0.573	1	1.545
Past year users, but not in past month	Days used in 2005	28.04	29.85	31.66
	Joint per use day	0.955	1.25	1.545
	Grams per use day	0.287	0.5	0.773
All users	% underreporting	0.0%	20.0%	39.1%

The assumptions yield results that are consistent with the existing literature. The expected number of grams any past month user would consume in a year would be 150.3 days * 2.5 joints * 0.4 grams = 150.3 grams. A similar calculation for those who used in the past year but not the past month yields 29.9 days * 1.25 joints * 0.4 grams = 15 grams. Table 2.2 suggests that approximately 60% of past-year cannabis users used in the previous month in the US, Australia, and Western/Central Europe. Using a weighted average of the annual consumption for these two types of users (past month; past year but not past month), we estimate that the average number of grams consumed for any past year user in one of these countries (US, Australia and Western/Central Europe) would be 0.6 * 150.3 + 0.4 * 15 = 96.2 grams. This figure is consistent with the "100 grams-per-user benchmark" suggested by Bouchard (2007). Bouchard calculates that past year users in Quebec, on average, used 94 grams in 2003 and notes that this is consistent with studies from other countries (e.g., Pudney et al., 2006; Childress, 1994). Additionally, this is also consistent with data from New Zealand which suggests an average annual consumption to be 98 grams per user (89.3 occasions * 1.1. grams per occasion; Slack et al., 2008). These similarities are surprising considering the variety of sources and countries used to inform the input parameters. They also provide some reassurance that at least for developed countries the assumptions being imposed in this model are not unreasonable.

3.2 Calculating total retail expenditure

Once an estimate of total consumption is produced for each country, an estimate of the expenditure in the retail market for each country (*c*) can be constructed by multiplying total consumption by the average price per gram. Eq. 2 presents a mathematical model for calculating the total amount spent on cannabis in the retail market:

(2) $\text{Expenditures}_c = \text{TotalGrams}_c * \text{PricePerGram}_c$.

This simple formula masks two important and interrelated complexities in cannabis markets: Quantity discounts and the importance of gifts. Most cannabis users do not pay for their cannabis and those who buy in bulk receive discounts (Wilkins

et al., 2005; Caulkins & Pacula, 2006).[9] These two factors can complicate the calculation of total expenditures considerably. If the goal is to try to estimate the value of cannabis consumed, a value must be placed on the free cannabis. In some instances, this is not difficult because the value of the last transaction is a reasonable proxy. For example, if person A buys a gram for €6 and shares it equally with person B, the value of the free cannabis given to B is €3.[10] Even though person B did not actually spend money on the cannabis, information of the last transaction in which the cannabis was purchased provides information on the value of the cannabis consumed. However, if person A instead bought in bulk (e.g., an ounce instead of a gram), then the average price paid per gram would likely be substantially lower due to quantity discounts than if he bought only one gram. If this person sells part of their ounce and gifts another portion, then using the full amount of this one transaction might lead to double counting (at least for the portion that gets resold). To obtain the ideal estimate of average price paid per gram, one would want to only consider those transactions for which the consumers purchased it for their own consumption or gifted it to others (no resale). Unfortunately, it is only possible to get this sort of detailed information regarding what purchasers did with the amount they purchased in a few countries.

As with the prevalence estimates, the European price data are derived from the EMCDDA's *Statistical Bulletin 2007* (EMCDDA, 2007a). Average price data are available for both cannabis herb and cannabis resin, but prevalence estimates do not distinguish between the two. The UNODC reports almost similar amounts of herb and resin were available for consumption in Western and Central Europe in 2003 (3.16M and 2.89M kg cannabis equivalents, respectively); thus we simply take the geometric mean of the mean estimates. If a country reports only one value for herb and resin, we calculate the geometric mean of these two values. If the high and low estimates are reported for both types (and no mean), the geometric mean is based on these four values.

The price data for other countries come from a variety of sources.[11] For the United States, our analyses of the 2005 NSDUH (the only nationally representative price estimate available for the U.S.) suggest that the average price paid per gram for all purchases by non sellers up to one pound was €4.82.[12] Wilkins et al. (2005) perform a relatively similar calculation for New Zealand and generate an average price paid per gram of €7.14. Although their figure may include dealers who presumably get larger quantity discounts (thus deflating these estimates), this figure is consistent with other retail estimates for New Zealand.[13] The Australian price data are based on findings from the 2006 Illicit Drug Reporting System (O'Brien et al., 2006). The lack of retail price information for Canada required using information from the UNODC's ARQ: €6.75 per gram. While this estimate is generally consistent with the impressions of a Canadian cannabis scholar (M. Bouchard, personal communication), we would much prefer to generate price estimates from micro data or statistics from micro data as opposed to a single response to an administrative survey.

Data on the price of retail cannabis in Mexico are not readily available, but the UNODC does report a wholesale price per kilogram equal to €66. This is lower than the wholesale ranges provided for neighbouring Belize (€104-€167) and Guatemala (€91-€96) in 2005. The UNODC also provides ranges for the retail price of one gram in Belize and Guatemala, and for lack of better information, we take the geometric mean of these values to calculate a value for Mexico (which will likely be an overestimate of the retail price in Mexico). Doing so yields a price per gram equal to €1.50.

There are at least two major caveats that need to be kept in mind when comparing cannabis prices across countries. First, it is unclear to what extent these prices approximate actual retail-level prices per gram. Given the relative scarcity of information on drug prices in most countries, it is unclear whether the price estimates reported to the EMCDDA and other organizations exclude purchases made by drug sellers. Second, these prices are not explicitly adjusted for potency. For retail expenditure estimates, the number of raw grams consumed in a country is multiplied by the average retail price paid per gram for the

9 Similar to the section on the previous number of use days, there is some evidence suggesting that U.S. purchase patterns may be similar to the purchase patterns in other developed countries. Data from the 2001 HH survey in New Zealand suggests that 59% of past-year cannabis users purchased at least some of their cannabis (Wilkins et al., 2005). Analyses of the 2001 HH survey also find that 59% (10,944,1610 / 18,650,770) of past year users made a cannabis purchase in the previous year (Caulkins & Pacula, 2006; Table 3). In addition, there is evidence from an international survey of young detainees and dropouts in four cities (Amsterdam, Montreal, Philadelphia, and Toronto) which suggest similarities in how cannabis is obtained (Harrison et al., 2007b).

10 If the free cannabis was received from someone who never originally purchased it in the marketplace (e.g., they grew it themselves at home), it is difficult to know the actual value of the cannabis consumed.

11 Since herbal cannabis dominates the markets in Oceania and North America, resin prices are ignored for these countries.

12 Limiting this to purchases by non sellers <= 1 ounce slightly increases the price to €5.12.

13 Interviews with three different groups of frequent drug users (methamphetamine, ecstasy, and IDU; Wilkins et al.,, 2006) in NZ in 2006 suggest a mean and median price for 1.5 grams (a "tinny") equal to NZ$20. For small purchases, "tinnies" are much more common than joints (Wilkins et al., 2005b). While heavy drug users probably know the market better than the general public and might be expected to pay lower prices, the fact that the median and mean equal $20 for each of the three groups suggests that this is probably close to the typical market price. Converting this to Euros and dividing by 1.5 generates €7.6.

entire country. In theory, this average is a weighted average of the prices paid for high-, typical-, and low-quality cannabis, and accounts for within-country differences in price. But whether or not the prices reported actually reflect these differences for each country is an empirical question. Future data collection efforts will hopefully consider these factors when collecting and reporting information for the price of cannabis.

Table 3.2 presents the price estimates used to generate our expenditure estimates. There is large variation in prices as well as in the ratio of past month to past year users. While one might be tempted to draw comparisons regarding the relative price per gram of cannabis across countries, the reader is reminded that no adjustments are made for the prevalence of quantity discounts reflected in the data or the average potency of the cannabis consumed. Thus, it would be unwise to make direct comparisons. However, one would expect that the average potency of cannabis within specific regions (e.g. Europe) to be less variable then across regions (e.g. Europe versus Australia or the North American). Nonetheless we still see substantial variation in the average price paid per gram. For example, in the Scandinavian countries the average price is highly variable, as indicated by an average price per gram in Sweden of €8.49 and an average price per gram in Norway of €15.20. This variation might reflect differences in the typical purchases made to obtain information on the price of cannabis within these countries, or differences in the quality (potency) of the typical purchase made within these countries.

3.3 Results

To generate country- and regional-level estimates of the retail cannabis market, we use a simple spreadsheet model and populate it with the data from Tables 3.2 and 3.5 and apply the aforementioned assumptions about quantity consumed and expenditures. For each country, we generate a best, low, and high estimate of the total grams consumed and total amount spent on cannabis at the retail level in 2005. Recall that we do not vary the price within countries since we are, in essence, using a weighted average of the prices paid for high-, typical-, and low-quality cannabis when using the average price.

Table 3.6 presents an example of the model using the United Kingdom as an example. In our best estimate for the UK, the share of total grams consumed that are attributable to those who used in the past year but not the past month is only 6 percent.

Table 3.6: Cannabis consumption and expenditures in the United Kingdom, 2005

		Low	Best	High
Past month users (PM)	Number of users	2,250,200	2,250,200	2,250,200
	Days used in 2005	146.86	150.27	153.69
	Joint per use day	1.91	2.5	3.09
Past year, but not past month users (PY)	Number of users	1,488,035	1,488,035	1,488,035
	Days used in 2005	28.04	29.85	31.66
	Joint per use day	0.955	1.25	1.545
Total amount consumed	Grams per joint	0.3	0.4	0.5
	Total grams--PM	189,356,067	338,137,522	534,312,303
	Total grams--PY	11,954,072	22,208,928	36,393,401
	% underreporting	0.0%	20.0%	39.1%
	Total grams--All	201,310,140	450,433,062	937,119,383
Total retail expenditures	Price per gram (€)	3.36	3.36	3.36
	Total expenditures	676,402,070	1,513,455,090	3,148,721,126

Table 3.7 presents the total grams consumed and total expenditures for each country in Western and Central Europe, North America, and Oceania.

Table 3.7: General population estimates of the size of the retail cannabis market circa 2005 (Euros in millions; MT=Metric Tons consumed)

Country		Low	Best	High	Best/GDP[14]
WESTERN AND CENTRAL EUROPE					
Austria	€	88.8	199.0	414.4	0.08%
	MT	19.4	43.4	90.4	
Belgium	€	107.9	241.3	502.1	0.08%
	MT	18.3	40.9	85.1	
Cyprus	€	6.2	13.8	28.7	0.10%
	MT	0.7	1.5	3.0	
Czech	€	209.8	469.8	978.3	0.45%
	MT	30.3	67.9	141.4	
Denmark	€	67.7	151.6	315.8	0.07%
	MT	8.5	19.0	39.5	
Estonia	€	10.8	24.4	51.0	0.21%
	MT	1.3	2.9	6.1	
Finland	€	61.4	137.4	285.9	0.08%
	MT	5.1	11.3	23.6	
France	€	997.3	2232.5	4646.7	0.12%
	MT	178.1	398.7	829.8	
Germany	€	974.1	2182.2	4545.2	0.09%
	MT	148.2	332.0	691.5	
Greece	€	18.9	42.3	88.0	0.02%
	MT	5.9	13.1	27.3	
Hungary	€	65.2	146.4	305.5	0.16%
	MT	7.4	16.6	34.6	
Ireland	€	21.7	48.6	101.3	0.03%
	MT	6.5	14.5	30.1	
Italy	€	1319.8	2955.7	6154.4	0.20%
	MT	205.8	461.0	959.8	
Latvia	€	38.1	85.4	177.9	0.64%
	MT	2.7	6.0	12.4	
Lithuania	€	13.2	29.6	61.9	0.14%
	MT	1.8	3.9	8.2	
Luxembourg	€	6.3	14.0	29.1	0.04%
	MT	0.8	1.9	3.9	
Malta	€	0.6	1.4	2.9	0.03%
	MT	0.1	0.3	0.5	
Netherlands	€	172.9	386.9	804.9	0.07%
	MT	32.8	73.3	152.4	
Norway	€	93.7	210.0	437.4	0.08%
	MT	6.2	13.8	28.8	
Poland	€	217.4	487.2	1015.2	0.19%
	MT	32.3	72.4	150.9	
Portugal	€	41.2	92.0	191.2	0.06%
	MT	14.7	32.8	68.1	

14 GDP values are reported in Annex 2.

Slovakia	€	29.7	66.6	138.8	0.17%
	MT	6.3	14.0	29.3	
Slovenia	€	47.7	106.9	222.6	0.36%
	MT	7.5	16.9	35.2	
Spain	€	715.9	1599.6	3323.8	0.17%
	MT	206.3	461.0	957.9	
Sweden	€	37.7	84.6	176.4	0.03%
	MT	4.4	10.0	20.8	
Switzerland	€	72.5	162.2	337.5	0.05%
	MT	12.1	27.0	56.3	
UK	€	677.0	1514.8	3151.6	0.08%
	MT	201.3	450.4	937.1	
NORTH AMERICA					
Canada	€	1237.7	2769.4	5761.8	0.29%
	MT	183.4	410.3	853.6	
Mexico	€	162.4	363.5	756.2	0.06%
	MT	108.3	242.3	504.1	
US	€	6348.6	14208.6	29567.8	0.14%
	MT	1,317.1	2,947.8	6,134.4	
OCEANIA					
Australia	€	1243.8	2783.2	5790.6	0.47%
	MT	98.9	221.2	460.3	
New Zealand	€	143.1	320.3	666.4	0.35%
	MT	20.0	44.9	93.3	

3.4 Discussion

Although this table focuses on 2005 and most of the market studies listed in Table 3.1 cover different years, there are some noteworthy similarities. Pudney et al. (2006) estimate the total number of grams consumed in the UK circa 2004 is 412 MT +/- 155 MT grams. Our best estimate of 450 MT for the UK clearly falls within this range. Similarly, our best estimate of the total UK expenditures (€1.5B) is very close to the value generated by Pudney et al. (€1.55B +/- 0.649).

Not surprisingly, our expenditure estimate for the United States (€14.2B) is about 50% larger than the estimate generated by Abt (2001) for 2000 (€9.92B). We estimate that ~3,000 MT of cannabis were consumed in the U.S. compared to their ~1,000 MT; however, our expenditure estimates are not three times as large since we apply a lower price per retail gram. The discrepancy in total grams consumed makes sense since we 1) do not focus exclusively on past month users, 2) assume the average past month user paid for 96 grams a year instead of 88 grams, and 3) make adjustments for underreporting. [15] The interagency Drug Availability Steering Committee[16] (Drug Availability Steering Committee (DASC), 2002) expressed concern that the Abt figures were too low for cannabis, and referred readers to an unpublished estimate by the DEA Statistical Services Section which suggested that 4,270 metric tons of cannabis were consumed in 2000. A table published later in the DASC text (5-8) suggests that this 4,270 MT figure was based on this estimation formula: "11,700,000 x 1 gram x 365", where 11,700,000 is labelled as the "User value" (a number that is very close to the 10.7 million past month marijuana users reported in 2000 NHSDA) and the "1 gram x 365" presumably means these users consume a gram a day on average. If interpreted correctly, this implies that the vast majority of past month users consumed approximately two joints a day for an entire year. This seems unusually high and it is not clear whether DASC

15 The Abt (2001) estimate is based on a projection for 2000. A correction using 2000 data by the Drug Availability Steering Committee (2002) put the figure at 927 MT.

16 Members of the DASC included senior-level executives from the following organizations: Office of National Drug Control Policy, Department of Justice, Department of Defense, Department of Treasury, Drug Enforcement Administration, Crime and Narcotics Center, the U.S. Interdiction Coordinator's office, U.S. Customs Service, and U.S. Coast Guard.

strongly prefers this unpublished estimate. It is somewhat reassuring, however, that our best estimate (2,948 MT) falls nicely in this range discussed by DASC.

It appears that our approach may overestimate the size of the retail market in France in 2005 (Legleye et al., 2008: €746-832 M; Estimate from Table 3.7: €2,232 M). There are a few possible explanations for this discrepancy. First, the French estimate is based on past month users while ours includes anyone who consumed in the previous year. Second, the French estimate assumes €4 per gram whereas we use €5.60 based on the EMCDDA data.[17] Third, we adjust the final estimates to account for underreporting.

There is also a difference between our expenditure estimate our methodology produces for New Zealand (€320.3) and what was reported by Wilkins and colleagues for 2001 (€120). Besides adjusting for underreporting, another reason for the discrepancy is that our figures are based on Slack et al.'s (2008) estimate for all users in the country aged 13-64 in 2005/2006 whereas the Wilkins et al. estimates are for those aged 13-45 covered by the household population survey in 2001.[18] An additional reason for the discrepancy is the implied difference in the estimates for typical amount consumed for a user. Whereas our best estimate assumes that the average amount consumed for anyone who used in the previous year is approximately 96 grams, figures published in Wilkins et al. (2005) imply that this figure is lower for the population they examine.[19] As noted earlier, the Slack et al.'s (2008) estimate for New Zealand suggests an average annual consumption to be 98 grams per user, much closer to our estimate.

At the beginning of this chapter we noted that the UNODC figures imply that retail cannabis expenditures in the U.S. are close to €40B—more than three times the figure we generate as our best estimate. This is not entirely surprising since the UNODC assumes that every past year user consumes on average 165 grams whereas we assume an average of 96 grams. Further, the UNODC applies an average retail price that is more than twice as high as the figure we use (€4.8 and €12.5, respectively). We prefer our price figure since it is based on self-reported information from cannabis buyers who consumed or gave their cannabis away, and hence has been purged of individuals who might have also resold some of their cannabis. Further, our estimate accounts for the quantity discounts that often occur at the retail level. In both the United States and New Zealand, the typical amount purchased is greater than one gram (Wilkins et al., 2005; Caulkins & Pacula, 2006)

Summing the country estimates by region allows us to make crude comparisons with the macro estimates generated by the UNODC. Table 3.8 displays the results by region as well as estimates published in the World Drug Report. While the UNODC estimates are inflated from €2003 to €2005, they are not directly comparable to the RAND results since they cover different years. Still, the differences in the estimates are striking. For expenditure and consumption in all three regions, the spreadsheet model produces results that are dramatically smaller than what is reported in the World Drug Report (WDR). For example, the UNODC estimates that over 6B grams of cannabis were consumed in North America and our best is substantially lower.

17 The geometric mean is based on €4.90/gram for resin and €6.40/gram for herbal.

18 The Slack et al. figure is based on a weighted average for occasional and frequent users from the household survey and the Illicit Drug Monitoring System.

19 Wilkins et al. (2005) estimate the value of total purchases for their sample to be $NZ 576,253, with the average annual purchase amount to be $1,313. This suggests that there were approximately 439 purchasers in their sample. With this population purchasing a total of 48,717 grams, this suggests that the average purchaser purchased about 111 grams throughout the year. If we multiply this by the number of purchasers aged 13-45 believed to be in the household population (144,665), the total grams purchased by the household population would be 16,057,815. If we divide this by the total number of past year users (not just purchasers) in full household population (362,140=0.19*1906000), we generate an average of 44 grams per user. Note that this figure is low since it does not consider all of the homegrown cannabis that is consumed by growers and shared with those in the houseful population. Further, Wilkins et al. (2005) suggest the NZ household survey underestimates heavy cannabis users. This accounts for a large share of the discrepancy.

Table 3.8: Estimates of the size of the retail cannabis market

		UNODC circa 2003	RAND Low	RAND Best	RAND High
North America	Expenditures (billions)	€56.6	€7.8	€17.3	€36.1
	Metric tons consumed	6,034	1,609	3,600	7,492
Oceania	Expenditures (billions)	€5.5	€1.4	€3.1	€6.5
	Metric tons consumed	684	119	266	554
West/Central Europe	Expenditures (billions)	€35.2	€6.1	€13.5	€28.5
	Metric tons consumed	6,051	1,165	2,607	5,424

While Table 3.8 only includes countries from three of the 16 regions used in the UNODC macro estimates, the UNODC estimates that these 33 countries account for 78% of the global cannabis retail market and hence represent the bulk of their global estimate. Because adequate data are not available for the other 13 regions (22%), the work presented in this report focuses on improving the estimates for the three regions and takes as correct those estimates constructed by the UNODC for the other 13. Inflating the 2002/2003 estimates for these 13 regions to €2005 and aggregating them generates a base estimate of the size of the retail cannabis market of €35B.[20] Assuming that consumption patterns have remained relatively stable in these 13 regions between 2002/2003 and 2005 (not an unreasonable assumption), adding this figure to the sum of the best estimates for North America, Oceania, and Western and Central Europe generates a global estimate of the retail market for cannabis of approximately €70B—about half of what the UNODC estimated for 2002/2003. A similar computation employing the low and high estimates for the three main regions generates an approximate range for the global retail market of €40B and €120B.[21]

20 €28B * 1/(1-0.2) = €35B.
21 €28B * 1/(1-0.391) + €36.1B + €6.5B + €28.5B = €117B.

4 Heroin

This section presents country-specific consumption and retail expenditure estimates for heroin circa 2005. Unlike our quantity consumed estimates for other drugs which are based on average number of use days and average amount consumed per use day for different types of users, this section relies upon new consumption estimates based upon a recent international literature review (Paoli, Greenfield, & Reuter, 2009). Since these new estimates are presented in terms of pure grams consumed for a user over the course of a year but prices are not available on a purity adjusted basis, the final expenditure estimates are presented for different potential values of retail purity.

The following subsections discuss the data sources and assumptions made to generate our expenditure and consumption figures. We highlight the major sources of uncertainty and note peculiarities in the available data. The final section will compare our results with the small number of studies that have attempted to calculate the size of the retail market for particular countries. Since these results are calculated differently than our estimates for the cannabis and cocaine markets, readers should exercise caution when making comparisons or attempting to sum the figures to generate one figure for the size of the global market for the major illicit drugs.

4.1 Prevalence data

For the majority of countries with sizable retail opiate markets (in terms of users and/or expenditures), we rely on prevalence data collected by the UNODC which come from a variety of sources and often do not cover the same time periods (Table 4.1). For example, the most recent estimate for France is from 1999, for Spain it is 2002, and for the United States it is 2000 (based on the aforementioned Abt study). This makes it virtually impossible to assess country-specific trends in opiate consumption in most places (especially for the 1998-2007 period). These opiate estimates from the UN include opium, heroin, and synthetic opioids but the UNODC estimates that almost all of the consumption (at least 95%) in Western and Central Europe, Canada, and the United States is for heroin (Table 4.2). Thus, for the calculations we will assume that all opiate purchases are for heroin. Since heroin accounts for a smaller share of opiate consumption in other regions and the price data for opium and synthetics are sparse, we do not present estimates for these regions. Consumption information on the major markets excluded from this section is available in Annex 3.

The EMCDDA has encouraged and collected estimates of problematic drug use from member countries, but these data are also not available for all countries for the same year. While some of these estimates only report the number of IDUs (which could include amphetamine and cocaine), some countries do report problematic opiate use separately. While detailed comparisons of the methodologies employed to create the EMCDDA and UN estimates are beyond the scope of this report, there is one important discrepancy worth noting. The UN data for Spain in 2002 suggest that the number of opiate users was less than 55,000 (WDR, Table 1), but the 2002 range for problematic users of opiates reported to the EMCDDA ranges from 71,964 to 102,822; a difference of 30% to almost 100% (Spanish National Focal Point, unpublished). For now, we will use the lower bound of this range for the Spanish calculations and recognize that future work must delve deeper into these inconsistencies.

Table 4.1: Heroin consumption and retail prices

Country	Pop 15-64 2005	Year for estimate	% using in past year	Total users	Assumed pure grams per year	Assumed total pure grams consumed	Price per raw gram heroin (#3/NA)	Price per raw gram heroin (#4)
Austria	5,547,285	2004	0.5	27,736	30	832,093	72.3	106.9
Belgium	6,809,199	1999	0.4	27,237	30	817,104	32.3	
Cyprus	528,292	2006	0.1	528	30	15,849	129.1	180.1
Czech	7,278,024	2005	0.2	14,556	30	436,681	47.2	
Denmark	3,592,694	2001	0.5	17,963	30	538,904	123	210.9
Estonia	901,877	2004	1.5	13,528	30	405,845		94.3
Finland	3,488,259	2005	0.2	6,977	30	209,296		113.2
France	40,993,279	1999	0.4	163,973	30	4,919,193	50.3	62.9
Germany	55,010,226	2004	0.3	165,031	30	4,950,920	47.6	
Greece	7,126,364	2004	0.3	21,379	30	641,373	72.3	78.6
Hungary	6,916,700	2003 (18-54)	0.4	27,667	30	830,004	49.2	65.6
Ireland	2,712,234	2001	0.5	13,561	30	406,835	251.6	
Italy	38,729,045	2005	0.8	309,832	30	9,294,971	68.4	102.7
Latvia	1,590,148	2003	0.9	14,311	30	429,340	179.9	
Lithuania	2,471,090	2002/4	0.6	14,827	30	444,796	36.4	
Luxembourg	311,380	2000	0.9	2,802	30	84,073	102.7	
Malta	274,203	2005	0.6	1,645	30	49,357	76.8	
Netherlands	11,118,809	2005	0.3	33,356	30	1,000,693	37.7	
Norway	3,015,905	2005	0.3	9,048	30	271,431	220.2	
Poland	27,183,009	2003	0.2	54,366	30	1,630,981	44	
Portugal	7,007,623	2000	0.7	49,053	30	1,471,601	52.1	
Slovakia	3,858,319	2005	0.4	15,433	30	462,998	32.6	
Slovenia	1,419,708	2001	0.5	7,099	30	212,956	50.3	
Spain	27,427,043	2002	--	71,964	30	2,158,920	80.1	
Sweden	5,895,309	2004	0.2	11,791	30	353,719	91.6	125.9
Switzerland	5,092,909	2000	0.6	30,557	30	916,724	65.7	
United Kingdom	40,185,134	2005	0.9	361,666	30	10,849,986	101.9	
Canada	22,229,669	2005	0.3	66,689	12	800,268	201.6	282.3
United States	198,238,508	2000	0.6	1,189,431	12	14,273,173	195	207.5

Sources: UNDOC, 2007; UNODC, 2008; Spanish National Focal Point, Unpublished; Paoli, Greenfield & Reuter, 2009

Table 4.2: Share of opiate use attributable to heroin, 2005

AREA	%
EUROPE	84.2
West & Central Europe	96.5
South-East Europe	70.1
Eastern Europe	76.1
AMERICAS	69.5
North America	95.0
South America	27.8
ASIA	63.1
OCEANIA	33.3
AFRICA	100
TOTAL	71.3

Source: UNODC, 2007a

4.1.1 Quantity consumed

As with cannabis, we know relatively little about the typical quantities consumed, especially with respect to pure grams of heroin. For quantity consumed, we rely on the consumption estimates generated from Abt (2001) and Paoli et al.'s (2009) recent international literature review, which focused heavily on Europe. Based on Abt's (2001) calculations for 2000, we assume that the average heroin user consumes about 12 grams of pure heroin a year[22]. This also has face validity since we would expect the figures for the U.S. to be much lower than Europe because of the relatively high price in the former.

Based on a sophisticated analysis of heroin consumption among arrestees in the UK by Singleton et al. (2006), Paoli et al. (2009) calculated that users, on average, consume approximately 29 pure grams per year. Paoli et al. (2009) also discussed Bramley-Harker's (2001) estimate for the UK which is closer to 40g per year, and note that this figure is likely to be high since it assumed that none of the heroin users spent any time in the previous year in prison or jail. Based on these findings and their review, Paoli and colleagues conclude: "We believe that an estimate of 100 pure milligrams per user per day—consistent with an annual estimate of about 30 pure grams—for countries with opiate prices that are, relative to average earnings, much lower than the United States, is reasonable and not inconsistent with judgments of experts."

The assumption of 30 grams for users in Europe is much smaller than the figure offered by UNODC (58 grams). As Paoli et al. (2009) note, there are several reasons to believe that this figure of 58 grams is too high:

"UNODC (2005d) reports a global average of 28 grams per annum and a European average of 58 grams. For validation of the higher figure, UNODC cites the results of a U.K study on people entering treatment in 1997, which it states implies 68 grams (Gossop et al., 1997). However, treatment research (e.g., Anglin & Hser, 1990) has consistently found that users enter treatment at times of peak use; thus, reports of use in the period immediately before treatment entry will overstate average use rates. Moreover, treatment entry is itself not randomly distributed across dependent users; those with more severe problems have a higher probability of being referred to treatment as a consequence of arrest. Thus we believe that the figure is too high."

4.1.2 Price

The price data for raw grams of heroin are pulled from the *World Drug Report* and in most cases they cover 2005. As reported in Table 3.1, most countries report only one price for heroin and it can be presented as unspecified (NA), Number 3 (brown heroin - less refined); or Number 4 (white heroin—more refined). Some countries do report prices for more than one type of heroin. Our estimates assume that all of the heroin consumed are purchased at the retail price published by UNODC and that there is no gifting. While sharing does occur, it is less likely for expensive drugs where heavy users often have to worry about having their drugs stolen from them (Simon & Burns, 1997). The risk of theft also creates a disincentive for making large bulk purchases at the retail level.

4.1.3 Purity

Purity-adjusted price series are not readily available outside of the U.S. and Australia and this is one of the most significant limitations to estimating the size of the market and understanding how it works. The UN does provide some purity data at the retail level, but this is available for less than 25 countries (in the 2007 WDR) and many of the ranges are too wide to be useful (e.g., Canada: 1-100%; UK: 1-87%; U.S.: 12-95%). There are also examples of ranges that are so small that they do not seem credible (e.g., France: 2-10%). When ranges are provided, point estimates are not. Despite the lack of systematic data, we do know that there is large amount of variation across and within countries. Further, there is also a lot of variation within countries over time. For example, in Germany the variation in recorded purity is large within any one year and rapidly changing, as indicated in Table 4.3.

22 13.3 pure metric tons / 1.1 million heroin users.

Table 4.3: Purity of german heroin seizures in 1997 and 2001

Percent purity	Percent of seizures 1997	Percent of seizures 2001
0-10	51	36
>10-20	34	28
>20-30	8	17
>30-40	3	11
>40-50	2	4
>50	2	4

Source: Unpublished data from the Bundes Kriminal Amt

Since our quantity consumed measure is based on pure grams and prices are not available purity adjusted, we present country-specific expenditure estimates for three different levels of purity at the retail level: 20%, 40%, and 60%. This is not intended to suggest that retail purchases are never below 20% or above 60%;[23] rather, we present these scenarios to display how sensitive results can be to assumptions about purity. To calculate the prices for the 20% level, we use the lowest price reported for heroin; for 40% we use the geometric mean when more than one price is reported; and for 60% we use the highest price reported. For Asia, we use a weighted average based on the share of opiate consumption attributable to opium and heroin.

4.2 Results and discussion

Table 4.4 presents retail expenditures for the countries believed to account for the vast majority of the market.

23 For example, the EMCDDA suggests that brown heroin purchases range from 15-25% purity and white heroin ranges between 45-70% in most Member States.

Table 4.4: Heroin expenditures by assumed purity at retail level (€2005 millions)

Country	20% pure	40% pure	60% pure	40% purity estimate/GDP
Austria	250.7	152.4	123.5	0.06%
Belgium	110.0	55.0	36.7	0.02%
Cyprus	8.5	5.0	4.0	0.04%
Czech	85.9	42.9	28.6	0.04%
Denmark	276.2	180.8	157.9	0.08%
Estonia	159.5	79.7	53.2	0.68%
Finland	98.7	49.4	32.9	0.03%
France	1,031.0	576.5	429.7	0.03%
Germany	981.9	491.0	327.3	0.02%
Greece	193.2	100.7	70.0	0.05%
Hungary	170.2	98.2	75.6	0.11%
Ireland	426.5	213.2	142.2	0.13%
Italy	2,649.1	1,623.0	1,325.8	0.11%
Latvia	321.8	160.9	107.3	1.20%
Lithuania	67.5	33.7	22.5	0.16%
Luxembourg	36.0	18.0	12.0	0.06%
Malta	15.8	7.9	5.3	0.16%
Netherlands	157.2	78.6	52.4	0.01%
Norway	249.0	124.5	83.0	0.05%
Poland	299.0	149.5	99.7	0.06%
Portugal	319.5	159.7	106.5	0.10%
Slovakia	62.9	31.4	21.0	0.08%
Slovenia	44.6	22.3	14.9	0.08%
Spain	720.5	360.3	240.2	0.04%
Sweden	135.0	79.1	61.9	0.03%
Switzerland	251.0	125.5	83.7	0.04%
UK	4,606.7	2,303.4	1,535.6	0.12%
Canada	672.2	397.7	313.8	0.04%
US	11,597.0	5,981.4	4,113.4	0.06%

Notes: Prevalence and price figures from UNODC. Consumption information from Abt (2001) and Paoli et al. (2009).

There are some important similarities between these figures and others in the literature. First, the 40% estimate for the UK (€2.3 B in 2005) is reasonably close to the point estimate generated by Pudney et al. for heroin in 2003/4 (€1.8 B +/- .342). Second, the 40% estimate for the US (€7.2B in 2005) is reasonably close to the point estimate generated by Abt for heroin in 2000 (€9.45B). Part of this discrepancy can be attributed to the 13% decrease in the price for a pure gram of heroin in the United States from 2000 to 2005 (Arkes, personal communication). Third, the sum of the figures for US and Canada at 40% (€7.6 B) is very close to what the UNODC found for North America in 2002/2003 (€7.9 B). Finally, our estimate of the total pure grams consumed in the U.S. (14.3 MT; Table 3.2) is consistent with the DASC's (2002) estimate that there is between 13 and 18 MT of pure heroin available of in America. Of course, the amount consumed will be less than the DASC estimates since some of this heroin is confiscated, but it is encouraging to know that our crude calculations are reasonably close.

But the glaring discrepancy between these figures and the UNODC estimates is with Western and Central Europe. Our calculations for this region for 60% and 20% purity are roughly €5 B and €14 B, respectively, while the UNODC puts estimates expenditure to exceed €22 B. This is largely attributable to the aforementioned fact that UNODC estimates suggest the average user uses 58 pure grams a year, whereas we assume a value of 30 grams.

5 Cocaine

This section focuses on expenditure and consumption estimates for the nine countries believed to account for most of the world's retail cocaine market (seven in Europe, two in North America). While the data used to estimate the size of the global retail market for cannabis are limited, they are much richer than what is available for cocaine. This is especially true for Europe where some countries appear to be in the early stages of a cocaine epidemic (The U.S. was at its peak nearly 25 years ago).[24] The lack of data requires us to make strong assumptions about large markets and we are not comfortable making assumptions for the smaller markets for which there is even less information. Still, we hope that generating ranges for these nine major countries will improve understanding of the size of the retail market. Furthermore, this exercise will highlight the data gaps that need to be filled to calculate more precise estimates.

5.1 Europe

The subsection focuses on the seven European countries that account for roughly 90% of current past-month cocaine users in Europe: France, Germany, Italy, Netherlands, Poland, Spain, and the United Kingdom (EMCDDA, 2007b). Similar to the cannabis section, we attempt to generate country-specific ranges using readily available country-specific prevalence and price data as well as region-specific assumptions about quantity consumed. Pudney et al. (2006) provide a rigorous estimate of the size of the powder and crack cocaine markets in the UK in 2003/4; one reasonable approach for the UK would be to update this to reflect 2005. But since we are tasked with generating estimates for multiple countries, we will use a different methodology that can be applied to all European countries and then use Pudney et al. (2006) to assess the face validity of our estimates.

While crack cocaine is available throughout Europe, powder cocaine dominates the market in all countries except the UK (EMCDDA, 2007b). The EMCDDA special report on cocaine notes, "In Europe, crack cocaine use seems to be stable at a low level and concentrated among certain marginalized subpopulations in some cities" (2007b, 9). Pudney et al. (2006) estimate that crack accounts for the majority of cocaine expenditures and pure grams consumed in the UK, and more than half of cocaine treatment admissions in the UK are for crack (EMCDDA 2007a, TDI 115). Indeed, the UK appears to account for over 80% of all primary crack episodes in Europe. Thus, this European section will only incorporate information about crack for the UK; in other countries all cocaine users will be treated as powder cocaine users. This turns out to be a fairly non-consequential assumption.

As with cannabis, we use Equations 1 and 2 to estimate total consumption and retail expenditures for European countries. However, for cocaine we assume that all end users purchased their product. This is a strong simplifying assumption and we have no reason to believe that it is correct. More research needs to be conducted on the level of gifting among light and heavy users, especially in European settings. But as mentioned in the previous section, gifting is likely to be less common for the more expensive drugs.

5.1.1 Number of users

The estimate of users is based on the number of past-year cocaine users in the general population as reported in the EMCDDA's *Statistical Bulletin 2007* (Table 5.1). Since these figures generally exclude those not covered by the household surveys, they should be viewed as conservative. But considering that many European countries are in the early stages of an epidemic, we would expect estimates from the household surveys to be relatively more accurate than if the countries were at the end of the epidemic (as is the case in the United States).

24 A useful description of how to think about drug epidemics is presented by Paoli et al. (2009): "In contemporary discourse, the concept of "epidemic" is often used to describe the initial and usually precipitous but limited, phase of illicit drug demand creation and particularly the sudden expansion of heroin demand in a variety of contexts from the 1960s onwards. The notion of a drug use epidemic captures the fact that drug use is a learned behavior, transmitted from one person to another. Contrary to the popular image of the entrepreneurial "drug pusher" who hooks new addicts through aggressive salesmanship, it is now clear that almost all first experiences are the result of being offered the drug by a friend. Drug use thus spreads much like a communicable disease; users are "contagious," and some of those with whom they come into contact become "infected."

Table 5.1: Self-reported cocaine users in the general population circa 2005

Country	Year of prevalence estimate	Past year cocaine users
France	2005	245,960
Germany	2003	550,102
Italy	2005	852,039
Netherlands	2005	66,713
Poland	2002	135,915
Spain	2005	822,811
UK	2005	924,258

Sources: EMCDDA, 2007a; US Census, 2008.

5.1.2 Underreporting

For prevalence-based cocaine estimates, a large hurdle is estimating the amount of underreporting that occurs given the stigma associated with powder and crack cocaine. As cocaine is an expensive drug, this underreporting has significant implications for calculating the size of the global drug market. Some of the available European evidence on this comes from arrestee populations in the UK, and the results are inconsistent. Pudney et al. (2006) report that according to the 2003/2004 Arrestee Survey (England), 40% of those testing positive for cocaine did not self-report using crack or powder cocaine within 48 hours of arrest. They also report information from a different arrestee survey conducted in England and Wales from 1999-2002 (NEW ADAM: New England and Wales Arrestee Drug Abuse Monitoring) suggesting that the rate of cocaine underreporting is 15.3%.[25] Both of these figures are higher than an earlier NEW ADAM analysis suggesting that only 3.9% of the arrestees tested positive but did not report using cocaine (Taylor & Bennett, 1999). The corresponding figures for arrestees in the United States range from 17% to more than 50%, with most of the figures near the top of the range (Hser et al., 1999; Taylor & Bennett, 1999; Liu et al., 2001; Authors' analyses of 2003 ADAM data).

While it is not surprising that there is underreporting among arrestees who may be suspicious of research inquiries about illicit drug use, evidence from the United States suggests that cocaine underreporting may be even higher in the household population. As noted in Table 2.1, Harrison et al., (2007a) found that only 21% of respondents aged 12-25 who tested positive for cocaine self-reported using powder or crack cocaine in the previous thirty days (Harrison et al., 2007a, Table 6.5). Whether or not it extends to those older than 25 is an empirical question; however, this high denial rate consistent with another large-scale study considering three populations in the Los Angeles area (Hser et al., 1999): 1) sexually transmitted disease patients (N=1,419), emergency room patients (N=1,115), and arrestees (N=1,982). Of those testing positive for cocaine in these three groups, the share self-reporting no use within the previous three days was 69%, 59%, and 37%, respectively; this suggests that the denial rate for those in the criminal justice system may not always be smaller than it is for other populations.

While it is beyond the scope of this project to precisely estimate the denial rate for each country (and impossible to do with existing data), we would be remiss if we did not attempt to incorporate this into our estimates given these extremely large discrepancies. Thus, for our low estimate we will assume that there is no underreporting and for our best estimate we will assume that survey information only captures 66% of total cocaine consumption within a country (i.e., we will multiply the total grams consumed in our high estimates by 1.5). We use this highly speculative figure for a few reasons: 1) Data from Abt (2001) suggests that "about 65 percent of cocaine users were deemed truthful" (p. 39), and 2) while the intra-country ranges presented above are wide, assuming that two-thirds of the respondents were honest is consistent with some of the studies in the UK and US. For our high estimate we will assume that only 50% of those respondents honestly report their powder or crack cocaine use. We fully acknowledge that applying this figure to the high estimate dramatically increases our range and makes it difficult to be confident about the true value.

25 Ultimately, Pudney et al. (2006) did not make adjustments for underreporting in their final estimates of the UK retail market. They note: "No adjustment has been made for under-reporting by survey respondents. If made, such an adjustment would increase the estimates, with a larger impact on "hard" than "soft" drugs" (75).

5.1.3 Heavy versus light users

We follow the useful modelling convention developed by Everingham & Rydell (1994) and used by others (e.g., Caulkins et al., 2004) of classifying past-year users as either heavy or light users. Those who use cocaine less than three times a month are defined as light users and everyone else is considered a heavy user.

While it is easy to obtain information about the share of past-year users who used in the past month, obtaining more detailed information regarding the frequency of drug use in the past year or month from the household surveys in Europe is difficult. Indeed, the EMCDDA asked member states to include a special section about cocaine use for their 2006 national report and the UK (which has a relatively large cocaine-using population and strong data infrastructure) report noted:

Even with the large numbers surveyed by the BCS [British Crime Survey], numbers using recently [past 30 days] are too small to provide reliable evidence of frequency of use and therefore are not considered in this report" (171).[26]

Frequency data based on the 2003 Household Survey in Italy suggest that among past-year users, 78% used once or less in a month, 13% used 2-4 times in a month, 6% used 2-3 times in a week, and 4% used 4 times in a week. Unfortunately, these data do not fall nicely into the same categories used in the Everingham & Rydell modelling convention. If we first assume that the distribution of users within the 2-4 times a month category is uniform, then we can calculate that 82.3% of past year users (= 78% + 1/3 *13%) and 17.7% of past year users are heavy users. If instead we assume that most of the people reporting in the 2-4 times category use at the lower end, say 50%, then we can get a lower estimate of heavy users given by 16.5% (= 6% + 4% + ½ * 13%). Given the similarities, we will multiply the number of past year users by 17% to generate the number of heavy users.

If one is willing to assume that the distribution of light to heavy users for other European countries can be approximated by the shares for Italy, then we can use these fraction of past year users as parameters to determine the number of light and heavy users in each country using the country-specific annual prevalence rate for cocaine. Of course, there is good reason to doubt the validity of this assumption, but without country-specific data on frequency of cocaine use in the past month in the HH population, there is no better information available on which to build an alternative assumption.

5.1.4 Consumption days for heavy and light users

Prinzleve et al.'s (2004) multi-city study of cocaine use in Europe inquired about consumption days in the past 30 days for three different groups of users: Those in treatment (mainly opioid substitution maintenance), socially marginalized users not in treatment, and socially integrated users not in treatment. The sample for the nine cities is relatively large (1855 users, roughly 600 in each group), but the estimates are neither representative nor precise. The mean number of use days in the previous month (standard deviation in parentheses) was 11.2 (11.1) for the treatment group, 13.9 (12.6) for the marginalized group, and 7 (6.7) for the integrated group. If we assume the same level of consumption for the entire year (by multiplying each figure by 365/30), we get annual use-day estimates of 136, 169, and 85 days, respectively. For the lack of better information about use in Europe, we assume that the average number of use-days for a heavy user is uniformly distributed between 85 and 169 days.

We are currently unaware of data sources that provide the annual number of use days for either past month users or light users in Europe. This is troubling since these lighter users tend to account for most cocaine consumption early in an epidemic. For the lack of better estimates, we focus on the extreme values for the low and high values. For the low value, we assume that the user only used once in the previous year. For the high value, we assume they used twice a month (still technically a light user) for the previous year. Assuming a uniform distribution, the average light user will use approximately once a month [12.5 days = (1 day+24 days)/2].

5.1.5 Consumption per use day

The EMCDDA's (2007b) special report on cocaine and crack use noted that data about quantities of cocaine "are limited and vary between studies (15)." Indeed, the lack of data is evidenced by the fact that the EMCDDA's report references only one study about quantity consumed, and this was based on a magazine survey of UK clubbers that was sourced as personal communication. For powder cocaine, Pudney et al. (2006) assumes that intensive users use 0.8 raw grams per use day (+/- 0.2 grams) and

26 The report does include information about the share of past-month users aged 16-24 years who used cocaine more than once.

non-intensive users consume 0.55 raw grams per use day (+/- 0.2 grams).[27] The authors generate these figures based on information from Australian household data, personal communication with the NCIS, and the Drugscope website. For this estimate, an intensive user is defined as someone who used in the previous week, which roughly corresponds to our definition of heavy user (used more than 2 times in the previous month).

Gossop et al. (2006) interviewed past-month cocaine users in clinical and non-clinical settings outside of London to learn more about how cocaine consumption during an episode changed when alcohol was also consumed. Typical amounts of powder cocaine consumed ranged from 0.2 grams when alcohol was not consumed to 0.9 grams when alcohol was also consumed. While the paper does not explicitly report the share of cocaine episodes involving alcohol, other passages in the text imply this is over 90%; suggesting that the 0.9 gram figure is more likely to be representative of a typical amount consumed. Since this sample included those in clinical settings as well as those not in treatment, one could argue that it is probably a reasonable estimate of the amount consumed for an intensive user.

As for crack cocaine, Pudney et al. argue that there is little systemic evidence about quantity consumed and that unreliable[28] arrestee evidence "suggests a level only slightly lower than that for powder cocaine" (66). They suggest that this difference may attributable to the fact that crack has a higher level of purity than powder cocaine. Gossop et al. (2006) find that typical amounts of crack consumed do not dramatically differ when alcohol is consumed (1.1 grams) or not (0.9 grams). Since they find that concurrent crack and alcohol use was far from the norm in their snowball sample, we should give more weight to the lower bound estimate (0.9 grams). Since this is well within the range we are using for powder cocaine, we do not include separate quantity consumed estimates for crack and powder cocaine. Thus, for the upper bound estimate we assume 1 raw gram per use day.[29]

5.1.6 Price

Purity-adjusted prices are not available for Europe, so our results are based on average price per raw gram as reported by the EMCDDA. When only a high and low estimate is presented, or the mean is simply the midpoint of the high and low estimate, we use the geometric mean of these values for the price. Otherwise, we simply use the reported mean. All prices are for powder cocaine except for the UK which is the geometric mean of powder and crack cocaine.

Table 5.2: Price per raw gram of cocaine

Country	Price per raw gram (€)
France	58.5
Germany	60.5
Italy	86.2
Netherlands	45.0
Poland	44.8
Spain	70.4
UK	100.0

Sources: Author calculations based on EMCDDA, 2007a.

27 Consumption is based on raw grams, as that is all that people are able to report. Although the raw amounts appear close, the average purity of cocaine consumed may differ between light and heavy users if heavy/regular users are better at evaluating the probable purity of the drug upon physical inspection or have regular sellers from which they know they can get a purer product.

28 Their term, not ours.

29 For a U.S. treatment sample who used cocaine 20 or more days out of the last 30 and who used at least 4 days out of each week, Simon et al. (2001) found that the typical consumption during a use day was 1.09 grams.

5.2 Cocaine consumption and expenditure in North America

Whereas we believe that those covered by the household surveys currently account for the vast majority of cocaine consumption in Europe, this is definitely not the case in the United States (Abt, 2001; Caulkins et al., 2004). Accordingly, this requires using a different methodology for constructing price information in North American than what is used for Europe.

5.2.1 United States

There have been two major attempts to generate cocaine consumption estimates for the United States (Everingham & Rydell, 1994; Abt, 2001). Each used a different strategy to 1) account for cocaine users not covered by the household population and 2) estimate the share of "heavy" or "chronic" users. Everingham and Rydell's (1994) model of cocaine initiation and demand is based on the household survey and they attempted capture "missing" heavy users by incorporating prevalence information for homeless and incarcerated populations. Abt's (2001) model also used survey data from the household population, but it is primarily based on arrestee surveys. Since arrestee surveys were only conducted in select jurisdictions (as part of the DUF/ADAM program), advanced statistical techniques were used to extrapolate these results and generate national estimates.[30]

Despite these different methodologies, recent work by Caulkins et al. (2004) highlights that there are considerable similarities in the total number of users for the overlap years (1988-1993).[31] For example, in 1993 Everingham & Rydell calculated there were 6.29 million past year users (Light = 4.05, Heavy = 2.24) whereas Abt calculated 6.41 million (Occasional = 3.33, Chronic=3.08). However, there is a difference for the share of frequent users. Recall that Everingham and Rydell define "heavy" as anyone using more than two days in the past month; for Abt, a user is considered "chronic' is they used more than nine days in the previous month. Thus, the fact that the Abt estimate for chronic users exceeds the E&R estimate for heavy users suggests that the Abt approach would likely lead to a larger estimate of total grams consumed. However, this is not the case. Despite using different methodologies with different limitations, the Abt estimate for 1993 was 331 pure MT[32] which is almost identical the 332 pure MT we derive from E&R for 1993 (4050000 users*16.42g + 2240000*118.9g).[33]

The work by Caulkins et al. (2004) is also important because they update some of the parameters used in Everingham & Rydell's model of cocaine initiation and demand as well as make consumption projections through 2012 (thus covering 2005, our year of interest). Assuming a constant rate of cocaine initiation between 2000 and 2005 (based on the average of 850,000 new initiates each year), Caulkins et al. (2004) projected 3.84 million light users and 1.6 million heavy users in 2005. Changes in the sampling methodology used by SAMHSA to generate the household survey between 2000 and 2002 make it difficult to compare initiation rates (or any other measure) over this period,[34] but if the post-2000 rates of cocaine use (converted to population numbers in Table 5.3) are not substantially influenced by changes in the design and implementation of the household survey, then figures based on 850,000 initiates a year would likely underestimate the total number of users. Interestingly, Caulkins et al.'s past-year prevalence projection for 2005 (5.44 million users = 3.84 million light users + 1.6 million heavy users) is remarkably close to the figure reported in the 2005 NSDUH (5.5 million).

30 Related work was conducted by Brecht et al. (2003).

31 Caulkins et al. (2004) note "on average E&R reported 0.985 times as many total users as did Abt/ONDCP" (p. 320).

32 Abt (2001) bases this total consumption figure on total expenditure estimates from arrestees (adjusted for in-kind payments) and price per pure gram of cocaine from the DEA's STRIDE database.

33 As for grams consumed by type of user, Everingham and Rydell assumed that heavy and light users consumed 118.93 and 16.42 pure grams of cocaine per year, respectively. This led to the widely-cited statistic that heavy users consumed 7.25 more per capita than light users (Caulkins et al., 2004).

34 From the 2002 NSDUH: "Several improvements to the survey were implemented in 2002. In addition to the name change, respondents were offered a $30 incentive payment for participation in the survey starting in 2002, and quality control procedures for data collection were enhanced in 2001 and 2002. Because of these improvements and modifications, estimates from the 2002 NSDUH should not be compared with estimates from the 2001 or earlier versions of the survey to examine changes over time. The data collected in 2002 represent a new baseline for tracking trends in substance use and other measures."

Table 5.3: Cocaine users covered by the household survey in the United States

Year	Past-year users (000s)	New initiates (000s)
1999	3,742	917
2000	3,328	1,002
2001	4,186	1,140
2002	5,902	1,073
2003	5,908	1,094
2004	5,658	998
2005	5,523	872

Notes: Includes powder and crack cocaine users. Important changes to survey methodologies in 2001 and 2002.

Future work should incorporate these newer prevalence and initiation estimates into these Markov models, especially since they seem to be much higher than what was estimated in the past. NSDUH 2002 notes:

"Several improvements to the survey were implemented in 2002. In addition to the name change, respondents were offered a $30 incentive payment for participation in the survey starting in 2002, and quality control procedures for data collection were enhanced in 2001 and 2002. Because of these improvements and modifications, estimates from the 2002 NSDUH should not be compared with estimates from the 2001 or earlier versions of the survey to examine changes over time. The data collected in 2002 represent a new baseline for tracking trends in substance use and other measures."

Additionally, the fact that NSDUH generates accurate numbers of those on probation and parole suggest that the new methods may increase the share of "marginalized" populations that account for a large share of drug use.

The other important issue at hand is how to account for the vast majority of cocaine users near the age of initiation who lied about their cocaine use. The average age for initiation is about 20 years (NSDUH 2004) and recall that Harrison et al. (2007a) compared self-report and drug tests results for nearly 4,000 respondents aged 12-25 in the household survey. Harrison et al. did not report the validity results by initiation status and there are initiates older than 25, so the results may not be directly comparable. As noted earlier in the report, our approach to address this underreporting is to assume that it is zero for the low estimates and multiply the high estimate by 2.

The estimate for the retail price of a pure gram of cocaine in 2005 was generated using micro data from the DEA's STRIDE database (€86.67).

5.2.2 Canada

The most recent household survey in Canada was for 2004 and it was estimated that 1.9% of the household population used cocaine or crack in the previous year (CCSA 2005). Multiplying this by the population aged 15-64 in 2005 generates 422,000 past year users. Given its proximity to the world's largest cocaine market and its similar per capita income, we assume a similar ratio of heavy to light users and employ the same assumptions and ranges as used for the United States (including price).

5.3 Results and discussion

Table 5.4 demonstrates how we generate our consumption and retail figures for European countries, using Spain as the example. After separating the past year users in the household into light and heavy users, we multiply these figures by the annual grams consumed (use days*average grams used per use day), which is different for the low, best, and high estimates. We then make an adjustment for underreporting and multiply this figure by the retail price per gram. Recall that the calculations are slightly different for the United States and Canada since annual grams consumed is not based on use days multiplied by average grams used per use day. Further, we only calculate a range for the United States and Canada.

Table 5.4: Cocaine consumption and expenditures in Spain, 2005

		Low	Best	High
	Total users	822,811	822,811	822,811
	Fraction heavy users	17%	17%	17%
Light users	Number of users	682,933	682,933	682,933
	Days used in 2005	1	12.5	24
	Grams per use day	0.35	0.55	0.75
Heavy users	Number of users	139,878	139,878	139,878
	Days used in 2005	85	125	169
	Grams per use day	0.6	0.8	1
Total amount consumed	Total grams--Light	239,027	4,695,167	12,292,801
	Total grams--Heavy	7,133,774	13,989,021	23,639,368
	% underreporting	0.0%	33.0%	50.0%
	Total grams--All	7,372,801	27,886,848	71,864,338
Total retail expenditures	Price per raw gram	70.4	70.4	70.4
	Total retail (Euros)	519,045,160	1,963,234,101	5,059,249,400

Table 5.5 presents the estimates of the size of the retail cocaine market circa 2005. Our results suggest that the UK has the largest cocaine market in Europe, with retail expenditures on powder and crack cocaine ranging from €.8-€8.1 Billion. This includes Pudney et al.'s UK range of €2.7-€4.7 Billion. Despite using different methodologies (e.g., we incorporate under-reporting, they include information from arrestee surveys), our ranges for total consumption (raw) are fairly similar (Pudney et al: 6M to 60M;[35] RAND: 8M to 81M). What is most notable, however, is the size of the range for both studies. This highlights how little we actually know about cocaine markets in Europe.

35 Calculated by summing the point estimates and uncertainty bounds for powder and crack cocaine. For powder they report 17.7 +/- 13.72 and for crack they report 15.58 +/- 13.29.

Table 5.5: Estimates of the size of the retail cocaine market circa 2005 (€ in millions)

Country		Low	Best	High	Best/GDP
France	€	128.9	487.7	1,256.7	0.03%
	MT	2.2	8.3	21.5	
Germany	€	298.2	1,128.0	2,906.8	0.05%
	MT	4.9	18.6	48.0	
Italy	€	658.1	2,489.2	6,414.8	0.17%
	MT	7.6	28.9	74.4	
Nether-lands	€	26.9	101.7	262.2	0.02%
	MT	0.6	2.3	5.8	
Poland	€	54.6	206.4	531.8	0.08%
	MT	1.2	4.6	11.9	
Spain	€	519.0	1,963.2	5,059.2	0.21%
	MT	7.4	27.9	71.9	
UK	€	828.2	3,132.5	8,072.5	0.17%
	MT	8.3	31.3	80.7	
Canada*	€	1,716.2	2,561.5	3,432.4	0.27%
	MT	19.8	29.6	39.6	
US*	€	22,123.5	33,020.1	44,246.9	0.32%
	MT	255.3	381.0	510.5	

*Notes: *All values are for adulterated (raw) cocaine except for the values for Canada and the U.S., which are for pure cocaine.*

As expected, the U.S. accounts for the vast majority of global expenditures and grams consumed. While our low estimate for consumption in the United States (255 MT) is similar to what Abt (2001) calculated for 2000 (250 MT), our expenditure estimates are notably lower (€22B and €33B, respectively). This is not surprising since the price per pure gram of cocaine at the retail level dropped about 30% from 2000 to 2005 (RAND analyses of STRIDE). Our best estimate of 381 MT is generated by multiplying this low figure by 1.5 to account for 33% underreporting. Whether or not this is the most appropriate inflation factor is clearly an empirical question deserving of additional research.

The uncertainty associated with cocaine markets is not limited to demand-side estimates.
There is also considerable debate about the amount of the land used to grow coca in Colombia in 2005 (by far the world's largest producer). While the UNODC estimates that 99,000 hectares were dedicated for coca cultivation in 2007, the U.S. State Department estimates this figure to be over 157,000 hectares. We address this in more detail in Annex 1.

6 Amphetamine-type substances

Our final section focuses on amphetamine-type substances (ATS), namely amphetamines, methamphetamines, and ecstasy. Despite the popularity of these substances (especially in Europe), we know very little about typical quantities consumed, which makes generating demand-side estimates very difficult. These substances take many forms (especially across countries), come from a variety of sources, and unless the drug is diverted from a legal source or tested by the user (e.g., at a rave), most users only have a vague idea about what they are actually consuming. Further complicating our understanding is that many authors do not explicitly state whether they are discussing the consumption of pure or raw milligrams of methamphetamine.

The uncertainty about ATS consumption and the size of the retail market is evident in the various estimates generated by the UNODC over the past five years (Table 6.1). In the *2008 Global ATS Assessment*, the UNODC calculates the global ATS retail market in 2006 to be $63.4 billion, virtually identical to their $63.7 billion estimate for 2001.[36] Both of these estimates are different from UNODC's previous ATS market estimate for 2002/2003 which is considerably lower ($44bn) and based on a different methodology.[37]

Table 6.1: Various UNODC estimates of the global retail market for ATS

Source	Quote and/or Figure
UNODC (2003). *Ecstasy and Amphetamines: Global Survey 2003*. Page 47.	For 2001: "[T]he retail market is valued at about **$65 billion**, based on 42 million ATS users worldwide, and average retail prices"
UNODC (2005). *2005 World Drug Report.* Page 127.	For 2002/2003: "The ATS markets together (methamphetamine, amphetamine, and ecstasy) amount to **US$44 bn**."
UNODC (2007c, December). *UNODC's Experience in Sizing the Drug Markets*. Presentation by T. Pietchman, Notes on Slide 4.	For 2002/2003: Global estimate for ATS is **$44 billion**
UNODC (2008b). *2008 Global ATS Assessment*. Page 111.	For 2006: "Reveal a size of the ATS retail market of around **$63 billion (or $65 billion if rounded)**, which is practically unchanged from five years ago"
UNODC (2008d, September 9). *UNODC Warns of Growing Abuse of Synthetic Drugs in the Developing World*. Page 1.	"The global market for amphetamine-type stimulants (ATS) is estimated at **US$65 billion**, **wholesale and retail combined**."

This section briefly reviews the small literature on ATS consumption for each substance. Given the large uncertainty about the consumption of ATS (namely consumption days and average amounts consumed on a use day), we are reluctant to generate a "best" estimate for ecstasy and amphetamines. Instead, we only offer low and high estimates based on the very thin literature. In the final subsection we include low, best, and high estimates of the methamphetamine market in the United States for the household population.[38]

36 It is also unclear how the $63.4 B estimate was estimated. The algorithms used to generate these figures are not listed and the half page of text that accompanies this table only makes a brief comment about the methodology. For example, the report notes that the average price for pure methamphetamine at the retail level in North America was $100.10. The formula is not listed, but our calculations suggest that the authors may have taken the typical price reported in Canada ($87.7) and the United States ($112.5) from the 2008 World Drug Report and calculated the raw average [$100.10 = ($112.5+$87.7)/2]. This appears to be same methodology used for Eastern Europe ($19; Belarus=$33, Moldova=$5) and East Asia ($640; Japan=$389.70, Republic of Korea=$892.1). We do not know if this methodology was employed for all regions and substances, but consumers of this research should know that the results may be different if a weighted average was used to calculate the regional retail prices. Further, it is also important to note that the regional results will be sensitive to the countries actually included in the calculation (e.g., based on our calculations it appears that Mexico is not included in the retail price estimates for North America).

37 An entire chapter of the 2005 World Drug Report is devoted to describing the results of the UNODC's input/output model of the global drug market.

38 While methamphetamine is not popular in Europe, it does have a strong presence in the Czech Republic and Slovakia. According to the EMCDDA (2008c): "Methamphetamine is the most widely abused synthetic psychotropic drug, particularly in North America and countries of the Far East. Among European countries, methamphetamine is most frequently consumed in the Czech Republic and in Slovakia, although the availability or use of the drug is sporadically reported by other countries. In 2006 in the Czech Republic there were estimated to be approximately 17 500–22 500 methamphetamine users (2.4 to 3.1 cases per 1 000 aged 15–64 years) and in Slovakia around 6 200–15 500 (1.6 to 4 cases per 1 000 aged 15–64 years)" www.emcdda.europa.eu/publications/drug-profiles/methamphetamine

6.1 Quantity consumed

There is a lot of variation in the estimates of the quantity of ecstasy consumed. The UNODC input/output model suggests that past year users used, on average, 10 pure grams of Ecstasy in Western and Central Europe, and 9 pure grams in North America. The 2008 Global ATS Assessment assumed a global average of 100mg of Ecstasy per tablet, with a lower bound of 60-70mg. This would suggest a range of 100 tabs (10g/100mg) to 154 tabs (10g/.65g) for Western and Central Europe and 90 to 139 tabs for North America.

The UNODC estimates are larger than those generated elsewhere. Pudney et al. (2006) calculate that in 2004 between 32.6 M and 86.4 M tabs of ecstasy were consumed. With roughly 700,000 ecstasy users in the household population (EMCDDA, 2007a), this suggests a range of 47 tabs (32,600,000/700,000) to 123 tabs (86,400,000/700,000) per past year user.[39] Additionally, in an assessment of the global ecstasy market, Blickman (2004) refer to a study by the Dutch National Criminal Investigation Services[40] which suggests "that the consumption per user is more likely in the range of 20-40 pills per year, based on studies in Canada, the UK, Germany and The Netherlands" (8). To generate the largest, but still defensible range, we use the 154 as the high estimate and the 30 from the Dutch National Criminal Investigation Services as the low estimate for Western and Central Europe. For the U.S. and Canada we use a high estimate of 139 tabs.

There is even less information available for amphetamines. The UNODC input/output model for West and Central Europe (2005) suggests that past year amphetamine users average 12 pure grams per year. Based on data from 2006, the UNODC assumed that they purity of a retail gram of amphetamine in Western and Central Europe was 38% (UNODC 2008). If we divide the 12 pure grams by the 38% purity rate, we get a consumption figure of 31.6 raw grams annually.

We are only aware of one estimate of the retail amphetamine market for a European country (Pudney et al.'s UK), and it relies on consumption information from the Australian 2001 household survey. This is problematic since most of the amphetamines used in Australia in 2001 were *meth*amphetamines, which is a different substance.[41] The figure is also troubling since no distinction was made for intensive and non-intensive users (1 raw gram +/- 0.2 is used for both). Alas, this is the only figure we could find in the published literature for amphetamine use per use day in Europe and the authors suggest that it is "broadly consistent with anecdotal evidence. . . (66)."

Pudney et al. (2006) estimate that 36.7 MT were consumed in 2004 and with approximately 600,000 users in the UK.[42] This equates to approximately 60 grams per user, and assuming 1g per use day this would suggest that the average user used 60 days in 2004. Interestingly, this is similar to the average number of days used for stimulant users (excluding methamphetamine) in the United States (Mean: 59.11 days, 95%CI: 50.41-67.81). Assuming the same distribution for the United States, the UK, and the rest of the region, applying the daily use figures for the 95% confidence interval generates a low and high estimate of 40.3 raw grams (50.41*0.8) and 81.4 raw grams (67.81*1.2), respectively. To generate the largest, but still defensible range, we use this 81.4 as the high estimate and the 31.6 from the UNODC as the low estimate.

6.2 Number of users and price

In most cases the past-year prevalence figures are from the EMCDDA, but in a handful of cases these numbers were pulled from the WDR. The figures for amphetamine also include methamphetamine, which really only matters for the Czech Republic and Slovakia (Pervitin). Most of the price information is obtained from the EMCDDA and when the mean is not listed or is purely the midpoint, we calculate the geometric mean.[43] In some cases, we use price data from the WDR and this is noted with an asterisk.

39 Pudney et al. (2006) assumed an average purity of 65mg in their calculation of the UK market, which is similar to the low purity estimate offered by UNODC.

40 Van der Heijden, A.W.M. (2003), De Nederlandse drugsmarkt, Dienst Nationale Recherche Informatie (DNRI), Zoetermeer, November 2003.

41 As noted by Dunn et al. (2007): "Throughout the 1990s, the proportion of amphetamine-type substance seizures that were methamphetamine (rather than amphetamine sulphate) steadily increased, until methamphetamine dominated the market. In the financial year 2000/01, the vast majority (91%) of all seizures of amphetamine were methamphetamine (Australian Bureau of Criminal Intelligence 2002). In Australia, the powder traditionally known as 'speed' is generally methamphetamine rather than amphetamine" (p 44).

42 Estimate 544403 for those aged 16-59. Those <=15 and not covered by the household survey likely put this figure above 600,000.

43 The EMCDDA ecstasy prices are consistent with those some of the published qualitative literature. Massari's (2005) price estimates from the field in the early 2000s for Amsterdam was €2.5-5 per pill, €6-7 for Barcelona, and €7-15 for Turin. The EMCDDA estimates for 2005 were €3 for the Netherlands, €10 for Spain, and €19 for Italy.

6.3 Underreporting

Little is known about underreporting for ATS, but we think it is reasonable to assume that the stigma (and subsequently the underreporting rate) associated with amphetamines and ecstasy falls between cannabis and powder cocaine/crack. Thus, to create a range we consider the best for cannabis (20%) as the low estimate and the high estimate for cocaine (50%) as the high estimate.

6.4 Results

Table 6.2 presents ecstasy consumption and expenditures in Western and Central Europe as well as in the U.S. and Canada circa 2005.[44] The range for total expenditures in Western and Central Europe is €778M-€6,391 M, which comfortably includes the €2,175 M generated by the UNODC input/output model. Similarly, the range for U.S. and Canada (which account for the vast majority of ecstasy consumption in North America) ranges from €1,614 M - €12,171 M easily includes the UNODC North America estimate of €7,522 M. And once again by virtual construction, Pudney et al.'s (2006) best estimates for consumption (59.5 M tabs) and expenditures (€402 M) fall into the middle of the ranges we produce.

Table 6.3 presents amphetamine consumption and expenditures in Western and Central Europe circa 2005. The range for total consumption range is 78-321 MT, and for retail expenditures it is €1,154 M - €4,756 M. This range includes the amount generated for this region by the UNODC input/output model (€1,668 M). And virtually by construction, Pudney et al.'s (2006) best estimates for consumption (36.7 MT raw) and expenditures (€468 M) fall in the large ranges we produce. That being said, we are not comfortable using the midpoint or any other figure as the best estimate.

44 We do not normalize by GDP since we do not generate a best estimate. Those wishing to makes these comparisons for 2005 may consult our Annex 2.

Table 6.2: Ecstasy consumption and expenditures in Western and Central Europe, Canada, and the U.S. circa 2005

	Past year ecstasy users circa 2005	% Under-reporting LOW	% Under-reporting HIGH	Mean tablets consumed per user LOW	Mean tablets consumed per user HIGH	Total tablets LOW	Total tablets HIGH	Price per tablet (€)	Retail spending LOW (000s €)	Retail spending HIGH (000s €)
Austria	49,926	20%	50%	30	154	1,872,209	15,377,074	11.0	20,594	169,148
Belgium*	74,901	20%	50%	30	154	2,808,795	23,069,566	4.2	11,825	97,123
Cyprus	5,283	20%	50%	30	154	198,110	1,627,139	11.6	2,304	18,920
Czech	241,131	20%	50%	30	154	9,042,414	74,268,364	7.3	66,010	542,159
Denmark	10,591	20%	50%	30	154	397,171	3,262,096	6.6	2,621	21,530
Estonia	15,332	20%	50%	30	154	574,947	4,722,228	7.0	4,037	33,153
Finland	17,441	20%	50%	30	154	654,049	5,371,919	15.5	10,132	83,221
France	163,973	20%	50%	30	154	6,148,992	50,503,720	6.7	41,198	338,375
Germany	377,313	20%	50%	30	154	14,149,244	116,212,458	6.6	93,385	767,002
Greece	14,253	20%	50%	30	154	534,477	4,389,840	14.1	7,559	62,082
Hungary	74,879	20%	50%	30	154	2,807,978	23,062,857	4.7	13,302	109,251
Ireland	29,835	20%	50%	30	154	1,118,797	9,189,049	5.9	6,590	54,123
Italy	193,645	20%	50%	30	154	7,261,696	59,642,729	19.1	138,742	1,139,535
Latvia	12,721	20%	50%	30	154	477,044	3,918,125	4.3	2,045	16,793
Lithuania	9,884	20%	50%	30	154	370,664	3,044,383	3.5	1,290	10,594
Luxembourg*	1,557	20%	50%	30	154	58,384	479,525	10.0	584	4,795
Malta	515	20%	50%	30	154	19,294	158,469	9.2	177	1,452
Netherlands	133,426	20%	50%	30	154	5,003,464	41,095,118	3.2	15,822	129,954
Norway	15,080	20%	50%	30	154	565,482	4,644,494	12.5	7,069	58,056
Poland	53,229	20%	50%	30	154	1,996,097	16,394,608	2.1	4,206	34,546
Portugal	28,030	20%	50%	30	154	1,051,143	8,633,392	3.6	3,742	30,735
Slovakia	46,300	20%	50%	30	154	1,736,244	14,260,347	8.8	15,285	125,540
Slovenia*	12,777	20%	50%	30	154	479,151	3,935,431	10.0	4,792	39,354
Spain	329,125	20%	50%	30	154	12,342,169	101,370,351	9.8	121,200	995,457
Sweden*	23,097	20%	50%	30	154	866,129	7,113,803	12.0	10,394	85,366
Switzerland*	40,743	20%	50%	30	154	1,527,873	12,548,928	13.7	20,962	172,171
UK	689,577	20%	50%	30	154	25,859,151	212,389,825	5.9	152,310	1,250,976
Total						**99,921,165**	**820,685,837**		**778,175**	**6,391,412**
Canada	244,526	20%	50%	30	139	9,169,738	67,978,328	9.9	90,964	674,345
United States	1,960,000	20%	50%	30	139	73,500,000	544,880,000	21.1	1,550,850	11,496,968
Total						**82,669,738**	**612,858,328**		**1,641,814**	**12,171,313**

Notes: Consumption rates and price information for Europe is from EMCDDA (2007a) unless noted with an asterisk, which denotes coming from the World Drug Report. Canadian and U.S. data are from CAS 2004 and NSDUH 2005.

Table 6.3: Amphetamine consumption and expenditures in Western and Central Europe circa 2005

	Amphetamine users in 2005	% Under-reporting LOW	% Under-reporting HIGH	Mean grams consumed per user LOW	Mean grams consumed per user HIGH	Total grams LOW	Total grams HIGH	Price per raw gram	Retail spending LOW (000s €)	Retail spending HIGH (000s €)
Austria	44378	20%	50%	31.6	81.4	1,751,774	7,222,299	20	35,035	144,446
Belgium*	34046	20%	50%	31.6	81.4	1,343,921	5,540,781	10	13,238	54,577
Cyprus	1585	20%	50%	31.6	81.4	62,561	257,929	12	759	3,131
Czech	48226	20%	50%	31.6	81.4	1,903,666	7,848,526	33	61,869	255,077
Denmark	24713	20%	50%	31.6	81.4	975,507	4,021,868	23	22,275	91,836
Estonia	11724	20%	50%	31.6	81.4	462,805	1,908,076	7	3,249	13,396
Finland	20930	20%	50%	31.6	81.4	826,167	3,406,159	19	15,999	65,960
France	40993	20%	50%	31.6	81.4	1,618,156	6,671,410	13	21,360	88,063
Germany	424477	20%	50%	31.6	81.4	16,755,684	69,081,137	12	199,393	822,066
Greece*	14253	20%	50%	31.6	81.4	562,608	2,319,546	6	3,328	13,723
Hungary	53485	20%	50%	31.6	81.4	2,111,261	8,704,410	12	25,969	107,064
Ireland	10849	20%	50%	31.6	81.4	428,247	1,765,599	15	6,308	26,007
Italy	154916	20%	50%	31.6	81.4	6,115,112	25,211,679	18	110,868	457,090
Latvia	17492	20%	50%	31.6	81.4	690,459	2,846,658	14	9,660	39,827
Lithuania	7413	20%	50%	31.6	81.4	292,629	1,206,465	7	2,037	8,397
Luxembourg*	1246	20%	50%	31.6	81.4	49,165	202,701	10	484	1,997
Netherlands	33356	20%	50%	31.6	81.4	1,316,701	5,428,558	5	7,212	29,733
Norway	33175	20%	50%	31.6	81.4	1,309,538	5,399,025	35	46,299	190,884
Poland	186302	20%	50%	31.6	81.4	7,354,041	30,319,592	9	63,980	263,780
Portugal	7008	20%	50%	31.6	81.4	276,617	1,140,449	17	4,819	19,867
Slovakia	11575	20%	50%	31.6	81.4	456,906	1,883,755	33	14,849	61,222
Slovenia*	2839	20%	50%	31.6	81.4	112,082	462,098	10	1,144	4,715
Spain	191989	20%	50%	31.6	81.4	7,578,525	31,245,107	17	132,018	544,290
Sweden*	11791	20%	50%	31.6	81.4	465,419	1,918,852	26	12,101	49,890
Switzerland*	40743	20%	50%	31.6	81.4	1,608,287	6,630,723	14	22,495	92,744
UK	544403	20%	50%	31.6	81.4	21,489,599	88,598,350	15	316,542	1,305,054
TOTAL						77,922,357	321,262,034		1,153,538	4,755,863

Notes: Consumption rates and price information for Europe is from EMCDDA (2007a) unless noted with an asterisk, which denotes coming from the World Drug Report.

6.5 Methamphetamine

This section estimates methamphetamine consumption and expenditures for the household population in the United States.

While methamphetamine is a popular stimulant in much of Asia, the lack of data makes it impossible to generate reliable estimates for the region.[45] First, the UNODC does not distinguish between types of amphetamines for prevalence estimates in the WDR. Second, it is not clear whether the retail prices reported to the UNODC are for a pure or raw gram. Third, the price ranges reported for some Asian countries seem extremely large. For example, the retail price range for a gram of methamphetamine in Japan ranges from €70 to €557 (UNODC, 2008a). Since the retail purity is not reported for Japan and the typical amount reported is just the midpoint (€313), it is very unclear how much stock we should put into this estimate. Another example is the Republic of Korea reports a typical gram of methamphetamine costing €720, with a range from €251 to €921. Fourth, it is unlikely that the consumption patterns are the same across countries given the different incomes. Thus, future work should focus on generating country-specific estimates in Asia based on country-specific information about quantity consumed.

Generating estimates for the typical quantity of methamphetamine consumed is not only difficult because of heterogeneity in purity, but also because most studies do not report whether they are talking about raw or pure grams. Cho & Melega's (2002) technical discussion of the pharmacokinetics of methamphetamine suggest that chronic users ("periodic self-administration throughout the day") use between 0.7 and 1 grams during a use day and during a binge consumption can range from 2-4 grams (26); however, there is no discussion about whether these are pure grams. But in the same volume, Simon et al. (2002) present self-report information from a treatment population and note that "used from .5 to 1 gram on a typical (24 hour) day and spaced out the use to cover the waking hours." Since the questions did not ask about pure grams and most users do not know the precise purity of the methamphetamine they consume, we believe that these estimates are for raw grams.

These ranges are consistent with a variety of sources covering different populations:

- There is information from the U.S. National Highway Traffic Safety Administration (no date) suggesting that the typically abused doses are 100-1000 mg of 60-90% pure methamphetamine: "Purity of methamphetamine is currently very high, at 60-90%, and is predominantly d-methamphetamine which has greater CNS potency than the l-isomer or the racemic mixture. Common abused doses are 100-1000 mg/day, and up to 5000 mg/day in chronic binge use."
- The 100-1000 mg range is consistent with Semple et al.'s (2004) survey results of 194 methamphetamine-using HIV positive men who have sex with men. Among those who injected methamphetamine, they had used meth on average for 12 days in the previous month and an average of 7.8 grams, for an average quantity consumed per use day 0.65 grams. The comparable figure for those who used but did not inject was 0.275 grams (8 days and 2.2 grams in the previous 30 days). Once again, since this was self-reported use by the consumer, it is more likely that they are reporting in raw grams.
- A report from the Canadian Department of Justice (2007) suggests that "Novice users can obtain a high by ingesting 1/8 gram (125 mg) of methamphetamine, while a regular user ingests more to get this effect (250 mg)."[46] While this passage does not indicate that these are daily doses, they are consistent with the NHSTA range and the 250 mg is consistent with the 275 mg per use day for regular using non-injectors from Semple et al. (2004).

This is also consistent with a report from a non-profit in Oklahoma City (an area with a very large methamphetamine problem) which suggests that the "typical dosage is anywhere from .2 grams to .4 grams" (Council of Neighborhoods, 2008).

Based on these various sources, it seems reasonable to assume that those who used in the past year but not in the past month consumed 0.25 grams per use day. We also use this as the low estimate for those who used in the past month. For a best and high estimate for the past month users we use 0.4 and 0.7, respectively. Since Simon et al. (2002) generated their 0.5 to 1 gram range from a treatment population, we would like the best estimate to be lower than this range. The 0.7 is the lower bound range for the chronic use described Cho & Melega (2002) and is close to 2 to 3 times the typical dosage.

The prevalence and days consumed in the previous year come from the 2005 U.S. household survey. Harrison et al.'s (2007a) validity study of those aged 12-25 in the household population did examine stimulants, but they were unable to distinguish consumption of amphetamines, methamphetamine, and prescription drugs. This, in addition to the small samples (in terms

45 Since the meth users in Czech Republic and Slovakia are included in Table 5.3, we do not include them here. Since meth is more expensive and more addictive than most amphetamine-type substances, the estimates for these countries are probably low, but surely not enough to have a dramatic impact on the range presented in Table 5.2 (especially given the focus on generating a very large range).

46 www.justice.gc.ca/eng/dept-min/pub/meth/p2.html#1.3

of positive tests and self reports) led them to conclude that "it is difficult to draw meaningful conclusions about the validity of self-reported stimulant use." Since it would be hard to argue that methamphetamine consumption is not as stigmatized behaviour as cocaine consumption in the United States, it seems reasonable to apply our cocaine inflation factors. The purity figures come from ONDCP which suggested that meth purity hovered around 70% in 2005. The price estimates were calculated by RAND to be $107 per pure gram in 2005 and converted to Euros assuming a conversion rate of 1 Euro per $1.20 in 2005.

Table 6.4 reports the results and our best estimate of methamphetamine expenditures by the U.S. household population €2.9B. As we would expect, this is lower than the €5.1B estimated by Abt (2001) for 2000 since we do not consider those not covered by the household surveys. Additionally, our estimates should be lower since the price per pure gram at the retail level dropped by roughly 50% between 1999 and 2005 (RAND analyses of STRIDE). The ONDCP reports that retail methamphetamine prices nearly doubled between 2005 and 2006 (ONDCP, 2007), which further highlights the fact that remarkably different estimates can be generated depending on which year is examined.

Table 6.4: Methamphetamine consumption and expenditures by the U.S. household population circa 2005

		Low	Best	High
Past month users (PM)	Number of users	512,000	512,000	512,000
	Days used in 2005	87.6	113.75	139.9
	Raw grams per use day	0.25	0.4	0.7
Past year, but not past month users (PY)	Number of users	785,000	785,000	785,000
	Days used in 2005	29.96	40.65	51.34
	Raw grams per use day	0.25	0.25	0.25
Total amount consumed	Total raw grams--PM	11,212,800	23,296,000	50,140,160
	Total raw grams--PY	5,879,650	7,977,563	10,075,475
	Mean purity in 2005	70%	70%	70%
	% underreporting	0%	33%	50%
	Total pure grams--All	11,964,715	32,673,871	84,301,889
Total retail expenditures	Price per pure gram	89.2	89.2	89.2
	Total retail (Euros)	1,067,252,578	2,914,509,317	7,519,728,499

7 Conclusion

This report uses data on the prevalence of drug use, retail prices, and consumption patterns to generate country-level consumption and retail expenditure estimates for cannabis, heroin, cocaine, and amphetamine-type substances. Inadequate information is available for generating credible estimates for every country or making comparisons between 1998 and 2007, but the estimates presented here offer an important starting place for future work and comparisons. Given the substantial uncertainty of these figures, a range of estimates is provided rather than one specific number.

Surprisingly little is known about typical quantities consumed of illicit drugs, which makes generating demand-side estimates difficult. Fortunately, there are some simple actions that could be taken to improve understanding of both consumption patterns and retail expenditures. While the most obvious action would be to include new survey modules about purchases and quantity consumed, adding new sections to surveys can be expensive, burdensome, or both. However, adding only four questions per substance of interest to the European School Survey Project on Alcohol and Other Drugs (ESPAD) or to the general household surveys would dramatically improve the precision of country-specific demand-side estimates, especially for cannabis: 1) How many days did you use "Drug X" in the previous month? 2) On the last day you used "Drug X", how much did you use? 3) Was this amount more than, less than, or the same as what you typically use on a typical use day? and 4) How much would it cost to purchase that amount?

Another mechanism for improving the consumption and retail expenditure estimates would be for the EMCDDA to collect information about quantity consumed from the National Focal Points (REITOX) for a forthcoming annual report. The Focal Points could report their best estimates of the typical quantity consumed for light and heavy users for a variety of substances. Related to this, a few questions could be added to the UNODC's Annual Review Questionnaire about typical quantities consumed and whether this amount was in pure or raw grams. Even if this information is imperfect, it would improve country-level consumption and retail expenditure estimates for illicit drugs.

States and sub-state jurisdictions should also consider implementing arrestee-based surveys similar to the Arrestee Drug Abuse Monitoring (ADAM) programs that have been adopted in a handful of countries (e.g., Australia, New Zealand, UK, South Africa, and the United States). These surveys generate information about consumption patterns and market activities among heavy users that are often missed in school-based and general population surveys, especially for hard drugs like heroin and cocaine. This would improve knowledge about heavy drug users who are not in the treatment population as well as serve as an early warning system for new substances of abuse. Additionally, work by Abt (2001) and Brecht et al. (2003) demonstrates that arrestee drug use data from sub-state jurisdictions, in conjunction with traditional arrest statistics, can be used to generate state and national estimates of hard drug users. This information form arrestee is useful for sizing the market as well as improving estimates of other important indicators (e.g., actual and potential demand for treatment).

Annex 1 Farm-gate and international trade values for cocaine and opiates

This annex discusses the production and trafficking of cocaine and opiates, with a focus on the value of the global farm-gate market and the value associated with exporting cocaine and opiates to consumer countries. The key findings are as follows:

- The annual global farm-gate value for opium and coca combined is likely to be no more than $3 billion. While this is a very small fraction of total retail spending, cultivation does account for a non-negligible share of GDP in some producing countries (e.g., Afghanistan, Bolivia).
- While Mexico accounted for only 0.5% of total opium production in 2006, it accounted for at least 25% of the global farm-gate revenue.
- There is substantial disagreement about the amount of coca cultivated in Colombia, the world's largest producer. While other scholars have noted this difference, the growing size of the discrepancy is noteworthy. In 2007, the United Nations Office on Drugs and Crime estimate (99,000 hectares) was dramatically lower than the estimate offered by the United States Government (157,200 hectares).
- Exporting cocaine hydrochloride from Colombia to consuming countries generates a value of no more than €10B annually (import price-replacement cost). We think that the value of the opium trade is close to the upper bound of this range, but there is difficulty in generating reliable estimates for the import values.

1 Cocaine

Three nations in South America account for the vast majority of the global production of coca: Bolivia, Colombia, and Peru. Colombia cultivates and processes most of the coca, and much of the cocaine hydrochloride consumed in Europe and North America passes through Colombia at some point (UNODC, 2008a). Over 90% of the cocaine destined for the United States and Canada also passes through Mexico. As for Europe, Spain and Portugal serve as the main entry points (UNODC, 2008a).

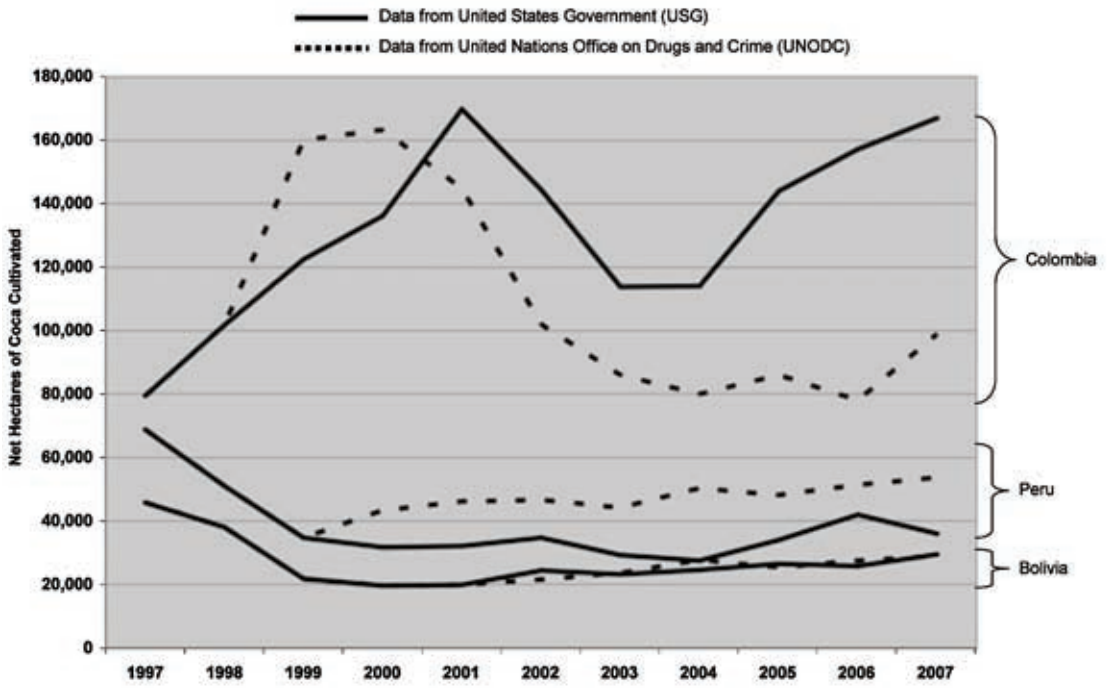
1.1 Farm-gate

While Colombia's dominant role in the cocaine trade is undisputed, there is substantial disagreement about the amount of coca cultivated in Colombia. Noting the difference between official figures for the United Nations Office on Drugs and Crime (UNODC)[47] and the United States Government (USG) is not novel (see e.g., Thoumi, 2005), but the growing size of the discrepancy is noteworthy. Figure A1 displays the hectares of cultivated coca in Colombia from 1997 to 2007, with the solid line representing USG estimates and the dotted line representing UNODC.

The estimates for 1997 and 1998 are identical since the UNODC uses the USG's figures for those years. For 1999 and 2000, the UNODC figures of 160,000 hectares exceeded USG estimates by 40,000 hectares. But beginning in 2001, the USG estimates exceeded the UN and the difference has grown over time. In 2007—the most recent year for which we have data from both sources— the UNODC estimate (99,000 hectares) was dramatically lower than the estimate offered by the USG (157,200 hectares). While the USG did make methodological changes in 2006 (increased the survey area by 19% over the survey area for 2005), these changes do not explain why the gap increased 70% between 2004 and 2005.

47 UNODC sources for this section on cocaine: UNODC 2007a, UNODC 2007b, UNODC 2008a, UNODC 2008c.

Figure A1: Estimates of Net Coca Cultivation from the UNODC and USG, 1997-2007



Notes: The UNODC uses the figures from the U.S. State Department for the following years: Bolivia (97-01), Colombia (97-98), Peru (97-99).

Figure A1 also presents the estimates from Bolivia and Peru and it helps put the Colombian discrepancies into context. The difference in the UNODC and USG figures for coca in 2004 is comparable to the entire output of Bolivia; in 2006 the difference is greater than the output of Bolivia *and* Peru. There is also a discrepancy in the figures for Peru, but it is not in the same direction. The USG figures for Peru have hovered around 33,000 hectares from 1999 to 2007 (except for a recently revised blip in 2006[48]) while the UNODC figures have steadily increased from 34,000 in 1999 to 53,000 hectares in 2007. The figures for Bolivia have been fairly similar over time.

While the UNODC figure for cultivated hectares in Colombia has decreased by nearly 50% since the late 1990s, the UNODC does not report a similar decrease in cocaine production. This is because the average yield has almost doubled, which has offset the reduction in hectares (UNODC, 2008; Mejia and Posada, 2008).[49] Using regional level data collected by the UNODC and insights from the U.S. about how to convert estimates of cocaine base into cocaine, the UNODC estimated that Colombia produced 610 metric tons of pure cocaine in 2006. Interestingly, the USG also reports this 610 metric ton figure, even though its estimate of the net coca cultivation was twice the UNODC value.[50] The USG's International Narcotic Control Report (2008) does not describe how this figure was calculated, but in all likelihood it is based on the UNODC. Perhaps more interesting, the USG's 2009 National Drug Threat Assessment (NDIC, 2008) reports this figure to be 540 metric tons for 2006. This is perplexing since one would assume that the revised USG figures would be higher, not lower, given the cultivation discrepancy. This raises important questions about how much stock should be placed into these estimates.

These discrepancies also raise important questions about the farm-gate value. The UNODC estimates that the farm-gate value of coca cultivation increased from $1.16 billion in 2006 to $1.44 billion in 2007 (UNODC, 2008c). For each country, the UNODC reports the number of cultivated hectares for a region as well as the region-specific yield (and sometimes region-specific price per kg).[51] Focusing on 2006, the distribution for the $1.16 billion generated by the UNODC is $683 M from Colombia, $285 M for Peru, and $180 for Bolivia. Unlike Bolivia and Peru, the value for Colombia is not exclusively for

48 The USG figure for Peru was updated from 34,000 to 42,000 for 2006 in the 2009 National Drug Threat Assessment (NDIC, 2008).

49 The UNODC attributes the improved yield to improvements in cultivation and conversion techniques: "Due to improved cultivation techniques and coca leaf to cocaine conversion processes, global cocaine production is at a level similar to those of the late 1990s, although the area under coca cultivation is considerably smaller." (UNODC, 2008c).

50 "Colombia's potential pure cocaine production was estimated at 610 MT for 2006" (INCR 2008, 124).

51 Farm gate prices are not necessarily representative (Mejia & Posada, 2008, p 13).

coca leaf since many farmers dry and process the leaves into paste on the farms (Table 1). Thus, the actual farm-gate value for coca leaves would be lower than this estimate.

Table A1: Farm-gate prices in Colombia in 2006

	Kg	US$/Kg	US$
Coca leaf	128,858,000	1	128,858,000
Coca paste	234,000	879	205,686,000
Cocaine base	336,000	1038	348,768,000
Total			683,312,000

Note: Reproduced from UNODC (2007b).

1.2 Value associated with exporting cocaine to consumer countries

The vast majority of cocaine is consumed in North America and Europe. Based on prevalence, North America accounts for 44% and Europe accounts for 25% of past-year users (UNODC 2008). Further, the UNODC's input/output model suggests that North America and Western & Central Europe account for over 75% of the cocaine consumed circa 2003 (UNODC, 2005).

Table A2 presents a stylized but credible model of the value of the international cocaine trade. Since we only focus on consumption in North America and Western and Central Europe, this figure is an underestimate of the total amount; however, there should not be a dramatic difference between this stylized value and the actual value of the international cocaine trade since these regions account for the vast majority of consumption and revenue for traffickers. For these calculations we use figures from the UNODC input/output model published in the 2005 *World Drug Report* (UNODC, 2005) which reports the amount of cocaine intended for each region (after accounting for seizures within the source country) as well as the amount that is seized or lost in transit.

Table A2: Value of exporting cocaine hydrochloride from Colombia to consumers in North America and Western and Central Europe

Regional destination from South America	Amount transferred to region (kg)	Amount seized or lost on way (kg)	Value of kg at import	Revenue generated by international trade (billions)
North America--Low	353,000	73,000	$15,000	$3.64
North America--High	353,000	73,000	$23,000	$5.88
West & Central Europe--Low	134,000	26,000	$30,000	$3.02
West & Central Europe--High	134,000	26,000	$45,000	$4.64

Notes: Assumes export price from Colombia is $2,000.

Since the vast majority of cocaine consumed in the world is processed in and/or transported though Colombia (UNODC, 2008a), we consider the price per kilo in Colombia to be the export price. The UNODC reports that a kilo of cocaine in Colombia in the main cities was $1,762/kg in 2006 and $2,198/kg in 2007. This is consistent with the $1,500 figure reported by Caulkins & Reuter in 1998. We use $2,000 for this stylized model and note that this figure is largely inconsequential to the value of trade since the import values are so much larger.

The import price for a kilogram of cocaine in the United States has been reported to be $15,000-$23,000 by a variety of sources (e.g., Caulkins & Reuter, 1998; Thoumi, 2005; Reuter, 2008). We use these values as our low and high estimates. Similar to the U.S., the import price in Europe will depend on the location and method. Unfortunately, we are not aware of any estimates of the average import price for a kilo of cocaine in Europe. Based on interviews with drug dealers, the Matrix Working Group (2007) estimates that a kilo of cocaine entering the UK is valued at £30,600 GBP (£2006), or ~$45,000. This is similar with figures from the Spanish police that a kilo of cocaine in Madrid in the first half of 2007 cost almost $44,000 (Schoofs & Prada, 2008), although it is not clear if this is the import or wholesale price. Since these figures are close to the average wholesale price for cocaine in Europe circa 2005 (UNODC, 2006), we consider $45,000 an upper bound for the European import price since the import price should be lower than the wholesale price because of the additional risk and possible transportation costs. Since this upper bound happens to be almost exactly twice the upper bound used for the U.S., we double the U.S. lower bound to generate a lower bound for Europe ($30,000/kg).

This stylized model suggests that the annual value of the cocaine trade (i.e., the revenue generated by shipping it from Colombia to Europe and North America) is likely to be between $7 billion and $11 billion (€6 billion and €9 billion). This value can include transportation costs, payoffs, compensation for trafficker risk, and other mark-ups. As previously mentioned, this model does not cover all consuming countries, but it accounts for those where the most of the trafficker revenue is generated.

2 Opiates

Afghanistan and Burma account for over 90 percent of the global production of opium (UNODC, 2008a). Afghanistan cultivates the vast majority of opium and some claim that up 90% of it is converted to heroin or morphine in Afghanistan before it is exported throughout the world (UNODC, 2007d). While the most of the heroin consumed in North America is believed to come from Colombia and Mexico, heroin from Asia is available, especially on the East Coast of the country (NDIC, 2008; Paoli et al., 2009).[52]

2.1 Farm-gate

Figure A2 displays the net opium cultivation for Afghanistan, Burma, Laos, Colombia, and Mexico as published in the WDR.[53] Between 1997 and 2000, well over 200,000 hectares of opium were cultivated in these countries each year, with the majority coming from Myanmar (except in 1999 when the output was similar to Afghanistan). Colombia and Mexico together accounted for 9,000-12,000 hectares during this time. With the Taliban opium ban circa 2001, opium poppy cultivation was nearly eliminated in Afghanistan, thus driving the worldwide output below 150,000 net hectares. As cultivation rebounded in the subsequent years, Afghanistan quickly overtook Burma as the cultivation leader. By 2007, Afghanistan accounted for well over 80% of the global opium cultivation. Data for 2008 are currently only available for Afghanistan and it shows a significant drop in cultivation (nearly 20%). Whether or not this is the beginning of a trend remains to be seen.

The calculation for Mexico is slightly more involved. The 2008 WDR suggests that there were 5,000 net hectares of opium poppy cultivated in Mexico in 2006. As for the yield, the NDIC (2007) estimates approximately 20kg of opium gum per hectare circa 2006.[54] With estimates of the farm-gate price for opium in Mexico being typically $2,000 to $5,000 per kilo (Reuter, 2008), this suggests the farm gate value can range from $200M to $500M. The UNODC reports 1,023 net hectares of opium poppy cultivated in Colombia in 2006, and 714 in 2007 (UNODC, 2008a). Based on data from the UNODC, the average farm-gate price in Colombia was much cheaper than reported for Mexico: $251/kg in 2006 and $286/kg in 2007. Assuming a yield roughly similar to Mexico (which is slightly higher than the yield in Afghanistan and Burma), this would generate a farm-gate value around $60M.

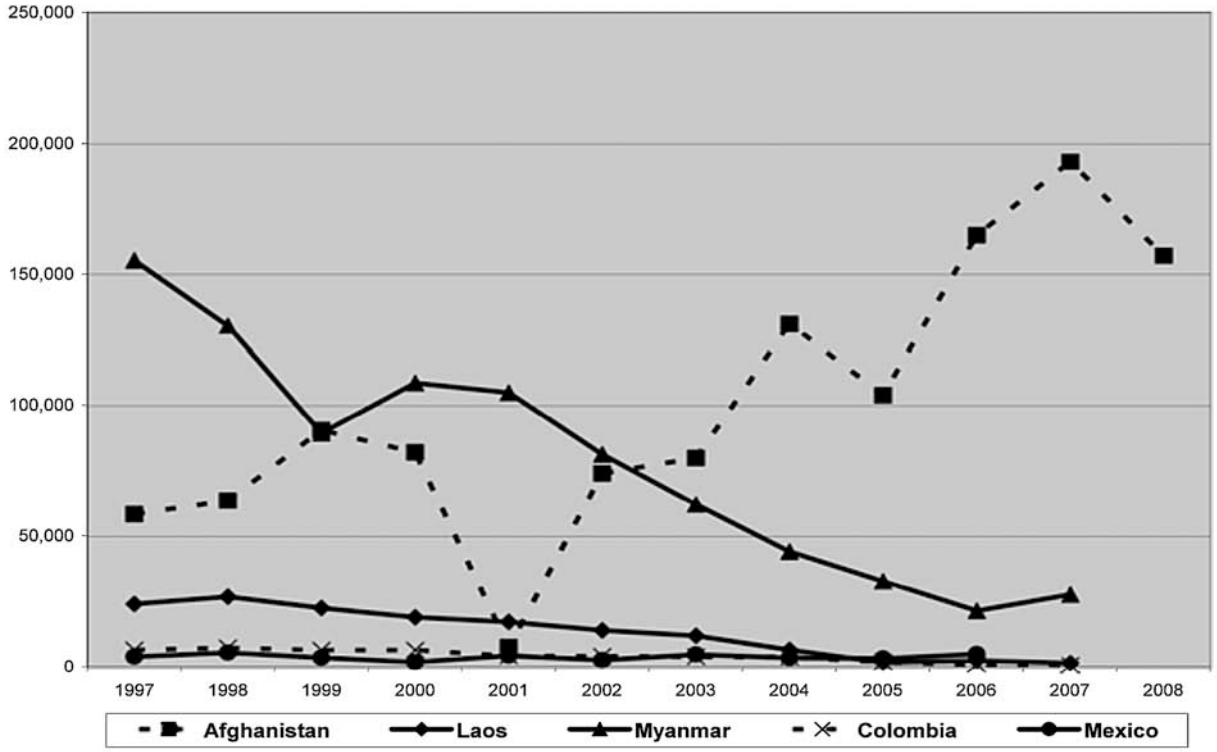
These values suggest the 2006 global farm-gate value of opium could range between $1B to $1.6B, with a midpoint of $1.3B. While Mexico accounted for only 0.5% of total opium production in 2006, it accounts for a much larger share of the global farm-gate revenue. Using the midpoints of these ranges for 2006, Mexico accounted for more than 25% of the global farm-gate revenue.

52 2009 National Drug Threat Assessment. "The availability of Southeast Asian heroin in U.S. cities has been very low since 2002 and decreased further in 2006." "Data from DEA's 2005 Domestic Monitor Program, a street-level indicator program, indicates 96 percent of the heroin originates in Colombia or Mexico." www.interpol.int/public/Drugs/heroin/default.aspS

53 Since the UNODC often uses figures generated by USG and vice versa for opiates, we do not separately report figures from these organizations.

54 In northern Mexico, opium cultivators yield 23 kilograms of opium gum per hectare, compared with 19 kilograms of opium gum per hectare in southern Mexico. www.usdoj.gov/ndic/pubs25/25921/heroin.htm#Top.

Figure A2: Estimates of net opium cultivation from the 2008 World Drug Report (in hectares)



Not surprising, the global farm-gate value of opium is dominated by Afghanistan. The UNODC estimates the 2006 and 2007 values for Afghanistan $760M (90% Confidence Interval: $601M - $885M) and $1B ($901M - $1090M), respectively. For Southeast Asia, the UNODC reports the "total potential value of opium production", which was $85M in 2005 and $133M in 2006.

2.2 Value associated with exporting opiates to consumer countries

The section presents an estimate of the value associated with exporting opiates to consumer countries. Unlike the calculations for cocaine, one cannot simply use the export prices and quantity for one country as was basically done for cocaine. These estimates focus on two producing regions (Asia and South America) and three consuming regions (Europe, North America, and Asia). The lack of data preclude us from generating anything more than a stylized example. The goal is not to generate a precise estimate; rather, the goal is to understand the magnitude of the value added by moving the product to the consuming country. For Afghanistan, the UNODC notes "The average export price of heroin in the border regions of neighbouring countries fell from US$ 3,860 per kg in 2005 to US$ 3,394 in 2007 and US$ 3,284 in 2008." Since the Afghan border is quite porous, it seems unlikely that the export value of heroin refined in Afghanistan would be dramatically lower. The UNODC reports that a wholesale price of a kilogram of heroin in Mexico was $35,000 in 2006 (UNODC, 2006). Given the large difference in the price estimates for the farm-gate values for opium gum in Mexico and Colombia, we would expect the heroin prices in Colombia to be lower. Indeed, the UNODC reports that the average price of a kilo of heroin was $9,070 in 2006 and $9,992 in 2007 (UNODC, 2008c).

2.2.1 Europe

We begin by considering the wholesale price in Europe, which we believe to be higher than the import price. The 2008 WDR reports the wholesale price of a kilogram of heroin in Europe is $31,000. Reuter (2008) presents a wholesale value of $50,000 in London (based on other sources), which is consistent with this estimate since the wholesale price should be larger than the import price. Based on interviews with drug dealers, the Matrix Working Group (2007) estimates that a kilo of heroin entering the UK is valued at £20,500 GBP (£2006), or ~$30,000. Thus consider a range of $30,000-$50,000.

2.2.2 North America

The 2008 WDR reports the wholesale price of a kilogram of heroin in the United States is $88,000. This is much higher than the estimate from the DEA Albuquerque office suggesting that heroin from Mexico was $40,000 in 2002 (NDIC, 2002).[55]

55 www.usdoj.gov/ndic/pubs07/803/heroin.htm

2.2.3 Asia

Generating an import value for Asia is very difficult. First, many of the countries are producers as well as consumers. Second, since the Afghan borders are porous it is difficult to discern the export and import prices in some cases. Third, a significant share of opiate users in Asia use opium instead of the more expensive heroin.

Table A3 presents a stylized model of the trade value generated from exporting opiates. To generate the estimates we subtract the export value from the import value and multiply this by the amount transferred to the region. The value associated with exporting opiates to Europe and North America is at most €10 billion, with Europe accounting for the vast majority of the trade. We do not generate an estimate for intra-Asian trade because of the aforementioned complexities, but do note that approximately 210,000 kg were transferred within the region circa 2003. Few would argue that the average trade mark-up in Asia would exceed Europe, thus we apply the European trade value to generate an upper bound (approx €40,000 per kilo). Even at this extreme and implausible value, the global value of exporting opiates would not exceed €20 billion.

Table A3: Value of exporting opiates to consumers in North America, Western and Central Europe and Asia

Routes	Amount transferred to consumer region (kilo)	Kilo value at export	Kilo value at import	Revenue generated by international trade (billions)
From Americas to North America—Low	10,000	35,000	40,000	$0.50
From Americas to North America—High		10,000	88,000	$0.78
From Asia to North America—Low	20,000	4,000	40,000	$0.72
From Asia to North America—High		3,000	88,000	$1.70
From Asia to Europe—Low	200,000	4,000	30,000	$5.20
From Asia to Europe—High		3,000	50,000	$9.40
From Asia to Asia/Transcaucasus-Low	210,000	Did not calculate		
From Asia to Asia/Transcaucasus-High				

Notes: Amount transferred to consumer region is based on WDR 2005 and accounts for product seized or lost in transit.

Annex 2 GDP estimates for 2005

Country	US$2005	€2005
Austria	305.6	255.6
Belgium	376.2	314.6
Cyprus	17.0	14.2
Czech	124.7	104.3
Denmark	258.6	216.2
Estonia	13.9	11.7
Finland	196.0	163.9
France	2,137.5	1,787.5
Germany	2,796.2	2,338.4
Greece	247.4	206.9
Hungary	110.5	92.4
Ireland	201.2	168.2
Italy	1,779.4	1,488.0
Latvia	16.0	13.4
Lithuania	25.7	21.5
Luxembourg	37.4	31.3
Malta	5.9	5.0
Netherlands	634.0	530.2
Norway	302.2	252.7
Poland	304.0	254.2
Portugal	185.8	155.4
Slovakia	47.9	40.0
Slovenia	35.2	29.4
Spain	1,131.7	946.4
Sweden	367.2	307.0
Switzerland	373.0	311.9
UK	2,246.3	1,878.5
Canada	1,135.5	949.5
Mexico	767.7	642.0
US	12,433.9	10,398.0
Australia	713.2	596.4
New Zealand	109.1	91.2

Sources: GDP in current US$2005 was downloaded from www.econstats.com/weo/V004.htm
and then converted to €2005 using the exchange rate for July 1, 2005 (€1 = US$1.1958) from www.xe.com/ict/.

Annex 3 Information about other major opiate markets

	Consumption						Price	
Country	Pop 15-64 2005	Year	% using opiates	Total users	Assumed pure grams per year	Total pure grams consumed	Price per raw gram heroin (#3/NA)	Price per raw gram heroin (#4)
Albania	2,344,850	2006	0.6	14,069	30	422,073	22.5	
Bulgaria	5,115,892	2001	0.5	25,579	30	767,384	43.7	
Croatia	3,012,348	2005	0.3	9,037	30	271,111	43.4	
Macedonia	1,404,639	2005	0.5	7,023	30	210,696	22	
Romania	15,528,344	2004	0.2	31,057	30	931,701	50.3	
Turkey	46,859,903	2003	0.05	23,430	30	702,899	18.2	
Belarus	6,838,937	2006	0.5	34,195	30	1,025,841	45	
Moldova	3,113,085	2002	0.3	9,339	30	280,178	57.7	
Russian Fed	101,563,215	2004/6	1.8	1,828,138	30	54,844,136	40	57
Ukraine	32,536,276	2006	0.9	292,826	30	8,784,795	85	
China	927,847,005	2005	0.3	2,783,541	30	83,506,230	36.2	
India	685,852,956	2001	0.4	2,743,412	30	82,302,355	2.7	4.2
Iran*	44,697,355	1999/2007	2.8	1,251,526	45	56,318,667	12.7	
Pakistan	91,482,501	2006	0.7	640,378	30	19,211,325	2.7	4.2

* *There is an argument for using a higher figure for countries, notably Iran, in which a substantial fraction of the users consume opium rather than heroin; opium smoking is a less efficient way of ingesting the morphine and the historical literature reports much higher daily consumption levels. For example Chandra (2000) reports that the customers of government opium shops in the Dutch East Indies in the early 20th century consumed about 2 grams per day (equivalent to 200 milligrams of heroin).*

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Report 3

Issues in estimating the economic cost of drug abuse in consuming nations

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Abstract

This report considers the current feasibility of constructing an estimate of the global cost of drug use. While national estimates exist for seven developed countries, most countries have yet to construct a comprehensive estimate. Furthermore, it is impossible to compare the existing national estimates because of differences in the construction, which may reflect varying political and social environments that influence the nature of use and its related harms.

This report lays out a conceptual framework for initiating the construction of country-specific estimates in a fashion that would facilitate cross-national comparisons. It demonstrates the difficulty in trying to implement this framework using existing data, as current data available in the various countries suffer from inconsistencies in definitions, coverage, and measurement. For example, in Australia a death caused by a car-accident involving a drugged driver would be included as a drug-related death; the EMCDDA definition only includes deaths in which drugs were the direct cause. Similarly, although it is clear what is meant conceptually by an injection drug user, the measurement of the total number of injection drug users within some countries is based on injection drug use among the treatment population and in other countries it is based on nationally representative surveys. The pitfalls and assumptions necessary to construct a comparable estimate using existing data, therefore, are quite significant.

We conclude that it is not possible at this time to develop a meaningful comparative estimate of the cost of drug use across countries. We believe, however, that steps could be taken to improve the consistency of measurement in many of the indicators in future years through coordinated international efforts, not unlike that currently being undertaken by the EMCDDA for the European Community.

1 Introduction

While it is widely understood that the consumption of illegal substances imposes harms on the user as well as society at large, considerable debate exists regarding the nature of those harms, the actual burden they place on individuals and society, and the extent to which their existence and magnitude justify government action or are influenced by government policies. Some of the debate stems from philosophical differences with respect to the importance of personal liberties and the proper domain of government. However, a good portion of the debate also comes from observations made across various countries, where it is clear that fundamentally different approaches have been taken towards managing drug users and the harms they impose on others. Given these "natural experiments," there is a desire by scientists as well as policy makers to evaluate and compare the relative burden of illicit drug use across nations adopting different strategies in hopes that such a comparison would generate useful insights regarding successful approaches for balancing the harms from use and the harms from society's response to use. A careful cost-effectiveness analysis using information across countries would be the best way to obtain these insights. One of the first steps in conducting such an analysis involves the consistent assessment of the burden of drug use across countries.

Considerable work has been done in some developed countries to quantify the social cost of drug abuse (Rehm et al., 2007; Collins & Lapsley, 2002, 2008; Godfrey et al., 2002; ONDCP, 2002). Although these studies all employ the same end metric for valuing harm (currency), they use a variety of approaches that make it impossible to directly compare results. Political and social environments influence not only the types of harms considered in these calculations but also the relationship between drug use and the harm (e.g. harm reduction strategies influencing the relationship between injection drug use and the spread of HIV/AIDS). Methodological differences in the measurement of harms, the inclusion of intangible costs, and the time horizon in which harms are evaluated leads to further inconsistencies. In light of these differences, it becomes difficult to learn much from drawing comparisons across these studies even though they ultimately measure the problem using the same final outcome metric.

This report attempts to consider the feasibility of constructing a new estimate of the cost of drug abuse by focusing on a small subset of harm indicators that one might reasonably expect to be systematically and consistently measured across countries. It lays out the steps that were taken in an attempt to construct such an estimate for a select number of developed countries. While the report provides the components to estimate these costs for selected countries, the validity of the estimates for cross-country comparisons is highly questionable and strongly discouraged. It became readily apparent while constructing these estimates that most of the data indicators were not truly consistent, particularly across countries. A given variable, even when defined in a consistent manner, is not measured the same way across countries. The pitfalls and assumptions necessary to construct a comparable estimate across countries are quite significant and described in detail throughout this report. We conclude that it is not possible at this time to develop a meaningful comparative estimate of the cost of drug use across countries or to aggregate these costs to the regional or global level.

The rest of this report is organized as follows. Chapter 2 compares the published national studies on the cost of drug abuse and highlights key differences in definitions, and measurement even when common methodological approaches are adopted. It demonstrates why simply aggregating existing studies to generate a global burden of the drug problem is problematic. Chapter 3 presents the conceptual framework for a simplified approach for considering the economic burden of drug abuse consistently across countries, identifying key cost components that **should** be obtainable in a consistent fashion across many countries. While national estimates of the cost of drug use generally include additional indicators of the cost of drug abuse, these indicators are unlikely to be collected systematically for all countries (as in the case of social welfare costs). Further, it is even less likely that consistent measures of unit cost estimates are available (as in the case of the value of lost time at work due to drug-related absenteeism). Therefore, the conceptual framework presented is necessarily less comprehensive than existing national estimates. Nonetheless, it captures many of the key cost drivers demonstrated in those national studies. In chapter 4, issues discovered in trying to implement even this simplified conceptual framework are discussed that led to a further narrowing of the number of countries and costs actually considered. In chapter 5, issues related to obtaining consistent estimates of the unit cost of the harms for just a relatively small number of developed countries are discussed. Finally, in chapter 6, after examining inconsistencies in the measurement of indicators and costs even for a subset of countries with relatively good data, it is determined that it is not yet possible to construct a comparable estimate of the cost of drug use in a manner that would enable cross-country comparisons in a systematic and scientifically consistent way. Such an effort requires the coordinated effort of countries interested and willing to engage in such an exercise, such as that being undertaken by the

EMCDDA for the European Community, so that indicators and cost information is obtained in a fashion that would enable cross-country comparisons. The work of harmonizing indicators is a very difficult process, however, and one that takes time. More time is needed to expand the harmonization across more countries, including the U.S., Australia and Canada, before any serious attempt can be made.

2 Review of national studies of the cost of drug abuse

Given the need of policy makers to better understand the importance of substance abuse vis-à-vis other societal issues, several Western nations have funded research examining the economic burden of alcohol, tobacco and illicit drugs within their own borders. From early studies it can be seen that political and social environments influence not only the types of harms considered but also the factors that influence these harms, including the availability of particular drugs, the likelihood that substances get used, and the probability that harm comes from either immediate or long term use of the substance. Thus, the concept of societal costs of drug use must be considered within the context of the country in which those harms are being considered. That being said, there are certain harms that can be uniformly observed across countries, such as development of dependence, the spread of HIV or hepatitis through needle sharing among injection drug users, and lost productivity associated with premature death. Similarly, there are in many cases common responses by countries, such as the delivery of treatment to those in need of it or the attempted suppression of supply through the incarceration of dealers and traffickers. Thus, there remain common elements that exist across countries that can be compared, but it requires consistency in the measurement of these indicators and in the unit costs applied to each.

The significant differences in indicators and costing strategies adopted in early national reports precluded comparisons of the drug problem across countries even when similar elements of the problem were being compared. In response, a series of symposia and workshops were held in Canada and the United States between 1994 and 2002 involving international experts engaged in these activities in various developed countries. From these meetings, international guidelines for estimating the cost of substance abuse (alcohol, tobacco and illicit drugs) were published by the World Health Organization (Single et al., 2003) recommending a unified methodological approach across all studies.

Even with the development of these international guidelines, recent national studies of the economic burden of drug abuse remain disparate in important ways that preclude the direct comparison of their results. However, the guidelines were never intended to instruct authors on how to construct estimates for the purposes of international comparisons; instead they were offered as a way of harmonizing the general methodological approach. Table 1 provides a summary of key measurement issues related to the construction of recent national estimates from seven different countries (France, England and Wales, Spain, the United States, Canada, and Australia).[1] As can be seen by the shading in Table 1, there are only two broadly consistent methodological elements across all seven studies, but these are important. First, all studies adopt a prevalence-based approach, which considers the current calendar year costs associated with individuals using drugs in that year, ignoring the future costs (or savings) associated with drug use as those current users age. The prevalence-based approach, therefore, assumes that the distribution of use and harms associated with use over the life course is stable and can be predicted from the distribution of users and harms observed among current users at different ages in the current calendar year. Second, all the studies consider costs imposed on society, not just the costs borne by users or the payer of health services.

1 National estimates of the cost of illicit drug use in Switzerland, Luxembourg, and Finland were referenced in the general literature we reviewed, but we were unable to obtain copies of the original studies which would enable their inclusion in this analysis. We do not believe their omission, however, influences the main findings of this chapter, which are that systematic differences exist in the methods used to estimate these costs and hence direct comparisons of these estimates to generate a global burden of disease is not possible.

Table 1: Summary of General Measurement Issues in National Studies of the Economic Cost of Drug Abuse

	France	England & Wales	Spain	U.S.	Canada	Australia
Citation	Kopp & Fenoglio (2006)	HORS 249, Godfrey et al 2002	Garcia-Altes et al., 2002	ONDCP, 2004	Rehm et al., 2007	Monograph 49, Collins & Lapsley, 2002
Year	1997	2000	1997	2002	2002	1998-1999
Method	Prevalence-based	Prevalence-based	Prevalence-based	Prevalence-based	Prevalence-based	Prevalence-based
"Use"	Any use	Distinguishes recreational, regular and problematic use	Any use	Any use	Any use	Abuse
Substances Considered	Alcohol, tobacco, and any illicit drug	Cocaine, crack, ecstasy, heroin, methadone, LSD, and magic mushrooms	Nonprescribed opioid, amphetamine and psychostimulants, cocaine, synthetic drugs, cannabis, hallucinogenic drugs and glues	Any illicit drug	Alcohol, tobacco, cannabis alone, illicit drugs including cannabis	Cannabis, opiates, stimulants, hallucinogens, anabolic steroids
Perspective	Societal	Societal	Societal, but only public health	Societal	Societal only, no private costs	Social cost
Intangible costs?	Excluded	Partially included	Excluded	Excluded	Excluded	Included
Beneficial Effects?	Not included	Not included.	Not included	Not included	Included	Included
Top-down or Bottom Up?	Bottom Up	Bottom Up	Bottom Up	Bottom Up	Top-down	Bottom Up
Gender/Age specific?	No	Age specific	No	No	Yes	No
Monetary Unit	French Francs	British Pounds	Pesetas (PTA)	US Dollars	Canadian Dollars	Australian Dollars

However, even with respect to this dimension, the studies are not entirely consistent, as the notion of "societal" differs across studies. In particular, the Canadian study only includes costs imposed on others and does not consider the private costs (i.e. the costs borne only by the individual user) associated with drug abuse. In all the other studies, the term "societal" is used to refer to both the private and public costs associated with use. Another nuance is the breadth to which societal costs are examined. In the Spanish study, only the costs to the public health system are considered, whereas most of the other studies also consider the social costs impacting the criminal justice and welfare systems.

The similarities in methodological approaches across the studies end with these two dimensions. The aspects in which these studies differ are important for demonstrating why comparisons across countries are unwise when using information from existing national studies. As summarized in Table 1, there are important differences in either the definition of substance use (any use, abuse or regular use), the substances included (any illicit drug versus a set of particular drugs), the method to assess costs (bottom-up versus top-down, separately by gender and age group), and in the specific costs included (cost offsets from positive effects of use, inclusion of intangible costs).

In terms of the definition of use, most studies consider the costs of any use of the substance, but the Australian study examines only the cost of abuse, while the England and Wales study distinguishes costs associated with recreational (any) use, regular use, and problematic use. The distinction in type of use can have important implications for which costs or problems get included. For example, a recreational user in the United States and France can still be arrested for simple possession, which would be included in the total cost of drug use for these countries if any drug use was considered but would not be included if only problematic or dependent use was considered. Even more important is the fact that the substances considered across the studies are not the same. The focus on different substances across studies may reflect differences in the substance of abuse in these countries, the perceived harms of particular drugs, or the availability of data on particular substances abused. For example, in the case of the Godfrey et al.'s (2002) study of England and Wales, cannabis is not scheduled as a Class A drug, and hence is omitted from the study which focused exclusively on Class A drugs. However, cannabis remains the most widely used illicit substances in England (Reuter & Stevens, 2007). Comparing the total costs from Godfrey et al.'s (2002) study to that of Spain or Australia would be misleading given that different substances are represented and a key substance of abuse (cannabis) is missing by construction from the Godfrey et al. (2002) report.

Intangible costs refer to the emotional and physical burden placed on individuals because of drug-induced problems (addiction, premature mortality, or fear of crime and victimization). In some cases these intangible costs are borne by the drug user

himself (when dealing with the emotional and physical burden of being addicted) and in some cases these costs are borne by others (those left behind when a drug user dies, those living in drug-infested neighbourhoods). Although widely recognized as a significant aspect of the total burden of drug abuse, only the most recent studies have attempted to quantify these losses (Godfrey et al., 2002, 2004; Rehm et al., 2007; Collins & Lapsley, 2002, 2008). The typical reason for their exclusion is the difficulty in placing a monetary value on these very personal measures of pain and suffering. There is substantial debate in the literature regarding how best to do this (see e.g., Hirth et al., 2000; Viscusi & Aldy, 2003; Aldy & Viscusi, 2008). Nonetheless, as indicated by those studies that have attempted to include them, they represent a considerable portion of the total burden of the disease. For example, Collins & Lapsley (2008), which updates their 2002 study mentioned in Table 1 and provides greater focus on drug-attributable crime, estimate that the intangible cost of all substance abuse represent 45% of the total economic cost in Australia (for 2004/2005).[2] Similarly, the extent to which the beneficial effects of substance use are considered when estimating the economic burden of these diseases is fairly mixed. Although the beneficial effects of moderate alcohol consumption is now widely recognized, the potential positive effects of cannabis for medicinal purposes are not generally considered in many cost of illness studies focused on illicit substances. Very few studies acknowledge the fact that most people initiate consumption of these substances because they seek the positive effects they offer (e.g. relaxation or pleasure).

The methods for assigning costs to specific indicators vary across studies as well. Although most of the recent national studies apply a bottom-up costing strategy, where specific health, treatment, crime, and productivity costs are given a unit cost estimate based on prevailing market rates, it has generally been more common in the previous literature to use a top-down approach for assigning costs. The top-down approach uses budget information from government authorities to construct a unit-cost estimate by diving the total budget for a given cost area (e.g. drug treatment) and dividing it by the number of patients served to get a cost per patient. The advantage of such an approach is that it directly considers the additional administrative and overhead costs associated with a variety of government activities. The disadvantage of that approach is that it is often extremely difficult in aggregate budgets to isolate costs that are strictly due to illicit drug use (versus alcohol use, tobacco use, or some other related problem).[3] Hence the unit cost estimates constructed from a top-down approach might not reflect the actual average cost for the drug users specifically. Moreover, if drug users require extra (fewer) resources than others pooled into that government budget, a top-down approach might underestimate (overestimate) the actual cost imposed by drug users. Related to these issues are differential costs due to gender and age. Assigning a value for premature mortality using the human capital approach (the approach most commonly employed in these studies) can be very different depending on the typical age and gender of the person who died from drug use (Viscusi & Aldy, 2003). Similarly the cost of treating a particular health problem could differ based on the age of the individual being treated (young versus old) or the timing of when it is detected (early identification of Hep C or HIV). Some studies apply gender and/or age-specific costing units for the outcomes considered in the study, while others apply simple averages for the population being served or evaluated. These sorts of differences can have important implications in terms of the total costs calculated for the same exact outcomes because drug-problems disproportionately affect certain segments of the population across countries (e.g. youth and young adults).

In addition to the general differences in methodological approaches described above, there are a number of relevant differences in the specific costs considered across the seven more recent national studies. Table 2 provides a brief overview of the key cost elements considered in the seven national studies previously discussed. To some extent the differences in indicators considered partially reflect availability of data, in some cases they represent an alternative conceptualization of the problem (e.g., productivity losses associated with long term disability due to drug use), and in other cases they represent differences in the social and political structures involved in responding to the drug problem (salaries and operating funds, employee assistance programs and health promotion). What is particularly salient here, however, is that differences exist even in categories that would otherwise seem similar. The specific example highlighted in this table is that of drug-related infectious diseases. Kopp & Fenoglio (2006) only consider the cost of drug-related AIDS, while Garcia-Altes et al. (2002) consider the cost of drug-related HIV infection as well as AIDS and Godfrey et al. (2002) consider the cost of HIV/AIDS, Hepatitis B and Hepatitis C. Given the different prevalence rates of each of these infectious diseases, not to mention their lifetime costs, very different cost amounts for "infectious diseases" could result based on alternative construction of the indicators included. The same could be said of the other categories broadly represented here, such as intentional injury, unintentional injury,

2 When illicit drugs are examined by themselves, in absence of alcohol, the intangible costs represent a smaller but still sizable fraction of the total burden of illicit drugs (16%).

3 Moreover, such an approach obtains the average cost of an event, not the marginal, which in most instances is actually lower than the average cost of the event (given that marginal cost does not consider the fixed costs associated with having an enforcement structure, health care structure, or whatever in place).

and even premature mortality. In the case of premature mortality, the EMCDDA has developed a common definition that is uniformly applied in the Member States. According to the EMCDDA, drug-related deaths within the European Union refer to those deaths that are the direct result of drug consumption, such as overdose, poisoning, or drug-related suicides. But in the Australian studies, however, premature deaths due to drug use include deaths caused by drug- related diseases, such AIDS and Hepatitis C. So even within specific cost elements, considerable differences can exist in terms of the definition of behaviours being represented with a common label.

The fact that independent national studies differ along the dimensions just mentioned is in no way a statement that any particular study is better or worse in their construction of an estimate. Neither should these differences across studies diminish the significant contribution each study makes in terms of our general understanding of the drug problem within a particular nation's borders.

Table 2: Summary of Cost Elements Considered in Key National Studies of the Economic Cost of Drug Abuse

	France	England & Wales	Spain	U.S.	Canada	Australia
Citation	Kopp & Fenoglio (2006)	HORS 249, Godfrey et al 2002	Garcia-Altes et al., 2002	ONDCP, 2004	Rehm et al., 2007	Monograph 49, Collins & Lapsley, 2002
Health Indicators						
Drug Treatment	√		√	√	√	√
Drug Related Deaths	√	√			√	√
Overdoses	√	√	√	√		√
Infectious Disease	AIDS	HIV, Hep B & C	HIV/AIDS	HIV, Hep B & C	HIV, Hep B & C	AIDS, Hep B & C
Perinatal / Neonatal effects		√		√	√	√
Intentional Injuries	√		√	√	√	√
Unintentional Injuries	√	√	√	√	√	√
Mental health	√	√	√	Calculated separately, but not included in total estimate	√	drug psychoses only
Crime Indicators						
Policing drug-related crimes	√	√		√		√
Court cost for drug-related crimes	√	√	√	√	√	√
Corrections related to drug crimes	√	√	√	√		√
Productivity Losses						
LT disability					√	√
ST disability			√	√		√
Premature Mortality	√	√	√	√	√	√
Lost work time due to incarceration for drug	√		√	√		√
Other Direct Costs						
Research Costs	√		√	√	√	
Prevention Costs	√		√	√	√	
Salaries & Operating funds	√			√	√	
Traffic accident damage	√			√	√	√
Losses associated with the workplace	√				√	
- EAP & health promotion					√	
- drug testing						
Administrative Costs for transfer payments			√			
- social welfare & other programs	√	√			√	
- workers compenation	√				√	

Instead, the differences are merely reflective of the fact that nations differ in their reasons to be concerned about drug problems, the harms caused by drug use, and the availability of data to measure those harms and their costs. Even when guided by the same methodological principles (Single et al., 2003), important differences can still emerge that makes direct comparisons across nations difficult and unwise. If one is intending to take on the task of developing an estimate that can be directly compared to measures from other countries, then it is necessary to start from scratch and develop a common conceptualization of the problem that can be consistently measured and monetized in all the relevant countries. Then the very difficult work of harmonizing those indicators across cultures and societies would have to begin.

3 A process for constructing a global estimate of the burden of illicit drug use

The complexities involved in constructing a comprehensive national estimate of the cost of drug use are significant and efforts to construct them are nontrivial. Each of the previous studies represents a substantial amount of effort with numerous incremental decisions that needed to be made in order to facilitate their construction. While many of the decisions are grounded in science, some are simply pragmatic and are a function of the environment in which they are being constructed (e.g., data only exist to measure certain aspects of the problem or behaviour; or no cost data exist for estimating the cost of particular outcomes so they are excluded). These sorts of complexities and details are important when trying to make comparisons of the relative burden of illicit drug use across countries from existing estimates. They also demonstrate why it is unwise to try to consider the global burden of the problem by simply aggregating results from different studies. There are just too many important caveats, assumptions, definitional inconsistencies, and costing differences for such an aggregation to be truly meaningful.

In this chapter, we lay the ground work for thinking about how to construct a global estimate of the burden of drug use that is mindful of the issues just discussed. It is important to realize that any estimate of the global burden of drug use must be far less comprehensive than national estimates in terms of cost elements considered. This is not because the omitted costs do not matter on a global scale. Rather, it is more a function of the fact that some costs cannot be consistently measured across all countries. This may be due to differences in social and political environments that give rise to particular costs, which vary across countries independent of drug use, or it may be due to inconsistency in the measurement of the problem or the unit cost of the outcome. The goal here is to describe an approach that focuses on a fairly narrow set of key elements that are almost universal across countries. When these elements are measured consistently across countries, they can be used as a means for comparing the relative burden of the drug problem across countries, at least with respect to these common core elements. Not all countries currently collect each of these elements, however, so it still is not possible to provide a full global estimate based even on this narrower conceptualization of the problem. The utility of such an approach can still be demonstrated for those countries providing information on these elements.

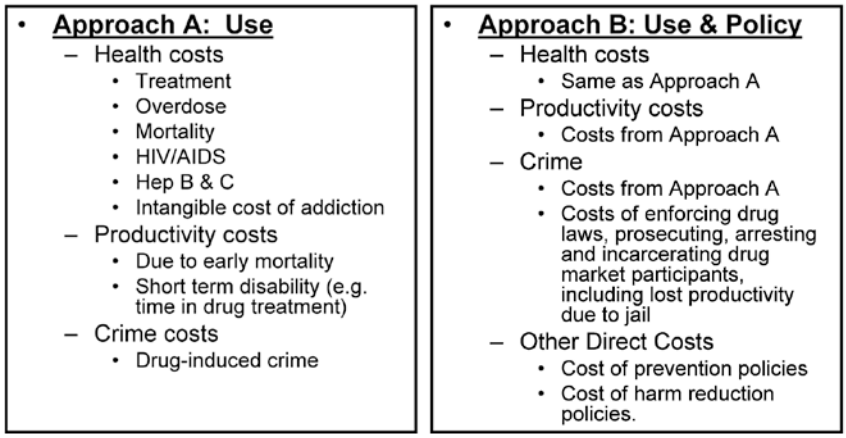
It is important to begin with a definition of drug use that can be meaningfully and consistently applied across the various countries and result in accurate measurement of the same behaviour. Although regular, dependent or problematic users are more likely to impose harm on themselves and others compared to recreational users, it is far more difficult to obtain consistent indicators of dependent, heavy, or problematic drug use across all countries. Indeed, recent efforts by the EMCDDA to obtain consistent measures of problematic drug use in each of the European Member States resulted in only 15 out of 27 member states reporting a measure of problematic drug use in 2007 (EMCDDA, 2008b). Given the problem of inconsistent measurement, therefore, this report focuses on measuring harms for any recent use of an illicit drug, as indicated through past year prevalence. A major limitation of using this measure, of course, is that it is impossible to construct an estimate of the cost per dependent or problem user, as done by Godfrey et al. (2002) for England and Wales. Furthermore, by using a simple measure of prevalence of any drug use, it is not possible to decompose costs by substance used. These represent real limitations to bear in mind when examining the results presented from studies using the same prevalence-type measure.

The general approach is to identify the health, productivity, and crime indicators that can be consistently tracked across a large number of countries. The specific health indicators should focus on those that are clearly attributable to drug use (need for drug treatment, drug-related mortality, overdoses) and those for which significant attention has been given by the international community, particularly the World Health Organization and UNODC (e.g. HIV/AIDS, Hepatitis B and Hepatitis C). Although such an approach would not represent the full range of probable drug-attributable morbidity (e.g., drug-related driving deaths), it is clear from the national studies previously reviewed that there remains significant debate regarding the health harms that should be considered as well as the presumed attributable fraction of specific diseases (e.g. Collins & Lapsley, 2008; Popova et al., 2007). Thus, by focusing on a small set of core indicators for which there is relatively good measurement

consistently across countries and for which there is general agreement regarding the extent to which drugs contribute, it reduces the effort and focuses energy on indicators that are likely to be widely agreed upon trans-nationally.[4]

Figure 1 provides a basic conceptual framework for an approach that is mindful of the different social contexts and political responses that raise the cost of drug use when considering the burden of disease internationally. Two estimates of the economic cost of drug use should be constructed, rather than one. The first, which is referred to as Approach A, focuses more narrowly on costs that the scientific literature reasonably supports are incurred as a function of drug use itself. It largely reflects costs associated with drug treatment, poor health outcomes due to drug use, and lost productivity. It also includes the intangible health burden associated with drug addiction.[5] The second approach (labelled Approach B) adds to the first estimate the additional cost of society's response to the drug problem, in particular criminal justice costs, harm reduction and prevention policy responses. The reason for adding these costs in incrementally is so that the consumers of these numbers, in particular policy makers, can see the extent to which the economic burden is driven by consumption or society's response to that consumption.

Figure 1: Two Approaches for Estimating the Global Burden of Cost of Drug Use



Although drug treatment could clearly be considered a policy response rather than strictly a medical issue in many countries, we include drug treatment in Approach A rather than Approach B because it is unclear in many countries the extent to which drug treatment is a medical response (done because of a perceived medical need) rather than a policy response (done to change individual behaviour). Countries differ in terms of the fraction of drug treatment paid for by private payers versus public funders and the extent to which addiction is viewed as a health problem (and thus covered through regular health insurance) versus a behavioural or social problem. National statistics rarely differentiate treatment episodes in terms of who pays (private insurance, private charity/foundations or government). Indeed, even in Europe, the EMCDDA does not require member nations to report information regarding the fraction of all drug treatment paid for by the public sector. Given the inability to distinguish the extent to which drug treatment represents a policy response versus a medical response, it is included conceptually as part of Approach A.

Approach B provides an interesting point of comparison vis-à-vis estimates obtained using Approach A for both within-country assessments (in terms of the relative emphasis on responding to drug use versus the burden of that use itself) as well as across countries assessments (in terms of the relative magnitude of the costs of society's response versus the cost associated with use).[6] Of course, no informed interpretation of these numbers can be made without additional information

4 Of course, a major health area that is currently excluded from this framework is mental health. The literature examining the relationship between illicit drug use and particular mental health problems is still developing. As shown in Table 1.2, some national studies have included costs for specific mental health problems, but there is far from a consistent standard. Given the uncertainty regarding attributable fractions in the literature, the inconsistency in measurement of the problem in existing problems, and the lack of national data regarding the incidence of these problems for most countries, mental health costs are not being considered at this time.

5 Recent work demonstrates that the intangible cost of living with addiction represents a substantial share of the total burden of the disease (Collins & Lapsley, 2008; Nicosia et al., 2009). Other intangible costs also exist, such as family burden and the societal burden of living with diseases that are spread through drug use, but we are not aware of any international efforts to systematically consider the quantification of these costs. However, in the case of the burden of disease, significant work has occurred internationally attempting to quantify the value of a lost quality of life or disability burden of addiction as well as other diseases (King et al., 2005; Zaric et al., 2000; Barnett & Hui, 2000; Hirth et al., 2000).

6 Note that if a policy has an effect, then the total cost estimated using Approach A would reflect the effect of the policy through lower estimates of consuming related harms. This does not make the suggested comparison uninteresting but demonstrates the need to be cautious interpreting results regarding the relative differences in cost of policy versus cost of consumption.

regarding the relative effectiveness of particular policies. Indeed, if a particular policy approach is truly effective, then it is possible that the cost of implementing it exceeds the cost of users who are undeterred by it in some cases. Thus, just because a policy approach is more expensive than consumption, **per se**, does not mean that the policy should not be pursued. Further, because it is impossible to know the extent to which treatment represents a medical response versus a policy response and treatment represents a major fraction of some country's total policy response, interpretations of these comparisons should only be made cautiously.

Figure 1 clearly represents a simplification of the drug problem and the costs associated with it. Several relevant and important aspects of drug-related harm captured in existing national studies are clearly omitted. The focus on these indicators, however, is due to the fact that they are the main cost elements considered consistently in previous national studies, as indicated by Table 2. They therefore represent the most plausible starting point for conducting a systematic assessment of costs for multiple countries.

4 Difficulties in constructing a global estimate: the need for further refinement

The viability and utility of the construct just developed is now considered through an attempt to generate our own prevalence-based, bottom-up estimate of the economic burden of drug use for a limited number of consuming nations. What becomes immediately apparent is that even using this simplified conceptualization of the burden of drug use, it is impossible to implement a consistent and comprehensive assessment of these few costs across most countries. Further reductions in both the number of countries considered and the elements actually included must be made due to the lack of systematic data collection efforts across most countries. These reductions are due to factors that could change in the future if data systems improve, so they are viewed as refinements made out of practical necessity rather than conceptual preference.

4.1 Limiting the number of countries considered

Originally this construct was to be broadly applied to a large set of developed and developing countries, but it quickly became evident that reliable data on even a small subset of drug-related harms is sorely lacking for most countries. This can be best illustrated by simply taking a closer look at a region of the world that has relatively good drug-related outcome measures, the 27 member states of the European Union. Unlike any other region, the EU has for the past several years dedicated significant resources to the compilation and standardization of measures of drug harm across its member states through a coordinated effort led by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). The task of harmonizing indicators across the member states has been a slow and difficult process because the member states started with very different data collection efforts in existence and it takes time to agree on a common definition and develop and harmonize processes for collecting data elements employing that common definition. Thus, the data reported to the EMCDDA today remains incomplete and highly variable in a few domains despite the significant progress that has been made. Table 3 summarizes data on just a few health indicators reported in the 2007 National Focal Point (REITOX) reports and compiled by the EMCDDA in the 2008 Statistical Bulletin.[7] Although our goal was to obtain data for each health indicator across all EU member countries for the year 2006, several countries do not yet report annual updates for all of the health indicators we are hoping to use. So, what is included in Table 3 are estimates reported in the REITOX reports for either 2005 or 2006 (EMCDDA, 2008b). Data from previous years were not included although they are available in the EMCDDA data tables so that we could demonstrate the point that consistent estimates are not available across all indicators for a particular year. When data are not reported for either 2005 or 2006 in the EMCDDA Statistical Bulletin, the indicators are left blank in Table 3.

For some health indicators, there is fairly comprehensive reporting of health issues evidence of the success that EMCDDA has had in coordinating these data across countries. In particular data on new clients entering treatment, those receiving substitution therapy and drug-related deaths are fairly comprehensive in that estimates are provided by most Member States. However, even for these indicators, the EMCDDA provides extensive notes and cautions to users explaining that simple comparison of the levels of these indicators across all EU countries is still not possible due to some remaining differences in reporting, data methods, and definitions (which they are continually improving upon). Indeed, the EMCDDA writes in the methods section for drug-related deaths the following:

"National statistics are improving in most countries and their definitions are becoming the same, or with small differences, to the common EMCDDA definition (called "Selection B" for the General Mortality Registration and "Selection D" for the Special Registries). A few countries still include cases due to psychoactive medicines or non-overdose deaths, generally as a limited proportion of the total. In addition, there are still differences between countries in procedures of recording cases, and in the frequency of post-mortem investigation (including autopsy rates). In some countries information exchange between General Mortality Registries and Special Registries (forensic or police) is insufficient or lacking, which compromise the quality of information. However considerable progress has been obtained during the last years in quality and reliability of information on many Member States. Direct comparisons between countries in the number or rates of drug-related deaths should be made with caution; but if methods are maintained consistently within a country, the trends observed can give valuable insight and interpreted together with other drug indicators." (EMCDDA, 2008b).

7 The data presented in Table 3 come from various tables presented in the EMCDDA's Statistical Bulletin for 2008 (EMCDDA, 2008b).

Then there are indicators for which there is less consistent reporting even within the EU. In particular relatively few countries are able to provide national estimates of injection drug users even though this number provides the basis for measuring problem drug use, as defined by the EMCDDA. Indeed, as indicated by the second column under "Injection Drug Users" there are several countries who do not even report estimates of the fraction of clients entering treatment who inject drugs. Given the uncertainty regarding the actual number of injection drug users within each country, it seems difficult to understand how countries such as Poland can report the total number of problem drug users (final column). The EMCDDA requests that all member states provide information on the number of problem drug users, which they define as "injection drug use or long duration/regular use of opioids, cocaine and/or amphetamines. This definition specifically includes regular or long-term use of prescribed opioids such as methadone, but neither includes their rare nor irregular use, nor the use of ecstasy or cannabis. Existing estimates of problem drug use are often limited to opioids and polydrug use" (EMCDDA, 2007a). While, Poland does report information on individuals receiving substitution therapy, this number (1,221 individuals) alone provides little understanding to someone not intimately familiar with the data collection efforts inside of Poland of how the 52,000 problem drug users were determined. Similarly, it is not clear how Italy can report having 304,539 problem drug users, but only 97,434 clients receiving substitution therapy and again no national estimates of IDU use. The low correlation among these three variables (problem drug use, injection drug use and substitution therapy clients) that, by definition of problem drug user should be highly correlated, is perplexing and raises questions regarding the variability of methods each country employed to generate these results to even a casual user of these data.

Table 3: European Indicators of Drug Related Health Problems for 2006 (or 2005 if 2006 data not available)

	Drug Treatment				Injection Drug Users			Problem Drug Users		
	New Clients Entering Drug Treatment	Clients Receiving Substitution Therapy	Drug Related Deaths	Mean Age	National Data	Entering Tx	Tested for HIV/AIDS	PDU	Upper Bound	Lower Bound
Belgium		12,300	123	34.2			494			
Bulgaria	1,328	1,100	29	28.8		926	1,216			
Czech Republic	8,164	3,700	42	32.1	29,000	4,939	2,134	31,800	35,700	28,600
Denmark	5,426	6,289	207	42		157	188	26,979	28,568	25,390
Germany	62,046	64,500	1296	35	94,250	5,026	1,326	179,500	195,000	164,000
Estonia		602	68	25.6	13,886		449			
Ireland	5,280	9,428	112	33.6		607	64	14,452	15,819	13,405
Greece	4,847	3,950	173		9,729	1,755	1,468	20,146	22,252	18,285
Spain		83,469	665				8,185	254,808	275,789	233,827
France	37,494	97,468	295	47.9		1,762	817			
Italy	47,823	97,434	517	35.2		13,677	67,300	304,539	314,520	234,803
Cyprus	528		7	28.3	604	144	96	692	909	548
Latvia		164	17	25.7			1,285	1,944	2,917	1,521
Lithuania	5,574	381	62	29.7		5,173	1,455			
Luxembourg	379	1,044	19	32.5		249	456	2,875	3,948	1,801
Hungary	15,480	853	25	30.2	3,941	960	369	24,204	29,075	19,333
Malta	758	671	7	28.6		338	175	1,727	1,874	1,625
Netherlands	9,623	13,450	112	39.2		87	452	32,418	39,118	25,718
Austria	5,603	8,120	197	29		1,025	556	29,597	31,431	27,763
Poland		1,221	290	42			1,258	52,000	71,000	33,000
Portugal		22,922	216	33			6,740	53,082	58,980	47,184
Romania	1,350	570	21	21.3		945	138			
Slovenia			44	33.2			350			
Slovakia	1,927		20	35.5	18,841	647	1,036	18,393	32,182	13,565
Finland	2,487	1,000	138	38.3		870	3,770	16,600	19,100	14,500
Sweden	6,962	2,739	135	36.8		1,246	561	25,745		
United Kingdom	128,446	146500	1979	37.7	156,398	23,634	4,389	403,547	423,907	395,378

The fact that the EU has not completely harmonized all of their harm indicators already is not by any means surprising or an indication that the current efforts are futile. Instead, it is indicative of the fact that this is a very difficult task and when done with great care and consideration, as being done by the EMCDDA, takes time. Furthermore, the attention that the EMCDDA is giving to the consistent collection of these data within its Member States raises general awareness of how different even similarly-named indicators can be across countries and how cautious one must be in simply drawing comparisons. The inconsistencies in data indicators across countries outside the EU are certainly far greater than that within the EU because of the coordination that has been undertaken in the EU.

Given the difficulties in interpreting numbers reported from different countries demonstrated by the EMCDDA, it was decided that the current effort would be greatly improved by focusing on a narrow set of countries for which the data are believed to be of reasonably high quality and information regarding their collection was readily available. Specifically, we attempt to construct consistent indicators of harm from existing data sources for the United States, Canada, Australia, the UK, Spain, France, Italy, Germany and the Netherlands. These countries are selected for because (a) they each represent a major consuming country, (b) the European countries selected are the largest consuming countries of the original 15 EU nations and

hence represent important markets, and (c) these countries are believed to have the most reliable data in light of significant national efforts to collect meaningful data within each of them.

4.2 A further reduction in the cost elements considered

Some of the cost elements included as part of the conceptual framework in Figure 1 cannot be assessed even for a narrow set of countries with relatively rich data. In particular, there is no systematic reporting of reliable and consistent estimates across countries on the non-mortality based lost productivity (e.g. absenteeism) and drug-induced crime. Significant conceptual differences exist across countries regarding what should be included in these costs and how to measure them (Godfrey et al., 2002; ONDCP, 2004; Rehm et al., 2007; Collins & Lapsley, 2008). Many of these inconsistencies stem from scientific literatures that are far less conclusive regarding the extent to which drug use causally influences each of these outcomes. The findings from the literature are sensitive to which drugs are being considered, the age of the individuals involved, as well as the environment.

4.2.1 The literature on the association between drug use an non-fatal productivity losses

Substance use is believed to diminish productivity and lead to poor labour market outcomes for several reasons. First, it may delay initiation into the work force, thereby reducing experience and human capital accumulation associated with on-the-job training (Johnson & Herring, 1989). Second, it may decrease the probability of being employed which, again, may interfere with human capital accumulation (Gill & Michaels, 1992; Register & Williams, 1992). Third, it may increase absenteeism which directly influences the productivity of not only the drug user, but also those individuals who work with him (French et al., 1998; Zarkin et al., 1992). Finally, substance abuse may reduce an individual's productivity at the job, which should translate directly into lower wages if wages are indeed a good indicator of marginal productivity (Hoyt, 1992).

Empirical studies that analyze the direct effect of substance use and abuse on earnings, which is presumed to be the strongest indicator of an individual's productivity, have generated very mixed findings, however. Even after accounting for the endogeneity of substance use, earnings of substance users are found to be higher by some researchers (Kaestner, 1991; 1994a; Gill and Michaels, 1992; Register & Williams, 1992; French & Zarkin, 1995), lower by others (Burgess & Propper, 1998; Hoyt, 1992), and either statistically insignificant or not determinable by others (Kaestner, 1994b; Zarkin et al., 1998). The lack of a robust finding has led many economists to focus on other measures of productivity, such as the probability of being employed or unemployed (Bray et al, 1997; Register and Williams, 1992; Kandel & Davies, 1990) or absenteeism (French et al., 1998). Here, too, the evidence is mixed. Given the uncertainty regarding a causal association, some researchers have attempted to capture the time spent away from work dealing with drug-related problems, such as treatment (Collins & Lapsley, 2002; ONDCP 2004; Rehm et al., 2007). But research remains inconsistent across countries in the consideration and treatment of these costs.

It is clear that the relationship between substance use / abuse and labour market outcomes is dynamic and can be potentially influenced by the relationship between early substance use and human capital production. The potential for reverse causality, however, is also real. Just as substance use and abuse can lead to job separations and other poor labour market outcomes, job separations may lead to increased substance use and abuse. In light of the potential for feedback loops, it is important to use appropriate statistical methods that can isolate the true nature of the relationship. Much research in this area remains to be done examining associations within countries before aggregate level measures of lost productivity due to substance use can be reasonably constructed.

4.2.2 The literature on drugs and crime

Findings from surveys of prison populations over the past five years for European Member countries and the U.S. show that, compared to the general population, drug users are overrepresented in the prison population (EMCDDA, 2006; National Institute of Justice, 2000). Information pertaining to lifetime use rates among prison populations, however, provide no real information as to whether the individuals' drug use caused the crime to occur (with the exception of those crimes which are by definition caused by use or sale of a drug). The mere fact that a person uses an illicit substance does not mean that it was that substance that caused the individual to engage in crime in the first place (i.e. causal attribution). Moreover, a positive drug test does at the time of arrest does not necessarily imply that the individual was under the influence at the time the crime was committed. It merely implies there is a strong positive association between drug use and crime, which may be driven by a true causal mechanism (for some crimes and some drugs) or by some other factor (observable or unobservable) that is correlated with both the decision to engage in crime and the decision to use drugs.

When considering the economic burden of drug use, one wants to capture all those resources that are lost because of the use of drugs – not because the same people who use drugs also engage in criminal behaviour. Thus it is necessary to include only those criminal costs that are clearly attributable to drug use. The scientific literature most often refers to three categories of drug related crime based on Goldstein's tripartite model: psychopharmacological, economic compulsive and systemic crime (Goldstein, 1985). Psychopharmacological crime refers to crime committed by individuals under the influence of an illegal substance. In other words, the chemical properties of the drug alter the individual's thinking, perceptions or mood and induces the individual to engage in the crime. Crimes that typically fall into this category include assaults and sexual offenses. Economic compulsive crime refers to crimes committed by drug users who are in need of income to fund their drug habit. These crimes generally include broad property crimes (theft, larceny, burglary, identity theft, motor vehicle theft), robbery, prostitution, and possibly drug selling that might generate income for the individual engaging in the crime. The third category of crime, systemic crime, refers to crime generated by efforts to maintain a black market or territory by illegal participants in the black market. Typical crimes included in this category are homicide, manslaughter, aggravated assault, and money laundering. A fourth category of drug-related crime is slowly gaining in recognition, victimization (MacCoun et al., 2003).

While much has been written on each of these types of crimes and recent estimates of the cost of drug abuse attempt to consider their impact (e.g., Collins & Lapsley, 2008), the scientific evidence providing definitive proof of a causal association between drug use and particular crimes is rare in population data. Evidence from treatment populations appears to be far more convincing of a strong association (Zarkin et al., 2005; McCollister et al., 2003; Aos et al., 2001), but that evidence has yet to be broadly construed as evidence of a causal relationship.

Without any clear guidance regarding what types of crime can and should be considered drug-related, independent investigators construct their own estimates of these relationships based on information they have available to them. Given the significant differences in data availability, this translates into estimates that are not naturally comparable across countries. For example, as part of their National Focal Point reporting, several EU countries report the extent to which either police agencies or the reporting agency attribute specific crimes to drugs. Other countries, including the U.S., use information on the number of arrestees or prisoners who report being under the influence of drugs or in need of drugs at the time of their crime as a way of estimating the number of drug-induced crimes. Both measures have limitations in that they both only represent crimes that generate an arrest and hence underestimate the extent to which these activities actually happen. However, they are not exactly comparable as the police reports reflect the police's interpretation of weather a crime was conducted to get drugs, whereas the arrestee or prison population data give information based on the perpetrator's own self-report.

4.3 Examination of a few indicators for countries with good data collection systems

Table 4 presents a small set of indicators that might be used to construct an estimate of cost using the framework described above for a few countries that are generally believed to have good data available. However, careful examination of each of the indicators presented here raises doubts as to whether even such a simple comparison is truly meaningful. In this section we discuss issues regarding the comparability of the actual indicators that might be considered. In the next section we discuss the difficulties in trying to cost some of these measures.

4.3.1 Drug treatment

In the first column of Table 4 information on the number of clients receiving substitution therapy is reported circa 2006.[8] While data are generally available for many developed countries on the number of new treatment admissions and those receiving substitution therapies (as indicated in Table 3), countries do not consistently report information regarding the fraction of treatment episodes that take place in particular treatment settings or under specific therapies within those settings. That makes it extremely difficult to know how to compare treatment as well as the cost of the treatment, as costs are intrinsically tied to the type of treatment received (and for some countries, where it is given). Although substitution therapy is not the only form of drug treatment used across countries, and for some countries it is not even the most common form of drug treatment, it is a somewhat more standardized form of treatment that can be generally understood across countries and reported in

8 Information for European countries comes from the EMCDDA Statistical Bulletin (2008), Table HSR-3 ("Estimated number of clients in methadone treatment and of clients receiving any opioids substitution", Column 4 "All substitution clients, 2006"). Information for the United States comes from the 2006 Treatment Episode Data Set (TEDS). Information for Australia comes from the 2007 National Opioid Pharmacotherapy Statistics Annual Data Statistics, which reports numbers for 2006. Information on the number of individuals receiving substitution therapies in Canada are not available.

such a way as to reflect a similar construct. There remains considerable variability in the types of substitution therapies that are available within countries, so direct comparisons across countries in any particular type of substitution therapy (e.g., methadone maintenance, bupenorphine, or prescription heroin) would not do adequate justice for demonstrating the extent to which substitution therapies are used in general. However, summary measures of the number of people receiving any type of substitution therapy should provide some measure of the availability of treatment generally.

Table 4: Primary Indicators for Establishing Cost of Drug Use

Country	Clients Receiving Substitution Therapy	IDU	HIV Cases Among IDU	Hep C	Hep B	Problem Drug User	Drug Related Deaths	Drug Related Offenses
Germany	64,500	94,250	4,995	70,688	49,953	179,500	1,296	243,706
Spain	83,469	83,972	31,070	55,589	18,894	254,808	665	235,422
France	97,468	122,000	19,520	67,100			295	101,110
Italy	97,434	67,300	8,143	5,857	26,584	329,691	517	68,370
Netherlands	13,450	3,115	296	1,730	1,096		112	20,704
United Kingdom	146,500	156,398	3,597	66,469	31,827	409,643	1,979	124,932
United States	97,400	546,257	65,551	294,979	87,401	2,384,000	2,612	1,889,810
Australia	38,659	321,100	4,817	195,871	57,798	637,546	458	78,533
Canada		284,263	37,523	186,761	73,908	474,327	1,041	85,953

4.3.2 Injection drug use

In order to estimate the number of individuals impacted by HIV/AIDS, Hepatitis C and Hepatitis B due to illicit drugs in specific countries one must first have a good estimate of the number of injection drug users, as most countries only report rates of infection for these diseases among injection drug users. As shown earlier in Table 3, very few European countries provide national estimates of the number of IDUs. In fact, only 9 of the 27 member states of the European Union provide national estimates of the number of injection drug users for 2005/2006.[9] But in order to obtain national estimates of these infectious diseases of interest, one must start with national estimates of IDU rates, so attempts are typically taken to fill in the holes for non-reporting countries.

A common strategy used by researchers when current data are not available is to look for previous national estimates of the same indicator. Indeed, the EMCDDA reports in Table PDU-102 of the 2008 Statistical Bulletin all the individual studies that have been conducted providing national estimates of the population of injection drug users in Member States. Careful examination of this information shows that earlier national estimates for many of the non-reporting countries are available. For example, there is an estimate for Italy from 1996, Spain from 1998, France from 1999 and the Netherlands from 2001. These national estimates are inserted into Table 4 for these countries and are used for developing estimates of HIV/AIDS, Hep B and Hep C. However, some of these national estimates are more than 5 years old, and considerable changes in the number of injection drug use may have occurred in these countries. Thus, relying on such old estimates for generating good estimates of the incidence of these diseases for 2005/2006 would not be recommended.

While it is possible to construct current estimates for non-European countries, the methods for doing so necessarily differ across countries which should immediately raise concerns regarding their comparability. For the United States, a national estimate of injection drug users can be constructed by combining information from the 2006 National Survey on Drug Use or Health (NSDUH) on the number of dependent users (cocaine, heroin and stimulant) with information on the fraction of dependent individuals entering treatment who are likely to inject their drug of choice (TEDS, 2006). Such an estimate, while feasible, is hardly ideal as the household population is known to under represent or completely miss relevant populations who engage in use of harder substances, and hence injection drug use, and the Treatment Episode Data Set (TEDS) data only capture individuals in treatment. However, no national estimate of injection drug use for all drugs is available for the U.S., and so any construction would necessarily rely on inadequate data. For Australia, the 2004 Australian Household Survey inquires about injection drug use more generally in the survey. Approximately 1.9% of the population report ever injecting drugs in their lifetime, thus this estimate can be multiplied by the fraction of the Australian population that is 15 years of age or older to generate an estimate of national IDU.[10] For Canada, a similar approach to that of Australia may be used, as the 2004 Canadian Addiction Survey includes a question regarding lifetime injection drug use within the survey (1.1% of the respondents report yes). Again, given this is a nationally representative household survey capturing individuals age 15

9 For these 9 member states, comparisons in the prevalence of drug-related HIV/AIDS rates can be reasonably done.

10 Precise information on the 2006 Australian population by age could not be accessed, so we used the readily available 2007 estimates for generating our total population estimate. According to official records, the total Australian population grew by only 317,200, so we should not have introduced to large of an error using this method.

years and older, this estimate of injection drug rate can be multiplied by the population of Canada. Approaches for Canada and Australia, while possible, again are likely to underestimate the true number of injection drug users due to the fact that household surveys miss these often marginalized populations.

The true consistency and reasonableness of these IDU estimates for various countries is something that needs to be seriously considered. Although it is possible to obtain estimates for most countries, as indicated by the fact that we were able to "fill in" the IDU column in Table 4, some estimates are highly dated and others are based on general household surveys which are likely to significantly under-represent the very population we are trying to capture with this indicator. A simple examination of the values for particular countries raises serious questions. While the United States clearly comes out as the country with the highest number of IDU's, this translates to only 18.2 per 10,000 people, far lower than the UK, Australia and even Canada and much closer to per capita rates from Spain and France. Given the substantially different injection culture in Spain, France and the United States, comparability in the number of IDUs per capita seems a bit implausible. And the rate for Canada, which is a country neighbouring the United States and suffering from many of the same drugs of abuse, seems implausibly high when compared to the U.S. Thus, it seems unlikely that indicators constructed in this disparate manner truly do a good job representing the real variability in injection drug use that is likely to exist across countries (2005/2006). Such an observation is important because these estimates of the number of injection drug users form the basis for estimating the rates of drug-related HIV/AIDS, Hep C and Hep B, as is discussed next.

4.3.3 HIV/AIDS

HIV prevalence rates among injection drug users are consistently tracked by most developed countries in an effort to monitor the global AIDS crisis. For example, the EMCDDA reports in their Statistical Bulletin each year the percent of a sample of injection drug users who test positive for HIV.[11] The samples used to generate these estimates are in some cases nationally representative (e.g. Germany, Spain and Italy) and in other cases they are based on sub-national populations (France, the Netherlands and the UK). And again, in many cases estimates are not available for the most recent year, so earlier studies from previous years are employed (e.g. the Netherlands and France).

Similar estimates are available from national health statistics agencies for the other Western countries considered here. Information on the fraction of IDU-related new HIV cases in the U.S. comes from the U.S. Centres for Disease Control (CDC)[12], which is then multiplied by the estimated number of injection drug users in the United States to get at the number of IDU-related HIV cases. Information on drug related HIV outcomes in Australia come from Australian Institute of Health and Welfare NCHECR annual surveillance report of IDU users participating in a needle and syringe exchange programs. Table 4.2.1 (2006) shows that the percent of IDU users testing positive with the HIV antibody across all 8 locations is 1.5%. Again, prevalence estimates of IDU-related HIV are then multiplied by the total number of IDU users estimated for Australia. Data on IDU-related HIV for Canada come from the 2006 report on I-TRACK: Enhanced Surveillance of Risk Behaviours among Injection Drug users in Canada Phase I Report (Public Health Agency of Canada, 2006). As in Australia, this surveillance system monitors known IDUs who participate in needle and syringe exchange programs throughout Canada. Thus, the method from which prevalence rates of HIV/AIDS among IDU users varies considerably across countries as do the population based from which they are drawn.[13]

HIV incidence rates among injection drug users from various national health departments are multiplied by the number of injection drug users reported in the second column of Table 4 to generate the number of drug-related HIV/AIDS cases for each country, as shown in Column 3 of Table 4. Estimates of the number of drug-related HIV cases reported in the Netherlands and the UK seem implausibly low, especially when compared to the other developed countries. In the case of the Netherlands, the low HIV number is driven by the fact that we have a small number of IDU users on which to get this total. In the case of the UK, it is actually that the estimated rate of HIV/AIDS among IDU users (range of 0.6 – 4.0, so midpoint is used) is

11 Prevalence rates of HIV infection among IDU are reported for all EU countries in Table INF-1, which represents the primary source of our numbers.

12 U.S. Centers for Disease Control (CDC). Available: www.cdc.gov/Features/dsWorldAidsDay/, accessed December 2008.

13 It should be recognized that not all HIV cases among IDU's are necessarily caused by injecting drugs. Studies evaluating the fraction that can be attributed to IDU, however, suggest it is a high proportion. Given the lack of systematic information on the fraction of non-IDU drug users who might also spread or contract HIV/AIDS due to risky sexual behavior, it is not possible to include this population in the estimate here. Non injection drug use can contribute to HIV infection as well as other sexually transmitted disease in at least three ways: (1) by facilitating sexual risk behavior (e.g., through reducing inhibition, reducing the probability of condom use); (2) by motivating sexual risk behavior (e.g., engaging in prostitution or hustling in order to get drugs); and (3) through physiological effects that make infection more likely if sexual contact occurs. For example, smoking cocaine in a pipe can cause lesions on the lip or the mouth, which may increase the likelihood of HIV transmission via oral sex. Similarly, use of crystal meth can prolong erection, enabling men to engage in intercourse for much longer periods, causing abrasions that facilitate HIV transmission. While it is known that these things can and do happen, there is no good population-level data that can assist in the estimation of the attribution factor of drug to HIV through STDs.

significantly smaller than that of other European countries. This could be due to measurement error, as the UK estimate is drawn from sub-national studies. These examples demonstrate again why one should be cautious drawing comparisons from these numbers even though they appear to be tracking the same phenomena, as the lower number of HIV cases reported for some countries are not necessarily reflective of lower incidence rates but rather less comprehensive estimates of the components that make up these numbers.

4.3.4 Hepatitis C

As is similar to the case for HIV, most Western countries report the prevalence of injection drug users testing positive for HCV antibody. However, there remains substantial variation in the samples from which these prevalence estimates are obtained as well as the reliability of national estimates of IDU users for that country. Information among EU Member States regarding the prevalence of Hep C among IDU users is again systematically collected by the EMCDDA and reported in Table INF-2 of the annual Statistical Bulletin, but again countries may use national samples or sub-national samples to generate estimates of these rates. In Australia and Canada, the same systems used to report HIV/AIDS are used to monitor Hep C among injection drug users, using sub-national sample of IDU's who choose to participate in needle and syringe exchange programs. In Australia, the rate for 2006 is 61% and that for a Canada is 65.7%. For the U.S., there is no similar monitoring system to track rates of Hep C among IDU users. Instead, information on the fraction of new Hep C cases occurring among IDU users is used as a method for estimating total IDU-related Hep C. Thus, the denominator for which the estimate from the U.S. is being built is fundamentally different than that for Australia, Canada or even the EU Member States. Thus, it should not be surprising then that the attributable fraction for the U.S. looks somewhat different (that for the U.S. is 54%). These differences in approaches across countries again highlight the problems in trying to draw comparisons of indicators.

4.3.5 Hepatitis B

Hepatitis B is again approached the exact same way as HIV/AIDS and Hepatitis C, although with slightly different data sources.[14] First, an estimate of the prevalence of hepatitis B among IDUs is obtained from either a national sample or subsample. Then this fraction is multiplied by the number of IDUs estimated for each country, with the exception of the United States where the fraction represents only new cases of hepatitis B rather than all cases. Note that prevalence estimates are generally based on results from patients showing hepatitis B surface antigen (HBsAg (1)), which is considered the best marker for acute and chronic HBV infection. However, when countries do not report results for this marker, information on surface antibody (aHBs) or core antibody (aHBc) is used instead.

4.3.6 Problem drug use

A measure of the number of individuals suffering from problem drug use (PDU) is necessary to estimate the intangible cost of living with addiction. As noted in Table 3, even countries that are required to report this information have difficulty systematically constructing estimates of the number of PDUs. The EMCDDA asks EU Member States to report in the National REITOX reports estimates of the number of PDUs. In the case of Germany, Spain, Italy and the UK, the prevalence of PDU employing the standardized definition is reported in Table PDU-1. Unfortunately, data on PDU are not reported for either France of the Netherlands in the summary table, suggesting that either estimates were not created or could not be constructed in a manner that is consistent with measurement in the other Member States. The concept of PDU has not been widely adopted outside the EU. So for the United States, Australia or Canada an alternative approach for estimating these problem users has to be taken, immediately indicating that comparability across these countries as well as with the EU Member States is a problem. In the United States, information from the 2006 National Survey on Drug Use or Health (NSDUH) is used to identify the number of people meeting DSM-IV criteria for cocaine, heroin, other opiates, methamphetamine, and other stimulants. Thus problem drug use is operationalized as those experiencing clinically diagnosable abuse or dependence. Similarly in Australia, information from the 2007 NDSDUH is used to get number of dependent or IDU users for cocaine, heroin, or amphetamines and this number is multiplied by the 2007 population (AIHW, 2008). In Canada, information from the 2004 Canadian Addiction Survey (CAS) is used to identify fraction of Canadian population who report past year use of cocaine, speed and ecstasy. This total is then multiplied by 0.4, as the CAS study shows that between 36.7% and 42.1% of recent illicit drug users (excluding cannabis) are problem users (Aldif et al, 2005).

14 Prevalence rates of hepatitis B are again obtained from information reported by the EMCDDA in the Statistical Bulletin (2008) (Table INF-3). For the United States, information on hepatitis B comes from the Centers for Disease Control (MMWR, 2008), but represents fraction of new hepatitis B cases that are due to IDU. Data on rates of hepatitis B among IDU for Australia again come from Australian Institute of Health and Welfare (AIHW, 2007), but do not necessarily represent new cases. We could not identify a reasonably recent source of information on hepatitis B in Canada, so we used the attribution factor published by Popova et al., 2007.

Estimates of the total number of PDUs for each country using the methods just described are reported in Column 6 of Table 4. Again, differences in these numbers across countries cannot be viewed as indicative of real differences in light of differences in how these numbers are defined and measured, particularly when looking at the non-European countries as compared to the European countries. In the case of the U.S., Canada and Australia, considerable scepticism is likely as estimates are based again on general household populations. Furthermore, because different drugs are of concern in these countries, it may be the case that the drugs considered in non-European countries are broader than that applied by countries constructing estimates within the EU.

4.3.7 Drug related deaths

The definition of drug related death adopted here is identical to that employed by the EMCDDA, which is "those deaths that are caused directly by the consumption of drugs of abuse. These deaths occur generally shortly after the consumption of the substance(s)". By construction therefore, homicides, suicides or motor vehicle fatalities involving illicit substances are not necessarily reflected in these numbers unless a medical examiner identified in the ICD-9 codes that consumption of illicit drugs was the cause of the death.[15] While it is possible to construct a similar estimate of drug-related deaths for the United States, data from other countries are not as readily available. Thus for Canada and Australia, existing estimates of the number of drug-related deaths based off of slightly different definitions are included in the table so as to capture some deaths, even if they are not measured the same. Given the inability to collect information for all countries using the same specific definition, caution should be taken in making comparisons across countries.

4.3.8 Drug related offences

This indicator is intended to capture country-specific information on the number of arrests related to the possession, sale and/or trafficking of illicit drugs. Thus, these represent the crimes associated with engaging in drug trade or use, not crimes committed under the influence of a substance. However, given that possession of a drug is not a criminal offense in all countries, these numbers will also reflect a slightly different approach across countries to managing drug markets. Information on drug related offences for European countries comes from the Statistical Bulletin's Table DLO-2, DLO-4, and DLO-5, which attempts to reconcile country differences in regarding the treatment of offenders caught in possession of a drug. Indeed, in their data the EMCDDA has countries report administrative as well as criminal offences to improve comparability across the EU Member States. We add to these numbers information from the Federal Bureau of Investigation's Crime in the United States for the U.S., Canadian Crime Statistics for Canada, and estimates from the Australian Illicit Drug Data Report for Australia. Not surprisingly, it can be seen in the final column of Table 4, that the United States has the greatest number of drug related offenses in total. The U.S. also has the highest rate per capita (63.1 per 10,000 people versus 29.5 for Germany and 27.9 for Australia). However, the data would also suggest that Spain had more drug related offences in 2006 in total and per capita (54.7 per 10,000 population) than the UK and France (who had per capita rates of 26.3 and 16.1, respectively). This is inconsistent with our intuition for these countries given that Spain, unlike the other countries, has decriminalized possession of all illicit substances. However, the difference is likely due to the inclusion of administrative offences in the E.U. measures. Unfortunately, offence estimates from non-EU countries, like Australia, that also retain administrative offences for some drug possession offences (e.g. cannabis) are not likely to be reflected in their numbers.

As the previous discussion highlights, efforts to obtain country-specific measures for all the indicators presented in Table 4 raises numerous questions and issues regarding the probable comparability and reliability of these indicator data even for countries with relatively good data collection systems. And these questions and concerns arise even before further issues related to the measurement of unit cost estimates are considered. When additional issues related to the inconsistency in quantifying the cost of each outcome are also considered, as outlined in the next section, the reasonableness of comparing estimates of the burden of drug use by combining these indicators of harm with measures of costs becomes even more questionable.

15 Information on European countries comes from Table DRD-1 of the Statistical Bulletin. Information for the United States comes from authors own analysis of CDC's WONDER data system. Data for Australia are from Collins and Lapsley (2008). Finally, information from Canada is based on Popova et al. (2007)'s estimate for 2002, as more recent data were not available.

5 Determining the unit cost of drug-related harms

A significant challenge when trying to compare the economic cost of any health related behaviour across multiple countries is the development of consistent unit cost estimates. Health care systems differ, which impact the average cost of services received and who pays for those services. Further, labour markets differ, which impacts the average cost of a lost day of employment as an individual's wage may or may not be a good measure of the average productivity at work. Added to that in the case of using an illicit drug is the additional challenge of trying to prevent use of an illegal substance. The difficulty is not just in terms of thinking how one might want to measure these average costs, but also in actually obtaining reasonably good data of those costs you are trying to capture. Herein lies the greatest challenge.

Table 5 provides a summary by country of unit cost estimates that might be applied to calculate the total cost of drug use for the some of the indicators constructed thus far. As was the case with the actual indicators of harm, going through the exercise of identifying the source for potential unit cost estimates makes explicit the pitfalls and issues involved in trying to construct these estimates. To the extent possible, the unit cost estimates represent the average costs of particular events, and have all been adjusted and/or inflated to reflect 2006 Euros.[16] In many cases the method for obtaining the unit cost estimate for a particular event differs across country. To the best of our ability, we attempt to keep the unit cost estimates homogeneous with respect to the resources used to manage an event. It is not possible in all cases to cost an event in the exact same fashion, however. Differences in approaches and resources included in particular unit cost estimates are discussed in greater detail below.

Table 5: Unit Cost Estimates for Events and Indicators Captured in Report of Economic Cost of Drug Use

	Lifetime Cost of HIV infection	Lifetime Cost of Hepatitis C	Cost of Hepatitis B	Euro per QALY	Average Cost per Drug Offense
Germany	€ 70,400	€ 24,458	€ 2,401	€ 50,000	€ 7,609
Spain	€ 54,000	€ 17,564	€ 2,401	€ 50,000	€ 2,442
France	€ 90,800	€ 16,068	€ 2,401	€ 50,000	€ 7,734
Italy	€ 77,000	€ 30,914	€ 2,401	€ 50,000	€ 40,711
Netherlands	€ 50,000	€ 21,165	€ 2,401	€ 50,000	€ 96,330
United Kingdom	€ 42,500	€ 14,519	€ 2,401	€ 50,000	€ 40,084
United States	€ 49,392	€ 19,985	€ 745	€ 50,000	€ 17,842
Australia		€ 38,164	€ 1,188	€ 50,000	€ 17,499
Canada	€ 15,494	€ 24,960	€ 1,647	€ 50,000	€ 21,009

5.1 Estimates of the lifetime medical cost of HIV infection

Estimating the average cost of treating HIV over the probable disease states across countries is particularly difficult as transition rates to various stages of the disease could differ substantially across countries as well as the therapies applied in any given disease state. Given the difficulty in trying to consider these aspects, we rely on estimates generated in previous work by Postma et al. (2001), who estimate in 1995 dollars that the lifetime costs of HIV infection for 10 European countries varied from €42,500 to €90,800 (UK = €42,500; France = €90,800; Italy = €77,000; Netherlands = €50,000; and Spain = €54,000) [17]. It is clear that the typical treatments (and hence the cost of these treatments) have changed substantially since 1995, the year in which this study estimates lifetime costs. Indeed, one study using a sample of patients in Alberta Canada reports that in 1995 the cost of antiretroviral drugs accounted for 30% of the cost per treated patient per month. In 2001, they accounted for 69% of the cost per treated patient per month due largely to the widespread use of HAART (Krentz et al., 2003). Nonetheless, the Postma study takes the very important step of considering the mix of specific therapies used at various stages of the disease by country in the construction of their estimates, which represents to us a very important step for ensuring that the cost estimates are truly reflective of the cost of treatment overall.

16 Costs are inflated using the country-specific inflation rate, and then converted into Euros using the average currency conversion rate for 2005. The date of 2005 for the conversion rate was done to make estimates from this report more consistent with estimates obtained in our report of the size of the global market for illicit drugs.

17 The estimates for Italy, Netherlands and Spain are approximate readings off of a graph chart presenting their results for specific European countries.

In an effort to construct unit cost estimates for non-European countries in a fashion that is medically consistent with estimates reported by Postma et al. (2001) for Europe, we use a somewhat dated estimate of the cost of HIV reported by Zaric et al. (2000) to approximate the average lifetime cost of treating HIV in the United States. Zaric et al. (2000) report the average cost of treating HIV among injection drug users in 1998, which we inflate to 2006 dollars and convert to Euros. Information on the cost of treating HIV infection over its life course in Canada come from an Alberta study providing estimates for 1999 (Krentz et al., 2003). We were unable to obtain an estimate of the lifetime cost for the same general period for Australia (using a more current estimate would reflect improved medicines and make the comparison inconsistent).

5.2 Estimates of the lifetime medical cost of hepatitis C

Hepatitis C is typically identified through an evaluation of liver functions or when someone goes to donate blood. As such, it usually goes undetected until the advanced stages of liver disease have occurred, and by that time treatment is less effective and liver transplants are required or the patient will die. According to Wong (2006) combination therapy with ribavirin and pegylated interferon has improved the chances of people not progressing to later stages of the disease, although Wong notes that not all untreated individuals progress to develop cirrhosis and not all treated individuals are responsive to treatment. According to research using blood donor and community cohort samples, 14-45% of patients resolve their acute HCV infection while about 1-10% develop cirrhosis within 20 years of identification of the disease (Freeman et al., 2001; Seeff, 2002).

Information on the lifetime cost of HCV among drug users in Europe comes from a recent study by Postma et al. (2004), who attempt to estimate the lifetime costs per hepatitis C infection after introduction of HCV combination therapy. They update an earlier estimate of the lifetime cost of HCV in drug users in 10 European countries using a French Markov model that incorporates the progression of HCV disease in infected blood donors through pharmacotherapy, active HCV infection, cirrhosis, decompensated cirrhosis, transplantation and death. The disease progression model is based on Loubiere et al., (2001). The model distinguishes two phases of the disease. In the first phase (the first 1.5 years of contraction) patients are merely distributed over two stages of "recovery" and "active HCV", which is treated mainly with pharmacotherapy. Only after the first 1.5 years to the Markovian annual transition rates into alternative phases of the disease take place, and they are not deterministic but probabilistic. The model allows for the combination of treatment (or re-treatment) with interferon and ribavirin with 40 to 50% success rate. The model is applied to a drug user diagnosed with HCV at the age of 25 (a fairly young age) and unit cost estimates for each stage of the disease are applied using information that is available for France (in 1999 Euros) when other country-specific estimates of the cost of each of these disease-stages are not available. The country-specific estimates come from Figure 4 (p 211) and are updated to 2006 Euro (from 1999). In 1999, the estimates by country were as follows: France = €14,140; Germany = €22,000; Italy = €26,200; Spain = €14,000; UK = €13,100. The updated study did not re-estimate costs for the Netherlands, which were included in the earlier study, but because were unable to find a comparable updated cost we use the estimate from the Postma et al. (2001) study.

In the case of hepatitis C, there appears to be far more convergence regarding methods for costing out the lifetime cost of the disease, as sources were identified for each of the non-European countries that used the epidemiological model for costing out the average burden of the disease. Saadany et al. (2005) use a Markov model to predict the progression of disease for individuals suffering with hepatitis C for the population of Canada from 2001 to 2040 so as to construct estimates of the annualized economic burden of the disease. We use their estimate of CAN $14,312 to represent the average cost of the first year of the disease.[18] For the U.S., we use the median value of a range of estimates reported by Wong (2006) of the average wholesale price of 24 weeks of ribavirin and interferon in 1999 (assuming full compliance) to be between US $9200 and $17,612. For Australia, we use estimates from Shell & Law (2001) who estimate the lifetime discounted cost associated with each new case of HCV infection in Australia to be AUS $19,100.

18 The average lifetime discounted cost of the disease per new case generated from this model actually was only CAN $4,568.21, far below lifetime estimates for any one disease and even smaller then the cost in the first year for Fulminant, which seemed implausible, so we went with this alternative estimate instead.

5.3 Estimated cost of hepatitis B

Estimates of the average cost of treating hepatitis B by disease state for each European country were reviewed and summarized in a recent study by Brown et al. (2004). According to their study, the average cost of treatment increases with the progression of the disease and is indicated by progressively more costly disease states in 2001 Euros. Given that the estimates of the prevalence of hepatitis B were generally based on blood tests indicating the virus is present in the bloodstream rather than any more advance state of the disease, and given that the disease has become highly more manageable with pharmacotherapies, we use the median value of the range of estimates provided for Chronic Hepatitis B (CHB) treatment in Europe, given by €2245 in 2001 (average cost of CHB, €1,093- €3,396). We focus on the cost of this treatment alone, as it is something that can be consistently estimated for each of the non-European countries (and again, the disease has become far more manageable when diagnosed in the early stages). For Canada, we use an estimate of the pharmacotherapy cost of CHB treatment from Gagnon, Levy et al. (2004) and inflate this to 2006 Euros. Butler (2006) provides a comparable estimate for Australia in 2004 dollars, which we also inflate to 2006 Euros. In this case, it is the United States for which we do not have a good comparable unit cost estimate.

5.4 The intangible costs of addiction: Euro per QALY

Like any other health problem, addiction and drug dependence reduce the quality of life of those suffering from the condition, independent of its potential effects on productivity, employment, or health service utilization. Health improvements (recovery from addiction) translate into direct welfare gains for those affected by the illness as well as indirect gains for those who care for or live with the individuals afflicted. It is difficult to place a monetary value on the burden addiction places on those affected by the disease as well as their family and caregivers, but failing to do so significantly underestimates the full burden of the disease. A number of methods have been used to try to quantify the loss in well-being associated with various health conditions, including cancer, multiple sclerosis, liver disease, hypertension, and HIV/AIDS. One of the more common approaches used in health services literature today is the quality-adjusted life years (QALYs)[19] technique.

The QALY approach presumes that the impact of health problems on the overall quality of life can be quantified through trade-offs that people would be willing to make between alternative health states they might live with, given variations in the length of time they would live with each. Several generic health state classification systems, such as the EuroQol, SF-36, MILQ, and the Quality of Well-Being Scale, have been developed by researchers to assist in the translation of health functioning into numerical scales (Drummond et al., 1986; Ware, 1994; Gold et al., 1996; Avis et al., 1996). Pyne et al. (2008) compare two generic preference-weighted measures for substance abuse disorders specifically to assess the burden addiction places on well-being. They examine the QWB-SA and the SF-12-SF and find that in a general population including individuals with substance use disorders that those suffering with a lifetime substance use disorder and currently experiencing symptoms have a reduction in well-being of 0.126 and 0.141 depending on which preference-weighted index was used (Pyne et al., 2008). In their study of the cost-effectiveness of expanding methadone maintenance treatment for heroin addiction, Zaric et al., (2000) find that a change in substance use behaviour is associated with a 0.2 change in QALY. The higher value is likely to be driven by the stronger association to HIV that was drawn by the population in the later study.

Given that the difference in QALYs suggested by Pyne et al. (2008) are fairly small, it suggests that differences in lost QALYs associated with drug addiction are likely to be less sensitive to the choice of preference-weighted scale and more sensitive to the population being surveyed (e.g. full population versus just a population of heroin users). Taking this into consideration, we attempt to assess the intangible burden of addiction by assuming that individuals living with addiction experience a reduction in the QALY of 0.14 per dependent user.

19 QALY is a subset of a full class of quality adjusted life indices (QALI) that have been developed to try to measure loss in quality of life. What's unique about QALYs is that they measure quality of life both in terms of the amount of the disability and the survival probability of living with the illness. So the index is measured in terms of years of quality life. Other QALI indices can measure changes in well-being in terms of functioning or disability (DALYs).

According to a comprehensive literature review and analysis by Hirth et al. (2008), there is tremendous variation in the estimates available in the literature on the dollar (or euro) value of a QALY and nothing close to a consensus has developed.[20] However, interventions are often assessed assuming a value of €50,000 per QALY (Drummond et al., 2006). If we assume the reduction in QALY is the same regardless of where a person is living, we can use the estimated reduction in QALY (0.14) and multiply it by this monetary value per QALY (€50,000) to generate an estimate of the intangible cost of living with addiction in a given year.

5.5 Cost of law enforcement for drug offenses

No information is readily available from most countries regarding the marginal cost of arresting, processing and adjudicating drug offenders.[21] Thus, one is left only with the option of constructing an average cost estimate using a top-down approach using information on law enforcement budgets and the number of offenders going through the system. This is a common approach used in numerous national studies (e.g. Collins & Lapsley, 2008; Rehm et al., 2006). The key assumption underlying this approach is that the amount of resources used in arresting, processing and adjudicating a drug offender is the same as that for any other offender (whether violent offenders or nonviolent offenders). Clearly, such an assumption is problematic. Nonetheless, without more sophisticated data systems tracking the cost of processing specific cases in each country, no other method can be implemented.

To begin, one must identify the fraction of expenditure from each country that is spent enforcing drug laws. Even in the European Community, where expenditure data are more consistently reported across countries using the international "Classifications of the Functions of Government", or COFOG, system, information on drug-specific enforcement expenditure is not readily available for all countries. Recently, some European countries have taken the initiative to collect drug-related expenditure data utilizing the COFOG system and report this information as part of their REITOX reports. These figures are reported to the EMCDDA in two forms- labelled and non-labelled. Labelled refers to planned expenditure explicitly marked in budget and/or fiscal year end accountancy reports. According to EMCDDA, these labelled expenditures do not tell the full story since "not all drug-related expenditure is identified as such in national budgets or year-end reports" (EMCDDA, 2008). In addition, the non-labelled approach is similar to the methods employed by countries outside of Europe (particularly Australia and Canada). Therefore, the non-labelled expenditures are a more realistic measure of expenditure data and are what we use here. The non-labelled data are derived from an estimation procedure referred to as a 'gross (or top-down) costing approach'. This consists of identifying the total amount of the budget in a given area (i.e. Public Order and Safety) and then determining the proportion of that area which is drug-related. The strategies for estimating these proportions vary quite substantially across countries, making direct comparisons of figures inappropriate (EMCDDA, 2008).

The UK provides a very rigorous estimation approach (in Euros) of all drug-related expenditure, including law enforcement, as part of its National Focal Report to EMCDDA, which partially explains why its figures exceed those of other countries in most drug expenditure categories (EMCDDA, 2008). The Netherlands, on the other hand, produce a single report (Rigter, 2006) using the top-down approach and includes it as official data in its annual report. Italy provides the overall social costs to the drug problem and the proportion devoted to law enforcement with little explanation of the definitions (EMCDDA, 2008a). Two countries, Germany and Spain, do not provide sufficient information for understanding where the amounts come from. Germany provides estimates of non-labelled law enforcement expenditure of €36 billion, with no indication as to the proportion devoted to drugs (National Focal Report 2007). Spain simply provides a rough estimate for overall public expenditure related to the drug problem, €400 million; however, no information is provided on the proportion devoted to law enforcement (EMCDDA, 2008a). Thus, we estimate figures for Spain and Germany based on 1999 estimates of the proportion of drug-related law enforcement expenditures as 0.083% and 0.059% of GDP for Germany and Spain, respectively (Kopp et al., 2003). Using these proportions for 2006 GDP data[22], we find €575 million and €1,940 million on drug-related law enforcement expenditures.

20 Much of the US and European literature presumes a value of a statistical life in the range of $50,000 - $100,000 (or €50,000 – €100,000) per QALY. One review of this literature (Tolley, Kenkel and Fabian, 1994) places the value of a life year in the $70,000-$175,000 range, while another study (Cutler & Richardson, 1997) puts the number at $100,000 but both of these study presume a value of a statistical life of $1 million. More recent studies put the value of a statistical life (which is of course a function of an individual's age, life expectancy and income) in the range of $4 million - $9 million, well above those used to monetize these QALYs (Aldy & Viscusi, 2008; Viscusi & Aldy, 2003).

21 The ideal measure of unit cost for law enforcement is the marginal cost, not the average cost, as the infrastructure for arresting, processing and adjudicating is exactly the same regardless of the crime committed. Thus, fixed costs associated with enforcement should not be considered as part of the unit cost estimates.

22 Eurostat, accessed on 24 November 2008.

Although not part of the EU reporting system, the estimates for Australia and Canada are calculated through a similar top-down procedure. Australian data utilizes an updated set of fractions for drug-related crimes from the Australian Institute for Criminology and cost data from the Steering Committee for the Review of Commonwealth/State Service Provision (Collins & Lapsley, 2008). Canadian data on drug-related law enforcement expenditure is developed from surveys of the prison population on proportions of criminal activity involving drugs and expenditure data from government sources (Rehm et al., 2006).

The following table displays the drug-related law enforcement expenditures for all countries except the United States, whose estimate is done in a somewhat different fashion and will be discussed shortly. The expenditure data is for 2006, except for the Netherlands which is for 2003. For Canada and Australia, the figures are 2006 adjusted for inflation using national statistics databases for CPI data and converted to Euros using European Central Bank data based on 01/07/2006 exchange rate.

Table 6: Drug-related law enforcement expenditure, 2006*, in €uro millions

	Police	Law Courts	Prison	Total
Spain	n.a.	n.a.	n.a.	€ 575.0
France	€ 571.2	€ 13.1	€ 270.2	€ 854.5
Italy	n.a.	n.a.	n.a.	€ 2,783.4
Germany	n.a.	n.a.	n.a.	€ 1,940.0
Netherlands	n.a.	n.a.	n.a.	€ 1,646.0
United Kingdom	€ 3,321.0	€ 171.0	€ 1,416.6	€ 4,908.6
Canada	€ 1,107.2	€ 255.6	€ 443.0	€ 1,805.8
Australia	€ 1,066.5	€ 91.2	€ 216.5	€ 1,374.2

(Source: Author's calculations for Germany and Spain; Reitox national reports, 2007 in EMCDDA (2008) for France and UK; EMCDDA (2008a) for Italy; Netherlands, Rigter (2006); Canada, Rehm et al. (2006); Australia, Collins & Lapsley (2008))

To convert these estimates into unit costs, we need a measure of the total number of drug offenders going through the system in each country. Drug activities that are considered unlawful offenses vary across countries. Generally, drug law offenses refer to producing, trafficking, dealing, possessing or using illicit drugs. Table 7 presents the total number of reports for drug offenses by country. The data has been reported and documented at various stages within the criminal justice system (by police, courts, or prison personnel).

Table 7: Drug law offenses, 2006*

Country	Study unit	Number of offenses
Spain	offenses	235,422
France	persons	110,486
Italy	persons	68,370
Germany	offenses	255,019
Netherlands	offenses	20,769
United Kingdom	persons	122,459
Australia	persons	78,533
Canada	persons	85,953

Source: Germany, Spain, France, Italy, Netherlands, United Kingdom- EMCDDA Statistics Bulletin; Australia- Illicit Drug Data Report; Canada- Canadian Crime Statistics 2003. Note: Data for UK is 2004, Australia is 2005, Canada is 2003.

By dividing total drug-related law enforcement expenditure by the number of drug offenders being processed through the system, one can generate a unit cost estimate of the average cost of a drug related offense, which we do in Table 8. As can be seen in that table, unit costs vary greatly across countries since the countries have different costing procedures and offenses definitions. Italy and the UK have virtually the same unit costs of approximately €40,000 per offender per year. Although France has similar offender rates as the UK, total costs are much lower and thus, the total unit cost in France is €7,734. Canada and Australia exhibit similar total unit costs for drug enforcement of approximately €20,500 and €17,500, respectively.

Results indicate court costs per drug offender are the lowest costs and policing per offender are the greatest costs for all countries. Although it is problematic to compare across countries, it is interesting to note that while total unit costs in the UK are nearly twice the amount of that in Australia, the court costs are nearly identical. Comparing Canada and Australia, which have similar total unit costs, Canada spends more per unit on prisons and Australia spends more on policing. Another potentially interesting comparison is between France and Australia in which Australia has a total unit cost more than double that of France and yet both France and Australia have similar prison unit costs.

Table 8: Law enforcement cost per offender/offense, 2006, in Euros

	Police Services	Law Courts	Prisons	Total
Spain	n.a.	n.a.	n.a.	€ 2,442
France	€ 5,170	€ 119	€ 2,446	€ 7,734
Italy	n.a.	n.a.	n.a.	€ 40,711
Germany	n.a.	n.a.	n.a.	€ 7,609
Netherlands	n.a.	n.a.	n.a.	€ 96,330
United Kingdom	€ 27,119	€ 1,396	€ 11,568	€ 40,084
Canada	€ 12,881	€ 2,974	€ 5,154	€ 21,009
Australia	€ 13,580	€ 1,161	€ 2,757	€ 17,499

Source: Author's calculations using Table 1 and Table 2 information Note: Australia and Canada are 2006 adjusted (using CPI of national statistics databases) and converted to Euros (using ECB data based on 01/07/2006 exchange rate).

As noted previously, the estimate of the average unit cost of an arrest for the United States is actually constructed in a different manner, using information provided in Nicosia et al. (2009) on the marginal cost of each stage of the process (arrest, adjudication, sentence, and jail/probation/parole). The U.S. estimate represents a weighted average cost of the probable outcome of a misdemeanour possession offense or a felony sales offense. According to the Sourcebook of Criminal Justice statistics, in 2006 only 18% of all drug offenses were for sale/trafficking (which would include a jail sentence) while 82% were for possession. Taking the weighted average generates an estimate of US $21,335.

While the above exercise demonstrates the difficulty in trying to obtain reasonably consistent unit cost estimates of the significantly trimmed set of indicators that one could use to measure harms from drug use, it also highlights that there may be potential in the future depending on continuing efforts that have been initiated in some regions (i.e. Europe). The fact that the EMCDDA has been able to get some harmonization of measures for 27 different countries with very different approaches to the problem is a very promising sign. The fact that scientists are considering the cost of treating a disease by particular regions (e.g. Postma et al, 2004) is further indicative that efforts in the future may be possible. But the previous two sections also show that such efforts need to be initiated with the intention to develop consistent and comparable measures across countries; the indicators and unit cost measures that have developed in a consistent fashion across some countries have occurred because there was a concerted effort to make them that way. If there is a world goal to get a better idea of the cost of drug abuse globally, then coordinated efforts across countries in the identification, measurement, and costing of relevant indicators need to take place.

6 Conclusions

There is clearly value in being able to compare the relative burden of illicit drug use across nations. Doing so enables policy makers to begin considering whether their own government strategy appears to be more or less effective when compared to other countries with similar use rates or harms. However, it is also important to realize that societies' response to the drug problem generate costs as well, which is why differentiating the costs of drug use from the costs of a society's response to that use is so important. Only a careful cost-effectiveness analysis of alternative approaches can provide true insights into the relative benefit of specific approaches. The first step in conducting such an analysis, however, is the consistent assessment of the burden of drug abuse across countries. And given the varying forms the burden can take across countries, a monetized metric of all the harms seems to be the most promising way of drawing comparisons across multiple harms.

The current exercise demonstrates, however, that the ability to simply compare monetized harms across countries still eludes us for a number of reasons. First, many nations are not collecting many of the relevant indicators or measures of cost necessary for participating in such a study. Second, even indicators that are regularly reported by countries are not being collected in a manner that is consistent across countries in terms of definition or universe. Some of these differences may not be easily overcome, as they could be the artefact of different national needs or different philosophies. The lessons learned from the European Community can perhaps provide the best guide for how to overcome these sorts of issues more broadly for developed countries. Third, even when fairly good indicator data are consistently collected across countries (e.g. drug-related HIV cases), there is insufficient information from which one could construct a consistent measure of the average costs of these indicators across countries. Cost information either does not exist or it does not reflect the same process across all countries. For example, in the case of HIV, some countries have estimates based on micro simulation models incorporating information on disease progression and the cost of therapies at each stage of the disease while others have estimates of just the average cost of treating a user given the stage of the disease they are at. While both are meaningful measures of costs, they are not capturing the same thing and combining disparate estimates across countries using both methods would lead to incorrect conclusions regarding the relative burden of drug-related HIV.

Steps could be taken in the future to improve the consistency of measurement in some of these areas, but significant work is still needed in other areas. A coordinated effort, like the one currently being undertaken by the EMCDDA for the European Community, is necessary for moving this forward more globally. It is not possible to simply draw on the independent efforts being undertaken within particular nations, as such efforts – while significant and highly valuable to the nations conducting them - will not reflect the need for conformity in measurement that is necessary to enable cross-country comparisons. Thus, the ability to systematically compare the cost of drug use across nations may remain out of our reach for a few more decades.

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Report 4

The drugs problem and drug policy: developments between 1998 and 2007

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Abstract

This report presents a comparative analysis of drug problems and drug policies in a sample of eighteen countries over the period 1998 to 2007. It describes major changes and trends in individual countries and provides a comparison of countries. Domains examined include drug supply (production and trafficking), drug demand (prevalence of use and problem use) and drug-related harm (deaths, HIV and crime). For each domain the report also provides data on programs and policies aimed at reducing drug problems. The analysis is limited to four drugs; cannabis, cocaine, heroin, and Amphetamine Type Stimulants (ATS). The selected countries are all significantly affected by the drug problem but represent the different regions of the globe, varying nature of the drugs problem (production, trafficking and use), different drug policy choices and varying levels of development. The analysis is limited to available data from international sources such as the EMCDDA and UNODC and national sources, including expert judgment.

Though for reasons of comparability the project utilized standard indicators it was difficult to compare countries or even track changes in one country over time; this was true, even for those countries with most developed data collection. This problem reflects differences across countries in data collection techniques, underlying concepts and data availability.

Countries differ substantially with regards to the drug problem they are facing. Some countries are more affected by production or drug trafficking whereas others more by consumption. In some countries the prevalence of certain drugs used is rather stable in others it is increasing. Cannabis use prevalence dominates in Western countries. Drug use related adverse health consequences are fairly stable or even falling in Western and advanced transitional countries with good coverage of comprehensive harm reduction.

While drug problems differ substantially across countries drug supply and demand reduction policies and measures show considerable similarity in the majority of developed countries. Supply reduction accounts for the largest share of drug policy budget. The only controversial drug policy element is harm reduction. Still, in the past decade harm reduction programmes have been widely implemented in many countries.

1 Introduction

Drugs and drug use are seen as major problems for society. They are perceived as a serious health threat to the individual user and as disruptive to society. The drugs problem and the ways to tackle it have become, in the last two to three decades, major issues in political and public debate, on a national level as well as in international fora. In the EU and UN special institutions and mechanisms have been created to work on solutions to this problem. Drug problems and drug policy vary substantially from country to country, and over different periods of time. In some countries, for instance, the level of use of a certain drug is reasonably stable, whilst in others it is rising. The aims of policy responses cover a broad spectrum. The existing literature suggests that some nations put the emphasis on the reduction or elimination of drug use as the principal, if not sole, goal of policy. The focus is on creating a "drug-free" society (MacCoun and Reuter, 2001; Hall and Pacula 2003). Other countries focus on the reduction of the adverse consequences of drug use as the principal goal. This is referred to as "harm reduction", the aim of which is to make the drug problem 'manageable'. The programmes and interventions actually implemented by individual countries, and over differing time periods, also vary substantially.

In this report we will focus on describing and analysing the main drug policy models that have been implemented in various countries throughout the world to tackle the drugs phenomenon over the past decade, as well as on the dynamics of policy and impact on the global illicit drugs trade. We will conduct a comparative analysis of the character of drug problems and drug policies, covering drug supply reduction policies (i.e., measures against production, trafficking and retail), drug demand reduction (i.e., drug prevention/education and drug treatment) and reduction of drug-related harm (i.e., health measures targeting drug users and reducing harm to society).

2 Approach

This report, like the others in this volume, focuses on four drugs in detail: cannabis, cocaine, heroin, and amphetamine-type stimulants (ATS). In some nations other drugs are also widely used but they either contribute little to the total global market for illicit drugs or are not the subject of much explicit policy making. For example, the sniffing of substances by adolescents is common in countries as varied as Scotland and Mexico; however little is known about this phenomenon in terms of prevalence, for instance and there are few interventions targeted at users of these substances. In the national studies such phenomena will be noted, but types of drugs other than the four mentioned above will not be systematically studied on a global level.

We have taken countries as the unit of analysis. Policy is made at national level, or lower, and different parts of the world are very heterogeneous. For example, Canada has a very different, and much smaller, drug problem from that of its neighbour, the United States. It also has a different drug policy, which has undergone substantial changes over the last decade. Therefore we will focus on an assessment of how the illicit drugs phenomenon has developed globally, and in the most affected countries, in the past decade, and also on how these developments can be explained.

2.1 Selection of countries

In order to provide as full a picture of the changes in drug problems and drug policies around the world as possible, we have selected eighteen countries. In order to select countries with varying profiles we employed the following criteria:

- Coverage of all regions of the globe;
- Inclusion of countries that vary substantially with regards to the nature of the drugs problem they face (production, trafficking and use) and which reflect differences in the evolution of the drugs problem between 1998 and 2007;
- Inclusion of countries differing in drug policy choices and development in the past decade;
- Coverage of countries differing with regards to socio-economic development.

In Table 1, we present a very brief assessment of the principal drug related problems of the 18 countries that we studied, simply to illustrate their variety. These assessments are intended as rough judgments rather than nuanced statements. Countries rarely present "pure" cases. For example, Mexico does have some problems of drug consumption, e.g. marihuana and cocaine, while India does have some illicit poppy cultivation. However these judgments do provide an indication of what problems the government in each nation is most likely to target in its policy decisions.

The countries fell into two categories; those that could essentially be studied through desk research, including phone interviews with selected key experts (i.e., Australia, Canada, Czech Republic, Hungary, the Netherlands, Portugal, South Africa, Sweden, Switzerland, the United Kingdom and the United States) and other countries where it was considered necessary to conduct country visits to collect as much data as possible for our study (i.e., Brazil, China, Colombia, India, Mexico, Russia and Turkey). We distinguished between so-called Western, developing and transitional countries (see Table 1). Western refers both to a cultural identity and to a high level of wealth. Some nations could clearly be placed in more than one category. For this sample of countries we produced reports describing the drugs problem and drug policy and developments in the past decade for each country. These country reports can be found in the Appendix of this report.

Table 1: Overview country sample

Country	Category	Major problems
Australia	Western	Consumption
Brazil	Developing	Trafficking and related violence
Canada	Western	Production and consumption
China	Transitional	Growing consumption and production (ATS)
Colombia	Developing	Production, trafficking and related violence and corruption
Czech Republic	Transitional	Consumption, production and trafficking
Hungary	Transitional	Consumption and trafficking
India	Developing	Growing consumption
Mexico	Developing	Trafficking, production
The Netherlands	Western	Consumption, production (cannabis and ecstasy), trafficking
Portugal	Western	Consumption, trafficking
Russian Federation	Transitional	Consumption, trafficking and production (especially ATS)
South Africa	Developing	Consumption, production
Sweden	Western	Consumption
Switzerland	Western	Consumption, trafficking, production
Turkey	Developing	Trafficking (transit position between East and West)
United Kingdom	Western	Consumption
United States	Western	Consumption, production and trafficking (import)

For the desk research countries we drew on existing sources through the internet and available literature to provide a systematic description of drug problems between 1998 and 2007 (depending on which is the most recent available year, also taking into account comparability between countries). We contacted a number of local experts by phone and by email. We also liaised with experts from the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) who, as well as offering valuable data on the topics of interest, had considerable experience in data cleaning and quality control for each of the indicators that they are responsible for. The EMCDDA proved to be a particularly valuable source of information and expertise for our purposes. Measuring the extent of a nation's drug problem required adaptation to the vagaries and heterogeneity of national collection. For example, the United States does not measure the number of problem drug users, a central construct for the EMCDDA, but instead has a series, not updated since 2000, for chronic users of each of cocaine, heroin and methamphetamine (ONDCP, 2001) (see also report 6 on methodological challenges).

Conversely, many developing and transitional countries do not have high quality data. As with many countries on the list, the existing data were scant and of poor quality. We therefore worked with a selection of local experts to supplement what is available officially and in published literature. Given the limited expertise and indicators available in many of these countries, particular care was given to the triangulation of both expert opinion and indicators.

2.2 Selecting indicators

Drug problems involve many diverse issues, with an emphasis on problematic forms of drug use, drug use-related morbidity and mortality, social problems in neighbourhoods caused by drug-related crime and public nuisance, and criminal activities linked to the illicit drugs market. Therefore the policy response to these problems is an inherently intersectoral activity involving, at a minimum, health, social, criminal justice and educational agencies to be effective. It is the sum of laws and programmes and is described not merely by the stated policies and related expenditures but by how it is implemented. Thus a major task of the project was to develop a parsimonious set of indicators that would characterize the nature and severity of the drug problems in a country and would also highlight the differences in drug policy.

We developed a set of indicators, one sub-set to assess the drug problems (supply, consumption (demand) and harm) and another sub-set to assess drug policy in the selected countries (supply reduction, demand reduction and harm reduction). We subdivided these domains of drug problems into seven areas. Under supply we differentiated between production, trafficking

and retail; under demand, between experimental or recreational use and problematic or chronic use; and under harm, between drug-related harm for the users and harm for their surroundings.

It was difficult to strike a reasonable balance between selecting sufficient indicators to give us a thorough insight into drug problems and drug policy, and the need to limit the number of indicators (due to limited time and resources, as well as the limited availability of data on many relevant issues). We used the following questions to select the indicators:

- What information do we need to characterize the drug problems and drug policy in a country?
- What indicators provide pertinent information on drug problems and drug policies?
- Are there appropriate data sources available for a certain indicator?
- What indicators are available and have been used throughout the last 10 years?
- What data/information on these indicators is available on the current situation and on that of ten years ago?

The indicators selected to characterise drug problems should obviously match with the indicators selected to describe drug policy. For instance, selecting the number of HIV- infected drug users as indicator for drug-related harm resulted in selecting HIV prevention as a drug policy indicator. In table 2 we present an overview of the selected indicators.

Table 2: Selected indicators

Drug problems estimate ±1998 and ±2007	**Supply** Area 1 **Production**	**Supply** Area 2 **Trafficking**	**Supply** Area 3 **Retail/trade**	**Demand** Area 4 **Experimenting / recreational users**	**Demand** Area 5 **Problematic / frequent users**	**Harm** Area 6 (for drug users)	**Harm** Area 7 (for society)
Indicators	Estimates of quantities in kg (specified per substance)	Seizure quantities in kg (specified Per substance)	Quantities in kg (specified Per substance)	Lifetime Prevalence (LTP)	# problem users in GP	# HIV+ drug users	Drug related crime
				Last Year Prevalence (LYP)	# IDUs in GP	# newly HIV+ drug users	Drug related nuisance
	Estimation of market value	Estimation of market value	Estimation of market value	Last Month Prevalence (LMP)	# IDUs in P < 20 y	# DRD by overdose	

Policy for this indicator in ±1998 and ± 2007	**Supply reduction** Area w1 **Production**	**Supply reduction** Area 2 **Trafficking**	**Supply reduction** Area 3 **Retail/trade**	**Demand reduction** Area 4 **Experimenting / recreational users**	**Demand reduction** Area 5 **Problematic / frequent users**	**Harm reduction** Area 6 (for drug users)	**Harm reduction** Area 7 (for society)
Indicators	Policy expenditures			Policy expenditures		Policy expenditures	
	# arrests for drug-law related offences			Implemented prevention programmes	Available treatment programmes	Syringe exchange	Narrative on measures taken
	# imprisonment for drug-law related offences					Overdose treatment	
						Safer use education	
	# arrests for drug-use and possession for personal use			Main focus (coverage by policy papers and law)	Main focus (coverage by policy papers and law)	Outreach work	Main focus (coverage by policy papers and law)
	# imprisonment for drug-use and possession for personal use					Drop-in	
	Main focus (coverage by policy papers and law)					Main focus (coverage by policy papers and law)	

We aimed to compile a set of indicators that would allow the comparison of drug problems and drug policy in a single country and also between countries within the past decade, based on stable definitions over time and data collection at regular intervals. Where possible we built on the work already done by EMCDDA, UNDCP/UNODC and other data collectors to standardise the collection of monitoring data. We are aware that these international data collections have their limitations. The most robust are the EMCDDA data as they are systematically collected, evaluated, commented and reported. Still they also have some limitations (see also report 6 on methodological challenges). For instance, there have been some changes in

the EMCDDA data collection system during the past years but these have been minor changes.[1] Therefore we decided to take the EMCDDA data at face value for the country reports of the EU Member States (Czech Republic, Hungary, The Netherlands, Portugal, Sweden and the United Kingdom).

For some other countries we could use high quality research data from, among others, household or school surveys. This was the case for Australia, Canada, Switzerland and the United States. In these cases the methods are briefly characterised for the reader.

For countries where there were no such studies, we used data from reports of international organisations, mainly from the UNODC (in particular World Drug Reports and the 2008 Global ATS Assessment), UNAIDS, the OAS/CICAD (mainly for South American countries) or the 2008 International Harm Reduction Association (IHRA) report on the global state of harm reduction. Many of these reports depend on primary research in separate countries, on data collection of lesser quality (e.g. largely based on systematic questionnaire research in countries around the world such as the Annual Research Questionnaire of the UNODC (ARQ) on drug problems and the Bi-annual Report Questionnaire (BRQ) on activities to reduce drug problems) or expert judgment (e.g. data collection via governmental agencies). For many countries the data from these reports are the best available at this moment (see report 6 on methodological challenges).

Finally, where no data were reported, expert judgement was the best we could obtain.

2.3 Data collection by questionnaire

We used the set of indicators to develop a questionnaire with a number of questions per selected indicator. This questionnaire was used both for desk research, to examine relevant literature on all 18 countries, and the actual interviews (by phone or mail with selected key experts in the desk research countries, face to face in the visited countries). Where possible we checked information by using different sources. The data collected served as basis for writing the country reports.

1 Examples are the data collection on syringe availability (Standard Table 10) and on drug treatment (standard questionnaire 27) which has recently been divided into two parts, one on treatment programmes and one on treatment quality.

3 Discussion of findings

The focus of the discussion in this report will be on identifying major changes and trends in individual countries and on a basic comparison of these changes and trends between these countries. Central questions will be:

- Have there been significant changes within the last decade in the drug problems in the three domains we distinguished, i.e., supply, demand and harm in certain countries?
- Have there been significant changes within the last decade in the drug policy response to these problems in certain countries?
- Can we identify certain trends in the developments of problems and policy in (groups of) countries, which share particular characteristics?

We also highlight some unexpected or remarkable findings.

However, the scope of this report is limited and is not intended to serve as an in-depth, detailed description and comparison of how drug problems and drug policy have developed over the last ten years in the selected countries. Nor will it give a full picture of global developments.

In this report we have included specific references only when using information additional to that which was presented in the country reports. References for all other information on the countries dealt with in this report can be found within the country reports (see appendix at the end of the total volume).

3.1 General remarks

Before discussing the findings we would like to make some general remarks about the data in the country reports. A comparison between countries and in one country over time is far from easy. This is even sometimes the case for countries with solid data collection like the EU Member States because there are substantial differences in the data collected (age group definitions when it comes to prevalence data, different years when certain data are collected, differences in methods of data collection, variations in detail and differentiation level, etc.). In other countries data collection is relatively weak, especially in developing and transitional countries. The drug problem is just one of many issues that these countries are facing besides other pressing issues like economic development, for instance. For most of the transitional and developing countries we selected it was difficult to find sound data, in particular on the situation a decade ago. In some countries the weakness or unavailability of data made it simply impossible to go beyond a rough and rather tentative picture.

Given that we selected countries for our sample to cover the different aspects of the drugs problem and drug policy it is clear that the selected countries differ substantially with regards to data on the indicators. For example, some countries are more affected by production or drug trafficking, whereas others are more affected by consumption. Countries also differ with regards to the nature in which they are affected by production, trafficking or consumption of one or more of the four substances we selected for our study (opiates, cocaine, ATS and cannabis), and the extent to which they are affected. As these four selected substances in fact represent four groups of substances, there are also major variations in the specific substances used in each country. Therefore for each country we specified the most commonly used substance (e.g., 'chorny', a homemade opiate, in Russia, as well as heroin; Captagon (amphetamine) tablets in Turkey; and various pharmaceutical drugs in India (Morphine, Pethidine and Pentazocine, among others).

Some of the selected indicators for drug policy responses cover all substances, especially if they are more generic, like drug prevention. In other cases, drug treatment for example, the focus is primarily on heroin (or opiates). Specific treatment for problem use of substances other than heroin is still quite rare, and limited to a few Western countries.

It is interesting to see that in the field of drug policy we found considerably less diversity than in the field of drug problems. The policy response in the majority of countries appears to be rather similar, at least when examining official statements in policy papers and drug laws. We will come back to this point in the chapter on drug policy issues.

Finally, we would like to emphasise that specific changes of drug problem features cannot be explained as simply results of policy measures taken (Reuter & Pollack, 2005).

3.2 Drug problems

In the discussion of the drugs problem we will follow the structure of the three domains, supply (production, trafficking and retail), demand (experimental or recreational use and problematic or chronic use) and harm (drug-related harm to the user and to society).

3.2.1 Supply

To assess supply as part of the drugs problem we selected two indicators. For production we worked with an assessment of quantities produced (specified per substance, generally assessed in kg or in some cases as other units, e.g., cannabis plants and Ecstasy tablets). For trafficking we focused on the international market, covering export, transhipment and import, and used seizure data as indicator. Seizure data are the only reliable data collected on supply in the majority of the countries selected for our study and in many other countries.

Strictly speaking seizure data are not an indicator for trafficking. Only a limited percentage of trafficked drugs are seized. There are no reliable estimates as to what these percentages are. The quantity seized is a function of three factors: domestic demand, transhipments and the effectiveness of interdiction efforts. The latter cannot be assessed solely by the budget invested by a country in measures against trafficking but also by the quality and effectiveness of investigations into trafficking activities and of the actual operations undertaken. Moreover, not all drugs seized are meant for cross-border trafficking; they could also have been domestic supply for the domestic market. A total quantity of seized drug per year alone is not a good enough indicator for trafficking. It remains unclear if this quantity contains retail seizures, i.e. small quantities sold on the streets. Combining the total quantity of seized drugs with the number of seizures (and better still, the range of the quantities seized) helps to create a better indication for trafficking and retail. In report 2 on the size of the market estimates are presented for a number of the selection countries where only minimal data were available.

3.2.1.1 Production

Opiates and cocaine

- *The production of opiates and cocaine is concentrated in only a few countries; Afghanistan is by far the main producer of opium, Colombia of coca.*
- *In the past decade there were no changes in production countries, just some shifts in quantities produced per country.*

The production of opiates and cocaine are each concentrated in one country; opium in Afghanistan and coca in Colombia. Afghanistan is one of the poorest nations in the world, with an extremely unstable government. Colombia is a middle income country, with relatively stable economic growth over the last fifty years, but subject to a great deal of political instability.

Afghanistan is by far the major producer of opiates in the world, with around 82 percent of production in 2007 (UNODC, 2008). Myanmar and Laos play a substantial but by far less important role now. Myanmar has seen a substantial decrease in production since about 1998. This is largely due to the actions taken by the quasi-state that governs the growing areas, the United Wa State Army (UWSA). The UWSA has used highly coercive methods, including mass forced migrations, to achieve this; it has been even more coercive than the Taliban when it effectively enforced an opium-growing ban in the last year of its dominance of Afghanistan. Smaller amounts of heroin are produced in Mexico and Colombia (for the United States market) and a handful of other countries. Opiates are also widely produced in the Russian Federation, especially home-made products such as khanka (chorny) and mak, which are basically cheaply made, unrefined opium products. Yet this cultivation accounts for just a small percentage of world production, measured in morphine equivalents. Very low levels of cultivation of opium poppy continue to take place in the Caucasus Region and other CIS countries (Ukraine and some Central Asian countries).

Colombia accounts for the bulk of world cocaine production (55 percent of the global coca bush cultivation) with smaller production in Peru (30 percent) and Bolivia (16 per cent) (UNODC, 2008; Thoumi, 2005). In the period from the 1980s until the late 1990s Colombia gradually developed to become the world's main producer of coca. "Whereas in the 1980s Colombia was the third most important producer of coca leaves, for the last ten years it has accounted for about two thirds of the total, as well as the vast majority of refining. The shift of coca growing from Peru and Bolivia to Colombia is probably the result both of tougher policies in the other two countries and the massive rural flight in Colombia. The violent conflict in

Colombia's established rural areas has brought farmers to frontiers within the country where there is little infrastructure for legitimate agricultural product and coca growing is very attractive, in part because these are areas in which coca farming is difficult to monitor or police" (Thoumi, 2005). Colombia is unique in the range of drugs that it produces. It also produced a substantial share of the heroin sold in the United States during the period 1994-2004; since then the estimates are that production has fallen by perhaps two thirds. It is not clear why eradication efforts against poppy growing in Colombia have been so much more successful than those against coca growing. During the 1970s Colombia exported a considerable amount of marijuana, again primarily to the United States.

The locations of coca and opium production have been quite stable. Still, only a limited number of countries dominate the production of these substances. It is clear that climate and availability of land play a minor role. Characteristics of government and labour history factors might be more relevant factors.

ATS

- *ATS production is spread over several countries.*
- *The number of production countries has increased over the past decade.*
- *There are new producers, in particular in transitional countries.*
- *ATS production is diverse, from small-scale kitchen laboratories to large industrial-scale laboratories.*
- *There have been shifts in quantities produced from countries with intensified control to countries with less control.*

The production of ATS is spread over several countries, though one can identify some countries as having a substantial share of the global total. Some of these countries are wealthy and well developed. New producers (transitional countries) have come onto the scene but it seems that no country has exited production. The Netherlands plays a significant role in the production of ecstasy and, to a lesser extent, amphetamines. In recent years ecstasy production seems to have declined in the Netherlands and shifted to transitional countries like Poland. The intensified enforcement in the Netherlands might have helped to shift production to countries with weaker drug control measures.

The Czech Republic is one of the world's major producers of methamphetamine. China has also become a large producing country for methamphetamine. The increase in seizures can be taken as one indicator for this. In the Russian Federation production of 'vint' (similar to methamphetamine or 'pervetine') and some production of ecstasy (around Saint Petersburg) can be found, but ecstasy seems to be mainly imported from the Netherlands, Poland and the Baltic States, in particular Lithuania. One indicator for the considerable scale of the manufacture of ATS in the Russian Federation is the fact that in 2006 Russian authorities detected 1,700 production facilities for illicit synthetic drugs, including 136 chemical laboratories. Small-scale laboratories and industrial-scale laboratories have also been discovered in the United States, though for the latter a decline was reported from 245 in 2001 to 11 in 2007. Finally, in Turkey a limited methamphetamine production has been reported based on the detection of a small number of laboratories.

Cannabis

- *Cannabis production is reportedly spread over more than 172 countries.*
- *Cannabis resin production is more concentrated than cannabis herb production; the number of countries producing cannabis resin is estimated to be around 58, compared to 116 for cannabis herb production.*
- *An increasing number of countries are involved in cannabis herb production.*
- *Cannabis herb production is very diverse, from small-scale home growing to large-scale agricultural business.*

The production of cannabis is spread over many countries. In the World Drug Report 2007 it is stated that "reports received by UNODC suggest that cannabis production is taking place in at least 172 countries and territories" (UNODC, 2007). Morocco is the world's largest producer of cannabis resin and the main supplier of Western Europe (UNODC, 2007). In the South-West Asian and Middle Eastern regions, in particular in Afghanistan and Pakistan, considerable quantities of cannabis resin are produced. The production of cannabis resin is more concentrated than cannabis herb production. Based on reports from these countries (ARQ 2002 – 2006 period) UNODC estimates the number of countries producing cannabis resin to be around 58, compared to 116 for cannabis herb production (UNODC, 2007).

Herbal cannabis production can be found in many countries all over the world, involving both large-scale plantation-style cultivation and small-scale non-professional producers. In some cases it is meant largely for the domestic market and, in the case of small-scale home growers, even for personal use by the producer. As with the production of ATS like Ecstasy and methamphetamine in some countries, cannabis production is meant both for the world and the domestic market (with, in many cases, an emphasis on export). Countries (from our sample) producing for the domestic as well as the foreign market are South Africa, Mexico and the Netherlands.

A large part of the cannabis production in Mexico seems to be intended for the United States market. Therefore Mexican criminal organizations have recognized the increased profit potential of moving their production operations to the United States, reducing the expense of transportation and the risk of seizure when crossing the border. Mexican traffickers operating within the United States generally attempt to cultivate higher-quality marijuana than they do in Mexico. This domestically produced sinsemilla (a higher-potency marijuana) can be sold for between five and ten times the wholesale price of conventional Mexican marijuana. Yet Mexico continues to be the principal foreign supplier to the United States - not only of cannabis, but also of heroin and methamphetamine - as well as the principal conduit for cocaine to the United States. According to UNODC, all three North American countries (Mexico, the United States and Canada) are large producers. "Estimates made available to UNODC suggest that Mexico and the United States may be the world's largest cannabis herb producers" (UNODC, 2007).

In South Africa large scale cannabis cultivation is reported in small, remote and mountainous, or otherwise inaccessible, parts of the country. In earlier years (1998 – 2001) there was no evidence of plantation-style cultivation in South Africa. In 2007 cannabis plant production was reported as 3,000,000 kg, half of which was for domestic consumption, which makes cannabis the most widely consumed drug after alcohol. The Netherlands and Switzerland are the major producers of cannabis herb in Europe (EMCDDA 2008), yet it is unclear how much of this production is for the domestic market and how much is exported. There have been, for instance, some seizures of 'nederweed' in the United Kingdom, Scandinavia, Germany, Belgium and France (EMCDDA, 2008; Legget and Pietschmann, 2008). However the extent of these exports remains unclear (KLPD-IPOL, 2008; Fijnaut and de Ruyver, 2008). Cannabis resin coming from the Netherlands is most probably transhipped from Morocco, through the Netherlands, to other countries. Cannabis resin is barely produced in The Netherlands (UNODC, 2007; KLPD-IPOL, 2008).

Home growing seems to be an expanding phenomenon, which can be found in an increasing number of countries, e.g. the Netherlands, Turkey, the United Kingdom, the United States and South Africa. A variety of cultural factors promote this; in Western countries, for instance, small-scale home growing is sometimes associated with organic cultivation and a healthy lifestyle. Hemp is mystified as a plant with many qualities, which cannot only be applied for pleasure but also for medical purposes and for the production of cloth and carton, playing a crucial role in 'environment-friendly' crop growing (Herer et al., 1995).

Discussion

- *Heroin production has increased over the past decade.*
- *Cocaine production is reported as being fairly stable.*
- *Development of ATS and cannabis production levels is unclear.*

For Afghanistan and Colombia, drug production is their principal drug problem, since consumption is still not substantial. In Colombia, trafficking and the violence related to it are also important components of the national drug problem. These countries produce opiates and cocaine primarily for the world market. In the Netherlands Ecstasy production is just one of the drug problems besides trafficking and consumption. The Netherlands plays a substantial role in trafficking cocaine and Ecstasy. The drug use problem in the Netherlands involves all four substances, with prevalence figures around average for EU Member States.

Global production trends over the last decade varied for the four substances. Heroin production has grown substantially over the period 1998-2007, particularly since 2004 notwithstanding the decline in production in Myanmar and Colombia. Cocaine production has been fairly stable over the same period, with some years of decline followed by increases (UNODC, 2008). For ATS and cannabis it is impossible to say how production levels have changed. Though there is evidence that the number of countries involved in ATS and cannabis production did increase along with the production spread over these countries – the latter seems to be true in particular for cannabis – there are no good data to make clear-cut statements about

quantities produced. UNODC states that global amphetamine production appears to be rising (UNODC, 2007) and that there are indications of an overall stabilisation in the market in 2005, but it remains to be seen whether this will emerge as a long-term trend (UNODC, 2007) (see also report 2). UNODC claims that both global cannabis herb and cannabis resin production declined in recent years,[2] yet these calculations are rather uncertain, as is conceded by UNODC: "Cultivation and production of the drug is extremely widespread. Unfortunately some of the same qualities of this pervasiveness impede any practical and rigorous reckoning of production" (UNODC, 2008).

3.2.1.2 Trafficking

- *Seizure data do not allow statements about quantities trafficked; they give indications for changes in trafficking routes.*
- *Changes in seizures reflect policy investment rather than trafficked quantities.*

Our focus here has been on international trafficking and on drugs rather than on precursors. The quantitative basis for this study is the seizure data, which we found on the countries in our sample, mainly from EMCDDA sources and UNODC's World Drug Report, complemented with some additional information from other international publications and experts in the selected countries. Seizures are the only trafficking indicator available but, as mentioned earlier, it is an extremely imperfect indicator.

With regards to drugs trafficking we found major differences between the countries in our sample. We selected some countries for which transhipment is a major element of their drug problems; in some cases it is even the major element. This is the case in Brazil, Turkey and also Mexico, though in Brazil and Mexico drug use is also developing into a significant societal problem. Cocaine trafficking is a major problem in Brazil; there has been a steep rise in drug seizures (quantities) in Brazil in the past decade (between 2001 and 2006), not only for cocaine and cannabis herb, which are transhipped in substantial quantities,[3] but also for heroin and cannabis resin, which are transhipped in relatively modest quantities for a country of 200 million inhabitants[4] (UNODC, 2008). Mexico does not show the same consistency as Brazil. It is a major transhipment country for cocaine making its way to the United States and plays a relatively modest role in the transhipment of heroin from Colombia to the United States. In the past ten years Turkey has shown an increase in seizures (quantities) of opium and heroin, cannabis and ATS.

There are countries in which the trends in seizure quantities are in line with the consumption trends. For instance, in Australia one can see a decrease in lifetime prevalence (LTP) and last-year prevalence (LYP)[5] of heroin and cannabis use (between 1998 and 2007) and at the same time a decrease in heroin and cannabis seizures. But there are also countries in which the seizure trends are not in line with consumption prevalence. This is, for instance, the case in Turkey, where the seized quantities increase while drug use prevalence grows only moderately. An explanation for this may be that Turkey is a transhipment country (with a very limited domestic spread of the transhipped drugs), whereas Australia is a destination country for drug trafficking.

Then again, there are destination countries that show growing use prevalence for a certain drug but falling seizure quantities for the same drug. Portugal is one example of this, where cannabis use increased between 2001 and 2007 (LTP and LYP in the general population of 15-64 year-olds and among young people aged 15-24) but seizure quantities are falling overall in the same period.[6] With regards to cocaine, Portugal – according to UNODC - emerged as "the second most important European point of entry" (UNODC, 2007), perhaps reflecting its historical ties to Brazil. This change into a transhipment country (again with a limited domestic spread of the transhipped drug) is reflected in the increasing seized quantities[7] but comparably low use prevalence data (LTP and LYP in the general population of 15-64 year-olds and among young people aged 15-24). The diverging development of seizures – decreasing seizures for cannabis and increasing seizures for cocaine – can be seen as a reflection of the priorities of Portuguese drug policy; a decrease in trafficking is one of the key priorities but special attention is paid to trafficking through Western African countries. Finally, there are without doubt transhipment countries where some drugs 'fall off the wagon'. Brazil and Mexico are illustrations of this (see above).

2 Cannabis herb production is reported to have decreased from 7,000 mt in 2004 to 42,000 mt in 2005 (UNODC, 2007) and stabilised in 2006 at around 41,000 mt (UNODC, 2008); cannabis resin production fell from around 7,500 mt (range 3,800 – 9,500) to 6,600 mt (range 4,200 – 10,700) (UNODC, 2007) and to 6,000 mt in 2006 (UNODC, 2008).
3 Cocaine: 9,137 kg in 2001 and 14,324 kg in 2006; cannabis herb: 146,280 kg in 2001 and 166,780 kg in 2006.
4 Heroin: 12 kg in 2001 and 95 kg in 2006; cannabis resin: 44 kg in 2001 and 96 kg in 2006.
5 Lifetime prevalence: if a person has ever used a certain drug; Last-year prevalence: if a person has used a certain substance in the last year.
6 Cannabis herb: 361 kg in 2002, 119 kg in 2004 and 152 kg in 2006; cannabis resin: 6,473 kg in 2001, 31,556 kg in 2003 and 8,458 kg in 2006 (UNODC, 2008).
7 5,575 kg in 2001 and 34,477 kg in 2006 (UNODC, 2008).

3.2.1.3 Retail

Retailing itself can be part of a nation's drug problem. The locations that serve as retail markets can be the source of disorder and crime.

Thus it would be useful to have indicators of various aspects of the retail market and to track how they have changed over time. Unfortunately there are no indicators available on a systematic basis. Anecdotally, it appears that the disorder and concentration of retail markets in cities in the United States have declined over the last few years, with an accompanying reduction in violence. However that is no more than an impression. In report 2 (on the size of the market) we provide estimates of retail sales but there is otherwise no information about retail activities as part of the drugs problem.

3.2.2 Consumption (demand)

We decided to use the term 'consumption' instead of 'demand' as the available data collection in fact measures consumption quantities and not demand, a relationship between quantity and price. For consumption we used two indicators: the number of experimenting / recreational users and the number of problematic / frequent users. Data on quantity are so rare that this important dimension is not discussed here, but the available figures are considered in report 2. For information on experimental or recreational use we used prevalence data (primarily LTP and LYP) from ESPAD, household surveys, etc. Reliable prevalence data cannot be found in all countries; in developing countries and some transitional countries these estimates simply do not exist or are of poor reliability and validity. Data on problematic drug users are often lacking in developing countries; we found hardly any data in Colombia, Mexico, Brazil and South Africa.

Report 6 (on methodological limitations) provides a detailed discussion of the limitations of the data underlying these indicators; here we provide just a brief summary. Population prevalence rates come from surveys that use different questions, interview modes (e.g., in person, by telephone, by mail) and age ranges (e.g., over 12, 14-59); this limits comparability across countries.

These surveys provide good indicators of trends in occasional use of many drugs. They are, however, of little value in estimating the size or rate of change of the much smaller populations that use expensive drugs frequently. These populations have high rates of homelessness, lead erratic lifestyles that make them hard to contact through a survey and have high rates of interview refusal and under-report consumption. As a consequence, in every country where efforts have been made to develop estimates of the extent of 'problem drug use', the term preferred by the EMCDDA, they have been found to be much higher than suggested by the surveys.

A major problem is that there is no generally shared definition of experimental or recreational use, or of frequent or problem use. Overall, experimental use tends to refer to a short period of 'trying' a certain substance, whereas recreational use also covers more regular, but non-dependent use of a substance. Also in different countries, different terms and different definitions are used for problematic (or problem) and/or frequent use. The EMCDDA defines problem drug use as the use of drugs by injection and/or the regular or long-term use of opiates and amphetamine-type drugs and/or cocaine. In the United States, data are collected on chronic users. In some countries the data collection is limited to injecting drug use.

We used treatment data and data on drug-related harm as indicators for frequent or problem use. Despite the fact that many countries, especially again the Western countries, collect data on numbers of drug users in treatment and – to a lesser degree – data on the extent of problem use, the used definitions and quality of the data differ substantially. So, again, the comparability of the available data is limited.

3.2.2.1 Lifetime and Last-Year Prevalence

- *Cannabis use prevalence dominates in Western countries (between 30% and 50% LTP).*
- *Prevalence figures in Western countries show long waves but - in some countries - considerable fluctuations in cocaine and ATS use.*
- *Prevalence figures are stabilising in some (advanced) transitional countries in the past decade.*
- *Drug use prevalence increased in developing countries.*

Drug consumption characteristics vary a great deal across countries. There are major differences in substances used, in prevalence and how prevalence has changed in the past decade. One example is cannabis use. It is the foremost popular drug

in Western countries with high LTP in the general population and in particular among young people. This is true for most EU member states, the United States, Canada and Australia. However, in recent years these figures are stable or falling in many of these countries. Australia is an extreme: there has been a substantial decline, e.g. in LTP (in the general population) from 39.0% in 1998 to 33.6% in 2004. LYP (in the general population) fell from 18.0% in 1998 to 11.4% in 2007. Transitional and developing countries show an inconsistent picture. In the Russian Federation, China and India the prevalence may be rising but is relatively low compared to Western countries.

Table 3: LTP and LYP of cannabis use in the general population in countries from our sample

	LTP ±2007	LTP ±1998	LYP ±2007	LTP ±1998
Australia (>14y)	33.5% (2007)	39.0% (1998)	9.1-11.4% (2007)	18.0% (1998)
Canada (>15y)	44.5% (2004)	28.2% (1994)	17.0% (2004)	7.4% (1993)
Czech Republic (15-64y)	20.6% (2004)	16.1% (1997)	9.3% (2004)	7.2% (1997)
The Netherlands (15-64y)	22.6% (2005)	19.1% (1997)	5.4% (2005)	5.5% (1997)
Portugal (15-64y)	11.7% (2007)	7.6% (2001)	3.6% (2007)	3.3% (2001)
Switzerland	27.7% (2002) (15-39y)	26.7% (1997) (15-39y)	9.6% (2007) (15-64y)	8.5% (1998) (15-64y)
United Kingdom (England and Wales) (16-59y)	30.1% (2006-7)	26.8% (1998)	8.2% (2006-7)	10.3% (1998)
United States (>12y)	40.6% (2007)	33.0% (1998)	10.1% (2007)	8.6% (1998)

Another example for variations in drugs preferences and prevalence is heroin use, which in a number of countries - after a serious epidemic – is stabilising or even decreasing. Examples are Hungary and the Czech Republic. The development in these countries shows signs of at least a partial stabilisation of prevalence of illicit drug use. After a period of a rather steep increase per year the prevalence curve of illicit drugs use is reported to be flattening, showing relatively modest prevalence variations from year to year. In recent years – from around 2003 onwards – the prevalence figures, especially for opiates, stabilised and even decreased, whereas cannabis and ATS are increasing. In both countries, especially cannabis lifetime prevalence among young people rose, as can be shown by the LTP figures taken from the ESPAD.[8]

This (partial) stabilisation might be an indication of having reached the peak of the epidemic and being on a par with Western countries that generally have relatively stable prevalence figures, as can be seen from other countries in our selection, such as the Netherlands, Sweden and the United Kingdom. The prevalence figures of these countries show fairly modest fluctuations in prevalence of use of different substances but hardly any sharp rise or fall. Yet there are Western countries showing substantial fluctuations for cocaine and ATS. Australia is one example of this. In the years between 1998 and 2007 LTP and LYP (in the general population) increased significantly for Ecstasy and – to a lesser degree – for cocaine. In the same period LTP and LYP decreased (in the general population) considerably for meth/amphetamines.

Although there have been changes in drugs preferences in some countries, others show considerable stability. Sweden and other Nordic countries have seen a consistent level of amphetamine use over a long period of time.

For the Russian Federation the picture is less clear. Solid prevalence data are lacking for recent years; even less is available for 1998. A reliable picture of how the drug problem has evolved in the past ten years is hard to obtain. However, according to the World Drug Report 2008, the use of heroin and other opiates, cocaine, cannabis herb and resin, amphetamines, methamphetamines and related substances in the RF was stable in 2006. There was, however, some increase in the use of Ecstasy (MDMA, MDA, MDEA) in the Russian Federation in 2006. One alarming sign might be that the average age of first-time users of illicit drugs fell in last decade from 17 to 14. As in the majority of the countries studied, cannabis is Russia's main drug of choice.

8 In Hungary cannabis LTP (among 15-16 year-olds) went up from 4.5% in 1995 to 11.5% in 1999 and to 16% in 2003; amphetamine LTP for the same group went up from 0.4% in 1995 to 2.3% in 1999 and 3.1% in 2003; ecstasy LTP from 0% in 1995 to 2% in 1999 and 3% in 2003. In the Czech Republic ESPAD figures show a rise in cannabis LTP from 22% in 1995 to 35% in 1999 to 44% in 2003; amphetamine LTP went from 2% in 1995 to 5% in 1999 to 4% in 2003; ecstasy LTP from 0% in 1995 to 4% in 1999 and to 8% in 2003.

For other, mainly developing, countries (China, India, South Africa) the available data suggest rising prevalence of illicit drug use. However, reliable national data on drug use are absent in all three countries. There are some local or regional studies. In South Africa they are predominantly in densely populated regions, e.g., Cape Town, Gauteng (Johannesburg and Pretoria) and Durban. Overall, in international comparison the levels of use of illicit substances seem to be still relatively low. UNODC reports a strong decline in heroin use for China in 2006, but a large increase in cannabis use. Also, for India the number of cannabis users is estimated at 8.7 million but there is no information about change over the past 10 years. Still the prevalence of cannabis use is low compared to Western countries. 8.7 million is less than 1% of the general population (1.148 billion).

Also, in Brazil and Mexico, countries that – though not in transition – are nonetheless facing significant societal changes and social disruption, one can find rising prevalence. Brazil shows relatively high LTP and LYP (for the age group 10-18) for solvents/inhalants, marihuana, benzodiazepines, ATS and cocaine. While in comparison still low, the use of illicit substances has increased over the years. According to UNODC, Brazil has the largest opiate consumer population in South America with 0.5% annual use rate (mainly synthetic opiates, only 0.05% heroin) and the second largest cocaine market in the Americas (around 870,000 persons) after the United States (some 6,000,000 persons) (UNODC, 2008). In Mexico LTP seems to rise for all substances (between 1990 and 2001/2). The same holds for LYP with the exception of cannabis use. For the younger age group (18-29 years), illegal drug use (LTP of marijuana and cocaine) has grown faster than ten years ago and earlier.

Some countries in our selection show features that diverge from what can be observed in countries with similar characteristics. Turkey is one of these interesting cases. It plays a major role as a transhipment country, forming a bridge between continents. From the East (Iran and Afghanistan) there is an important heroin-trafficking route crossing to Western Europe. From the West, Ecstasy is transported from Europe to the East. Many transhipment countries subsequently experience a growth in domestic use of the transhipped substances. For instance, in South-East Asian countries the cities with a relatively high prevalence of heroin use form the visible traces of the heroin transhipment route (Paoli et al., 2009). In Turkey, however, the prevalence of the transhipped illicit substances remains relatively low. There has been an increase in drug use over the years, but heroin use especially is rather low compared with the use of cannabis and synthetic drugs and with rates in Western European countries such as the United Kingdom and Switzerland. Ecstasy started to show up around 2003 but the prevalence is still modest: 2% in the 2003 ESPAD (15–16 years). Again, these conclusions are rather tentative as solid data are lacking.

Another interesting case is Canada. It is a startling exception to the rule that prevalence curves in Western countries are pretty steady, showing some fluctuation rather than sharp increases (or decreases). LTP of illicit substances increased dramatically for all substances in the past decade, both in the general population above 15 years of age and in the age group 15 – 24 years. The Canadian Addiction Survey of 2007 states that Cannabis LTP among young people (15-24 years) reached a level of 61.4% in 2004 (the latest available survey). Cannabis is followed by hallucinogens (16.4%), cocaine (12.5%), Ecstasy (11.9%), Speed (9.8%) and inhalants (1.8%). Yet there are major differences between data sources, probably due to differences in methods used. However the available data are consistent regarding the picture of substantial growth in prevalence of illicit substance use over the past decade. LTP of cannabis, cocaine/crack, LSD/hallucinogens, speed and heroin increased significantly as did LYP of cannabis. Studies show that crack use has become increasingly prevalent in street drug-use populations across Canada in the past ten years, although considerable local differences exist.

3.2.2.2 Problem drug use

- *Figures for problem drug use are rare and weak.*
- *Problem drug use seems to be fairly stable in Western countries.*
- *There are indications of a stabilisation or even decline in transitional countries.*
- *In developing countries, problem drug use seems to be increasing, though there are indications of stabilisation, especially for opiates.*

Data on problem use are particularly weak, even in Western countries. This may be seen as an indication of the inherent difficulty of estimating this target group on a national level. There are extreme differences in estimates as, for instance, in Canada where two estimates of the number of heroin users (probably an important part of the population of problematic drug users) are 35,000-40,000 for 2002/2003 and another is 80,000 opioid users. There is one estimate of the number of injecting drug users (IDUs) of 125,000 for 2000/2001, while another shows a range of 50,000-90,000. Figures from other countries show a similar picture. Trend data for the past decade are hard to find.

For developing countries the situation is even worse. In some countries, e.g., in Brazil, Colombia and South Africa, there are no estimates at all. In some others, available estimates are not useful, due to the large differences between them. For instance, this is the case in Turkey where the estimate of IDUs varies between 0 and 100,000.

The picture we found regarding problem use of illicit drugs in our sample of countries is quite similar to what we described above in terms of LTP and LYP. Again, Western countries show relatively stable (sometimes even falling) prevalence figures. This trend can be seen in Australia, the Netherlands and Sweden. This also includes countries that went through a transition phase, such as the Czech Republic and Hungary. In the Czech Republic problem opiate use is reported to have decreased in recent years (based on treatment data) whereas the number of problem pervitin users increased (8%) between 2003 and 2004. In Hungary injecting drug use was reported to have dec reased between 2002 en 2005. On the other hand, there was a 10% increase in 2006. The primary explanation for that increase is the 15% rise in the number of injecting heroin users in treatment. The estimate of injecting drug use is based on treatment data. Injecting use of other substances has been virtually non-existent.

The Russian Federation shows signs of a stabilising number of problem drug users following a period of dramatic increase since the mid-nineties. According to UNODC the number of drug addicts in the Russian Federation increased by ninefold in the last decade. The impression that the situation has stabilised is supported by the fact that the number of registered drug-dependent persons (350,267 in 2006), including the number of registered opiate users (307,232 in 2006), has remained largely unchanged over the period 2002-2006 (UNODC, 2008).

Data from China point in the direction of an increase in the problem use of heroin and – in particular – amphetamines, in the past decade, though there are signs that heroin use recently is stabilising (or even falling). Noteworthy is the report of a trend towards injecting heroin as opposed to 'chasing the dragon'[9], as the first involves more serious health risks. However, the number of IDUs is unclear. Estimates range from 356,000 to 3.5 million. Besides heroin, methamphetamine, diazepam, pethidine and morphine are the most commonly injected drugs.

One paradoxical finding is that there are countries with stabilizing or even falling LTP (and LYP) whilst showing an increasing prevalence of problem use. One example in our country selection is the United Kingdom. LTP of drug use among young people (16-24) is reported as falling between 2001 and 2006. This is true for the total of illicit drug use. Specified per drug, one can see that LYP for cannabis and volatile substances is falling, LYP for opiates, amphetamines, crack and magic mushrooms are stable and LYP for cocaine is rising. The number of problematic/chronic frequent users in the general population went up (in England and Wales) from 162,544 - 251,000 in 1998 to 397,033 – 421,012 in 2005.

If one takes LTP and LYP as indicators for experimental or recreational use, it might be assumed that LTP and LYP translate, after a couple of years, into corresponding problem use prevalence. However this does not take account of the long duration of drug dependence for many of those who cannot desist early in their using career. Everingham and Rydell (1994) modelled the changing distribution of cocaine use over two decades. They showed that in the early stages of the epidemic in the United States, most users were light users. Over time, some of them became frequent or heavy users, consuming on average a much larger quantity per annum. By the early 1980s the number of users had started to decline but the share of all users who were heavy users had risen; that resulted in a larger total quantity consumed. Thus declining prevalence can be accompanied by rising seizures in the middle stages of an epidemic.

3.2.3 Drug-related harm

The concept 'drug-related harm' covers health damage for the drug users as well as all the adverse consequences for society, such as crime, disorder and communicable diseases.

9 Chasing the dragon is a way of inhaling the drug by heating it on a foil and breathing in the smoke through a straw.

3.2.3.1 Harmful consequences for drug users

- *Numbers of drug-related deaths and HIV positive drug users in Western and advanced transitional countries are fairly stable.*
- *Countries with good coverage of comprehensive harm reduction services have stable or falling rates of drug-related death and HIV prevalence.*
- *Developing countries and countries in full transition show increasing prevalence of drug-related deaths and HIV positive drug users.*

The number of HIV+ drug users and drug-related deaths (by overdose) (DRD) are considered strong indicators for drug-related harm to the user for which relatively good data are available in many countries. We also looked for data on recent (last year) HIV infections among drug users. However, numbers on HIV+ drug users are frequently calculations based on samples and on assumptions of the actual source of infection, either sexual behaviours or injecting drug use. The way they are collected differs substantially between countries. But recently a few global overview studies in the field of HIV prevalence and prevalence of injecting drug use were published that we considered useful for our purpose (Mathers et al., 2008; Cook & Kanaef, 2008).

Drug-related death (by overdose) posed a different kind of a problem. The procedure for determining whether death is the consequence of a drug overdose ranges from a full post-mortem to a superficial medical check by a GP. Nations also differ in how the data are aggregated. However, the comparison of the number of overdose deaths within a country between two different points in time is an important element in our study; these comparisons are more meaningful than cross-country comparisons. Note that we are including only deaths in which drug use was the direct, acute cause. Not included are those in which drug use is the 'indirect' cause, e.g. death by drug use-related diseases and accidents; for example, deaths related to Hepatitis B, in which the cause of the infection was previous injecting drug use, are not counted as drug-related deaths. In some countries, e.g. in India, drug related deaths are not monitored at all. By choosing these two indicators for drug use-related harm, our focus is restricted to just three of the four substances selected for this study, i.e. opiates, cocaine and ATS.

The figures on drug use-related harm, in the sense of health damage for the drug users, show again, in Western countries, relatively stable figures on the indicators selected (HIV infections and overdoses). The Netherlands, the United Kingdom and Sweden, but also the Czech Republic and Hungary, are examples of this. The latter two, together with Australia, are countries that have long had very low prevalence of HIV infection among drug users and with a falling number of overdoses deaths in the last decade. Interestingly enough, the Czech Republic and Hungary never experienced a real HIV epidemic. The annual growth rates of incidence and prevalence were always low. Recent prevalence rates (of IDU's) are no more than 2.7% in the Czech Republic and 0% in Hungary. Also Turkey – for which reliable data are lacking– seems to be a country with low HIV prevalence rates among drug users. This may reflect the fact that (injecting) drug use started relatively late there and still seems to be limited.

Besides these countries with traditionally low HIV infection rates, some countries show a decrease in HIV infections among drug users. Brazil is one of these countries, though since there are no national surveys, this is based on some local studies in big cities (and prisons) showing that HIV prevalence among IDUs fell in some cities. Portugal is another example, showing both falling HIV prevalence among drug users and a decline in numbers of overdose deaths.

In those countries with low, stable or falling HIV and overdose prevalence rates, harm reduction is a part of drug policy, both officially and in terms of programmes implemented. Most of these countries have a relatively long tradition and broad geographic coverage of harm reduction programmes, having started syringe exchange programmes (SEP) and opiate substitution treatment (OST) at the latest by the mid-nineties. Exceptions are Brazil, where harm reduction started in the late nineties and still is mainly focused on HIV prevention, and Hungary, where harm reduction services do not cover all regions. Switzerland, now an active proponent of harm reduction (including heroin maintenance as well as safe injecting rooms and SEP), has a relatively high HIV rate among IDUs. This may be a consequence of the fact that the country adopted harm reduction after the heroin epidemic was well started.

Again, Canada is a partial exception. Despite introducing harm reduction programmes by the end of the eighties, problem drug use and drug use-related harm have been growing over the years. However, the latest data point in the direction of a change. According to data published by the Public Health Agency of Canada in 2008 the number of new HIV infections among IDUs appears to be decreasing overall in recent years.

Though the federal government of the United States firmly opposes harm reduction in international forums, there are many harm reduction programmes within the United States, reflecting the multiple levels of government (federal, state and local), as well as the very active and liberal philanthropic sector. SEP can be found in many cities, along with other interventions intended to encourage safer injecting practices. There are, however, no safe injecting facilities, and harm reduction programmes are not available everywhere.

The countries in our sample that are in the middle of a major transition process (China, India and the Russian Federation) seem to be confronted with a substantial rise of drug use-related harm. Though the figures are again weak – for the number of deaths by overdose we did not find any reliable data – available data point in the direction of a substantial increase in the number of drug users infected with HIV. In China the estimated number of HIV infected drug users went up from 12,536 in 1998 to 637,000 in 2007, though again there are substantial differences between available estimates. In India the number of new HIV infections increased over the past 10 years, but there are signs of stabilisation.

There are conflicting estimates of the number of drug-related HIV infections in the Russian Federation but overall the number of HIV infected drug users is reported to be high. According to information from the International Harm Reduction Association (IHRA) there are 2,000,000 IDUs in the Russian Federation, among which adult HIV prevalence is between 12 and 30%. Although the percentage of new HIV cases accounted for by IDUs is reported to have decreased from 95.6% in 2000 to 63.7% in 2007, the main route of HIV infection in Russia in 2006-2007 remained intravenous drug use.

3.2.3.2 Harmful consequences for society

The nature of harmful consequences for society differs widely across countries. It covers matters like crime linked to production, trafficking and retail/use (like violence, corruption and organised crime, but also drug use-related acquisitive crime, like shop-lifting, burglary and robbery) and public nuisance such as visible drug dealing and drug use in the streets, drug users congregating in the neighbourhood and discarded used syringes on the streets. In Latin-American countries the focus is on corruption and violence; in European countries on acquisitive crime and public nuisance.

Comparisons across countries are therefore difficult. The only relatively reliable data we have to hand is the number of drug law-related crimes. However, this clearly reflects decisions on the stringency of enforcement of drug prohibitions. Data on this indicator are available in a number of countries. Yet other forms of drug-related crimes might be more indicative of societal harm, for instance, so-called acquisitive crime or crime specifically linked to production, trafficking and selling. Data on these types of crime are never available on a systematic basis. Using the available data on drug law-related offences does not provide meaningful information for an assessment of drug-related harm for society. (Information on drug law-related offences can be found in the chapter on supply reduction.)

Drug-related harm is clearly a major problem to society for many countries; this is made clear in many different reports. Solid data on public nuisance are impossible to find; the only information available are narrative reports and expert judgement on whether the problem is substantial, comparing the 1998 and 2007 situation.

The Netherlands is one of the countries where public nuisance is perceived as a major element of the drugs problem. Since the late eighties it has become one of the key targets of drug policy to reduce drug-related public nuisance in neighbourhoods, i.e., drug users congregating and using drugs in the streets, dealing in the streets and drug use-related crimes like street robbery, shop-lifting and burglary. Another country where public nuisance is a prominent element of the drug problem is the United States of America.

A specifically Dutch problem is public nuisance caused by so-called drug tourism. The larger cities and those in the border region attract considerable numbers of young people from neighbouring countries (i.e., Belgium, Germany and France) who cross the border to buy cannabis in Dutch coffee shops. People living in the neighbourhood where these coffee shops are situated complain about crowds on the streets until very late in the evening, heavy car traffic and parking problems, etc. Consequently, initiatives have been taken on a local level to address this.

The disruptive impact of crime, violence, corruption and organised crime linked to drug production and trafficking cannot only be seen in Colombia, a country that is permeated by crime related to drug production and trafficking, and Mexico, where corruption is widespread and where the Northern states at the border of the United States suffer severely from drug related crime and violence caused by rivalry between drug syndicates (Goehsing, 2006); comparable information has been reported in South Africa, where the Italian Mafia, Russian criminal organisation, Chinese Triads and Nigerian syndicates play an important role in drug trafficking activities (UNODC, 2002; Shaw, 2002).

3.3 Drug policy

- *Drug policy papers convey little information on the actual implementation of policy; most are rather uniform with regards to supply and demand reduction objectives.*
- *Across many countries criminal laws regarding supply are highly uniform concerning the substances classified as illicit, the acts defined as criminal offence and the ranking of the severity of drug-related crimes, i.e., considering production and trafficking as more serious offences than possession (of small quantities for personal use).*
- *Demand reduction activities reflect widely-shared views of experts and support abstinence-oriented treatment and drug prevention.*
- *Harm reduction is in some cases supported and in others impeded by legal provisions (e.g., not allowing OST); there is also growing agreement that harm reduction measures like OST and SEP are required to deal effectively with drug use-related harm.*
- *Differences between countries in all three policy domains concern approaches, coverage and quality of the programmes realised.*

There is broad agreement among countries on key elements of drug policy. Viewing official drug policy papers – like drug strategies and drug action plans – reveals conformity with regards to aims of drug policy and measures to realise these aims. This is especially true for supply reduction and – to a lesser degree – for demand reduction, as will be illustrated below.

Yet, official drug policy papers do not really tell us a lot about policy measures actually implemented. Often these papers are, for the most part, political rhetoric based on ideological concepts rather than presenting a strategy to tackle the actual drug problem a country is facing. They are commonly formulated in general terms, striving for a 'balanced and comprehensive' approach to the drug problems.

Nearly all countries in our sample have in place formal drug strategies or action plans. This also holds true for most of the transitional countries included that generally have very comprehensive drug strategies. One diverging example is the Netherlands that, once in several years, – for example when a new government is installed – produces a general drug policy plan. When urgent problems require a formal policy response, policy papers on certain issues are produced on an ad hoc basis. In recent years this has been the case for Ecstasy and cannabis (Tweede Kamer, 2001 and 2004).

For that reason we decided to include in our analysis 'official policy papers', i.e. besides drug strategies and drug action plans, all governmental policy papers presenting objectives and plans for drug policy. In reviewing policy papers (and drug laws) we focused primarily on their coverage of the policy measures we selected as indicators in the three domains of supply reduction, demand reduction and harm reduction.

Drug laws also show considerable conformity in the majority of the countries. This is true for laws and legal regulations, among others:

- For the substances classified as illicit or legally controlled drugs (in many countries GHB was classified in recent years as an illicit drug);
- For the acts defined as a criminal offence, like production, trafficking, selling, possession, etc.;
- For ranking the severity of drug-related crimes, i.e., considering production and trafficking as more serious offences than possession (of small quantities for personal use).

The shared view that can be found in policy papers, in legal provisions and – to a lesser degree – in realised policy has, at least partly, to be explained by the quite intense international efforts to come to a uniform drug policy. International conventions, as for instance the 1961 Single Convention on Narcotic Drugs (United Nations, 1961), the 1971 Convention on Psychotropic Substances (United Nations, 1993) and later additions to them, specify the substances that have to be brought under legal control and define what this control should entail, including exceptions to general rules and the measures to be taken against these substances. The origins of these treaties date back to the second decade of the twentieth century. Endorsing these international treaties and ensuring the implementation of their requirements is a prerequisite for being a member of the United Nations.

The EU is also working on a more uniform drug policy response especially in the field of supply reduction. One example is the European Council Framework Decision of 25 October 2004, laying down minimum provisions on the constituent elements

of criminal acts and penalties in the field of illicit drug trafficking. This decision requires Member States to inflict standardized penalties for criminal acts linked to trafficking in drugs and precursors (Council of the European Union, 2004).

There are of course differences between countries, for instance in maximum penalties for drug law offences. The maximum penalty in China for possession of 50 or more grams of heroin is a death sentence. In most European countries one would face a maximum penalty of just some years of imprisonment for the same offence. Some countries apply minimum penalties for more severe drug law offences or in cases of recidivism. For instance, in the United Kingdom a more strict approach to trafficking offences was developed in recent years, including, among others, a minimum sentence of 7 years imprisonment for a third conviction for trafficking in Class A drugs. Other countries, for instance the Netherlands, oppose minimum penalties, because they seriously limit judicial discretion, i.e., the possibility to take into account particular circumstances of a specific offence.[10] In some countries – e.g., in Sweden – drug use is defined as a criminal offence, in others – for instance in the United Kingdom – it is not. In recent years various countries have decriminalised drug use (see chapter on supply reduction).

There are more significant differences between countries with regards to the application of the laws. The implementation of drug laws in different countries shows that not all legal provisions have the same priority. In some countries the investigation and prosecution of offences involving cannabis are given less priority than offences related to opiates. In some countries this differentiation is based mainly on a tacit agreement, in others it is formal policy. The latter is, for instance, true for the Netherlands where the so-called discretionary principle "allows the Public Prosecution Service to waive criminal proceedings in the public interest. Law enforcement policy gives a high priority to large-scale trafficking in all kinds of drugs and dealing in hard drugs. Sale and possession of cannabis for personal use are much lower priorities. Details of these priorities are published in official guidelines. Dutch policy on law enforcement is therefore more explicit than in some other countries, which operate along the same lines in practice" (Available: http://www.om.nl/vast_menu_blok/english/verzamel/frequently_asked/what_are_the_main/, last accessed 21 January 2009). The guidelines include recommendations regarding the penalties to be imposed and priorities to be observed in investigating and prosecuting offences. Highest priority with regards to drug offences is given to large-scale production and international trade, lowest priority is possession for personal use. So-called hard drugs (opiates, cocaine and ATS) have higher priority than soft drugs (cannabis products) (Openbaar Ministerie, 2004).

However, certain principles are generally shared. There is, for instance, a universal agreement that drugs prohibition is an appropriate policy response to the drugs problem. This is the basis for the drug laws in all countries defining certain substances as illicit and stipulating measures against production, trafficking, selling and in many cases also the use of these listed drugs. There is also a widely shared understanding on which drugs should be listed in this law.

The drug law is one of the keystones of drug policy giving shape to and sanctioning policy choices. In particular drug supply reduction is firmly based on the provisions in drug law. Here one can also find the origin of many policy measures, which are common all over the world, not only in the countries studied. Examples are border control programmes to counter drug trafficking and drug squads to counter drug selling in the streets.

Yet, there are more legal provisions giving direction to drug policy. In some countries the implementation of policy papers is supported by legal means, e.g., the government in Portugal and Hungary specified by law how elements of the drug strategy should be implemented.

Legal provisions can stipulate, support or prohibit certain policy measures. One example for the latter is the Russian Federation, where methadone and buprenorphine treatment are prohibited by law. Also in India methadone treatment is ruled out by law. In other countries, such as Turkey, OST awaits legal approval from the government. In China harm reduction measures are being scaled up rapidly following the (legal) support offered by the authorities. Sometimes laws are formulated in such a way that one does not read the term harm reduction anywhere in the text, but the text itself supports or promotes some of these interventions. For instance, in 2003 the Russian State Duma (parliament) adopted a series of amendments to the Russian criminal code that included that "promotion of the use of relevant tools and equipment necessary for the use of narcotic and psychoactive substances, aimed at prevention of HIV infection and other dangerous diseases" did not violate the law, provided that it is implemented with the consent of relevant health and law enforcement authorities.

10 One regularly applied option to get around these limitations is to 'go for' an alternative, less severe offence in case the minimum penalty for the actual offence is considered too high.

Demand reduction and harm reduction policies are generally less well backed by legal provision than supply reduction. Still there is a widely shared consensus on the measures to be taken to reduce drug use. This consensus is at least partly – and in different countries to a different degree – supported by legal provision. Yet, in all policy documents on drug demand reduction of the countries in our sample we found emphasis on drug prevention and abstinence-oriented drug treatment as appropriate measures against drug use. Drug prevention, like school-based drug education programmes and mass media campaigns, can be found in nearly all countries. The same is true for abstinence-oriented drug treatment programmes.

However, this general consensus on which demand reduction measures are appropriate to tackle drug demand can be found in policy paper priorities rather than in practice. There are major differences between countries with regards to models / approaches chosen, coverage (investment, measurable as amount of expenditures) and quality of the programmes actually realised. In countries like the Netherlands and the United Kingdom short-term and out-patient forms of abstinence-oriented treatment are quite common. In other countries like the Russian Federation, long-term in-patient treatment is more prevalent. Western countries such as the United Kingdom, Australia and Switzerland have more diverse treatment programmes available and better geographical coverage of treatment services. In many of these countries quality assurance instruments are applied to enhance effectiveness and efficiency of treatment.

There is also growing agreement that harm reduction measures like OST and SEP are required to deal effectively with drug use-related harm. Still, there are some countries, which oppose the principle of harm reduction and/or certain measures. The federal government of the United States firmly opposes SEP; in the Russian Federation OST is banned by law.

Also in the field of supply reduction one can find major differences between countries with regards to approaches used, coverage and quality of the implemented programmes and the focus of measures taken. For instance, border control measures can focus on international traffic hubs like airports and harbours or on tracing trafficking routes. These differences also reflect differences between countries with regards to the nature and extent to which they are affected by supply problems. In countries playing a major role in the production of certain drugs, the features and extent of drug production have an influence on the priorities set and measures taken. In Colombia, the major coca producing country in the world, crop substitution programmes and spraying of coca fields are important measures. In the Netherlands, a major Ecstasy-producing country, measures to control production and handling of precursors are a policy priority as well as dismantling Ecstasy laboratories.

Many factors apart from the socio-economic situation and the nature and extent of drug problems, contribute to the formation of a nation's drug policies. It often fits into a broader political agenda. Notably in the United States in the 1980s the alarming rise in homicides, only partly related to drug use and distribution, gave a harsh tinge to responses to the growing problem with crack. Recent tightening of drug policy in the Netherlands (e.g. restricting the number of coffee shops) is part of a broader wave of conservatism in social policy.

Expenditures

- *Drug policy expenditures in many countries increased significantly in the past decade. The biggest share of the budget is spent on supply reduction.*

It was our intention also to include data on drug policy expenditures in our discussion of differences and communalities of drug policy in the selected countries. This would allow assessment and comparison of investment in the three policy domains and the different policy measures taken. However, reliable data on drug policy expenditures are rather rare. In some countries specified drug expenditure data are non-existent. In many countries these data (if available) cover drug policy budgets in general, and don't disaggregate these into budgets per drug policy domain, let alone into specific drug policy measures like drug treatment or drug prevention.

Also in many countries with relatively solid monitoring of drug problems and policy, as in most of the EU Member States, there are no good data on drug policy expenditures, not even for the specifically labelled drug-related expenditures. Therefore we limit ourselves to a discussion of some basic features of drug policy expenditures discernible from the available data and experts' opinions, e.g., on the share of budget made available for the three drug policy domains.

Many countries in our sample report that drug policy expenditures increased significantly in the last decade. This is true for, among others, the Czech Republic, Hungary, Portugal, India and the United States. Yet detailed figures are available for very

few countries. India, for instance, does not have data on national drug policy expenditures but experts assess the spending on supply reduction as much higher than on demand reduction. More detailed information can be found in the national reports of the Czech Republic and Hungary presented to the EMCDDA and in reports on the United States and the Netherlands (see table 4 below).

Table 4: Drug policy expenditures of four countries from our sample

	Total drug policy expenditures	Demand reduction	Supply reduction
Hungary 2000	€22.242 million	€4.096 million[1]	€15.69 million
Hungary 2007	€40.484 million	€7.116 million[1]	€29.76 million
Czech Republic 2002	€7.176 million[2]	€5.867 million	€1.309 million[3]
Czech Republic 2006	€12.821 million[2]	€6.780 million	€6.041 million[3]
United States 2004[4]	$12,999.2 million	$4,984.2 million	$6,883.2 million
United States 2006[4]	$11,867.4 million	$4,804.4 million	$8,194.8 million
The Netherlands	€2,185 million	€540 million[5]	€1,646 million

1. Figure includes expenditures for treatment, harm reduction and other social care.

2. National/federal budget (i.e. not including local/state budgets).

3. Not including the expenditures for the national drug squad which increased from €3,395,000 in 2003 (2002 figures are not available) to €3,757,000.

4. These figures show the executed budget and only include federal expenditures and exclude some major items, in particular the costs of prosecution and imprisonment. It is usually assumed that state and local governments spend as much as the federal government. Total national expenditures, dominated by enforcement, are probably around $35 billion.

5. Figure includes expenditures for prevention, treatment and harm reduction.

In all countries where we found information on drug policy expenditures – from actual calculations to rough estimates – the biggest share of the budget is spent on drug supply reduction. For Australia it is stated that the majority of expenditure is enforcement-related, while harm reduction accounted for only 2% of policy spending. Still, in the National Drug Strategy 2004-2009 it is stated that, since its inception, the basis of drug policy is harm minimisation, i.e., a balanced approach including demand reduction, supply reduction and harm reduction.

3.3.1 Supply reduction

- *Many countries show a trend to a more tough, punitive approach to production and trafficking and at the same time a more lenient, health-oriented approach to use and possession of small quantities for personal use.*
- *Developing and transitional countries are following this trend.*

For supply reduction, involving measures against production, trafficking and retail, we selected seizure data (number of seizures and quantities seized) and data on arrests for drug law-related offences as indicators. These data are available for many countries, but they do not always specify the substances involved and the underlying offence, e.g., whether it is related to production, trafficking, dealing or consumption. We also looked into imprisonment figures for drug law-related offences. Yet only in (some) Western countries are these data collected systematically, and specific information on the underlying offences is even more rare. Of course, here one also has to take into account the differences in methods and quality of data collection in different countries mentioned in earlier chapters. Where possible we singled out data for arrests for drug use and possession of small quantities for personal use, as there are countries where drug use as such is not regarded as a criminal offence.

There are hardly any quantitative data on specific measures taken against production, trafficking and retail. Comparing production countries with regards to measures taken does not make much sense as one would have to take into account the extent of the production, the differences between the production of the four substances studies (how to compare crop eradication against coca cultivation with dismantling laboratories targeting Ecstasy production), country specifics (e.g. densely populated, urban vs. unpopulated, rural), the budget available and the effectiveness/efficiency and quality of the measures taken. Also for trafficking (and retail) comparable information on the measures taken is unavailable. Hence, we decided to confine ourselves to giving some narrative account and analysis of measures taken, based on available reports and expert judgement.

3.3.1.1 Policy priorities

Policy documents from the majority of countries in our sample show that there is general agreement on the key issues of drug supply reduction. In almost all countries the fight against production, trafficking, dealing and, in a number of cases, also consumption of illicit drugs is considered a priority. Examination of reports from international bodies and organisations like UNODC and EMCDDA supports this impression for countries other than those in our sample. This may be just rhetoric in part but aside from statements in policy papers one can identify in some countries a trend towards putting more effort into fighting production and trafficking and to tightening the drug law provisions, in particular against trafficking. One of the countries choosing a more strict approach to trafficking offences is the United Kingdom, including a minimum penalty for a third conviction for trafficking in Class A drugs and a maximum penalty of life imprisonment for trafficking in Class A drugs, while trafficking of Class B and C drugs can attract a penalty of up to 14 years in prison. Besides the decision to have tougher legal provisions, seizure and arrest figures and, where available, data on expenditure, prove that countries invest substantial amounts of money in supply reduction. In countries where we found information on drug policy expenditures, the largest part of the budget is allocated to drug supply reduction (see table 4).

Along with this trend towards a more punitive approach to production, trafficking and dealing, one can see a moderation in the policy towards use and the possession of small quantities for personal use. In several countries drug use is no longer listed as an offence in drug law. In the Netherlands and the United Kingdom this law change was introduced in the seventies. The United Kingdom Misuse of Drugs Act of 1971 states that drug use per se is not an offence but it is the possession of the drug, which constitutes an offence. As in the Netherlands the severity of penalties for the unlawful possession of drugs differs per type of drug. In the United Kingdom possession of Class A drugs such as heroin or cocaine is punished more severely than possession of a Class B or C drug. In countries like the Czech Republic and Portugal, decriminalisation of drug use has been introduced into drug law in the past decade.

In Portugal the drug law change in 2001 included decriminalising illicit drug use but maintains drug use as illicit behaviour. However, for a person caught in possession of a quantity of drugs for personal use (established by law), sanctions can be applied, but the main objective is to explore the need for treatment and to promote recovery. This health- rather than penalty-oriented attitude towards possession of small quantities can also be found in the countries, which opted for fully decriminalising consumption. Where penalties are applied they are generally administrative sanctions (a fine or warning) as for instance in the Czech Republic.

Transitional and developing countries have started to follow this line. The Russian Federation, Brazil, Mexico and India have all reduced penalties for consumption and possession of small quantities for personal use. In the Russian Federation the use of drugs is only an administrative offence since 2004. In Brazil the political decision to change the law in favour of a less strict approach to possession of small quantities seems to lack support by the judiciary system. We received reports that courts still adhere to a tougher approach.

3.3.1.2 Seizures

We have already dealt with seizures as an indicator for trafficking. However, number and quantities of seizures, being outcomes of measures taken against production, trafficking and retail, are more powerful indicators for supply reduction measures. Still, the limitations mentioned earlier should be borne in mind.

The chapter on supply made clear that there are major differences between countries with regard to drugs seizures. This is due to different factors like the specifics of the drug problem in a particular country, whether it has a trafficking rather than a consumption problem, what drugs are used in the country, etc. Yet, when using seizures as an indicator for supply reduction measures one obtains a less confusing picture. Number of seizures and quantities seized mirror relatively well the drug supply reduction policy efforts in a country. Seizure data underpin that in the past decade different countries put more effort in bringing down production and in particular trafficking.

In many countries drug seizures have increased in recent years. We already mentioned Brazil and Turkey in the drug supply chapter. The United Kingdom is another example where, in particular, an increase of heroin, cocaine and Ecstasy seizures (in number of seizures and quantities seized) has been reported for the period from 1998 to 2004. In Portugal the increase of seized quantities of cocaine might reflect the prioritising of measures against cocaine transhipment from Western African countries to other countries in Europe. In Hungary the number of seizures of heroin, cocaine and amphetamines has been increasing continuously in recent years (till 2006).

3.3.1.3 Drug-law offences and arrests

- *The majority of arrests in most countries are related to use and possession.*
- *The biggest share of drug law arrests is related to cannabis offences.*

The increasing number of drug law-related arrests in several countries gives strength to the impression that supply reduction measures gained priority in recent years. This trend can be identified in Western and in transitional countries. In Canada drug arrest rates reached an all-time high in 2002. In many EU countries drug law offences rose in the past decade. Also for transitional countries like the Russian Federation, China and India one finds reports of a rise in numbers of arrests.

There are of course many factors possibly contributing to raising arrest numbers. In countries like India and the Russian Federation the growing market might lead to an increase in efforts. In Turkey increasing arrest figures might reflect the adaptation to EU drug policy priorities as part of the preparations to accede to the EU.

There are countries diverging from this trend of growing arrest numbers. In Portugal the figures seem to be pretty stable. The United Kingdom even reports a falling trend.

Yet there is more to say about these trends. For the countries specifying their arrest data the bulk of arrests is related to use and possession. Again there are diverging countries like Czech Republic, the Netherlands and Portugal (see table 5 below).

Table 5: drug-law offences for use/possession and dealing/trafficking

	1998	2005	Expert judgement	2005 Use + possession for use	2005 Dealing + trafficking
Czech Republic	1,530	2,128		7.8%	92.2%
Hungary	6,670	7,616		91.7%	8.3%
India			prosecutions / convictions nearly doubled since 2002		
Netherlands	12,616	20,548		30.9%	68.8%
Portugal	11,395	11,825		52.9%	47.1%
Sweden	11,490	18,844		86.1%	13.9%
Russian Federation			Reported increase of drug-law offences		
South Africa			Reported strong increase 0f drug-law offences		
Switzerland	63,220[1]	56,342[1] (2006)		83% (2006)	15%[2] (2006)
Turkey	8,360 (2002)	13,229		48.0%	52.0%
United Kingdom	130,643	122,459 (2004)	Drug-law offences rising till 1998	86.4%	13.6%

1. Drug use offences, including cases linked with dealing and/or trafficking

2. 2% for 'unknown offences'

It can also be taken from the data that, in many countries, the biggest share of drug law arrests is related to cannabis offences. In Canada the overall rate of drug offences was clearly driven by cannabis offences, which accounted for about 6 in 10 drug offences. Possession of cannabis, which comprised three quarters of all cannabis offences in 2007, rose 6%. In Sweden 35.2% of drug law-related convictions in 2004 were for cannabis cases versus 33% for amphetamines and 8.3% for heroin. It is reported that "over the past 10 years there has been a shift in the proportions accounted for by cannabis and amphetamines respectively, with cannabis now being the most common substance in criminal convictions".

3.3.1.4 Measures targeting production and trafficking

- *Measures against production (crop eradication for poppy and coca, dismantling of laboratories for ATS) increased substantially in the past decade; for cannabis we lack solid data.*
- *Available data do not allow solid estimation of quantities produced.*
- *Measures against production and trafficking can result in reduction of production and trafficking on a national level, but cannot reduce production and trafficking on a global level.*

There is a variety of measures taken against production and trafficking. Key measures against production are crop eradication (targeting cultivation of opium poppy, coca and cannabis) and dismantling laboratories (targeting production opiate, cocaine and ATS). Actions against trafficking vary from routine controls of customs and police to targeted programmes. There is not much information on the actual measures taken in a country against production and trafficking, except some narratives. However, there are data on the effect of the measures taken. For trafficking, seizure data indicate the quantities intercepted. For production, there are data available on the quantities eradicated and the laboratories dismantled.

For opium poppy eradication UNODC reports an increase for Afghanistan in the past 10 years.[11] Eradication in Colombia is reported to have fallen between 1998 and 2006.[12] Eradication data on Mexico show fluctuations in the range between 15,000 and 20,000 hectares between 1995 and 2006. 2007 shows a drop to 11,046 hectares. Data on dismantling opiate laboratories seem to be less well documented than data on opium poppy crop eradication. UNODC's World Drug Report gives data only for 2006 on a limited number of countries reporting dismantling. Afghanistan and the Russian Federation play a key role here: Afghanistan reports 269 destroyed laboratories, the Russian Federation 225. Despite these efforts, the total area under illicit opium poppy cultivation is reported to have increased in 2007 by 17% (UNODC, 2008).

Coca bush eradication in Colombia increased substantially in the past decade. Manual eradication rose from 3,126 hectares in 1998 to 66,805 in 2007; eradication by spraying went up from 66,029 hectares in 1998 to 153,134 in 2007 (having reached its peak in 2006 with 172,026 hectares). In 2006 6,390 coca processing laboratories were reported to have been destroyed worldwide (99% of them in Colombia, Bolivia and Peru) against 5,901 in 2006. The global potential production of cocaine is reported stable by UNODC (UNODC, 2008).

The number of ATS laboratories (all sizes) dismantled worldwide increased substantially in the last decade.[13] As ATS production is spread over many countries and considerable shifts between production countries appeared in recent years, it is not possible to judge whether global production has increased or decreased.

Systematic, well-documented information on global cannabis eradication and its trends is lacking. Only some countries report eradication data. The data they report are hard to compile. Eradication is sometimes reported in megatons (mt) sometimes in number of plants destroyed. From the available data one can see that some countries have increased their efforts to reduce production. This seems to be true for, among others, the United States, Mexico and the Netherlands. However, as already mentioned in the chapter on supply, cannabis production is spread over many countries and is quite diverse, from small-scale home growing to large-scale plantation cultivation. This impedes a solid estimation of (trends in) eradication efforts and of quantities produced.

Moreover, all available information on crop eradication and dismantling of laboratories should be viewed with caution. It is, for instance, difficult to find reliable data on crop eradication programmes of the poppy plant, partly because the production areas quite often change. One problem for estimating the impact of crop eradication of coca bush for the cocaine market is that the proportion of cocaine extracted from the crops differs considerably. Paoli et al point at four characteristics of Colombian production that explain the difficulties in developing estimates, i.e., ill-defined growing seasons, reduced field sizes due to eradication action, frequent cloudy skies hampering satellite detection and variation of growing cycles across regions, sometimes making two crops per year possible (Paoli et al., in press).

11 from 400 hectares in 1999 to 19,047 hectares in 2007 (5,103 hectares in 2005 and 21,430 hectares in 2003).

12 from 2,901 hectares in 1998 to 1,929 in 2006 showing substantial fluctuations in the years before (from 1995 onwards).

13 In 2006 8,245 destructed laboratories were reported against 1,868 in 1998 (with a peak of 18,639 in 2004). This figure includes all sizes of laboratories, i.e., also kitchen laboratories. The numbers for the United States show a rather linear development from 6,832 in 2006 against 1,604 in 1998 (with a peak of 17,199 in 2004). Some ATS-producing countries from our sample show more fluctuation in the same time span, like Mexico (6 in 1998 against 24 in 2006) and Canada (2 in 1998 against 23 in 2006). In the Czech Republic the number of dismantled ATS laboratories increased in growing steps per year from 19 in 1998 to 418 in 2006.

With regard to dismantling laboratories one problem is that we generally have information on numbers of destroyed laboratories but we lack information on the size of the installations and on their production quantities. This is particularly true for opiate laboratories, as UNODC explicitly states in the World Drug Report 2008 (UNODC, 2008).

Another issue is the broader impact of measures taken. There are indications that successful measures against production or trafficking in one country does not result in reduced production, reduced trafficking or reduced availability for consumption. For instance one can find signs that ATS production is declining in some countries, e.g., the Netherlands, Belgium and Germany, but there are at the same time signs that the production is increasing in other countries and there are no signs that the availability is decreasing. The falling prices for instance in the EU can be taken as an indication for the latter (Available: http://www.emcdda.europa.eu/stats08/pppfig1, last accessed 19 December 2008).

For coca cultivation in Colombia, the Mini Dublin Group states that "(...) this significant progress in the eradication of illicit cultivations in Colombia could be counter-acted in case of a displacement in the production of coca leaf by the neighbour countries' production, especially Peru, Bolivia and Equador" (Mini Dublin Group, 2008).

The slight decrease in Colombian cocaine production in 2007[14] is indeed compensated by the increase in cocaine production in Bolivia[15] and Peru[16]. Moreover, there are no signs of an increase in the price of cocaine in the consumption countries. Both in the United States and the European Union the retail price of cocaine has fallen substantially.

Another example is the shift in cocaine trafficking routes to Europe from North to South, showing that prohibition might have had an effect on the routing of the trade. The Netherlands Antilles is conveniently located for Colombian traffickers shipping to Europe; it has many direct flights to one of Europe's busiest airports, Schiphol in Amsterdam. In response to evidence of growing trafficking of cocaine, primarily from Curacao to the Amsterdam airport, the Netherlands government implemented a 100 percent search policy for airline passengers in Curacao in March 2004 (United Nations Office on Drugs and Crime and World Bank, 2007). Whereas cocaine seizures in the Netherlands Antilles had not exceeded 1.3 tons before 2003, in 2004 they reached 9 tons, a remarkable figure for a jurisdiction with fewer than 200,000 inhabitants; the U.S. seizes only about 150 tons. Shipments through Schiphol airport have fallen sharply.

Very probably this contributed to the opening of new trafficking routes from South America to Europe via West Africa, for instance through Guinea-Bissau and Ghana (Sullivan 2008).

3.3.2 Demand reduction

- *School-based drug prevention and abstinence-oriented drug treatment have good coverage in Western and advanced transitional countries; in other transitional and developing countries they are also becoming increasingly common.*
- *In drug prevention and drug treatment a growing emphasis is placed on evidence-based programmes.*
- *There are major differences between countries regarding approaches, coverage and quality of programmes.*

For drug prevention we selected two indicators: one is the availability and coverage of school-based drug prevention programmes in a country; the other is the implementation, coverage and objectives of mass media drug prevention campaigns. We chose the latter because they are popular among policy makers, politicians and the general public, despite the fact that these campaigns have been proven to have a very limited effect (with regards to impact on actual behaviour). It might be their visibility that makes them appealing to politicians, or that they are an easy way of showing that they are paying attention and taking action. In addition, we collected information on other prevention programmes implemented in different countries.

For drug treatment we used a cluster of indicators, like the availability and coverage of different treatment programmes. We differentiated between abstinence-oriented treatment and OST[17], in-patient and out-patient treatment programmes and voluntary and mandatory treatment. We also looked for specific information on treatment of problem use for each of the four substances selected.

14 to 600 mt vs. 640 mt in 2004 and 2005 and 610 mt in 2006.
15 104 mt in 2007 vs. 98 mt in 2004, 80 mt in 2005 and 94 mt in 2006.
16 290 mt in 2007 vs. 270 mt in 2004, 260 mt in 2005 and 280 mt in 2006.
17 We deal with OST both under drug treatment and under harm reduction. In the chapter on drug treatment we deal with the treatment aspects of OST; in the chapter on harm reduction we discuss harm reduction aspects of OST.

In nearly all of the countries in our sample drug demand reduction is considered as a cornerstone of drug policy. Together with drug supply reduction it is seen as the basis for forming the envisaged balanced approach. A widely-shared view – not only among politicians and policy makers but also among the media and general public – is that drug prevention programmes, especially understood as 'primary', abstinence-oriented prevention and abstinence-oriented treatment, are essential in reducing the drug use problem. Abstinence is assumed to be the best possible objective of demand reduction.

3.3.2.1 Prevention

- *Change of paradigm: drug prevention not only focusing on abstinence but also on limiting possible health damage recognising wide-spread (experimental) use of drugs among young people.*
- *An increased – though still, in comparison with supply reduction, very modest - budget for drug prevention in many countries.*

It is not just rhetoric of drug strategies that drug prevention is a priority in most countries. The fact that drug prevention programmes are widespread in nearly all countries demonstrates growing investment in this sector. An increase in drug prevention programmes is in some countries even stipulated by law - in Portugal, for example. Drug education programmes in schools operate in all of the countries in our sample, except for Colombia and Mexico. In the latter, school-based programmes directed at school children and university students to prevent drug-related crime and drug dependence were operative from 2004-2006. Colombia, on the other hand, seems to have no school-based drug prevention. There are some general life-skill programmes focussing on health promotion in general, but hardly any structural drug prevention programmes. Some programmes were financed by third countries and international organisations; when this funding stops, however, the programmes are discontinued.

School-based drug prevention has good coverage and a long tradition not only in Western countries; in advanced transitional countries like the Czech Republic and Hungary, and also, for instance, in South Africa, these programmes have been in place for many years. In other countries, such as Brazil, drug education in schools has developed strongly over the past decade and is now quite common. Moreover, telephone help lines (generally covering not only prevention but also advice in case of drug problems) and community health work have started to develop. In China, schools are nowadays obliged to have drug education in their curriculum.

In the Russian Federation drug prevention programmes have expanded over the years and school-based drug prevention is now quite common. In addition to this there has been an increase in mass media campaigns and telephone helplines serving to aid prevention. In India drug prevention still is rather limited; in a number of regions some school-based programmes have been introduced in the past decade.

Drug prevention in schools may be common in the vast majority of countries, but there are major differences between (but also within) countries with regards to models or approaches, coverage and quality of the programmes. In some countries the primary focus is on transferring knowledge; in others, generally in the more advanced countries, a broader approach is taken in which enhancing life skills is one of the key issues. The Western world, and also some transitional countries, have achieved a nationwide coverage of school-based programmes (e.g., Switzerland, the Netherlands, the United States, Portugal, the Czech Republic and Hungary). In nearly all of the other countries studied one can see increasing investment resulting in enhanced coverage.

Many countries also use mass media campaigns in their drug prevention efforts. These campaigns vary substantially in target groups, objectives and media used. There are campaigns targeting young people in general, with the aim of preventing drug use. One example of this is a campaign in China using celebrities (movie stars) as role models in a general anti-drug programme based on the traditional primary prevention concept: to prevent young people from ever using drugs. Some campaigns, such as 'FRANK' in England, focus on communication programmes, providing information and advice to young people and their families. There are mass media campaigns aimed at agenda-setting and raising awareness. One example of this was a cannabis campaign in the Netherlands aimed at stimulating parents to pick up information brochures (made available in post offices and other public services) and to talk with their children about cannabis use.

As well as a universal drug prevention approach in mass media campaigns, some countries also choose for a more narrow-casting approach targeting specific groups, known as selective and indicated prevention approaches. Selective prevention is directed to so-called risk or vulnerable groups; indicated prevention focuses on groups where (experimenting) drug use

is occurring. These programmes are not so much mass media campaigns, but more tailor-made interventions consisting of a mix of approaches. Indicated prevention also includes information campaigns on the risks associated with drug use, as well as information on safer injecting. Examples of these campaigns can be found in many EU Member States. They are generally part of a broad mix of universal, selective and indicated prevention efforts.

This can be seen as sign of a paradigm change: drug prevention not only focusing on abstinence but also on limiting possible damage to health. The old paradigm drug prevention – especially so-called primary prevention, but also secondary prevention addressing specific target groups – was clearly abstinence-oriented, aimed at protecting young people against drug use and preventing them from ever using a drug. Monitoring data (LTP, LYP and also last month prevalence) reveal that experimental and – to a lesser degree – regular use of legal and illegal substances are widespread among young people. Recognition of these facts resulted in the introduction of a new concept of drug prevention (primarily in Western countries) that would distinguish between universal, selective and indicated prevention, and include the objective of limiting or reducing drug use-related health damage.

A growing number of countries has started to develop a stepped drug prevention approach, going from supporting abstinence to delaying onset, to encouraging mindful / sensible use of drugs and reduction of frequency / dosage, and limiting possible health damage. Moreover, one can see a move from rather isolated preventive interventions to a more integrative approach, focusing on different areas of life (school, home, leisure time): addressing knowledge (full, factual and non-judgemental information), attitude and general life skills; embedding drug prevention in a broader framework of health promotion, youth culture and lifestyle, involving various stakeholders (health / drugs services, schools, parents. club / pub owners and personnel) and the community; and focusing on legal and illegal substances. Examples for this paradigm change can be found in Australia, the United Kingdom, the Netherlands and Switzerland.

3.3.2.2 Treatment

- *Opiate substitution treatment is today available in most of the countries in our sample, though coverage and the substances used differ considerably.*
- *Diversion (drug treatment enforced by a court sentence as an alternative to a prison sentence) is an option available in nearly all countries.*
- *In some transitional and most developing countries access to treatment is impeded by the fact that patients have to pay for the service.*

Like drug prevention, abstinence-oriented treatment is a priority in most of the countries in our sample. Nearly all countries invest substantially in drug-free treatment, resulting in generally good availability.

As with drug prevention there are major differences between the models and approaches used and the coverage and quality of the treatment programmes actually realised. In some countries (e.g., the Netherlands and the United Kingdom) there is a tendency towards more out-patient, short-term treatment, whilst other countries still favour long-term in-patient treatment (e.g., the Russian Federation). Access to treatment is sometimes impeded by the fact that patients have to pay for the service. In transitional and developing countries in particular, nearly all drug treatment is offered by private clinics and has to be paid for by the patient; many people cannot afford this. The problem is acute in Brazil. In the Russian Federation there is – aside from treatment programmes in private clinics – some standard treatment in state hospitals or health services that are free. However, state of the art addiction treatment in the Russian Federation is generally only provided by private health services.

In the majority of countries, treatment is voluntary; in a very small number of countries treatment can be mandatory for those diagnosed as drug-dependent (in China, for instance, and also in Sweden). Drug treatment enforced by a court sentence as an alternative to a prison sentence is an option available in nearly all countries. This option is generally available for drug law-related crimes (i.e., possession of small quantities or use) and acquisition crime. Hungary, Canada and the U.K. are countries in which these so-called diversion schemes have been available for many years. In India and Turkey this option has been introduced in recent years. The underlying idea is that drug dependence is an illness rather than a crime. Generally, diversion is only possible under certain conditions, e.g., only for non-violent offenders.

In some countries, for instance in the United Kingdom, the United States and Canada, diversion schemes are linked to so-called drug (treatment) courts (DTCs). These specialised courts were initiated as a type of coercive treatment. The first

began in Canada in 1998 and the DTCs today are still reserved for non-violent offenders. A recent study showed that only a fraction of defendants in the United States is handled by drug courts (Bhati et al., 2008).

Available treatment programmes vary considerably. Besides differences in treatment duration and in-patient and out-patient options, there are also different models, like therapeutic schools, for instance. The so-called therapeutic community is a frequently used but not a very standardised model. There are major differences among these communities, from elaborate treatment programmes run by professionals to religion-based communes run mainly by volunteers. The latter can often be found in transitional countries like the Russian Federation, but also in some Southern European countries. A more professional approach to therapeutic communities can be found in some Western countries, for instance in Portugal, where some certified communities exist. In other Western countries, e.g., in the Netherlands, therapeutic communities have more or less disappeared, mainly due to doubts about their effectiveness.

Also in the field of drug treatment - as with drug prevention – there is growing emphasis on evidence-based programmes. In most Western countries one can see a turn towards treatment programmes that have proven to be effective.

In the majority of the selected countries the biggest share of the available treatment is still for problem opiate users. Now that problem use is becoming more common among users of cannabis, cocaine and ATS, treatment programmes are being developed to take into account the specific characteristics of these substances. These new treatment programmes can be found, again, especially in Western countries, e.g., in the United Kingdom and Australia. In the United States both cocaine and marijuana already account for more treatment slots than opiates.

The impression that drug treatment primarily targets problem opiate use might be influenced by the fact that OST is frequently subsumed under drug treatment. Although OST is also regarded as a harm reduction measure we decided to deal with it in the treatment chapter as it is, by nature, medical treatment. OST has become more common and more accepted in the past decade after long years of heated debate. In the United Kingdom and the Netherlands OST programmes started in the late seventies. In many other countries (e.g. in France and Germany) OST was first rejected (in the eighties), and criticised for what some people considered as replacing one drug with another. In subsequent years OST was introduced in many countries all over the world. Nowadays it is available in 26 of the 27 EU Member States and is recommended as a vital element of demand and harm reduction by international bodies such as WHO, UNAIDS and UNODC (WHO/UNODC/UNAIDS, 2004a). It is one of the interventions promoted in the recommendation by the Council of the European Union on the prevention and reduction of health-related harm associated with drug dependence (Council of the European Union, 2003).

OST is available in nearly all countries in our sample. However, coverage and the substances used differ largely. In most Western and advanced transitional countries (e.g., Australia, Canada, Hungary and the Czech Republic) OST is a common treatment, covering most parts of the country. In the majority of these countries buprenorphine has become available as well as methadone in the past decade. Recently, Suboxone has also been introduced into some countries (Australia, for example). Generally all this medication is for oral intake. In the United Kingdom methadone is also available, on a limited basis, as injectable medication. Finally, Switzerland, the United Kingdom and the Netherlands all have programmes for medical prescription of heroin. Canada also endorsed experiments with medical heroin prescription, but these programmes remain highly controversial.

OST is increasingly adopted by transitional and developing countries. For instance, in China one can observe a considerable increase in the number of methadone maintenance treatment clinics (and other harm reduction services) from 2005 on. In India OST is available in some regions, prescribing buprenorphine; methadone prescription is not permitted by law. In Brazil and Mexico OST is hardly available; neither of these two countries has a major heroin problem. In the Russian Federation, which does have a major heroin problem, OST in general is banned by law. Also in Turkey OST is not (yet) available.

In transitional and developing countries OST is often part of private medical services, meaning that patients have to pay for the treatment. This results, again, in limited access, as many people cannot afford the treatment costs.

Overall, when looking at treatment available in different countries, one can observe the same picture as in other fields: Western countries have access to a differentiated system that offers a wide variety of treatment options: short-term and long-term, out-patient and in-patient, abstinence- and maintenance-oriented. Developing and transitional countries show a growing coverage and differentiation of treatment programmes.

3.3.3 Harm reduction

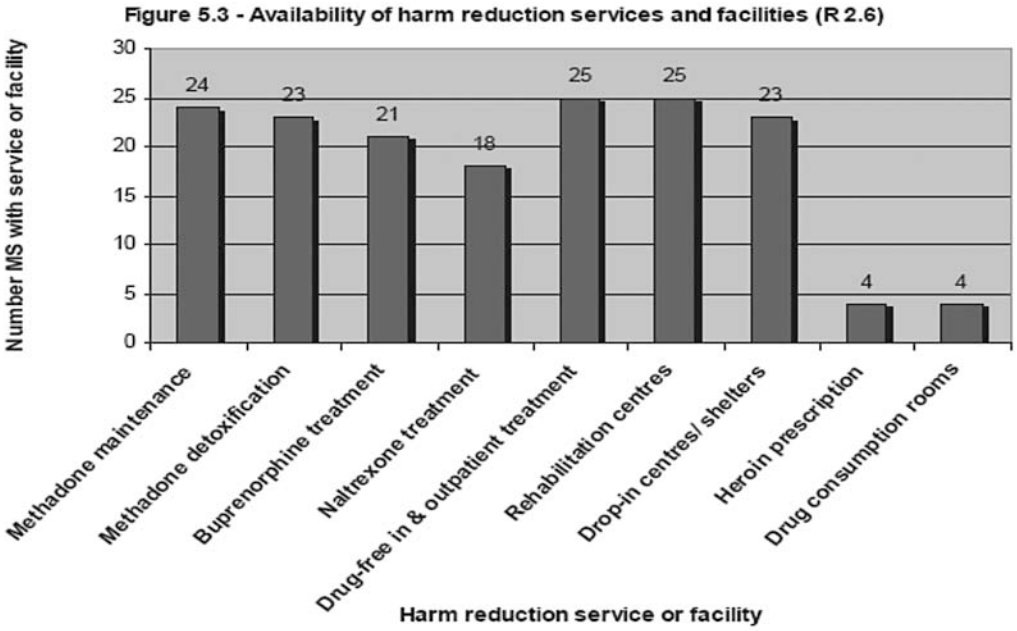
- *In the past decade a trend has developed in all regions of the world in favour of harm reduction policies. Harm reduction has become well accepted in many countries throughout the world.*
- *From an exceptional and controversial approach, harm reduction has been transformed in some parts of the world into mainstream drug policy, as can be seen in the EU example.*
- *In the United States, formal (federal) policy statements clearly reject harm reduction. However, harm reduction services are available in many states and cities. OST (methadone) has been available for decades.*
- *In transitional and developing countries harm reduction is 'under construction', a development fuelled by the threat of a HIV epidemic among IDUs. In some countries (Turkey and the Russian Federation) the existing law does not allow OST.*

For harm reduction measures (addressing drug users) we used availability and coverage of harm reduction services as indicators. Linked to the indicators selected for drug harm (number of HIV positive drug users and drug-related deaths by overdose) we chose: (needle and) syringe exchange outlets or projects; overdose treatment with Naloxone (by users); safer use education (including overdose prevention); outreach work among (injecting) drug users; and drop-in centres/ low-threshold facilities for (homeless) drug users.

3.3.3.1 Reducing harmful consequences for drug users

Between 1998 and 2007, harm reduction measures became more common in many countries, extending the trend, which started in the eighties. To date, all EU Member States have adopted harm reduction as part of their national drugs policy. Certain harm reduction programmes, most notably OST, are implemented in all Member States except for Cyprus. Others, like needle and syringe exchange, are available in the vast majority.

Figure 1: Availability of harm reduction services in EU countries in 2005 (25 countries)



(Van der Gouwe et al., 2006)

The United Kingdom and the Netherlands introduced harm reduction in the seventies and have since reached a countrywide coverage of harm reduction measures. In the past decade many other EU Member States have invested substantially in a diverse array of harm reduction programmes that reach a substantial portion of the potential clients. Portugal serves as a good example. Harm reduction services started to develop in the early nineties, the first syringe exchange programmes in 1993. Developing harm reduction programmes services like SEP, outreach work and OST is a priority in the National Drug Strategies 1999-2004 and 2005-2012. The implementation of these programmes has been secured by legal provisions defining the general framework of harm reduction policies and establishing conditions for different harm reduction services. The availability of harm reduction programmes has increased substantially in the past ten years.

Sweden is another interesting example. The 'National action plan on drugs (2002–05)' does not use the phrase 'harm reduction' and, overall, the plan follows a restrictive policy, focused on reducing drug use. However, the Drugs Commission states that drug users can be offered help without the requirement of aiming at an immediate and/or long-lasting drug-free life. Still, the Commission advises against legal prescription of heroin, safe injection rooms and other low-threshold programmes. In 2006, the government introduced a law, which, in effect, allows each of the 21 regions in Sweden to introduce needle exchange programmes. Today, harm reduction services are still far from common and still not available in all regions, but over the past decade availability has increased.

New EU Member States like Hungary and the Czech Republic also started, in the early nineties, to develop harm reduction services. Before 2000, harm reduction in Hungary was limited to sporadic regional initiatives. Only in recent years has harm reduction also received professional and drug policy support, among others by the National Drugs Strategy 2000 – 2009, which stipulated that harm reduction programmes have to be introduced. Today, programmes like SEP, outreach work and safer use education are common in most of the country. In the Czech Republic a network of low-threshold facilities was already established in 1992, including low-threshold centres, outreach work and SEP. Since then the number and coverage of harm reduction services has increased steadily. The number of SEPs grew from 42 in 1998 (486,600 needles) to 90 in 2006 (3,868,880 needles). At present programmes operate in all regions of the country.

In other Western countries from our sample – Australia, Canada and Switzerland, for instance – harm reduction has been fairly common for many years and is mentioned as a key element of drug policy in policy papers. Australia and Switzerland have been among the world leaders in this field; Canada has been more ambivalent. In Canada the first SEP opened in 1989. In June 2003 Health Canada approved an exemption from the application of the Controlled Drugs and Substances Act to allow the launch of a pilot project with a supervised injection site. However, the federal government tried to prevent renewal of this programme in 2008 on grounds that can reasonably be described as political (Wood et al., 2008). The federal government also permitted experiments with medical heroin prescription (heroin-maintenance therapy), and harm reduction interventions were introduced in prisons. Finally, whereas harm reduction was initially directed exclusively towards injecting drug use, its focus has widened in recent years. However, the current federal government, formed in 2006, is not enthusiastic about harm reduction.

In the United States the picture is less clear. The federal government energetically opposes harm reduction, placing, for instance, a ban on federal funding for syringe exchange programmes in 1988. The ample funds for HIV prevention through the President's Emergency Plan for AIDS Relief (PEPFAR) cannot be used for needle exchange programmes. OST can be supported by these funds but PEPFAR guidelines only allow OST to be provided to people living with HIV. Yet despite the formal (federal) policy statements against harm reduction, one can find harm reduction in practice in many states and cities. OST (mainly methadone maintenance) has been available for decades. Several states introduced legislation allowing syringe exchange and provide funding for it. In some states it is not explicitly authorised, but is tolerated by authorities. As of November 2007, a total of 185 syringe exchange programmes were operating in thirty-six states and the District of Columbia. In 2006 the North American Syringe Exchange Network (NASEN) recorded 166 registered syringe exchange programmes in the United States, compared with 68 in 1994/1995, 131 in 1998 and 174 in 2004. Overall, harm reduction services have become more widely available in the past decade.

In transitional and developing countries harm reduction is 'under construction'. One factor fuelling the introduction of harm reduction is the threat of a HIV epidemic among IDUs. Availability and coverage are generally limited to some measures and some regions, and within countries one can find substantial regional differences. In a few countries legal obstacles exist for specific harm reduction measures.

In the Russian Federation, syringe exchange, outreach work and safer use education have become more common in the past decade. The existing laws do not allow OST. More than ten years ago Brazil began to develop a harm reduction policy and harm reduction programmes in response to an increasing HIV/AIDS problem; the first SEP started in 1994. Still, the focus is more on HIV prevention than on general harm reduction. Syringe exchange and outreach work are currently common interventions. In Mexico, harm reduction is a relatively new concept. The few programmes that are in place were initiated by NGOs and, in general, are tolerated but rarely promoted by the authorities. There have even been reports of the existence of drug consumption facilities, but most of these seem to have been demolished by police actions as part of the government's anti-drug policy from 2000 to 2004.

In China harm reduction programmes were developed in the past decade in a number of regions. SARS is reported to have been one of the triggers, leading to a focus on HIV prevention. In India, HIV has been considered a problem, mainly in the

North East, for some years. Only recently was harm reduction put to the top of the agenda, as it became clear that HIV was a major issue for the entire country, despite last year's substantial downward revision in the estimate of HIV infections in India. The National Aids Control Organization of the Ministry of Health now fully supports and finances harm reduction interventions like OST (only buprenorphine is permitted by law), day care centres and drop-in centres, SEP, outreach work, overdose treatment and safer use education. The availability of harm reduction programmes has increased in the past ten years, but the coverage is still limited to a few major cities and North-East India.

In Turkey, harm reduction programmes as such do not exist, but discussion on introducing these programmes has begun. A harm reduction policy is awaiting approval by the government but, as in many other countries, it still faces substantial opposition. However, there are reports of some harm reduction interventions at local level, such as a syringe exchange programme in Istanbul.

In South Africa harm reduction (in particular syringe exchange) is still culturally unacceptable, but some OST programmes are reported to exist. The Central Drug Authority advocated and recommended the adoption of an integrated strategy to combat the drug problem including, besides supply and demand reduction, harm reduction. The report was signed and accepted by the Minister of Social Development. Still, the political debate did not result in an endorsement of harm reduction. There are some programmes targeting IDUs, like information and awareness programmes that address the link between drug use and HIV; these are in the early stages of implementation.

Colombia is the only country in our sample in which harm reduction programmes seem to be non-existent. One reason for this might be that injecting drug use is not an important issue in Colombia. There are no statistics on injecting drug use, drug-related death and drug-related HIV infections.

Overall, the past decade has demonstrated a clear trend in all regions of the world in favour of harm reduction policies. Harm reduction services have become well accepted in many countries all over the world. From an exceptional and controversial approach, harm reduction services have been converted, in some parts of the world, into mainstream, as can be seen from the EU example.

In the EU Drug Strategy 2005-2012 (European Union Drugs Strategy, 2004) and the EU Drugs Action Plans 2005-2008 (European Union Drugs Action Plan, 2005) harm reduction is mentioned as one of the basic elements of drug policy. The 2005-2008 Action Plan states, "The ultimate aim of the Action Plan is to significantly reduce the prevalence of drug use among the population and to reduce the social harm and health damage caused by the use of and trade in illicit drugs" (European Union Drugs Action Plan, 2005). Perhaps an even more important signal for change in favour of harm reduction is the fact that the Executive Director of the UNODC mentioned harm reduction as a key element of drug policy together with enforcement, prevention and treatment (Costa, 2008). With regards to programme implementation in different regions and countries, UNODC had already begun to support the development of harm reduction programmes some years ago.

Harm reduction programmes also emerged in totalitarian countries, which normally favour a harsh drug policy. Iran is one example of this. While drug dealers are sentenced to death, harm reduction programmes such as syringe exchange and OST have been introduced on a relatively large scale (Cook & Kanaef, 2008). Syringe programmes are in place, divided over 120 residential programmes and 150 peer outreach teams (in 2007). 654 centres in large parts of the country currently provide OST (methadone and buprenorphine). Harm reduction services are also available in a substantial number of prisons in Iran (Cook & Kanaef, 2008); 54 prisons (out of a total of 200 adult prisons) provide OST to incarcerated drug users, and five prisons provide access to clean injecting equipment. According to experts involved in harm reduction programmes in Iran, this is without doubt at least partly down to religious factors: drug use is seen as illness; helping the ill is an obligation according to Islamic rules.

This more general acceptance does not mean that the political debate has ended. In some countries with a long-lasting and strong harm reduction tradition one can identify signs of a 'swing-back' or a restart of the debate about the merits of harm reduction: whilst harm reduction was explicitly mentioned as constituting an element of Canadian drug policy in the first national anti-drug strategy in 1987 and in subsequent drug strategies (1992 and 2003), it disappeared from the latest drug strategy in 2007. Funding was already short in the eighties, but decreased further in the following years. Besides changes in government to generally more conservative politics, another factor seems to be dissatisfaction or disappointment among politicians. Politicians and the general public expect solutions to problems, and a drug policy including harm reduction did not seem to bring a solution, as countries are still facing substantial drug problems. This seems to lead politicians to seek change.

3.3.3.2 Reducing harmful consequences for society

It is impossible to find indicators of the harmful consequences for society that allow comparison between countries. For example, data on measures against drug-related crime (not only covering offences against drug law but also acquisition crime and drug related public nuisance) are rarely systematically collected in the countries where they are applied. As discussed in the chapter on drug-related harm, harmful consequences for society differ substantially between countries. Therefore, policy measures addressing this problem are not a common phenomenon; this means that comparability between countries is next to impossible, except for some expert judgement on the models and approaches used and the coverage and quality of the programmes realised.

In many Western countries programmes have been implemented on a neighbourhood level to reduce drug-related problems. In Australia the focus of these programmes was to reduce the risks to the community of drug offences and other drug-related crime, violence and antisocial behaviour and to reduce risk behaviours associated with drug use. In the Netherlands a key policy target is to reduce drug-related public nuisance in neighbourhoods, i.e., drug users congregating and using or dealing in the streets, and drug-use related crimes like street robbery, shoplifting and burglary. Intensive policing (i.e., special measures like banning individuals who cause nuisance from certain areas in a city), but also drop-in centres and drug consumption facilities, are examples of measures taken. Tackling nuisance caused by so-called drug tourism is a specific Dutch issue (see chapter on drug-related harm). Again, intensive policing, shorter opening times in the evening or even closing down coffee shops are examples of measures taken.

In other countries where drug trafficking-related crime and violence are major problems, tough police measures have generally been taken. Mexico is one example of this. Examples of measures mentioned in the Integral Strategy to Prevent and Combat Crime are: the merging of four federal police forces; the professionalisation of the federal police force; mechanisms to combat police corruption; and active participation of civil society in crime prevention. Measures intended to reduce drug-related criminality resulted in a more stringent militarisation of Mexican society. However, there are doubts about the effectiveness of these measures. There is criticism pointing at police corruption as the reason for their being rather ineffective. Substantial reforms of the police force would be needed for it to be more effective in counter-drug operations.

4 Concluding discussion

This chapter provides some concluding remarks and discusses implications of findings also reflecting on interrelations between drug policy measures and the drug problem.

4.1 Supply and supply reduction

Supply reduction is still of major concern as can be seen from the fact that it generally constitutes the biggest share of the drug policy budget. However, the available data suggest that the impact of supply reduction measures is limited. There are no indications of a substantial reduction in production or availability for the consumer.

The production of opiates continues to rise while cocaine production is fairly stable. The production of cannabis and ATS is spreading over a growing number of countries. For ATS, recent years have also showed considerable shifts in production countries (UNODC, 2008). Overall, there are no indications of significant reductions in production.

The available seizure figures are difficult to interpret. As mentioned above it is difficult to say whether an increase in seizures is reflecting an increase in supply or an increase in supply reduction efforts (see the drug supply and the supply reduction chapter). From the sample of countries in our study we know that many countries have intensified their supply reduction efforts. We also know that retail prices for drugs other than cannabis (for which trends are mixed across countries) are falling, indicating that supplies are not short. In conclusion, it can be said that the available data do not show that measures against trafficking reduce supply at consumer level.

At national level drug problems might have changed. The production of certain drugs is falling in a number of countries. This is, for instance, the case with opiate production in Myanmar. However, this decrease is made up by an increase in poppy cultivation in Afghanistan. The global picture is an increase in production. Coca production declines in Bolivia and Peru were accompanied by roughly equal increases in Colombia. Trafficking of cocaine through the Netherlands Antilles to the Netherlands for transhipment to other European countries decreased substantially, most probably because of the measures taken at Amsterdam airport. However, at the same time cocaine trafficking through Western African countries to Portugal for further transhipment increased considerably.

So the intended effects of supply reduction measures taken in one country seem frequently to be undercut by unintended consequences. Regions or locations of production and trafficking routes are replaced by alternatives without any significant impact on the global picture. This is just one example of unintended consequences of drug policy measures. A more comprehensive overview can be found in report 5 on the unintended negative consequences of drug policy.

Despite the extensive investments in supply reduction we did not find any publications reporting systematic evaluations. Whereas in the field of demand and harm reduction one can see a growing emphasis on the evidence-base for effectiveness of implemented approaches there seem to be hardly any studies on the effectiveness of supply reduction programmes or measures.

4.2 Demand and demand reduction

Many Countries in our sample show a stabilisation of drug use prevalence levels after a period of strong growth. This stabilisation is in line with UNODC reports on the global situation. For heroin, the evidence for Western countries was of decline, though variable across countries.

This is consistent with the normal shape of an epidemic curve. Cocaine and heroin use show a curve comparable with other epidemics. A sharp rise in prevalence is followed by a relatively stable curve with some fluctuations and, at some points, a gradual decrease. This suggests that changes in these drugs may be driven less by policy measures than by the internal dynamics of the spread of drug use. That explanation does not apply to non-addictive drugs, such as ecstasy, or even to cannabis, which is dependency creating. There are long fluctuations in cannabis prevalence, when the rate changes in one direction for a decade or more but these changes are relatively gradual in both directions. However cannabis use may well be

tied more to changes in popular culture than to policy changes, which do not show the same pattern. Cannabis use among young people became rather common in many Western countries with LTP among young people aged 30 about 50%.

Abstinence was for many years the only acceptable objective of demand reduction programmes. The past decade has shown a change in paradigm in a growing number of countries. Besides abstinence, limiting adverse health consequences has become accepted as a legitimate objective of both prevention and treatment. In a range of countries so-called prevention programmes have been developed that aim to prevent or limit drug-related health damage among young people already involved in experimenting or occasional forms of drug use. In the field of treatment, apart from OST, treatment programmes have been developed aiming at moderating drug use.

Another prominent trend in demand reduction in the past decade is working with evidence-based interventions. There is growing emphasis especially in Western countries on research establishing the effectiveness of prevention and treatment programmes and on funding only those interventions proven to be effective. Research into the effectiveness of drug prevention has taught us that some of the assumptions of frequently used prevention approaches are incorrect. From this research we know that knowledge is essential but does not result in behaviour change; we know that fear-based approaches are not effective and we know that the best school-based drug prevention programmes can, at the most, only delay the onset of drug use (Lynam et al., 1999).

With regard to treatment, considerable research has been done, for example in the United States, the United Kingdom and the Netherlands, to assess the effectiveness of different treatment programmes. The result is a strong emphasis on a stepped care approach, which starts with 'light', brief interventions and then more intensive treatment when necessary, including cognitive behavioural therapy, an approach which has proven especially effective in the treatment of problem users (Rigter et al., 2004; Van Gageldonk et al., 2006).

As stated above there is evidence of a stabilisation of drug use prevalence levels in many countries. One might attribute this to the intensification of drug demand reduction efforts and the use of proven effective approaches in the past decade. However, the increase in prevalence for some drugs in some countries, e.g. the increasing use of ATS and cocaine in some Western countries in recent years, contradicts this. As stated above, the internal dynamics of an epidemic might play a more important role in changes in drug use prevalence levels than drug policy measures. Finally, proven ineffective approaches are still relatively widely used, some of which are very popular like, for example, the DARE programme that also might contribute to the limited impact of prevention and treatment efforts.

4.3 Harm and harm reduction

The figures for drug-related harm in Western countries, with regard to health damage among drug users, also show relative stability of HIV infection and overdose. A shared feature of countries in our sample with low, stable or falling HIV and overdose prevalence rates is the availability of harm reduction programmes. Most of these countries have a relatively long tradition and good geographic coverage of harm reduction programmes. Canada is an exception. Despite introducing harm reduction programmes at the end of the eighties the prevalence of drug-related harm has been growing till recently. It seems that health oriented interventions do have a measurable impact on prevalence levels whereas use oriented interventions don't.

The past decade showed a clear trend in all regions of the world towards the use of harm reduction practices. Harm reduction programmes have been widely implemented in many countries and receive support from international organisations. Research has shown that there is good evidence for the effectiveness of harm reduction measures especially with regards to reducing infectious diseases (Institute of Medicine, 2006).

An interesting issue is the paradox of countries with stabilizing or even reducing LTP and LYP which also have growing problem use mentioned in Chapter 3.2.2 Consumption (demand). One explanation for this could be that a reducing LTP and LYP prevalence translates to a smaller prevalence of problem use only after some years. It takes some years before some experimenting or recreational users develop into problem users. Another explanation could be that harm reduction measures contribute to a relatively stable number of 'old' problem users. The Netherlands could be seen as an example in which the number of problem users seems to be stable over the years and the average age of the population is rising. The total number of problem users is increasing in the case of emerging 'new' problem users, i.e. users entering problematic stages of drug use. A stable number of 'old' problem drug users could be the result of effective harm reduction.

4.4 General policy issues

4.4.1 Harsh on supply – lenient on use

Many countries of our sample show a trend of, on the one hand, an increasingly harsh policy response towards production and trafficking and, on the other hand, a more tolerant approach to consumption and possession of small quantities for personal use, in many cases differentiating between different substances. This depenalisation of drug consumption reflects the view that problem drug use has to be seen primarily as a health issue. Treating drug use as a criminal offence is thus seen as inappropriate. Production and trafficking however are considered as serious crimes causing harm to users and society. The intensified application of a more punitive approach demonstrated by harder legal provisions and rising seizure and arrest figures in our sample of countries, underlines that this view is gaining ground.

4.4.2 Two conflicting long-term aims of drug policy

Looking into drug policy globally there is a surprising amount of agreement on the aims of drug policy and the measures to realise these aims. There is no real dissent about the essentials of supply and demand reduction. The only drug policy element, which still evokes substantial opposition from some countries, is harm reduction. The United States is one of the most vehement exponent of this opposition in the international arena. Harm reduction is still the decisive difference in drug policy. There are two conflicting overall long-term goals for drug policy. One is to *solve* the drug problem, i.e. to make society drug-free. The other is to *manage* the drug problem, i.e. to reduce, maintain or limit the growth of the drug problem and to limit or reduce the harmful consequences of drug use. These two aims still seem to mark the difference between what could be described as the two main drug policy models in the world. This is true when one looks at what is written in policy papers. The reality of the policy that is implemented differs in many cases from formal policy statements. Drug policy in the United States is a good example. Formal national policy statements clearly disregard harm reduction while some states have well-developed harm reduction policy and practices. Harm reduction services are relatively wide spread in many states.

4.4.3 Two driving forces towards harmonisation

This underlines the impression that official drug policy statements do not really tell us a lot about which policy measures are actually implemented. Often these papers are largely political rhetoric based on ideological concepts rather than the formulation of a strategy for tackling the actual drug problem a country is facing. They are commonly formulated in general terms, striving for a 'balanced and comprehensive' approach to drug problems. Sometimes they seem to be written to fulfil obligations needed to reach objectives in other policy fields rather than to actually frame the direction drug policy should take in a country. For example, countries in the process of acceding to the EU are expected to produce and adopt a national drug strategy. For this they receive support from other Member States, sometimes even in formal projects financed by the European Commission. Frequently, the EU Drug Strategy is used as the basis for this national strategy. Obviously this results in a high degree of uniformity. The mutual evaluation process of CICAD (Inter American Drug Abuse Control Commission) may have the same effect of creating more uniformity within Latin America and the Caribbean.

Another standardising factor is the work of the international fora that shape the implementation of the provisions of the international treaties. The CND, INCB and the EU Council and Commission work towards general agreement, giving guidance to policy plans and sometimes even recommending specific measures that should be taken for a successful approach to the drug problem. These forums put strong emphasis on shared efforts to tackle the drug problem. Some experts interviewed in this study referred explicitly to international pressure to comply with International Conventions as an explanation for changes in the drug laws and policy in their country.

There are two different 'driving forces' pushing towards uniformity in drug policy. One is a top-down force as described above, pressure by international bodies like UNODC/INCB, through international agreements on individual countries and pressure by strong national forces like the United States on weaker parties. Economically weaker countries are especially susceptible to this pressure. They can get economic support if they are prepared to adapt on certain issues. Some Latin American countries but also new or candidate EU Member States are good examples of this.

As drug policy is not perceived in many countries to be a priority issue, some politicians will not mind giving in on this issue in exchange for what they value as more important. Taking measures against precursors or having certain substances prohibited by drug law, especially if these are substances that are not contributing to the drug problem in a country or not of any major economic interest, is clearly less important than receiving economic support. Moreover, taking this decision frequently fits in the anti-drug ideology of politicians.

The other driving force can be understood as bottom-up power. Uniformity can emerge from a diverging policy choice made in one country that in a process of years is followed or taken over by other countries resulting in uniformity. In the field of drug policy many examples for this 'bottom-up' can be identified. One well-known example is harm reduction, which started in the late seventies in two countries, the Netherlands and the United Kingdom. After long years of vigorous debates and against the stand of powerful stakeholders, it developed into mainstream policy in the EU and in many other countries.

The acceptance of harm reduction by international bodies like the European Commission, WHO, UNAIDS and UNODC marked the start of a change from what started as a bottom-up into a top-down force, at least in Europe. In 2003 the Council of the European Union adopted a recommendation for all EU Member States to implement harm reduction measures (Council of the European Union 2003). UNAIDS, UNODC and WHO produced several documents advocating harm reduction measures (WHO/UNODC/UNAIDS, 2004a; 2004b).

Other examples of this 'bottom-up' development are so-called diversion schemes and the fact that in many countries consumption and/or possession of small quantities for personal use have been removed from the drug laws.

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Report 5

The unintended consequences of drug policies*

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* David MacDonald and Robert MacCoun provided helpful comments.

Abstract

Drug prohibition and enforcement aim to reduce the extent of drug use and the associated harms. The evidence that they succeed is heavily contested. However it is clear that prohibition and enforcement have many consequences other than the intended ones. Many of these negative consequences play a major role in the discussion of drug policy, particularly in face of weak evidence that the principal component of current policy in most countries, namely the enforcement of prohibition, does indeed much reduce drug use.

This report is a first effort to provide systematic analysis of the unintended consequences as a group. It distinguishes between those consequences that arise from prohibition per se, such as the lack of quality control, and those that are a function of the intensity and characteristics of enforcement. It identifies seven mechanisms that can generate unintended consequences: behavioural responses of participants (users, dealers and producers), behavioural responses of non-participants, market forces, programme characteristics, programme management, the inevitable effects of intended consequences and technological adaptation. The report relates this analysis to a recent discussion of the same phenomenon by the Executive Director of UNODC, showing the complementarity of the two approaches for thinking about consequences. This analysis has implications both for policy making and for assessment of policies.

1 Introduction

In most, perhaps all, areas of public policy, interventions designed to achieve one goal have effects on other goals as well; some of these unintended consequences are undesirable, others are desirable. For example, an effort to improve social protections for workers by raising mandatory retirement contributions may lead to less formal sector employment and more workers moving to the less protected informal sector jobs (a negative consequence). Or raising the minimum schooling age in order to improve productivity may lead to less crime because a high risk group of youth spends more time in school rather than on the streets (a positive consequence). Systematic evaluation of public policy, for example through cost benefit analysis, routinely takes such effects into account by requiring a listing of all the consequences of the intervention being evaluated, not just of the intended effects (e.g. Gramlich, 1990). The European Commission now requires any ex-ante impact assessments for major policy initiatives identify the potential unintended effects as well as the intended effects.

What is distinctive about policies aimed at illicit drugs is that to many observers, particularly those critical of prohibition or of highly punitive implementation of prohibition, the negative unintended consequences appear more substantial than the intended main effects (e.g. Nadelmann, 1989). For example some claim that tough enforcement of criminal laws against the possession of marijuana, intended to reduce the number of people who use marijuana, has little consequence for the prevalence of marijuana use[1] but large consequences in reducing the employment prospects of the arbitrarily selected set of marijuana users who end up convicted of a criminal offense.[2] Similarly it is asserted that the spraying of coca fields in Colombia does little if anything to lower the availability or raise the price of cocaine in the United States but causes considerable environmental damage in the areas subject to spraying. There may be unintended positive consequences; these rarely get mentioned.

There is an asymmetry here. The intended consequences, lower rates of use and harm, are almost by definition difficult to observe; they are events that did not occur. To estimate them requires the specification and measurement of a counter-factual, namely what use or harm would have been, absent the interventions. On the other hand the unintended consequences are conspicuous and readily traced to their source.

In the debate about prohibition, these unintended consequences of enforcement policies play a major role, particularly for civil society.[3] Even for the leading international drug control official, the Executive Director of the UN Office of Drugs and Crime, the unintended consequences are highly significant. In a recent much cited paper, the Executive Director identifies five broad classes of unintended consequences that should play a role in discussions of policy: creation of huge criminal black markets, policy displacement (from health to enforcement against those markets), geographic displacement, substance displacement (to less controllable drugs) and change in the way we perceive and deal with the users of illicit drugs (Costa, 2008).

The purpose of this report is to provide a systematic discussion of unintended consequences of policies aimed at reducing drug use and related problems, focused on the mechanisms that generate these consequences. There is no claim to completeness or quantitative precision, simply because the topic is not well explored, being employed primarily for debating or rhetorical purposes to date.

Chapter 1 deals with terminological issues. The following chapter presents a taxonomy of mechanisms generating the unintended consequences, which should help in integrating them into analysis of drug policy interventions. Chapter 3 relates this taxonomy to the concepts presented by Costa. Chapter 4 briefly discusses positive unintended consequences while Chapter 5 then considers the implications of the analysis for policy purposes.

1 For a review of the effects of enforcement on marijuana use, see Room et al., 2008.
2 This was an important element of the argument for removing criminal penalties for simple possession of marijuana in Western Australia in 2002. See, for example, Lenton et al., 2000.
3 An odd feature of the drug policy debate is that the unintended consequences are mostly raised by liberal critics of state policies. Hirschman (1991), in a widely cited book, argued that the identification of "perverse effects" was generally one of three strategies used by conservatives to defeat progressive measures.

2 Definitions

Unintended refers to a state of mind, an expectation. There is however not a single decision maker for these policies or interventions. To substantiate a claim of "unintended", one might refer to documents that describe the predicted and desired consequences of a programme. However many of the interventions discussed here are not the results of explicit and documented decisions. For example, a police department might increase arrest rates of cocaine dealers by dispatching more officers to a location frequently used by cocaine dealers without having to provide a specific assessment of the likely consequences of doing so. Even at the broader level of international interventions, aimed for example at opium production in Afghanistan, there is no obligation of governments to prepare, let alone publish, full assessments of the intended consequences.

Instead, we make general inferences based on agency statements on specific interventions. For example agencies discussing their decisions to increase treatment will refer to reductions in crime and in certain risk behaviours, as well as drug use, so the crime and risk effects are not unintended.[4] The funding of a new integrated drug control agency in Tajikistan is intended to cut corruption in that country's drug enforcement as well as reduce the flow of heroin to Russia, so integrity enhancement is an intended effect.

Intent and predictability need to be distinguished.[5] No policy intends to increase the spread of HIV but many analysts assert that a prohibition on syringe exchange programmes (SEP) will facilitate the spread of HIV.[6] Advocates for an SEP ban might even agree with that prediction (though this is contentious) but still claim that there are ethical reasons for the government to ban the facilitation of a banned behaviour. Thus we treat the spread of HIV as an unintended but predicted consequence of a prohibition on SEPs. Tonry (1995) makes a similar distinction in his analysis of the predictably disproportionate effects of US federal mandatory minimum penalties on African-American users and sellers, a pattern he calls "malign neglect."

Policy may be usefully defined as the explicit actions by the government, classified into laws and programmes (Kleiman, 1992). Laws can have effects even without explicit implementing programmes. Notably the decision to prohibit drugs engenders many consequences even if the enforcement is minimal.

Thus an important distinction is between consequences that arise from prohibition itself, as opposed to those resulting from specific implementing programmes. For example, prohibition itself ensures that government cannot regulate quality of the product[7] or require labelling; this effect is not much worsened by tougher enforcement.[8] More subtle is the effect on the growing of illegal drugs. Coca production in its current forms is considered environmentally damaging. The coca bush exhausts the soil relative rapidly (Leons & Sanabra, 1997) and the chemicals used to extract the alkaloid from the leaf are disposed of in damaging ways. If cocaine were legal, then it might be grown in places[9] and in forms that would lead to less environmental degradation. Thus some of the environmental damage may be seen as a UC of prohibition itself. The problem is exacerbated by efforts to eradicate, whether manual or aerial. These lead to additional clearing of the forest in vulnerable areas, as a higher acreage has to be cultivated in order to obtain a given output.

MacCoun and Reuter (2001) make that distinction in identifying the sources and bearers of over 50 specific harms associated with contemporary drugs in the United States[10]. Their analysis distinguishes three potential sources of harms: drug use itself, prohibition and enforcement. Bearers are divided into four categories: users, intimates, neighbours and society generally. Table 1 presents an abridged form of that table.

4 See for example the publications of the United Kingdom Treatment Agency such as www.nta.nhs.uk/publications/documents/nta_treatment_outcomes_what_we_need_to_know_2005_te2.pdf

5 A useful discussion of these matters, aimed at policy analysts, can be found in Bardach (2008).

6 See for example Committee on the Prevention of HIV Infection among Injecting Drug Users in high-Risk Countries (2006).

7 Efforts to provide test data on the composition of party drugs, as has been condoned by the Dutch government in recent years, is a small exception to this statement (CITE).

8 It can be argued that tougher enforcement will lead to greater dilution and hence greater variability of quality; however that is a modest change compared to the loss of quality control consequent on prohibition itself.

9 Historically, coca has been grown in Java, Formosa and Bengal under various colonial auspices in the early part of the twentieth century. Though there is no description that would allow a definite assessment of the environmental consequences, it seems likely that these would have been less sensitive areas than those currently used for clandestine coca growing.

10 The four major harm categories are health, social and economic functioning, safety and public order, and criminal justice.

Table 1: Sources and bearers of the adverse consequences of drug use and drug control

		Who bears the harm/risk						
Category	**Harm**	**Users**	**Dealers**	**Intimates**	**Employers**	**Neighbourhood**	**Society**	**Primary source of harm**
Health	Public health care costs (drug treatment, other)				x		x	Use
	Suffering due to mental illness (acute, chronic)	x		x				Use
	Addiction	x		x				Use
	HIV/other disease transmission	x		x			x	Use, illegal status
	Prevention of quality control	x						Illegal status
	Inhibition of voluntary pursuit of treatment	x		x				Enforcement
	Restriction on medicinal uses of drug						x	Illegal status
Social and economic functioning	Reduced performance, school	x		x	x		x	Use
	Reduced performance, workplace	x		x	x		x	Use
	Poor parenting, child abuse			x		x	x	Use
	Elevated dollar price of substance	x		x			x	Enforcement
	Infringement on personal liberty	x	x		x	x	x	Enforcement
	Prevention/restriction of benefits of use						x	Illegal status
Safety and public order justice	Accident victimization (work, road, etc.)	x		x	x	x	x	Use
	Property/acquisitive crime victimization			x	x	x	x	Use, enforcement
	Increased court costs						x	Enforcement
	Corruption of legal authorities						x	Enforcement
	Interference in source countries						x	Enforcement
	Strained international relations						x	Enforcement
	Stigma of criminal record, prison record	x	x	x				Enforcement

Source: abridged version of Table 6.1 in MacCoun and Reuter (2001).

Though MacCoun and Reuter do not separate intended from unintended harms, clearly many of the harms identified are unintended. This report expands the analysis to include sources of possible unintended benefits; thus we also include treatment and prevention programmes as having possibly unintended effects.

Consequences are effects on social wellbeing that are large enough to be valued by society. While few doubt that the crimes committed by drug users to support expensive habits constitute an important unintended consequence of the prohibition of heroin, other consequences that may well be predicted and articulated may simply not be large enough to be worth accounting for. For example, marijuana is used in some countries (e.g. the Netherlands) as a minor therapeutic agent for some diseases. In others, notably the United States, because the drug is so marginalised/demonised, its therapeutic potential has hardly been explored (Joy, Watson and Benson, 1999). One might then take the loss of marijuana as a drug for dealing with such medical problems as AIDS Wasting Syndrome, glaucoma and the side-effects of chemotherapy as an unintended consequence. However though in the United States this has proven a major policy battleground, the therapeutic value of the drug does not seem significant enough to include it on the list of unintended consequences.[11]

11 There is a different unintended consequence associated with the medical marijuana movement. In the United States the principal advocates for making marijuana available for therapeutic purposes have been drug policy reform groups rather than groups associated with specific medical problems. Many observers believe that the advocates' interest is primarily in easing access to the drug for recreational purposes (see Samuels, 2008). Thus prohibition may perversely have increased therapeutic availability of the drug.

3 A taxonomy of mechanisms

These consequences are of policy value for two reasons. First, they should be taken into account when policy decisions are made. Second, these unintended but predictable negative effects should be ameliorated where possible. In order to accomplish the latter, it is important to identify the sources of those consequences as well as who is affected.

Some consequences are the result of behavioural changes of participants brought on by policies. For example, tougher enforcement (whether a higher probability of arrest or a longer sentence on conviction) increases incentives for taking violent action against other market participants who might be informants.[12] Thus tougher enforcement may increase the number of killings and injuries in drug markets as a result of participant actions in response to the policy.[13]

The iconic harm reduction programme, needle exchange, is a response to a behavioural adaptation by users. If policing makes needles hard to obtain or if needle possession is taken as evidence of drug use, then injecting drug users will economize on needle purchase and possession by sharing them with others. This has been a major vector of transmission of AIDS in a few countries, notably the United States.[14]

Other examples of such behavioural changes include:

- An increased interest in drugs because they are prohibited, what is often referred to as the "forbidden fruits" effect (MacCoun and Reuter, 2001);
- Disintegrative shaming effects (Braithwaite, 1989) where stigmatizing users further marginalizes them from mainstream society, weakens the bite of informal social controls, discourages them from seeking treatment, etc.;
- Distorted messages about relative drug risk and risk management:
  - The very clarity of the law creates the false impression that alcohol is safer than it really is;
  - Difficulty of conveying messages about safe-use practices.

More subtle effects of behavioural responses can also be identified that work through market forces. For example, it appears that increasing interdiction rates for cocaine smuggling will lead to greater export demand for Colombian cocaine. The paradox is easily explained. Seizing a higher fraction of shipped cocaine has two effects on the export demand for Colombian cocaine. On the one hand it increases the number of kilos that have to be shipped in order to deliver one kilogram to U.S. consumers; that raises export demand from Colombia. On the other hand the higher price that smugglers have to charge in order cover their increased replacement costs may lower U.S. consumption and thus reduce the export demand. It turns out that under reasonable assumptions about the cost structure of cocaine smuggling and the elasticity of supply of coca, the first effect will be larger (Reuter, Crawford and Cave, 1988; Appendix B). Thus Colombia will produce and export more cocaine as the result of a more effective U.S. interdiction programme. It is not the result of adaptive behaviour by participants trying to mitigate the effects of the policy but simply of the logic of markets.

Another category of UC results from the behavioural changes of non-participants. If tougher enforcement against street markets leads to greater violence, then there may be out-migration of uninvolved households from the targeted neighbourhood. That out-migration is itself a potentially important consequence and may generate other effects, for example increasing the number of abandoned buildings and the attractiveness of the specific neighbourhood for continued dealing as the neighbourhood attracts a more socially marginal population.

Other UCs are not the result of actor response to incentives but of programme characteristics. For example, some negative environmental effects of spraying coca or poppies[15] are simply the result of the inevitable frailties of complex programmes

12 It is less clear whether other kinds of market violence, primarily disputes over territory or individual transactions, are affected. If tougher enforcement raises prices, which it theoretically should do but for which effect there is minimal evidence, then certainly transactional disputes will involve higher stakes and may be more likely to generate violence.

13 No study has attempted to identify the relationship between enforcement intensity and drug market violence, both of which are difficult to measure.

14 Another enforcement related AIDS transmission mechanism has been found to be important in the U.S., namely mass incarceration. High rates of incarceration have been found to explain differences in AIDS rates between the African-American and white populations in the United States (Raphael and Johnson, forthcoming). It is difficult to know how to classify the mechanism; the transmission is through homosexual activities that are engendered and facilitated by incarceration. It is a behavioural response but not related to drug use or sale.

15 These effects remain a matter of dispute, with the U.S. government maintaining that they are quite modest. For a summary see Jelsma (2001). An official refutation of the claim is offered in Inter-American Drug Abuse Control Commission (2005).

executed under difficult circumstances. Coca is not planted well separated from legitimate crops, often of other farmers. Spraying when pilots are concerned with being shot at is sometimes inaccurate. Wind conditions can change suddenly. Intelligence about what is coca cultivation can prove erroneous. As a consequence it is predictable that some innocent farmers will lose legitimate crops, an unintended consequence.[16] If the herbicides have adverse health effects, those are also a consequence of the programme itself.

Programme management may generate unintended consequences. Large black markets generate incentives for corruption, both at the political level in producing countries and at the enforcement level in consuming nations. The corruption can be subtle in nature. In the United States local police departments have the authority to seize financial assets from suspected drug dealers and use them for any law enforcement purpose. Though in principle any wrongful seizure can be corrected through formal appeal, there is evidence that some police agencies are misusing this power in order to generate larger budgets (Economist, 2008)

Other negative unintended consequences are inherent in the intended consequences and reflect neither implementation problems nor behavioural responses. Locking up drug dealers (aimed at raising prices, reducing availability and implementing just desserts) means that those individuals will function less well later in the workforce and that children will lose time with their parents. Whether these are large effects depends on what kinds of jobs the drug dealers would have in the absence of incarceration and how good they are as parents when not locked up; drug dealers often have minimal education and job skills and can be neglectful or abusive parents in part because of their own drug habits. Again, this is not an assessment of the desirability of incarcerating drug offenders but simply a statement of an unintended consequence that might be considered in a cost-benefit analysis.

A relatively new effect that is now prominent arises from adaptation in technology induced by enforcement. Methamphetamine consumed in the United States was for a long time produced in large laboratories in Mexico, using imports of precursors such as ephedrine and pseudoephedrine. The United States and Mexico governments have acted aggressively against this trade. One consequence has been a shift to production within the United States, often using ingredients purchased from retail pharmacies. That production has been environmentally damaging for a variety of reasons having to do with the limited competence of the producers themselves and their lack of good facilities.[17] Thus an unintended consequence of the tightening regulation of the international precursor market was increased health and environmental problems in the United States.[18]

Table 2 uses this taxonomy to list some of the unintended consequences by their source (prohibition itself, a specific programme), the mechanism which induces the effect, who bears the harm and the nature of the harm itself. It aims not to be exhaustive but to suggest the variety of these effects and mechanisms. It includes one instance in which it is not a harm but a benefit that is unintended. For each entry just one mechanism is identified, though it is possible that more than one is involved.

16 Distinct from that is the dispute about the toxicity of the chemicals used for spraying. That involves a factual dispute which could be resolved through a research programme. In absence of that research the toxicity is a potential negative consequence, a "known unknown". If it were established that the herbicide did have adverse consequences for human health and the environment, then the negative consequence could be eliminated by use of another herbicide without those effects.

17 The same phenomenon has been observed in the Netherlands as well.

18 Subsequent regulation of access to specific retail medicines in the U.S. has made domestic production more difficult and there is evidence of a decline in the number of meth labs in the U.S. See www.usdoj.gov/ndic/pubs26/26594/strat.htm#Chart3.

Table 2: Taxonomy of major unintended consequences

Short name	Description	Mechanism	Bearers of consequences	Nature of harms
Geographic displacement	Shift of production in response to targeted enforcement	Behavioural response of growers	Nations	Increased corruption in new producer, possible environmental damage
Lack of quality control	Users purchase drugs of unknown composition	Government service restriction [consequence of intended effect]	Users	Morbidity and mortality
Needle sharing	Enforcement makes needles unavailable or incriminating	Behavioural response of users	Users, intimates	Morbidity and mortality
Inaccurate spraying	Herbicides affect legitimate crops	Programme characteristics	Innocent farmers	Economic loss
Expanding production areas through eradication	Eradication forces opening of new areas for coca cultivation	Behavioural response of growers [participants]	Nation	Environmental damage
Supply reduction effect of treatment (+ve)	Many users in treatment programmes are also sellers	Consequence of intended effect	Dealers, neighbours	Reduction in consumption (benefit)
Intensified interdiction	Seizing higher percentage of smuggled cocaine	Market forces	Nation	Corruption, environmental damage etc.

4 Displacement

Costa (2008) in his interesting short essay on unintended consequences focuses primarily on the concept of displacement. One instance is "substance displacement", usually thought of as the substitution of a more powerful for a less powerful traditional form of a drug. Thus it has been asserted that in Pakistan and Thailand, the western promotion of tougher enforcement policies against opium in the 1970s led to the substitution of injected heroin instead (McCoy, 1991; Westermeyer, 1976). Heroin is preferred by dealers and users facing serious prohibitions. For users, now facing higher prices and greater risks of having the drug confiscated, heroin is desirable as a more efficient method of delivering the desired psychoactive effects and because it is more compact and thus easier to conceal. For dealers, the relative ease of concealment is the principal attraction of heroin as compared to opium. However, injected heroin poses higher risks than opium in many dimensions, including the spread of blood born diseases, a risk of fatal overdose and greater difficulty of cessation. Thus an unintended consequence of tough enforcement of prohibition is displacement to a more dangerous drug.[19]

Costa suggests a broader concept of substitution, which includes the shift to more concentrated forms. He gives the example of stimulants, where tough enforcement against cocaine has made that drug hard to obtain in the illicit market. This, he argues, has induced a shift of consumption to amphetamines that are relatively easy to produce. Amphetamines may be more harmful on a number of grounds; addictiveness, environmental damage from production (at least in the case of methamphetamines) and health damage from both consumption and production. Costa's point does not depend on the greater harm of the substituted drug compared to the original but simply the adverse consequences of a shift in drugs. Analytically it is important to note this effect but without a clear statement of harm differences, it is not clear that it has policy significance.

Costa also argues that the emergence of the large criminal black market had the unintended consequence of shifting policy focus from public health to public security.[20] Certainly there is evidence that enforcement dominates public expenditures on drug control, even in a country such as the Netherlands with an explicit orientation toward harm reduction (Rigter, 2006). However that does not permit assessment of whether treatment and prevention would fare better if these drugs were not prohibited. Alcohol and cigarettes are the obvious substances for comparison. Expenditures on treatment of alcohol dependence have hardly been generous and the cigarette industry was successful for decades in minimizing the public sector response to dependence on tobacco.

However assuming Costa is correct, this shift in policy focus is an indirect effect, an unintended consequence itself triggered by an unintended consequence. In this instance the first effect (the growth of criminal markets) was predictable, and indeed predicted by many; the second was less predictable. Costa's analysis points to the breadth of the unintended effects.

In that respect his final category is particularly interesting. He notes that prohibition changes "the way we perceive and deal with the users of illicit drugs. A system appears to have been created in which those who fall into the web of addiction find themselves excluded and marginalized from the social mainstream, tainted with a moral stigma, and often unable to find treatment even when they may be motivated to want it." (p.11) In effect, the black markets and related harms turn the social response from treatment of a disease to punishment of a crime. That is indeed an unintended, though perhaps predictable, consequence of prohibition.

Costa's analysis again raises the need to distinguish those effects that are inherent in prohibition from those that are the consequence of the toughness with which it is enforced or the specific ways in which it is enforced. Prohibition, except at the margins such as marijuana decriminalization, is not an active area of policy decision making. The extent and form of enforcement on the other hand is very much a policy choice.

Consider the threat to Afghanistan's political stability generated by the massive opium and heroin industry there, which generates perhaps as much as 50 percent of legitimate GDP (Paoli, Greenfield and Reuter, 2009). Is that a consequence simply

19 Cocaine may be preferred to coca under prohibition for similar reasons, though the effects of coca are so much milder that it is unlikely that, even if legal, coca would capture a large fraction of the Western market.

20 There may also be changes in non-drug policy that are intended to help lessen drug problems but which have unintended consequences for other domains. This is a variant of Costa's "policy displacement". For example, in the 1990s, the United States occasionally used trade concessions to Colombia (increased access to the U.S. market) as a tool to encourage the Colombian government to increase its pressure against cocaine traffickers. This is probably a rare enough phenomenon that we do not consider it further.

of prohibition or of specific enforcement activities? One way to answer that is to ask what would happen if the international community lessened pressure on the government of Afghanistan to reduce poppy growing and heroin trafficking. There is little reason to believe that relaxing that pressure would make a difference to the extent of Afghanistan's involvement in heroin production and trafficking; after all, that country by the most recent estimates accounts for over 90 percent of world opium production. The issue instead is whether the government would lose authority as the result of apparently conceding legitimacy to an activity that is known to be condemned by the international community and to cause harm to others or would gain authority by not threatening the livelihood of millions of rural Afghans. It is difficult to see a way of resolving that issue.

Another important unintended consequence associated with the heroin trade in Afghanistan and cocaine production in Colombia is the provision of finances for terrorist activities. It raises the same issue as just discussed with respect to the stability of the government of Afghanistan. To what extent is the terrorism connection a consequence of prohibition per se as opposed to tough enforcement? Historically, the Colombian example suggests the difficulty of resolving this matter. The FARC was not involved in the protection and taxation of coca growing until the mid-1990s. However with the eruption of violent conflict between the paramilitary and the cocaine traffickers, there was a large displacement of rural populations away from long-term settled areas into others where the government was weak. This provided an opportunity for the FARC to obtain a new flow of funds. Perhaps the best interpretation is that the result is highly contextual; a combination of circumstances, including policy, can lead to this outcome. The mechanism is ambiguous.

5 Positive unintended consequences

The existing literature emphasizes unintended negative effects; they are usually identified for the purpose of criticizing prohibitionist policies than for overall policy evaluation. Moreover the negative consequences are the most salient. However, there are important unintended consequences of specific interventions that are positive and worth noting for policy purposes.

For example, treatment of drug users is almost always referred to as a demand-side programme. Its benefits arise from the reduction in drug use and associated health risk behaviours, such as needle sharing. However in many countries those who sell heroin are themselves dependent users. Thus an unintended consequence of treatment is a reduction in the supply of drug selling labour; whether it is large enough to make a difference at the aggregate level depends on the specific facts of the situation.

There is a symmetric unintended consequence from the incarceration of drug dealers, since many of those locked up for dealing in heroin are also heavy users of these drugs. Thus what is regarded as a purely supply side programme has desirable demand side effects since it lowers the quantity consumed.

Tough enforcement is often seen as having a negative unintended consequence in creating barriers to treatment seeking. However in an increasing number of developed countries criminal courts have become a portal for entry into treatment.[21] That may be accounted as an unintended positive effect, in that the goal of the police (as opposed to prosecutors and judges) is only dealing with the proximate problem, namely open distribution of drugs.

There is an ambiguity in how to deal with earnings from the drug trade, which clearly is an unintended consequence of prohibition. National income accounting conventions do not generally include illegal earnings in Gross Domestic Product (OECD, 2002). Indeed, drug trade earnings have historically been scrupulously ignored by institutions such as the World Bank and IMF even in countries where such earnings are manifestly important, such as Colombia in the 1980s or Tajikistan in this decade.[22] Yet it is hard to deny that for farmers in Afghanistan the poppy trade has been a positive source of welfare and indeed, in the post-Taliban era, the World Bank has conducted a number of studies of the substantial economic consequences of opium production (e.g. Buddenberg and Byrd, 2006). A world in 2009 with no demand for illegal opiates would be one in which many peasants in Afghanistan were much poorer.[23] That is not to argue that the net effect of prohibition is to improve the wellbeing of Afghanistan as a nation, since there are many other effects (e.g. threats to the stability and integrity of the government). It is simply to note that there are beneficiaries as well as victims of prohibition.

21 For a discussion of this in the context of the United Kingdom, see Reuter and Stevens (2007).

22 This statement is based on a review of all World Bank publications with Tajikistan in the title in the period 2000-2005 and with Colombia in the title in the period 1985-1990 and to a less comprehensive search of IMF reports.

23 Not all earnings are recorded as positive effects, since this could otherwise lead to paradoxical policies. Assume that earnings of high level dealers were included. These consist primarily of compensation for taking risks. If the supply of risk-taking labour were inelastic with respect to risks of incarceration, then a rise in the level of punishment for drug trafficking would raise GDP.

6 Concluding comments

The unintended consequences of drug policies, particularly of enforcement, have an important role in political debates about what are the appropriate ways of dealing with illicit drugs. They are large in number, diverse in type, generated by varied mechanisms and incurred by many different parties. Those critical of the current approach emphasize these consequences and often, with considerable justice, point out that we are more certain about the unintended negative effects of these policies, particularly enforcement related, than that these policies contribute much to their intended goals.

It is worth noting at this stage that in making comparisons of the existing regime with any other possible regimes, certainly involving regulated legal markets for these same drugs, that the unintended consequences of these other regimes are consistently ignored. For example, the experiences with legal alcohol, gambling and tobacco all show that the industries created work hard to undermine effective regulation of consumer health and safety (MacCoun and Reuter, 2001). This is an unintended consequence that one can confidently predict would occur if cannabis or cocaine were legalized and regulated and which ought to be weighed when assessing the desirability of alternatives.

Almost all of the unintended consequences share one important characteristic; they are unmeasured. Whether aerial eradication in Colombia has had a substantial or only modest effect on environmental degradation in that country, to take one of the better studied, is simply a matter of conjecture. Nor can anything quantitative be said about the labour market and family consequences of Britain locking up larger numbers of drug dealers. There is hardly even a literature on how one might go about measuring these consequences in a specific time and place. Some are potentially more measurable than others; the environmental effects probably could be measured, while the child development effects are inherently elusive and very specific to countries and specific sentencing regimes.

An important consequence of this is that assessments of policy choices will not have a strong empirical base. For example, the case for expanding treatment through the criminal justice system is strengthened if it can be shown that this reduces the availability as well as the use of drugs but estimates of the supply side effects are unavailable. Similarly, an assessment of the wisdom of cracking down on street markets should take account of the potential exacerbation of violence that such crack-down generates[24].

However it is important to realize that drug policy is not a purely pragmatic endeavour. Assume that an unintended but predictable consequence of aggressive actions (whether alternative livelihoods programmes or eradication) against coca production in Bolivia is that production will shift to Colombia. The international community may still choose to encourage the government of Bolivia to take such actions in order to show its resolve to make the life of those in the trade as difficult as possible (eradication) or to persuade farmers not to grow drugs (alternative livelihoods).

Analysis of these consequences serves another policy purpose as well. Even if it is impossible to estimate their scale well enough to incorporate them into a formal cost-benefit analysis, they can inform policy decisions. Obviously it would be desirable to mitigate the negative unintended consequences of interventions. This is most relevant for different forms of enforcement. Identifying the mechanism generating the undesired consequence increases the capacity for mitigation. This is already well understood with respect to reducing needle sharing by injecting drug users; e.g. police can help by not using needle possession as the basis for arrest. Making assessment of all consequences, both intended and predictably unintended, might well become part of any policy proposal. For example, when making a decision as to whether a substance should be regulated many national and international systems take into account only the direct effect of the drug on the behaviour of the user, including violence (a likely criminal effect). It might be useful to also consider the extent to which the creation of a control system would increase criminality through the growth of a black market.

Understanding which mechanisms apply can also help with other policy decisions. Take the positive effect unintended consequence of treatment discussed above, namely a reduction in the supply of drugs. In order to maximize that effect, some priority might be given to trying to persuade those most involved in drug selling to enter into treatment. It would not be the only consideration for making priority decisions but it would enter into those decisions and can only do so as a result of identifying both the consequence and mechanism generating it.

24 Even if all the victims are themselves participants in the drug trade, a democratic government should be concerned with their well-being. In fact, that violence also has some innocent victims, either bystanders or uninvolved family members.

Similarly, strategic decisions about how combat methamphetamine might take into account the environmental and health consequences of the different production configurations. Pushing the industry to large numbers of small sites, each with its own risk of explosion and contamination, may worsen the overall damage to society from methamphetamine production. Policy makers may choose investigative and prosecutorial strategies that target and sanction such high risk facilities, even if such strategies are less efficient purely as a drug control approach.

This report is exploratory. There are other possible ways of categorizing and analyzing these unintended consequences, for example by the policy area involved, the type of harm/benefit engendered or the bearers of burdens. Given the prominence of these consequences in discussions of drug policy at all levels, what is important is to move beyond mere enumeration and to develop systematic ways of studying them so that they can be incorporated both into decision making and into assessments of policy.

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Report 6

Methodological challenges

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Abstract

This report describes problems encountered when comparing drug problems and policies over time and between countries. It identifies both conceptual and empirical elements of those limitations and covers examples in the fields of supply, demand and harm, as well as of efforts to reduce each.

Conceptual challenges include inconsistencies in definitions and operationalisations of concepts. Examples for this are concepts like 'problem drug use', drug-use related death and drug-related crime. There are also differences in defining categories for prevalence measurements, e.g. age groups. Concepts are also inconsistent over time in a given country e.g. as a result of changes in definitions. Finally, they are inconsistent across domains, e.g. some data may be available only at the household level, others at the individual level.

Empirical challenges cover in particular data scarcity and data quality. Many countries collect very little data and some data are very difficult to collect. The latter generally applies to collecting information on illicit phenomena as the production, trafficking and retail of illicit drugs. A direct comparison between countries is regularly hampered by the fact that certain data are not available for the same year. The quality of the data collection in most countries is poor.

Conceptual and empirical challenges may be related. Drug offences are one example for this. Countries use different definitions (e.g. sometimes including consumption, sometimes not) and data availability is limited.

1 Introduction

This report provides an assessment of how the global drugs market developed between 1998 and 2007. However, despite the fact that drug problems and drug policy have attracted considerable policy and political attention, this has not been matched by large-scale data collection and analysis. There remains a dearth of data or indicators for comparing how one country's drug problem compares to another, for describing how a country's drug problem has changed over time and for assessing how drug policy has contributed to observed changes in national drug problems over time. The main purpose of this report is to examine the most significant limitations and challenges to cross-country comparability of data on both drug problems and drug policy. We do not strive for a complete overview, nor do we aim at a thorough analysis and evaluation of these limitations.

Empirical challenges

The objective of this study was 'to produce a detailed analysis of the operation of the world market in illicit drugs and of policy measures to curtail it'. To make it workable we restricted our study to a sample of countries and to a selection of specific indicators and subjects for data collection. The choice of indicators and subjects was partly determined by the availability of data in our sample of countries (see report 4). Of course, the "availability-based" selection of indicators is not scientifically satisfying (see paragraph below on drug trafficking with drug seizures as an indicator).

In the course of our study we found that data for many potentially useful indicators were either limited or non-existent. This problem was exacerbated by the limited accessibility of data due to either the agency or the researcher disallowing analysis of their findings. As a result, existing national reports and international comparisons provide only a rough picture of drug problems and policies.

Conceptual challenges

Conceptual challenges include inconsistencies in definition and operationalisation of concepts. A well-known example of the former is the lack of consensus in defining problem drug use; another inconsistency is in the definition of 'drug' itself. In English-speaking countries, this concept covers both illicit drugs and medical prescription drugs; in several other countries (e.g., the Netherlands, Belgium, Germany and France), the term drug ("Droge" or "drogues") is used exclusively for illicit drugs. Therefore, this irregularity has consequences when comparing data (on drug-related deaths, for instance).

A mix of empirical and conceptual challenges

The conceptual and empirical challenges may be related. Differences in definition and measurement of the concept of 'drug offences' illustrate both types of issues. Drugs offences may include drug consumption, possession, production, trafficking, dealing or drug-related money laundering. However, definitions of drug law-related crimes differ between countries: some countries do not record money laundering related to the drugs trade as a drug offence; in several countries drug consumption is no longer considered as an offence. To a large degree, data on drugs offences mirror both the focus of and investment in legal enforcement activities (cf. Canada and Mexico).

2 Drug problems

2.1 Production

There are two main sources of estimates of illegal drug production specifically for cocaine and heroin: the UNODC (The World Drug Report) and the U.S. State Department (The International Narcotics Strategy Report). These data sources use different methods for estimating areas under cultivation. The U.S. State Department, for instance, relies primarily on satellite imagery, while the United Nations, having developed a strong presence in the major production countries, is able to evaluate on the grounds of the results of aerial surveys.

Area under cultivation – opium and coca plant

The resulting calculations of these two organisations often produce quite different estimates of the area under cultivation. For example, the United States (U.S. Department of State, 2006) reported 51,500 and 64,510 hectares of poppy cultivation in Afghanistan in 1999 and 2000 respectively, suggesting a substantial increase; the United Nations (UNODC, 2006), however, reported 90,583 and 82,171 hectares for the same years, suggesting a substantial decrease. The differences in the U.S. State Department and United Nations estimates for Afghan cultivation in 2004 are even more dramatic: the United States reported 206,700 hectares and the United Nations reported 131,000 hectares.

Opium and coca plant yield estimates

For annual production estimates of opium and coca leaf it is necessary to develop estimates of the yield per hectare of opium or coca leaf and the efficiency of processing. However, these estimates are sensitive to:

- Weather conditions over the year, since the surveys are conducted at a specific time during the growing and harvesting cycle;
- Definitions of cultivation areas; sampling strategies from other sources, for example, does not necessarily fit UNODC's definition of an area under cultivation (UNODC, 2008);
- Production techniques used and the competence of the operators.

Transformation ratios used to calculate the potential production per hectare poppy field or coca bush, require detailed information about local morphine content in opium or alkaloid content in coca leaf. Since 2005, as a result of field studies, the UNODC has used a 7 to 1 ratio for the transformation of opium into heroin. Both the UNODC and the U.S. State Department have recognised that these ratios vary across sub-national areas and that they can vary over time. Updates of these ratios in official estimates occur infrequently, and at different times for the two organisations.

The United States government has occasionally announced major changes in its estimates, resulting from revisions in its assumptions about yields – in particular, the amount of opium, morphine or heroin that can be obtained from each hectare of poppies – in specific countries. For example Operation Breakthrough in Colombia led the United States Drug Enforcement Administration (DEA) to revise production estimates because it now believes that most poppy fields are harvested only twice annually, and not three times (Drug Availability Steering Committee, 2002).

Opium and cocaine production efficiencies

Yet another source of uncertainty is the efficiency with which the farm product is processed. A review of United States methods used for estimating drug availability highlighted the variability of these figures. "The estimate for cocaine base processing efficiencies in Colombia was changed from about 45 percent to 69 percent as a result of DEA research published in Operation Breakthrough, February 2001. The higher efficiency factor has been applied to all estimates going back to 1995" (Drug Availability Steering Group, 2002).

These computations therefore result in differences between the United Nations and United States estimates. For example, in 2004, the implied yield of opium per hectare in Afghanistan was 24 kg for the United States compared to 35 kg for the United Nations.

Cannabis

Marijuana differs from cocaine and heroin in that it is produced in many countries. It is considered the "globally most dispersed illegal drug" (UNODC, 2008). One hundred and seventy two countries report cannabis production in their territory, according to the UNODC World Drug Report 2007 (UNODC, 2007). Most produce only for domestic consumption and are able to satisfy most of the domestic demand. This makes it particularly difficult to estimate total production of cannabis (Leggett & Pietschmann, 2008), since the plant is not grown in large fields in concentrated areas of a few countries, as are opium and coca leaf.[1] Yield estimates reported by European countries to the UNODC vary from 5 kg per hectare for wild cannabis to 17,500 kg per hectare for countries reporting high proportions of hydroponically grown cannabis (Legget & Pietschmann, 2008).

Cannabis production estimates may also vary because of differences in:

- Methods of determining the cultivation area (ground surveys, remote sense technologies, e.g., satellite image techniques) or searching for illegal grow factories of cannabis with analysis of, amongst other things, data on used electricity);
- Cultivation techniques used (e.g., the use of artificial light in growing rooms, inclusion of relative inert plant material, techniques for increasing the active parts of the plant);
- Type of end product (e.g., cannabis plant, resin, seeds or oil);
- Calculation of the potential production from cannabis plant (units or kg) to cannabis resin (kg) require detailed information about production techniques and THC content on a national level whereas, at best, there may be some data available on a local level.

A recent papers on production in Quebec by Martin Bouchard (forthcoming), using more detailed knowledge of the production process and more sophisticated estimation techniques, suggest that existing estimates are most probably too high.

Amphetamine type stimulants

Production of ATS is even more difficult to estimate, even though it is not produced in as many countries as cannabis. This is due to the geographic dispersion and temporary nature of laboratories that produce these synthetic drugs. Finding the laboratories requires specific expertise for targeted investigation and enforcement activities. Moreover, the measurement of the number of drug manufacturing sites (laboratories) differs both between and within countries and over time. For instance, there is no standard measure of what is a large or small lab and in many countries the size of the laboratories dismantled is not reported. The number of dismantled laboratories does not provide any information about the quantities actually produced.

Drug prices

Worldwide information systems covering data on prices of drugs are insignificant. The United States appears to be the only country to have developed a transaction level database, reflecting undercover purchases by federal agents and a few police agencies (Manski et al., 2001). The validity of these data (STRIDE: System to Retrieve Information from Drug Evidence) as a representation of actual market transactions has been a matter of dispute. Horowitz (2002) criticised STRIDE, while Caulkins (2002) and Rhodes & Kling (2001) defended them. A critical aspect of STRIDE is that each observation takes the drug's purity into account, as well as its price and quantity. For European countries, apart from Norway (for heroin), no such comprehensive data exist. At best, as in the United Kingdom, Australia and New Zealand, there are data for price and purity separately. As many countries are reporting price data through a systematic questionnaire, the UNODC Annual Reports Questionnaire, there is simply no well-documented basis for the figures. Thus the data reported should be analysed with caution.

In Afghanistan and Myanmar the UNODC collects a substantial number of observations on farm gate prices and, at least in Afghanistan, is able to generate sub-national price series. In several reports, farm gate prices and wholesale prices are reported (cf. UNODC, 2008; Uribe-Ramirez & Navarrete-Frías, 2009; International Crisis Group, 2008). The agency also reports farm gate prices for coca and coca paste for each of the three Andean producers (UNODC, 2008a).

1 For a discussion of the absurdity of earlier U.S. estimates of Mexico's marijuana production, see Reuter (1996).

2.2 Trafficking

Drug trafficking refers to the quantities of illegal drugs imported into, exported from and transhipped through a country. Apart from these quantities, it would also be advantageous to be able to describe how they are distributed among different trafficking routes, in order to have an insight into the international routes of transportation, and also into the flow of illegal drugs between countries. These hidden activities are difficult to capture with administrative records. Neither quantities nor routes can be directly determined.

It is hard to think of systems that would provide valid measures of either quantities trafficked or their distribution routes; certainly, none have been suggested. The only available indicator for trafficking is seizures of illegal drugs, annually reported in UNODC's World Drug Report. In fact, it is a highly questionable proxy for the total quantities of drugs imported, exported and transhipped through a country. Moreover, it is not clear how a better indicator could be generated on a routine basis and at a reasonable cost. So instead, for quantities, two proxy-measurements have been used: the number of seizures and the quantities seized. Both are very unsatisfactory and require a great deal of detailed knowledge for interpretation.

The quantity of a drug seized in a country is a function of many factors: the intensity and efficiency of police and interdiction efforts; the methods used by traffickers; and the total quantity shipped. The price can also have an effect; if the purchase price in the exporting country declines, then smugglers will be willing to invest less in protecting the shipment and may thus use cheaper but more vulnerable trafficking methods.

Seizure statistics are not always complete. In the United States, with its federal system, the DEA only counts seizures by federal agencies (Customs, DEA and border patrol). Seizures by state and local agencies (e.g., the New York Police Department) are ignored, although they may be substantial. In unitary countries, such as France, the statistics may be more complete.

Though no reliable method exists for estimating the total quantities of drugs seized, drug seizures are used by the EMCDDA and the UNODC as an indicator for trends, patterns and routes of drug trafficking, especially over longer periods of time and over larger geographical entities (UNODC, 2008). Based on this approach, it is assumed, for instance, that North America is the largest market for cannabis *herb* (63% of global seizures in 2005), followed by Africa (18% in 2005). The percentage for Europe in this year is 2%. However, for cannabis *resin*, Western Europe is the largest market and is responsible for more than 70% of global seizures in 2005 (Leggett & Pietschmann, 2008).

Drug trafficking routes are assessed through international analysis of production, trafficking and consumption figures for specific drugs. Research in this area is still sparse (see also report 1). Such reports on international smuggling routes are often based on brief qualitative descriptions of the most important routes mentioned in literature, and on drug supply data of varying quality. Critical analysis of this information (often coming from the police, customs, etc.) is not widespread but this could be a basis for refuting perceived truths about drug trafficking routes.

2.3 Drug retail/trade

The difficulties in estimating the scale of total retail sales are covered in detail in Report 2. Here we provide only a brief summary.

The above-mentioned difficulties in determining drug trafficking and its revenues are also relevant for drug retail or smaller-scale drug trade. A variety of methods exist for estimating national retail quantities of illegal drugs. They may be based on drug use estimates or drug-related arrest data, but these offer no more than rough indications of the total amount of drug retailed among users or drug dealer networks.

An additional dimension that complicates retail quantity estimates is drug purity (estimated or tested). Low purity inflates the total weight of drug supplied (imported or exported), but this phenomenon takes place predominantly at the end of the supply chain (retail level); it does not necessarily inflate actual prices (Reuter, 2001). Moreover, prices of illegal drugs, "(…) whatever the drug and however calculated, appear to vary enormously across and within countries as well as over time" (ibid.). Both the price per gram and data on drug purity are used as indicators for the identification of market trends (UNODC, 2008). These data may come from extremely varying sources (qualitative, exploratory data from users, testing of seized drug samples, etc.) and are usually inconsistent or limited, especially in developing countries. This makes comparisons

across countries difficult to interpret. Worldwide, we have insufficient information about data collection methods, reliability and specified variations (UNODC, 2008).

2.4 Drug consumption

The most commonly reported consumption measure is population prevalence, namely the percentage of the population that uses specific drugs within a given period. Many countries conduct surveys to produce estimates of this percentage. Important as these surveys are, they have turned out to be quite frail as measures of the extent of drug use in various populations. Cross-national comparisons of prevalence rates are complicated by differences in study design.

Firstly, random surveys of the general population systematically underestimate drug use, in particular problem drug use. Problem drug users are difficult to identify by population surveys. Most studies use households (or those with telephones in households) as the source of participants. Several so-called indirect prevalence estimation methods, e.g., capture-recapture analysis, have been developed to improve the accuracy of estimates of drug use among these groups (EMCDDA, 2001) but these methods are not yet used in many countries.

Surveys also differ in age coverage. For example, the United States cover the population aged 12 and above; the Netherlands 15-64; Hungary 18-59; and the United Kingdom 16-59. Since prevalence rates differ for these different age groups, these differences in range may have large consequences for cross-country comparisons.

School versus household surveys

A sense of the importance of methodological differences can be gained by comparing a recent study of drug use based on the World Mental Health Survey (Degenhardt et al., 2008) with results from the ESPAD survey and Monitoring the Future in the United States. Table 1 shows figures for lifetime prevalence for cannabis, the drug best studied through general population surveys, at ages 15 and 21. ESPAD provides data on persons who turn 16 in the calendar year of the survey, so it should be moderately higher than the WMHS figures for age 16, which are based upon the retrospective reports of adults who are older by the time they were interviewed. In fact, the ESPAD survey shows much larger rates. In two countries (Belgium and Italy) the ESPAD rate is even higher than the WMHS rate for age 21! The source of these discrepancies has not been examined but is probably due to differences in study design, i.e., questionnaire construction.

Table 1: Lifetime cannabis use in 7 countries: household surveys versus school surveys

	WMHS Figures		ESPAD Figures
	15 years	21 years	15-16 years
USA	20.2	54	31*
Belgium	4.7	22.2	32
France	15.3	44.1	38
Germany	13	41	27
Italy	3.3	13.7	27
Netherlands	7	34.6	28
Ukraine	1.3	12.3	21

** World Mental Health Survey and ESPAD*

Differences in period covered

Another data collection problem is inherent in making comparisons over time. Few countries mount national population surveys on drug use every year (as in the United States). More typically, these studies are carried out every three to five years, or with irregular intervals in time, even in high-income countries, e.g., Canada, where the last Canadian Addiction Survey data were reported in 2005, with additional analyses of the same study for youth and gender in 2007 and 2008. Another example is Switzerland. The most recent published general population survey is from 2002. A new survey was conducted in 2007, but as of January 2009 only a few initial results had been published. Important indicators may not be available for the same year, so that a country may have a drug use survey for 2004 but an estimate of problem drug use for 2006. If the drug situation is stable, this is a small problem, but if the country is still in the epidemic stage, with rapid change, aggregating these measures as though they came from one year will inevitably create distortions.

This also has consequences for comparisons across countries and global estimates. For one country the indicators may cluster in 2004, while in another they may cluster in 2006. This difference may be important. In Canada, for example, the availability of prevalence data is of limited value for this study, because three surveys were conducted in 1989 (National Alcohol and Drugs Survey - NADS), 1994 (Canada's Alcohol and other Drugs Survey - CADS) and 2003-2004 (Canadian Addiction Survey - CAS). On the other hand, Australia published household survey results in 1998, 2004 and 2007 (Australian Ministry of Health and Welfare), covering exactly the measurement years we are aiming at.

Limited geographical coverage

General population surveys are expensive. As a result, some countries do not conduct them, or choose to conduct them under more easy-to-reach subpopulations. Brazil published, for example, a number of studies that were restricted to major urban areas, e.g., the ten largest state capitals (Galduróz et al., 2004). Rural data collection by face-to-face interviews (phone penetration is low) has not been considered feasible. Mexico and South Africa also conducted surveys primarily in major urban areas (Medina-Mora et al., 2003; Da Rocha Silva & Malaka, 2007). Though these decisions may well be justified, the result is that comparisons of prevalence rates across these countries require careful preliminary analysis to attempt to account for plausible differences between the covered and non-covered populations.

Differences in interview methods

Differences in interview methods can also affect estimates. It is evident that in-person surveys in households generate higher prevalence rates than telephone surveys. In turn, for youth, anonymous surveys within classrooms generate higher rates than in-person surveys, because of the greater guarantee of privacy. Mail surveys may lead to estimates of prevalence still lower than those from phone interviews. In-person surveys are substantially more expensive than phone interviews, so most countries use the latter, though, as the above-mentioned example of Brazil illustrates, this is only feasible in countries with high telephone coverage. These differences call into doubt the validity of comparisons across countries that employ different survey methods.

Finally, the period of drug use covered by the survey may be important. Most surveys ask whether a drug has been used at least once in the respondent's lifetime. Many (but not all) surveys ask about use within the last year, which tells us more about current use. For instance, the last Mexican surveys were limited to lifetime prevalence. In EU Members States' surveys, last month prevalence is also frequently covered. In the three Canadian surveys (NADS, 1989; CADS, 1994 and CAS, 2003-2004), drug use over the last three months among younger people (15-24 years) was reported (CAS, 2007: table 5.2).

Surveys may also differ in their definition of specific drug categories. It raises, for instance, the uncertainty on how to relate tables that present figures on ATS with tables that only present figures on (meth)amphetamines and ecstasy, or with tables that only report data on the use of speed. It is not entirely clear how to compare these figures under the concept of "ATS" (cf. CADS, 1994).

2.5 Problem drug use

As mentioned above, surveys on drug use are known to substantially underestimate rates of frequent use of drugs. This under-reporting is often quite substantial for heroin and cocaine. For example, in the United States, the National Survey on Drug Use and Health (NSDUH), the annual general population survey, estimated that 595,000 persons had used cocaine in 1998, at least eight times in the previous month. However, indirect prevalence estimates that take into account data from arrestees (the Arrestee Drug Abuse Monitoring system - ADAM) produced an estimate of past month users that was more than 5 times higher, namely 2.8 million (ONDCP, 2001). For heroin use, the NSDUH is used solely to estimate the prevalence of occasional use; estimates of high frequency use rely entirely on ADAM. Prevalence of high rate cocaine and heroin use also seems to be substantially underreported in the household survey in the United Kingdom. Pudney et al. (2006) estimate the total cocaine and heroin consumption in the United Kingdom and, although they do not report prevalence among arrestees as compared to non-arrested respondents, they do report that arrestees account for the majority of total cocaine and heroin consumed.

Two guidelines were published in the European context: one on estimating problem drug use and a recent one on estimating the incidence of problem drug use (EMCDDA 2004a; 2008). Since 2001, problem drug use prevalence has been one of the five epidemiological key indicators used in the national reports that are annually sent to the EMCDDA (EMCDDA, 2001a). Before and after 2001, the EMCDDA worked hard to clarify this concept by trying to harmonize registrations, offering estimation methods, and finding ways to estimate development of problem drug use over time.

In countries outside Europe, the lack of consensus on problem drug use is more manifest. Brazilian data on problem drug use are, for instance, reported under headings such as 'dependency' or 'frequent users', the latter being defined as using a specific drug more than five times per month. Capacity problems may also have been an important factor in not measuring (or reporting) problem drug use at all in many countries.

2.6 Drug-related harm

"Drug-related harm" is a broad concept. It can be understood as adverse effects experienced by drug users (health consequences), their intimates (family, friends, school) or society (drug-related crime, nuisance, loss of workforce, etc.). It covers many domains, for example, drug-related death, infectious diseases, mental health, social functioning and crime.

Drug-related harm is both conceived and measured differently within and between countries. Drug-related death is one of the few indicators for which cross-national efforts have been made to produce national estimates on a consistent basis (EMCDDA, 2004). Nevertheless, even for this indicator, several fundamental difficulties remain.

Validity of data on drug-related deaths is hampered by several methodological shortcomings and differences (EMCDDA, 2007). Firstly, the quality of official drug-related death statistics varies from country to country. In general, "reported death rates amongst hidden populations are (…) understatements" (Darke et al., 2007). Due to the hidden nature of illicit drug use, some overdose cases may not be picked up as drug-related death. Wealthy countries are far more likely to have the resources and infrastructure to devote to collecting data on mortality and its specific causes than poorer countries (Darke et al., 2007).

Less important, but still noteworthy, are variations in definitions used. The EMCDDA restricts itself to direct or acute drug-related deaths, i.e., caused directly by the consumption of one or more drugs (EMCDDA, 2004), as do the United States and many other countries. This restriction excludes indirect drug use-related death, for instance death caused by drug-related chronic conditions, such as liver failure due to hepatitis that might be the consequence of injecting drug use. Indirect drug-related deaths may also be the result of drug-related violence towards drug users or amongst drug dealers or gangs. Finally, it also excludes suicide or accidents, that may be due (in part at least) to drug use.

As mentioned in the introduction, the differing definitions of the term 'drug' between English-speaking and other countries causes misunderstanding in comparing figures on drug-related deaths. For instance, discussions on a European definition of this concept led to the exclusion of medical drugs (used for suicide) from DRD reports for the EMCDDA. In some countries, the figures on drug-related death include overdose by medical drugs (e.g., in the Czech Republic), while in other countries only acute overdoses due to the use of illegal substances are included. The result is that the reliability of the European statistics, especially from earlier years, is low. Still, the monitoring work allows comparison of developments in one country over the years, unless the recording system has changed.

Epidemiological data on HIV infections are reported for the general population. Only a small number of countries present these data for the subpopulation of drug users. Collection of prevalence data on other diseases such as Hepatitis B and C started quite recently. They do not yet allow for international comparisons over a longer period of time. For HIV, the available statistics are often restricted to numbers of *newly* infected drug users. In many publications, no figures are reported on the total number of drug users who are infected.

3 Drug policy

In the paragraphs above we have presented the methodological difficulties of measuring and comparing drug problems. Measuring and comparing drug policies is even more difficult. One problem is that policy papers (representing formal national policy) are frequently unsystematic, thus largely incomparable narratives with incomplete or ill-defined data on problems, backgrounds, targets and measures.

Formal drug policy may be perceived as the pattern of legislation and government actions that aim to reduce the use of drugs and related problems (Kleiman, 1992; Reuter & Stevens, 2007). Scientifically, policy evaluation studies are unable to assess the effects of policies, laws and measures on the targeted problems. This is partly due to the uncertainties involved in various types of quantitative estimates on the drug market, e.g., prices and quantities (Reuter, 2001). Another reason is that there is no accepted method for carrying out an outcome evaluation of national policy in a scientifically correct way, at least not one that comes near to clinical trials for assessing effects of medical interventions. Major limitations are: the absence of a baseline measurement; the absence of a control group; the large number of confounding factors that are involved in national policies; and the impossibility to control this, even more so over time.

Apart from formal policy statements, national expenditures on drug problems can represent an estimate for the amount of actual activity, and enable us to make rough estimates on changes in the annual drug policy effort. Surprisingly, however, the availability of these data is very low. Few countries actually publish estimates of expenditure on drug policies. Data on drug policy expenditures are rare, even in Western countries. Reuter highlighted two main reasons for this: "(…) drug control programs (1) are found in many different governmental sectors, including education, health, policing and border control and (2) are frequently embedded in programs with broader goals." As a result, most existing estimates are weak (Reuter, 2005). The same observations were made for the Netherlands (Rigter, 2003). The result is that changes in the drug policy budget are rarely traceable. Therefore, international comparison of these changes is severely hampered. When we look at policy measures comparable conclusions can be drawn.

3.1 Supply reduction

Reduction of drug-related crime is an important element in supply reduction. This is probably due to the fact that drug-related crime is a broadly defined concept and the relationship between illegal drugs and crime is complex (Goldstein, 1985; Wilczynski & Pigott, 2004; EMCDDA, 2007); straightforward measurements do not exist. Many national publications cover numbers of drug-related arrests, offences or incarcerations. We have already described several problems with these measures under the title "Drug problems". Statistics on arrests and incarcerations for drug-related offences are available for many Western countries, but national registration systems differ in their definition of what constitutes an arrest or a drug offence.

Another challenge is the variation in registration and in figures coming from different sources in a country, e.g., the police and the judicial departments. In the Netherlands, for example, figures on crime (e.g., charges, arrests, incarcerations, etc.) sourced from the regional police registrations were largely incomparable. Registration is now easier to compare and, each trimester, figures are uploaded onto a national database as part of a national criminality overview ("Criminaliteitskaart"). In many countries these difficulties are undetectable because registration sources are not mentioned.

Another example is that differences between country figures can be attributed in part to provisions in drug law, e.g., whether drug use as such is a penal offence resulting in imprisonment, or not. In a growing number of countries the consumption of illicit drugs is decriminalised and possession of small quantities for personal use is treated as an administrative offence (see report 4 on drug problems and drug policy).

3.2 Demand and harm reduction

The available information on demand and harm reduction measures taken in different countries does not represent an adequate indicator for international comparison. Available information on drug treatment differs widely between countries, presenting, for instance, in one case, an overview of available interventions and facilities (e.g., types of treatment) or in other cases, numbers of patients in certain forms of treatment, numbers of treatment services, treatment units or beds that are available for drug-dependent clients, and treatment effectiveness.

Moreover, treatment is a broad concept and is measured in various ways, impairing reliable comparisons between countries. In the United States, for instance, the federal government system for counting the number of persons in treatment (Treatment Episode Data System: TEDS) includes only admissions to facilities that receive at least some funding from the federal government; private clinics and general practitioners are missed. Furthermore, there are many different types of treatment (e.g., therapeutic communities, cognitive behavioural therapy programmes, family-based treatment). In many cases it remains unclear what exactly is covered by the term ´treatment´.

For drug prevention, information is collected on types of prevention (school-, family- or community-based programmes, mass media campaigns or telephone help lines) and/or on outcomes measured for these interventions (coverage, knowledge, attitude, etc.). But one type of drug prevention alone may cover major differences in programmes actually implemented. School-based prevention programmes may be specifically focused on prevention of drug use (e.g. the Netherlands Healthy School and Drugs Programme) but may also be more generally focused on health promotion (covering different issues, from the use of illicit drugs to sexual health issues).

The data collected on harm reduction services also differ greatly. Needle exchange programmes can serve as an example of this. The focus of data collection can be on the number of exchange points; the number of clients, the number of syringes or needles exchanged and/or the specific materials provided, e.g., condoms or sterile pads. Moreover, there can be differences in the coverage of the data collected. Many syringe exchange data, for example, do not cover pharmacist distribution/sales, while in some countries these may distribute the majority of the needles exchanged.

In conclusion, it can be said that there is a lot of information available, but that this information does not allow a thorough comparison between countries.

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Appendix to report 4: country reports

AUSTRALIA

1 General information

Location:
Oceania, continent between the Indian Ocean and the South Pacific Ocean

Area:
7,686,850 sq km

Land boundaries/coastline:
0 km/25,760 km

Border countries:
none

Population:
21,007,310 (July 2008 est.)

Age structure:
0-14 years: 18.8% (male 2,022,151/female 1,919,002)
15-64 years: 67.9% (male 7,233,555/female 7,038,722)
65 years and over: 13.3% (male 1,266,166/female 1,527,714) (2008 est.)

Administrative divisions:
6 states and 2 territories

GDP (purchasing power parity):
$773 billion (2007 est.)

GDP (official exchange rate):
$908.8 billion (2007 est.)

GDP- per capita:
$37,300 (2007 est.) (CIA World Factbook)

Drug research
Australia has a long tradition in drug research, there are for instance several research institutes and there is a high-quality monitoring research tradition.
Key institutes: National Drug and Alcohol Research Centre (NDARC); Australian Institute of Health and Welfare, Australian Bureau of Criminal Intelligence.

Main drug-related problems
Australia is a major consumer of cannabis, amphetamines and heroin. Cannabis and amphetamines are largely produced domestically. Main trafficking focus in Australia is (import) of heroin, cocaine and ATS.

2 Drug problems

2.1 Drug supply

2.1.1 Production

Australia has some illicit drug production but not for export reasons. "Australian ATS supply is dominated by domestic clandestine production, primarily of methylamphetamine." (Australian Crime Commission, 2007). Domestic cultivation of cannabis is predominant (Australian Crime Commission, 2007).

2.1.2 Trafficking

Total quantities (kg) seized

Type of illicit drug	2006-2007[1]	1997-1998[2]
Heroin	86 kg	299 kg
Cocaine	634 kg	78 kg
Cannabis	4,782 kg	38 kg
ATS	993 kg	107 kg

1. Australian Crime Commission, 2008.

2. Australian Crime Commission, 1997-1998.

The overall trend in seizures of illicit drugs is towards a larger number of smaller shipments, i.e. over 95% in postal articles and parcels (Australian Crime Commission, 2008). This picture also goes for heroin (large number of small quantities of heroin shipped), imported mostly from or via South East Asia. Cocaine comes from Colombia, Bolivia and Peru via staging points in Africa and Asia. Seizures of large quantities remain rare. The number of ATS seizures in 2005-06 is 9,987 and the weight (in kg) was 1,297 (Australian Crime Commission, 2008).

In August 2008 the world's largest ecstasy seizure was done, i.e. 4.4 tonnes of ecstasy (Australian Crime Commission, 2007).

Estimated market value (most recent estimates)[1]

Drug	Wholesale price/kg in $ (year) and €	Range in US$ and €	Retail price/gr in $ (year) and €	Range in US$ and €
Heroin	$93,095 (2005) €67,914.14[1]	$62,064-124,127 €45,222,34-90,458.14	$310.3 (2005) €225.39	$155.2- 465.5 €112.86-338.51
Cocaine	$103,500 (2007) €75,362.69	$92,000-115,000 €67,010.30-83,761.23	$277.0 (2007) €201.29	No data found
Cannabis herb	$2,765 (2004) €2,013.30	$2,580-2,950 €1,879.11-2,143.71	$18.5 (2004) €13.44	No data found
Cannabis Resin	No data found	No data found	$18.5 (2005) €13.44	$14.8-36.8 €10.76-26.76
ATS	$5,043 (2004) €3,671.32	$3,879-6,206 €2,818.57-4,510.40	$209.5 (2005) €152.27	$31.0-387.9 €22.53-282.00
Methamphetamine	$84,500 (2004) €61,513.92	$44,313-118,168 €32,207.23-85,899.49	$188.8 (2004) €137.23	$66.0-295.0 €47,98-214,47
XTC	$16,851 (2004) €12,292.54	$11,078-30,000 €8,049.41-21,785.70	$25.2 (2006) €18.3248	$5.3-45.1 €3.85-32.80

1. UNODC, 2008.

Prices are reported per territory or province, not on average for Australia (Australian Crime Commission, 2007).

1 $1= €0.728509. Exchange rate 16 December 2008.

2.1.3 Retail/Consumption

The price of heroin decreased in 2004, returning to the prices reported before the heroin shortage in 2000-2001 (Stafford et al., 2005). The annual survey of users and key informants is the national source for prices, availability, and purity. For 2006, no nationally averaged prices were mentioned for ecstasy, methamphetamine (Black et al., 2008).

No national prices were mentioned for methamphetamine or for cocaine (Stafford et al., 2005). Gram prices of cannabis varied from $20 to $25 (€14.55 to €18.20) consistent with previous year (Black et al., 2008).

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

Life-time prevalence in the general population (14 years and older) in percentages

	2007[1]	1998[2,3]
Opiates heroin (1)	1.6	2.2
Cocaine	5.9	4.3
Cannabis	33.5	39
Meth/Amphetamines	6.3	8.8
Ecstasy	8.9	4.8

1. Australian Institute of Health and Welfare, 2008.

2. Australian Institute of Health and Welfare, 2000.

3. Darke et al., 2000.

Last-year prevalence in the general population (14 years and older) in percentages

	2007[1,2]	1998[3,4]
Opiates (heroin (3)	0.2-0.5	0.8
Cocaine	1.6-2.0	1.4
Cannabis	9.1-11.4	18.0
Meth/Amphetamines	2.3-2.9	3.7
Ecstasy	3.5-4.4	2.4

1. UNODC, 2008,

2. Australian Institute of Health and Welfare, 2008.

3. Australian Institute of Health and Welfare, 2000.

4. Darke et al., 2000.

"The proportion of males who had used meth/amphetamines in the previous 12 months declined between 1998 and 2007, but a clear trend is not evident for females (…)." (Australian Institute of Health and Welfare, 2008).

Life-time prevalence among young people (14-19 years for 2007 and 14-19 for 1998) in percentages

	2007[1]	1998[2]
Opiates (heroin)	0.3	1.7
Cocaine	2.0	1.8
Cannabis	20.0	45
ATS	2.1	7.7

General source: Australian Institute of Health and Welfare, 2008.

1. Australian Institute of Health and Welfare, 2008.

2. Australian Institute of Health and Welfare, 2000.

Last-year prevalence among young people (14-19 years for 2007 and 14-19 for 1998) in percentages

	2007[1]	1998[2]
Opiates (heroin)	0.3	0.9
Cocaine	1.1	0.8
Cannabis/marijuana	12.9	35.1
ATS	1.6	5.9

1. Australian Institute of Health and Welfare, 2008.

2. Australian Institute of Health and Welfare, 2000.

2.2.2 Problematic drug users/chronic and frequent drug users

The number of problematic/chronic-frequent users (in the general population)

	2007[1]	1998
Opioids	39,000	No data found

1. Australian Institute of Health and Welfare, 2008a.

Problematic use is not used as a measurement category. The concepts dependents versus non-dependents are used sometimes (expert's comments).

The number of injecting drug users (in the general population)

	2007[1]	1998[2]
Ever injected	328,100	2.1%
Injected last year	82,400	0.8%

1. Australian Institute of Health and Welfare, 2000.

2. Australian Institute of Health and Welfare, 2008.

The number of injecting drug users among younger people (< 20 years)

	2007[1]	1997[2]
Ever injected	(12,400) 0.7%	1.6%
Injected last year	(6,000) 0.4%	0.7%

1. Australian Institute of Health and Welfare, 2008.

2. Australian Institute of Health and Welfare, 2000.

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

No published national data found on the number of HIV infected injecting drug users.

The percentage of infections among IDUs

2006[1]	1995[2]
1%	2.1%
1.5%	0.9%

1. Black et al., 2008.

2. Stafford et al., 2005.

For 2006 this was estimated 1.5% of approximately 150,000 people who inject drugs (range 90,000 – 205,000, rounded), thus 2,250 HIV infected IDUs (Mathers et al., 2008).

"HIV prevalence among people attending needle and syringe exchange programs has remained low (around 1% in 1998-2007). But in the subgroup of men who identified as homosexual, it was 26.1% (…). " (McDonald, 2008).

The number of newly HIV infected injecting drug users

"Of 724 men and 456 women with a history of injecting drug use who were tested for HIV antibody at metropolitan sexual health centres in 2006-2007 three men (0.4%) and two women (0.4%) were diagnosed with HIV infection." (McDonald, 2008).

The number of drug related deaths by overdose

Substances	2005[1]	1998[2]
Cocaine	25	39
Opiates	374	927
ATS	No data found	No data found
Methamphetamine	94	54
Total	493	1020

1. Degenhardt & Roxburgh, 2007.

2. Degenhardt & Barker, 2003.

Numbers of overdose deaths over the decade are incomparable due to the heroin drought in Australia in late 2000/early 2001 (expert's comments; Black et al., 2008).

2.3.2 Drug related crime or (societal) harm

2004-05 statistics are the most recently published. The majority of illicit drug arrests are related to drug consumption rather than the provision or sale of substances. For example, in 2004-05 over three-quarters of arrests for marijuana/cannabis (84%) and steroids (83%) were related to the consumption of those substances (Australian Institute of Health and Welfare, 2007).

The most common drug-related offence for which people were imprisoned was dealing/trafficking drugs. From 1998 to 2005 the percentages imprisoned for this offence were 7.0 and 7.9. Between 1998 and 2005, there were no significant changes in drug-related imprisonment (Australian Institute of Health and Welfare, 2007).

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

No estimates exist on specified expenditures on supply reduction, demand reduction and harm reduction (expert's comments).

Australian governments spent in total for 2002-03 approximately $1.3 billion (€945,394,537.37)[2] on proactive illicit drug policy (treatment, law enforcement, prevention, harm reduction) and at least $1.9 billion (€1,380,952,419.11)[3] reactive, i.e. on the consequences of illicit drug use (i.e. ill health, acquisitive crime, amenity etc.). The majority of expenditure was enforcement-related while harm reduction accounted for only 2% of policy spending (Moore, 2005).

3.1.2 Other general indicators

Numbers on arrests and imprisonment for drug-law related offences (both consumer and provider arrests)

Drug type	2006-07[1]	1997/98[2]
Cannabis	No data found	64,659
Opiates	No data found	10,366
ATS	No data found	4,766
Cocaine	No data found	460
Total	82,372	80,251

1. Australian Crime Commission, 2008.

2. Australian Bureau of Criminal Intelligence, 1999.

Overall the numbers of drug-related arrests decreased over the past decade. Only for (meth)amphetamine this number has increased from 5% to 13% over the period 1996-97 to 2004-05 (Australian Institute of Health and Welfare, 2007).

Numbers on arrests and imprisonment for use/possession for personal use

Number of consumer arrests in 1997-1998: 60,774 (Australian Bureau of Criminal Intelligence, 1999). Number of consumer arrests in 2006-07: 63,520 (Australian Crime Commission, 2007).

3.2 Supply reduction: Production, trafficking and retail

More specific targets are: disrupting the manufacture and supply of illicit drugs; to enhance efforts to control the inappropriate supply and diversion of pharmaceutical drugs and precursor chemicals; dismantle organised crime (Commonwealth of Australia, 2004).

The phrasing in the nationally agreed directions for drug policy has changed slightly but the content remained largely unchanged (Commonwealth Department of Health and Aged Care, 2001a; 2001b; 2004).

Priorities of supply reduction covered by policy papers and/or law

Since its inception in 1985, the basis of drug policy is harm minimisation, i.e. a balanced approach including demand reduction, supply reduction and harm reduction (Commonwealth of Australia, 2004).

Before 1998 a cannabis expiation notice (CEN) (a law) was initiated to keep cannabis users out of prison and instead let them pay money for offending the law (Sutton & McMillan, 1998).

2 $1=€0.727227. Exchange rate 16 December 2008.
3 $1=€0.726817. Exchange rate 16 December 2008.

More effort has been focussed on supply reduction, with less emphasis on demand reduction and even less on harm reduction. Conservative lobby groups are concerned about too much emphasis on harm reduction and not enough on demand reduction. Despite these groups, nowadays harm reduction has had more focus than prevention, but the treatment part of demand reduction remains extremely well supported, with massive expansions of Commonwealth funding to it in recent years. The National Drug Strategy is a policy established and implemented by consensus between Australia's 9 governments and the NGO sector, not by law. There have been no significant legal changes (expert's comments).

Limitations in the scope of changes should be recognised due to the complex nature of the Federal system of government in Australia (e.g. the widely recognised tensions between the Australian National Council on Drugs and the Intergovernmental Committee on Drugs and the number of participants in the National Drug Strategy: 9 governments, 18 Australian and 2 New Zealand Ministers, 24 government officials, and approximately 140 individuals of various ministerial committees). Furthermore, there are clear linkages between the drug strategy and a number of other related national strategies, that need to be more effectively coordinated to enhance the scope and impact of these strategies (flexible and time-limited working groups are proposed instead of expert advisory committees to render the consultative mechanisms more efficiency).

Education must be included alongside health and law enforcement with a major role for prevention (community capacity building) and early intervention. Emphasis on development and funding of the workforce (training, professional identity, and development) (Australian Government, 2003).
An evaluation of the period 2004-2009 will be reported in 2009 (expert's comments).

Significant expansion of drug diversion programmes (diverting users away from the criminal justice system to treatment options (Hughes & Ritter, 2008).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented[1]

	2007	1997
School-based prevention	Common	Common
Mass media campaigns	Common	Common
Telephone helpline	Common	Common
Websites	Common	Common

1. Hughes, 2008.

Education must be included alongside health and law enforcement with a major role for prevention (community capacity building) and early intervention. Whether this increased focus on drug prevention has been realised is unclear. Next evaluation of the drug strategy is mid 2009 (expert's comments).

Treatments available

	2007[1]	1997[1,2]
Abstinence oriented in-patient	Common	Common
Abstinence oriented out-patient	Common	Common
Abstinence oriented mandatory	No data found	No data found
Abstinence oriented voluntary	Common	Common
Maintenance oriented	Common	Common

1. Australian Institute of Health and Welfare, 2007a.

2. Australian Institute of Health and Welfare, 2003.

Methadone treatment is an established form of opioid substitution treatment in Australia (main focus, i.e. highest number of participants). From March 2001 buprenorphine is also available. In April 2006 Suboxone was introduced (Black et al., 2008).

Australia has Drug Treatment Court regulations (cf. Canada) giving opportunities for judges in case of drug offences to refer the convicts to treatment facilities in lieu of prison for instance (expert's comments). Most jurisdictions have formal, sometimes legislated, provisions for this. These so-called 'drug courts' have been trialled, with success (Hughes & Ritter, 2008).

Priorities of demand reduction covered by policy papers and/or law

Since its inception, the basis of drug policy is harm minimisation, i.e. a balanced approach including demand reduction, supply reduction and harm reduction (Commonwealth of Australia, 2004).

The target of national drug policy is to reduce the supply and use of illicit drugs in the community. The relevant objectives are to prevent the uptake of harmful drug use and to increase access of high-quality prevention and treatment services (Commonwealth Department of Health and Aged Care, 2001a; 2001b).

Cooperation between law enforcement, health and other key stakeholders has increased significantly during the past years and will remain a focus in the new phase of the national Drug Strategy.

One of the more specific targets is to implement effective legislation and regulatory regimes, and education programmes for key justice and health professionals, and to implement effective legislation and regulatory regimes of alcohol, tobacco and other substances to reduce associated harms to the community.

Action will be taken to minimise barriers to treatment, support effective treatment interventions and promising new treatment options; build strong partnerships between treatment services and mental health services; increase the involvement of primary health care; improve access to treatment programmes and services in the criminal justice system; improve knowledge of the effectiveness of culturally secure treatment for specific groups (Commonwealth of Australia, 2004).

All Australian states and territories have legislation against the possession, manufacture and distribution of illicit drugs. Although the content of these legislations may be different in each jurisdiction area, the central themes are the same. Penalties are higher for those who found to be dealing in drugs than those possessing them for their own use, and people convicted of trafficking large amounts of drugs are liable for a greater penalty than lower level dealers (Australian Institute of Criminology, 2008).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007[1]	1998[1,2]
Syringe exchange programmes	Common	Common
Overdose treatment (naloxone)	Common	Common
Outreach work (actively seeking contact with drug users)	Common	Common
Safer use education (flyers, folders, training)	Common	Common
Drop-in centres (low-threshold)	Common	Uncommon
Other, namely HIV treatment approved in 1987	Common	Common

1. Hughes, 2008.

2. Law & Batey, 2003.

Priorities of harm reduction covered by policy papers and/or law

"Australia has largely avoided a punitive and moralistic drug policy, developing instead harm minimisation strategies and a robust treatment framework embedded in a strong law enforcement regime." (Hall et al., 2002). Since the nineties illicit drug policy is a strategic balance between supply reduction, demand reduction and harm reduction. The balance is the cornerstone, in policy and in practice. The relevant objectives here are to reduce personal and social disruption, loss of life and poor quality of life, loss of productivity and other economic costs associated with harmful drug use (Commonwealth of Australia, 2004). For instance a National Heroin Overdose Strategy was launched that aims at:

- Increasing the number of drug users entering and remaining in treatment;
- Assisting drug users to reduce their risk of overdose and increasing awareness of the consequences of overdose;
- Improving the evidence base to inform strategies and programs to reduce overdose;
- Increasing the timelines and reliability of data in respect to overdose (Commonwealth of Australia, 2001).

Cooperation between law enforcement, health and other key stakeholders has increased significantly during the past years and will remain a focus in the new phase of the national Drug Strategy (Commonwealth of Australia, 2004).

From 2003 possession of small amounts of cannabis was not punished anymore by prosecution or imprisonment. Minor cannabis offences, including cultivation of not more than two plants, were permitted (CIN).

A few years ago, a national cannabis strategy was endorsed and published with the following priorities:
- Community understanding of cannabis;
- Preventing the use of cannabis;
- Preventing problems associated with cannabis use;
- Responding to problems associated with cannabis use.

The objective is to reduce the availability and demand for cannabis, and minimise related harms within the Australian community. The four aims are:
- Increase community knowledge about cannabis and associated harms and influence (>) the level of acceptance of cannabis within the Australian community;
- Prevent the uptake of cannabis use and minimise use in individuals and the community;
- Prevent and minimise the social, physical, mental and financial harms of cannabis to individuals and the community;
- Provide effective and accessible interventions, tools, treatments and support for those who develop problems associated with their cannabis use (Commonwealth of Australia, 2006).

Expert comments

There were no significant changes over the past ten years in harm reduction interventions, mainly because it was set up so well in 1985 that we have 100% NSP coverage since that year. The implementation has changed, e.g. there is now more diversion of the criminal justice system toward more treatment opportunities instead of prison, more treatment resources, greater acceptance of people who use illegal drugs in policy-making forums, and an expansion of the use of infringement notices for minor cannabis offenders.

There is:
- More diversion from the criminal justice system to treatment and education;
- More treatment resources;
- Greater acceptance of people who use illegal drugs in policy-making forums;
- Greater acceptance of the role of families and friends of people experiencing drug-related harm, including overdose fatalities, in policy forums and service delivery;
- Expansion of the use of infringement notices for minor cannabis offenders;
- More mass media drug education;
- Trial of a supervised injecting facility;
- Better cooperation between law enforcement and health agencies – implementing a common policy;
- Increasing acceptance of the importance of the social determinants of health, though still struggling to incorporate this understanding into policy and action within the drug sector;
- A strengthened evidence base for law enforcement, treatment and harm reduction;
- One supervised injection centre in Sydney.

3.4.2 Crime, societal harm, environmental damage

Trends in different statistics over the years show that crime may have increased.
Obvious increase rates are present for:
- Drug abuse violation arrests (1980-2004);
- Numbers of arrests for:
  - drug possession and for sales and manufacturing (1998-2006);
  - different types of drugs: ceiling effect for heroin and cocaine, but increase for cannabis and other drugs and a slight increase for synthetic drugs (Bureau of Justice Statistics, 2008).

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BRAZIL

1 General information

Location:
Eastern South America, bordering the Atlantic Ocean

Area:
8,511,965 sq km

Land boundaries/coastline:
16,885 km / 7,491 km

Border countries:
Argentina 1,261 km, Bolivia 3,423 km, Colombia 1,644 km, French Guiana 730 km, Guyana 1,606 km, Paraguay 1,365 km, Peru 2,995 km, Suriname 593 km, Uruguay 1,068 km, Venezuela 2,200 km

Population:
196,342,592 (2008 est.)

Age structure:
0-14 years: 27% (male 26,986,909/female 25,961,947)
15-64 years: 66.8% (male 64,939,225/female 66,157,812)
65 years and over: 6.3% (male 5,182,987/female 7,113,707) (2008 est.)

Administrative divisions:
26 states and 1 federal district

GDP (purchasing power parity):
$1.849 trillion (2007 est.)

GDP (official exchange rate):
$1.314 trillion (2007 est.)

GDP- per capita (PPP):
$9,500 (2007 est.) (CIA World Factbook)

Drug research
Drug research activities: Formerly, drug research was concentrated in a few researchers and universities (e.g. Sao Paulo). Nowadays initiatives have started to stimulate specialised education for university students.

Main drug-related problems
Brazil is not a production country, but a trafficking and consuming country. Brazil is a producer of cannabis, trace amounts of coca cultivation in the Amazon region, used for domestic consumption, thus also a consumer country. It is an important transhipment country for Bolivian, Colombian and Peruvian cocaine heading for Europe.

2 Drug problems

2.1 Drug supply

2.1.1 Production

Brazil is not a drug production country.

There is synthetic heroin of some importance in the Eastern part of Brazil (low prices).

2.1.2 Trafficking

Total quantities (kg) seized

	2006[1]	2001[1]
Heroin	95 kg	12.5 kg
Cocaine	14,323 kg	9,137 kg
Cannabis resin	96 kg	44 kg
Cannabis plant	3 units	3,823,846 units[2]
Cannabis herb	166,780 kg	146,280 kg
ATS	0.8 kg	No data found

1. UNODC, 2008.

2. The number of seizures of cannabis plant (in units) reported, decreased rapidly from 2001 to 2006.

Cocaine seizures remain relatively low, between 7,000 and 16,000 kg annually since 2004 (International Crisis Group, 2008).

Estimated market value (most recent estimates)[11]

Drug	Wholesale price/kg in US$ (year) and €	Range in US$ and €	Retail price/gr in US$ (year) and €[2]	Range in US$ and € (Purity)
Heroin	$50,000 (2005) €34,874.41[1]	No data found	$50 (2005) €34.79	$30-70 €20.93-48.83
Cocaine	$3,000 (2005) €2,091.57	$2,000-7,000 €1,392.74-4,870.58	$12 (2005) €8.35	$10-13 €6.98-9.08
Cannabis herb	$150 (2005) €104.530	$100-180 €69.54-125.17	$0.3 (2005) €0.21	Not adequately reported
Cannabis Resin	No data found	No data found	$2.0 (2005) €1.4	$1.5-3.0 €1.05-2.1
ATS	No data found	No data found	No data found	No data found
Methamphetamine	No data found	No data found	No data found	No data found
XTC	$15,000 (2001) €10,452.98	$10,000-30,000 €6,954.39-20,863.18	$12.0 (2005) €8.35	$7.0-25.0 €4.9-17.47

1. UNODC, 2008.

2. UNODC, 2007.

1 $1=€0.697488. Exchange rate 17 December 2008.

2.1.3 Retail/Consumption

No published national data found in English on retail/consumption

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

"Although Brazil is a country of continental dimensions, no striking differences were observed concerning the use of drugs in general in the cities surveyed, which represent the five geographical regions." (Galduróz et al., 2004). This conclusion is based on data from four surveys conducted in the period 1987 to 1997.

While still relative low, drug use has increased. According to UNODC, Brazil is the largest opiates consumer in South America with 0.5% annual use rate (International Crisis Group, 2008a).

An estimated 50-53 tons of cocaine and "merla" (weed) is annually consumed in Brazil (International Crisis Group, 2008).

It may well be that these differences nowadays are substantial because Brazil has modernised and especially young people are more individualised and adhering to a modern lifestyle, in the big cities and also elsewhere (expert's comments).

Life-time prevalence in the general population (12-65 years) in percentages

	2005[1]	1998
Heroin	0.09	No data found
Morphine a.o.	1.3	No data found
Other (codeine)	1.9	No data found
Crack	0.8	No data found
Cocaine	2.9	No data found
Cannabis	8.8	No data found
ATS	3.2	No data found
Ecstasy	0.19	No data found

1. OAS/CICAD, 2006.

Last-year prevalence in the general population (12-65 years) in percentages

	2005[1]	1998
Opiates	0.5 (15-64 yrs)	No data found
Cocaine	0.7	No data found
Cannabis	No data found	No data found
Marijuana	2.6[2]	No data found
ATS	0.7	No data found
Ecstasy	0,2[3]	No data found

1. UNODC, 2008.

2. OAS/CICAD, 2006.

3. UNODC estimates based on local studies, special population group studies and on law enforcement agency assessments.

Last-month prevalence in the general population in percentages

	2005[1]	1998
Morphine	0.31	No data found
Cocaine	0.39	No data found
Crack	0.06	No data found
Marijuana	1.92	No data found
ATS	0.28	No data found

1. OAS/CICAD, 2006.

Life-time prevalence among young people (middle school students) in percentages

	2004[1]	1998
Inhalants/solvents	15.5	No data found
Opiates	0.3	No data found
Cocaine	2.0	No data found
Crack	0.7	No data found
Marijuana	2.6	No data found
ATS	3.7	No data found

1. OAS/CICAD, 2006.

Last-year prevalence among young people (middle school students) in percentages

	2004[1]	1998
Inhalants/solvents	14.1	No data found
Heroin	0.0	No data found
Cocaine	1.7	No data found
Crack	0.7	No data found
Marijuana	4.6	No data found
ATS	3.2	No data found

1. OAS/CICAD, 2006.

Last-month prevalence among young people (middle school students) in percentages

	2004	1998
Inhalants/solvents	9.8	No data found
Opiates	0.0	No data found
Cocaine	1.3	No data found
Crack	0.5	No data found
Marijuana	3.2	No data found
ATS	1.9	No data found

2.2.2 Problematic drug users/chronic and frequent drug users

Brazilian reports use the terms "dependency" or "frequent users" defined as ≥ 6 per month (expert's comments).

No reliable data about 2007 and 1998 were found on the number of problematic/chronic-frequent users (in the general population).

The number of injecting drug users in the general population

2005	1998
196,000[1] (estimated)	No data found

1. Cook & Kanaef, 2008.

No data were found on the number of injecting drug users among younger people (< 20 years).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2006[1]	1998
384,000	No data found

1. Mathers et al., 2008.

For 2006 this was estimated 48% (18-78) of approximately 800,000 people who inject drugs, thus 384,000 HIV infected IDUs (Mathers et al., 2008).

The number of newly HIV infected injecting drug users

2002[1]	1998
2,800	No data found

1. Magis Rodríguez et al., 2002.

The average incidence rate remained stable at approximately 14.3 per 100,000 inhabitants (Magis Rodriguez et al., 2002).

The number of drug related deaths by overdose

	2005[1]	1998
Alcohol	6,100	No data found
Tobacco	375	No data found
Solvents/inhalants	31	No data found
Types of cannabis	10	No data found
Hallocinogens	3	No data found
Types of cocaine	24	No data found
Tranquilizers, sedatives, antidepressants	22	No data found
Other	74	No data found

1. OAS/CICAD, 2006.

Interpreting numbers of drug related death (DRD) is difficult. The Brazilian registration system for DRD is SIM (= mortality information system). Since 2003 this is modernized. It will take another 2-3 years to be fully operative (expert's comments).

2.3.2 Drug related crime or (societal) harm

Drug/related crime has increased during the past decade. Especially in the big cities. This is to be understood primarily as drug-related gang violence (expert's comments).

Differences in harm between regions

Big cities versus other parts. In the favelas of the big cities high-risk situations are predominant. In these areas significantly higher risks exist for becoming involved in violence caused by drug gangs and gang-police violence. Elsewhere community activities are (or may be) organised that reduce harm (expert's comments).

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

Expert comments suggested that there are no structured national statistics on expenditures on drug policy available.

The Ministry of Health gave indications of the expenditures for specific types of care managed by this ministry. A total sum of expenditures is difficult to give.

a. 72,500,000 Reais (€21,505,810.13[2]) (in 2007 for out-patient treatment in 150 Centres for Psychosocial Care for both alcohol and drug problems.
b. 694,500,000 Reais (in €205,680,084.73) 2007 for 1,200 other centres of out-patient psychosocial care.
c. 460,000,000 Reais (€136,013,479.27) (in 2007 for in-patient care (20-25% of the patients are there for drug problems).
d. Unknown expenditures for medical care for drug related health problems.
e. No estimates available for 26,000 multidisciplinary primary care teams working all over the country. At least some professionals in each of these teams are trained in prevention and treatment of drug problems.
f. Expenditures for drug prevention are unknown because these activities are part of general health promotion activities (see also demand reduction among experimental drug users).

3.1.2 Other general indicators

No data were found on numbers on arrests and imprisonment for drug-law related offences.

Numbers on arrests and imprisonment for use/possession for personal use

Numbers have probably reduced due to the new law that proclaims that possession of small amounts of drugs for personal consumption is not punished anymore by imprisonment. Because it remains unclear how the principles of this new law trickles down to daily practice of police officers and judges, one should not be overoptimistic yet about the net result for drug users in the streets (expert's comments).

3.2 Supply reduction: Production, trafficking and retail

Priorities of supply reduction covered by policy papers and/or law

No reported data (in English) were found.

Brazil is neighboured by Paraguay (a high-quality cannabis producer), Colombia, Peru and Bolivia (main coca producers). It has 9000 km. frontier to defend with neighbouring countries (mostly difficult to reach routes with mountains and jungle) and 7000 km coast line. It is unfeasible to do this effectively.

The change in border control (harm reduction) has predominantly been an increased sophistication. But criminality has also increased and became more sophisticated, maybe faster than border control (expert's comments).

The policy targeting a reduction in criminalisation of drug users is only partly realised in daily reality yet. There are some 440,000 prisoners in Brazil and the annual increase is some 25,000. Approximately half of these are probably due to drug-related criminality (no statistics are available). A formal decriminalisation of possession of small amounts of illegal drugs for personal consumption has been initiated (expert's comments).

2 BRL=€0.296632. Exchange rate 17 December 2008.

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic frequent use

Prevention programmes implemented

	2007	1998
School-based prevention	Common	Uncommon
Mass media campaigns	Uncommon	Uncommon
Telephone helpline	Uncommon[1]	Uncommon
Other, namely	No data found	Uncommon

1. "Viva Voz" started in one region (Porto Alegre in the South). It now operates in three southern regions. The intention is to broaden it to other regions as well and make it a national telephone line (expert's comments).

Most important in Brazil are the 27,000 small multidisciplinary primary health care teams that operate on a daily basis all over Brazil. These teams take care of health education and care and nowadays also include prevention of drug-related problems. The mission is enhancing self care and autonomy. An example of their focus is prevention and care of misuse of medical drugs (e.g. benzodiazepines that are primarily used for losing weight but people get dependent on these drugs). The funds for these teams are continuous but small/insufficient. A second example of important preventive activities are those realised by the 240,000 community help workers in this country (expert's comments).

Five drug prevention programmes are mentioned, i.e. preschool education (< 7 yrs), primary education programme, primary and secondary education, a project focussing on street children and one on at-risk young mothers (OAS/CICAD, 2006).

Treatments available in 2007

Heroin dependence (also synthetic heroin) and cannabis use (although cannabis is regionally popular) is not considered an important health problem in Brazil. Cannabis is a problem from a criminality (supply reduction) perspective. The use of party drugs is increasing among young people. There are increasing health problems due to cocaine use but no specific treatments are available. The same goes for inhalants/solvents among children living on the street.

There exist a multitude of multidisciplinary teams taking care of health prevention/promotion and health care on local levels nationwide. Drug problems are covered as far as possible. Team members are also trained (short refreshment courses) for drug prevention and getting in contact with drug users, mainly of alcohol or over-the-counter (medical) drugs. There are now primary health care groups for women (mostly for dependence on benzodiazepines or stimulants). Brazil lacks an organised treatment network, specifically focussing on drug problems.

In 2006 138 out-patient treatment programmes existed and 36 new ones started.

The hospitals have a role but hospital care happens rarely for drug users. One reason is a lack of capacity (professionals).

This gap is filled by therapeutic communities organised by some 500 charity services in the country. These communities are mainly paid by charity funds and at best for a small part by the Federal Government.

In most cases treatment is abstinence oriented out-patients treatment. There are private clinics for those who can pay this. Maintenance treatment does not exist or is very rare. Heroin is no important problem in Brazil (expert's comments; OAS/CICAD, 2006).

Priorities of drug prevention and treatment covered by policy papers and/or law

Drug demand reduction policy was a mainly enforcement focussed policy domain. It is now to be transformed into a public health policy domain, i.e. not prison-directed but recovery-directed. The Ministry of Health has a specific drug policy since 2006. Continued effort to implement and control this remains necessary. Funds to support activities were increased but these are still insufficient. In the next years health policy is aiming at a further integration of public health care, mental health care and treatment of drug dependence. Federal laws mention minimum standards of treatment. Legal measures were confirmed to set forth measures for the prevention of drug abuse, treatment and social integration of drug users and addicts and the establishment of norms to control the unauthorized production and illegal trafficking of drugs, defines crime and

other matters. The new element concerns the decriminalisation of the possession of small amounts of drugs for personal use (expert's comments; Presidency of the Republic, 2006; OAS/CICAD, 2006).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available[3]

Types[2]	2007	1998
Syringe exchange programmes	Very common[3]	Very common
Overdose treatment (naloxone)	None	None
Outreach work (actively seeking contact with drug users)	Predominant	Predominant
Safer use education (flyers, folders, training)	Common	No data found
Drop-in centres (low-threshold)	None[4]	None

1. Secretaria Nacional Antidrogas, 2006; International Crisis Group (ICG), 2008a; Cook & Kanaef, 2008.

2. All harm reduction measures that exist now in Brazil were already existing ten years ago, but maybe less in numbers (expert's comments).

3. Already existing for 12 years (expert's comments).

4. Still remains mainly an academic discussion subject. Political support is fragmented ("don't stimulate drug use") (expert's comments).

Ten years ago harm reduction policy and activities were exclusively concentrated on HIV/AIDS treatment programmes among the general population. The number of HIV cases remained stable during the past years (an estimated total of 700,000).

The number of illicit drug users decreased by more than 70% and this user population is concentrated in low income families and areas. Harm reduction activities for these people are part of broader focussed public health activities. A small part of these activities are focussed on illicit drug use. Ex-drug users are also participating in these activities as peers. Integrated tool-kits are used for injecting drug users but probably locally, not nationwide.

Priorities of harm reduction covered by policy papers and/or law

Brazil explicitly states supporting harm reduction and needle exchange programmes in national policy documents. It however does not have substitution maintenance programmes operational (Cook & Kanaef, 2008).

3.4.2 Crime, societal harm, environmental damage

Drug-related criminality and societal harm in Brazil is most frequently found in poor neighbourhoods of big cities (*favelas*). Here armed criminal groups that control drug distribution are the driving force behind street violence, mostly directed against other gangs or against the police (International Crisis Group, 2008a). However, in general, societal harm in these slums is considered to be primarily caused by social inequality and related variables. Drug trafficking may probably be partly caused by this inequality. Young people, particularly unemployed school drop-outs are at highest risk of becoming a drug addict, delinquent or killed (Berman et al., 2008).

3 $1=€0.697488. Exchange rate 17 December 2008.

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CANADA

1 General information

Location:
Northern North America, bordering the North Atlantic Ocean on the east, North Pacific Ocean on the west, and the Arctic Ocean on the north, north of the conterminous US

Area:
9,984,670 sq km

Land boundaries/coastline:
8,893 km/ 202,080 km

Border countries:
US 8,893 km (includes 2,477 km with Alaska)

Population:
33,212,696 (July 2008 est.)

Age structure:
0-14 years: 16.3% (male 2,780,491/female 2,644,276)
15-64 years: 68.8% (male 11,547,354/female 11,300,639)
65 years and over: 14.9% (male 2,150,991/female 2,788,945) (2008 est.)

Administrative divisions:
10 provinces and 3 territories

GDP (purchasing power parity):
$773 billion (2007 est.)

GDP ((official exchange rate):
$908.8 billion (2007 est.)

GDP- per capita:
$37,300 (2007 est.) (CIA The World Factbook)

Drug research
There are many researchers spread over several University Departments and there are specialised centres for addiction research in Canada (Centre for Addiction and Mental Health and the Centre for Addiction Research of British Colombia).

Main drug-related problems
The main drug related problems in Canada are production, trafficking and consumption (mainly of cannabis and ecstasy). Canada produces cannabis with developed technologies for its domestic drug market and export to the US. Canada has an increasing ecstasy production.

2 Drug problems

2.1 Drug supply

2.1.1 Production

Canada is not an important drug producing country. An exception may be made for the production of ecstasy.

2.1.2 Trafficking

Total quantities (kg or units) seized

Type of illicit drug	2006[1]	1998[2]
Opium (raw and prepared)	124 kg	71 kg
Heroin	93 kg	105 kg
Morphine	0.7 kg	No data found
Other opiates	48 kg	No data found
Cocaine (base, salts, incl. crack)	2705 kg	2,604 kg
Coca leaf	25 kg	No data found
Cannabis herb	13,154 kg	29,598 kg
Cannabis resin	27,730 kg	15,924 kg
Cannabis oil	1,061 kg	852 kg
Cannabis plant	47,594 kg	1,025,808 kg
ATS	1.7 kg	No data found
Methamphetamine	59 kg	No data found
Non defined amphetamines	2,501 u 2,501 u	No data found
Ecstasy	66 kg 3,000,347 u	68,496 u

1. RCMP, 2004; RCMP, 2007.

2. 1998 data reported by the RCMP in 2003. Seizures abroad of drugs en route to Canada are excluded.

Estimated market value[1] (most recent estimates)

Drug	Wholesale price/kg in US$ (year) and €	Range in US$ and €	Retail price/gr in US$ (year) and €	Range in US$ and € (Purity)
Opium	$18,548 (2005) €13,098.07[1]	$17,742-28,226 €12,530.23-19,934.52	$28.9 (2006) €20.34	$18.6-34.0 €13.059-23.86
Heroin nr.3	$64,516 (2005) €45,582.16	Not adequately reported	$201.6 (2005) €141.79	$161.3-322.6 €113.22-226.04
Heroin nr.4	$76,613 (2005) €54,147.92	$64,516-181,452 €45,521.54-127,838.57	$282.3 (2005) €198.60	Not adequately reported
Cocaine	$31,580 (2006) €22,313.85	$23,680-38,600 €16,679.39-27,188.54	$70.2 (2006) €49.38	$52.6-140.4 €36.85-98.34 Purity 99%
Crack	$25,807 (2005) €18,236.37	$24,194-32,258 €17,010.69-22,684.05	$131.6 (2006) €92.54	$87.7-175.4 €61.30-122.63 Purity 37-97%
Cannabis herb	$4,830 (2006) €3,413.09	$1,160-7,740 €815,72-5,443.74	$15.8 (2006) €11.9	$8.8-21.9 €6.15 -15.31 Purity 23%
Cannabis Resin	$8,720 (2006) €6,161.43	$2,320-19,340 €1,632.62-13,609.84	$14.9 (2006) €10.45	$8.8-26.3 €6.15-18.31
ATS	No data found	No data found	No data found	No data found
Methamphetamine	$11,290 (2005) €7,976.67	$7,661-14,516 €5,409.98-10,250.79	$87.7 (2006) €61.58	$43.9-87.7 €30.53-60.99 Purity 3-100%
XTC	$40,323 (2005) €28,490.39	$38,710-48,387 €27,242.10-34,052.28	$17.5 (2006) €12.29	$8.8-35.1 €6.15-24.45 Purity 11-91%

1. UNODC, 2008.

Estimated market value[1] (estimates from before 2000)

Drug	Wholesale price/kg in US$ (year) and €	Range in US$ and € (Purity)
Opium	No data found	No data found
Heroin	$72,850 (1999) €50,634.54	$52,980-99,338 €36,878.41-69,147.36 Purity 60-65%
Cocaine	$29,460 (1999) €20,475.60	$17,810-41,000 €12,413.86-28,593.40 Purity 75%
Crack	No data found	No data found
Cannabis herb	$3,700 (1999) €2,569.59	$3,300-4,200 €2,301.51-2,928.77
Cannabis Resin	$6,200 (1999) €4,305.52	$4,000-8,600 €2,789.06-5,996.48
Cannabis oil	$2,900 (1997) €2,017.36	No data found
ATS	No data found	No data found
Methamphetamine	$24,160 (1998) €16,806.71	$21,140-27,180 €14,748.21-18,956.12
XTC	$11,590 (1999) €8,067.29	$9,934-13,245 €6,928.98-9,238.41

1. UNDCP, 2001.

1 $1=€0.706172. Exchange rate 17 December 2008.

2.1.3 Retail/Consumption

No data found on retail and consumption.

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

Life-time prevalence in the general population (> 15 years) in percentages

	2004[1]	1994[2]
Opiates heroin (1)	0.9	0.5
Cocaine/crack	10.6	3.8
Cannabis	44.5*	28.2
Meth/Amphetamines	No data found	No data found
Ecstasy	4.1	No data found

1. CAS, 2005.

2. UNDCP, 2001.

** "(…) illicit drug consumption rates were higher than ever previously recorded." (Canadian HIV/AIDS Legal Network, 2006).*

Last-year prevalence in the general population (>15 years) in percentages

	2004[1] (unless otherwise stated)	1999[2]
Opiates	0.3 (2005)	0.2
Cocaine	2.3	0.7
Cannabis	17.0	7.4
Meth/Amphetamines	1.0	0.7 (1993)
Ecstasy	1.3	No data found

1. UNODC, 2008.

2. UNDCP, 2001.

Life-time prevalence among young people (15-24 years) in percentages[1]

	2004	1994
Opiates (heroin)	No data found	No data found
Cocaine	12.5	3.7
Cannabis	61.4	39.2
ATS	No data found	No data found
Speed	9.8	2.8

1. CAS, 2007.

Last-year prevalence among young people (15- 24 years) in percentages[1]

	2004	1994
Opiates (heroin)	No data found	No data found
Cocaine	5.5	No data found
Cannabis	37.0	No data found
ATS	No data found	No data found
Speed	3.9	No data found

1. CAS, 2007.

Past-3-months prevalence among young people (15-24 years) in percentages[1]

	2004	1994
Opiates (heroin)	No data found	No data found
Cocaine	3.5 found	No data found
Cannabis	29.7 found	No data found
ATS	No data found	No data found
Speed	No data found	No data found

1. CAS, 2007.

Among youth cannabis is the most frequently used illegal drug during lifetime (61.4), followed by hallucinogens (16.4%), then cocaine (12.5%), ecstasy (11.9%), speed (9.8%) and inhalants (1.8%).

Young people use more illegal drugs than adults. The use of any of 5 illegal drugs (24.2% versus 15.2%) and any of 6 illegal drugs (62.1% versus 42.3%).

Studies show "(…) that crack use has become increasingly prevalent in street drug-use populations across Canada in the past ten years although considerable local differences exist." (Canadian Centre on Substance Abuse, 2006).

2.2.2 Problematic drug users/chronic-frequent drug users

There are no data on the number of problem drug users in the general population. A national expert survey suggested that there were more than 80,000 opioid users in Canada in 2003 (Popova et al., 2006).

The number of injecting drug users in the general population

2007[1]	1998[2]
125,000	50,000-90,000

1. Fischer et al., 2006.

2. Fischer et al., 2000.

The number of IDUs in Canada (over the total population in 1999 of some 31 million) is estimated to range from 50,000 to 90,000 and has varied little throughout the last decade (Fischer et al., 2000).

In 2000-2001 there were an estimated 125,000 injection drug users in Canada, most of whom were using heroin and cocaine (Fischer et al., 2000).

The substantial difference is probably due to differences in methodology (expert's comments).

No data found on the number of injecting drug users among younger people (< 20 years).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2006[1]	1998
38,456	No data found

1. Mathers et al., 2008.

For 2006 it was estimated that 13.4% (2.9% - 23.8%) of 286,987 people who inject drugs (range 220,690 – 375,173) were infected with HIV.

Around 2000 HIV among injection drug users was increasing dramatically, with Vancouver having the highest rate in North America (Canadian Foundation for Drug Policy, 2001).

Public Health Agency of Canada, 2008: 5,465 cumulative adult HIV-positive test reports of injecting drug users (end of June 2007). The proportion of adult HIV-positive tests attributed to IDU has gradually decreased from 24.6% in 2001 to 19.3% in 2006 (Public Health Agency of Canada, 2008).

The number of newly HIV infected injecting drug users

2005[1]	1998
350-650	No data found

1. CAS, 2008.

The estimated number of new HIV infections among IDU is 350-650 in 2005. The number of new HIV infections among people who inject drugs (IDU) appears to be decreasing overall. (Public Health Agency of Canada, 2008).

The number of drug related deaths by overdose

2002[1]	1995[2]	% with opiates involved
1,455	804	56.6% (excludes HIV deaths related to IDU)

1. Rehm et al., 2006.

2. www.ccsa.ca/Eng/Statistics/Canada/Pages/CanadianProfile1999.aspx

2.3.2 Drug related crime or (societal) harm

The long term trend in the number of police-reported drug offences has remained stable over the past 15 years. It must be noted that trends in drug offences are directed influenced by levels of police enforcement (Tremblay, 1999).

Much of the increase in police-reported drug offences can be attributed to a rise in offences for the possession of cannabis. Between 1992 and 2002 684 (11%) murder incidents in Canada were reported to be drug related. Of these, 176 (26%) were gang related (Desjardins & Hotton, 2004).

"The 2007 national crime rate reached its lowest point in 30 years. Canadian police services reported a 7% decline in crime, the third consecutive annual decrease." (…) "Among the few crimes to increase in 2007 were drug offences and impaired driving, both of which tend to be influenced by police enforcement practices." (Dauvergne, 2008).

Drug related violent activities are on the rise in 2003 in most areas in Canada, although the increase cannot be quantified through hard data (Royal Canadian Mounted Police, 2004). No other data found.

3 Drug policy

3.1 General Information

3.1.1 Policy expenditures

Estimates of total annual expenditures in 2007 on drug policy measures

	2008[1] (planned budget in million $ over 5 years)	10 years ago
Supply reduction	$169.7 54% (€98.4[2])	No data found
Demand reduction	$141 46% (€81.7)	No data found
Harm Reduction	$0	No data found
Total	$310. 100% (€180.1)	No data found

1. Government of Canada, 2008.

The three plans of the national anti-drug strategy of August 2008 cover several proposals.

1. Preventing illicit drug use $30 million (€17.4) million over 5 years;
2. Treating those with illicit drug dependencies by promoting collaboration among governments and supporting agencies to increase access to treatment services, approximately $111 million (€64.37 million);
3. Combating the production and distribution of illicit drugs by increasing law enforcement's capacity to combat marihuana grow operations, synthetic drug production and distribution operations; $102 million (€59.15 million) over 5 years and an additional $67.7 million (€39.26 million) if the Enforcement Action Plan has passed i.e. the mandatory minimum penalties: (www.hc-sc.gc.ca/ahc-asc/activit/strateg/drugs-drogues-eng.php)

3.1.2 Other general indicators

Numbers available on arrests and imprisonment for drug-law related offences

2007[1]	1998
101,000	No data found

1. Dauvergne, 2008.

Drug offence rates reached an all-time high in Canada in 2002, with almost 93,000 charges recorded under the Controlled Drugs and Substances Act. Furthermore, three out of four prisoners in Canada are assessed as having issues related to substance abuse

The overall rate of drug offences was driven by cannabis offences, which accounted for about 6 in 10 drug offences. Possession of cannabis, which comprised three-quarters of all cannabis offences in 2007, rose by 6%.

Following five consecutive increases, cocaine offences remained stable while other drug offences, such as heroin, crystal meth and ecstasy, were up by 6% (Thomas, 2005).

Numbers available on arrests and imprisonment for use/possession for personal use

Much of the increase in police-reported drug offences can be attributed to a rise in offences for the possession of cannabis (Desjardins & Hotton, 2004).

2 CAD = € 0.579880. Exchange rate 17 December 2008.

3.2 Supply reduction: Production, trafficking and retail

Priorities of supply reduction covered by policy papers and/or law

There is currently less emphasis on harm reduction. Today's National Anti-drug Strategy includes three action plans: preventing illicit drug use, treating those with illicit drug dependencies, and combating the production and distribution of illicit drugs. Harm reduction is not mentioned explicitly in this strategy (www.hc-sc.gc.ca/ahc-asc/activit/strateg/drugs-drogues-eng.php).

Ten years ago Canada's Drug Strategy was pointing at the following activities for the next future: strengthening drug prevention (because this is most cost-effective), responding to the needs of young (and young adult) people as well as seniors, enhancing border interdiction activities, increasing efforts to reduce drug-related crime, identifying and assessing innovating approaches to treatment and rehabilitation, and respond to the considerable harm associated with injecting drug use (Interdepartmental Working Group on Substance Abuse, 1998).

Enforcement practices of the courts and the police with respect to marijuana have changed markedly in Canada since the 1970s (Riley, 1998).

Police now primarily (but by no means solely) target growers and distributors instead of consumers. In Canada, the police and the judiciary have created a de facto softening of penalties for possession, not the politicians. The police target the growers, but the expansion of the cannabis industry has continued during the past years (Bouchard, 2007; forthcoming).

Bill C-8 was a major revision of legislation in order to better fulfil its international obligations. Bill C-8 (The Controlled Drugs and Substances Act or CDSA) adopted on 20 June 1996, formed part of Canada's National Drug Strategy. It was intended "to provide a framework for the control of import, production, export, distribution and use of mind-altering substances." (Leduc & Lee, 1996).

The CDSA law replaced the Narcotic Control Act and parts III and IV of the Food and Drugs Act on May 14, 1997. It prohibits the importation, production, sale, provision and possession of a wide variety of controlled drugs and substances.

Simple possession of 30 g or less of cannabis (marihuana/marijuana) or 1 g or less of cannabis resin (hashish) is a *summary conviction only* offence and does not normally result in a criminal record.

Judges have considerable discretion in sentencing offenders under the CDSA. Sentences may take into account aggravating factors, e.g. selling drugs to children, or near schools or other public places where youth frequent (Health Canada, 2008).

The new developments concern the decriminalisation of the possession of small amounts of drugs for personal use.

New legislation will amend the focus of the Controlled Drugs and Substances Act (CDSA) on drugs in schedule I (opiates, cocaine and methamphetamine) and schedule II (cannabis). Under CDSA no mandatory prison terms are mentioned, but currently these will be introduced. The legislation will allow the Drug Treatment Court (DTC) to impose a penalty other than a mandatory sentence on an offender who has previous conviction for a serious drug offence (without other aggravating factors and presuming that the offender will finish the DTC programme) (www.hc-sc.gc.ca/ahc-asc/activit/strateg/drugs-drogues-eng.php).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented[1]

	2007	1998
School-based prevention	Common	No data found
Mass media campaigns	Common	No data found
Telephone helpline	No data found	No data found

1. Collin, 2006.

No other data found on the rate of implementation of these preventive interventions.

Treatments available

Insufficient data available for determining the rate of implementation of available treatments.

Some treatment programmes are focussed on abstinence, other on reducing harm and stabilising the life of drug users. Only methadone is legally permitted in Canada for maintenance (long-term) treatment (Collin, 2006).

Both in-patient and out-patient treatment options exist.

Methadone maintenance is given when other treatment options have failed, and addicts must participate in mandatory counselling (Collin, 2006).

Drug Treatment Courts (DTCs) were initiated as a type of coercive treatment. The first one started in 1998 and is still reserved for criminals with a non-violence offence (Canadian Centre on Substance Abuse, 2007).

Some treatment programmes specialise in treating an addiction to a particular substance, e.g. solvent, heroin (Collin, 2006).

The opioid treatment system has expanded during recent years (especially the availability of MMT). Treatment utilization rates are still lower than in most Western European countries (Popova et al., 2006).

Priorities of demand reduction covered by policy papers or/and law

Some legislation allows for diversion of persons from the criminal justice system to treatment (alternative measures). Many provinces/territories also require those convicted of impaired driving offences to attend substance abuse education and/or treatment programmes.

Treating those with illicit drug dependencies by promoting collaboration among governments and supporting agencies to increase access to treatment services:

- Enhance treatment and support for First Nations and Inuit people;
- Provide treatment for young offenders with drug-related problems;
- Enable the RCMP to refer youth with such problems to treatment programmes;
- Support research on new treatment models;
- Support provinces and territories to improve treatments systems and address critical treatment needs of at-risk youth and
- Other vulnerable populations.
- (Government of Canada, 2008).

Drug Treatment Courts (DTCs) were initiated as a type of coercive treatment. The first one started in 1998 and is still reserved for criminals with a non-violence offence. The second one started in Vancouver at the end of 2001. Four other DTCs may have been implemented now in Ottawa, Winnipeg, Regina and Edmonton.

These courts provide judicially-supervised treatment in lieu of incarcerating individuals who have a substance use problem that is related to their criminal activities, e.g. drug-related offences such as drug possession, use, or non-commercial trafficking and/or property offences committed to support their drug use such as theft or shoplifting (Canadian Centre on Substance Abuse, 2007).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007	1998
Syringe exchange programmes	Common	Common
Overdose treatment (naloxone)	No data found	No data found
Outreach work (actively seeking contact with drug users)	Common	Common
Safer use education (flyers, folders, training)	Common	No data found
Drop-in centres (low-threshold)	Common	No data found
Other, namely safe injection rooms[1]	Uncommon	Not at all
Other, namely medical heroin prescription	Uncommon	No data found
Other, namely Safer crack use kits[2]	Uncommon	No data found

1. Kerr & Palepu, 2001.

2. Pearshouse et al., 2007; expert's comments.

Community-based outreach programmes and needle exchange programmes were among the first HR programmes introduced in Canada (Collin, 2006).

The first official Canadian NEP was opened in 1989. There are now more than 30 NEPs operating across Canada (Canadian Centre on Substance Abuse, 2007).

There is explicit supportive reference to HRI in national policy documents (IHRA, 2008).

Priorities of harm reduction covered by policy papers and/or law

The initial National Drug Strategy was launched in 1987, renewed in 1992 and named Canada's Drug Strategy (CDS), the continued objective was to reduce the harmful consequences of drug use on individuals, families, and communities by addressing both the supply of and the demand for licit and illicit drugs (Collin, 2006).

Harm reduction was part of this strategy although criticisms pointed that this strategy heavily relied on enforcement-based legislation (Canadian HIV/AIDS Legal Network, 2006).

The national strategy was renewed in 2003 for a period of 5 years (2008).
Criticisms in 2003 were: 1) that demand and harm reduction actions were still not prioritised and remained ill-funded compared to supply reduction measures. On the contrary, a substantial proportion of the funds previously directed towards demand reduction were reallocated to supply reduction; and 2) that the strategy has been slow to respond to the growing body of scientific evidence indicating that many of the harms associated with drug use are due to enforcement based politics and practices. In 2004-2005 Drug Strategy funds were used to re-certify 550 existing DARE officers and to recruit and train 150 additional officers, despite of the fact that DARE has been proved ineffective in reducing drug use among students (e.g. Canadian HIV/AIDS Legal Network, 2006, p.8). The proposed prevention campaign, targeting at youth and their parents, is reminiscent of the US-style "Just Say No" campaign that did not work (Canadian Aids Society, 2007).

Harm reduction is not mentioned anymore in today's National Anti-drug Strategy http://www.hc-sc.gc.ca/ahc-asc/activit/strateg/drugs-drogues-eng.php.

Even though harm reduction was initially directed toward injection drug use, many jurisdictions have since adapted this approach to other illicit drugs, as well as to legal substances (Collin, 2006).

In June 2003 Health Canada approved an exemption from the application of the Controlled Drugs and Substances Act to allow the launch of a supervised injection site pilot project "Insite". Insite has been the subject of evaluation by a group of researchers, resulting in over 20 peer-reviewed publications in the past 4 years. Canada also endorsed experiments with

medical heroin prescription (heroin-maintenance therapy). Finally, harm reduction interventions are also slowly introduced in prisons (http://www.cfenet.ubc.ca/cfepapers.php?id=47).

3.4.2 Crime, societal harm, environmental damage

The long term trend in the number of police-reported drug offences has remained stable over the past 15 years. It must be noted that trends in drug offences are directed influenced by levels of police enforcement (Tremblay, 1999).

Much of the increase in police-reported drug offences can be attributed to a rise in offences for the possession of cannabis. Between 1992 and 2002 684 (11%) murder incidents in Canada were reported to be drug related. Of these, 176 (26%) were gang related (Desjardins & Hotton, 2004).

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CHINA

1 General information

Location:
Eastern Asia, bordering the East China sea, Korea Bay, Yellow Sea, and South China Sea, between North Korea and Vietnam

Area:
9,596,960 sq km

Land boundaries/coastline:
22.117 km/14.500 km

Border countries:
Afghanistan, Bhutan, Burma, India, Kazakhstan, North Korea, Kyrgyzstan, Laos, Mongolia, Nepal, Pakistan, Russia, Tajikistan, Vietnam

Population:
1,330,044,605

Age structure:
0-14 years: 20.1% (male 142,085,665/female 125,300,391)
15-64 years: 71.9% (male 491,513,378/female 465,020,030)
65 years and over: 8% (male 50,652,480/female 55,472,661) (2008 est.)

Administrative divisions:
23 provinces, 5 autonomous regions and 4 municipalities
note: China considers Taiwan its 23rd province; see separate entries for the special administrative regions of Hong Kong and Macau

GDP (purchasing power parity):
$7.099 trillion (2007 est.)

GDP (official exchange rate):
$3.251 trillion (2007 est.)

GDP- per capita (PPP):
$5,400 (2007 est.) (CIA The World Factbook)

Drug research
Dr Lin Lu, director of the National Institute of Drug Dependence (linked to Peking University) is one of the key researchers in the field of drug addiction. Others include Wu Zunyou (AIDS), Konglai Zhang (Director of China AIDS Network).

Main drug-related problems
China plays a substantial role in methamphetamine production. Drug consumption is on the rise though still relatively low compared to Western countries. Heroin (injection) is popular though there are indications for a decline. Cannabis use is reported to increase. Also ATS and ketamine are getting increasingly popular.

2 Drug problems

This China report deals with China mainland. Excluded from the analysis are Macao, Taiwan and Hong KONG SAR's.

2.1 Drug supply

2.1.1 Production

China, Myanmar and the Philippines are the world's largest producers of methamphetamine. Large seizures of amphetamine have occurred in many Asian countries, including China, Hong Kong, Indonesia, Myanmar, Taiwan and Thailand (Cook & Kanaef, 2008).

Countries reporting to UNODC cite the origin of seized drugs as a means of identifying source countries of ATS manufacture. During the 2002-2006 period, the three countries in East and South-East Asia most often mentioned as sources for methamphetamine were China (38%), Myanmar (21%), and the Philippines (21%). Additionally, several countries have noted that organized drug syndicates are becoming increasingly transnational and substantially more sophisticated in their methods of trafficking (UNODC, 2008a).

In recent years China dismantled a number of laboratories: in the year 2005-2006 this included 90 methamphetamine & other ATS labs and 2 MDMA labs, 12 heroin and 2 opium labs (UNODC, 2008).

2.1.2 Trafficking

Total quantities (kg) seized

	2007	1998
Opiates (heroin)	4,594[1]	7,358[3]
Opiates (opium)	1,184[1]	1,215[3]
Opiates (morphine)	174[2]	146
Cocaine	358.2[2]	No data found
Cannabis (herb)	751 (in 2001)[1]	No data found
Cannabis (resin)	No data found	No data found
ATS (amphetamines)	No data found	No data found
ATS (methamphetamines)[1]	6,626[1]	1,608
ATS (Ecstasy pills)	2.21 million[1]	2.7 million (2001)[3]

1. CNNCC, 2008.

2. UNODC, 2008.

3. UNDCP, 2001.

Heroin seizures increased in 2001 (13,200 kg) and remained stable for a number of years, but dropped in 2006 to 5,792 kg and 4,594 kg in 2007. Most heroin now comes from Afghanistan, but also from Thailand and Central Asia.

The Chinese authorities reported 18 seizures involving heroin trafficked into China via Pakistan, up from eight in 2005 and none in 2004. A rather high proportion of third country foreigners (mostly from West Africa) were involved (9% of the persons arrested in Pakistan and 33% of the persons arrested in China). The total volume of these seizures was still small (132 kg in 2006 out of 2.8 mt of heroin seized in Pakistan and 62 kg out of 5.8 mt seized in China) but the shipments indicate the development of emerging routes and changes in market supply chains (UNODC, 2008).

The World Drug Report 2008 reports a 6.1% decrease in trafficking in amphetamines in China. The Chinese authorities reported the detection and dismantling of 53 methamphetamine producing laboratories in 2006, a 43% increase over 2005 reports (UNODC, 2008).

According to the World Drug Report 2008, there has been an increase in China in 2006 in trafficking of cocaine with 0.4%. The largest cocaine seizures in Asia in 2006 were made in China (UNODC, 2008).

Legal cases and arrests related to seizures increased significantly over the last years (CNNCC, 2008).

Table 11: Top Countries (rank ordered) in methamphetamine seizures (in metric tons): 2000 - 2006

Country (Top 10)	2000	2001	2002	2003	2004	2005	2006	Total
China	20.9	4.8	3.2	5.8	2.7	6.8	6.1	50.3
Thailand	10.1	8.3	8.6	6.5	2.1	0.8	0.5	37.0
USA	0.0	2.9	1.1	3.9	3.1	5.1	4.5	20.6
Taiwan, Prov. of China	0.8	1.2	1.3	4.0	3.2	1.7	0.2	12.4
Philippines	1.0	1.7	0.9	3.1	0.8	0.1	0.8	8.4
Mexico	0.6	0.4	0.5	0.7	1.0	0.9	0.8	4.8
Myanmar	0.8	1.0	0.4	0.1	0.0	0.4	0.6	3.3
Japan	1.0	0.4	0.4	0.5	0.5	0.1	0.1	3.2
Indonesia	0.0	0.0	0.0	0.0	0.0	0.4	1.3	1.7
Australia	0.0	0.0	0.0	0.5	0.2	0.1	0.1	1.0
Subtotal	**35.3**	**20.7**	**16.5**	**25.2**	**13.6**	**16.4**	**14.9**	**142.6**
Percent of all seizures	98.8%	98.2%	98.4%	98.6%	97.0%	96.0%	94.6%	

Source: UNODC, Annual Reports Questionnaire Data/DELTA

(UNODC, 2008.)

Estimated market value

Drug	Wholesale price/kg in US$ (year) and €	Range in US$ and €	Retail price/gr in US$ (year) and €	Range in US$ and €
Opium	$21,000 (2005)[1] €16,394.47[1]	$6,500–80,000 (2005)[1] €5,146.12 -63,380.98	$1.8 (2004)[2] €1.40	$1-3 (2004)[2] €0.780689-2.342067
Heroin	No data found	No data found	$36.2 (2004) €28.30	18.1- 96.5[2] (2004) €14.3261-76.3906
Cocaine	No data found	No data found	No data found	No data found
Cannabis herb	No data found	No data found	$0.8 (2004)[2] €0.62	0,6 – 1,2 (2004)[2] €0.475082-0.949974
Cannabis resin	No data	No data found	No data found	No data found
Amphetamine	No data	No data found	No data found	No data found
Methamphetamine	$6,650 (2005)[1] €5,200.29	$6,000 -12,000 (2005)[1] €4,755.76-9,513.18	$6.0 (2004)[2] €4.69	$2,4-9,7 (2005)[1] €1.90162-7.68489
Ecstasy	No data found	No data found	$4.5 €3.51	$2,5-12 (2005)[1] €1.97846-9.49743

1. UNODC, 2008.

2. UNODC, 2007.

1 $1= €0.780689. Exchange rate 24 February 2009.

2.2 Drug Demand

Estimates on drug use prevalence in China vary greatly. It is also hard to make out whether certain figures refer to experimental/recreational or problematic drug users or simply to drug users in general. There is some good quality regional research but no hard national data. To date no national drug-related household survey has ever been undertaken in China.

2.2.1 Experimental/recreational drug users in the general population

The specifics of China's drug problem have been thoroughly documented by Hao et al., who described the prevalence and patterns of illicit drug use in the heavily populated areas of Yunnan, Sichuan, Gansu, and Guangdong provinces between 1993 and 2000 (Lu et al. 2008). Hao and colleagues screened more than 50,000 individuals aged 15 or above in these communities and interviewed possible users. The data from these subjects showed that the lifetime prevalence of illicit drug use was 1.08, 1.60, and 1.52% in 1993, 1996, and 2000 respectively. Last year prevalence of use was 0.91, 1.11, and 1.17% in 1993, 1996, and 2000 respectively. Heroin was by far the most used drug: 51.8% of drug users had used the heroin in 1993, 83.4% in 1996, and 95.9% in 2000. The two most frequent routes of heroin administration were inhalation (89.2% in 1993, 60.1% in 1996, and 93.5% in 2000) and intravenous injection (27.2% in 1993, 31.0% in 1996, and 25.7% in 2000) (Lu et al., 2008).

Most countries of East and South-East Asia reported declines in opiate use in 2006, reflecting the strong declines of opium production in Myanmar and the Lao PDR in recent years. Countries reporting declines included China, Indonesia, the Philippines, Malaysia and Myanmar (UNODC, 2008).

According to the World Drug Report 2008, there was a large increase in the use of cannabis in China in 2006 (UNODC, 2008).

In terms of sheer volume, China has one of the world's largest methamphetamine markets, although the methamphetamine prevalence rates are probably lower than in several of the other South-East Asian countries. Reports in 2006 identified large increases in the use of Methamphetamine pills and crystalline methamphetamine. China reports that, of registered drug users in 2004, 1.7% used ATS, while that number grew to 11.1% in 2007. These rates are consistent with increases in reported clandestine methamphetamine laboratories and rising seizures in recent years (UNODC, 2008).

The use of amphetamines in 2006/2007 is 0.3 – 0.5% of the population (annual prevalence) (UNODC, 2008).

The use of ecstasy in 2006 has largely increased (UNODC, 2008).

Heroin use is widespread in China, with an estimated 600,000 people using the drug (Cook & Kanaef, 2008).

As for consumption, heroin (injection) is popular and ATS and ketamine are getting increasingly popular. Cannabis and cocaine are not used widely (expert's comments). Existing national and regional monitoring systems are often not capable of generating representative data. For example, neither India nor China – collectively accounting for 38% of the world population – has ever conducted a nationally representative survey on ATS consumption (UNODC, 2008).

Irregular or incomplete reporting from countries is compounded by the varying quality of data provided. Specifically, and similar to other drugs, information about the extent of ATS consumption (prevalence rate) is the weakest indicator, as household and other surveys are lacking or are outdated in some countries in several of the most affected regions (according to supply side indicators and/or expert opinion). Unfortunately, this happens to be the case in several populous countries (i.e. China and India), thus affecting regional and global prevalence estimates (UNODC, 2008).

2.2.2 Problematic drug users/chronic and frequent drug users

The number of problematic/chronic-frequent users (in the general population)

	2007[1]	1998[2]
Opiates	80% of 1.1 million – 5 million	596.000[2]
Cocaine	No data found	No data found
Cannabis	No data found	No data found
ATS	20% of 1.1 million – 5 million	No data found

1. Expert's comments.

2. Chenzheng et al., 2004.

Illicit drug use, particularly heroin use, has quickly spread and has reached epidemic levels in the last 10 years. The number of registered drug users increased from 70,000 in 1990 to 1.16 million at the end of 2005; whereas in 2004 the estimated number of actual users was 3.5 million (CNNCC, 2008; Lu et al., 2008).

However, according to UNODC in China, the number of current drug users went down from 1,160,000 to 950,000, reason why UNODC believes that the situation regarding heroin is under control. UNODC China does not use 'registered drug users' as indicator as this number is biased by among others double counting (expert comment). According to the World Drug Report, there was also a strong decline in use of heroin and other opiates in China in 2006 (UNODC, 2008).

China is experiencing a rapid expansion in ATS use, particularly in urban areas, and ecstasy and methamphetamine appear to be the most popular drugs consumed (Cook & Kanaef, 2008).

In 1999 there were 681,000 registered drug users. 71.5% (487,000) were using heroin (Narcotics Control in China, 2000).

In 2005 1.16 million drug users were registered. The use of 'new' drugs like MDMA and methamphetamine gained popularity in large and medium-sized Chinese cities (Lu et al., 2008).

In 2008 1.1 million drug users are registered at the Public Security Bureau PSB. The estimates of the real number of drug users is much higher, i.e. around 5 million. Around 80% of them use heroin/opiates. ATS use is rapidly increasing. There are probably 1 million ATS users in China. Cannabis and cocaine are not popular (expert's comments).

Estimates of the number of people who inject drugs in China for 2008 range between 356,000 and 3.5 million, and numbers as high as ten million have been reported in Chinese media. Heroin, methamphetamine, diazepam, pethidine and morphine are the most commonly injected drugs. The level of involvement in sex work among female drug users is reported to be increasing, and in Guangxi it is estimated that 80% of female sex workers inject drugs. Heroin is also the most commonly injected drug in Hong Kong (Cook & Kanaef, 2008).

60-70% of all heroin users are estimated to inject. For ATS 10-20% of the users are IDU (expert's comments).

A 2005 estimate mentions that the prevalence of injecting drug users age 15-64 is between 0.19% and 0.31% and the number of people who inject drugs is between 1,800.000 and 2,900.000 (Mathers et al., 2008).

The ever-increasing popularity of intravenous administration of heroin is seen as a key trend in Chinese drug use, fuelled by the switch many users make from "chasing the dragon" to intravenous injection. Another trend is the increasing use of new types of drugs. While opiates, especially heroin, remain the most commonly used drugs in China, MDMA (methylenedioxymethamphetamine or ecstasy) and methamphetamine have recently gained popularity in large and medium-sized Chinese cities (Lu et al., 2008).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2007[1]	1998[2]
637,000	12,536

1. Lu et al., 2008.

2. CNNCC, 2000.

In China, it is estimated that over half of new HIV infections are occurring among the country's estimated 1.14 million registered drug users. Almost one million people are currently living with HIV in China and drug users account for 63.7% of this population (Lu et al., 2008).

In China, the estimates HIV prevalence among IDUs varies greatly. According to Cook & Kanaef, adult HIV prevalence among IDU is estimated between 0-80% (Cook & Kanaef, 2008).

In China, it is estimated that 110 needles are distributed per IDU per year, and that only 7% of people who inject drugs have access to NSP services in areas where such services exist (Cook & Kanaef, 2008).

The number of newly HIV infected injecting drug users

2007	1998
21,000[1]	No data found

1. UNAIDS, 2007.

The number of HIV infections due to injecting drug use has increased during the past ten years, but since last year main cause for new infections is not IDU (this is decreasing) but unsafe sex (expert's comments).

Among the 50,000 estimated new infections during 2007, heterosexual transmission was 44.7%, and transmission through IDU was 42% (UN Theme Group, 2007). 2007 was the first year in which injecting drug use was not the number one reason for infections, which was transmission through heterosexual sex (expert's comments).

The estimated HIV prevalence of people who inject drugs is between 7.96 and 19.2 (Mathers et al., 2008).

Priorities of harm reduction covered by policy papers and/or law

No published national data found in English on priorities of harm reduction covered by policy papers and/or law.

The number of drug related deaths by overdose

This is not monitored systematically in China. There are no data available on drug related deaths by overdose (expert's comments).

2.3.2 Drug related crime or (societal) harm

No published data in English found on drug related crime or (societal) harm.

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

It is estimated that more than 100 billion yuan (€11.4 billion)[2] is spent (2007) on drug control, and maybe 10 billion yuan (€1.1 billion) on harm reduction (expert's comments).

The policy expenditures as a whole increased over the past ten years, as supply reduction, demand reduction and harm reduction measures have increased (expert's comments).

3.1.2 Other general indicators

In June 2000, Information Office of the State Council of the People's Republic of China issued the strategy of Narcotic Control in China, including:

- Sticking to the position of strict drug control;
- Constantly strengthening drug control legislation;
- Cracking down on drug-related crimes;
- Exercising strict control over the precursor chemicals;
- Treatment and rehabilitation;
- Raising the consciousness of the entire people versus drugs;
- Developing international cooperation in drug control.

The most striking event was that on 15 April 2005, the Politburo Standing Committee (PBSC) of the Communist Party of China Central Committee (CPCCC) held an unprecedented meeting to discuss anti-drug policy. President Hu Jintao himself chaired the meeting and called for a "People's War against Drugs". Right after that, the State Council issued a five-year anti-drug plan. Since then, greater efforts in fighting drugs have been witnessed in China, with more integrated law enforcement, more comprehensive public drug awareness campaigns, more flexible treatment and rehabilitation measures, and more productive international cooperation.

In conclusion, currently, the Chinese government adopts more comprehensive and pragmatic policies and takes measures targeting both the supply and demand of the drug use problem. The measures targeting the supply include continuously cracking down on drug smuggling activities and many international collaboration and cooperation. The measures targeting the demand reduction include discouraging new users through anti-drug education campaigns and treatment and rehabilitation work. Chinese mass media have increased anti-drug education to the general population. Anti-drug education has been included in the curricula for primary and secondary school students. More importantly, harm reduction strategy also supported by central government (Hao, 2007).

Numbers available on arrests and imprisonment for drug-law related offences

According to the China National Narcotic Control Commission, in 1999 there 65,000 drug-related criminal cases were reported against 56,000 in 2007. 67,000 suspects were arrested (an increase of 38.6% and 36.3% resp. compared to 2006). In 2007, 36,111 drug criminal cases were brought before court (all courts in China) resulting in 33,285 sentences (Narcotics Control in China, 2000; CNNCC, 2008).

There are no data available on arrest for possession for personal use (expert's comments).

Additional information

Death is imposed on possession of 50 grams or more of heroin. On possession of lower quantities life sentence is imposed (expert's comments).

2 1 CNY = €0.114. Exchange rate in December 2008.

3.2 Supply reduction: Production, trafficking and retail

Main focus in China is on production and trafficking. In recent years China has put a lot of efforts in both drug supply measures and scaling op drug treatment including harm reduction facilities.

The information on actually implemented supply reduction measures is limited. Besides policy statements delineating general objectives no information could be found. Laws and policy papers underline the importance of supply reduction. These statements include general principles, drug control publicity and education, drug control, drug treatment measures, drug control international cooperation, legal responsibilities and supplemental articles.

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007[1]	1998[1]
School-based prevention	Common	Uncommon
Mass media campaigns	Common	Uncommon
Telephone helpline	Common	No data found

1. Expert's comments.

School based drug prevention has been available for some years. Schools are obliged to run programmes. This is basically anti-drug education.

Mass media campaigns exist and usually include celebrities like movie stars that take part in the anti-drug programme.

A national website and telephone helpline has existed for 5 years (expert's comments).

Treatments available

	2007[1]	1998[1]
Abstinence oriented in-patient	Common	No data found
Abstinence oriented out-patient	Common	No data found
Abstinence oriented mandatory	Common	No data found
Abstinence oriented voluntary	Common	No data found
Maintenance oriented	Common	No data found

1. Expert's comments.

Abstinence-oriented drug treatment is available both mandatory and voluntary but covering only parts of the country. This treatment includes detoxification centres, rehabilitation camps (reform through labour/ re-education), and community centres (this is a new feature, that was approved June 2008).

In 2004, in China officially 105,151 people treated were treated for drug addiction, of which 90% for opiates, 0.6% amphetamines, ecstasy 6.2% and sedatives 3.3% (UNODC, 2008).

In the past decade more drug rehabilitation centres were established, a new model of drug treatment was explored in which physical detoxification, psychological rehabilitation and social reunification was integrated (community centres). The coverage of the community-based drug maintenance treatment was expanded, the number of drug free communities increased (expert's comments).

Since 2005, there is a big increase in number of Methadone Maintenance Treatment clinics and other harm reduction services (experts' comments). China, which had 320 opioid substitution therapy (OST) sites in late 2006, has pledged to scale up methadone provision to more than 1,000 sites by the end of 2008. A recent estimate reported that 95,000 people are accessing MMT from 503 clinics (Cook & Kanaef, 2008).

There are more than 700 Methadone Maintenance Treatment Clinics now (June 2008). It is expected that by the end of the year 2008 this number will be 800 MMT (expert's comments).

Priorities of demand reduction covered by policy papers and/or law

Ten years ago there were no drug policy statements regarding drug treatment (expert's comments).

On January 12, 1995, the State Council issued The Procedures for Compulsory Drug Addition Treatment which marked the beginning of Chinese government's comprehensive thinking in addressing the demand reduction of illegal drug problem (Swanstrom & He, 2006).

There are instructions for the establishment of drug rehabilitation centres. NNCC issued the "Notice on Implementing the Guiding Principles of President Hun Jintao's Important Instructions and Promoting Forcefully the Construction of Drug Rehabilitation Centers" (CNNCC, 2008).

There are also Drug Treatment regulations in effect (expert's comments).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007[1]	1998[1]	1998 -> 2007 Increase (+) Decrease (-) In numbers
Syringe exchange programmes	700-736	0	+
Overdose treatment (naloxone)	Uncommon	0	+
Outreach work (actively seeking contact with drug users)	Uncommon	0	+
Safer use education (flyers, folders, training)	Uncommon	0	+
Drop-in centres (low-threshold)	Uncommon	0	+

1. Expert's comments.

Needle and syringe exchange started in 2000, along with some other Harm Reduction interventions on small scale.

In the last year (2007), the number of NSP sites is reported to have increased in China, India, Malaysia, Myanmar, Taiwan and Nepal (small increase), although decreasing in Bangladesh. NSP services have been rapidly scaled up in China in recent years, from 92 sites in early 2006 to an estimated 775 sites in seventeen provinces in 2007 (Cook & Kanaef, 2008)

Expert comments

Everything started to change in 2003, with the outbreak of the SARS epidemic. The commitment of the government to the issue of HIV prevention is sincere. It approved many interventions including harm reduction measures and is taking care for funding of these interventions (expert's comments).

Priorities of harm reduction covered by policy papers and/or law

In China, there is an explicit supportive reference to harm reduction in national policy documents (Cook & Kanaef, 2008).

A national policy framework to control and prevent HIV/AIDS was developed by the State Council in 1998, comprising two national strategic plans: the Chinese National Medium- and Long-term Strategic Plan for HIV/AIDS Prevention and Control, 1998-2010 (State Council Document No. 38), and the China Action Plan for Stopping and Controlling AIDS, 2001-2005

(State Council General Office Document No. 40). As a follow up to these plans, the State Council Coordination Committee on HIV/AIDS was upgraded to a State Council AIDS Working Committee (SCAWCO) in 2004 the revised Law on the Prevention and Control of Infectious Diseases, issued in August 2004, which strengthens the principles of prevention/intervention, mass education, non-discrimination and reiterates the responsibility of all levels of Government to respond to the AIDS epidemic. From year 1995 to 2000, more actionable programs were conducted. Several trial programmes[3] were set up and key workshops conducted (1st workshop on effective intervention strategies – November 1997) and long term plans[4] issued. For example, medium - long term plan on prevention and control HIV/AIDS 1998 -2010 issued in November 1998.

Virtually all provinces, municipalities and autonomous regions have established Long- and Medium Term Plans and Plans of Action, and strategic plans developed by certain ministries, the All China Federation of Trade Unions (ACFTU), the All China Women's Federation (ACWF), and the Youth League. However, some Ministries as Communication and others would only have Annual Program on HIV, instead of Plan of Action.

Under China's Action Plan for Reducing and Preventing the Spread of HIV/AIDS (2006-2010) issued on February 27, 2006, it is required that in the year of 2007, the awareness on HIV/AIDS among all the population aged between 15-49 of age should reach 75% in the urban areas, 65% for people living in the rural areas while 70% for mobile population (Tung, 2008).

Changes regarding drug policy during the past ten years

Fundamental bill on HIV/AIDS regulation 2006 include HR interventions. It sanctions officially harm reduction, but not needle exchange. In general, the Central Chinese government now supports harm reduction measures (expert's comments).

3.4.2 Crime, societal harm, environmental damage

No information found on interventions/measures to reduce harm for society.

3 For example, 1st condom trial – September 1996; 1st needle exchange program trial – October 1999.

4 For example, medium - long term plan on prevention and control HIV/AIDS 1998 -2010 issued in November 1998.

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COLOMBIA

1 General information

Location:
Northern South America, bordering the Caribbean Sea, between Panama and Venezuela, and bordering the North Pacific Ocean, between Ecuador and Panama

Area:
1,138,910 sq km

Land boundaries/coastline:
6,309 km/ 3,208 km (Caribbean Sea 1,760 km, North Pacific Ocean 1,448 km)

Border countries:
Brazil 1,644 km, Ecuador 590 km, Panama 225 km, Peru 1,800 km, Venezuela 2,050 km

Population:
45,013,672 (July 2008 est.)

Age structure:
0-14 years: 29.4% (male 6,688,530/female 6,531,768)
15-64 years: 65.1% (male 14,292,647/female 15,017,204)
65 years and over: 5.5% (male 1,072,644/female 1,410,881) (2008 est.)

Administrative divisions:
32 departments and 1 capital district

GDP (purchasing power parity):
$327.7 billion (2007 est.)

GDP (official exchange rate):
$171.6 billion (2007 est.)

GDP- per capita (PPP):
$7,400 (2007 est.) (CIA World Factbook)

Drug research
Colombia has a small number of individual drug researchers and no drug research institutes. There is no national survey tradition (prevalence of drug use), thus there are no high-quality statistics on this subject. The "Observatório Nacional de Drogas" of the "Dirección Nacional de Estupefacientes" (the Monitoring Centre of the National Directorate of Psychotropic Substances) and the Ministry for Social Protection, are both responsible for drug demand reduction and drug policy. The Observatório is currently planning a national survey.

Main drug-related problems
Colombia is a producer of coca, opium poppy, and cannabis. It is the world's largest producer of coca derivatives and supplies most of it to the US and other countries. Heroin exports are mostly for the US market.

2 Drug problems

2.1 Drug supply

2.1.1 Production

Total estimated quantities (kg)

	2007[1]	1998[2]
Production of cocaine	600,000	332,000
Reported opium poppy cultivation	714 ha (-30%)	No data found

1. UNODC, 2008.

2. UNDCP, 1999.

Additional information

"Colombian cocaine production estimates for 2004 and later are based on new research and cannot be directly compared with previous years." (UNODC, 2008).

In spite of the gradual reduction of illicit cultivations in the past years, Colombia continues to be the biggest world cocaine producer with 62% of the global production (Mini Dublin Group, 2008).

Estimated market value (most recent estimates, ranges not reported) [1]

Drug	Wholesale price/kg in US$ (year) and €	Retail price/gr in US$ (year) and €
Opium	$251 (2006) €174.65[1]	No data found
Heroin nr.4	$9,992 (2006) €6,953.58	$20.1 (2005) €13.98
Cocaine	$1,762 (2006) €1,226.04 Purity 87-95%	$2.0 (2005) €1.39
Coca base	$879 (2004) €611.67	No data found
Cannabis herb	$40 (2006) €27.82	$0.4 (2005) €0.27
Cannabis Resin	No data found	$1.9 €1.3
ATS	No data found	No data found
Methamphetamine	No data found	No data found
XTC	No data found	$22.6 €15.70

1. UNODC, 2008.

Average wholesale price in 2007 for cocaine was $2,198/kg (€1,526.82) and for heroin, $10,780/kg (€7,487.36) (UNODC, 2008).

Prices (in US$) increased most from 2003 to 2007 for opium latex, heroin and cocaine Annual wholesale prices of cocaine increased from approximately $1,500 to $2,500/kg (€1,041.59 to €1,735.90).

Annual farm-gate prices of opium latex increased from $150 to nearly $300 (€104.19 to €208.40).

Annual wholesale prices of heroin increased from approximately $6,000 to $11,500/kg (€4,170.19 to €7,992.57) (UNODC, 2008).

Four characteristics of Colombian production are put forward that explain difficulties of developing estimates:
- Ill-defined growing seasons;
- Reduced field sizes due to eradication actions;
- Frequent cloudy skies hampering satellite detection;
- Growing cycles varying across regions making sometimes two crops per year possible (Paoli, 2009).

2.1.1 Trafficking

Estimated quantities (kg)

	2006[1,2,3]	2001[1]
Opium (raw and prepared)	154	4
Heroin	515/537 (2006/2007)	787
Morphine	27 (sharp ups and downs)	47
Other opiates	1,623 (2005)	1
Cocaine (base + salts)	181,310	75,087
Cannabis herb	109,629	86,610
Cannabis resin	0.2	No data found
Cannabis seed	No data found	11
Cannabis plants	4,405	No data found
Amphetamine	56	No data found
Methamphetamine	No data found	No data found
Ecstasy	17,752 units	No data found

1. UNODC, 2008.

2. Mini Dublin Group, 2008.

3. UNODC/Government of Colombia, 2007.

The statistics on trafficking are considered unreliable because the total quantities that are trafficked annually are not known (Thoumi, 2005; expert's comments).
Prices do not appear to be dependent on the amount of drugs seized on their way to consumers. Seizures may increase but the prices in the consumption countries remain fairly stable (expert's comments).

Around 1990 a change in production volumes of cocaine took place. Organised crime succeeded in a transition from lower quantities and higher prices to larger quantities and lower prices. During recent years a roughly estimated average of 40% of the cocaine production is seized and 10% of the heroine production. One would expect that when the quantities of drugs seized are higher, then also the prices are becoming higher. Strangely enough this is not the case (expert's comments).

In the eighties most Colombian cocaine went straight to the USA. Since the nineties most of it goes to Mexico. Mexican organised crime exports this to the USA because they could easier specialise it these trails. The Mexican organisations took it over. The result was that the import of Colombian cocaine is more hidden for the USA. The result is also that the Mexicans have now more trouble with the new American policy program compared with the Colombians (expert's comments).

Estimated market value (most recent estimates)[1]

Drug	Wholesale price/kg in US$ (year) and €	Retail price/gram in US$ (year) and €
Opium	$2,510 (2006) €1,743.94	No data found
Heroin nr.4	$9,992 (2006) €6,940.96	$20.1 (2005) €13.97
Cocaine	$1,762 (2006) €1,223.92 Purity 87-95%	$2.0 (2005) €1.39
Coca paste	$879 (2004) €611	No data found
Cannabis herb	$40.3 (2005) €28	$0.4 (2005) €0.27
Cannabis Resin	No data found	$1.9 (2004) €1.31
ATS	No data found	No data found
Methamphetamine	No data found	No data found
XTC	No data found	$22.6 €15.73

1. UNODC, 2008; 2007.

2.1.3 Retail/Consumption

No published national data found in English on retail/consumption

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

Colombia has not established a legal framework and the necessary strong measures regarding drug consumption, treatment and rehabilitation (Mini Dublin Group, 2008).

During several years there has been a lack of interest in drug demand in Colombia. In 2007 however, Colombia was incorporated in a group of experts from several South American countries that, jointly with the OAS-CICAD and UNODC, promotes international best practices, research and surveys about drug use in schools, the general population, in the work place and in prisons. The results of the first general population survey have to be published yet. The last survey dates from 1998 (expert's comments; Mini Dublin Group, 2008).

Two national surveys on drug use among the general population have been conducted in Colombia in the past, in 1992 and in 1996. In between a few surveys among young people have been published. Colombia is now planning a third general population survey on drug use. The proposals of the call for tender are evaluated now and the work may start in July 2008 (Ministério de la Protección Social, without year; expert's comments).

No data (in English) were found on life-time and last-year prevalence in the general population in percentages.

Life-time prevalence among young people in percentages

	2005 (14-17 years)[1]	2004[2] (12-17 yrs)	2001 (10-24 years)[2]
Heroin	No data found	1.3	1.1
Morphine	No data found	1.1	No data found
Cocaine base/paste	1.42	1.4	1.2
Cocaine	1.92	1.8	4.5
Marijuana	8.20	7.6	8.9
Hashish	No data found	1.1	No data found
ATS	No data found	5.6	No data found
Ecstasy	3.49	2.2	No data found

1. UNODC, 2006.

2. Castaño, 2007.

Last-year prevalence among young people in percentages

	2005[1] (14-17 yrs)	2004[2] (12-17 yrs)	2001[2] (10-21 yrs)
Heroin	No data found	1.2	0.6
Morphine	No data found	1.0	No data found
Cocaine base/paste	1.59	1.3	0.8
Cocaine	2.43	1.6	3.0
Marijuana	9.45	6.6	6.2
Hashish	No data found	0.9	No data found
ATS	No data found	3.2	No data found
Ecstasy	3.40	2.8	1.7

1. UNODC, 2006.

2. Castaño, 2007.

Last-month prevalence among young people (14-17 years) in percentages

	2005[1]	2004[2]
Heroin	No data found	No data found
Morphine	No data found	No data found
Cocaine base/paste	0.63	No data found
Cocaine	0.52	No data found
Marijuana	2.51	2.3
Ecstasy	0.87	0.8
Inhalants	1.04	1.0

1. UNODC, 2006.

2. Castaño, 2007.

2.2.2 Problematic drug users/chronic and frequent drug users

Colombia has not established a legal framework and the necessary strong measures regarding drug consumption, treatment and rehabilitation (Mini Dublin Group, 2008).

No data in English found on the number of problematic/chronic-frequent users (in the general population) and the number of injecting drug users (in the general population).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

There is no programme for drug-related HIV a multi-year program to combat HIV infections in general (Ministerio de la Protección Social, 2008).

Heroin is not an important drug in Colombia. There are no statistics on injecting drug use, DRD and drug-related HIV (expert's comments).

The number of HIV infected injecting drug users

In 2000 there were 6 cases of AIDS among injecting drug users and 5 cases of HIV infected people (Magis Rodríguez, 2002).
UNAIDS (2008) does not report recent numbers.

There are no data found on the number of newly HIV infected injecting drug users and on the number of drug related deaths by overdose.

2.3.2 Drug related crime or (societal) harm

During the past ten years Colombia has increasingly suffered from drug related crimes. This has started in the 90s (expert's comments).

It remains difficult to discern drug-related crimes from crimes related to guerrilla warfare, because both are related (see also next area).

Production of cocaine is concentrated in several regions of the country. Illicit coca cultivation expanded in the 80s and 90s mainly in the remote areas of the Amazon basin. This may indicate that drug/related crime is also concentrated in these regions (UNODC/Government of Colombia, 2007).

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

Expenditure statistics are not specifiable to illegal drugs. Money spent on drug-related actions and non-drug-related actions are impossible to separate in expenditure data. The same goes for guerrilla-directed actions (the guerrilla controls much of the drug production areas) and drug-directed actions. Both are related and the statistics are rarely separable (expert's comments).

3.1.2 Other general indicators

No data were found on the numbers available on arrests and imprisonment for drug-law related offences.

3.2 Supply reduction: Production, trafficking and retail

General information

The Colombian government funds the SIMCI system for satellite determination of coca plantations in Colombia (Integrated System of Monitoring Illicit Cultivations). SIMCI is said to facilitate the analysis of changes in cultivation areas and steering eradication activities." (Mini Dublin Group, 2008). However, the system may be unreliable because the technique is too crude.

There are two kinds of crop eradication measures, by airplanes and manual. The manual method is not very effective because most areas are controlled by the guerrilla, i.e. remote areas in the Amazon basi. (UNODC, 2007; expert's comments).

Crop eradication may have been effective in the beginning of the 90s when there were very big plantations of poppy and coca leave. Nowadays there are very many small poppy plantations (expert's comments). "The average field size decreased from 1.13 hectares in 2005 to 0.85 hectares in 2006 (25%). This could reflect farmer's attempts to avoid detection and aerial spraying." (UNODC/Government of Colombia, 2008).

Besides, poppy farmers are predominantly the owners of the land and coca leave farmers use public land. Thus, poppy farmers may be more effectively punished by confiscation of their land and/or incarceration instead of eradication of crops. This kind of punishments is less effective for coca farmers (expert's comments). Furthermore, alternative development programs that are meant to offer farmers possibilities to produce legal products, have largely failed. (Vargas, 2005a). Furthermore, progress in the eradication of illicit cultivations in Colombia is partly counter-acted by displacing production to neighbouring countries, especially Peru, Bolivia and Equador (Mini Dublin Group, 2008).

Priorities of supply reduction covered by policy papers and/or law

The Plan Nacional de Lucha contra las Drogas 1998-2002 is formal policy but the anti-drug plans of the USA are predominant. From 1999 to 2005 the plan Colombia was dominant. After 2005 the USA plans have to be evaluated annually (expert's comments).

In 2007 a national development plan was presented to the national Congress. It contains an integral plan for combating illegal drugs, without a specific funding strategy. Activities brought forward in this plan are funded by several sources including arrangements from international cooperation. Several proposed activities are decentralised to municipal level. The actions mentioned or foreseen (e.g. on drug prevention, treatment, and supply reduction) have not been activated yet. (OAS/CICAD, 2006) The present government defines five main areas for its counter-drug policy: illicit crops, interdiction and arms smuggling; money laundering and forfeiture of illegal assets; internal consumption; and shared responsibility (Plan Nacional de Desarrollo, 2007).

"U.S. anti-drug policy influences the Colombian armed conflict both directly and indirectly. The line between counter-insurgency and anti-drug policy has become blurred. The current policy has evolved from actions meant to curtail drug demand into national security considerations, reinforcing military involvement in Colombia's armed conflict. This situation even affects fumigation decisions." (Vargas, 2005).

The Colombian government has established a good system of legal tools for the extinction of domain of acquired assets by drug producers and drug traffickers. There were two new laws adopted and enforced in 2002, the laws 785 and 793, on domain extinction and money laundering (Mini Dublin Group, 2008).

In 1986 a law on illegal drugs was initiated, but little has happened in the following years. For instance drug users could not be put in prison anymore for the possession of small amounts of drugs, but this article gained insufficient political support because there was no political debate, it was not an important issue. Thus no actions have been undertaken to support this change in daily practice situations (expert's comments).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007	1998
School-based prevention	Not at all	No data found
Mass media campaigns	Uncommon	No data found
Telephone helpline	Uncommon	No data found

There are no publications on drug prevention.

Prevention of drug use was initiated in former years, funded by the UNODC and with international cooperation (USA, UK, Germany, Swiss, Netherlands, Japan and Italy), but this funding stopped.

A broader oriented prevention program is currently running, the Competencias Cuidadanas, aiming at health promotion via life skills. Drugs are not easy to separate from the other subjects in this programme.

Treatments available

	2007	1998
Abstinence oriented in-patient	Uncommon	No data found
Abstinence oriented out-patient	Uncommon	No data found
Abstinence oriented mandatory	Uncommon	No data found
Maintenance oriented	No data found	No data found

There are no publications on drug treatment. Treatment is not organised on a regular basis in Colombia.

3.4 Harm reduction

3.4.1 HIV and mortality

There are no data found on harm reduction interventions.
Heroin and injecting drug use is not an important issue in Colombia. Harm reduction for drug dependent people has no high priority. There are no statistics on injecting drug use, Drug Related Deaths and drug-related HIV infections (expert's comments). Colombia is not mentioned as a case for Latin America in the tables of the latest Global State of Harm Reduction (Cook & Kanaef, 2008).

3.4.2 Crime, societal harm, environmental damage

The two preceding administrations defined programmes to reduce harm caused by eradication as an emergency response to the problems caused by aerial spraying. The programmes were based on individual agreements or manual eradication pacts with these farmers. These programmes failed and farmers massively protested in 1996. The current presidency indicated that these programmes should target a structural regional development. USIAD provide more than 90% of the funds for these development programmes. However, the USIAD strategy leans on early eradication of illicit crops in exchange for funding

local projects. This differs from the idea of the new President. The impetus is on eradication and the complex processes and agreements needed for regional development are not addressed. Besides, it is quite difficult to gain ground for the state in remote areas controlled by armed guerrilla groups (TNI Briefing series, 2003; International Crisis Group, 2008).

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CZECH REPUBLIC

1 General information

Location:
Central Europe, southeast of Germany

Area:
78,866 sq km

Land boundaries/coastline:
1,989 km / 0 km (landlocked)

Border countries:
Austria 362 km, Germany 815 km, Poland 615 km, Slovakia 197 km

Population:
10,220,911 (July 2008 est.)

Age structure:
0-14 years: 13.8% (male 723,521/female 684,786)
15-64 years: 71.2% (male 3,653,679/female 3,619,872)
65 years and over: 15.1% (male 604,419/female 934,634) (2008 est.)

Administrative divisions:
13 regions and 1 capital city

GDP (purchasing power parity):
$251 billion (2007 est.)

GDP (official exchange rate):
$175.3 billion (2007 est.)

GDP- per capita (PPP):
6.6% (2007 est.) (CIA World Factbook)

Drug research
Addiction research started in the early years after the collapse of the communist system. Already in the late nineties there were quite some research publications on drug issues. Research is done by a number of experts at different research centres/ universities. The Czech National Monitoring Centre for Drugs and Drug Addictions is responsible for monitoring drug issues and hosting the National Focal Point of the REITOX network of the EMCDDA. It coordinates collaboration and the exchange of information between research institutions, service providers, and public administration bodies. National scientific journals are also an important dissemination channel for drug-related research findings (Country overview).

Main drug-related problems
The main drug problem in Czech Republic is consumption (high prevalence rates of cannabis and ATS use). Czech Republic is also a major methamphetamine producer (pervitin). Part of this production is exported to Germany.

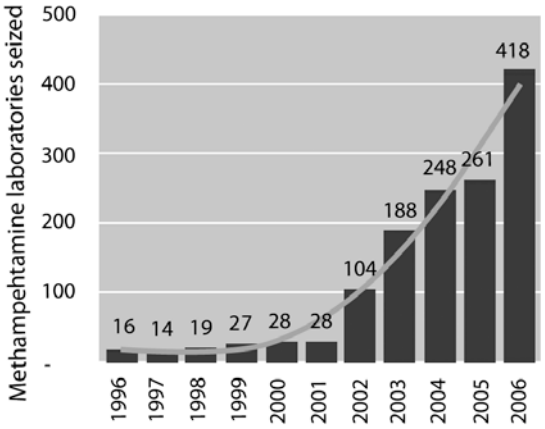
2 Drug problems

2.1 Drug supply

2.1.1 Production

Pervitin is produced in the Czech Republic exclusively, and is partly exported abroad, mainly to Germany.

Number of methamphetamine laboratories reported to UNODC fall sizes: 1996-2006



(UNODC, 2008)

There has been an increase in the hydroponic growing of marijuana with a high THC content (up to 20%). National Drug Squad data indicate that, to a growing extent, this activity also appears to be pursued by offenders of Vietnamese descent. Thirty-four hydroponic growing rooms were detected in the country in 2007, 4 of which were run by individuals of Vietnamese origin. The number of detected hydroponic marijuana growing rooms increased dramatically in the first 5 months of 2008; 61 growing rooms were detected and thousands of cannabis plants, dozens of kilograms of the final dry product, and extensive amounts of technical equipment were seized. 53 of the 61 growing rooms detected were run by Vietnamese operators. The marijuana produced in these growing rooms was partially intended for illegal distribution on the Czech market, with the rest intended for export, mainly to Germany and the Netherlands (Annual Report, 2008).

2.1.2 Trafficking

Total quantities (kg) seized and number of seizures

	2005	2002	1998
Heroin	36 kg[1] Number of seizures: 69[2]	34 kg[1] Number of seizures: 55[2]	147.3 kg Number of seizures: 10 (1997: 3.4 kg Number of seizures: 10[15] 1999: 108.38[16])
Cocaine	10 kg[3] Number of seizures: 11[4]	6 kg[3] Number of seizures: 12[4]	41.3 kg Number of seizures: 4 (1997: 62.5 kg Number of seizures: 2[15] 1999: 140.8 kg[16])
Cannabis resin	5 kg[5] Number of seizures: 116[6]	11 kg[5] Number of seizures: 93[6]	
Herbal cannabis	103 kg[7] Number of seizures: 397[8]	101 kg[7] Number of seizures: 293[8]	5.5 kg Number of seizures: 19 (1997: 5 kg Number of seizures: 14[15] 1999: 111.2 kg[16])
Cannabis plants	1,780 plants[9] Number of seizures: 46[10]	3,173 plants[9] Number of seizures: 58[10]	No data found
Ecstasy	19,010 tablets[11] Number of seizures: 32[12]	88.491 tablets[11] Number of seizures: 37[12]	1999: 673 tablets[16]
Methamphetamine	5 kg[13] Number of seizures: 209[14]	4 kg[13] Number of seizures: 297[14]	No data found
Amphetamine	0.04 kg[15] Number of seizures: 5[16]	0.4 kg[15] Number of seizures: 3[16]	Pervitin 0.198 kg Number of seizures: 93 (1997: 0.67 kg Number of seizures: 58[17] 1999: 25.5 kg[18])

1. Quantities (kg) of heroin seized, 1995 to 2005, EMCDDA Table SZR-8-SEIZURE-HEROIN-QUANTITY.htm

2. Number of heroin seizures, 1995 to 2005, EMCDDA Table SZR-7-SEIZURE-HEROIN-NUMBER.htm

3. Quantities (kg) of cocaine seized, 1995 to 2005, EMCDDA Table SZR-10-SEIZURE-COCAINE-QUANTITY.htm

4. Number of cocaine seizures, 1995 to 2005, EMCDDA Table SZR-9-SEIZURE-COCAINE-NUMBER.htm

5. Quantities (kg) of cannabis resin seized, 1995 to 2005, EMCDDA Table SZR-2-CANNABIS-QUANTITY.htm

6. Number of Cannabis resin seizures, 1995 to 2005, EMCDDA Table SZR-1-SEIZURE-CANNABIS-NUMBER.htm

7. Quantities (kg) of herbal cannabis seized, 1995 to 2005, EMCDDA Table SZR-4-SEIZURE-HERBAL-CANNABIS-QUANTITY.htm

8. Number of herbal cannabis seizures, 1995 to 2005, EMCDDA Table SZR-3-SEIZURE-HERBAL-CANNABIS-NUMBER.htm

9. Quantities (number of plants) of cannabis plants seized, 1995 to 2005, EMCDDA Table SZR-6-SEIZURE-CANNABIS-PLANTS-QUANTITY.htm

10. Number of seizures of cannabis plants, 1995 to 2005, EMCDDA Table SZR-5-SEIZURE-CANNABIS-PLANTS-NUMBER.htm

11. Quantities (kg) of amphetamine seized, 1995 to 2005, EMCDDA Table SZR-12-SEIZURE-AMPHETAMINES-QUANTITY.htm

12. Number of amphetamine seizures, 1995 to 2005, EMCDDA Table SZR-11-SEIZURE-AMPHETAMINE-NUMBER.htm

13. Quantities (kg) of Methamphetamine seized, 2001 to 2005 - EMCDDA Table SZR-18-SEIZURE-METHAMPH-QUANTITY.htm

14. Number of Methamphetamine seizures, 2001 to 2005 - EMCDDA Table SZR-17-SEIZURE-METHAMPH-NUMBER.htm

15. Quantities (tablets) of ecstasy seized, 1995 to 2005, EMCDDA Table SZR-14-SEIZURE-XTC-QUANTITY.htm

16. Number of ecstasy seizures, 1995 to 2005, EMCDDA Table SZR-13-SEIZURE-XTC-NUMBER.htm

17. National Report, 1999.

18. Csémy et al., 2002.

Numbers and volumes of seizures of main types of drugs in 2003–2006

Drug type (units)	2003		2004		2005		2006	
	Number	Volume	Number	Volume	Number	Volume	Number	Volume
Marijuana (g)	737	77,816.9	748	168,528	602	103,337	556	108,352
Pervitin (g)	264	9,630.0	302	3,423	316	5,310	406	5,249
Heroin (g)	78	9,135.2	67	35,904	107	36,340	86	27,877
Cannabis plants (pcs)	117	3,125	49	1,617	53	1,780	44	2,276
Hashish (g)	98	64,805.0	163	22,693	123	4,625	42	466
Ecstasy (tablets)	33	75,992	52	108,379	41	19,010	29	26,259
Cocaine (g)	20	2,623.6	10	3,283	16	10,169	11	4,708
LSD (doses)	4	65	7	326	5	3,067	7	1,748

(National Report, 2007)

Although there are available data about the total quantity of drugs seized in the Czech Republic and Slovak Republic (table 1), we must note that the information value of the data is limited by the fact that it is difficult to determine whether some third country was the destination country or not and of course also by the fact that the police and customs only manage to seize a part of the transported drugs (Csémy et al., 2002).

Estimated market value

in 2007

Cannabis[1]

Cannabis resin: Mean price €8.4/gr (min. €5.2/gr – max. €17.2/gr)

Herbal cannabis: Mean price €5.7/gr (min. €0.7 /gr – max. €12.1/gr)

Heroin[2]

Brown heroin: Mean price €37.5/gr (min. €17.2/gr – max. €69/gr)

Purity of heroin[3]

Mean price €41.5 (min. €4.7 – max. €89)

Cocaine products[4]

Mean price €78/gr (min. €51.7/gr – max. €103.4/gr)

Purity of cocaine products[5]

Mean price €56 (min. €12 – max. €100)

Synthetic drugs[6]

Amphetamine: Mean price €32.5/gr (min. €20.7/gr – max. €34.5/gr)

Purity of Synthetic drugs[7]

Mean price €54 (min. €3.3 – max. €75)

1. Price of cannabis at retail level, 2005, EMCDDA Table PPP-1 Part (i)-PRICE-CANNABIS.htm

2. Price of heroin at retail level, 2005, EMCDDA Table PPP-2 Part (i)-PRICE-HEROIN.htm

3. Purity of heroin at retail level, 2005, EMCDDA Table PPP-6 Part (i)-PURITY-HEROIN.htm

4. Price of cocaine products at retail level, 2005, EMCDDA Table PPP-3 Part (i)-PRICE-COCAINE.htm

5. Purity of cocaine products at retail level, 2005, EMCDDA Table PPP-7 Part (i)-PURITY-COCAINE.htm

6. Price of synthetic drugs at retail level, 2005, EMCDDA Table PPP-4 Part (i)-PRICE-SYNTHETIC.htm

7. Purity of synthetic drugs at retail level, 2005, EMCDDA Table PPP-8 Part (i)-PURITY-SYNTHETIC.htm

Estimated market value in 1997

Cannabis	€0.6/gr
Cocaine	€42.8-€85.7/gr of pure substance
Heroin	€28.6/gr of pure substance

(National Report, 1999)

Average and most frequently reported street drug prices in 2004–2006 according to the Police of the Czech Republic (€)

Drug type	2004		2005		2006	
	Average	Modus	Average	Modus	Average	Modus
Marijuana (g)	6.0	7.1	6.0	3.5	6.7	5.3
Hashish (g)	9.9	8.8	8.5	8.8	9.5	7.1
Ecstasy (tablet)	8.1	8.8	7.4	7.1	7.8	5.3
Pervitin (g)	38.8	35.3	36.0	35.3	37.4	35.3
Heroin (g)	37.0	35.3	38.5	35.3	38.5	28.2
Cocaine (g)	81.1	70.6	79.7	70.6	78.0	70.6
LSD (dose)	6.0	5.3	6.4	5.3	5.6	5.3

Note: 2006 average exchange rate has been used for re-calculation in 2004–2005.

(National Report, 2007)

Heroin reaches the European market, including the Czech Republic, mainly through the Balkan route. The Balkan route is used for the transit of heroin from Afghanistan and neighbouring countries to Europe via some of the central and east European countries. Cannabis continues to be the most frequently trafficked drugs. In 2006, cannabis represented 51% of all drug seizures.

In 2004, Czech authorities observed an increase in pervitin (methamphetamine) exported to neighbouring countries such as Germany and Austria, and also detected clandestine pervitin laboratories. In 2005 and 2006, the quantity of pervitin was 5 Kg. Furthermore, in 2006 the police recorded a particular increase in the production of pervitin in the Central Bohemian, Olomouc, and Moravian-Silesian regions. There are no domestic sources of production of dance drugs in the Czech Republic. Most of the ecstasy tablets on the Czech market come from the Netherlands, Belgium and Poland (Country overview).

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

According to surveys from 2002 and 2004, approximately 20% of the adult population have tried an illicit drug, and the results suggest that the increasing trends from the previous decade have stopped or been reversed, even as far as cannabis is concerned, and this is also true among the group of young adults aged under 35. These favourable trends are also confirmed by the results of the 2006 HBSC survey among 15-year-old pupils of the ninth grades of elementary schools, which show a decline in prevalences of all types of illicit drugs (with the exception of inhalants), i.e. also with cannabis and ecstasy. According to data from available studies, approximately 2.6% of the adult population of the Czech Republic consume cannabis regularly (i.e. approximately 190,000 persons use cannabis at least once a week (National Report, 2007).

One of the most recent general population surveys on drug use was the 2004 General Population Survey on Health Status and Lifestyle of the Population of the Czech Republic, implemented among people aged 18–64 by the Institute for Health Information and Statistics (IHIS). Overall, the latest general population surveys suggest that the increases in lifetime experience of drug uses, observed during the previous decade, have now stopped. Lifetime prevalence for cannabis use was 20.6%, followed by ecstasy (7.1%), and magic mushrooms and other natural hallucinogens (3.5%) (Country overview).

According to the results of ESPAD surveys on drug use among young people, the data available from 1995, 1999 and the most recent survey in 2003 show that the prevalence of use of illegal drugs increased in the second half of the 1990s. However it appears that the situation for different drugs began to diverge: while there was a further increase in the prevalence of cannabis and ecstasy use from 1999 to 2003, the prevalence of stimulant and opiate use declined (Country overview).

Lifetime experience with an illicit drug other than marijuana/hashish among 15–16 year olds increased from 4.3% in 1995 to 9.0% in 1999 and 11.2% in 2003 (ESPAD survey). In particular, marijuana (herbal cannabis) or hashish (cannabis resin) use is very prevalent among this age group. In 2003, 44% of 16-year olds reported that they had tried these substances at least once (compared to 35% in 1999 and 18% in 1995). Lifetime use of ecstasy for the same age range increased from 4% in 1999 to 8% in 2003. A decline was noted for lifetime amphetamine use, which decreased from 5% in 1999, to 4% in 2003 (Country overview).

The last HBSC study among 15-year-old students, conducted in 2006, reported 25% for lifetime prevalence of cannabis, indicating a declining trend compared to 2002 (31%). Lifetime prevalence of inhalants (9%) was the second most commonly reported. Last month prevalence of cannabis was reported to be 10%. Compared to 2002 results, the only increase in lifetime and last year prevalence involved inhalants; for all other substances a decline in the lifetime prevalence was noticed (Country overview).

Life-time prevalence in the general population in percentages

	2004[1]	1997[2]
Opiates	No data found	1.1
Cocaine	1.1	No data found
Cannabis	20.6	16.1
ATS	Amphetamine 2.5 Ecstasy 7.1	2.6

1. Lifetime prevalence of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population, EMCDDA Table GPS-8-LIFETIME-15-64.htm

2. National Report, 1999.

Estimates of lifetime prevalence of drug use based on general population surveys[1]

1999/2000	1994
16.9% (estimated number of people with a drug experience in the population: 1,206,000)	13.4% (estimated number of people with a drug experience in the population: 932,000)

1. Csémy et al., 2002.

Last-year prevalence in the general population in percentages

	2004[1]	1997[2]
Opiates	No data found	0.4
Cocaine	0.2	No data found
Cannabis	9.3	7.2
ATS	Amphetamine 3.5 Ecstasy 0.7	1.1

1. Last year prevalence (percentage) of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population: last survey available for each Member State, EMCDDA Table GPS-10-LAST-YEAR-15-64.htm

2. National Report, 1999.

Life-time prevalence among young people (15-24 years) in percentages

	2007[1]	2002[2]
Opiates	No data found	No data found
Cocaine	2.1	5.6
Cannabis	43.9	45.5
ATS	Amphetamine 4.9 Ecstasy 18.7	Ecstasy 13.2

1. Lifetime prevalence of drug use among the age group of 15 to 24 years old in nationwide surveys among the general population. Last survey available for each Member State, EMCDDA Table GPS-17-LIFETIME-15-24.htm

2. Lifetime prevalence of drug use among the age group of 15 to 24 years old in nationwide surveys among the general population, EMCDDA Table GPS-14-LIFETIME-15-24.htm

Life-time prevalence among young people (15-16 years) in percentages

	2007	1999[3]
Opiates	Heroin 1[1]	Heroin 3
Cocaine	1[1]	1
Cannabis	44[2]	35
ATS	Amphetamine 4 Ecstasy 8[1]	Amphetamine 5 Ecstasy 4

1. Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old, EMCDDA Table EYE-01-LIFETIME PREVALENCE-15-16.htm

2. ESPAD 2003 school surveys: lifetime (LTP), last year (LYP) and last month (LMP) prevalence of cannabis use among students 15–16 years - EMCDDA Table EYE-05 Part (i)-CANNABIS-15-16.htm

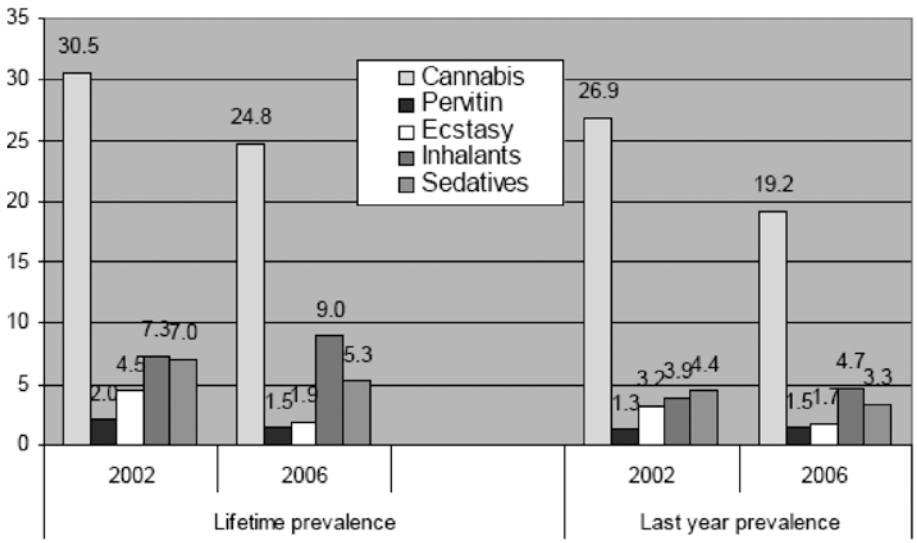
3. All ESPAD school surveys: lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old, EMCDDA Table EYE-6-LIFETIME PREVALENCE-15-16.htm

Life-time prevalence among young people (17-18 years) in percentages

	2003[1]	1998
Opiates	Heroin 3	No data found
Cocaine	2	No data found
Cannabis	56	No data found
ATS	Amphetamine 8 ecstasy 11	No data found

1. Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use and last month prevalence of cannabis among students aged 17-18 years - EMCDDA Table EYE-02-LIFETIME PREVALENCE-17-18.htm

Trends in prevalence of experiences of pupils aged 15 with the use of selected substances between 2002 and 2006 %



(National Report, 2007)

Last-year prevalence among young people (15-24 years) in percentages

	2007[1]	2002[2]
Opiates	No data found	No data found
Cocaine	0.4	No data found
Cannabis	28.2	32
ATS	Amphetamine 2.2+ ecstasy 12.0	Amphetamine 3.5+ ecstasy 10.8

1. Last year prevalence of drug use among the age group of 15 to 24 years old in nationwide surveys among the general population. Last survey available for each Member State - EMCDDA Table GPS-18-LAST-YEAR-15-24.htm

2. Last year prevalence of drug use among the age group of 15 to 24 years old in nationwide surveys among the general population. Last survey available for each Member State - EMCDDA Table GPS-15-LAST-YEAR-15-24.htm

2.2.2 Problematic drug users/chronic and frequent drug users

The EMCDDA defines problem drug use as the use of drugs by injection and/or the regular or long-term use of opiates and amphetamine-type drugs and/or cocaine. The Czech definition of problem drug use is the use of drugs by injection and/or the regular or long-term use of opiates and methamphetamine. Cocaine is not considered as a part of the definition, due to its very low prevalence in the Czech Republic. Ecstasy and cannabis are not included either (Country overview).

For the Czech Republic, the national estimate suggests (for 2006) that there are 30,200 problem drug users. Of these 19 700 are methamphetamine (pervitin) users; 6 200 heroin users and 4,300 Subutex users. The number of IDU (injecting drug users) was estimated at 27,000 (multiplier method) in 2004 and 29,000 in 2006 (Country overview).

A shift among opiate users to substitution treatment has been taking place in the Czech Republic in recent years, and this has shown a decreasing trend in estimates of problem opiate users, based on drug treatment data. On the other hand, the number of problem pervitin users increased slightly (8%) between 2003 and 2004, and this is in accordance with the trends among drug users undergoing treatment. The pattern of cocaine use still remains sporadic in the Czech Republic (Country overview).

Cocaine use in the Czech Republic is at a very low level; amphetamine-type drugs almost exclusively involve pervitin only, while opiate-type drugs mainly involve heroin and Subutex® (National Report, 2007).

Mean values of prevalence estimates of problem drug use carried out using a multiplication method with the use of data from low-threshold programmes in 2002–2006

Year	Total number of problem drug users		Opiate users		Pervitin users		Injecting drug users	
	Abs.	Per 1,000 persons aged 15–64	Abs.	Per 1,000 persons aged 15–64	Abs.	Per 1,000 persons aged 15–64	Abs.	Per 1,000 persons aged 15–64
2002	35,100	4.89	13,300	1.85	21,800	3.04	31,700	4.41
2003	29,000	4.02	10,200	1.41	18,800	2.61	27,800	3.86
2004	30,000	4.14	9,700	1.34	20,300	2.80	27,000	3.73
2005	31,800	4.37	11,300	1.55	20,500	2.82	29,800	4.10
2006	30,200	4.13	10,500	1.44	19,700	2.69	29,000	3.97

(National Report, 2007)

Expert comments

The existing estimates on the number of problem drug users in the Czech Republic were carried out between 1999 and 2006 using the multiplier benchmark calculation, based on data from low-threshold centres. In 2006, the estimate was constructed as a sum of the estimate for Prague and the rest of the Czech Republic. For Prague, results of a study entitled 'Sexual behaviour of drugs users' were used to update the multiplier, where the value reached 71% (Country overview).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2005[1]	1998
0-2.7%	No data found

1. Prevalence of HIV infection (percentage) among injecting drug users - Data, 1991 to 2006 Prevalence of HIV infection among injecting drug users in the EU - EMCDDA Table INF-1-HIV-AMONG-IDU.htm

The 2007 NR states: The situation in the transmission of infectious diseases among drug users has remained stable. HIV seroprevalence among injecting drug users is far below 1%, and is so even in groups of at-risk users with a longer history of injecting use or groups with a high prevalence of viral hepatitis. The number of users newly infected with HIV in 2006 was the same as in 2005 (National Report, 2007).

The number of newly HIV infected injecting drug users[1]

2005	1998
0.4 (a) 4 (b)	0.5 (a) 5 (b)

1. HIV infections newly diagnosed in injecting drug users, by year of report from 1992 to 2005, (a) cases per million population and (b) number of cases – EMCDDA Table-INF-104-part0(1).xls

The reported incidence of new cases of HIV infection among injecting drug users and among the general population is relatively low in the Czech Republic; however, it seems to have been increasing during the last three years. 93 new cases of HIV were diagnosed in 2006 (i.e. 3.3% more than in 2005); 6 of these may have become infected as a result of injecting drug use. However, since 2000 the incidence for the same group is every year in the range between 2 and 7 (National Report, 2007).

The rate of infections (HIV-AIDS, HBV and HCV) among drug users has remained stable in recent years. Data are available from national registers and studies involving different drug user groups in the Czech Republic (Country overview).

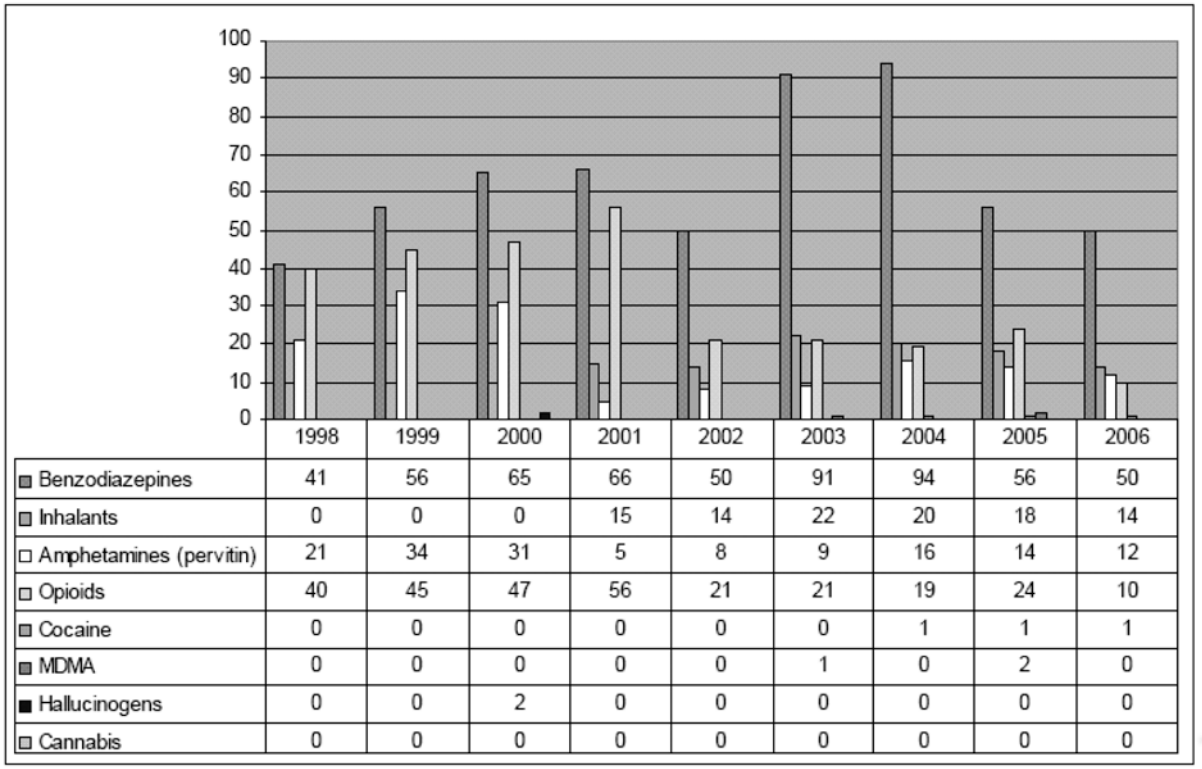
HIV seroprevalence rates among IDUs remained consistently below 1% in the Czech Republic between 1996 and 2006. The number of newly-diagnosed HIV cases among the general population is relatively low, although it seems to have been increasing over the last three years. 93 new cases were diagnosed in 2006 (3.3% more than in 2005) (Country overview).

The number of drug related deaths by overdose[1]

2005	1997
218	117

1. Number of acute drug-related deaths recorded in EU Member States (25 members and candidates) according to national definitions, EMCDDA Table DRD-1 Part (i)-DRUG-RELATED-DEATH.htm. These data include overdoses by medication drugs.

Fatal overdoses on selected drugs in 1998–2006



	1998	1999	2000	2001	2002	2003	2004	2005	2006
Benzodiazepines	41	56	65	66	50	91	94	56	50
Inhalants	0	0	0	15	14	22	20	18	14
Amphetamines (pervitin)	21	34	31	5	8	9	16	14	12
Opioids	40	45	47	56	21	21	19	24	10
Cocaine	0	0	0	0	0	0	1	1	1
MDMA	0	0	0	0	0	1	0	2	0
Hallucinogens	0	0	2	0	0	0	0	0	0
Cannabis	0	0	0	0	0	0	0	0	0

(National Report, 2007)

2.3.2 Drug related crime or (societal) harm

In an article published in 2002 with mainly data on the period late nineties till 2000 the following is stated: The illicit character of drugs is related to the second large issue, criminality. Only the lowest level of drug related criminality concerns drug users, because addicts often participate in street drug sales or they procure the means for drugs for themselves by criminal activities, most frequently by pilfering. Persons and organized groups that participate in production, transit and distribution of drugs only seldom use drugs. In the course of the nineties, drug-related criminality has increased in both the Czech Republic and Slovak Republic (table 3), and it represents approximately 2% of the total criminality (Csémy et al., 2002).

On the contrary, problem users come into conflict with the law more frequently because of property crimes by which they get the means for drugs than due to the direct commission of drug-related criminal offences. Actual estimates for 2002 are not available; the methodology of gathering data about the secondary criminal activity of drug users represents one of the tasks of the Criminal Law Sector Data working group of the Czech National Focal Point (National Report, 2005).

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

Compared to 2005, the drug policy expenditures from the state budget increased by approximately CZK 19 million in 2006 (€ 670 thousand); however, the expenditures from the budget of the Ministry of Health declined by 45% to CZK 18 million (€ 630 thousand). The year-on-year volume of financial resources expended by regions decreased by approximately CZK 5.5 million (€ 194 thousand) (National Report, 2007).

In comparison with 2005, drug policy expenditures increased by approximately CZK 19 million (€ 670 thousand); on the other hand, the volume of financial resources provided by regions has decreased by approximately CZK 5.5 million (€ 194 thousand) (National Report, 2007).

The developments in drug policy expenditures from the state budget by individual ministries are given in Table 1-4; it is obvious that the amount of resources from the budget of the Ministry of Health declined markedly, while the resources from the budget of the General Customs Headquarters increased markedly (National Report, 2007).

Drug policy expenditures from state budget in 2002–2006 by ministries/departments (€ thousand*)

Department	2002	2003	2004	2005	2006
CGDPC	3,242	3,664	3,549	3,728	3,838
Ministry of Health	908	778	934	1,181	635
Ministry of Education	335	329	356	331	381
Ministry of Labour and Social Affairs	1,240	1,562	1,490	1,625	1,753
General Customs Headquarters	969	796	328	512	829
Ministry of Justice	340	497	481	1,296	1,455
Ministry of Defence	140	166	123	140	172
National Drug Squad **	n.a.	3,395	3,051	3,351	3,757
Total	**7,176**	**11,187**	**10,312**	**12,163**	**12,821**

*Note: * 2006 average exchange rate has been used for re-calculation in 2002–2005. ** The expenditures of the National Drug Squad in 2003–2005 only involve the so-called common expenditures.*

CGDPC: Council of the Government for Drug Policy Coordination

Drug policy expenditures from state and local budgets in 2002–2006 (€ thousand*)

Year	State budget			Regional budgets	Municipal budgets	Total
	Drug demand reduction **	Drug supply reduction ***	Total			
2002****	5,867	1,309	7,176	1,035	n.a.	8,211
2003	6,499	4,688	11,187	1,696	n.a.	12,884
2004	6,451	3,861	10,312	2,879	2,220	15,411
2005	7,004	5,158	n.a.	3,540	1,786	17,488
2006	6,780	6,041	12,821	3,349	1,699	17,869

*Note: * 2006 average exchange rate has been used for re-calculation in 2002–2005. ** I.e. the expenditures of CGDPC, Ministry of Health, Ministry of Labour and Social Affairs, Ministry of Education, and Ministry of Defence; ** i.e. expenditures on the operations of the National Drug Squad, General Customs Headquarters, and from the budget of the Ministry of Justice; *** the expenditures of the National Drug Squad are not included.*

(National Report, 2007)

3.1.2 Other general indicators

The Czech national drug policy strategy covers the period 2005–09. It was first complemented by a 2005–06 action plan and was again complemented in July 2007 by a new action plan covering the period 2007–09. The strategy is comprehensive and is based on four pillars: prevention, treatment and resocialisation, risk reduction and supply reduction. The focus is mainly on illegal drugs but with some scope to address other drugs (alcohol, prescription drug misuse), if necessary. The strategy has two main goals: (1) to combat organised crime associated with the unauthorised handling of drugs and to enforce the observance of laws in connection with the distribution of licit drugs; and (2) to reduce the use of all types of drugs and potential risks and damage that may affect individuals and society as a consequence of drug use. The new 2007–09 action plan covers seven policy fields (primary prevention, treatment and aftercare, harm reduction, drug supply reduction and law enforcement, information/research/evaluation, coordination and funding, international collaboration) and contains 172 different objectives (Country overview).

Number of reports of drug law offences[1]

2005	1998
2,128	1,530

1. Number of reports of drug law offences 1995 to 2005, EMCDDA Table DLO-1-OFFENCES-NUMBERS.htm

Numbers on arrests and imprisonment for use/possession for personal use

Offences types involved in reports for drug law offences: percentages of all reports for drug law offences[1]. Based on drug offences considered as main offences:

Use/possession for use	7.8%
Dealing/trafficking	92.2%
Use and trafficking	No data found

1. Offences types involved in reports for drug law offences: percentages of all reports for drug law offences, EMCDDA Table DLO-2-DRUG-LAW-OFFENCES.htm

Number of drug law offences related to drug use or possession for use[1]

2005	1999
166	98

1. Number of drug law offences related to drug use or possession for use 1999-2005, EMCDDA Table DLO-4-OFFENCES-USE+POSSESSION.htm

Percentage of total drug law offences that are related to drug use or possession for use[1]

2005	1999	1998
7.8	6.2	0.0

1. Percentage of total drug law offences that are related to drug use or possession for use[1] 1996-2005, EMCDDA Table DLO-5-PERCENTAGE-DRUG-USE+POSSESSION.htm

Cannabis-related offences: as percentage of all drug law offences[1]

2005	2002
32.0	37.4

1. Cannabis-related offences: as percentage of all drug law offences, 1996-2005, EMCDDA Table DLO-6-CANNABIS-OFFENCES.htm

Heroin-related offences as percentage of all drug law offences[1]

2002
7.9

1. Heroin-related offences as percentage of all drug law offences, 1996-2005, EMCDDA Table DLO-7-HEROIN-OFFENCES.htm

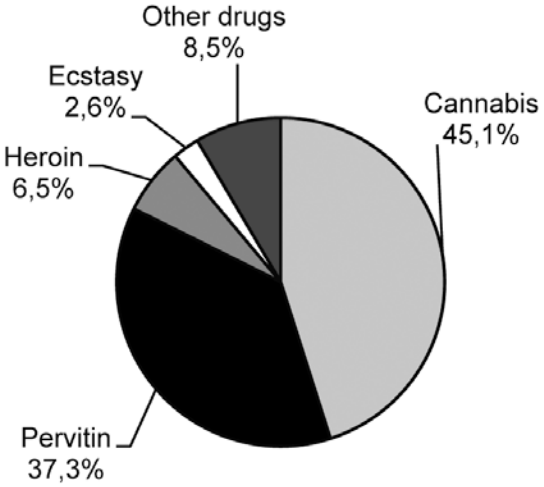
Since January 1, 1999, the Czech Penal Code included the provision to sanction the possession of narcotic and psychotropic substances for personal use "in a greater than small quantity". The unclear definition of the term "greater than small quantity" resulted in difficulties in applying this provision. This problem was partly solved through instructions of the Police President and the Supreme Prosecutor. The number of criminal offences prosecuted according to this provision increased, as does the number of persons prosecuted; however, the proportion of those prosecuted among the total number of users is very low. The relatively low number of people prosecuted for an offence under this provision in comparison with the number of drug users suggests that the law has been applied selectively in practice. In 2002, this provision mostly affected the users of cannabis and amphetamines. Cannabis drugs users are also often prosecuted according to the provision of Section 187 or Section 188 of the Penal Code. In these cases, this often involves persons who grow cannabis for personal use (National Report, 2002).

In August 2006 (with effect from October 1, 2006), a general instruction No. 2/2006 on the penalties for the criminal offence of the unauthorised production of narcotic and psychotropic substances and poisons according to Section 187a of the Penal Code was issued by the Office of the Supreme Prosecutor. This instruction replaced the instruction of the Office of the Supreme Prosecutor from 2002, which had been in effect until then (No. 6/2002). Inter alia, this internal regulation (which is not a generally binding legal norm) provides guidelines for the attributes "quantity greater than small" and "in a larger extent", which narrow down the punishability of possession of drugs for personal use in the new Penal Code (National Report, 2007).

The proposal of 2004 to distinct two categories of illicit drugs according to the level of social and health risks, i.e. between cannabis and other illicit drugs (National Report, 2004) was rejected in 2006 (National Report, 2006).

The Lower House of the Parliament of the Czech Republic definitively rejected the draft bill of the new Penal Code, which also contained changes regarding "drug-related" criminal offences, on February 21, 2006 (National Report, 2006).

Persons prosecuted for unauthorised possession of drugs for personal use by type of drug; n = 153

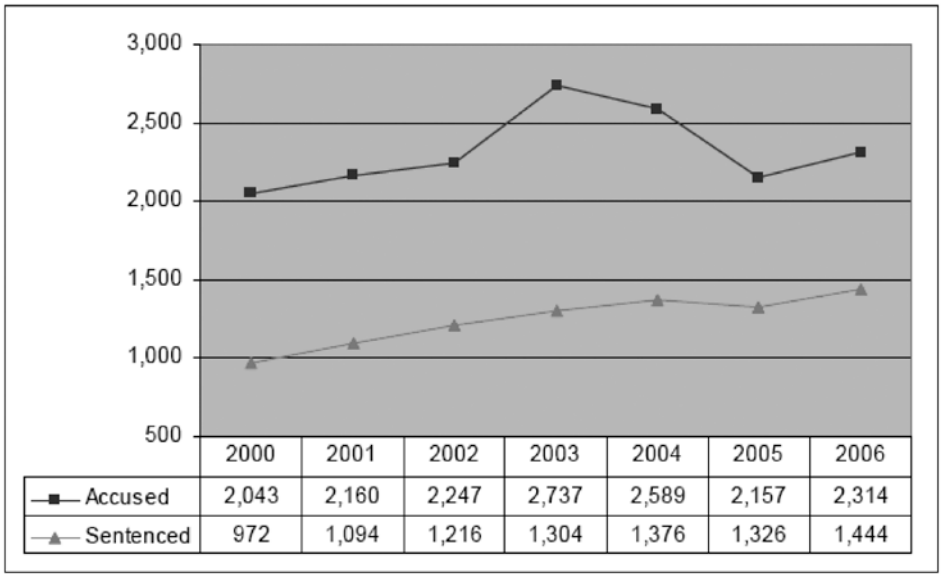


(National Report, 2005)

The judiciary is making increasing use of alternative sentences for drug offenders, especially in connection with marijuana (National Report, 2004).

It is positive that the judiciary is making increasing use of alternative sentences even for drug users; this involves both the prosecution of drug-related criminal offences and cases of secondary drug-related criminal offences (National Report, 2002)

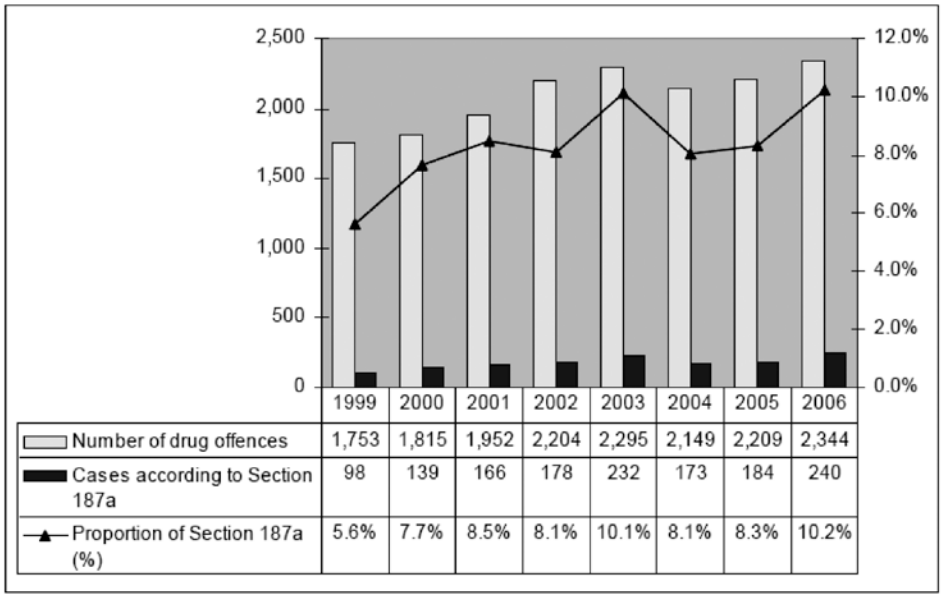
Accused and sentenced offenders of drug crimes in 1999–2006



	2000	2001	2002	2003	2004	2005	2006
Accused	2,043	2,160	2,247	2,737	2,589	2,157	2,314
Sentenced	972	1,094	1,216	1,304	1,376	1,326	1,444

(National Report, 2007)

Proportion of offenders prosecuted for possession of drugs for personal use (Section 187a TZ) among all offenders prosecuted for drug offences in 1999- 2006



	1999	2000	2001	2002	2003	2004	2005	2006
Number of drug offences	1,753	1,815	1,952	2,204	2,295	2,149	2,209	2,344
Cases according to Section 187a	98	139	166	178	232	173	184	240
Proportion of Section 187a (%)	5.6%	7.7%	8.5%	8.1%	10.1%	8.1%	8.3%	10.2%

(National Report, 2007)

The number of drug offences has remained relatively stable in the Czech Republic in recent years. A slight increase in the number of prosecuted and sentenced drug offenders took place in 2006. The proportion of those prosecuted for offences involving possession of drugs in a quantity greater than small (Section 187a of the Criminal Code) among all detected drug offences has been around 8 to 10 per cent since 2001. The number of misdemeanours of the possession of drugs for personal use was approximately four times higher than the number of offences of the possession of drugs for personal use. Most (60%) drug offences were associated with pervitin, 30% with cannabis; in recent years, the proportion of pervitin has been increasing and the proportion of cannabis and other drugs has been declining. The number of offences in relation to cocaine and ecstasy has been low. In comparison with pervitin related offences, a markedly higher proportion of juveniles among those accused of and sentenced for cannabis related offences and a markedly lower proportion of custodial sentences were observed in cannabis-related offences. The highest number of those prosecuted for drug offences per the number of inhabitants was recorded in the Karlovy Vary, Ústí nad Labem, and Liberec regions; in absolute numbers in the Ústí nad Labem and Prague regions. According to a police estimate, drug users committed approximately 14,000 (11%) of all cleared-up offences and

74,000 (22%) of all detected criminal offences, of which approximately 9,000 offences involved cleared-up thefts and 66,000 detected thefts (National Report, 2007).

3.2 Supply reduction: Production, trafficking and retail

Main focus is on supply reduction is on retail and on trafficking.

Priorities of supply reduction covered by policy papers and/or law

Until 1990, articles dealing with drug-related criminality were included in law No. 140/1961, and they were amended in 1990 (law No. 175/1990 of the Code). Without any substantial changes, this arrangement remained operative in the Czech Republic in the whole period of the 1990s. Starting from 1999, the criminal sanctions for drug-related criminal offences became stricter and the sanctions for possession of illicit drugs for personal use that contained the famous and rather comical formulation 'quantity greater than small' were introduced (Csémy et al., 2002).

Since 1999, the Criminal Code and the Act on Misdemeanours state that possession of narcotic drugs and psychotropic substances in greater than small quantities is a criminal offence, and can attract sentences of up to 2 years' imprisonment (or 1–5 years in case of aggravating circumstances in the offence). In case of possession of small quantities without intention to supply, administrative sanctions (a fine or warning) are imposed (Country overview).

Penalties for drug trafficking can be up to 10–15 years of imprisonment, depending on aggravating circumstances. In the case of addicts committing a drug-related crime, a range of alternatives to imprisonment is available to the court (e.g. suspended sentences, community service and probation with treatment). In 2006, the draft bill of the Penal Code, which included major changes such as a differentiation of sanctions for possession of different drugs, was definitely rejected by the Lower House of the Parliament of the Czech Republic for unrelated reasons (Country overview).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

School-based prevention and telephone helplines are available all over the country. Mass media campaigns are implemented once in a while (National Report, 2007).

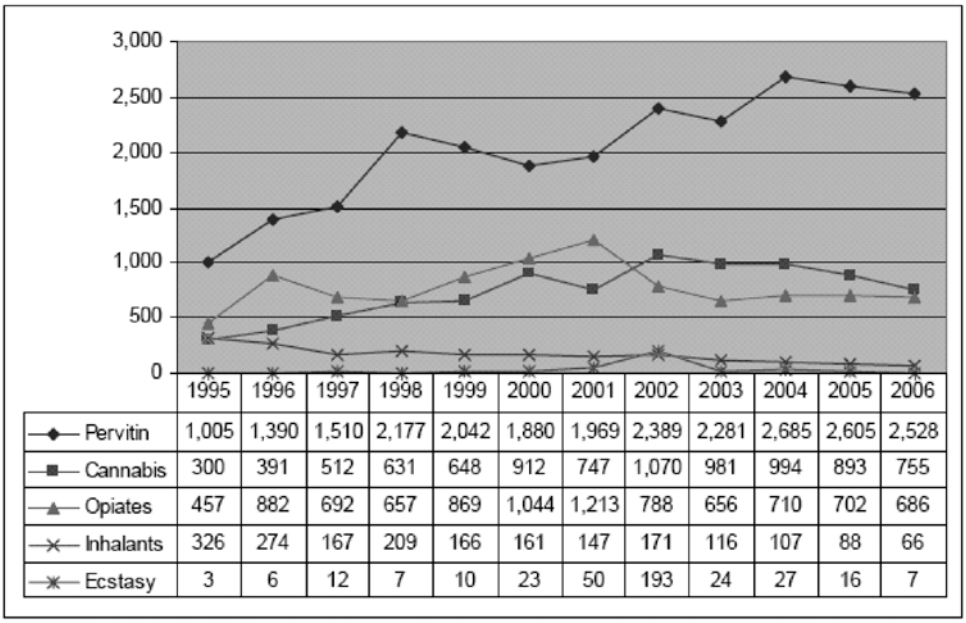
Prevention activities in the Czech Republic are coordinated by the Ministry of Education and they are mainly implemented by schools and NGOs that provide services in the field of treatment and help to drug users. Among all primary prevention programmes, school-based prevention programmes represent the biggest share. These programmes are carried out within the framework of the 'Minimum Preventive Programme' at schools and educational facilities. Every school is obliged to prepare and implement this programme, based on the principle of education towards a healthy lifestyle and preventing risk behaviours (Country overview).

Selective prevention programmes in the Czech Republic focus mostly on specific groups of children, and target in particular children living in families from socially- or culturally-disadvantaged environments, those growing up outside their biological family, living in the families of alcoholics or drug users, children with non-specific behaviour disorders, and children with specific developmental disorders (Country overview).

Indicated prevention programmes focus specifically on at-risk groups such as those using drugs more regularly and frequently, and most planned early intervention programmes are now implemented. Both specialised governmental and non-governmental organisations work on indicated prevention programmes for this specific target group (Country overview).

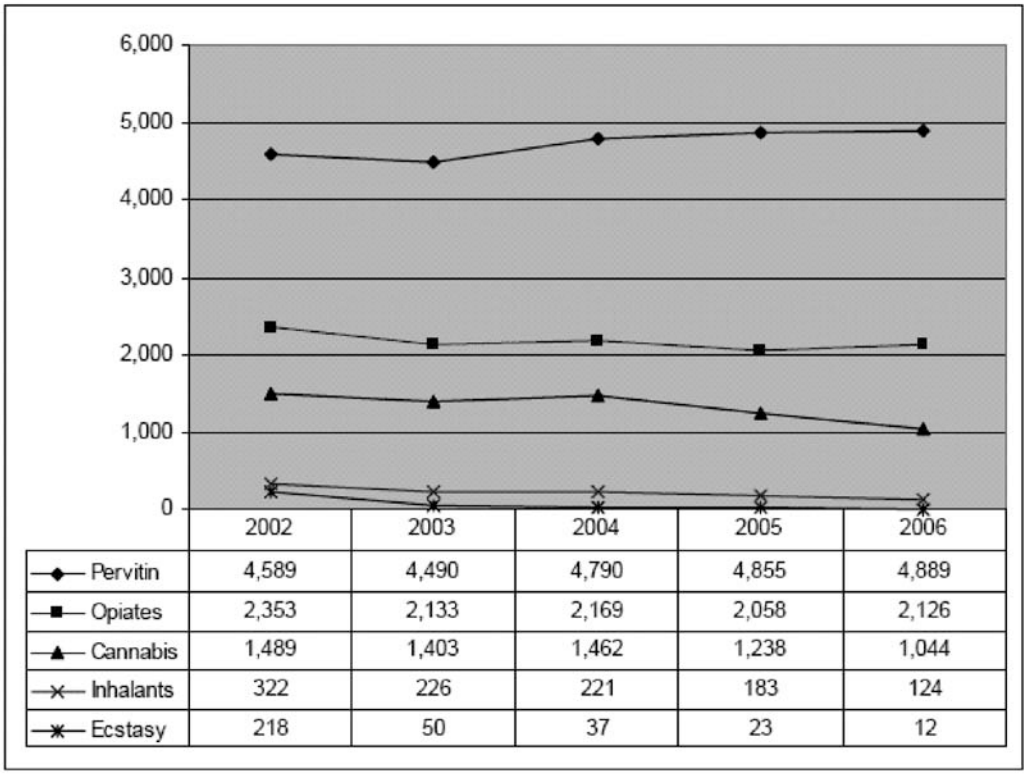
There is a wide variety of treatment including detoxification (also in prisons), short-term, medium-term and long-term in-patient treatment, therapeutic communities, aftercare, substitution treatment, out-patient (health care) services, etc. (Csémy, 2002). Number of patients in treatment for illicit drug use stayed more or less on the same level since 1998, however number of opiate users is falling, whereas number of cannabis users and sedative/hypnotics is rising.

Number of first treatment demands by drug used in 1995–2006



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Pervitin	1,005	1,390	1,510	2,177	2,042	1,880	1,969	2,389	2,281	2,685	2,605	2,528
Cannabis	300	391	512	631	648	912	747	1,070	981	994	893	755
Opiates	457	882	692	657	869	1,044	1,213	788	656	710	702	686
Inhalants	326	274	167	209	166	161	147	171	116	107	88	66
Ecstasy	3	6	12	7	10	23	50	193	24	27	16	7

All treatment demands by drug used in 2002-2006



	2002	2003	2004	2005	2006
Pervitin	4,589	4,490	4,790	4,855	4,889
Opiates	2,353	2,133	2,169	2,058	2,126
Cannabis	1,489	1,403	1,462	1,238	1,044
Inhalants	322	226	221	183	124
Ecstasy	218	50	37	23	12

(National Report, 2007)

In 2006, a total of 8 164 drug users entered in treatment whereas, 4 119 persons sought treatment for the first time. Users of amphetamines (almost exclusively pervitin, i.e. methamphetamine) were the most commonly represented among all treatment clients entering treatment, at 58.6%, as well as among first treatment clients with 61.4%. This was followed by opiates users with 25.4% among all treatment clients and 18.3% of cannabis users among first time treatment clients (Country overview).

In 2006, 53% of all clients entering treatment were aged less than 25 years. A similar age distribution was also reported among new treatment clients, with 66% being under the age of 25 years. In 2006, the male to female ratio for all treatment clients was 68% for male and 32% for female clients. A similar trend was also reported among new treatment clients, with 66% being male and 34% female (Country overview).

The number of patients receiving out-patient treatment increased in 2006 in health care facilities (the increase has been apparent since 2000), as well as out-patient clinics operated by NGOs (a marked year-on-year increase). The number of patients hospitalised in in-patient psychiatric facilities has increased slightly in the last five years, especially in relation to the use of stimulants and combinations of drugs, while a marked decline has been taking place since 2001 in terms of opioids.

The number of patients in substitution treatment has been increasing, both in specialised centres and probably also in the clinics of other physicians prescribing Subutex®. However, the extent of treatment with Subutex® is not recorded in full in the substitution treatment register (National Report, 2007).

Methadone maintenance was introduced in 1998 and high-dosage buprenorphine treatment in 2000 (Year of introduction of methadone maintenance treatment (MMT), high-dosage buprenorphine treatment (HDBT) and heroin-assisted treatment, including trials - EMCDDA Table HSR-8-METHADONE-INTRODUCTION.htm).

Priorities of demand reduction covered by policy papers and/or law

The National Drug Policy Strategy 2001–2004 defines the current orientation of the Czech drug policy. Similar goals were set up in the National Fight against Drugs Programme 1999–2003 in Slovakia. In both strategies there is an emphasis on the balance between drug supply reduction and drug demand reduction, and harm reduction is also highlighted beside primary prevention and treatment. The expressed emphasis on harm reduction makes the main difference between the current Czech and Slovak policies and strategies (Csémy et al., 2002).

As in the previous years, two substitution preparations were available in 2006 – methadone and Subutex®. It is planned that Suboxone will be introduced in 2008 (National Report, 2007).

The methodology for substitution treatment is defined in the Standard of Substitution Treatment (Ministerstvo zdravotnictví ČR, 2001). As the current version of the standard does not correspond to the current condition of substitution treatment provision, especially the development of prescription in non-specialised facilities, the Ministry of Health announced an updated version by the end of 2007 (National Report, 2007).

The Act 108/2006 Coll. on social services, which had been in preparation since the beginning of the 1990s, was adopted in 2006. The previous legislation in the field of social services was completely inadequate – as far as social services are concerned, it only used to involve institutional care and community care service; no legal regulations were available for other types of services (National Report, 2007).

According to the above-mentioned act, social services aim to assist people in an unfavourable living situation, including the prevention of their social exclusion. Social services are provided in the form of residential, out-patient, or low-threshold services. The act defines 31 types of social services, divided into: (1) social care services; (2) social prevention services, and (3) social counselling, which is the basic activity during the provision of all types of social services. The act mentions drug users as the target group of several types of social prevention: low-threshold centres, outreach programmes, therapeutic communities, and aftercare services (National Report, 2007).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007[1]	1998
Syringe exchange programmes	Predominant	No data found
Overdose treatment (naloxone)	Distribution, possession or administration of naloxone is not regulated	No data found
Outreach work (actively seeking contact with drug users)	Street-based outreach work is available nationwide, and outreach work at dance parties, rave events is provided at specific geographical areas only.	No data found
Safer use education (flyers, folders, training)	Prevent infectious diseases-common reduction of drug-related deaths – predominant/common	No data found
Drop-in centres (low-threshold)	Predominant	Common[2]

1. Van der Gouwe et al., 2006.

2. National Report, 1999.

The Czech network of low-threshold facilities established since 1992 includes low-threshold centres, outreach programmes, street work and needle exchange programmes (altogether, 90 programmes). Programmes operate in all regions of the Czech Republic. The Czech NFP estimates that approximately 60% of injecting drug users in the Czech Republic use needle exchange programmes. It has also been observed that the number of problem drug users has not increased. However the number of syringes used has been increasing over recent years (an increase of 64% between 2004 and 2006). In 2006, nearly 4 million syringes were distributed through NSPs in the Czech Republic. The main sources of clean injecting material include exchange programmes (drop-ins and outreach work), but also pharmacies. A harm-reduction section of the Association of Non-Governmental Organizations was set up in 1999, which facilitates the communication flow between services and promotes standards of care (Country overview).

The measures targeted at the reduction of drug-related health risks are carried out by low-threshold facilities for drug users. The availability, capacity, and use of the facilities have been increasing continually since the second half of the 1990s. The proportion of problem users who are in contact with the facilities is relatively high (60–70%) (see more information in the chapter on Problem Drug Use, page 24). The number of injecting needles and syringes distributed in exchange programmes increased again in 2006. On the other hand, a decrease in the availability of testing for infectious diseases can be mentioned as a weakness – the number of HIV and HVC tests of clients of low-threshold facilities declined rapidly in 2006 to approximately half of the number in 2003–2005 (National Report, 2007).

Clients of Czech low-threshold facilities in 2002–2006, extrapolated to the total number of programmes

Indicator	2002	2003	2004	2005	2006
Number of low-threshold facilities	92	93	92	92	90
Number of drug users	n.a.	25,200	24,200	27,800	25,900
– injecting drug users	19,000	16,700	16,200	17,900	18,300
– pervitin users	12,900	11,300	12,200	12,300	12,100
– opiates users	8,000	6,100	6,000	6,800	6,900*
– cannabis users	3,400	5,500	4,100	3,600	2,700
– inhalant users	n.a.	705	560	470	450
Average age of drug users (years)	22.0	23.2	23.4	25.0	25.3
Total number of contacts/visits	290,000	315,000	317,900	403,900	322,900

Note: 4,000 heroin users and 2,900 Subutex® users thereof.

Exchange programmes in the Czech Republic in 1998–2006

Year	Number of exchange programmes	Number of needles and syringes distributed
1998	42	486,600
1999	64	850,285
2000	80	1,152,334
2001	77	1,567,059
2002	88	1,469,224
2003	87	1,777,957
2004	86	2,355,536
2005	88	3,271,624
2006	90	3,868,880

(National Report, 2007)

Priorities of harm reduction covered by policy papers and/or law

The Act on Measures for Protection from Harm Caused by Tobacco Products, Alcohol, and Other Addictive Substances (No. 379/2005 Coll.) - came into force on January 1, 2006 - defines legal measures which especially involve the prevention and harm reduction of substance use, as well as health care and the system of social services. One main goal is to reduce the harm caused by the use of addictive substances; unlike the previous one, this act briefly defines the types of professional care supplied to those who harmfully use tobacco products and alcohol and other addictive substances and those addicted to these substances (National Report, 2006).

The Act 108/2006 Coll. on social services – adopted in 2006 – defines the scope and objectives of social services, i.e. to assist people in an unfavourable living situation, including the prevention of their social exclusion. Social services are provided in the form of residential, out-patient, or low-threshold services. The act defines 31 types of social services, divided into: (1) social care services; (2) social prevention services, and (3) social counselling, which is the basic activity during the provision of all types of social services. The act mentions drug users as the target group of several types of social prevention: low-threshold centres, outreach programmes, therapeutic communities, and aftercare services (National Report, 2007).

3.4.2 Crime, societal harm, environmental damage

No information found on interventions/measures to reduce harm for society.

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Consulted experts

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HUNGARY

1 General information

Location:
Central Europe, northwest of Romania

Area: 93,030 sq km

Land boundaries/coastline:
2,185 km / 0 km (landlocked)

Border countries:
Austria 366 km, Croatia 329 km, Romania 443 km, Serbia 166 km, Slovakia 676 km, Slovenia 102 km, Ukraine 103 km.

Population:
9,930,915 (July 2008 est.)

Age structure:
0-14 years: 15.2% (male 774,092/female 730,485)
15-64 years: 69.3% (male 3,393,630/female 3,488,011)
65 years and over: 15.6% (male 559,483/female 985,214) (2008 est.)

Administrative divisions:
19 counties, 23 urban counties, and 1 capital city

GDP (purchasing power parity):
$191.7 billion (2007 est.)

GDP (official exchange rate):
$138.4 billion (2007 est.)

GDP- per capita (PPP):
$19,300 (2007 est.) (CIA World Factbook)

Drug research
There is a considerable research community consisting of a number of individual drug researchers working at different institutes (universities, semi-governmental institutes, etc.) working on research and monitoring on various subjects in different fields (medical, epidemiological, criminological, sociological, etc.). Epidemiological research has long been a tradition in Hungary, although research into the effectiveness of interventions is rarely found. The National Focal Point, based at the National Centre for Epidemiology, which also conducts and initiates research, collects all research reports available in Hungary and disseminates their results via its website and newsletter. Scientific journals and a new electronic database on research, which will be available soon, are examples of other dissemination channels in the country (Country overview).

Main drug-related problems
The main drug problem in Hungary is consumption followed by trafficking of especially heroin as a chain in the Balkan route. Production plays no significant role.

2 Drug problems

2.1 Drug supply

2.1.1 Production

No data found.

2.1.2 Trafficking

Total quantities (kg) seized and number of seizures

	2005	2000
Heroin	238 kg[1] Number of seizures: 108[2]	670 kg [1] Number of seizures: 97 (in 2002)[2]
Cocaine	8 kg[3] Number of seizures: 16[4]	11 kg[3] Number of seizures: 57 (in 2002)[4]
Cannabis resin	13 kg[5] Number of seizures: 86[6]	19 kg[5] Number of seizures: 21 (in 2002)[6]
Herbal cannabis	162 kg[7] Number of seizures: 1,707[8]	112 kg[7] Number of seizures: 1,965 (in 2002)[8]
Cannabis plants	Number of plants: 811[9] Number of seizures: 43[10]	Number of plants: 2,998 (in 2004)[9] Number of seizures: 62 (in 2004)[10]
Amphetamine	28 kg[11] Number of seizures: 356[12]	11 kg[11] Number of seizures: 256 (in 2002)[12]
Methamphetamine	0.1 kg[13] Number of seizures: 5[14]	0.3 kg[13] Number of seizures: 15[14] (in 2001)
Ecstasy	Number of tablets: 238,479[15] Number of seizures: 905[16]	Number of tablets: 15,154[15] Number of seizures: 304 (in 2002)[16]

1. Quantities (kg) of heroin seized, 1995 to 2005 - EMCDDA Table SZR-8-SEIZURE-HEROIN-QUANTITY.htm

2. Number of heroin seizures, 1995 to 2005 - EMCDDA Table SZR-7-SEIZURE-HEROIN-NUMBER.htm

3. Quantities (kg) of cocaine seized, 1995 to 2005 - EMCDDA Table SZR-10-SEIZURE-COCAINE-QUANTITY.htm

4. Number of cocaine seizures, 1995 to 2005 - EMCDDA Table SZR-9-SEIZURE-COCAINE-NUMBER.htm

5. Quantities (kg) of cannabis resin seized, 1995 to 2005 - EMCDDA Table SZR-2-CANNABIS-QUANTITY.htm

6. Number of Cannabis resin seizures, 1995 to 2005 - EMCDDA Table SZR-1-SEIZURE-CANNABIS-NUMBER.htm

7. Quantities (kg) of herbal cannabis seized, 1995 to 2005 - EMCDDA Table SZR-4-SEIZURE-HERBAL-CANNABIS-QUANTITY.htm

8. Number of herbal cannabis seizures, 1995 to 2005 - EMCDDA Table SZR-3-SEIZURE-HERBAL-CANNABIS-NUMBER.htm

9. Quantities (number of plants) of cannabis plants seized, 1995 to 2005 - EMCDDA Table SZR-6-SEIZURE-CANNABIS-PLANTS-QUANTITY.htm

10. Number of seizures of cannabis plants, 1995 to 2005 - EMCDDA Table SZR-5-SEIZURE-CANNABIS-PLANTS-NUMBER.htm

11. Quantities (kg) of amphetamine seized, 1995 to 2005 - EMCDDA Table SZR-12-SEIZURE-AMPHETAMINES-QUANTITY.htm

12. Number of amphetamine seizures, 1995 to 2005 - EMCDDA Table SZR-11-SEIZURE-AMPHETAMINE-NUMBER.htm

13. Quantities (kg) of Methamphetamine seized, 2001 to 2005 - EMCDDA Table SZR-18-SEIZURE-METHAMPH-QUANTITY.htm

14. Number of Methamphetamine seizures, 2001 to 2005 - EMCDDA Table SZR-17-SEIZURE-METHAMPH-NUMBER.htm

15. Quantities (tablets) of ecstasy seized, 1995 to 2005 - EMCDDA Table SZR-14-SEIZURE-XTC-QUANTITY.htm

16. Number of ecstasy seizures, 1995 to 2005 - EMCDDA Table SZR-13-SEIZURE-XTC-NUMBER.htm

Estimated market value in 2007:

Cannabis resin	€8.5 /gr	(min. €6.5 /gr – max. €10.4 /gr)
Herbal cannabis	€8.4 /gr	(min €6.1 /gr - max €9.8 /gr)
Heroin	€48.4 /gr	(min €38.7 /gr – max €62.8 /gr)
Heroin	€17.4 /packet	(min €15.2 /gr – max €21.7 /gr)
Cocaine	€56.3 /gr	(min €46.0 /gr – max €88.0 /gr)
Crack	€48.5 /gr	(min €48.4 /gr – max €60.5 /gr)
Amphetamines	€11.3 /gr	(min €9.1 /gr - max €13.0 /gr)
Ecstasy	€4.8 /tablet	(min €2.9 /gr – max €6.7 /gr)
LSD	€9.4 /dose	(min €7.4 /gr – max €11.6 /gr)
Methadone	€6.8 /20 mg	(min €4.1 /gr – max €8.1 /gr)
Methadone	€2.4 /5 mg	(min €1.6 /gr – max €3.5 /gr)

(National Focal Point, 2007)

Prices reported in National report 2007 showed a decrease compared to the 2006 report: the average price of cannabis resin, cocaine, amphetamine, ecstasy and LSD decreased, while heroin (gr) became more expensive compared to the average price last year (National Report, 2007).

Hungary is a transit country for heroin trafficked across in the Middle East region and transported to Western Europe via the Balkan route. It has been discovered in the last two years that criminal groups operating via the Balkan route, mainly involved in heroin smuggling, also take part in the smuggling, sale and production of synthetic drugs (Country overview).

2006 figures show that the number of seizures for heroin, cocaine and amphetamines has been increasing in recent years across many of the main drug types: heroin (2005:108 seizures; 2006: 114 seizures) cocaine (2005: 16; 2006:113), amphetamines (2005: 356; 2006:368). Furthermore, in 2006, 145 ecstasy seizures were undertaken with a total of 138 278 tablets. However, when compared to 2005 there was a significant decrease in both the quantity and the number of ecstasy seized, with a total of 105 seizures in 2005. The quantity of seized tablets did not decrease proportionally with the number of seizures as most of the ecstasy tablets originated from a single large seizure in 2006 (Country overview).

Even though there was no significant change in the number of seizures, the quantity of seized herbal cannabis and cannabis plant increased significantly compared to the two previous years (National Report, 2007).

More people interviewed had information on the price of amphetamine than ecstasy. This fact confirms other changes in different areas of the drug problem (more amphetamine seizures, etc.), which imply that amphetamines has become more widespread on the drug market (National Report, 2007).

Cannabis[1]

Cannabis resin	Mean price €9.3 /gr (min: €7.4 /gr - max: €11.1 /gr)
Herbal cannabis	Mean price €8.4 /gr (min: €6.4 /gr - max: €10.4 /gr)

Heroin[2]

Heroin undistinguished	Mean price €46.7 /gr (min: €36.6 /gr - max: €56.8 /gr)
Brown heroin	No data found
White heroin	No data found

Purity of heroin[3]

Heroin undistinguished	Mean price €20 (min: €7 - max: €30)
Brown heroin	No data found
White heroin	No data found

Cocaine products[4]

Cocaine	Mean price €59.9 /gr (min: €51.4 /gr - max: €68.4 /gr)
Crack	Mean price €50.8 /gr (min: €39.5 /gr - max: €62.1 /gr)

Purity of cocaine products[5]

Cocaine	Mean price €36 (min: €20 - max: €60)
Crack	No data found

Synthetic drugs[6]

Amphetamine	Mean price €12.3 /gr (min: €9.6 /gr - max: €15.1 /gr)
Methamphetamine	No data found
Ecstasy	Mean price €5.1 /gr (min: €3.3 /gr - max: €6.8 /gr)

Purity of synthetic drugs[7]

Amphetamine	Mean price €14 (min: €1– max €45)
Methamphetamine	No data found
Ecstasy	Mean price €58 (min: €20 - max: €100)

1. Price of cannabis at retail level, 2005 - EMCDDA Table PPP-1 Part (i)-PRICE-CANNABIS.htm

2. Price of heroin at retail level, 2005 - EMCDDA Table PPP-2 Part (i)-PRICE-HEROIN.htm

3. Purity of heroin at retail level, 2005 - EMCDDA Table PPP-6 Part (i)-PURITY-HEROIN.htm

4. Price of cocaine products at retail level, 2005 - EMCDDA Table PPP-3 Part (i)-PRICE-COCAINE.htm

5. Purity of cocaine products at retail level, 2005 - EMCDDA Table PPP-7 Part (i)-PURITY-COCAINE.htm

6. Price of synthetic drugs at retail level, 2005 - EMCDDA Table PPP-4 Part (i)-PRICE-SYNTHETIC.htm

7. Purity of synthetic drugs at retail level, 2005 - EMCDDA Table PPP-8 Part (i)-PURITY-SYNTHETIC.htm

Estimated retail value in 1998:
Heroin €16-32 / street dose (National Report, 1999).
No further information on prices around 10 years ago.

2.2 Drug Demand

The last general population survey on drug use was conducted in Hungary in 2007, and its results will be available in the 2008 national report to the EMCDDA. Results of the 2003 general population survey reveal that lifetime prevalence of illicit drugs among the population aged 18–54 was 11.4%. Lifetime prevalence for cannabis was 9.8%, 3.1% for ecstasy, 2.5% for amphetamines and below 2% for other substances, except for sedatives and/or tranquillisers (22.2%) (Country overview).

Available data for the age group 18–34 years old showed that 20.1% reported lifetime experience with illegal drugs and 17.4% reported to have used cannabis at least once in their life. Lifetime prevalence for this age group was lower for all other illicit substances. Lifetime experience with ecstasy and amphetamines were in second and third place, at 5.6% and 4.5% respectively (Country overview).

Nationwide data on drug use among students are based on the ESPAD surveys conducted in 1995, 1999, 2003 and 2007. The results of the ESPAD survey 2007 will be available at the end of 2008. A comparison of the results among 15–16-year-olds revealed an increase in illegal drug use between 1995 and 1999. The increase in lifetime prevalence of illicit drug use between 1999 and 2003 was exclusively due to the increase of cannabis use. While lifetime use of any illicit substance other than cannabis increased from 1.4% in 1995 to 5.5% in 1999, and stabilised at 5% in 2003, lifetime experience of cannabis increased further from 4.5% in 1995 to 11.5% in 1999 and 16% in 2003. An increase was also observed for lifetime use of amphetamines: 0.4% in 1995, 2.3% in 1999 and 3.1% in 2003 (Country overview).

The 2006 HBSC survey showed that 20.3% of 15–17-year-old students have used an illicit substance at least once. Lifetime prevalence of cannabis use was reported by 17.3% of the respondents. Lifetime prevalence of respectively ecstasy, amphetamines/speed were 6.1% and 5.7%. The use of all drugs was found to be influenced by gender and age: prevalence of drug use among male students was higher than among female students, with the exception of prevalence for misuse of pharmaceutical products. Compared to the previous HBSC results (2002), an increase in the lifetime prevalence was recorded for all substances (Country overview).

2.2.1 Experimental/recreational drug users in the general population

Life-time prevalence in the general population in percentages[1]

	2007[1]	2003[2]	2001[2]
Ecstasy	2.9	3.1	2.3
Amphetamine	2.1	2.5	1.9
Cocaine	0.9	0.9	0.9
Other opiates	0.4	0.6	0.6
Heroin	0.3	0.5	0.6

1. National Report, 2008.

2. Expert's comments.

Last-year prevalence in the general population in percentages

	2003[1]	1998
Opiates	No data found	No data found
Cocaine	0.4	No data found
Cannabis	3.9	No data found
ATS	Amphetamine 1.0 + Ecstasy 1.4	No data found

1. Last year prevalence (percentage) of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population: last survey available for each Member State - EMCDDA Table GPS-10-LAST-YEAR-15-64.htm

Life-time prevalence among young people (15-24 years) in percentages

	2005[1]	1998
Opiates	No data found	No data found
Cocaine	1.4	No data found
Cannabis	25.3	No data found
ATS	Amphetamine 5.9 Ecstasy: 7.9	No data found

1. Lifetime prevalence of drug use among the age group of 15 to 24 years old in nationwide surveys among the general population. Last survey available for each Member State - EMCDDA Table GPS-17-LIFETIME-15-24.htm

Life-time prevalence among young people (15-16 years) in percentages

	2005	1995
Opiates	1[1]	Heroin 0[3]
Cocaine	1[1]	0[3]
Cannabis	16 (LTP) 11 (LYP) 6 (LMP)[2]	4 (LTP) 3 (LYP) 1 (LMP)[4]
ATS	Amphetamine 3 Ecstasy: 3[1]	0[3]

1. Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old - EMCDDA Table EYE-01-LIFETIME PREVALENCE-15-16.htm

2. ESPAD 2003 school surveys: lifetime (LTP), last year (LYP) and last month (LMP) prevalence of cannabis use among students 15–16 years - EMCDDA Table EYE-05 Part (i)-CANNABIS-15-16.htm

3. Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old - EMCDDA Table EYE-01-LIFETIME PREVALENCE-15-16.htm

4. All ESPAD school surveys: prevalence and patterns of cannabis use among students 15–16 years - EMCDDA Table EYE-07 Part (i)-CANNABIS-15-16.htm

Life-time prevalence among young people (17-18 years) in percentages

	2005[1]	1998
Opiates	3	No data found
Cocaine	4	No data found
Cannabis	37	No data found
ATS	Amphetamine 12 Ecstasy: 12	No data found

1. Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use and last month prevalence of cannabis among students aged 17-18 years - EMCDDA Table EYE-02-LIFETIME PREVALENCE-17-18.htm

Last-year prevalence among young people (14-25 years) in percentages

	2003[1]	1998
Opiates	No data found	No data found
Cocaine	1.0	No data found
Cannabis	13.3	Marihuana 8.3[2]
ATS	Amphetamine 3.1 Ecstasy 4.2	No data found

1. Last year prevalence of drug use among the age group of 15 to 24 years old in nationwide surveys among the general population. Last survey available for each Member State - EMCDDA Table GPS-18-LAST-YEAR-15-24.htm

2. National Report, 1999.

Frequency of drug use by type of drug

Type of drug	Number of students (N)	Frequency of usage (%)						
		never	once or twice	3-5 times	6-9 times	10-19 times	20-39 times	40 or more times
cannabis	2,849	77.5	11.0	3.5	2.1	2.2	1.2	2.5
alcohol and pharmaceuticals together	2,852	86.9	9.2	1.9	0.8	0.8	0.3	0.2
pharmaceuticals to get high	2,858	92.3	5.2	0.8	0.9	0.3	0.2	0.2
ecstasy	2,860	93.9	3.9	0.6	0.3	0.4	0.6	0.4
speed	2,860	94.3	3.8	0.5	0.4	0.5	0.3	0.3
magic mushrooms	2,859	95.7	2.4	0.6	0.5	0.3	0.2	0.4
solvent, glue	2,860	96.0	2.8	0.6	0.1	0.0	0.2	0.3
other drugs	2,320	97.5	1.1	0.3	0.2	0.2	0.1	0.6
LSD	2,843	98.1	1.3	0.1	0.1	0.0	0.2	0.1
cocaine	2,851	98.9	0.7	0.1	0.0	0.0	0.1	0.2
opiates	2,857	99.3	0.4	0.0	0.0	0.0	0.1	0.2

Source: Kovacsics, Németh

Comparison with earlier results

Lifetime prevalence rates	HBSC 2002	HBSC 2006
illicit and legal drugs together	24.3%	20.3%
pharmaceuticals abuse	9.3%	14.7%
cannabis	19.8%	17.3%
inhalants	2.1%	4.0%
ecstasy	4.3%	6.1%
amphetamines/speed	3.6%	5.7%

Source: Sebestyén 2003, Németh

(National Report, 2007)

2.2.2 Problematic drug users/chronic and frequent drug users

In Hungary the first estimate for the prevalence of hidden problem drug use was conducted in 2003. In 2005, the rate for problem drug use is 3.5 per 1 000 inhabitants. In 2006 a more recent study using the capture-recapture method estimated a total number of 24,171 problem drug users (in a range between 19,307 and 29,035). The number of problem opiate users is estimated at around 4,000 people in Budapest (the number ranged between 3,848–4,223, according to the various methods applied) (Country overview).

The number of problematic/chronic-frequent users (in the general population)

2005[1]	1998[2]
Number of users: 19,333-29,075 Rate/1,000 ages 15-64: 3.5	Number of users: 8,957

1. *Prevalence of problem drug use at national level: summary table, 2001-2005, rate per 1,000 aged 15-64 - Overall problem drug use - EMCDDA Table PDU-1 Part (i)-NATIONAL-OVERALL-15-64.htm*
2. *National Report, 1999.*

The number of injecting drug users (in the general population)

2005[1]	1998[2]
Number of users: 2,069-5.813 Rate/1,000 ages 15-64: 0.6	Number of users: 2,356

1. *Prevalence of problem drug use at national level: summary table, 2001-2005, rate per 1,000 aged 15-64 - Injecting drug use - EMCDDA Table PDU-1 Part (ii)-NATIONAL-INJECTING-15-64.htm*
2. *National Report, 1999.*

Injecting drug use was decreasing between 2002-2005 (National Report, 2007).

There is no information on the number of injecting drug users among younger people (< 20 years).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2005[1]	1998[2]
Number tested: 79% infected: 0	0

1. *Prevalence of HIV infection among injecting drug users in the EU, 2005 or most recent data available – Summary table by country - EMCDDA Table INF-1-HIV-AMONG-IDU.htm*
2. *National Report, 1999.*

The number of newly HIV infected injecting drug users

2007[1]	1998[1]
0.2 (a) 2 (b)	0.1 (a) 1 (b)

1. *HIV infections newly diagnosed in injecting drug users, by year of report from 1992 to 2005, (a) cases per million population and (b) number of cases EMCDDA Table-INF-104-part0(1).xls.*

In 2006, 168 HIV tests were performed. 81 newly revealed HIV positive cases were reported, thus the incidence of HIV infections (8 cases/million inhabitants) was lower compared to the year before (10,5 cases/million inhabitants). The mode of infection was only known in two-thirds of the newly registered HIV cases. This year no HIV infections were discovered among people in the IDU risk group. No newly diagnosed AIDS patients were reported among IDUs, either (National Report, 2007).

Based on the incidence data reported in 2006 and the HIV tests of 300 injecting drug users (IDUs) it can be concluded with a high probability, that in the Hungarian IDU population – similarly to previous years – the number of HIV infections is very low. Among people treated at specialised out-patient treatment centres and people taking advantage of low-threshold services, 28.9% HCV prevalence was measured. In 2006, the number of injectors distributed by needle exchange programmes increased by 56%, while the number of clients grew by 84%. The per capita number of injectors – implying secondary syringe exchange – that had been on the rise, decreased in 2006 for the first time since 2003. On the other hand, the number of clients has reached its highest value ever. This may mean that the programmes reach more and more drug users directly (National Report, 2007).

2.3.2 The number of drug related deaths by overdose

2005[1]	1998[1]
28	31

1. Number of acute drug-related deaths recorded in EU Member States (25 members and candidates) according to national definitions - EMCDDA Table DRD-2 Part (i)-DRUG-RELATED-DEATH.htm

Number of direct drug-related deaths in 2006

	Male	Female	Total
Heroin	21	1	22
Methadone	0	0	0
Other opiates	1	1	2
Hallucinogens	0	0	0
Amphetamines	0	0	0
Ecstasy (MDA, MDMA, MDE, MBDB, 4-MTA)	0	0	0
Cocaine	1	0	1
Illicit drugs total	**23**	**2**	**25**
Solvents, inhalants	10	1	11
Sedatives/tranquillisers	80	95	175
Poly-drug use	5	2	7
Total	***141***	***102***	***243***

Source: National Institute of Forensic Medicine

(National Report, 2007)

The number of reported deaths due to illicit drug use further decreased in 2006 compared with previous years. 25 overdose death cases were reported in 2006, compared to 28 in 2005 and 34 in 2004. Conversely, the number of fatal heroin overdoses increased, from 8 in 2004, to 13 in 2005, and 22 in 2006, thus accounting for the vast majority of DRDs. One death was related to a cocaine overdose, and two to other opiate substances. As regards the distribution by age and sex, we may say that the majority of cases involved males (22 cases out of 25) and the mean age was 30.2 years (Country overview).

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

According to the experts the drug policy expenditures have increased the past ten years.

Public expenditures in million HUF (and in thousand EUR[1]), estimates based on the methodology proposed by the EMCDDA. The figures calculated according to the inflation rate relevant for the given years.

Function	2000	2003	2005	2007
Law enforcement	3,892 (15,690.38)	5,421 (21,854.46)	8,748 (35,267.07)	7,382 (29,760.12)
Treatment	842 (3,394.48)	909 (3,664.58)	1,324 (5,337.63)	1,097 (4,422.49)
Harm reduction and other social care	174 (701.47)	316 (1,273.94)	632 (2,547.87)	668 (2,693.00)
Research and prevention	608 (2,451.18)	1601 (6,454.34)	603 (2,430.96)	894 (3,604.11)
Summa	5,517 (22,241.47)	8,247 (33,247.32)	11,307 (45,583.53)	10,042 (40,483.76)

(Gyorgy Hajnal, 2008, unpublished manuscript before peer reviewing)

Total expenditures for the health-related COFOG functional groups (2005)

COFOG item	Million HUF	Thousand EUR
COFOG 7.1 Medical products, appliances and Equipment	370,840	1,495.021
COFOG 7.2 Out-patient services	212,919	858,371
COFOG 7.3 Hospital services	463,394	1,868,148
COFOG 7.4 Public health services	48,480	195,444

(National Report, 2007)

Labelled drug-related budget expenditures identifiable on the basis of the national budget report is, only a small fragment of total drug-related budget expenditures for the same year. On the basis of applying the methodology foreseen by the EMCDDA Reporting Guidelines the total amount of drug-related expenditures in the field of public order and safety is 12-28% higher than the benchmark set by the 2006 research. There was a particularly large deviation with regards to the expenses of the judiciary. Drug-related budget expenditures in the field of health services (COFOG 7.1-7.4) were, within the scope and the limits of the current work, impossible to estimate (National Report, 2007).

3.1.2 Other general indicators

Hungary's first ever national strategy on drugs covers the period 2000–09. It was complemented by a national action plan which was implemented in 2004 and which is now replaced by another strategy, Government Decree 1094/2007 (XII. 5.) on government tasks related to the implementation of the objectives of the national strategy on reducing the drug problem. The national strategy focuses on illicit drugs, is comprehensive and covers the following pillars: community cooperation; prevention; social work/treatment/ rehabilitation; supply reduction; international cooperation; and monitoring. Specific short-, medium- and long-term objectives and achievements are set for these pillars (Country overview).

The implementation of the Drug Strategy was supported by legal provisions (National Report 2002). One example is the Amendment to the Act IV. of 1978 on the Criminal Code by Act II. of 2003 aiming among others at facilitating the implementation of the National Drug Strategy (National Report, 2004).

1 €1 = 248.0501 HUF. Exchange rate published in National Report 2008.

Based on data of the Public Prosecutor's Office, 2,484 persons were sentenced for drug related offences in 2006. These offenders committed 2,874 offences, which they were called to account for on the following legal grounds:

- 1,806 offenders were sentenced for using type offences prohibited by Section 282 and Section 282/A of the Criminal Code;
- 182 offenders were sentenced for trafficking type offences prohibited by Section 282 and Section 282/A of the Criminal Code;
- 148 persons were sentenced for offences prohibited by Section 282/B (using or Trafficking type offence to the injury of a person under the age of eighteen or involving such a person);
- 348 persons were sentenced for conducts as prohibited by Section 282/C (drug addicted persons committing a using or trafficking type offence);
- Nobody was sentenced for an offence prohibited by Section 283 (Misuse of materials used for producing narcotic drugs) of the Criminal Code (National Report, 2007).

Number of reports of drug law offences[1]

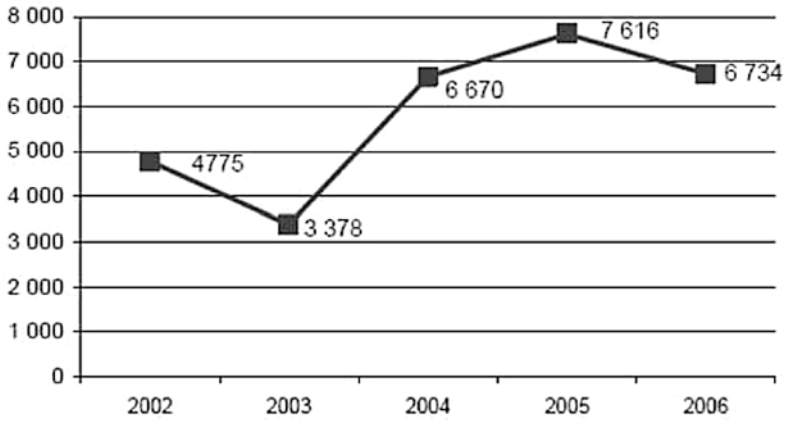
2005[1]	1998[2]
7,616	2,068

1. National Report, 2007.

2. Number of reports of drug law offences[1] 1995 to 2005 - EMCDDA Table DLO-1-OFFENCES-NUMBERS.htm

The general term 'reports for drug law offences' is used since definitions and study units differ widely between countries. For definitions of the term 'reports for drug law offences', refer to Drug law offences – methods and definitions.

The number of revealed cases concerning the misuse of narcotic drugs



(National Report, 2007)

The number of cases concerning the misuse of narcotic drugs decreased by 13.4%, compared to 2005, with a total of 7,616 cases in 2005 and a total of 6,734 cases in 2006. Furthermore, Misuse of narcotic drug offences made up 1.6% of total crime activity in 2006. This rate does not indicate the full extent of crime related to drugs, such as crimes committed by drug users in order to acquire drugs or other organised crime (Country overview).

The number of revealed offenders was 15% less in 2006 than the number of misuse of narcotic drug cases detected by the authorities. This means that every sixth offender against whom the proceedings were initiated for misuse of narcotic drugs committed at least two offences. In 2005 this ratio was 7%, and never went above that in the years prior to 2005 either. The main reason for this is the criminal legislation (National Report, 2007).

The number of revealed cases concerning the misuse of narcotic drugs decreased by 13.4% compared to 2005 (6,734 in 2006, 7,616 in 2005).
Misuse of narcotic drug offences made up 1.6% of total crime activity in 2006. This rate does not indicate the full extent of crime related to drugs (e.g. crimes committed by drug users in order to acquire drugs, other organized crime) (National Report, 2007).

Conducts of offence denoting the "production, manufacturing, acquisition, possession, importing" of narcotic drugs for

demand-related activities of personal use, made up for 90.9% of all revealed offences of misuse of narcotic drugs in 2005 (89.8% in 2006). "Use" as such had a rate of 0.8% – this legal fact was still included in statistics because proceedings initiated prior to the amendments in 2003 were closed in 2005. Thus we can say that demand-related offences for personal use have a share of 91.7%. Supply-related criminal acts (denoting offering, supplying, distributing, trafficking narcotic drugs) account in 2005 for 8.3% of all revealed offences (in 2006 for 7%).
Offences involving the activities "production, manufacturing, acquisition, possession, importing" of narcotic drugs which include most often personal use, made up 89.8% (90.9% in 2005) of all revealed drug offences. Compared to that, supply-related criminal acts (denoting offering, supplying, distributing, trafficking narcotic drugs) do not even account for one-tenth (7%) of all reported offences. A significant proportion of misuse of narcotic drug offences is constituted by demand-related behaviours, especially offences committed by occasional users (National Report, 2006; 2007).

The offences where the subject of crime was any narcotic drugs, increased by 714% between 1993 and 1998 (if 100%=302 in the initial year of this data collection in 1993). While in the same period the offences of heroin increased by 1870%, (if 24=100% in the initial year of this data collection in 1993) (National Report, 1999).

Expert comments
The above mentioned decrease of revealed cases concerning the misuse of narcotic drugs cannot be accounted for by any legal changes. It is possible that the investigating authority's interest in and/or capacity for uncovering these offences decreased somewhat.

3.2 Supply reduction: Production, trafficking and retail

Main focus in Hungary of supply reduction is on retail and on trafficking.

Priorities of supply reduction covered by policy papers and/or law
The drug-related sections of the Hungarian Criminal Code (HCC) were considerably amended in 2003. This amendment was based on the principle that both demand and supply must be reduced, and that there is a need to differentiate approaches towards drug consumers, where prevention, treatment and criminal law must all be taken into account. The HCC was reorganised into sections covering possession, trafficking, minors, addicts, exemptions from punishment, and drug precursors. The amendment introduced more detailed provisions (lower maximum sentences if the offender is an addict, detailed and differentiated regulations on drug-related crimes if persons under 18 years are involved), and most importantly, made the treatment option again available both for consumers and addicts. It also removed 'consumption' as a specific offence — although in an indirect way consumption remains punishable, as possessing and acquiring drugs remains an offence (Country overview).

In 1999 an amendment of the Penal Code, Section 282 and 282/A and 282/ B and 283 entered into force by March 1999. It foresees much higher penalties for drugs trafficking (5-15 years and also life long prison sentence), mainly if committed it in the framework of organised crime, or in armed form. The amendment re-introduced the punishment of drug consumption (as it was before 1993), however it makes possible beside the voluntary treatment other alternatives of imprisonment (as public work, or fine) in case of petty crime, or misuse of drugs (National Report, 1999).

All narcotics-related activity performed without authorisation is classified as a criminal offence. The definition of the "abuse of narcotic drugs" in the Criminal Code (Law No. IV of 1978) has been amended different times in the last two decades to make the rules on trafficking and dealing more strict (National Report, 2003).

Drug use is still a criminal offence (this was reintroduced in 1998), be it that the sentences are tougher for trafficking and dealing drugs than for using them (National Report 1999). The law (Section 282 of the criminal code) allows furthermore for treatment as alternative for imprisonment for drug use offences, but only in case the offenders are addicted, not offering or supplying drugs to others, etc (National Report 2003) or for minor offences (National Report, 2003).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007[1]	1998[2]
School-based prevention	Common	In certain regions
Mass media campaigns	Irregular	Rare
Telephone helpline	Rather common	No
Other, namely Roma youth and Hungarian army	In some regions	No

1. National Report, 2007.

2. National Report, 1999.

Universal prevention is specifically carried out within a school setting. During the school year 2005–06, 229 different prevention programmes were implemented within the school setting. The most common objectives of these programmes were: the provision of knowledge concerning drugs and health promotion; development of self-knowledge; and the development of refusal skills. These programmes were delivered through seven identified methods: lecturing, discussions, group work, visual presentation, material presentation, role-play and demonstration (Country overview).

As regards selective prevention, activities are targeted at recreational settings, ethnic minorities and youths. In 2006, six organisations carried out harm reduction/prevention activities in recreational settings. These organisations took part in more than 250 events, where they reached almost 28 000 youths. As regards ethnic minorities, joint peer counselling training programme for Roma and non-Roma youths were organised in 2006. In 2005, a new service targeted at youths in shopping malls was launched in Budapest and Pécs. This new service offer youths information on the different programmes in the form of structured or spontaneous group discussions, or individual consultations. Group discussions mostly involve questions of self-knowledge and issues which teenagers are mostly preoccupied with, such as relationships, love, sexuality and drug use. Besides providing a low-threshold service, one of the most important tasks of this service is to act as a filter and direct youths to the right places (Country overview).

Treatments available

	2007[1]	1998[2]
Abstinence oriented in-patient	Common	Rather common
Abstinence oriented out-patient	Common	Rather common
Abstinence oriented mandatory	Rare	Rare
Maintenance oriented	Available in most regions	Rare

1. National Report, 2007.

2. National Report, 1999.

Year of introduction of methadone maintenance treatment (MMT): 1995 (Year of introduction of methadone maintenance treatment (MMT), high-dosage buprenorphine treatment (HDBT) and heroin-assisted treatment, including trials - EMCDDA Table HSR-1-METHADONE-INTRODUCTION.htm)

In 2006, the data collection system for treatment demand was provided by 453 treatment centres, out of which 329 were out-patient treatment centres, whereas 124 were in-patient treatment centres. In 2006, the number of drug users in treatment increased to a total of 15,480 compared to 2005, when a total of 14,793 clients in treatment were reported. In 2006, the number of clients entering treatment decreased to a total of 5,673, compared to the 6,319 clients in 2005 (Country overview).

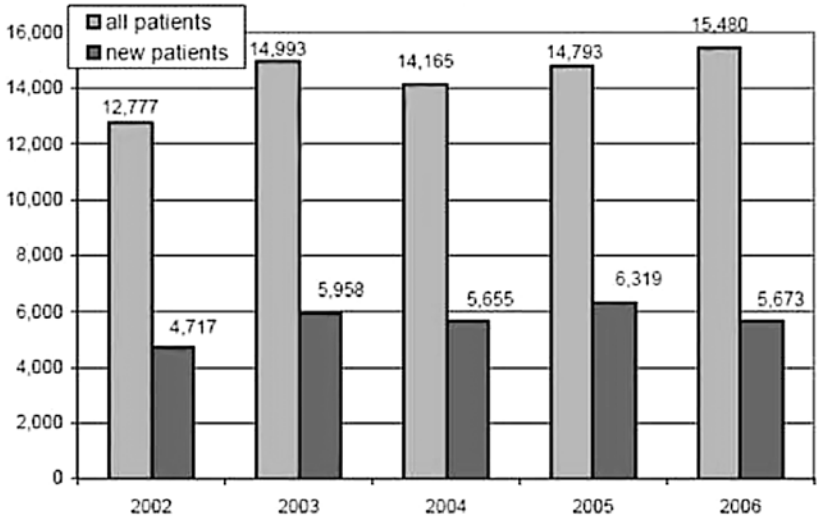
The number of heroin users in treatment and injecting users has been continuously decreasing since 2000. This trend was reversed in 2006, and both the number of heroin users in treatment and injecting users increased. In 2006 again, the number of patients in treatment for cannabis use was the highest; the number of amphetamine users decreased for the first time compared to the previous year. The share of cocaine users has further increased, while the number of hallucinogen users decreased (National Report, 2007).

In 2006, cannabis was the primary substance of abuse among all clients in treatment, with a ratio of 37.9%, followed by 15% for opioids and 4.4% for amphetamines. Similarly, among clients entering treatment cannabis was reported as the primary substance of abuse at 54.1%, followed by 7.4% for opioids and 5.3% for amphetamines (Country overview).

Treatment for drug users is offered at various out-patient and in-patient facilities throughout Hungary. Facilities include specialised drug clinics and therapy-providing institutions, as well as psychiatric departments, therapeutic communities and crisis intervention departments. The need for developing out-patient institutions specialising in treatment for drug addicts was identified, and first services were established, in the 1980s. Overall, in 2006 there were 21 specialised out-patient treatment centres operating in 14 counties in Hungary. In-patient care is offered by psychiatric departments, departments of addiction, crisis intervention departments as well as by NGOs running therapeutic communities. Besides the 13 existing therapeutic communities, two new facilities were opened in 2006. Long-term rehabilitation is mainly provided by NGOs. The services they deliver are only partially medical or healthcare-related, and are dominated by social and welfare programmes such as work therapy and social reintegration (Country overview).

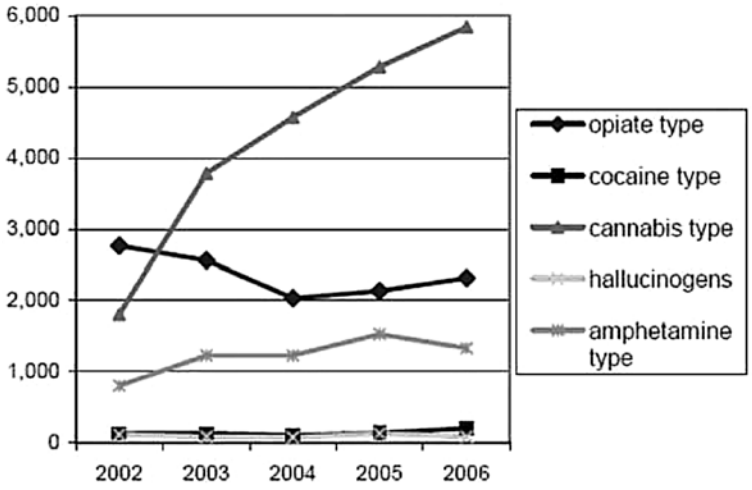
In 1994, the first methadone maintenance treatment programme was launched in Hungary, and this is currently available in eight institutions in six towns nationwide. In 2006, the total number of clients in methadone maintenance treatment was 853. Furthermore, the methodological guidelines of the Professional College of Psychiatry on methadone treatment of 2002 stipulate that methadone treatment can only be initiated by treatment centres. At the end of 2007, the registration process of Suboxone was initiated (Country overview).

The number of drug users treated in Hungary between 2002-2006



(National Report, 2007)

Number of patients in treatment for illicit drug use between 2002-2006



Source: Report No. 1627 by OSAP and Report No. 1211 by the Ministry of Health

(National Report, 2007)

On the whole, it can be concluded that the health care treatment chain – similarly to the previous year – is still quite irregular and deficient in 2006. Considering the number of clients, there are great differences between the capital and the other parts of the country (National Report, 2007).

Priorities of demand reduction covered by policy papers and/or law

There are no separate legal regulations on drug prevention and drug treatment. These tasks are covered in general legislation on public education and health. This has not changed since 1998, (National Report 1999) be it that some education and health laws have been adapted. School drug education is for instance covered by the Law on Public Education which was adapted in 2002 specifying criteria and guidelines for health education in schools (National Report, 2003). Drug-free treatment is covered by general laws on heath care provision like Act CXXXII of 2006 (National Report, 2007).

The National Drug Strategy 2000-2009 set clear objectives increasing reach and quality of drug prevention and treatment. The Co-ordination Forums on Drug Affairs and the working groups of the Co-ordination Committee were installed to facilitate and support the local and nation-wide co-ordination of prevention and treatment and their co-operation with other professions (expert's comments).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007[1]	1998[2]
Syringe exchange programmes	Common	In some regions
Overdose treatment (naloxone)	Limited to physicians	No data found
Outreach work (actively seeking contact with drug users)	Common	Rather common
Safer use education (flyers, folders, training)	Common	No data found
Drop-in centres (low-threshold)	In some regions	No data found

1. Van der Gouwe et al., 2006.

2. National Report, 1999.

A harm reduction approach has been present in Hungary for many years. However, only in recent years has it also received support at the professional and drug policy level. The 'National strategy for the reduction of drug problems' includes an obligation to integrate a harm reduction approach and harm reduction programmes. In practice however, the coverage of such programmes is limited. A number of low-threshold services provide counselling, referral to long-term treatment, social support and legal assistance. Needles and syringes are available across the country through six fixed needle and syringe programmes (two in Budapest and four in other cities), two mobile units in Budapest, five vending machines (one in Budapest), and eight street outreach programmes (three in Budapest and five in other cities). A total of 13 organisations are involved in needle and syringe exchange programmes in Hungary. In 2006, a total of 142 433 syringes were distributed with an exchange rate of 50% (Country overview).

Priorities of harm reduction covered by policy papers and/or law

Harm reduction services are for an important part covered by legal regulations of social care. Especially since 1999/2000 the legal fundament for law-threshold services and outreach work developed strongly, specifying (minimum) requirements and rules for these services (National Report 2007). This was supported by Ministerial regulations like the detailed rules of the operation of low-threshold services in regulation 3/2006. (V. 17.) of the Ministry of Youth, Family, Social Affairs and Equal Opportunity, which amended Regulation 1/2000. (I. 7.) of the Ministry of Social and Family Affairs on the professional requirements of employment in social institutions, its personal and material requirements, and the professional tasks and operation requirements of social institutions offering personal care (National Report, 2007).

3.4.2 Crime, societal harm, environmental damage

No information found on interventions/measures to reduce harm for society.

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INDIA

1 General information

Location:
Southern Asia, bordering the Arabian Sea and the Bay of Bengal, between Burma and Pakistan

Area:
3,287,590 sq km

Land boundaries/coastline:
14,103 km/ 7,000 km

Border countries:
Bangladesh 4,053 km, Bhutan 605 km, Burma 1,463 km, China 3,380 km, Nepal 1,690 km, Pakistan 2,912 km

Population:
1,147,995,904 (July 2008 est.)

Age structure:
0-14 years: 31.5% (male 189,238,487/female 172,168,306)
15-64 years: 63.3% (male 374,157,581/female 352,868,003)
65 years and over: 5.2% (male 28,285,796/female 31,277,725) (2008 est.)

Administrative divisions:
28 states and 7 union territories

GDP (purchasing power parity):
$2.966 trillion (2007 est.)

GDP (official exchange rate):
$1.099 trillion (2007 est.)

GDP - per capita (PPP):
$2,600 (2007 est.) (CIA The World Factbook)

Drug research
In 2008, United Nations office on Drugs and Crime, Regional Office for South Asia (UNODC-ROSA) conducted a rapid assessment of drugs and HIV in South Asia, including India. Further there is drug research taking place at local/regional level, such as Chennai, Manipur, and New Delhi. In the biggest cities of India there is expertise in this field available.

Main drug-related problems
India is mainly a consumption country of cannabis, opioids and pharmaceuticals.

2 Drug problems

2.1 Drug supply

2.1.1 Production

Total quantities (kg) produced[1]

	2007	1998
Opiates	No data found	No data found
Cocaine	0	0
Cannabis	No data found	No data found
ATS	0	0

1. Expert's comments.

India does not play a major role as production country of any drug, except for legal production of opium. It is together with Turkey the world's largest producer of legal opium. Illicit production of opium also exists, given the growing number of eradications of opium poppy fields over the years (UNODC, 2008).

Table 3: Significant opium poppy eradication reported (hectares). 1995-2007

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Afganistan	–	–	–	–	400	121	–	–	21,430	*	5,103	15,300	19,047
Colombia	3,466	6,885	6,958	2,901	8,249	9,254	2,385	3,577	3,266	3,866	2,121	1,929	–
Egypt	–	–	–	–	–	–	–	15	34	65	45	50	–
Guatemala	–	–	–	–	–	–	–	–	–	–	489	720	449
India	–	–	29	96	248	153	18	219	494	167	12	247	7,753
Lao PDR	–	–	–	–	–	–	–	–	4,134	3,556	2,575	518	779
Lebanon	–	–	–	–	–	–	–	–	4	67	27	–	–
Mexico	15,389	14,671	17,732	17,449	15,461	15,717	15,350	19,157	20,034	15,926	21,609	16,890	11,046
Myanmar	3,310	1,938	3,093	3,172	9,824	1,643	9,317	7,469	638	2,820	3,907	3,970	3,598
Pakistan	–	867	654	2,194	1,197	1,704	1,484	–	4,185	5,200	391	354	614
Peru	–	–	–	4	18	26	155	14	57	95	92	88	220
Thailand	580	886	1,053	716	808	757	832	507	767	122	110	153	220
Venezuela	1,480	51	266	148	137	215	39	0	0	87	154	0	–
Vietnam	477	1,142	340	439	–	426	–	125	100	32	–	–	38

(UNODC, 2008)

A domestic market in illicit cannabis derivates (charaz) exists, and further a few people are licensed to grow cannabis (expert's comments). Cannabis is cultivated (mostly resin but also herb) also for export. India is seen as an important producer of cannabis resin in South-Asia (UNODC, 2008). This is underlined by the fact that Nepal and India were mentioned by 8.5 of countries as the main source of cannabis resin on their markets (UNODC, 2008).

India has a significant chemical industry and is one of the largest exporters of licit ephedrine and pseudoephedrine, making it a target for ATS precursor diversion and illicit manufacturing of ATS by international drug trafficking organizations (UNODC 2008a).

A large (domestic and export) market in illicit (non-prescribed) pharmaceutical drugs exists in India. ATS production is rather limited in India (expert's comments).

In 2003, the first clandestine ATS laboratory (ATS not specified) was reported and dismantled in Kolkata (in east India), followed by another laboratory in 2004 located in Hyderabad (south-eastern India). Elevated activity related to ATS reap-

peared in 2006, with the discovery of an illicit laboratory in Gurgaon (northern India). The laboratory was reportedly set-up by transnational organized crime groups from East Asia and North America to manufacture ephedrine-based meth-amphetamine. In a separate incident (November 2006), after prolonged surveillance, a sea container holding a complete mobile laboratory and chemicals for illicit manufacture of methamphetamine was seized in transit off the coast near Kolkata. It was believed to be part of a larger organization for manufacture most likely in New Delhi. In 2007 a clandestine methamphetamine-related laboratory for the extraction of precursors from pharmaceutical preparation was discovered in Mumbai. Authorities seized 290 kg of pseudoephedrine destined for Australian laboratories and arrested five persons including foreign nationals involved in the extraction process (UNODC, 2008a).

Roughly 39% percent of tableted amphetamines-group substances were reported to come from India and about 20% from the Netherlands (UNODC, 2008a).

2.1.2 Trafficking

Total quantities (kg) seized

	2006[1]	1998[2]	1997
Opium (raw and prepared)	2,826	2,031	No data found
Heroin	1,182 govt	655	1,332
Morphine	36	19	128
Other opiates	No data found	No data found	No data found
Cocaine (base and salts, incl. crack-cocaine)	206	1	24
Coca leaf	No data found	No data found	No data found
Cannabis herb	157,710 govt	68,221	No data found
Cannabis resin	3,852	10,106	3,281
Cannabis oil	No data found	No data found	No data found
Cannabis plant	No data found	No data found	No data found
Amphetamine	No data found	No data found	No data found
Methamphetamine	No data found	No data found	No data found
Non defined amphetamines	No data found	No data found	No data found
Ecstasy (MDA, MDEA, MDMA)	No data found	No data found	No data found

1. UNODC, 2008.

2. UNDCP, 2001.

Trafficking of pharmaceuticals from India to neighbouring countries takes places at a large scale (UNODC, 2008a).

While there have been reports for several years of tablet methamphetamine (known locally as yaba') in the markets of China, Lao PDR, Cambodia, Thailand and Viet Nam, and to a lesser extent Malaysia, reports from 2007 show methamphetamine from Myanmar shifting west into new markets in Bangladesh, India and Nepal (UNODC, 2008a).

Pharmaceutical preparations containing narcotic drugs are widely trafficked and abused in India. Codeine based syrups are diverted from the licit market in India and smuggled into Bangladesh (INCB, 2008).

In Moreh (eastern State of Manipur on the India-Myanmar border), methamphetamine is commonly trafficked into India while precursor chemicals are trafficked to Myanmar as part of a larger criminal network which has also included the trafficking of counterfeit currency, pharmaceuticals and other illicit drugs. The area is vulnerable to significant illicit trafficking due to the lack of a clearly demarcated border and generally unrestricted movement of people and goods (UNODC, 2008a).

2.1.3 Retail/Consumption

India was the largest opiate market (in 2006) in the sub-region with an estimated opiate using population of around 3 million persons (UNODC, 2008).

The opiate market is India is considered stable, but has increased if compared to the situation in 1998 (expert's comments).

Estimated retail value
(most recent estimates)

Opium	
Retail price per gram in 2005	No data found[7]
Wholesale price per kilogram in 2005	$345.8 (range 230.0-461.0)[1]
	€270.97 (180.31-361.37)
Retail price per gram in 2006	No data found
Wholesale price per kilogram in 2006	$670 (610.0-730.0)[2]
	€525.03 (478.14- 572.05)
Heroin	
Wholesale price per gram in 2005	$4,610.4 (3,457.8-11,526.1)[1]
	€3,615.82 (2,712.14-9,041.88)
Retail price per gram in 2006	No data found[2]
Wholesale price per kilogram in 2006	$6,100 (3,658-9,760)[2]
	€4,784.66 (2,869.78-7,654.85)
Retail price per gram in 2008	300 INR[3]
White heroin	
Retail price per gram in 2008	2000 INR[3]/€31.1
Cocaine	
Retail price per gram in 2005	No data found[1]
Wholesale price per kilogram in 2005	No data found[1]
Retail price per gram in 2006	No data found[2]
Wholesale price per kilogram in 2006	No data found[2]
Cannabis herb	
Wholesale price per kilogram in 2005	$46.1 (34.6-115.3)
	€36.09 (27.11-90.35)
Retail price per gram in 2006	No data found[2]
Wholesale price per kilogram in 2006	$85.0 (50.0-125.0)[2]
	€66.61 (39.18-97.97)
Retail price per gram in 2008	INR 600-1100 per 10 gr [3]/€9.33-17.10
Cannabis resin	
Retail price per gram in 2005	No data found[1]
Wholesale price per kilogram in 2005	$345.8 (276.6-691.6)[1]
€271.02 (216.70-541.85)	
Retail price per gram in 2006	No data found[2]
Wholesale price per kilogram in 2006	$550.0 (370.0-730.0)[2]
€430.8 (289.80-571.78)	

1 $1 = € 0.783014. Exchange rate 26 February 2009.
2 1 INR = € 0.0155500. Exchange rate 26 February 2009.

Methamphetamine

Retail price per gram in 2005	No data found[1]
Wholesale price per kilogram in 2005	No data found[1]
Retail price per gram in 2006	No data found[2]
Wholesale price per kilogram in 2006	No data found[2]

Ecstasy

Retail price per gram in 2005	No data found[1]
Wholesale price per kilogram in 2005	No data found[1]
Retail price per gram in 2006	No data found[2]
Wholesale price per kilogram in 2006	No data found[2]
Retail price per gram in 2008	INR 10 [3]/€0.15

Amphetamine:

Retail price per gram in 2005	No data found[1]
Wholesale price per kilogram in 2005	No data found[1]
Retail price per gram in 2006	No data found[2]
Wholesale price per kilogram in 2006	No data found[2]

1. UNODC, 2007.

2. UNODC, 2008.

3. Expert's comments.

Expert comments

The quality of heroin (at least in Delhi) is declining; this is why people move from heroin to pharmaceuticals (stable quality, cheaper).

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

Life-time prevalence in the general population

	2007[1]	1998
Opiates	0,4% (2001)	No data found
Cocaine	No data found	No data found
Cannabis	3,2% (2000)	No data found
Amphetamines	0,02% (2001)	No data found
Ecstasy	0,01% (2004)	No data found

1. UNODC, 2008.

Most countries of East and South-East Asia reported declines in opiate use in 2006, reflecting the strong declines of opium production in Myanmar and the Lao PDR in recent years. Countries reporting declines included China, Indonesia, the Philippines, Malaysia and Myanmar. Overall, use trends as perceived by experts showed a small decline for the year 2006. Over the 1996-2006 period the same indicator highlights Asia as the driving force behind the increase in the total number of opiate users at the global level. If experts did not perceive increases in the opiate markets in South West Asia and Central Asia over that period, the trend would have remained stable, not only in relative terms (prevalence rates) but also in absolute numbers (UNODC, 2008).

Unfortunately, existing national and regional monitoring systems are often not capable of generating representative data. For example, neither India nor China – collectively accounting for 38% of the global population – has ever conducted a nationally representative survey on ATS consumption (UNODC, 2008a).

The number of ATS users and cocaine users is still very low, and may be centred in a few scenes in Delhi and in NE India (expert's comments).

The most current estimate (2001) of amphetamine group use in India's population (15-64 years) is 0.2%. Use at that time was reported to be mostly limited to regions such as Kerala (on the southern coast), Uttar Pradesh (in the northeast near the Nepal border), and Manipur - the area also noted for its methamphetamine and precursor trafficking. Given the identification of several clandestine ATS operations in India, confirmed proliferation of methamphetamine seizures from neighbouring Myanmar and other countries of East and South-East Asia and the speed with which ATS can emerge in a new market, the potential for ATS to expand in India should not be underestimated (UNODC, 2008a).

The number of cannabis users is estimated 8.7 million (UNODC ROSA, 2007). There is no information available whether the number of cannabis users increased, decreased or remained stable over the past 10 years.

Pharmaceuticals are used widely throughout the country, but no data have been found (expert's comments).

Applying prevalence estimates to the population figures in 2001, based on population growth, it can be projected that in that year there were about 62.5 million alcohol users, about 8.7 million cannabis users and about 2 million opiate users in the country (UNODC, MSJE & UNESCO, 2004).

No data have been found on last-year prevalence in the general population and on life-time, last year, and/or last month prevalence among young people.

Additional information

Irregular or incomplete reporting from Member States is compounded by the varying quality of data provided. Specifically, and similar to other drugs, information about the extent of ATS consumption (prevalence rate) is the weakest indicator, as household and other surveys are lacking or are outdated in some countries in several of the most affected regions (according to supply side indicators and/or expert opinion). Unfortunately, this is the case in several populous countries (i.e. China and India), thus affecting regional and global prevalence estimates (UNODC, 2008a).

2.2.2 Problematic drug users/chronic and frequent drug users

The number of problematic/chronic-frequent users (in the general population)

Approximately 73.54 million people dependent on drugs, of which 62.46% on alcohol (UNODC ROSA, 2007).

The number of injecting drug users (in the general population)

2007	1998
223,121-2,504,000	No data found

The estimated range of injecting drug users across the country is between 223,121 (male) (NACO 2007) through 1,112,500 (Cook & Kanaef, 2008) to 2,504 million opiate users including IDU (UNODC ROSA, 2007). But not all opiate users are problem users. However, injecting drug use nationwide is on the rise (although this differs from region to region).

There is a shift towards more risky modes of use: from non-injecting to injecting. This shift from non-injecting heroin to injectable pharmaceuticals occur, when heroin is scarce; when the cost of heroin is increasing; when there is an observable reduction in purity levels; when police enforcement is vigilant Further, injectable pharmaceuticals are more easy available and costs are less (Raju, 2008).

Injecting drug use is reported to be increasing in at least ten countries in the region (Afghanistan, India, Indonesia, Japan, PDR Laos, Myanmar, Nepal, Pakistan, the Philippines and Sri Lanka), while there are reported declines in injecting in Hong Kong and Taiwan (Cook & Kanaef, 2008).

Injection drug use is a major driver of the epidemic in the northeast states. Recent size estimation data show that injecting drug users could constitute 1.9 – 2.7% of the adult population in Manipur and Nagaland. In addition to the known risks of HIV transmission through sharing injection equipment, sexual transmission is also important. In a sample of injecting drug users in the northeast, 75% were HIV positive, most were under the age of 19 years, two-thirds were sexually active, and 3% reported using condoms. The risk of HIV transmission to sexual partners and wives of injecting drug users has been documented across India (…) Injecting drug users are also found in most of the major cities in India outside the northeast)

and HIV prevalence rates ranging between 2% and 44% have been documented among them. Little is known about injecting drug user overlap with other risk groups in states outside the northeast (Chandrasekaran et al., 2006).

The situation in North East India differs largely from the rest of India. In NE India there is a large injecting culture, and this has led to major outbreaks of HIV in this area (Manipur) (expert's comments).

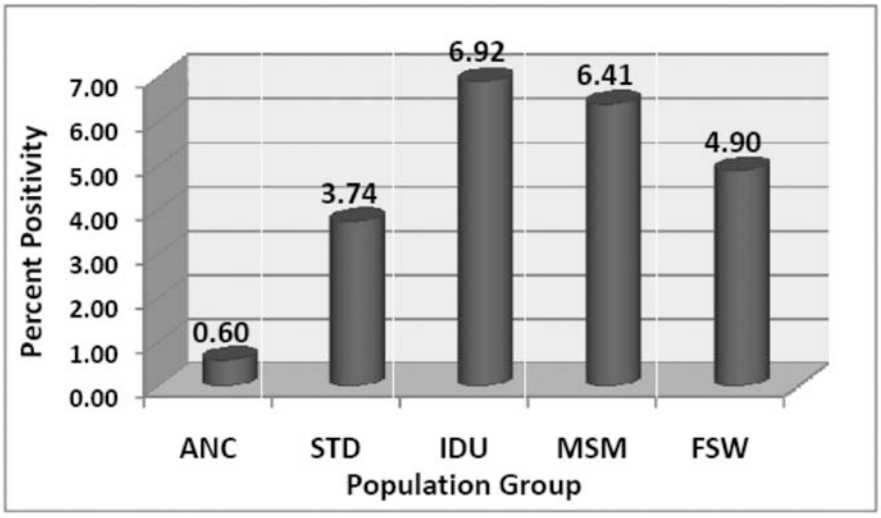
Injectable pharmaceutical opioids like Morphine, Pethidine, Pentazocine (Fortwin®), Buprenorphine alone or in combination with other drugs, Propoxyphene; Spasmoproxyvon, (Dextropropoxyphene® plus Dicyclomine) ínjectable Benzodiazepines like Diazepam (Calmpose®) and injectable Anti Histamines like Promethazine (Phenargan® Chlorpheniramine (Avil®) are widely used, although no data are available about the numbers of users (Raju, 2008).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

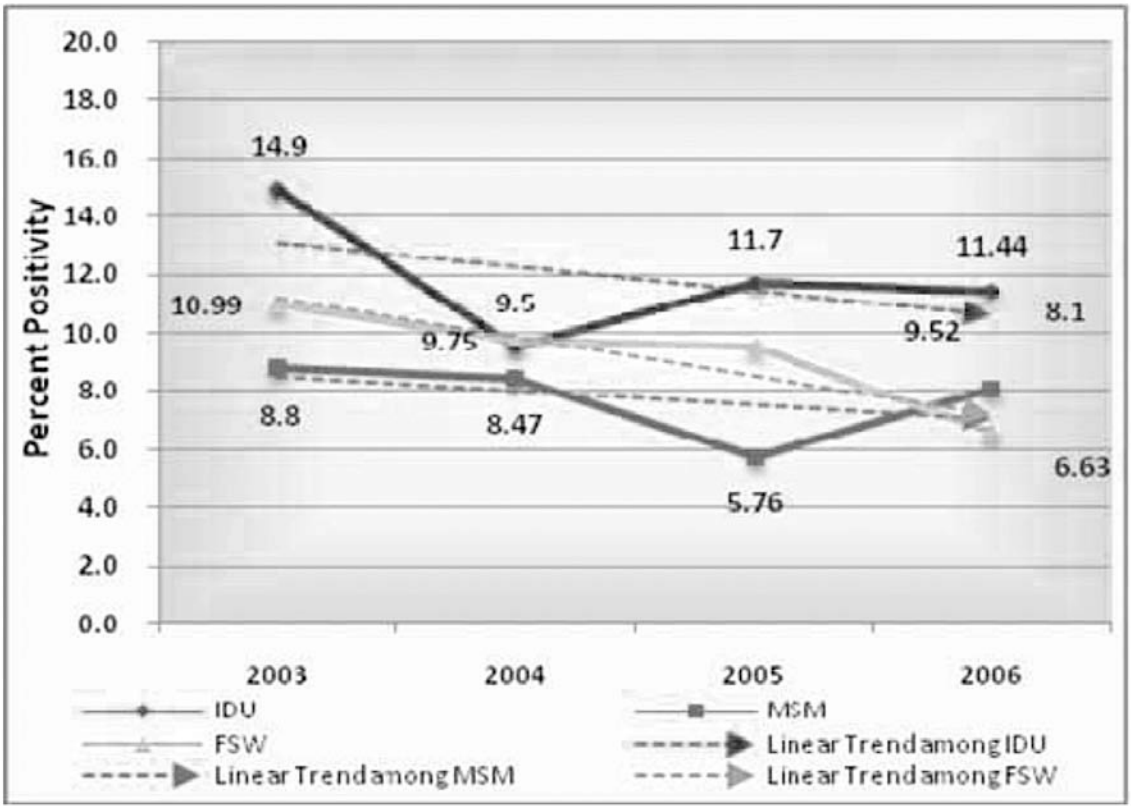
Estimated number of HIV+ infected persons has gone up from 3,5 million in 1998 to 5,206 million in 2005 (NACO 2007). While adult HIV prevalence among the general population is 0.36 percent, high-risk groups show higher numbers. Among Injecting Drug Users (IDUs), it is as high as 8.71%, while it is 5.69% and 5.38% among Men who have Sex with Men (MSM) and Female Sex Workers (FSWs), respectively (www.nacoonline.org, accessed June 2008). 2.2% of all cumulated HIV infections were attributed to IDU in 2003 (UNODC ROSA, 2007).



(NACO, 2007)

Adult HIV prevalence amongst people who inject drugs in India is ranging from 1.3% to 68.4% (Cook & Kanaef, 2008).

Mathers et al. report an estimate of HIV prevalence of 11.15% among IDU for 2004 (Mathers et al., 2008).



(NACO, 2007)

HIV prevalence among IDU in selected states (see below) show that the prevalence in India does not follow a specific pattern: in some areas HIV prevalence among IDU is increasing, whereas in other areas it is decreasing or more or less stabilising:

No	State	2004	2005	2006
1	Maharastra	29.20	12.80	20.40
2	Mizoram	6.80	4.80	3.05
3	Nagaland	3.22	4.51	2.39
4	Tamil Nadu	39.92	18.00	24.20
5	Delhi	17.60	22.80	10.00
6	Assam	4.48	7.86	2.86
7	Chandigarh	4.80	9.20	17.60
8	Jammu & Kashmir	0.00	0.00	2.50
9	Kerala	2.58	5.19	9.57
10	Meghalaya	0.00	0.00	3.33
11	Manipur	21.00	24.10	19.80
12	Sikkim	-	0.48	0.20
13	Tripura	-	10.92	0.00
14	Punjab	-	-	13.80
15	West Bengal	3.83	7.41	4.64
16	Orissa	-	-	10.40
17	Karnataka	0.00	-	3.60

(NACO, 2007)

The number of newly HIV infected injecting drug users

The number of newly HIV infections increased compared to 10 years ago. But the number of newly infected IDU tends to decline over the past. The transmission route is predominantly sexual (87.4 percent). In the North Eastern states/provinces10, besides injecting drug use, which is the main route of HIV transmission, heterosexual route is emerging as an important mode of transmission. The other routes of transmission by order of proportion includes perinatal (4.7 percent), unsafe blood and blood products (1.7 percent), infected needles and syringes (1.8 percent) and unspecified and other routes of transmission (4.1 percent) (UNGASS, 2008).

The number of drug related deaths by overdose

Data about drug related deaths or drug overdose are not systematically collected; however several experts, e.g. in Chennai, report many drug overdoses, but there are no exact data available (expert's comments).

2.3.2 Drug related crime or (societal) harm

No data found on drug related crime or (societal) harm.

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

Estimates of total annual expenditures in the past ten years

Expenditures on drug policy measures as a whole increased over the past ten years. This is among others due to the fact that the number of treatment facilities as well as the number of harm reduction interventions increased the period mentioned (expert's comments).

No data are found on national expenditures on drug policy measures. It is considered that the expenditures on supply reduction measures are much higher than on treatment. Expenditures on harm reduction only started recently (expert's comments).

3.1.2 Other general indicators

Numbers on arrests and imprisonment for drug-law related offences

19,563 persons were arrested in 2006 for drug related matters (NCB, 2006).

Drug trafficking

	2006	2005	2004	2003	2002
Persons prosecuted	19,582	20,138	10,173	7,874	12,388
Persons convicted	9,921	9,074	4,294	3,006	5,293
Persons released	4,565	4,291	2,961	2,369	5,064

(NCB, 2006)

Not much information could be found on arrests. The number of arrests and convictions for drug related offence has risen over the past 10 years. In India, street users are 'soft /easy targets' for the police. E.g. in Mumbai enforcement action against users has witnessed an increasing trend:

Year	Number of users arrested
2005	172
2006	1002
2007(Jan-Mar)	921

(UNODC ROSA, 2007; Expert's comments)

Numbers available on arrests and imprisonment for use/possession for personal use

The new elements concern the decriminalisation of the possession of small amounts of drugs for personal use. And so the number of people arrested or imprisoned for use/possession for personal use decreased (UNODC ROSA, 2007).

3.2 Supply reduction: Production, trafficking and retail

Main focus

Main focus in India is on trafficking and retail. Since laws differentiate between quantity and substance, the focus is now more on drug dealing.

Control over psychotropic substances is a relatively new phenomenon in India. India is emerging as transit route for illicit drugs. Besides pressure to comply with international conventions there is an internal drive to work with a deterrent approach.

The focus of the law is on
- Regulation through licenses for cultivation, production, export-import, transport;
- Control over use for medical & scientific purposes;
- Prohibition of everything that does not fall in 1) and 2).

This resulted in a rather harsh approach in the late eighties, including rulings that all drug offences had to be prosecuted and for instance bail was impossible. Death penalty was introduced for repeated conviction for specific crimes (UNODC ROSA 2007; expert's comments).

Changes regarding drug policy realised during the past ten years

The new elements concern the decriminalisation of the possession of small amounts of drugs for personal use (expert's comments).

Priorities covered by law or other legal provisions/arrangements

Opium Act, 1857
- Introduced licenses for poppy cultivation;
- Commenced a more lenient approach towards possession or consumption of opium.

Opium Act, 1878
- Strengthened government control on all aspects of cultivation & opium trade;
- Penalised 'unlawful' possession of opium.

The Dangerous Drugs Act, 1930
- The list of 'dangerous drugs' was extended to coca, cannabis & synthetic opium;
- Prohibited cultivation, manufacture & trade except with government sanction;
- Decriminalised possession for personal consumption;
- Allowed opium supply to registered 'addicts'.

Narcotic Drugs and Psychotropic Substances ACT, 1985
- Introduced in 1985 under international pressure to comply with International Conventions;
- Laid down a strict criminal regime; penalising all aspects of drug use;
- Provided extraordinary powers of enforcement, diluted rules of evidence including presumption of culpability & reversal of burden of proof.

In 2001 a more lenient approach towards drug users was chosen. Penalties took into account differences in substance and quantity. Sentences also included provisions for treatment for drug dependency. From 2001 onwards, a differentiation is being made between small, medium and large (commercial) amounts. Penalties for consumption cover a range from a fine (Rs. 10,000 - 20,000) (€155.15-310.38) to imprisonment (from six months to one year) depending on drug consumed. The sentence range for a person found in possession of a small quantity of an illicit drug is between six months to one year imprisonment, in case possession is proven to be intended for personal consumption. Possession was distinguished from consumption. For both the penalty is between six and twelve months imprisonment, provided possession is of small quantity.

Capital punishment exists in India, but is reserved for 'rarest of rare' cases (UNODC ROSA, 2007; expert's comments).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007[1]	1998[1]
School-based prevention	Uncommon	Not at all
Mass media campaigns	No data found	No data found
Telephone helpline	No data found	No data found

1. Expert's comments

Additional information

There is not much information available about nationwide preventive activities (expert's comments).

Treatments available

	2007[1]	1998[1]
Abstinence oriented in-patient	Common	Not at all
Abstinence oriented out-patient	No data found	Not at all
Abstinence oriented mandatory	Not at all	Not at all
Abstinence oriented voluntary	No data found	Not at all
Maintenance oriented	No data found	Not at all

1. Expert's comments

Main focus

Abstinence-oriented treatment (detoxification and rehabilitation / in-patient treatment centres according the Therapeutic Community and 12 steps approach) are the traditional main focus. Only recently Opiate Substitution Treatment (OST) got accepted and only buprenorphine. Methadone treatment is still prohibited (expert's comments). India has yet to formulate a national policy on the issue related to substitution treatment (NACO, 2006).

In India, where estimates suggest that there are over one million people who inject drugs, there are thirty-five sites providing locally produced buprenorphine for limited periods, taken sublingually (Cook & Kanaef, 2008).

In 2004/2005, 81,802 people were in drug treatment, of which 61.3% opiates, 15.5% for cannabis, 1.5% cocaine, 0.2% amphetamines, 0.9% inhalants and 4.1% sedatives (UNODC, 2008).

The number of treatment centres (de-addiction) is judged as not sufficient. There are 432 abstinence-oriented treatment centres in India. Treatment facilities are available in the main cities only, and they all follow the same model. OST (buprenorphine) is available in some cities/region. There is nearly no after care and only a few day care centres in India (expert's comments).

Priorities of drug treatment covered by policy papers and/or law

The NDPS act includes among others the following elements:

- Section 7A providing for a National Fund; among others for identification, treatment, rehabilitation and supply of drugs to drug dependent persons where such use is a medical necessity;
- Section 71 authorises the government to set up treatment centres and make rules for supply of drugs consistent with the Act and where such supply is a medical necessity;
- Section 39 allows a court to divert in lieu of sentencing an addict who:
  - is convicted for consumption or offence involving a small quantity
  - with his consent
  - to detoxification at centres maintained or recognized by the government
  - after entering bond with or without sureties to
    - submit treatment progress report after one year
    - abstain from commission of offence.
- Section 64A – Any addict, who:
  - is charged with consumption or offence involving small quantity
  - volunteers to undergo detoxification at centres maintained or recognised by government and
  - undergoes treatment shall not be liable to prosecution;
  - Immunity may be withdrawn in case of incomplete treatment.
  - (UNODC ROSA, 2007; expert's comments).

Minimum standards of care have been developed by the TT Ranganathan Clinical Research Foundation, based in Chennai, South India.

All treatment facilities are bound by these guidelines. These standards introduced in 2001, include guidelines on treatment to be offered, the scope of medical care, activities for psychological care, providing psychological care to families and the social network of the addict, after-care/ follow up and rehabilitation services, records to be maintained, the development of manuals (medical manual, therapy manual, administrative manual, network directory) (expert's comments).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available[1]

Types	2007	1998	1998 -> 2007 Increase (+) Decrease (-) In numbers
Syringe exchange programmes (NSP)	Uncommon	Uncommon	+
Overdose treatment (naloxone)	Uncommon	No data found	+
Outreach work (actively seeking contact with drug users)	Uncommon	Uncommon	+
Safer use education (flyers, folders, training)	Uncommon	Uncommon	+
Drop-in centres (low-threshold)	Uncommon	No data found	+

1. Expert's comments.

Only recently harm reduction was put on top of the political agenda, as HIV got a major issue in India. The National Aids Control Organization (NACO) now fully supports (and subsidises) harm reduction interventions: OST, day care centres and needle and syringe exchange.

Harm reduction interventions exist in a number of big cities. The coverage of harm reduction is increasing in recent years. Before drug-use related harm was considered a problem mainly for North-East India only. North-East India has the best coverage with harm reduction interventions (expert's comments).

In the last year, the number of NSP sites is reported to have increased in China, India, Malaysia, Myanmar, Taiwan and Nepal (small increase), although decreasing in Bangladesh (Cook & Kanaef, 2008).

In India, Bangladesh and Nepal, the most commonly injected drugs are heroin, buprenorphine and pharmaceutical drugs. In India, a crudely refined heroin base known as 'brown sugar' is most commonly injected. People injecting drugs are reported to be predominantly poly-drug users (Cook & Kanaef, 2008).

Priorities of harm reduction policy covered by policy papers and/or law

The National AIDS Control Programme Implementation Plan, Phase III, 78 (2006-2011) is focussing on prevention of HIV and STD among vulnerable groups such as IDU. Priorities are specific services for high risk groups linking prevention, care and support. It mentions the following components targeting IDUs:

- Detoxification, abstinence oriented treatment and rehabilitation;
- Needle exchange;
- Substitution therapy;
- Abscess management and other health services.

(NACO, 2006)

In India, there is an explicit supportive reference to harm reduction in national policy documents (Cook & Kanaef, 2008).

3.4.2 Crime, societal harm, environmental damage

No information found on interventions/measures to reduce harm for society.

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MEXICO

1 General information

Location:
Middle America, bordering the Caribbean Sea and the Gulf of Mexico, between Belize and the US and bordering the North Pacific Ocean, between Guatemala and the US

Area:
1,972,550 sq km

Land boundaries/coastline:
4,353 km/ 9,330 km

Border countries:
Belize 250 km, Guatemala 962 km, US 3,141 km

Population:
109,955,400 (July 2008 est.)

Age structure:
0-14 years: 29.6% (male 16,619,995/female 15,936,154)
15-64 years: 64.3% (male 34,179,440/female 36,530,154)
65 years and over: 6.1% (male 3,023,185/female 3,666,472) (2008 est.)

Administrative divisions:
31 states and 1 federal district

GDP (purchasing power parity):
$1.353 trillion (2007 est.)

GDP (official exchange rate):
$893.4 billion (2007 est.)

GDP- per capita (PPP):
$12,400 (2007 est.)

Drug research
Several individual researchers are active in drug research. There is no developed drug research tradition, supported by governmental funding and an institute in Mexico.

Main drug-related problems
Drug trafficking is by far Mexico's major problem.

2 Drug problems

2.1 Drug supply

2.1.1 Production

Mexico has no national studies on drug production and trafficking nor does it have a systematic national reservoir of data (expert's comments).

In 2002 Mexico produced an estimated 5,600 kg pure heroin. This is slightly less than its average yearly production of 7,200 over the preceding years. For 2005 the production was around 8,000 kg (Bucardo, 2005).

Marijuana cultivation and production decreased from 56,586,000 kg to 43,663,000 kg in 2004-2006. The production from the cultivated poppy area changed significantly in the same period, from 22,000 to 29,000 and 19,000 kg respectively (OAS/CICAD, 2006).

2.1.2 Trafficking

Total quantities (kg) seized

	2006[1]	**2000**[2]
Opium (raw and prepared)	105-125	469
Opium seeds	1,646	No data found
Heroin	335	299
Cocaine (base and salts)	21,337	23,196
Cannabis resin	102	0
Cannabis herb	1,900,000	2,050,402
Cannabis seed	12,702	10,354
Methamphetamine	754	644
Amphetamine	< 1	70
Ecstasy (MDA, MDEA,MDMA)	26	32

1. UNODC, 2007.

2. UNODC, 2008.

Mexico has no national studies on drug production and trafficking nor does it have a systematic national reservoir of data (expert's comments).

Estimated market value (2006)[1]

Drug	Wholesale price/kg in US$ and €	Range	Retail price/gram	Range
Heroin nr. 4	$35,000 €23,854.01[1]	No data found	No data found	No data found
Cocaine	$8,000 €5,457.82 Purity 90%	No data found	No data found	No data found
Cannabis herb	$80 €54.56 Purity 90%)	No data found	No data found	No data found
Cannabis Resin	No data found	No data found	No data found	No data found
ATS	No data found	No data found	No data found	No data found

1. UNODC, 2008.

Estimated market value (several years ranging from 1992-1994)

Drug	Wholesale price/kg in US$ (year) and €[2]	Range in US$ and €	Retail price/gram in US$ (year) and €[2]	Range in US$ and €
Heroin nr. 4	$153,000 (1992) €104,312.96	$126,000-180,000 €85,934.23-122,779.11	$213.8 (1994) €145.62	$50.3-377.4 €34.29-257.28
Cocaine	$12,500 (1993) €8,524.35	$10,000-15,000 €6,819.75-10,229.62	$31.4 (1994) €21.40	$15.7-47.2 €10.70-32.18
Cannabis herb	No data found	No data found	No data found	No data found
Cannabis Resin	No data found	No data found	No data found	No data found
ATS	No data found	No data found	No data found	No data found

1. UNODC, 2008.

2. UNDCP, 1999.

2.1.3 Retail/Consumption

No published national data found in English on retail/consumption.

2.2 Drug Demand

Until now, four household surveys on drug use were conducted in Mexico in 1988, 1993, 1998 and 2002. These were held among 12-65 year old people living in urban areas of more than 2,500 inhabitants (reported to be covering 75% of the country's population) (Medina-Mora et al., 2003).

2.2.1 Experimental/recreational drug users in the general population

Life-time prevalence in the general population in percentages

	2002[1] (18-65 yrs)	1998[2]
Heroin	No data found	0.09
Cocaine	4.3	1.45
Marijuana	7.8	4.7

1. Medina-Mora, 2006.

2. Programa Nacional para el Control de Drogas 2001-2006, 2002.

1 $1=€0.681543. Exchange rate 18 December 2008.

Last-year prevalence in the general population (15-64 years) in percentages

	2006[1]	1998[2]
Opiates	No data found	0.2
Cocaine	0.8	0.2
Cannabis	3.1	No data found
Marijuana	No data found	0.7
ATS	0.4	No data found

1. UNODC, 2008.

2. CONADIC, 2002.

Until now, three national surveys on drug use among younger people were conducted in Mexico in 1976, 1986, 1991. These were held among students "at the intermediate and upper intermediate education levels". The first two were held among students in urban areas, the third one also among students in rural areas, nationwide (Medina-Mora et al., 2003).

No data found on life-time prevalence among young people (15-24 years).

For the younger age group (18-29 years), illegal drug use (lifetime prevalence of marijuana and cocaine) has grown faster than ten years ago and earlier. Cocaine was used rarely and mostly in isolated groups in the 1970's. Marijuana use may already start at a young age. Cocaine shows the greatest proportion of new onset at later ages (Fleiz et al., 2007).

No data found on last-year prevalence among young people (15-24 years).

2.2.2 Problematic drug users/chronic and frequent drug users

No published national data in English found on problematic drug users/chronic and frequent drug users.

Until now, several qualitative studies on drug use have been conducted among high-risk groups (youngsters working in the street, women) from 1978 to 2002 (Medina-Mora et al., 2003).

No published national data in English found on the number of problematic/chronic-frequent users and injecting drug users in the general population.

This number is estimated at 53,162, but for what year remains unclear (Aceijas et al., 2006; Cook & Kanaef, 2008).

2.3 Drug related Harm

2.3.1 HIV Infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2007	2000
No data found	3,200-9,600

Of the estimated 160,000 people living with HIV, approximately 2-6% are believed to be IDUs, i.e. 3,200 – 9,600 (Bucardo et al., 2005).

Reported AIDS cases attributed to IDUs have been low. Local sentinel surveillance data suggest an increase of HIV prevalence associated with drug use may be manifest in border states with the USA (Magis-Rodriguez et al., 2002).

No published national data found on the number of newly HIV infected injecting drug users. There are a number of local studies in big cities.

The AIDS epidemic was largest in the second half of the eighties. In the early nineties this trend was buffered and curbed from 1994 on (Bucardo et al., 2005).

The number of HIV/AIDS infections due to drug use has probably decreased (INCB, 2007).

HIV infections remain largely concentrated in men who have sex with men, sex workers and injecting drug users. In various studies from 2005 HIV prevalence of 2-4% was found among injecting drug users in Tijuana and Ciudad Juarez (next to the border of the US). More than 85% of these users reported to use non-sterile equipment. Prevalence rates are higher among female sex workers in the same cities mainly due to unprotected sex. Drug using female sex workers showed higher prevalence rates (UNAIDS, 2008).

No published national data found on the number of drug related deaths by overdose.

Mexico has no reliable statistics that allow for estimating the number of drug-related deaths (OAS/CICAD, 2006).

In 2006 drug gangs were responsible for 2,100 drug-related deaths (El Universal).

2.3.2 Drug related crime or (societal) harm

Among 18 Latin American countries, Mexico has the highest subjective probability rate to bribe a police man, a judge or a civil servant. I.e. participants in a study were asked about the likelihood of being able to bribe those public servants (Goehsing, 2006).

The Northern states at the border of the US suffer most from drug related crime and violence caused by rivalry between drug syndicates. Drug-related violence is rising substantially during the past decade (expert's comments).

The Ministry of Health acknowledged that drug related violence impeded the most recent drug study to fully deploy the polls in five states: Baja California, Sinaloa, QR, Campeche and Tabasco. One explanation is the loss of control over federal, state and local governments by the PRI. The PRI had control over these governments and was able to enforce unwritten arrangements with drug cartels. These informal arrangements do not work anymore. The mediator role of the PRI has weakened now other parties are also in control, which were not in power before (Meyer et al., 2007).

3 Drug policy

3.1 General Information

3.1.1 Policy expenditures

No published national data found in English.

$900,000 (€613.710,31) was allocated in 2006 to the states and municipalities to strengthen activities to control local retail trafficking (OAS/CICAD, 2006).

3.1.2 Other general indicators

No numbers are available on arrest and imprisonment for drug-law related offences. No data were found on use/possession for personal use or the production, trafficking and possession of bigger quantities.

Despite their importance, few studies have been conducted to date on court-initiated referrals. People under arrest or in social rehabilitation institutions should be included in information systems (Medina-Mora et al., 2003).

Mexico does not provide a figure for the number of persons arrested for illicit drug possession for personal use (OAS/CICAD, 2006).

3.2 Supply reduction: Production, trafficking and retail

Priorities of supply reduction covered by policy papers and/or law

No English publications were found.

Drug policy and drug laws are meant to reduce drug-related criminality. Changes in policies and laws point at a more stringent militarisation of the Mexican society in order to improve coping with criminality related to illegal drug trafficking.

The plans and programmes developed, did not lead to substantive reforms of the police force in order to be more effective in counter-drug operations. Calderon submitted a series of constitutional reforms to Mexico's justice system to address insecurity in the country but this all has to be debated in Congress.

Examples of measures mentioned in the Integral Strategy to Prevent and Combat Crime are: the merging of four federal police forces, professionalization of the federal police force, mechanisms to combat police corruption, penitentiary reform, and active participation of civil society in crime prevention (Meyer et al., 2007).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

No data found on the implementation of prevention programmes.
A number of prevention activities have been implemented during the past decade, but there was no continuity. School-based programmes for preventing drug-related crime and drug dependence have been operative from 2004-2006 directed at school children and university students. No specific descriptions are given. Guidelines for Preventing Drug Use in Mexican Schools were presented in 2006. Unclear remains what is done with these (OAS/CICAD, 2006).

An existing Telephone Guidance Centre (COT) is a help line providing information and guidance to people in crisis situations due to drug-related problems. Support is given in referring patients to care facilities. It handles an average of 25,000 – 30,000 calls per month. It is not a national telephone help line directed at the general public for information about drugs and drug use. One campaign in 2002 was more drug specific; it included written information (leaflets etc.). Nowadays these campaigns are more supporting treatment/help seeking. These present data on availability and possibilities for treatment. TV campaigns

mainly covered preventive messages, e.g. risks of drug use, of overdose. These campaigns use fear-appeal strategies. There is no information about risks of the use of specific drugs anymore (OAS/CICAD, 2006).

The short life span of activities is for an important part due to government changes. Mexican government changes imply that the whole government is changed which is not supportive for continuity of actions implemented by former governments (expert's comments).

Treatments available

"Little data exist which describes the extent of drug abuse treatment in Mexico overall." (Bucardo et al., 2005). Most residential and governmental programs are abstinence-based (Bucardo et al., 2005) and few offer methadone maintenance (Magis-Rodríguez, 2000).

Addiction treatment is mainly abstinence-directed in Mexico and treatment facilities are insufficient. There are treatment farms that are non-professional, using 'cold turkey', mainly run by NGOs or community centres and based on experience, not on evidence. There are also private centres that are very expensive for the rich. One treatment commodity is funded by CONADIC and named "Vive sin Drogas" (expert's comments).

Most residential and governmental treatment programs are abstinence based and one offers methadone maintenance in Ciudad Juarez on the border with the US (Bucardo et al., 2005).

There are substitution programmes available (Cook & Kanaef, 2008).

In 1988 only one treatment program existed in Tijuana, while now there are 20 residential drug treatment programs that for the Unity Network for Treatment of Addictions 'RUTA' with a capacity to treat 3,500 persons per year (Bucardo et al., 2005).

The OAS/CICAD publication offers additional information that is partly different from that collected by other sources.

Guidelines and standards of addiction care are available at state and local levels. Quality evaluations of treatment services are held every two years. Nowadays there are 400 recognised residential care facilities, 96 out-patients programmes (including clinics) and six in-patients programmes in Mexico. Both modalities are offered by public programmes, targeting both adults and adolescents. Some 29,306 patients received treatment in 2004, 33,652 in 2005 and 25,403 in 2006. There is no system of treatment system evaluation (OAS/CICAD, 2006).

Priorities of demand reduction covered by policy papers and/or law

Mexico has no laws or regulations at the federal or state level that permit the possession of illegal drugs for personal use. Drug possession is an offense (OAS/CICAD, 2006).

Treatment programs were until recently not sanctioned by the Ministry of Health (MoH), but laws are now enacted to sanction and control these programs. Therefore the MoH created the Municipal Office for Control and Treatment of Addictions (Bucardo et al., 2005).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction is a relative new concept in Mexico. NGOs are the initiators.
Harm Reduction activities are in general tolerated but rarely promoted (expert's comments).

Harm reduction interventions available

Types	2007	1998
Syringe exchange programmes	Uncommon[1]	No data found
Overdose treatment (naloxone)	No data found	No data found
Outreach work (actively seeking contact with drug users)	No data found	No data found
Safer use education (flyers, folders, training)	Common[1]	No data found
Drop-in centres (low-threshold)	No data found	No data found

1. Cook & Kanaef, 2008.

There are/were drug consumption rooms in Mexico but most of these have been demolished by police action as part of an anti drug crusade of President Fox from 2000 to 2004 (Bucardo et al., 2005).

In 2004 there was probably only one documented needle exchange program operational in Mexico realised by 'Program Companeros' in the state of Chihuahua. This program is community based, and has gained the trust of drug users, and provides users with information on health risks and the importance of cleaning needles and syringes (Bucardo et al., 2005).

Limited targeted programmes are present to increase access and uptake of voluntary HIV counselling and testing and to provide HIV/Sexually Transmitted Infection prevention (Cook & Kanaef, 2008).

"Overall, 48% of participants reported ever being arrested for carrying an unused/sterile syringe, even though syringe purchase and possession is legal in Mexico. (…) More than half of the participants (57%) had been arrested for possessing a used syringe" (Pollini et al., 2007).

Priorities of harm reduction covered by policy papers and/or law

Prevention and treatment of sexually transmittable diseases is explicitly mentioned in a Health Program policy paper. Interventions such as HIV/AIDS counselling programmes, providing chlorine, sterile syringes and condoms for injecting drug users are reported to have reduced HIV infections among this target group.

The Health Program policy paper is covered by nine laws and regulations. In 1996 health services were decentralised to 31 states and the Federal District (principle of cooperative federalism). Separate responsibilities of different institutions are described (National Health Program 2001-2006, no publication year).

Mexico explicitly supports harm reduction in national policy documents (Cook & Kanaef, 2008).

Possession of drugs is illegal in Mexico and this legal provision is actively enforced by the police. Sale of needles and syringes is legal and does not require prescription (Bucardo et al., 2005; Pollini et al., 2007).

From 2000 to 2004 a national crusade against drug trafficking was launched. This for instance led to the closure of 1400 (!) shooting galleries or picaderos in Tijuana (Bucardo et al., 2005).

While not officially sanctioned, the state government of Chihuahua tolerates NEP (Bucardo et al., 2005).

3.4.2 Crime, societal harm, environmental damage

No information found on interventions/measures to reduce harm for society.

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THE NETHERLANDS

1 General information

Location:
Western Europe, bordering the North Sea, between Belgium and Germany

Area:
41,526 sq km

Land boundaries/coastline:
1,027 km / 451 km

Border countries:
Belgium 450 km, Germany 577 km

Population:
16,645,313 (July 2008 est.)

Age structure:
0-14 years: 17.6% (male 1,496,348/female 1,427,297)
15-64 years: 67.8% (male 5,705,003/female 5,583,787)
65 years and over: 14.6% (male 1,040,932/female 1,391,946) (2008 est.)

Administrative divisions:
12 provinces

GDP (purchasing power parity):
$645.5 billion (2007 est.)

GDP (official exchange rate):
$768.7 billion (2007 est.)

GDP- per capita (PPP):
$39,000 (2007 est.) (CIA The World Factbook)

Drug research
Drug research in the Netherlands is extensive and covers many domains. Funding of drug-related research is to a large extent delegated to intermediary agencies, although ministries and municipalities may also directly fund research. Many academic institutions are involved in drug research, such as the universities of Nijmegen, Maastricht, Utrecht, Leiden and Rotterdam). Other research institutes include IVO (Institute for Addiction Research), AIAR (Amsterdam Institute for Addiction Research), Trimbos Institute and CVO (Centre for Addiction Research). Some of them involve cooperation between a university and researchers from institutes for addiction care. Finally, there are also several private institutes involved in drug research, as e.g. Bureau Driessen and Intraval. The national focal point is integrated in the so-called National Drugs Monitor hosted by the Trimbos Institute (Country overview; Van Laar et al., 2008).

Main drug-related problems
The Netherlands is facing a three-fold drugs problem: production (mainly Ecstasy and cannabis herb), trafficking (mainly transhipment of cocaine and cannabis resin and export of cannabis herb) and consumption (cannabis, ATS (mainly ecstasy), cocaine and heroin).

2 Drug problems

2.1 Drug supply

2.1.1 Production

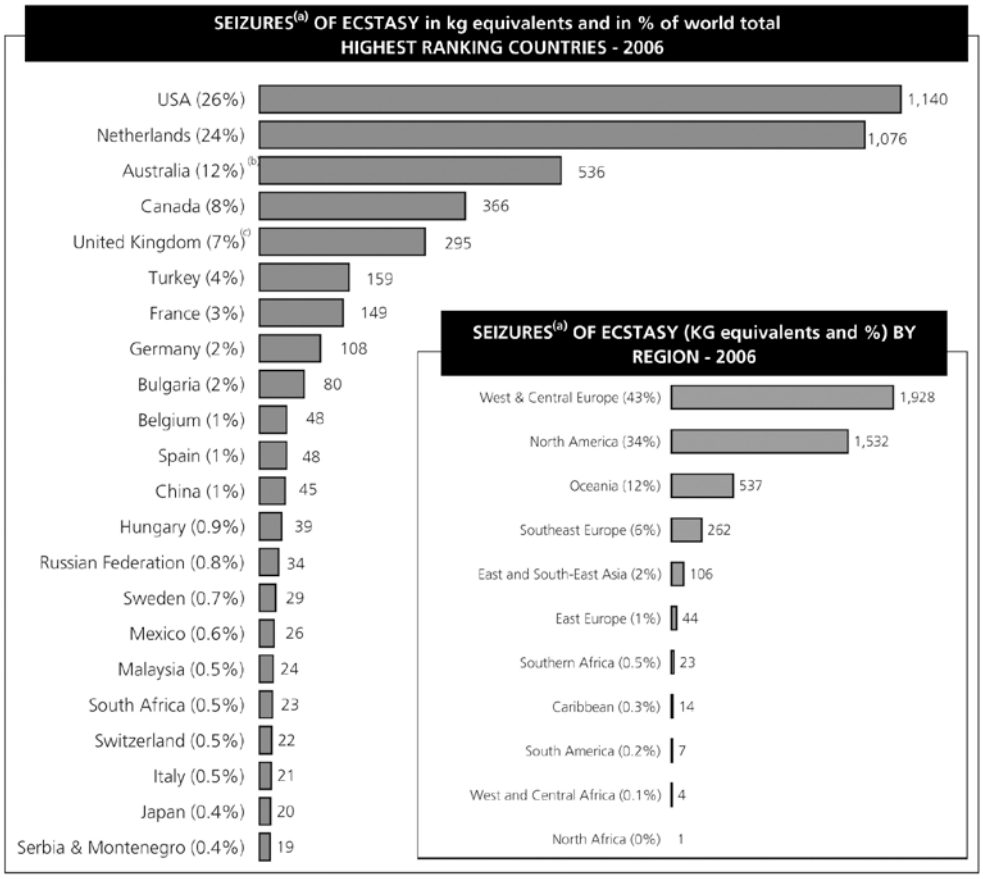
The Netherlands are one of the world's largest producers of ecstasy, and to a lesser extent amphetamines as can be assumed from data on seizures and dismantling clandestine laboratories. Between 1996 and 2006, 25 countries reported the dismantling of a total of 581 ecstasy laboratories to UNODC. The largest numbers of ecstasy laboratories were reported in the **Netherlands** (161), followed by the USA (139), Canada (104), Australia (41), Belgium (34), UK (18), and Germany (17). The number of laboratories discovered in the **Netherlands** and Belgium peaked in 2000 and has since declined (UNODC, 2008).

In 2006, the National Crime Squad carried out 22 investigations into synthetic drugs and 23 production locations were dismantled in 2006, nine of these laboratories were producing amphetamines and five laboratories were producing MDMA. Finally, 52 warehouses of hardware and precursors were dismantled. Most production locations were found in the west and the south of the Netherlands (Country overview).

A proxy indicator of production is the reported origin of amphetamine seizures as identified ("mentioned") by States Members. Europe as a whole accounts for nine of the top 10 counties of origin. On this basis, the country receiving the most 'origin' mentions is the Netherlands (67 or 28% of such mentions), followed by Poland (41 or 17%), Belgium (24 or 10%), and the Baltic region (Lithuania, 7%, and Estonia, 5%). Comparing these results with those of previous years suggests that the importance of the Netherlands, Belgium and Germany as producers of amphetamine has been declining (UNODC, 2008).

Europe remains the main illicit manufacturing region for MDMA globally, with the Netherlands and Belgium the most commonly cited 'source' countries. However, as manufacture continues to shift and spread, the importance of these territories as source countries is declining. A shift in ecstasy labs has been identified since 2003, with an increase in North American labs (USA and Canada) and a decrease in European labs (principally the Netherlands and Belgium) (UNODC, 2008).

The largest ecstasy seizures in 2006 were reported by the USA (26%), followed closely by the Netherlands (24%), then Australia (12%), Canada (8%), the UK (7%), Turkey (4%) and France (3%) (UNODC, 2008).



[a] Seizures as reported (street purity); units converted into weight equivalents (100mg / unit)

[b] Total seizures reported by national as well as state & territory law enforcement agencies which may result in double counting.

[c] Data refer to 2005 England and Wales only.

(UNODC, 2008)

The Netherlands and Switzerland are the major producers of cannabis herb in Europe (EMCDDA, 2008). According to UNODC the Netherlands are the largest producers of cannabis herb in West and Central Europe (22% of all European countries saw the Netherlands as their main source of cannabis herb in 2006) (UNODC, 2008).

Yet, it is unclear how much of this production is for the domestic market and how much is exported. There have been for instance some seizures of 'netherweed' in the United Kingdom, Scandinavia, Germany, Belgium and France (EMCDDA, 2008; Legget and Pietschmann, 2008). The extent of this export remains unclear (KLPD-IPOL, 2008; Fijnaut and de Ruyver, 2008). Cannabis resin coming from the Netherlands most probably is transhipped from Morocco through the Netherlands to other countries. Cannabis resin is barely produced in The Netherlands (UNODC, 2007; KLPD-IPOL, 2008).

Estimated market value (2007 data)
Ecstasy retail price per tablet: €2.75
Amphetamine: €6 per gram
Cocaine: €45 per gram
Heroin: no report (estimate €35 per gram)
Cannabis: "nederwiet" in coffeeshops €7.30 per gram (Van Dijk, 2008).

2.1.2 Trafficking

The Netherlands has a pivotal position within international trade and thus plays a major role as a drug market and more importantly as a transit country for heroin and cocaine. The supply of heroin to Europe, including the Netherlands, is mainly dependent on the production of opium in Afghanistan. The Netherlands is an endpoint of the Balkan route, and heroin is distributed to other countries from the Netherlands, especially Belgium, France and the UK. Cocaine is supplied from Latin America to Europe. The Caribbean countries, in particular the former Dutch colonies, play a major role in the trafficking of cocaine. In recent years, the role of the maritime trade for cocaine trafficking has decreased while trafficking by air has gained importance (Country overview).

Data on drug seizures in the Netherlands are not registered centrally, but instead the National Police Agency annually collects data from the regional police departments, customs, the Royal Military Police, as well as from the Synthetic Drugs Unit (now part of the National Police Force). Underreporting and the lack of a uniform registration system hamper the quality of the data collected and thus trends may be influenced by collection strategies and investigation efforts. In 2006, 71% of the total quantity of drug seizures related to ecstasy tablets, followed by 28.6% for cannabis seizures (Country overview).

Total quantities (kg) seized

	2006[1]	**2005**[2]	**1998**[3]
Opium (raw and prepared)	3.680	No data found	1.034 (incl. other opiates)
Heroin	984	No data found	2,072 963 u
Morphine	0.490	No data found	No data found
Other opiates	No data found	No data found	No data found
Cocaine (base and salts, incl. crack-cocaine)	10,584	14,603	11,452 1,935 u
Coca leaf	No data found	No data found	No data found
Cannabis herb	6,641	4,237 9,724 (2004)	55,463
Cannabis resin	4,622	12,090 16,101 (2004)	70,696
Cannabis oil	No data found	No data found	0.012
Cannabis plant	1570006 u	No data found	353,208 u
Amphetamine	633 38,007 u	1,763 980 u 265 lt	Stimulants 1,450
Methamphetamine	No data found	No data found	No data found
Non defined amphetamines	No data found	No data found	No data found
Ecstasy (MDA, MDEA, MDMA)	640 4,118,252 u	430 1,854,487 u 12 lt	No data found

1. UNODC, 2008.

2. UNODC, 2007.

3. UNDCP, 2001.

In the Netherlands Drug Situation 2007, the following data can be found (for 2006):
Cannabis (hash and weed) 11,000 kg
Heroin 1,000 kg / methadone 11,600 tablets
Cocaine 10,600 kg
Amphetamines 600 kg + 38,100 tablets + 3 kg paste
XTC/MDMA/MDA/MDEA 700 kg + 4,118,300 tablets +100 litres (Van Laar et al., 2008).

Total quantities (kg) seized and number of seizures

	2005	1998
Heroin	900 kg[1] Number of seizures: 1,833 (in 2000)[2]	784 kg[1] Number of seizures: 835[2]
Cocaine	14,600 kg[3] Number of seizures: 2,676 (in 2000)[4]	8,998 kg[3] Number of seizures: 1,232[4]
Cannabis resin	5,500 kg[5] Number of seizures: no data found[6]	29,590 kg[5] Number of seizures: no data found[6]
Herbal cannabis	4,400 kg[7] Number of seizures: no data found[8]	10,330 kg[7] Number of seizures: no data found[8]
Cannabis plants	Number of plants: 1,700,000[9] Number of seizures: no data found[10]	Number of plants: 353,178[9] Number of seizures: no data found[10]
Methamphetamine and amphetamine	1,600 kg[11] Number of seizures: 125 (in 2000)[12]	1,450 kg[11] Number of seizures: 225 (in 1997)[12]
Ecstasy	Number of tablets: 1,900,000[13] Number of seizures: 125 (in 2000)[14]	Number of tablets: 1,163,514[13] Number of seizures: 124[14]

1. Quantities (kg) of heroin seized, 1995 to 2005 - EMCDDA Table SZR-8-SEIZURE-HEROIN-QUANTITY.htm

2. Number of heroin seizures, 1995 to 2005 - EMCDDA Table SZR-7-SEIZURE-HEROIN-NUMBER.htm

3. Quantities (kg) of cocaine seized, 1995 to 2005 - EMCDDA Table SZR-10-SEIZURE-COCAINE-QUANTITY.htm

4. Number of cocaine seizures, 1995 to 2005 - EMCDDA Table SZR-9-SEIZURE-COCAINE-NUMBER.htm

5. Quantities (kg) of cannabis resin seized, 1995 to 2005 - EMCDDA Table SZR-2-CANNABIS-QUANTITY.htm

6. Number of Cannabis resin seizures, 1995 to 2005 - EMCDDA Table SZR-1-SEIZURE-CANNABIS-NUMBER.htm

7. Quantities (kg) of herbal cannabis seized, 1995 to 2005 - EMCDDA Table SZR-4-SEIZURE-HERBAL-CANNABIS-QUANTITY.htm

8. Number of herbal cannabis seizures, 1995 to 2005 - EMCDDA Table SZR-3-SEIZURE-HERBAL-CANNABIS-NUMBER.htm

9. Quantities (number of plants) of cannabis plants seized, 1995 to 2005 - EMCDDA Table SZR-6-SEIZURE-CANNABIS-PLANTS-QUANTITY.htm

10. Number of seizures of cannabis plants, 1995 to 2005 - EMCDDA Table SZR-5-SEIZURE-CANNABIS-PLANTS-NUMBER.htm

11. Quantities (kg) of amphetamine seized, 1995 to 2005 - EMCDDA Table SZR-12-SEIZURE-AMPHETAMINES-QUANTITY.htm

12. Number of amphetamine seizures, 1995 to 2005 - EMCDDA Table SZR-11-SEIZURE-AMPHETAMINE-NUMBER.htm

13. Quantities (tablets) of ecstasy seized, 1995 to 2005 - EMCDDA Table SZR-14-SEIZURE-XTC-QUANTITY.htm

14. Number of ecstasy seizures, 1995 to 2005 - EMCDDA Table SZR-13-SEIZURE-XTC-NUMBER.htm

2.1.3 Retail/Consumption

The retail price of herbal cannabis increased by 18% from 2006 to 2007. Possibly this increase is related to intensified efforts to combat large-scale cannabis cultivation, which may have hampered the supply of herbal cannabis in coffee shops. Retail prices of other drugs have not changed significantly over the past three years. In 2006, the price of an ecstasy tablet varied between €1 and €10 and the price of cocaine between €30/gram and €60/gram. Amphetamine is much cheaper than cocaine, and costs between €3/gram and €10/gram which is sometimes a reason why it is used as a replacement for cocaine (Country overview).

Market retail value

Cannabis[1]	
Cannabis resin:	Mean price €6.8/gr (max: €11.3/gr)
Herbal cannabis	Mean price €4.1/gr (max: €6.1/gr)
Heroin[2]	No data found
Purity of heroin[3]	
Heroin undistinguished	Mean price €43.1 (max: €78)
Brown heroin	No data found
White heroin	No data found
Cocaine products[4]	No data found
Purity of cocaine products[5]	
Cocaine	Mean price €54 (max: €89)
Crack	No data found
Synthetic drugs[6]	No data found
Purity of synthetic drugs[7]	
Amphetamine	Mean price €35.2 (max: €73)
Methamphetamine	Mean price €45.1 (max: €75)
Ecstasy	Mean price €77.5 (max: €202)

1. Price of cannabis at retail level, 2005 - EMCDDA Table PPP-1 Part (i)-PRICE-CANNABIS.htm
2. Price of heroin at retail level, 2005 - EMCDDA Table PPP-2 Part (i)-PRICE-HEROIN.htm
3. Purity of heroin at retail level, 2005 - EMCDDA Table PPP-6 Part (i)-PURITY-HEROIN.htm
4. Price of cocaine products at retail level, 2005 - EMCDDA Table PPP-3 Part (i)-PRICE-COCAINE.htm
5. Purity of cocaine products at retail level, 2005 - EMCDDA Table PPP-7 Part (i)-PURITY-COCAINE.htm
6. Price of synthetic drugs at retail level, 2005 - EMCDDA Table PPP-4 Part (i)-PRICE-SYNTHETIC.htm
7. Purity of synthetic drugs at retail level, 2005 - EMCDDA Table PPP-8 Part (i)-PURITY-SYNTHETIC.htm

XTC tablets 77.5mg (between 26 and 31%) / xtc powder 69.3%
Cocaine: 54.35%
Amphetamine: 35.2%
Heroin: 43.1%
(van Dijk, 2005)

Opiates	
Retail price per gram in 2006	€34 / in 1998: €38
Wholesale price per kilogram in 2006	€14,056 / in 1998: €16,625
Heroin	
Retail price per gram in 2005	€37.7 (€25.2-€50.3)
Wholesale price per kilogram in 2000	€16,625 (€15,680-€17,570)
Cocaine	
retail price per gram in 2006	€60 / in 1998: €38
Wholesale price per kilogram in 2006	€35,000 / in 1998: €22,355
Cannabis herb	
Retail price per gram in 2007	€10.0
Wholesale price per kilogram in 2005	€3,270.9 (€2,641.9-€3,899.9)

Cannabis resin

Price per gram in 2005	€9.8 (€4.4-€15.1)
Wholesale price per kilogram	No data found

Amphetamine

Price per gram in 2006	€12.6 (€6.3-€18.9)
Wholesale price per kilogram	No data found

Ecstasy

Price per tablet in 2005	€4.4 (€2.5-€6.3)
Wholesale price per thousand tablets in 2005 (UNODC, 2008)	€754.8 (€251.6-€1,006.4)

Market data show that the average THC concentration in Dutch home-grown marihuana bought in coffee shops peaked in 2004 (20%), levelled off in 2005 and 2006 (18% in both years) and decreased in 2007 (16%). In 2007 a drop in the percentage of THC in imported hashish was found as well. In 2007 the price of Dutch marihuana increased significantly, which may be related to the intensified actions of police and justice to combat large-scale cannabis cultivation (Van Laar et al., 2008).

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

Life-time prevalence in the general population

National prevalence surveys on drug use were carried out in the Netherlands in 1997, 2001 and 2005 among the general population, 15–64 years. In 2005, 22.6% of respondents reported lifetime prevalence of cannabis (compared to 19.5% in 2001 and 15.6% in 1997). Lifetime prevalence of ecstasy use (4.3%) increased significantly compared to previous years, and last year prevalence of ecstasy increased as well. Lifetime prevalence of cocaine and heroin increased significantly compared to 1997 (Country overview).

*Table 2.1: Prevalence of drug use (%) in the Dutch population of 15-64 years in 1997, 2001 and 2005**

	Lifetime prevalence (%)			Last year prevalence (%)		
	1997	2001	2005	1997	2001	2005
Cannabis	19.1	19.5	22.6 [b, c]	5.5	5.5	5.4
Cocaine	2.6	2.1	3.4 [b, c]	0.7	0.7	0.6
Ecstasy	2.3	3.2 [a]	4.3 [b, c]	0.8	1.1	1.2 [c]
Amphetamine	2.2	2.0	2.1	0.4	0.4	0.3
LSD	1.5	1.2	1.4	-	0.0	0.1
Heroin	0.3	0.2	0.6 [b, c]	0.0	0.0	0.0

Data collected by CAPI. * N= 17,750 in 1997; N= 2,312 in 2001; N=4,516 in 2005. a Significant change from 1997 to 2001. b Significant change from 2001 to 2005. c Significant change from 1997 to 2005. Figures in italics = less than 50 cases. Source: National Prevalence Survey, IVO(Rodenburg et al. 2007).

(Van Laar et al., 2008)

Table 11 Problems by scope and use

Extent of substance use among the population		Individuals in contact with (outpatient) addiction care	
Substance	Estimate	In %	Number
Alcohol	1,175,000	3%	30,210
Opiates	between 24,000 and 46,000	between 30% and 60%	13,180
Cocaine	55,000	18%	9,599
Amphetamines	22,000	6%	1,215
Cannabis	408,000	2%	6,544
Gambling	40,000	4%	2,646

Sources: NDM 2006, LADIS 2006, NPO IVO 200.

(Ouwehand et al., 2007)

The latest figures from the National Drugs Monitor show that the average estimate of hard drug users comes to around 33,500 with a range of 24,000 to 46,000 (2001 estimate). The line between recreational and problematic use cannot be derived from these figures.

For alcohol and cannabis, the number of demands for assistance in relation to use is strikingly low, while estimates show that 10% of the Dutch population between 16 and 69 years of age are problem drinkers. Demands for assistance in relation to estimated use are also relatively low for cannabis. Demands for assistance have been increasing in numbers, however, and there is a lot of poly drug use among problematic cannabis users (Ouwehand et al., 2007).

The Youth Health Survey, a school survey among students aged 15–16, was carried out in 1988, 1992, 1996, 1999 and 2003. The results concerning illegal drug use show an increasing trend for cannabis use since 1988, which stabilised between 1996 and 2003. In 2003, the lifetime prevalence rate of cannabis use was 28%. The percentage of pupils using other drugs such as ecstasy, amphetamines, cocaine or heroin is much lower. Inhalants were the most popular, with lifetime prevalence reported at 6%, followed by ecstasy (5%), cocaine (3%), LSD (2%) and heroin (1%). Lifetime prevalence for the consumption of hallucinogenic mushrooms was reported at 2%.There are different hypotheses concerning the stabilisation of drug use in recent years, and some of them focus on the influence of prevention programmes, the changes in demographic characteristics of the school population (increase in non-Dutch ethnic groups), and a possible association with a strong decrease in smoking (Country overview).

The results of the HBSC 2005 among those aged 12–16 years, indicate a lifetime prevalence of cannabis use of 14.3%, last year prevalence 11.7% and the last month prevalence of 7%. Differences between boys and girls were not significant. The trend for last year prevalence of cannabis has not changed significantly during recent years (Country overview).

Life-time prevalence in the general population in percentages[1]

	2005	1998
Opiates	No data found	No data found
Cocaine	3.4	2.6
Cannabis	22.6	19.1
ATS	Amphetamine 2.1 + Ecstasy 4.3	Amphetamine 2.2 + Ecstasy 2.3

1. Last year prevalence (percentage) of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population - EMCDDA Table GPS-1-LIFETIME-15-64.htm

Last-year prevalence in the general population in percentages[1]

	2005	1998
Opiates	No data found	No data found
Cocaine	0.6	0.7
Cannabis	5.4	5.5
ATS	Amphetamine 0.3 + Ecstasy 1.2	Amphetamine 0.4 + Ecstasy 0.8

1. Last year prevalence (percentage) of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population - EMCDDA Table GPS-3-LAST-YEAR-15-64.htm

Last-month prevalence in the general population in percentages[1]

	2005	1998
Opiates	No data found	No data found
Cocaine	0.3	0.3
Cannabis	3.3	3.0
ATS	Amphetamine 0.2 + Ecstasy 0.4	Amphetamine 0.1 + Ecstasy 0.3

1. Last month prevalence (percentage) of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population - EMCDDA Table GPS-5-LAST-MONTH-15-64.htm

Life-time prevalence among young people (15-24 years) in percentages[1]

	2005[1]	1998
Opiates	No data found	No data found
Cocaine	2.8	3.0
Cannabis	28.3	28.8
ATS	Amphetamine 2.0 Ecstasy: 0.7	Amphetamine 3.6 Ecstasy: 1.4

1. Lifetime prevalence of drug use among the age group of 15 to 24 years old in nationwide surveys among the general population. EMCDDA Table GPS-14-LIFETIME-15-24.htm

Life-time prevalence among young people (15-16 years) in percentages[1]

	2003	1996[3]
Heroin	1[1]	1
Cocaine	3[1]	4
Cannabis	28 (LTP) 23 (LYP) 13 (LMP)[2]	31
ATS	Amphetamine 1 Ecstasy: 5[1]	Amphetamine 8 Ecstasy: 8

1. Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old - EMCDDA Table EYE-01-LIFETIME PREVALENCE-15-16.htm

2. ESPAD 2003 school surveys: lifetime (LTP), last year (LYP) and last month (LMP) prevalence of cannabis use among students 15–16 years - EMCDDA Table EYE-05 Part (i)-CANNABIS-15-16.htm

3. School surveys: percentage lifetime prevalence of psychoactive substance use among students aged 15-16 years - EMCDDA Table EYE-03-LIFE-TIME-15-16-YEARS.htm

Last-year prevalence among young people (14-25 years) in percentages[1]

	2005[1]	1998
Opiates	No data found	No data found
Cocaine	No data found	1.6
Cannabis	11.4	14.3
ATS	No data found	Amphetamine 1.1 Ecstasy 2.2

1. Last year prevalence of drug use among the age group of 15 to 24 years old in nationwide surveys among the general population. EMCDDA Table GPS-15-LAST-YEAR-15-24.htm

Heroin, cocaine, cannabis and ATS use in 2007 and ten years before for (younger) people [estimates in percentages and ranges] [1]

	2007	2003	1999	1996
Heroin	0.8	1.1	0.8	1.1
Cocaine	1.7	2.2	2.8	3.0
Cannabis	16.7	18.7	19.5	21.6
Amphetamine	1.9	2.2	2.8	5.3
Ecstasy	2.4	2.9	3.8	5.8

1. Monshouwer et al., 2008.

Prior to the release of the new household survey for 2006, Germany had reported stable cocaine use levels. The same applied to most neighbouring countries, including Austria, Switzerland, Belgium, the Netherlands, Denmark, Poland, the Czech Republic and other central European countries (Slovakia and Hungary) (UNODC, 2008).

Treatment data suggest that the number of opiate addicts has remained fairly stable for many years. However, new clients are most common within the group of problematic cannabis and amphetamine use (Ouwehand et al., 2007).

Cannabis use stabilised among pupils of secondary schools between 2003 and 2005. There are no new national data on the use of other drugs among school-goers (Van Laar et al., 2008).

Table 2.2: Last year prevalence (%) of cannabis use by age group in 1997, 2001 and 2005

Age-group (years)	*1997*	*2001*	*2005*
15-24	*14.3*	*11.6*	*11.4*
25-44	*5.2*	*6.5*	*6.4*
45-64	*1.1*	*1.1*	*1.5*

Source: National Prevalence Survey, IVO(Rodenburg et al. 2007)

Table 2.3: Prevalence of cannabis use (%) among pupils of secondary schools (12-16 years) in 2005

	Boys	Girls	Total
Lifetime prevalence (%)	15.7	12.8	14.3
Last year prevalence (%)	13.1	10.3	11.7
Last month prevalence (%)	8.4	5.6	7.0

Source: Health behaviour in School-aged Children, Trimbos Institute (Van Dorsselaer et al. 2007).

(Van Laar et al., 2008)

Last-year prevalence among young people (12-18 years) [1]

	2007	2003	1999	1996
Heroin	0.4	0.5	0.4	0.5
Cocaine	0.8	0.8	1.2	1.1
Amphetamine	0.8	0.8	1.1	1.9
Ecstasy	0.8	1.2	1.4	2.3

(Monshouwer et al., 2008)

2.2.2 Problematic drug users/chronic and frequent drug users

Several national studies have estimated the number of problem opiate users in the Netherlands over the past decade using different methods (treatment multiplier, regression imputation, multiple imputation). For 2001, the number of problem opiate users was estimated at 34,000 problem drug users, or 2.1 users per 1000 inhabitants aged 15–64 using the treatment multiplier method, at 3.1 users per 1000 inhabitants aged 15–64 using regression imputation, and 3.2 users per 1000 inhabitants aged 15–64 using multiple imputation. There is no new estimate available (Country overview; Van Laar et al., 2008).

Most opiate users also use other drugs such as cocaine (including crack cocaine) and other substances. In particular, in recent years the population of crack cocaine users among problem drug users has increased, although the overall estimates of the population of problem drug users remained unchanged. Local and regional studies conducted over the past few years show that the highest concentrations of problem drug users were found in the three largest cities of Amsterdam, Rotterdam, and The Hague (Country overview).

*Table 4.1: National estimates of the number of problem hard drug users**

Site	Year	Method	Case definition*	Estimates (lowest – highest)	Source
National	1993	Multiple	Problem opiate users	28,000	(Bieleman et al. 1995)
National	1996	Treatment multiplier MIM	Problem opiate users	27,000 (25,000 - 29,000)	(Toet 1999)
National	1999	Treatment multiplier MIM	Problem opiate users**	29,213 (25,970 - 30,298)	(Smit et al. 2001)
National	2001	Treatment multiplier, MIM, Multiple imputation***	Problem hard drug users**	33,499 (23,773 - 46,466)	(Smit et al. 2006)

MIM=Multivariate (social) indicator method. *Mainly opiate users who also consume crack cocaine (and other substances) **Variable case definitions of local estimates (anchor points) used by MIM. Mainly problem opiate users, who usually also consume crack. Yet, some anchor points – especially of the latest estimates - also include small numbers of primary crack cocaine users who do not consume opiates. Treatment multiplier is based on opiate users only. ***The MIM and the multiple imputation were based on local estimates for the years 1998 - 2002. Therefore, in contrast to the multiplier method, this estimate does not accurately refer to '2001'.

(Van Laar et al., 2008.)

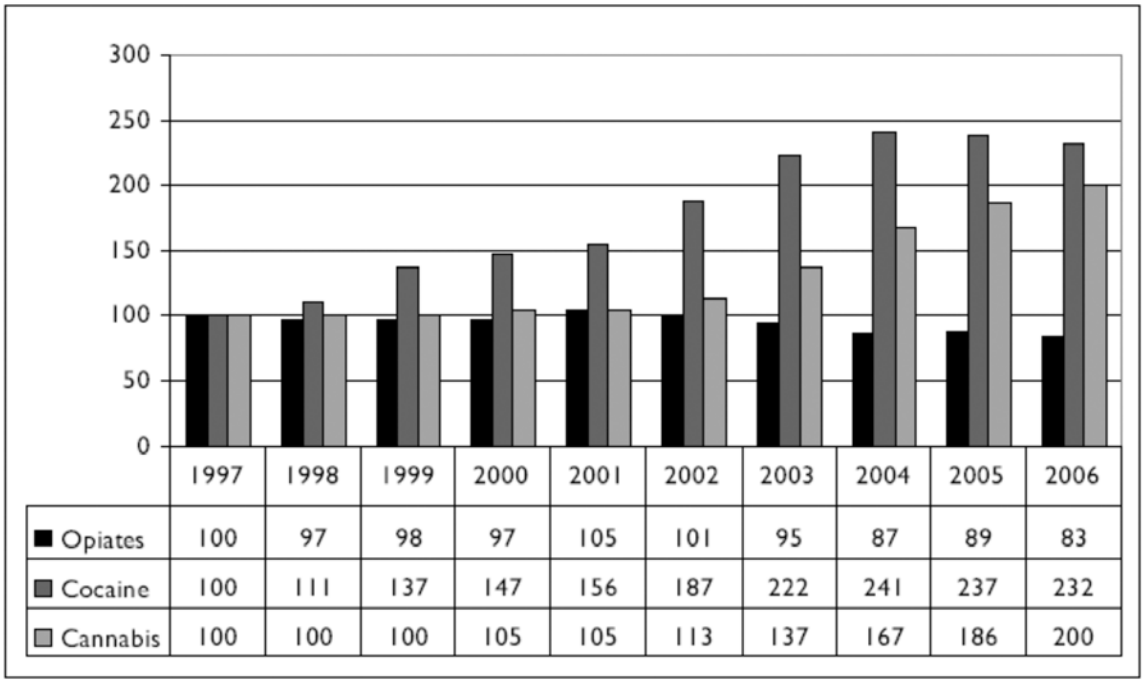
Table 12 Volume and development of demands for assistance

Primary problem	Number of individuals in 2005	Number of individuals in 2006	% change since 2005	Share in 2006
Alcohol	31,073	30,210	-3%	46%
Opiates	14,176	13,180	-7%	20%
Cocaine	9,824	9,599	-2%	15%
Amphetamines	1,118	1,215	9%	2%
Cannabis	6,100	6,544	7%	10%
Gambling	3,019	2,646	-12%	4%
Other	1,785	1,999	12%	3%
Total	67,095	65,393	-3%	100%

Source: LADIS 2006, IVZ, Houten

(Ouwehand et al., 2007)

Figure 8 Primary problem of Drug Use 1997-2006



(Ouwehand et al., 2007)

Opiates:	24,000-46,000
Cannabis:	408,000 (current)
Cocaine:	55,000 (current)
Amphetamines	22,000 (current)
XTC:	# (no data found)

(Van Laar et al., 2008)

The number of problematic/chronic-frequent users (in the general population)

2001[1]	1998[2]
Lower Bound of Prevalence Estimate: 27,924 (25,718) Upper Bound of Prevalence Estimate: 32,578 (39,118)	Lower Bound of Prevalence Estimate: 25,800 Upper Bound of Prevalence Estimate: 34,300

1. Prevalence of problem drug use at national level: summary table, 2001-2005, rate per 1,000 aged 15-64 – Part (i) Overall problem drug use, EMCDDA Table PDU-1 Part (i)-NATIONAL-OVERALL-15-64.htm

2. Prevalence of problem drug use at national level - full listing of studies - EMCDDA - Table-PDU-102-Part (i)-PROBLEM-DRUG-USE.xls

The number of drug users who are currently injecting their drug can be estimated from treatment data given by the National Alcohol and Drugs Information System in combination with the estimated number of problem hard drug users at national level. According to the LADIS, 10% of the opiate clients in 2005 injected their drug. There were 16,199 clients who had a primary or a secondary problem with opiates. This implies that there were about 1,620 currently injecting opiate users in treatment (Van Laar et al., 2008).

All in all, these figures from the opiate and cocaine/crack clients imply that, of the 18,643 problem hard drug clients in treatment, about 1,737 currently inject, which comes down to about 9.3%. Given the estimated number of 33,499 problem hard drug users at national level, it is then assumed that there are about 3,115 currently injecting problem hard drug users in the Netherlands, within a range of 2,211 to 4,321 injectors. Given the total of 11,008,282 inhabitants aged from 15 to 64 years in 2005, it is thus estimated that among the general population, 0.03% are current injectors of hard drugs, within a range of 0.02% to 0.04% (Van Laar et al., 2008).

There is mention of a 2001 estimate of injecting drug users 15-64 in the Netherlands between 0.02% (low) 0.03% (mid) to 0.04% (high). This corresponds with 2,211 (low), 3,115 (mid) to 4,321 (high) people who inject drugs (Mathers et al., 2008).

Data from a cohort study among problem hard drug users as well as national treatment data still show a decreasing prevalence of injection (e.g. 8% in 2006 among opiate clients). This trend is also supported by the continuing decline in the number of exchanged syringes in Rotterdam and Amsterdam (180,100 and 210,000, respectively) (Van Laar et al., 2008).

Trends in injecting drug use - percentage current injecting among all clients entering treatment for primary drug heroin[1]

2005	2001
10.8[1]	12.2

1. Trends in injecting drug use - percentage current injecting among all clients entering treatment for primary drug heroin, 2001 to 2005. EMCDDA Table-PDU-4-NATIONAL-INJECTING-15-64.htm

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

The Dutch HIV surveillance within the National Institute of Public Health and the Environment uses repeated surveys among drug users in four fixed cities (Amsterdam, Rotterdam, Heerlen-Maastricht, and Arnhem) and two optional cities. Since 2001, one fixed city has been studied per year. In these surveys, hard drug users of heroin, cocaine, methadone and amphetamines are recruited in methadone centres and on the street (Country overview).

In 2006, 833 new HIV diagnoses were reported, which number is likely to increase due to reporting delay. In 94% of cases the most likely route of transmission was known, which in 8 cases was through injecting drug use (1%). By comparison: In 33% of cases heterosexual contact was indicated as the route of transmission, and in 59% homosexual contact. In the total database of the SHM (Stichting HIV Monitoring), the percentage of patients infected through injecting drug use is 5%, indicating that there has been a serious relative reduction of this mode of transmission since the start of the registration (Van Laar et al., 2008).

The number of HIV infected injecting drug users

2002
9.5

1. Prevalence of HIV infection among injecting drug users in the EU, 2005 or most recent data available – Summary table by country - EMCDDA Table INF-1-HIV-AMONG-IDU.htm

In 2005, 278 new AIDS diagnoses (of which 17 (6%) involved injecting drug use) were made, but this number is subject to change due to reporting delay. In previous years, the number of cases related to injecting drug use peaked in 1995 (74), then dropped to 9, 8, 13 and 6 cases in 2001, 2002, 2003, and 2004 respectively. Until 2005, 659 AIDS patients were registered as being infected through injecting drug use. The annual proportion of injecting drug users varied between 2% and 14% (Van Laar et al., 2008).

The number of drug related deaths by overdose

The main source providing the official Dutch statistics on drug-related deaths is the General Mortality Register or Causes of Deaths Statistics managed by Statistics Netherlands. The register has national coverage and includes only residents of the Netherlands. Cases are classified according to ICD-10 and refer mainly to direct or acute deaths (drug overdoses) (Country overview).

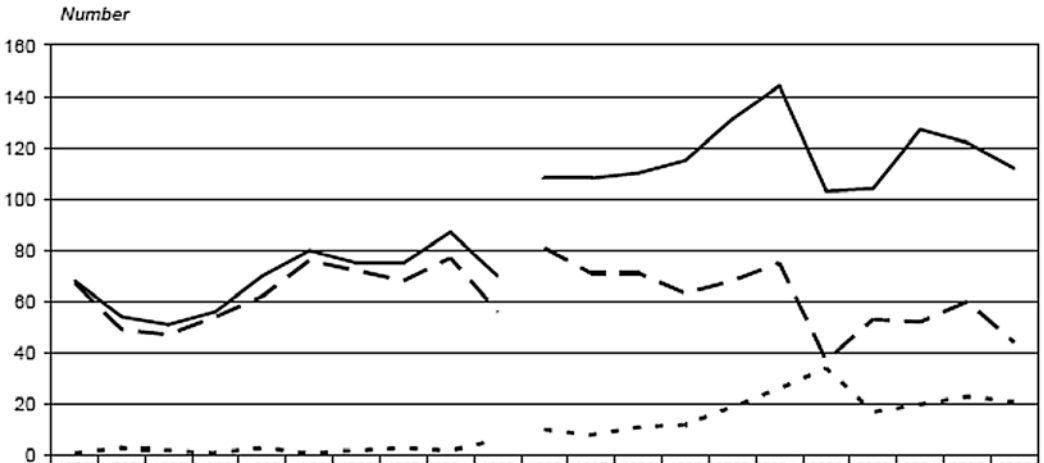
Number of acute drug-related deaths

2006[1]	2005[2]	1998[2]
Opiate: 44 Cocaine: 21	122	110

1. Van Laar et al., 2008.

2. Number of acute drug-related deaths recorded in EU Member States (25 members and candidates) according to national definitions - EMCDDA Table DRD-1 Part (i)-DRUG-RELATED-DEATH.htm

*Figure 6.1: Number of acute drug-related deaths in the Netherlands according to the EMCDDA selection of ICD-9 codes (1986-1995) and ICD-10 codes (1996-2006)**



	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	68	54	51	56	70	80	75	75	87	70	108	108	110	115	131	144	103	104	127	122	112
Opiates	67	49	47	54	62	76	72	68	77	56	81	71	71	63	68	75	37	53	52	60	44
Cocaine	1	3	2	1	3	1	2	3	2	6	10	8	11	12	19	26	34	17	20	23	21

*Only residents that were registered at a municipal register in the Netherlands are included. Among non-residents, an additional 28 cases of acute drug-related deaths were registered in 2006. ICD-9 from 1986 through 1995: 292, 304.0, 304.2-9, 305.2-3, 305.5-7, 305.9, E850.0, E850.8, E854.1-2, E855.2, and E858.8, E950.0, E950.4, E980.0, E980.4 (selected in combination with N965.0, N968.5, N969.6 or N969.7). ICD-10 from 1996 onwards: F11-F12, F14, F16, F19; and X42, X41, X62, X61, Y12, Y11 (selected in combination with T40.0-9 or T43.6). Source: Causes of Death Statistics, Statistics Netherlands (CBS). The break in lines between 1995 and 1996 indicates the switch from ICD-9 to ICD-10 coding.

(Van Laar et al., 2008.)

The total number of drug-related deaths increased from 1996 to 2001. This rise may be partly due to the switch from ICD-9 to ICD-10 in 1996, and to the increasing number of cocaine intoxications. Following this increase, DRDs decreased anew to 103–104 cases in 2002–03, followed by a new upward trend observed in 2004 (127 cases), before the consecutive falls in 2005 and 2006 (Country overview).

2.3.2 Drug related crime or (societal) harm

In the Netherlands public nuisance caused by drug dealing and use(rs) on the streets has been a major issue since the eighties of last century. The concept 'nuisance' included besides criminal activities (dealing, theft, robbery, etc.), loitering of groups of drug users in the streets, feelings of being threatened by these groups, degradation of neighbourhoods, etc. There are no solid data on the actual extent of these problems (expert's comments).

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

The total drug policy spending estimate in 2003 was €2,185 million. Allocation to functions amounted to €42 million for prevention, €278 million for treatment, €220 million for harm reduction and €1,646 for enforcement. Drug law enforcement clearly represents the dominant expenditure (Van Laar et al., 2008).

The Netherlands report the highest drug related expenditure in the EU (€139 per capita or 0.66% of GDP) compared to Sweden (€107 per capita or 0.47% of GDP) and to United Kingdom (€68 per capita or 0.35% of GDP). The EU average is 0.15% of GDP (UNODC, 2008).

3.1.2 Other general indicators

The Netherlands' 1995 white paper 'Drug policy: continuity and change' formulated the basic principles of the Dutch drug policy: a distinction between 'soft' and 'hard' drugs; a balanced and integrated approach; and four major objectives. These are: (i) to prevent drug use and to treat and rehabilitate drug users; (ii) to reduce harm to users; (iii) to diminish public nuisance caused by drug users; and (iii) to combat the production and trafficking of drugs. This white paper, which addresses only illegal drugs, was complemented in subsequent years by several specific strategies in the supply reduction field: dismantling ecstasy production locations (2001); stopping cocaine trafficking by drug couriers using airplanes, especially body-packers (2002); and dismantling large-scale cannabis cultivation (2004) (Country overview).

The ecstasy and cocaine strategies have a strong focus on law enforcement, while the cannabis strategy touches upon all aspects of the issue. In 2006, four developments took place that are relevant with regard to investigation, prosecution and sanctions for offences against the Opium Act. These concern the following three special policy programmes:

- 'A combined effort to combat ecstasy in and from the Netherlands' which aims at reducing the production and trafficking of ecstasy (started in 2001);
- The 'Plan to combat drug trafficking at Schiphol Airport', which aims to reduce cocaine imports (started in 2002);
- Intensified enforcement of the laws on cannabis cultivation and especially the organised crime behind it (since April 2004). Moreover, in June 2006 the maximum penalty for drug production and dealing and for possession of large quantities of drugs was increased from four to six years of detention or a certain fine (Van Laar et al., 2008).

Numbers available on arrests and imprisonment for drug-law related offences

The influx of Opium Act cases in the criminal justice chain did not change significantly in 2005-2006. The police registered 22,000 cases in 2006 (preliminary data) and the Public Prosecutor 20,000. The stabilization in 2006 applies to both hard drug and soft drug cases.

The number of hard and soft drug cases handled by the Court increased (13,000 cases).

The number of community service orders imposed for Opium Act cases decreased in 2006, after a continuous rise in the 2000-2005 period.

Hard drug cases still form the majority of the Opium Act cases, although the difference with the number of soft drug cases is very small in the earlier phases of the criminal justice chain. Hard drug cases account for a clear majority in the later stages, especially in prisons.

The period 2000-2006 shows a rise in the percentage of soft drug cases (of all Opium Act cases) in all parts of the criminal justice chain. This is especially true for 2005-2006. A rise in soft drug cases is also noted in custodial sentences, accompanied by increasing length of these sentences.

75% of the investigations into organised crime involve drug trafficking or production. The majority of these investigations target cases with hard drugs (79%); 60% concern cases with soft drugs; and 39% both hard- and soft drugs (Van Laar et al., 2008).

Table 8.1:Number and percentage of Opium Act cases registered with the Public Prosecutions Service, by drug type (2000-2006)

	2000	2001	2002	2003	2004	2005	2006
Total	11,638	13,875	16,572	18,201	21,908	20,099	20,135
Hard drugs	6,676	7,894	9,504	10,305	11,967	9,910	9,870
Hard and soft drugs	402	459	455	613	695	714	804
Soft drugs	4,560	5,522	6,613	7,283	9,246	9,475	9,461
Hard drugs	57%	57%	57%	57%	55%	49%	49%
Hard and soft drugs	3%	3%	3%	3%	3%	4%	4%
Soft drugs	39%	40%	40%	40%	42%	47%	47%
Total	100%	99%	100%	100%	100%	100%	100%
Proportion of Opium Act offences	4.9%	5.9%	6.5%	6.7%	8.0%	7.5%	7.5%

Source: OMDATA, WODC. Note that more than one case may be recorded per suspect and that cases may have been 'filtered' at the level of the police (only cases with a reasonable chance of being prosecuted will be sent to the public prosecutor). II Due to rounding differences percentages do not always add up to 100%.

(Van Laar et al., 2008)

Numbers available on arrests and imprisonment for use/possession for personal use

Offences types involved in reports for drug law offences: percentages of all reports for drug law offences[1]

Use/possession for use	30.9
Dealing/trafficking	68.8
Use and trafficking	No data found

1. Offences types involved in reports for drug law offences: percentages of all reports for drug law offences - EMCDDA Table DLO-2-DRUG-LAW-OFFENCES.htm

Number of reports of drug law offences[1]

2004	1998
20,548	12,616

1. Number of reports of drug law offences 1995 to 2005 - EMCDDA Table DLO-1-OFFENCES-NUMBERS.htm

Number of drug law offences related to drug use or possession for use[1]

2005	2004
6,347	6,494

1. Number of drug law offences related to drug use or possession for use 1999-2005 - EMCDDA Table DLO-4-OFFENCES-USE+POSSESSION.htm

Percentage of total drug law offences that are related to drug use or possession for use[1]

2005	2004
30.9	29.1

1. Percentage of total drug law offences that are related to drug use or possession for use 1996-2005 - EMCDDA Table DLO-5-PERCENTAGE-DRUG-USE+POSSESSION.htm

Cannabis-related offences: as percentage of all drug law offences[1]

2005	1998
47.2	38.3

1. Cannabis-related offences: as percentage of all drug law offences, 1996-2005 - EMCDDA Table DLO-6-CANNABIS-OFFENCES.htm

Heroin-related offences as percentage of all drug law offences[1]

2004	1998
No data found	No data found

1. Heroin-related offences as percentage of all drug law offences, 1996-2005 - EMCDDA Table DLO-7-HEROIN-OFFENCES.htm

The general term 'reports for drug law offences' is used since definitions and study units differ widely between countries. For definitions of the term 'reports for drug law offences', refer to Drug law offences – methods and definitions.

3.2 Supply reduction: Production, trafficking and retail

Combating the production and trafficking of drugs are among the major objectives of the Dutch drug policy. There is a trend towards a more punitive approach of production, trafficking and dealing (and keeping at the same time a moderate approach towards use and the possession of small quantities for personal use as already introduced in the seventies. Especially law enforcement efforts aimed at organisational crime involved in heroin, cocaine and synthetic drug offences are priority areas for the justice system. The policy programme of the current Dutch government cabinet aims at intensifying law enforcement efforts on production and trafficking of drugs in the Netherlands (Coalitieakkoord, February 2007) (Van Laar et al., 2008).

Key law is the so-called Opium Act (criminal law,) classifying certain substances as illicit or legally controlled drugs, defining certain acts as criminal offences (like production, trafficking, selling, possession, etc.) and ranking the severity of drug-related crimes, i.e. considering production and trafficking as more serious offences than possession (of small quantities for personal use). Besides this law there are many other laws relevant for supply reduction, e.g. the Temporary Measures for Penitentiary Capacity for Drug Couriers Act, the Closing Drug Premises Act.

Dutch drug legislation is based upon the principle of the separation of the markets for cannabis and other illegal drugs, also known under the non-legal terms of separating the markets for 'soft' and 'hard' drugs. Thus, illicit substances, according to the Opium Act, are divided into two lists: substances presenting unacceptable risks (list I) and other substances (list II) such as cannabis. This division has a real impact in the prosecution of illegal offences: penalties for offences with regard to list II are lower than those for list I (Country overview).

In the Netherlands, drug use is not a crime. However there are situations where the use of drugs is prohibited (i.e. use in schools). The possession of small quantities of drugs for personal use (less than 0.5 grams of hard drugs (list I) and less than five grams for cannabis (list II) will generally not lead to prosecution. Possession of drugs for commercial purposes will be prosecuted and penalties may range from one month imprisonment and/or a fine to eight years and/or a fine, depending on the quantity and the type of drug. The maximum penalty may be even higher if the crime has been committed more than once (Country overview).

Within the framework of the Opium Act, importing and exporting of any classified drug is considered a serious offence and can be punished by a penalty ranging from four years of imprisonment and/or a fine to up to 16 years of imprisonment depending on whether a 'hard drug' or a 'soft drug' was involved. In 2001, a special law was introduced which aims to deliver treatment in prison-like institutions to drug users who are 'prolific' offenders. In 2004, a new act for all prolific offenders came into effect (Country overview).

Some recent relevant changes in laws with regards to illicit drugs are:

- Incorporating the European Council Framework Decision of 25 October 2004, laying down minimum provisions on the constituent elements of criminal acts and penalties in the field of illicit drug trafficking into the Dutch Opium Act on 1 July 2006 (Stb 2006/292);
- In June 2006 some changes to the Opium Act were introduced: the maximum penalty for drug production and dealing and for possession of large quantities of drugs was increased from four to six years of detention or a certain fine (Stb 2006/292). This change was made to comply with EU-regulations;
- Law enforcement interventions aimed at the criminal organisations behind the production of Dutch-grown weed will be developed and implemented. Preparations started in 2006 in the south of the country and were under further development in 2007. Police and municipalities are working together already in combating and dismantling cannabis farms, in particular when located at residences, and in preventing criminal activities of grow shops;
- Fresh hallucinogenic mushrooms will be included in the Opium Act, as a soft drug. This was announced by the minister of Health, Welfare and Sport in October 2007, after questions in Parliament and after a report about incidents with these mushrooms in Amsterdam in 2007 (Coördinatiepunt Assessment en Monitoring nieuwe drugs 2007;T.K.30515/12;T.K.30515/15).

(Van Laar et al., 2008)

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007	1998
School-based prevention	Predominant	Predominant
Mass media campaigns	Predominant	Predominant
Telephone helpline	Predominant	Predominant

Prevention is a priority in current health policy, and one of the five targets is alcohol misuse among young people. In mid-2007 the "Centrum Gezond Leven" (Centre for Healthy Living) started its activities. It informs professionals about available and effective preventive interventions and coordinates the activities of more than ten stake-holding organisations in this field. This centre supports local professionals by presenting the available interventions together with an evaluation of their quality and coherence. The Healthy School and Drugs is still the most widely implemented universal school-based prevention in the Netherlands. Currently pilot studies are running to test electronic strategies. The programme Alcohol and Education targets parents of children at risk of alcohol misuse (Van Laar et al., 2008).

The main feature of the Dutch prevention policy is a strong focus on health promotion in general. Drug prevention focuses on recreational settings, especially regarding party drugs and the implementation of curricular school-based prevention programmes (Country overview).

Universal prevention is mainly carried out within schools, and there are three main school-based drug prevention programmes: 'Healthy School and Drugs', 'Alcohol and Prevention' and the 'National Drugs Information Line'. 'Healthy School and Drugs' was established more than ten years ago and remains the leading school-based prevention programme in the Netherlands. The programme comprises several lessons in secondary school on alcohol, tobacco and cannabis. 'Alcohol and Education' provides advice and supports parents of children under sixteen to prevent alcohol misuse outside school. The 'National Drugs Information Line' offers free-of-charge, neutral, objective information, free leaflets and a counselling service (Country overview).

Selective prevention is mostly targeted at youths on the streets and in party settings, and is carried out by NGOs in cooperation with government services. These programmes focus on the implementation of safe clubbing regulations and person-to-person interventions on club premises. Selective prevention is promoted via multi-agency 'liaisonships' at a structural level (Country overview).

Risk groups for drug use (e.g. clubbers, children of addicted parents, low SES groups) are targeted in several longer term selective prevention projects, such as the Clubs & Drugs project, Children of Addicted Parents, the Drugs Information and Monitoring System (DIMS) and the family-based programmes Strengthening Families and House Parties (Van Laar et al., 2008).

Special characteristics of the prevention culture in the Netherlands within the European context are: the delivery of universal prevention through one national prevention programme (which is controlled and evaluated); the delivery of selective prevention through several decentralised institutions; a high degree of development and research of prevention in party settings; and, recently, the development of drug prevention via the internet (Country overview).

Treatments available

In the Netherlands the responsibility for the organisation, implementation and coordination of addiction care is delegated to regional and local authorities. Drug treatment is mainly delivered by non-governmental organisations on a regional level, followed by private organisations including physicians, hospitals and private clinics. Drug treatment is also provided in regional public hospitals. Funding for drug treatment is mainly provided by the public budget at national and local level. Detoxification and residential treatment is funded by the health insurance (Country overview).

In 2006, several regular addiction care treatment centres decided to found private addiction care facilities and to enter into competition with the, mainly foreign, private clinics. They try to attract the more affluent (and generally socially integrated) patients who want to be treated with discretion in a nice environment (Van Laar et al., 2008).

Drug treatment interventions in the Netherlands are out-patient treatment, in-patient treatment and substitution treatment. Psychosocial interventions are frequently provided to complement substitution treatment in order to attain longer term effectiveness and reduce relapses. Types of frequently-used psychosocial treatments in drug treatment centres are motivational interviewing, relapse prevention techniques, cognitive-behavioural therapies and family therapies (Country overview).

	2007	1998
Abstinence oriented in-patient	Predominant	Predominant
Abstinence oriented out-patient	Predominant	Predominant
Abstinence oriented mandatory[1]	Not at all	Not at all
Abstinence oriented voluntary	Predominant	Predominant
Maintenance oriented	Predominant	Predominant
Other, HAT	Common	Uncommon

The National Alcohol and Drugs Information System (LADIS) is the most comprehensive information system on treatment demand clients in the Netherlands. LADIS contains data from the regular drug treatment services, including probation services, and provides nationwide coverage (Country overview).

New clients entering treatment[1]

2005	1998
4,299	4,613

1. Numbers of clients entering treatment and numbers of reporting treatment centres, 1996 to 2005, EMCDDA TDI-2 EMCDDA Table TDI-2 Part (i)-TOTAL NUMBERS NEW TREATMENT.htm

Numbers of clients entering treatment[1]

2005	1998
9,411	9,209

1. Numbers of clients entering treatment and numbers of reporting treatment centres, 1996 to 2005, EMCDDA Table TDI-2 Part (ii)-ALL-CLIENTS-ENTERING-TREATMENT.htm

1 Mandatory treatment as such does not exist in the Netherlands, but sometimes there is a strong 'push' on clients to enter treatment.

Percent of new clients using heroin[1]

2005	1998
7.5	29.0 (1994: 60.9

1. Distribution by primary drug used of new clients entering treatment, 1993 to 2005 EMCDDA Table TDI-3 Part (i)-HEROIN.htm

Percent of new clients using cocaine[1]

2005	1998
34.5	30.1

1. Distribution by primary drug used of new clients entering treatment, 1993 to 2005 EMCDDA Table TDI-3 Part (ii)-COCAINE.htm

Percent of new clients using cannabis[1]

2005	1998
41.8	25.4

1. Distribution by primary drug used of new clients entering treatment, 1993 to 2005 EMCDDA Table TDI-3 Part (iii)-CANNABIS.htm

Percent of new clients using stimulants (amphetamines and MDMA)[1]

2005	1998
9.1	8.1

1. Distribution by primary drug used of new clients entering treatment, 1993 to 2005 EMCDDA Table TDI-3 Part (iv)-STIMULANTS.htm

Primary drug type used by clients (percent of all clients) and of those, the percent injecting it in 2005[1]

Primary drug type	Percent of all clients	% Injecting
Opioids	28.4	9.0
Cocaine	35.3	1.1
Ampetamines	4.8	1.2
Ecstasy	1.3	-
Hallucinogens	0.1	-
Cannabis	26.9	-
Others	3.2	-
% Injecting main drug	2.9	-

1. Characteristics of all clients entering treatment: demographics and primary drug at treatment in 2005 or most recent year available - EMCDDA Table TDI-5 Part (ii)-PRIMARY-DRUG-AT-TREATMENT.htm

Number of clients covered, number of out-patient and in-patient treatment centres covered and number of centres in 2005[1]

Out-patient centres new	4,299 All: 9,411
In-patient centres new	-
Other agencies new	-
Types of other agency	Out-patient treatment centres and low-threshold agencies

1. Number of clients covered, number of out-patient and in-patient treatment centres covered and number of centres in the country in 2005 for countries supplying data - EMCDDA Table TDI-7 Part (i)-NEW+ALL.htm

New and all clients entering treatment for primary use of amphetamines, ecstasy and other non-cocaine stimulants in 2005[1]

Amphetamines	451	%: 71.7
Ecstasy	122	%: 19.4
Other stimulants	56	%: 8.9
Total	629	

1. New and all clients entering treatment for primary use of amphetamines, ecstasy and other non-cocaine stimulants in 2005 for countries supplying data - EMCDDA Table TDI-8 Part(i)-NEW+ALL-PRIMAIR-STIMULANT.htm

New and all clients entering out-patient and in-patient treatment: distribution (percentage) by primary drug at treatment[1]

Opioids	28.4
Cocaine	35.3
Stimulants	6.7
Hypnotics/sedatives	2.0
Hallucinogens	0.1
Volatile substances	0.1
Cannabis	26.9
Other substances	0.5
Base (known status)	9,411
Status unknown	-
Total	9,411

1. New and all clients entering out-patient and in-patient treatment: distribution (percentage) by primary drug at treatment in 2005 for those countries supplying data - EMCDDA Table TDI-19 Part (ii)-ALL-CLIENTS-IN-TREATMENT.htm

Number of opiate users in maintenance-substitution treatment[1]

	2005	2003
Methadone	12,564	12,048
All	13,450	13,125

1. Estimated number of clients in methadone treatment and of clients receiving any opioid substitution in EU-27 and Norway, 2003-2005 - EMCDDA Table HSR-7-METHADONE.htm

Estimated number of clients in methadone treatment[1]

2005	1997
12,564	11,676

1. Estimated number of clients in methadone treatment in EU countries and Norway, 1993 -2005 - EMCDDA Table HSR-11-METHADONE-CLIENTS.htm

Table 7 Registrations by type of care 2006

Type of care and overlap	Number	%
Number of (outpatient) addiction care clients	23,221	29%
Number of policlinical clients	42,521	52%
Number of clinical clients	3,958	5%
Number of probation clients	11,478	14%
Total	81,178	100%
Only clinical	395	
Only probation	6,548	

This table shows registrations that have not yet been corrected for duplicate registrations. A client can be registered different times at different institutions during the registration period (Ouwehand et al., 2007).

Table 2 Primary problem by scope, use and % in treatment

Primary problem	Extent of (problematic) use within population	In treatment in 2006
Alcohol	1,200.000	3%
Opiates	between 24,000 and 46,000	30-60%
Cocaine	55,000	18%
Amphetamines	22,000	6%
Cannabis	408,000	2%
Gambling	40,000	7%

Sources: NDM 2006, LADIS 2006 ad Profile gambling clients

(Ouwehand et al., 2007)

In 2006, a total of 9,623 clients entered treatment, of whom 5,226 clients entered treatment for the first time for a drug problem. Data suggest that 34.7% of all clients entering treatment reported cocaine as their primary drug, followed by 31.8% for cannabis and 22.3% for opioids. Among clients entering treatment for the first time, a slightly different trend was identified with 43.3% requesting treatment for cannabis followed by 31.6% for cocaine and 10.5% for opioids (Country overview).

Recent developments focus on treatment modalities for cocaine and cannabis users, in response to the increased treatment demand of this group of drug users. In the former national report two existing intensive in-patient treatment possibilities for young people with alcohol and drug problems are mentioned. Another example is the experimental treatment for cocaine users, using the Community Reinforcement Approach (CRA) with incentives, i.e. vouchers. The results of this project will be reported in the beginning of 2008 (Van Laar et al., 2008).

With regard to cannabis, the Netherlands is a collaborating partner in the European INCANT study (International Cannabis Need of Treatment), a randomised controlled trial initiated one year ago by five western European countries. The main question is whether Multi Dimensional Family Therapy (MDFT), a treatment developed in the USA, is also effective for Western-European adolescents. INCANT stresses cannabis but does not exclude other issues, e.g. alcohol abuse, psychiatric problems, and psychosocial troubles. Besides the Main Study Protocol and two Newsletters, publications with the first findings are expected within two years (Van Laar et al., 2008).

In recent years coercive approaches have become more popular. Legal options already available are more widely used and improved as e.g. diversion schemes. The ministers promised in a letter to Parliament that by the year 2011 the number of addicts under pressure to have treatment would be doubled (T.K.31110/1). The Judicial Placement of Addicts (Strafrechtelijke Opvang Verslaafden - SOV) – introduced in 2001 – has been adapted. This option allows the courts to place prolific offenders,

who are addicted to drugs, commit repeated petty crimes and who were expected not to benefit from other interventions, in a special institution. The aim of this initiative was to reduce public nuisance and to promote behavioural change among offenders. The maximum duration of this measure is two years. New options are implemented as e.g. conditional release at the end of the detention period (Van Laar et al., 2008).

Since 1968, methadone is the most commonly prescribed substitution substance. Heroin-assisted treatment (introduced in 1997) and high dosage buprenorphine treatment (introduced in 1999) are also available. High-dosage buprenorphine treatment is only provided in specialised treatment centres. Methadone on the other hand, is available via various treatment providers, including office-based practitioners and mobile units. In 2006, the number of clients on methadone maintenance treatment was around 12 500 (Country overview). In the autumn of 2006, a total of 815 treatment places for medical prescription of heroin (in 18 municipalities) were approved by the Minister. This policy is continued by the new government (Van Laar et al., 2008).

Priorities of demand reduction covered by policy papers and/or law

The policy programme Scoring Results that was started in 1999 to improve quality in drug prevention and addiction care is in its last phase. Many research publications and protocols have been published to support this target. Its current focus is on developing protocols, implementation of guidelines and professional training and education in addiction. Benchmarking of addiction care is examined, and a new instrument for treatment allocation and evaluation (Measurement of Addiction for Triage and Evaluation (MATE) has been introduced, which may replace the Addiction Severity Index during the coming years. Two addiction care organisations are now certified by the National Expertise Centre on Quality Review in Health Care (Van Laar et al., 2008).

The programme Scoring Results has been prolonged until 2008 with a focus on further developing protocols, on the implementation of guidelines and on starting specialised courses in professional training and education in order to improve the expertise of future professionals. Between 1999 and 2007, this programme received funding of € 2,450,000.
Monitoring the performance of addiction care will be facilitated by a set of outcome indicators (prestatie-indicatoren) for the broad domain of mental health and addiction care. The indicator set encompasses data on several aspects of effectiveness of care, safety, and client-centred data (Van Laar et al., 2008).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available[1]

Types	2007	1998
Syringe exchange programmes	Predominant	Common
Overdose treatment (naloxone)	Uncommon	Uncommon
Outreach work (actively seeking contact with drug users)	Common	Uncommon
Safer use education (flyers, folders, training)	Common	Uncommon
Drop-in centres (low-threshold)	Common	Common
Other, namely drug consumption rooms	Common	Common

1. Van Laar et al., 2008.

Harm reduction is an important feature of the Dutch drug policy and as a result there are many harm reduction interventions in the country. In the Netherlands there is an explicit supportive reference to harm reduction in national policy documents.[2] In practically all cities and towns there are facilities for needle and syringe exchange. This may take place at (low-threshold) drug services and some pharmacies. Health care centres and some places also police stations may have boxes for disposing dirty needles (no exchange). Finally there are also a number of vending machines for clean needles, but their number is limited and restricted to the bigger cities (Van Laar et al., 2008).

2 Global State of Harm Reduction, IHRA, 2008.

In the Netherlands, the difference between outreach work, low-threshold services, harm reduction activities and the term 'social addiction care' is hard to define. All four deal with motivating difficult-to-reach drug users (hidden populations) to participate in some kind of treatment to prevent a worsening of their life situation (individual and/or social) (Country overview).

Most outreach work is carried out by low-threshold services in out-patient care facilities. These services are active in 'street corner work' offering daytime shelter in drop-in centres for street problem drug users, 'living room' projects for drug-using prostitutes and user rooms for chronic hard drug users. Other target groups of these services are injecting drug users, extremely problematic drug users, and drug users from foreign countries. Outreach activities also feature in programmes for reducing drug-related public nuisance, which are often a joint venture between treatment and care facilities, police and civic groups. Outreach work today is often education 'on the spot' (i.e. where young people meet) applying peer-support techniques. Another one is targeting at drug users who have been sentenced to prison (Country overview).

Some drop-in centres are combined with drug consumption rooms. Presently there are about 40 drug consumption rooms in the Netherlands (Van der Gouwe et al., 2006).

Facilities for needle exchange or syringe exchange have existed for more than twenty years in the Netherlands and are available in all major Dutch cities. Needle exchange programmes are mainly implemented by street workers, workers of institutes for addiction care, and to a much lesser extent by pharmacists. The total number of needle exchange programmes in the Netherlands is not known, nor are there national registration data on the number of exchanged syringes or needles. However, data from Amsterdam show that from 1990 to 1993, around one million needles were exchanged. Since 1993 there has been a sharp decline to 38,000 syringes in 2006 (Country overview).

Overdose treatment is not a standard procedure in drug services in the Netherlands, but it is the responsibility of the medical staff. Naloxone is in general not available at drug services (Van Laar et al., 2008).

3.4.2 Crime, societal harm, environmental damage

One of the key targets of drug policy in the Netherlands is to reduce drug-related public nuisance in neighbourhoods, i.e. drug users hanging around and using drugs on the streets, dealing on the streets and drug-use related crimes like street robbery, shop-lifting and burglary. Intensive policing, special measures like banning individuals who cause nuisance from certain areas ('straatverbod'), but also drop-in centres and drug consumption facilities are examples of measures taken.

A specific Dutch problem is public nuisance caused by so-called drug tourism. The larger cities and the cities in the border region attract considerable numbers of young people from neighbouring countries (Belgium, Germany and France) who cross the border to buy cannabis in Dutch coffee shops. People living in the neighbourhood of coffee shops complain about crowds hanging around on the streets till late in the evening, heavy car traffic and parking problems, etc. Consequently, at certain times initiatives have been taken at the local level to address this. There are several laws and policies aimed at reducing drug related nuisance.

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PORTUGAL

1 General information

Location:
South-western Europe, bordering the North Atlantic Ocean, west of Spain

Area:
92,391 sq km

Land boundaries/coastline:
1,214 km / 1,793 km

Border countries:
Spain 1,214 km

Population:
10,676,910 (July 2008 est.)

Age structure:
0-14 years: 16.4% (male 912,995/female 835,715)
15-64 years: 66.2% (male 3,514,905/female 3,555,097)
65 years and over: 17.4% (male 764,443/female 1,093,755) (2008 est.)

Administrative divisions:
18 districts and 2 autonomous regions

GDP (purchasing power parity):
$232.3 billion (2007 est.)

GDP (official exchange rate):
$223.3 billion (2007 est.)

GDP- per capita (PPP):
$21,800 (2007 est.) (CIA World Factbook)

Drug research
Drug research is coordinated and funded by the National Focal Point at the Institute for Drug and Drug Addiction (Instituto da Droga e da Toxicodependência - IDT), which is also a major actor in undertaking research, together with university departments. Recently, a national network was set up by a group of researchers for the discussion and dissemination of academic work in this area. The national focal point, through its website and reports, and the national scientific journals are the main dissemination channels for drug-related research findings (Country overview).

Main drug-related problems
The main drug problem in Portugal is consumption and trafficking, in particular transhipment of cocaine from West-Africa to European countries and of cannabis resin from Morocco to other countries in Europe. Production plays no significant role.

2 Drug problems

2.1 Drug supply

2.1.1 Production

No reports found on production of illicit drugs in Portugal.

2.1.2 Trafficking

Total quantities (kg) seized and number of seizures

	2007[1]	2005	1998
Heroin	61.67 kg Number of seizures:1 309	182 kg[2] Number of seizures: 1,309[3]	97 kg[2] Number of seizures: 3,750
Cocaine	7,362 kg Number of seizures: 1,369	18,083 kg (2004: 7,423 kg, 2003: 3,017 kg)[4] Number of seizures: 1,374[5]	625 kg[4] Number of seizures: 1,377[5]
Cannabis resin	42,772 kg Number of seizures: 2,227	28,258 kg[6] Number of seizures: 2005: 2,695[7]	5,575 kg[6] Number of seizures: 1,917[7]
Herbal cannabis	133 kg Number of seizures: 424	121 kg[8] Number of seizures: 303[9]	7 kg (1997: 72 kg; 1999: 66 kg)[8] Number of seizures: 105[9]
Cannabis plants	No data found	Number of plants: 3,732[10] Number of seizures: 129[11]	Number of plants: 17,316[10] Number of seizures: 33[11]
Amphetamine	No data found	0.1 kg[12] Number of seizures: 21[13]	Amphetamine 0 kg[12] Number of seizures: 1[13]

1. Expert's comments.

2. Quantities (kg) of heroin seized, 1995 to 2005 - EMCDDA Table SZR-8-SEIZURE-HEROIN-QUANTITY.htm

3. Number of heroin seizures, 1995 to 2005 - EMCDDA Table SZR-7-SEIZURE-HEROIN-NUMBER.htm

4. Quantities (kg) of cocaine seized, 1995 to 2005 - EMCDDA Table SZR-10-SEIZURE-COCAINE-QUANTITY.htm

5. Number of cocaine seizures, 1995 to 2005 - EMCDDA Table SZR-9-SEIZURE-COCAINE-NUMBER.htm

6. Quantities (kg) of cannabis resin seized, 1995 to 2005 - EMCDDA Table SZR-2-CANNABIS-QUANTITY.htm

7. Number of Cannabis resin seizures, 1995 to 2005 - EMCDDA Table SZR-1-SEIZURE-CANNABIS-NUMBER.htm

8. Quantities (kg) of herbal cannabis seized, 1995 to 2005 - EMCDDA Table SZR-4-SEIZURE-HERBAL-CANNABIS-QUANTITY.htm

9. Number of herbal cannabis seizures, 1995 to 2005 - EMCDDA Table SZR-3-SEIZURE-HERBAL-CANNABIS-NUMBER.htm

10. Quantities (number of plants) of cannabis plants seized, 1995 to 2005 - EMCDDA Table SZR-6-SEIZURE-CANNABIS-PLANTS-QUANTITY.htm

11. Number of seizures of cannabis plants, 1995 to 2005 - EMCDDA Table SZR-5-SEIZURE-CANNABIS-PLANTS-NUMBER.htm

12. Quantities (kg) of amphetamine seized, 1995 to 2005 - EMCDDA Table SZR-12-SEIZURE-AMPHETAMINES-QUANTITY.htm

13. Number of amphetamine seizures, 1995 to 2005 - EMCDDA Table SZR-11-SEIZURE-AMPHETAMINE-NUMBER.htm

Estimated market value

Regarding the prices of drugs at trafficker and trafficker-user level the mean prices of herbal cannabis and ecstasy were the lowest reported since 2002, contrary to cocaine which registered in 2006 the highest price since 2002 (National Report, 2007).

In comparison to 2006, in 2007 the price of drugs at trafficker and trafficker-user level suffered some variations, with the decrease registered in the average price of heroin and the increase in the average price of hashish and herbal cannabis (liamba).

The mean price of heroin was the lowest reported since 2002, contrary to cocaine which for the third consecutive year was priced higher than heroin. The mean prices of hashish and herbal cannabis (liamba) registered the highest values since 2002. For the first time since 2002, was broken the increase trend of cocaine price and the decrease of ecstasy price (National Report, 2007).

Following the trend, which has been verified since 2000, the number of heroin seizures decreased and now ranks below hashish and cocaine. However, the number of seizures increased for all substances in comparison to previous years. For the fifth time since 1990, the number of hashish seizures again surpassed that of heroin, the substance that always registered

the highest number of seizures in Portugal until 2002, and for the second time the number of cocaine seizures also surpassed that of heroin (National Report 2007). Portugal plays an important role in cocaine and cannabis resin transhipment from North-West Africa to European countries (UNODC, 2008).

2.1.3 Retail/Consumption

Estimated retail value

	2007	2005[5]
Cannabis resin	€3.45/gr[1]	€2.13/gr
Herbal cannabis	€4.70/gr[1]	€3.7/gr
Heroin mean	€37.57/gr[2]	€41/gr
Cocaine products	€44.65/gr[3]	€45.1/gr
Ecstasy	€3.20/gr[4]	€3.56/gr

1. Price of cannabis at retail level, 2005 - EMCDDA Table PPP-1 Part (i)-PRICE-CANNABIS.htm

2. Price of heroin at retail level, 2005 - EMCDDA Table PPP-2 Part (i)-PRICE-HEROIN.htm

3. Price of cocaine products at retail level, 2005 - EMCDDA Table PPP-3 Part (i)-PRICE-COCAINE.htm

4. Price of synthetic drugs at retail level, 2005 - EMCDDA Table PPP-4 Part (i)-PRICE-SYNTHETIC.htm

5. Expert's comments.

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

The first general population survey on drug use was conducted in Portugal in 2001. A sample of 15,000 individuals representative of the Portuguese population was surveyed. The results revealed that 7.8% of respondents aged 15 to 64 had used an illegal drug at least once in their lives (lifetime prevalence). The most-reported substance in this context was cannabis (7.6% lifetime prevalence). The use of other illegal substances was less frequently reported. Lifetime prevalence was less than 1% for cocaine, heroin, ecstasy, amphetamines and LSD. The second national survey, carried out among the general population in 2007, indicated 11.7% lifetime prevalence of cannabis use and 1.9% for cocaine use among the age group 15–64. Last year prevalence for cannabis use was reported by 3.6% of the sample, while 0.6% reported cocaine use (Country overview).

Data from the ESPAD surveys suggest an increase in experimentation, as well as in recent and in current use of almost all illicit drugs. The ESPAD survey results of 2003 showed that the lifetime prevalence rate for any illicit drug use increased to 18% (compared to 12% in 1999). As regard individual drugs, the lifetime prevalence rate for marijuana/hashish increased to 15% (9% in 1999). Three percent of the students admitted the use of cocaine at least once in their lives (1.3% in 1999) and 4% reported lifetime use of ecstasy (2.3% in 1999). The lifetime prevalence rate for heroin decreased. However, the question on heroin use was formulated differently in 2003 and therefore it is not possible to attribute the decrease to a real decrease in experimentation or to the change in formulation. Results of the ESPAD 2003 survey are available at the Portuguese focal point website (Country overview).

Life-time prevalence in the general population in percentages

	2007	2001
Heroin	1.1[1]	0.7[1]
Cocaine	1.9[2]	0.9[3]
Cannabis	11.7[2]	7.6[3]
ATS	Amphetamine 0.9 Ecstasy 1.2[2]	Amphetamine 0.5 Ecstasy 0.7[3]

1. Expert's comments.

2. Lifetime prevalence of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population - EMCDDA Table GPS-1- LIFETIME-15-64.htm

3. Lifetime prevalence of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population EMCDDA Table GPS-8-LIFETIME-15-64.htm

Last-year prevalence in the general population in percentages

	2007	2001
Heroin	0.3[1]	0.2[1]
Cocaine	0.6[2]	0.3[3]
Cannabis	3.6[2]	3.3[3]
ATS	Amphetamine 0.2 Ecstasy 0.4[2]	Amphetamine 0.1 Ecstasy 0.4[3]

1. Expert's comments.

2. Last year prevalence of drug use among all adults (aged 15 to 64 years) in nationwide surveys among the general population - Table GPS-3-LAST-YEAR-15-64.htm

3. Last year prevalence of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population: last survey available for each Member State - EMCDDA Table GPS-10-LAST-YEAR-15-64.htm

Last-month prevalence in the general population in percentages

	2007	2001
Heroin	0.2[1]	0.1[1]
Cocaine	0.3[2]	0.3[2]
Cannabis	2.4[2]	2.4[2]
ATS	Amphetamine 0.1 Ecstasy 0.2[2]	Amphetamine 0.1 Ecstasy 0.2[2]

1. Expert's comments.

2. Last month prevalence of drug use among all adults (aged 15 to 64 years) in nationwide surveys among the general population – EMCDDA Table GPS-5-LAST-MONTH-15-64.htm

Life-time prevalence among young people (15-24 years) in percentages

	2007	2001
Heroin	0.4[1]	0.5[1]
Cocaine	1.4[2]	1.1[2]
Cannabis	15.1[2]	12.2[2]
ATS	Amphetamine 0.8 + Ecstasy 2.1[2]	Amphetamine 0.4 + Ecstasy 1.8[2]

1. Expert's comments.

2. Lifetime prevalence of drug use among the 15–24 age group in nationwide surveys among the general population - EMCDDA Table GPS-14-LIFETIME-15-24.htm

Life-time prevalence among young people (15-16 years) in percentages

	2003	1995
Heroin	Heroin 2[1]	Heroin 0[3]
Cocaine	3[1]	0[3]
Cannabis	7 (LTP) 5 (LYP), 2 (LMP)[2]	7 (LTP), 6 (LYP), 3 (LMP)[2]
ATS	Amphetamine 3 + Ecstasy 4[1]	Amphetamine 2 + Ecstasy 1[3]

1. Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old - EMCDDA Table EYE-01-LIFETIME PREVALENCE-15-16.htm

2. Expert's comments.

3. School surveys: percentage lifetime prevalence of psychoactive substance use among students aged 15-16 years - EMCDDA Table EYE-03-LIFE-TIME-15-16-YEARS.htm

Life-time prevalence among young people (17-18 years) in percentages

	2003[1]	1997
Heroin	1[1]	No data found
Cocaine	1	No data found
Cannabis	26 (LTP), 11 (LMP)[2]	No data found
ATS	Amphetamine 2 + Ecstasy 4[1]	No data found

1. Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use and last month prevalence of cannabis among students aged 17-18 years - EMCDDA Table EYE-02-LIFETIME PREVALENCE-17-18.htm

2. Expert's comments.

Last-year prevalence among young people (15-24 years) in percentages

	2007	2001
Heroin	0.1[1]	0.2[1]
Cocaine	0.7[2]	0.7[2]
Cannabis	6.6[1]	8.0[1]
ATS	Amphetamine 0.4 + Ecstasy 1.2[1,2]	Amphetamine 0.1 + Ecstasy 1.2[2]

1. Expert's comments.

2. Last year prevalence of drug use among the 15–24 age group in nationwide surveys among the general population – EMCDDA Table GPS-15-LAST-YEAR-15-24.htm

Last-month prevalence among young people (15-24 years) in percentages

	2007	2001
Opiates	0.1[1]	0.0[1]
Cocaine	0.2[2]	0.5[2]
Cannabis	4.1[2]	5.5
ATS	Amphetamine 0.1 + Ecstasy 0.4[2]	Amphetamine 0.1 + Ecstasy 0.6[2]

1. Expert's comments.

2. Last month prevalence of drug use among the 15–24 age group in nationwide surveys among the general population - EMCDDA Table GPS-16-LAST-MONTH-15-24.htm

2.2.2 Problematic drug users/chronic and frequent drug users

In 2001 a series of national problem drug use estimation studies were conducted, providing estimates ranging from 2.3 to 8.6 problem drug users per 1 000 inhabitants aged 15–64 years old in Portugal. The disparities between results were mainly due to the fact that different case definitions and methodologies were used, as well as to limitations in the databases. Three estimations were based on the multiplier benchmark method, and one on the back calculation method. Estimates based on injecting drug users (IDUs) only, suggested a rate between 4.3 to 6.4 users per 1 000 inhabitants aged 15–64 years. Further estimates are necessary to improve methodologies and validate these results (Country overview).

2005 study appealed to different estimation calculation methods (multiplier methods) for three distinct definitions of case: 1) Users of opiates, cocaine and/or amphetamines; 2) Long term/Regular users of opiates, cocaine, and/or amphetamines; 3) Actual/Recent users of drugs by intravenous use.
Due to some discrepancies with definitions of case and methods used for calculation of the estimates donned in 2000, for comparative effects, some readjustments had to be proceed in 2000[1], estimates continuing however to be necessary to have some cautions reading comparative data[2].

1 Namely re-calculation of 2000 estimation adapted to the first definition of case.
2 Namely at the second definition of case, since 2000 method – back-calculation - aimed to determine the estimation of IDUs. This definition of case is more restrict than the one applied in 2005.

Definition of Case	Year	2000	2005	
Users of opiates, cocaine and/or amphetamines	Method	Treatment Multiplier	Treatment Multiplier	
	Prevalence Estimation	48 673 - 73 010	44 653 - 53 240	
	Taxes by 1000 inhabitants 15-64 years	6,4 - 10,7	6,2 - 7,4	
Long term users/regular use of opiates, cocaine, and/or amphetamines	Method	"Back-calculation"	Outreach teams Multiplier	
	Prevalence Estimation	29 620 - 43 966	30 833 -35 576	
	Taxes by 1000 inhabitants 15-64 years	4,3 - 6,4	4,3 - 5,0	
Users (actual or recents) of drug by intravenous route	Method	Mortality Multiplier	Mortality Multiplier	Treatment Multiplier
	Prevalence Estimation	15 900 - 31 800	10 950 - 21 900	13 183 - 16 285
	Taxas por 1000 habitantes 15-64 anos	2,3 - 4,7	1,5 - 3,0	1,8 - 2,2

In relation to 2005 estimates, and as foreseen taxes decrease while the definition of case refers to a target-population more and more restricted of problematic drug users, varying the taxes for a thousand inhabitants of 15-64 years between the 6.2-7.4 for the overall definition and between 1.5-3.0 for the definition of problematic drug users more restricted.
Despite some methodological limitations in the comparative reading 2000-2005 data, it is unquestionable the evidence of a decrease on the estimated number of problematic drug users for any of the considered definitions, being the most significant the one that relates to injecting drug users (expert's comments).

The number of problematic/chronic-frequent users (in the general population)

2001-2005 no data found	2000[1]	1999[1]
IDUs or regular / long time users of opiates, cocaine and / or amphetamines.	Lower Bound of Prevalence Estimate: 47,184 Upper Bound of Prevalence Estimate: 58,980	Lower Bound of Prevalence Estimate: 49,920 Upper Bound of Prevalence Estimate: 56,150

1. Prevalence of problem drug use at national level - full listing of studies - EMCDDA - Table-PDU-102-Nparti-PROBLEM-DRUG-USE.xls

There is no information on injecting drug users.

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2007[2]	2005[1]	2000[2]
% infected: 9.0-19.9	% infected: 12.0-20.5	% infected: 14-17

1. Prevalence of HIV infection among injecting drug users in the EU, 2005 or most recent data available – Summary table by country - EMCDDA Table INF-1-HIV-AMONG-IDU.htm

2. Expert's comments.

According to 31/03/2007 notification data (from analytical tests) from the Surveillance Centre of Transmissible Diseases (CVEDT), the **decreasing trend** concerning the percentage of drug users in the total number of notified HIV positive cases since 1993 continues to be reported. From the 31 132 notifications ever received, 45% (46% in 2005 and 48% in 2004) were drug use related. Considering the different stages covered by these notifications, 48% of the AIDS cases, 40% of the AIDS related complex cases and 44% of the asymptomatic carriers cases were drug use associated (National Report, 2007).

The number of newly HIV infected injecting drug users[1]

2005	2001
Cases per million population: 85.0 Number of cases: 857	Cases per million population: 124.3 Number of cases: 1247

1. HIV infections newly diagnosed in injecting drug users, by year of report from 1992 to 2005, (a) cases per million population and (b) number of cases – EMCDDA Table-INF-104-part0(1).xls
[HIV reporting system modified in 2000: data for 2000 are available but include many cases diagnosed in previous years; data prior to 2000 not available by year or by transmission group]

In Portugal, global estimations of the prevalence of infectious diseases among drug users are not available. However, some data concerning clients of some treatment facilities are available, and can provide information on rates among some sub-groups of drug users: (i) those demanding treatment for the first time at the out-patient treatment public network; (ii) those submitted to a detoxification treatment in public or certified private detoxification units; or (iii) those in treatment in public or certified private therapeutic communities (Country overview).

In 2006, rates of HIV infections ranged from 10.9% to 20.2% among voluntarily-tested drug users treated for the first time at public out-patient units (32% of them submitted tests), public or certified private detoxification units (97% submitted tests), and public or certified private therapeutic communities (97.6% submitted tests). For the same sub-groups, in 2006, rates for acute hepatitis B infections ranged between 2.9% and 5.6% (with 28.5%, 89% and 95.5% of the respective total clients being tested) and for hepatitis C between 41.7% and 84.8% (with 32%, 92% and 97% of the respective totals being tested) (Country overview).

In general a decreasing trend in the percentage of drug users in the total number of notifications of AIDS cases continues to be registered (since 1999). Concerning HIV, HCV and HBV in the treatment settings, positive cases remained stable in comparison to previous years (Country overview).

The decreasing trend in the percentage of drug users in the total number of notifications of AIDS cases continues to be registered. Concerning HIV and hepatitis infection in the treatment setting, data on HIV, hepatitis B and hepatitis C positive cases remained stable in comparison to previous years (National Report, 2007).

This stabilisation may be related, amongst other factors, to the implementation of harm reduction measures, which may be leading to a decrease in intravenous drug use (also visible in data concerning administration route in first treatment demands), or to intravenous drug use in better sanitary conditions, as indicated by the number of exchanged syringes in the National Programme "Say no to a second hand syringe" (National Report, 2007).

The number of suspected acute drug-related deaths

2007[1]	2005[2]	1998[2]
314	219	337

1. Expert's comments.
2. Number of acute drug-related deaths recorded in EU Member States (25 members and candidates) according to national definitions - EMCDDA Table DRD-2 Part (i)-DRUG-RELATED-DEATH.htm

In 2006, 216 direct drug-related deaths were reported by the Special Register, defined as an individual whose post-mortem toxicological analyses is positive for any illicit drug of abuse. The national DRD definition relates to all positive toxicological results for drugs whatever the cause of death (overdose, traffic accident, etc), and is not in line with the EMCDDA DRD standard. The 2006 figure is close to that registered in 2005 (219 cases) but represents an increase in comparison with previous years (156 in 2004, 152 in 2003, 156 in 2002). In approximately 61.6% of cases, opiates or opiates in combination with other substances (mainly cocaine or alcohol) were the main substance involved in drug-related deaths. In 2005 and 2004, the proportion was 67% and 69% respectively. Data from the General Mortality registry are not comparable with the data from the Special Registry (Country overview).

Expert comments

When interpreting the results of assessments of HIV-infected drug users, it should be taken into consideration that the sample of tested drug users at various services is not always representative of the group. It must also be mentioned that some of the treatment samples included IDUs and non-IDUs, and consequently the rates among IDUs will probably be higher than those presented (Country overview).

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

According to the Portuguese National Strategy for the Fight against Drugs (NSFAD) (PCM1999), published in 1999, public investment in drug policy measures should double in five years to PTE 32 billion (159.615.327,06 €), to finance the implementation of the national drug strategy, especially in various fields of drug demand reduction. In 1999 public investment in all the areas that encompassed the Portuguese policy against drugs amounted to PTE 16 billion (€79,807,663.53) (National Report, 2007).

However, due to the lack of information, the Instituto Nacional de Administração, which was commissioned with the external evaluation of the National Strategy (INA2004) carried in 2004, reported that it was not possible to compare public expenditures in 1999 and 2003 (National Report, 2007).

In subsequent years the national report presented every year to the National Parliament did not include an overall estimate of drug-related public expenditures, no doubt because of the difficulty of distinguishing direct and indirect drug-related expenditures in budgets and activity reports of institutions that implement the Portuguese National Strategy (INA2004) (National Report, 2007).

2005 Portuguese State Budget and year-end report in Ministries with drug-related expenditures

COFOG Structure	Ministry (XVII CG)	Budget as of December 2005	Execution Year-End
		Million €	
01.1.2 Financial and Fiscal Affairs	Finances and Public Administration	54.727,4	57.292,9
0.7.2.2 Specialised Medical Services	National Defence	1.929,6	2.042,3
03.1 Police Services 03.6.0 Police Services[44]	Internal Administration	1.442,3	1.556,7
03.1 Police Services 0.7.2.2 Specialised Medical Services	Justice[45]	952,0	1.066,7
0.7.2.2 Specialised Medical Services 07.4.0 Public Health Services	Health	6.019,8	7.759,1
07.4.0 Public Health Services	Education	5.679,9	6.062,8
10. Social Protection	Labour and Social Security	4.612,5	4.942,4

Source: Ministry of Finances and Public Administration, Directorate General of Budget, 2005 State General Account, 2006, Lisbon, available at http://www.dgo.pt/Cge/cge2005/index.htm.

(National Report, 2007)

Portuguese Action Plan Horizon 2008 Anticipated Expenditures

Group	Class	Ministry	2006 Budget	2007 Budget	2008 Budget	Σ
01 General Public Services		Finances and Public[46] Administration	€ 2.095.000,00	€ 2.150.000,00	€ 2.214.500,00	€ 6.459.500,00
01.1	01.1.2 Financial and Fiscal Affairs					
02 Defence		National Defence	€ 180.000,00	€ 185.400,00	€ 190.962,00	€ 556.362,00
02.1	Military Defence[47]					
03 Public Order and Safety		Internal Administration				
		PSP[48]	€ 37.948,00	€ 39.086,44	€ 40.259,03	€ 117.293,47
03.01	Police Services	GNR	€ 4.400.000,00	€ 4.532.000,00	€ 4.667.960,00	€ 13.599.960,00
03.06	Public order and safety n.e.c.	Justice[49]	€ 413.848,43	€ 426.263,88	€ 439.051,80	€ 1.279.164,11
07 Health						
07.1	Medical products, appliances and equipment	Health IDT[50]	€ 21.000.000,00	€ 25.813.795,47	€ 26.588.209,33	€ 73.402.004,80
07.2	Outpatient services	SG[51]	€ 1.139.655,92	€ 1.173.845,60	€ 1.209.060,97	€ 3.522.562,49
07.2.2	Specialised Medical Services					
07.3.2	Medical Specialised Services	National Defence[52]	€ 819.877,00	€ 844.473,31	€ 869.807,51	€ 2.534.157,82
07.3.2	Medical Specialised Services	Justice[53]	€ 233.857,00	€ 240.872,71	€ 248.098,89	€ 722.828,60
07.4	Public health services	Education	€ 191.000,00	€ 196.730,00	€ 202.631,90	€ 590.361,90
	07.4.0 School health monitoring and prevention services	Internal Administration[54]	€ 4.818.500,00	€ 4.963.055,00	€ 5.111.946,65	€ 14.893.501,65
10	Social Protection[55]	Labour and Social Security	€ 12.827.251,00	13.212.068,53	€ 13.608.430,59	39.647.750,12
		Total	€ 48.156.937,35	€ 53.777.509,94	€ 55.390.918,67	€ 157.325.446,96

Table 18 – Portuguese Action Plan Horizon 2008 Anticipated Expenditures (IDT2007e)

[46] Personnel and capital amortization related with detection technical means. This estimate was not disclosed beforehand.
[47] Naval Authority.
[48] PSP's Drug Road Patrol Kits.
[49] Judiciary Police's Sub Directorate for the Drug Traffic Investigation. This item does not include drug-relayed expenditures to be incurred by the National Road Authority, Judiciary Police Scientific Laboratory and the Forensic Institute.
[50] This item covers only Conventions and integrated Programs (Prevention, Treatment, Harm Reduction, Rehabilitation as well as Research and Formation) expenditures acquired from third parties.
[51] Needle Exchange Program (please see chapter 7).
[52] Program for the Prevention and Fight of Alcoholism and Drug Addiction.
[53] Expenditure with personnel working in Drug Free Wings.
[54] PSP's Safe School Program (*Programa Escola Segura*, please see chapter 3).
[55] Public expenditures in this COFOG division are not the object of this report. This information is provided for information purpose only.

(National Report, 2007)

3.1.2 Other general indicators

The 1999 Portuguese 'National strategy for the fight against drugs' defined the general objectives in the drugs field and is currently being implemented through the 'National plan against drugs and drug addiction plan 2005–12', which focuses on four main ideas: geographical proximity, integrated approaches and responses, focus on the citizen, and improving quality and accreditation mechanisms. The objective set for the national plan is to significantly reduce the use of drugs amongst the population and its negative social and health consequences. The national plan is complemented by an 'Action plan against drugs and drug addiction 2005–08', which covers the areas of coordination, international cooperation, information/research/training/evaluation, the legal framework, demand reduction and supply reduction, and identifies for each action the party or parties responsible, a timetable and the indicators/assessment instruments to monitor the plan's implementation (Country overview).

The National Drug Strategy of 1999 meant a major boost of the drug policy efforts in Portugal in all fields. Development, implementation and coordination of drug policy received much attention as can be seen from the investment mentioned above and from the development of the legal basis of drug policy from 2000 onwards (National Reports, 2000 – 2007).

Numbers on arrests and imprisonment for drug-law related offences

Number of reports of drug law offences 1995 to 2007

2007[1]	1998[2]
11,946	11,395

1. Expert's comments.

2. Number of reports of drug law offences 1995 to 2005 - EMCDDA Table DLO-1-OFFENCES-NUMBERS.htm

The percentage of individuals in prison for Drug Law offences, in 2006, continues to decrease to reach again the lowest value since 1997 (27% of all individuals in prison). Individuals were mainly imprisoned for traffic offences (90%).

An important reason was the implementation of Law n. º 30/2000, of the 29th of November; it defines the legal framework applicable to the consumption of narcotics and psychotropic substances, together with the medical and social welfare of the consumers of such substances without medical prescription (expert's comments).

Numbers on arrests and imprisonment for use/possession for personal use

Offences types involved in reports for drug law offences: percentages of all reports for drug law offences[1]

Use/possession for use	52.9
Dealing/trafficking	47.1
Use and trafficking	No data found

1. Offences types involved in reports for drug law offences: percentages of all reports for drug law offences - EMCDDA Table DLO-2-DRUG-LAW-OFFENCES.htm

Number of drug law offences related to drug use or possession for use[1]

2005	1999
6,260	8,030

1. Number of drug law offences related to drug use or possession for use 1999-2005 - EMCDDA Table DLO-4-OFFENCES-USE+POSSESSION.htm

Percentage of total drug law offences that are related to drug use or possession for use[1]

2005	1998
52.9	60.6

1. Percentage of total drug law offences that are related to drug use or possession for use 1996-2005 - EMCDDA Table DLO-5-PERCENTAGE-DRUG-USE+POSSESSION.htm

Cannabis-related offences: as percentage of all drug law offences[1]

2005	1998
57.8	24.2

1. Cannabis-related offences: as percentage of all drug law offences, 1996-2005 - EMCDDA Table DLO-6-CANNABIS-OFFENCES.htm

Heroin-related offences as percentage of all drug law offences[1]

2005	1998
11.9	44.7

1. Heroin-related offences as percentage of all drug law offences, 1996-2005 - EMCDDA Table DLO-7-HEROIN-OFFENCES.htm

Finally the political guideline to *decriminalise the personal use of drugs* was implemented through Law 30/2000 of the 29th of November (National Report, 2000).

Court data indicates that, in the past years, decreases were reported in terms of the number of convictions for traffic and for traffic-use. The majority of these individuals possessed only one drug, mainly hashish, for the third time, and not heroin, as in previous years. In comparison to previous years the number of individuals who possessed only cocaine continues to increase. Of the convicted individuals, 96% were convicted for traffic, 1% for use (cultivation) and 3% for traffic-use (National Report, 2007).

3.2 Supply reduction: Production, trafficking and retail

The main focus of supply reduction is on retail and trafficking.

Priorities of supply reduction covered by policy papers and/or law

The legal framework in place since July 2001, although decriminalising illicit drug use, maintains drug use as an illicit behaviour and also maintains the illegal status for all drugs included in the relevant United Nations Conventions. However, a person caught in possession of a quantity of drugs for personal use (established by law), without any suspicion of being involved in drug trafficking, will be evaluated by a local Commission for Drug Addiction Dissuasion composed of a lawyer, a doctor and a social worker. Sanctions can be applied, but the main objective is to explore the need for treatment and to promote healthy recovery (Country overview).

Drug trafficking may be sentenced to one to 12 years imprisonment depending on different criteria, one of them being the nature of the substance supplied. For users who sell drugs to finance their own consumption, the penalty is reduced (Country overview).

The National Drug Strategies 1999-2004 and 2005-2012 both have/had a strong focus on supply reduction, in particular on drug trafficking. In 2006 a decision was reached that one main priority of the Portuguese Presidency of the European Council would be on drug trafficking in western African countries (National Report, 2007).

Laws are focussing especially on measures against trafficking.

In the period from 2000 till 2007 different laws and legal provisions were introduced to increase effectiveness of reduction of drugs trafficking. **Law n. ° 5/2002 of the 11th of January 2002** – establishes special measures to fight against economic and financial organised crime concerning evidence collection, information confidentiality and confiscation of assets in crimes of drug trafficking, terrorism and terrorist organisation, weapons traffic, passive corruption, money laundering and criminal association, amongst others (National Report, 2002).
Law n.° 30/2000 of the 29th of November 2000 - defines the new legal framework for personal use of illicit substances (cf. last year's report). Concerning the setting up of the CDTs (Commissions for the Dissuasion of Drug Use), one CDT was implemented in each district to implement Law 30/2000 which decriminalises drug use and places the priority of law enforcement concerning drug use in treatment and social inclusion, rather than in criminal or penal aspects (National Report, 2001).

Resolution of the Council Ministers 39/2001 of 9th the April - approves the National Plan Against Drug and Drug Addiction - Horizonte 2004. The Plan has 30 concrete objectives and a financial support of 32 millions till 2004. The main objective concern the reduction to 1/3 the drug use of heroin, reduce drug related deaths by half and reinforcement of the financial support to primary prevention by 150% (National Report, 2001).

In the 1999-2004 period there was an intensive production of legal documents in this area. The contribution of this area was found to be globally positive but there are still areas were specific regulation is needed (e.g. in the harm reduction area) (National Report, 2005).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007[1]	1997[6]
School-based prevention	Common	Common
Mass media campaigns	Regular	Regular
Telephone helpline	Common	Common
Other, namely	Universal and selective/indicated prevention measures	

1. National Report, 2007.

2. National Report, 1998.

Universal drug prevention is part of the Portuguese school curriculum. Prevention programmes are delivered through training sessions, awareness-raising activities and dissemination of information through printed material. One initiative undertaken since 2006 is the 'Safe schools' programme, whereby law enforcement agents patrol the areas surrounding schools to prevent and protect from criminal activities such as drug trafficking in the surrounding area, are also involved in awareness and training activities in teaching establishments (targeting students, parents, school staff and law enforcement agents). This initiative focuses on drug abuse and alcoholism, road safety, self-protection, risk prevention and security in the school community (Country overview).

Selective prevention is mostly targeted at school drop-outs and deprived neighbourhoods, and is given high priority from both a political and practical perspective. Selective prevention in recreational settings is carried out by a few teams and focuses on direct counselling and information (Country overview).

Special characteristics of the prevention culture in Portugal within the European context are the decentralisation of implementation at local level via focused intervention programmes, strong momentum towards better quality control, tight monitoring and increasing interest in selective prevention (Country overview).

Treatments available

In 2006, 32,460 clients were in treatment, and of those 4,745 (20.2%) requested treatment for the first time. The total number of active clients has remained relatively stable in the past few years (maximum 32,064 in 2001, minimum 29,596 individuals in 2003). For the first time since 2001, the percentage of clients in treatment for the first time increased: the previous figures were 27.3% (2001), 19.6% (2002), 17.6% (2003) and 16.6% (2004). Among first-time treatment clients, 76.5% reported opioids as their main substance followed by 10.8% for cannabis and
8.5% for cocaine (Country overview).

Drug treatment in Portugal can be classified into four main categories: (i) out-patient drug treatment; (ii) day care centres; (iii) detoxification units; and (iv) therapeutic communities. All centres provide both psychosocial and substitution treatment. Day centres offering out-patient care are provided by public and non-governmental services. Withdrawal treatment is available in public and private detoxification units. In-patient psychosocial treatment mostly consists in therapeutic communities and is mainly available in private services. There is also short-term and long-term residential psychosocial drug treatment available (Country overview).

Contrary to the decreasing figure that has been registered since 2002, in 2006 the number of registered clients in both public (110 clients, 68 in 2005) and private units (4,118 clients, 4,093 in 2005) increased in comparison to previous years (National Report, 2007).

Data from the public therapeutic communities indicate that 62% of their clients (41% in 2005 and 53% in 2004) in 2006 were admitted for the first time into a TC. 98% of the admissions (93% in 2005 and 96% in 2004) resulted from a therapeutic project (National Report, 2007).

Use / Structure / Networks		Outpatient Clients in the Public Network		Clients Detoxification Units	Clients Therapeutic Communities	Clients Day Centers
		Total	1 treat demand	(Public and Accredited)	(Public and Accredited)	(Public and Accredited)
Main Drug	Heroin	72,8%	64,3%	61,6%	48,6%	65,6%
	Heroin and Cocaine	10,9%	12,0%	9,4%	15,8%	1,5%
	Cocaine	5,2%	8,5%	15,4%	16,2%	17,8%
	Cannabis	5,3%	10,8%	0,9%	3,4%	2,5%
	Alcohol	0,4%	1,1%	9,5%	12,6%	7,6%
V. Administração Main Drug	Smoking	69,0%	74,4%	45,1%	33,1%	41,4%
	Injecting	29,2%	21,9%	42,3%	45,1%	40,2%
Intravenous Use	Lifetime Prevalence	48,6% [b]	37,1% [b]	66,5%	55,6%	50,3%
	Last 30 Days	31,2% [b]	20,1%	40,0%	22,4%	14,3%
Parapherналia Sharing	Syringes	–	–	22,2%	33,9%	38,6%
	Other Intravenous Material	–	–	32,2%	42,4%	48,9%
	Non-Intravenous Material	–	–	5,6%	49,9%	64,4%

Drug use profile of clients in treatment in the public and accredited services
(National Report, 2007)

Substitution treatment is widely available in Portugal, through public services such as specialised treatment centres, health centres, hospitals and pharmacies as well as NGOs and non-profit organisations. Methadone has been made available since 1977 and buprenorphine since 1999. Furthermore, Decree Law 183/2001 Article 44.1 and Decree Law 15/93 Article 15.1-3 stipulate that methadone treatment can be initiated by treatment centres whereas buprenorphine treatment can be initiated by any medical doctor, specialised medical doctors and treatment centres. Moreover, the provision of buprenorphine in pharmacies started in 2004. In 2006, 22,922 clients were registered in opioid substitution programmes (21,054 in 2005, 16,877 in 2003). 4 833 cases were new admissions (4 206 in 2005) and 6 087 (5,222) left the programme during the year, 16% of whom with medical release (17% in 2005) (Country overview).

Indicators available continue to suggest effective responses at treatment level (increase in the number of clients involved in both drug free and substitution programmes) and at harm reduction level (levelling off of infectious diseases). The number of active clients in the out-patient public treatment network increased though first treatment demands continue to decrease. Heroin continues to be the main substance associated to health consequences and specifically in the sub-population of drug users that seek access to different treatment structures but references to cocaine and cannabis in this setting are increasing.

The availability of substitution programmes continues to increase and the number of clients continues to increase steadily, though in 2006 the percentage of those who were involved in buprenorphine programmes, slightly decreased in comparison to previous years (National Report, 2007).

Priorities of drug prevention and treatment covered by policy papers and/or law

Both Drug Strategies (National Strategy for the Fight Against Drugs 1999 – 2004 and National Plan Against Drugs and Drug Addiction 2005-2012) underline the importance of a well developed and comprehensive system of drug prevention and drug treatment services.

The National Strategy for the Fight Against Drugs (1999 – 2004) gives special relevance to drug use prevention: "The principle of prevention is implemented through the priority of prevention interventions which aim to reduce drug demand, through training and information programmes in communities or in specific target groups" (National Report, 1999).

The National Plan Against Drugs and Drug Addiction 2005-2012 puts emphasis on the implementation of a wide variety of prevention programmes (1, p 21). It aims to: (i) increase the number of drug prevention programmes based on scientific evidence; (ii) increase the number of selective prevention programmes directed to vulnerable groups; and (iii) improve the process of selection, monitoring and evaluation of prevention programmes (Country overview).

The National Action Plan – Horizon 2008 is prioritizing preventive interventions with local communities based on a national needs assessment, pilot projects in the field of selective prevention interventions (PIF), developing interventions for areas lacking in responses and the development of a website addressing young people (National Report, 2007).

The National Strategy refers that "treatment is a fundamental strategic option". Treatment is a constitutional right of any citizen and it also may be thought of as a "preventive action, reducing drug use, protecting public health and, in certain cases, protecting the security of people and assets".

The importance of expanding the drug abuse treatment network is also clearly referred in the Ministry of Health's strategy for 2002 which determines as intervention guidelines:
- The setting up of new public specialised treatment centres (…);
- A wider availability of treatment in private units to the drug users, through protocols and conventions;
- The expansion of substitution treatment programmes (National Report, 1999).

The publication of the Ministry of Health's strategy for the years 1998-2002, also stressed the importance of disseminating substitution programmes, with the main objective of "guaranteeing the access to substitution programmes to all heroin addicts who fulfil the admission criteria" (National Report, 1999).

Priorities of demand reduction covered by policy papers and/or law

Regulation n° 17/2004 of the 28th of April – sets up the General-Directorate of Innovation and Curricular Development in the Ministry of Education which, amongst its other responsibilities, will be responsible developing the area of substance abuse prevention in the school setting (National Report, 2005).
With the publication, in 1994 of the regulation for the administration of substitution drugs for heroin, the expansion of the network for the distribution of methadone and the diffusion of substitution programmes was systematically initiated (National Report, 1999).

Methadone maintenance treatment (MMT) was introduced in 1977, high-dosage buprenorphine treatment (HDBT) in 1999 (Year of introduction of methadone maintenance treatment (MMT), high-dosage buprenorphine treatment (HDBT) and heroin-assisted treatment, including trials - EMCDDA Table HSR-8-METHADONE-INTRODUCTION.htm)

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007[1]	1998[2]
Syringe exchange programmes	Predominant: 80 non-pharmacy based and 1232 pharmacy-based needle and syringe exchange programmes	Common
Overdose treatment (naloxone)	The distribution, possession or administration of naloxone is not regulated. Naloxone on a 'take home' basis is not available. [SQ 29/NFP2006]	No data found
Outreach work (actively seeking contact with drug users)	Predominant: street-based outreach work is nationwide available - in 2002, 23 projects were implemented throughout the country	No data found
Safer use education (flyers, folders, training)	Predominant	No data found
Drop-in centres (low-threshold)	Predominant	No data found

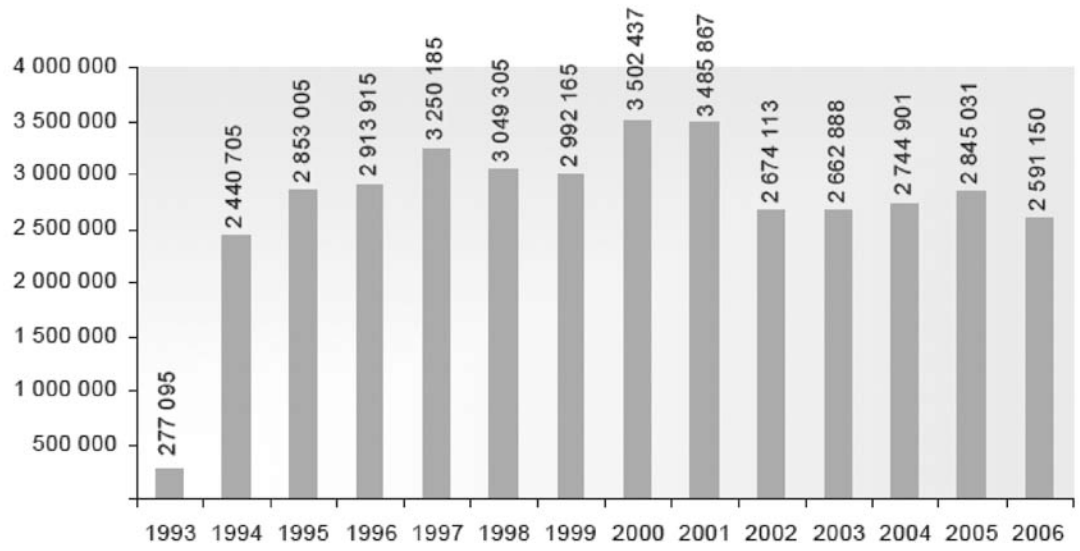
1. Van der Gouwe et al., 2006.

2. National Report, 1998.

Additional information

The National Commission for the Fight Against AIDS (Comissão Nacional de Luta Contra a SIDA), in cooperation with the National Association of Pharmacies (Associação Nacional de Farmácias) implements the national syringe exchange programme 'Say no to a second-hand syringe' which was set up in October 1993 to prevent HIV spreading amongst IDUs. The programme currently involves pharmacies (approximately 48% of all pharmacies on the Portuguese mainland), several mobile units, and other public and NGO facilities. In 2006, pharmacies were responsible for 52.8% of all syringes exchanged. About 38 million syringes have been exchanged through this programme from its launch in October 1993 until December 2006. In 2006, 2 591 150 syringes were exchanged, which represented an 8.9% decrease in comparison with 2005. This national NSP was externally evaluated in 2002 and it was concluded that it had avoided 7 000 new HIV infections per each 10 000 IDUs during the eight years of existence of the programme. Regions with the highest population density such as the Lisbon, Porto and Setúbal districts are still those with the higher quantity of exchanged syringes, and have been since the beginning of the programme (Country overview).

Syringes exchanged/ Totals of the Country from 1993 to 2006
(Programme "Say no to a second hand syringe" 1993 to 2006 ANF)



(National Report, 2007)

Priorities of harm reduction covered by policy papers and/or law

The main priorities established by the national plan for the 2005–12 period in the area of risk and harm reduction are: (i) to set up a global network of integrated and complementary responses in the harm reduction area with public and private partners; and (ii) to target specific groups for risk reduction and harm minimisation programmes. A network of harm reduction programmes (syringe exchange, low threshold substitution programmes, etc.) and structures, including drop-in centres, refuges, shelters, contact units and mobile centres, is being developed throughout the country in critical zones of intensive drug use with the aim to prevent drug-related risks such as infectious diseases and social exclusion and delinquency (Country overview).

The need for harm reduction services like syringe exchange, outreach work and substitution treatment was also emphasised in the National Strategy for the Fight Against Drugs (1999 – 2004) be it in more general terms than in the new Drug Strategy (National Report, 1998).

In 2000 and subsequent years many the legal fundament for harm reduction services developed strongly. In 2001 the general framework of harm reduction policies was established in Decree-Law n.º 183/2001, of the 21st of July 2001 (National Report, 2001). In 2002 different regulations were issued to establish conditions and criteria for different harm reduction services (National Report, 2002).

Law 3/2007 of the 16th of January 2007 - Adopted measures to prevent infectious diseases in the prison setting and sets the legal framework for a syringe exchange programme in that setting, to avoid the contamination and propagation of

infectious diseases. Other responses concerning the prevention of infectious diseases and the availability of treatment for drug abuse were also reinforced (National Report, 2007).

Diploma Nº 22 144/2007 of the 21st of September 2007, approved the specific regulation for a syringe exchange pilot project in selected prisons (National Report, 2007).

Diploma n. º 748/2007, of the 25th of June 2007 – Established the criteria for the IDT to authorise the setting up of harm reduction programmes and facilities listed in Decree-Law 183/2001.

Diploma 749/2007, of the 25th of June 2007 – Established the criteria for the IDT to fund harm reduction programmes and facilities listed in Decree-Law 183/2001 (National Report, 2007).

3.4.2 Crime, societal harm, environmental damage

Most important statements of harm reduction covered by policy papers and/or law

- Promote interaction/intervention in Prison Establishments with relevant services of the Ministry of Justice;
- Promote the creation of experimental spaces for intervention in overdose situations;
- Mobilise all specialised units within the IDT in general, and the CATs in particular, as well as all Private Units providing treatment under a protocol with IDT, in order to expand their intervention in the field of risk and harm reduction, according to local needs and resources;
- Promote an effective interaction between all CATs and outreach structures, building integrated responses according to the needs identified (expert's comments).

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RUSSIAN FEDERATION

1 General information

Location:
Northern Asia (the area west of the Urals is considered part of Europe), bordering the Arctic Ocean, between Europe and the North Pacific Ocean

Area:
17,075,200 sq km

Land boundaries/coastline:
20,241.5 km/ 37,653 km

Border countries:
Azerbaijan 284 km, Belarus 959 km, China (southeast) 3,605 km, China (south) 40 km, Estonia 290 km, Finland 1,313 km, Georgia 723 km, Kazakhstan 6,846 km, North Korea 17.5 km, Latvia 292 km, Lithuania (Kaliningrad Oblast) 227 km, Mongolia 3,441 km, Norway 196 km, Poland (Kaliningrad Oblast) 432 km, Ukraine 1,576 km

Population:
140,702,096 (July 2008 est.)

Age structure:
0-14 years: 14.6% (male 10,577,858/female 10,033,254)
15-64 years: 71.2% (male 48,187,807/female 52,045,102)
65 years and over: 14.1% (male 6,162,400/female 13,695,673) (2008 est.)

Administrative divisions:
46 oblasts, 21 republics, 4 autonomous okrugs, 9 krays, 2 federal cities, and 1 autonomous oblast

GDP (purchasing power parity):
$2.097 trillion (2007 est.)

GDP (official exchange rate):
$1.29 trillion (2007 est.)

GDP- per capita (PPP):
$14,800 (2007 est.) (CIA The World Factbook)

Drug research
There is one major addiction research centre (epidemiology and monitoring) in the Russian Federation, the Russian Narcological Research Centre/ Research Institute of Addictions which is among others also participating in the ESPAD). A number of universities and experts working at universities are also engaged in research regarding drug use and drug-related matters (such as Dr. Mendelevich from the Institute for Research of Problems of Mental Health, Kazan State Medical University). A number of international bodies, such as UNODC, UNAIDS, WHO are also involved in monitoring drug trends or trends in infectious diseases related to (injecting) drug use.

Main drug-related problems
The Russian Federation is facing substantial drug consumption problems. In particular opiates (mainly heroin and homemade opium poppy derivates) and ATS (especially vint, the Russian equivalent of methamphetamine) are consumed widely. The Russian Federation is an important producer of amphetamine-type stimulants and cannabis. It is a transit country for heroin (from Afghanistan to Central and Northern Europe).

As the world's largest country the Russian Federation incorporates many different markets: usage/prevalence/availability of various types of drugs differ largely between the regions.

2 Drug problems

2.1 Drug supply

2.1.1 Production

In the Russian Federation, in recent years the number opium seizures and the amount of opium seized have decreased. Heroin seizures have increased. Heroin comes in "ready" form from Afghanistan. Heroin production in the Russian Federation is very limited.

Other opiates are widely produced in the Russian Federation, especially home-made products such as khanka (chorny) and mak, which are basically cheap and dirty opium derivates. Both derivates are not strong in effect and they are not trafficked abroad at all, and produced for local/ domestic market solely (expert's comments).

Very low levels of cultivation of opium poppy continue to take place in many other regions and countries such as the Russian Federation, Ukraine, Central Asia, the Caucasus Region, other CIS countries, Balkan countries, Baltic countries, Egypt, Lebanon and Iraq (UNODC, 2008).

The Russian Federation isrol a country for production of drugs for the international drug markets.
It is estimated that there is about 1,000,000 hectares of wild cannabis in the Russian Federation (UNODC, 2008b). The THC level of wild cannabis is quite low. The Russian Federation is among the largest cannabis producers in Europe (2,500 mt excl. Central Asia; 4,850 mt incl. Central Asia) besides other the C.I.S countries, notably Kazakhstan and Kyrgyzstan (UNODC, 2008).

There is a large domestic market in the Russian Federation for amphetamine-type stimulants. The main ATS is 'vint' (similar to methamphetamine or 'pervetine', produced and used in Czech Republic) and is a homemade stimulant prepared by people themselves, but is also manufactured in (meth-)amphetamine laboratories.

The important role of the Russian Federation in manufacturing ATS is evidenced by the relatively large number of dismantled production facilities, though the information reported differs substantially. The INCB reports that in 2006 Russian authorities detected 1,700 facilities used to illicitly manufacture synthetic drugs, including 136 chemical laboratories (INCB, 2008). UNODC reports that in 2006 526 amphetamine laboratories were dismantled in the Russian Federation, 57% of the total dismantled in Europe (UNODC, 2008).

Besides vint there is also some production of ecstasy in the Russian Federation (e.g. Saint Petersburg), but ecstasy is mainly being imported from the Netherlands, Poland, and Baltic States, especially Lithuania (UNODC, 2008a).

In 2007, there were 1,486 cases reported of illicit production of drugs that were dismantled by the Federal Drug Control Service (FDCS). Most of these laboratories were kitchen laboratories, no big industries. The market for ATS in the Russian Federation is big, but the laboratories where they are manufactured are usually small and produce for local markets (expert's comments).

UNODC reports for seizures of illicit laboratories in the Russian Federation that in 2005 417 labs for cannabis oil (63.491 kg) and 601 cannabis herb labs (2,323.000 kg) were dismantled; in 2006 380 cannabis resin labs (41.174 kg) were dismantled; this is half of the total number of dismantled labs in these 2 years in the total of Europe (UNODC, 2008).

In 2005, 8 morphine labs (0.004 kg) and 346 opium labs (2.223 kg) were dismantled; in 2006 186 opium labs (0.198 kg), 26 heroin labs (0.048 kg) and 13 morphine labs (0.565 kg) were dismantled (UNODC, 2008).

Finally, another 1,936 unspecified labs were dismantled in 2005 in the Russian Federation (UNODC, 2008).

2.1.2 Trafficking

Total quantities (kg) seized

	2006[1]	2005[2]	1998[3]	1997[3]	1996[3]
Opium (raw and prepared)	535	1,523	1,804	223	1,400
Heroin	2,445	5	443	24	18
Morphine	4	5	15	6	45
Other opiates	No data found	3,399	168	5	106
Cocaine (base and salts, incl. crack-cocaine)	17	109	100	71	74
Coca leaf	No data found	No data found	No data found	No data found	No data found
Cannabis herb	23,745	30,618	23,511	22,976	18,968
Cannabis resin	1,482	2,101	1,589	888	651
Cannabis oil	411	267	103	No data found	42
Cannabis plant	No data found	No data found	No data found	No data found	No data found
Amphetamine	48	88	34	No data found	22
Methamphetamine	25	3	No data found	No data found	No data found
Non defined amphetamines	0.1	3	No data found	No data found	No data found
Ecstasy (MDA, MDEA, MDMA)	34	26	Synthetic drugs 10,230 u.	No data found	No data found

1. UNODC, 2008.

2. UNODC, 2007.

3. UNDCP, 2001.

There was a decrease (>10%) in trafficking of heroin and morphine in the Russian Federation in 2006. And this holds true for trafficking of cocaine as well. Trafficking of cannabis resin, in amphetamines and in ecstasy also decreased (>10%). (UNODC, 2008)

In 2006, 619 opiates producing laboratories were destroyed. Afghanistan (269), the Russian Federation (225) and the Republic of Moldova (112) reported seizing and dismantling the majority of these labs. Laboratories in the Russian Federation and the Republic of Moldova tend to produce acetylated opium from locally cultivated opium poppy straw, whereas laboratories in Afghanistan produced morphine and heroin (UNODC, 2008).

According to the World Drug Report 2008, global heroin seizures amounted to 58 metric tons, about the same as a year earlier (-1%). The largest heroin seizures in 2006 were reported by Iran (10.7 mt or 19% of global heroin seizures), followed by Turkey (10.3 mt or 18%), China (5.8 m or 10%), Afghanistan (4 mt or 7%), Pakistan (2.8 mt or 5%), the Russian Federation (2.5 mt or 4%) and Tajikistan (2.1% or 4%) (UNODC, 2008).

Opiate seizures reported by countries of East Europe (which obtained most of their opiates via the Silk Route) fell by 48% in 2006. In parallel, the Russian authorities reported a marked decline of heroin availability on the Russian market (UNODC, 2008).

The Russian Federation has only reported the seizure of amphetamine laboratories to UNODC. It is possible that these laboratories produce methamphetamine. The Russian Federation reports seizures of both ephedrine and pseudoephedrine, which would point towards the production of methamphetamine (or methcathinone as known as ephedrine) (UNODC, 2008).

Between 1996-2006 there were 918 clandestine amphetamine laboratories reported in Europe. The largest numbers of dismantled laboratories were reported in the Russian Federation (526 or 57%). For 2006 the largest number of laboratories in Europe was reported by the Russian Federation (79) (UNODC, 2008).

The market for cocaine is limited to larger cities and all cocaine inside the Russian Federation is imported from South America through Africa into the Russian Federation. Sometimes the Russian Federation is not the target area but the transit country from which the cocaine is imported into (Central and Southern) Europe. Cocaine may become popular among the 'Golden Youth' (expert's comments).

In 2006 24 metric tons of cannabis were seized in the Russian Federation (UNODC, 2008).

Estimated retail value

(most recent estimates)[1]

An ecstasy tablet costs around $10-15 in Moscow in 2007 (expert's comments).

Opium[1]

Retail price per gram in 2006	$23.5 (4.7-78.5)
Wholesale price per kilogram in 2006	$3,893.3 (2,443-5,235.6)

Heroin[1]

Heroin no 3

Retail price per gram in 2005	$40
Retail price per gram in 2006	No data found
Wholesale price per kilogram in 2005	No data found
Wholesale price per kilogram in 2006	$23,721.5

Heroin no 4

Retail price per gram in 2006	$57 (10.5-209.4)
Wholesale price per kilogram in 2006	$32,809 (8,028-17,452)

Cocaine[1]

Retail price per gram in 2005	$159 (78.5-279.2)
Wholesale price per kilogram in 2005	$107,309 (61,082-244,328)

Cannabis herb[1]

Retail price per gram in 2006	$5 (3.8-6.3)
Wholesale price per kilogram in 2006	$1,940 (3,490-8,586)

Cannabis resin[1]

Retail price per gram in 2006	$12.1 (1.1-29.7)
Wholesale price per kilogram in 2006	$6,821 (1,361-20,942)

Ecstasy

Retail price per gram in 2006	$29.2 (9.6-62.8)
Wholesale per kilogram in 2006	$16,509 (3,490-31,414)

Amphetamine No data found

1. UNODC, 2008.

An ecstasy tablet costs around $10-15 in Moscow in 2007 (expert's comments).

Before 2005 there were many open drug scenes, but after 2005 many of these open scenes were closed. Now, there are many small scale scenes, where only small scale selling takes place (among others through the internet) (expert's comments).

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

Life-time prevalence in the general population[1]

	2007	1998
Opiates	<1%	No data found
Cocaine	No data found	No data found
Cannabis	18%	No data found
ATS (amphetamines)	No data found	No data found
ATS (ecstasy)	No data found	No data found

1. Expert's comments.

The Russian Federation is the world's largest country. As a result the country incorporates many different markets: usage/ prevalence/availability of various types of drugs differ largely between the regions.

The Russian Federation is a large consuming country for opiates, especially heroin and home- made opium poppy derivates, such as khanka (chorny) and mak (expert's comments).

Prior to this year, UNODC used the estimates provided by the Russian authorities for the year 2000/01 which suggested that there were roughly two million opiate users, or 2% of the population age 15-64. New data and research made available by the Russian Federation in 2007 has enabled UNODC to revise the estimate for 2006 to 1.65 million opiate consumers in the Russian Federation or 1.6% of the population age 15-64 UNODC, 2008). Data on registered drug dependent persons suggest that the number of opiate users stabilised or declined in the period 2002 – 2006 (UNODC, 2008).

The market for cocaine is limited and concentrated in the big cities as the substance is very expensive and in general only used by well-to-do people (expert's comments).

The market for ATS is huge and increasing. Vint, the Russian equivalent of methamphetamine is being prepared and consumed widely for at least the last 10 years (expert's comments).

In the Russian Federation the use of amphetamines in 2006/2007 is 0.1 – 0.3% of the population (annual prevalence). The use of ecstasy in 2006 is < 0.1% of the population (annual prevalence but in general the use of ecstasy in 2006 has increased (UNODC, 2008). Consulted experts stated that the use of ecstasy in Moscow among the general population has grown from 0.9% to 2.4% in 2 years (expert's comments).

Cannabis is Russia's main drug of choice. In Moscow, 24% of population between 15-64 have ever tried cannabis. In the Russian Federation, in general the life time prevalence of cannabis use is 18%; for opioids the life time prevalence is below 1% (expert's comments).

Pharmaceutical drugs such as fentanyl, tranquillizers, etc are also still used but this also depends on the region (expert's comments).

Last-year prevalence in the general population[1]

Opiates	1.6% (2006)
Cocaine	0.02% (2005)
Cannabis	3.9% (2003)
ATS (amphetamines)	0.2% (2003)
ATS (ecstasy)	0.05% (2005)

1. UNODC, 2008.

The estimated number of illicit drug users varies from 3 to 6 million people (UNODC 2008, UNODC 2008b, Human Rights Watch 2007, Bobrova et al. 2007, Russian Harm Reduction Network, 2007) and includes both recreational and frequent/chronic users and both injecting drug users and non injecting drug users and also includes all illicit drugs.

The average age of first use of illicit drugs dropped the last decade from 17 to 14 (UNODC, 2008b).

Prevalence of drug use among young people and last month prevalence is not monitored on a national basis in the Russian Federation (expert's comments).

Additional information

According to the World Drug Report 2008, the use of heroin and other opiates in the Russian Federation in 2006 was stable. This is also true for the use of cocaine and for the use of cannabis (herb and resin). The use of amphetamines, methamphetamines and related substances in the Russian Federation was stable in 2006. There was however, some increase in the use of ecstasy (MDMA, MDA, MDEA) in the Russian Federation in 2006 (UNODC, 2008).

"Reliable data for prevalence of drug use among the general population in the Russian Federation are not available. Estimations are as valuable as measuring the general temperature in a hospital." (expert's comments)

2.2.2 Problematic drug users/chronic and frequent drug users

The number of problematic/chronic-frequent users (in the general population)

	2007[1]	1998
Opiates	300,000-307,232	No data found
Cocaine	No data found	No data found
Cannabis	22,528 (2006)[2]	No data found
ATS	No data found	No data found

1. UNODC, 2008.

2. UNODC, 2008b.

In total there were 517,389 registered drug dependents in the Russian Federation in 2006; 300,000 of them were 'opiate abusers', 43,035 were dependent on other drugs; 22,528 persons were 'cannabis addicts' (stable) 2006 (UNODC, 2008b).

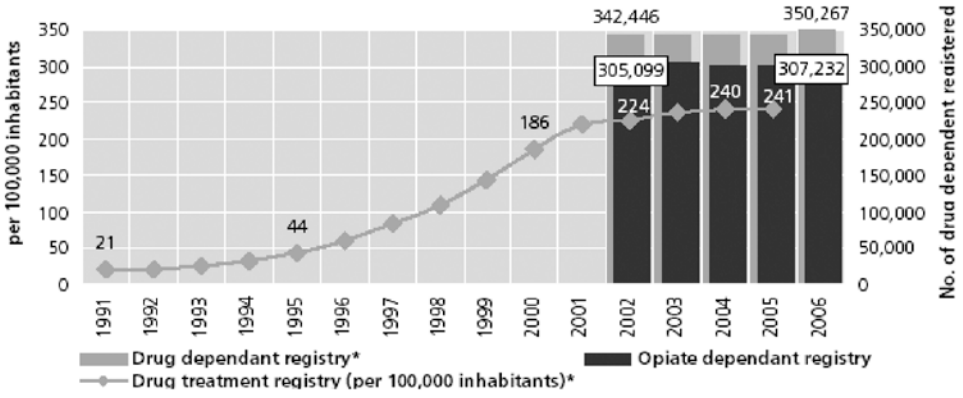
52,460 people were treated for drug abuse in 2004: 94.3% for dependency on opiates, 0.05% were having problems with cocaine use, 0.5%with amphetamines and 1.8% with cannabis (UNODC, 2007).

A stabilisation also occurred in the Russian Federation, following many years of dramatic increases. The number of registered drug dependent persons (350,267 in 2006), including the number of registered opiate users (307,232 in 2006), has remained largely unchanged over the 2002-2006 period. Russian authorities reported a shortage of heroin on the Russian market in 2007 – despite the strong increase of Afghan opium production (UNODC, 2008).

There are no data available about patients in private institutions. Data are only available for patients treated in state centres.

356,000 people that came to the centres for medical help in 2007 were given the diagnosis of drug addiction (expert's comments). Another group of drug users (182,000 persons) were not diagnosed with drug addiction, but were found to 'use drugs in a harmful way' (= with a potential risk of drug addiction), which is 538,000 people (cumulative) altogether. So the number of problem drug users has increased. The number of people seeking treatment is increasing in both groups (expert's comments).

Fig. 39: **Russian Federation: registered drug users, 1991-2006**



* Drug dependent registry: number of users registered with medical establishments as drug dependant.
* Drug treatment registry: number of patients with drug addiction registered at drug dependence treatment facilities
Sources: UNODC, Annual Reports Questionnaire Data, Russian Federal Ministry of Health and Social Development, quoted in UNODC and The Paris Pact Initiative, *Illicit Drug Trends in the Russian Federation*, April 2008, UNODC, 2004 World Drug Report and UNODC, Russian Federation, Country Profile.

(UNODC, 2008)

The number of injecting drug users (in the general population)

2007[1]	1998[2]
1,825,000-2,000,000	No data found

1. Mathers et al., for the 2007 Reference Group to the UN on HIV and Injecting Drug Use. Global epidemiology of injecting drug use and HIV among people who inject drugs: a systematic review; 2008.

2. Cook & Kanaef. Global state of harm reduction 2008. Mapping the response to drug-related HIV and hepatitis C epidemics. London, International Harm Reduction Association (IHRA), 2008.

The prevalence of injecting drug use in the age group 15-64 year old to be 1.78% and that the estimated number of people who inject drugs is 1,825,000 (Mathers et al., 2008).

IHRA reports 2,000,000 people who inject drugs in the Russian Federation. Needle and syringe exchange programs exist in the Russian Federation, but there is no opioid substitution treatment (OST) (Cook & Kanaef, 2008).

The number of drug addicts in the Russian Federation increased by 9 times of last decade (UNODC, 2008b).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2007[1]	1998
0.3%-74%	No data found

1. Mathers et al., 2008.

The overwhelming number of HIV-positive people registered in the country by the end of 2007 (82.4% of those who know how they were infected) contracted HIV when using non-sterile instruments for drug injection (Ministry of Health and Social Development, 2008).

However, there are signals showing a shift of the main route of transmission of HIV from injecting drug use to heterosexual transmission.

While the epidemic in Russia has remained largely concentrated among injecting drug users other high-risk groups-sex workers, prison inmates en men who have sex with men, there is clear evidence of a significant rise in heterosexual transmis-

sion. The percentage of heterosexually transmitted infections has increased from 17.8% in 2002 to 34.1% in 2007 (Joint UN team on AIDS, 2008)

There are no good figures on HIV prevalence among injecting drug users in the Russian Federation. The estimates range from 0.3% (low) to 37.15% (mid) to 74% (high) (Mathers et al., 2008). According to IHRA estimates there are 2,000,000 injecting drug users in the Russian Federation, among which adult HIV prevalence is between 12-30% (Cook & Kanaef, 2008).

The percentage of newly HIV infected injecting drug users[1]

2007	1998
63.7%	95.6% (2000)

1. Ministry of Health and Social Development, 2008.
(UNODC, 2008b)

The drug use explosion of the late 1990s was accompanied by a rapid increase in the number of HIV infections. Due to poor knowledge of HIV and the frequent joint use of injecting equipment, HIV spread rapidly. In the years between 1995 and 2001 the rate of new infection doubled every six to twelve months. By mid-2006 almost one million people were believed to be HIV-positive, the vast majority of them infected through drug use. Rates of HIV infection among drug users vary considerably across Russia. According to National Research Institute for Substance Abuse studies, 9.3 percent of injection drug users who are registered with state narcological clinics were HIV-positive in 2005. In some Russian cities studies have found considerably higher prevalence rates. For example, UNAIDS cites studies that found that 30 percent of injection drug users in St. Petersburg were HIV-positive and 12 to 15 percent in Cherepovets and Veliky Novgorod (Human Rights Watch, 2007).

The HIV epidemic in the Russian Federation continues to grow, although not as rapidly as in the late 1990s. The annual number of newly registered HIV cases declined between 2001 and 2003 (from a peak of 87,000 to 34,000), but has subsequently started to increase again. In 2006, 39,000 new HIV diagnoses were officially recorded, bringing the total number of HIV cases registered in the Russian Federation to about 370,000 (UNAIDS/WHO, 2008); HIV cases represent only those persons who have been in direct contact with the Russian Federation's HIV reporting system (UNAIDS/WHO, 2008).

The close links between injection drug use and HIV infection add extra urgency to the need for effective drug dependence treatment. Injection drug users make up an estimated 65 to 80 percent of all persons living with HIV in Russia and about 10 percent of injection drug users in Russia are HIV-positive. Effective drug dependence treatment has been shown to help reduce HIV infections, as patients may either stop using drugs altogether or may adopt less riskful injection behaviour. Today, as Russia is rapidly expanding access to antiretroviral (ARV) treatment for people living with HIV, effective drug treatment programmes, including methadone maintenance therapy and drug-free programmes, could play an important role in aiding drug users in accessing and adhering to ARV treatment. If Russia does not take steps to address the problems of its drug dependence treatment system, it runs the risk of continued and increasing spread of HIV, and even drug resistant HIV strains, due to lack of access by drug users to ARV and their suboptimal adherence due to poor quality drug dependence treatment programmes (Human Rights Watch, 2007).

From the late 90s to early 2000s it was generally accepted that the HIV epidemic was mostly driven by young, urban, male injecting drug users. More recently, however, large numbers of women have also been affected by the epidemic. (…) there is evidence that most women become infected through sexual transmission (MAP, 2008).

Although the percentage of IDUs among new HIV cases decreased from 95.6% in 2000 to 63.7% in 2007, the main route of HIV infection in the Russian Federation in 2006-2007 remained intravenous drug use (Ministry of Health and Social Development, 2008).

The number of drug related deaths by overdose[1]

2007	1998
70,000 (2004)	No data found

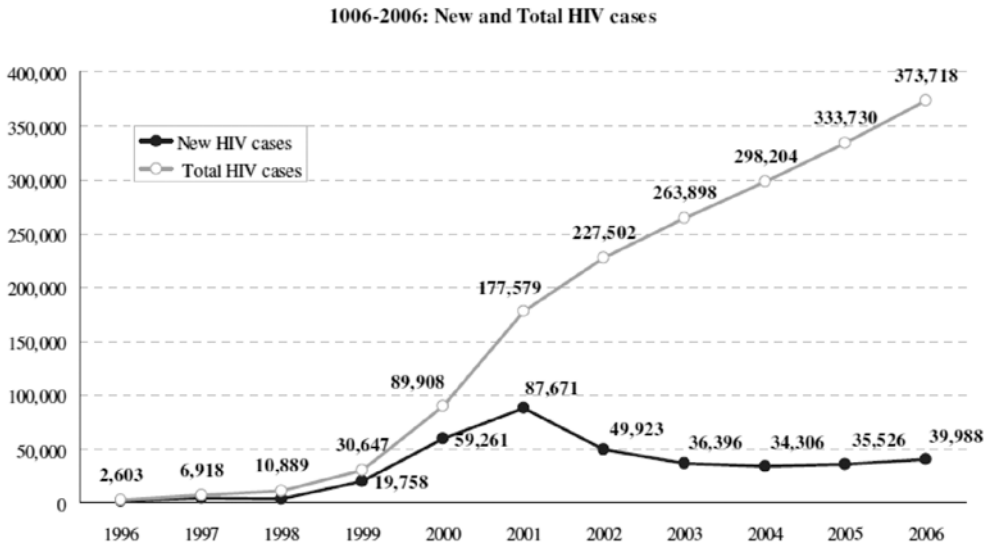
1. Expert's comments

A lethal overdose of narcotic drugs is a complicated toxicological diagnosis. The full set of tests is carried out very rarely (not done routinely, only on suspicion). Post-mortem diagnosis in drug overdose cases is usually respiratory failure or heart failure, which are pathophysiological causes of death in such cases and would not be registered as drug related deaths. For example, the national database of causes of deaths in 2003 revealed only 200 cases of drug overdose deaths nation-wide.

Sources point to Moscow, Orenburg and Volgograd reporting a perceived increase in drug related mortality; however only Orenburg provided information that the number of overdose related cases in 2005 was 31 (Ministry of Health and Social Development, 2008).

2.3.2 Drug related crime or (societal) harm

There is not much information available on drug-related harm for society. With regards to drug-related crime there are some data. Over 240,000 drug crimes (acquisition, sale, manufacture etc.) were registered in 2006 by the Russian law enforcement



agencies. This is an increase 23% compared to 2005. The number of crimes related to drug trafficking increased by 12% in 2006 (100,000 cases 2005 and 123,000 cases in 2006), but the proportion of trafficking declined (58% in 2006 against 63% in 2005) (UNODC, 2008b).

The level of drug related crime has remained stable over the years. The number of serious crimes such as drug trafficking is more or less stable. Law and amendments have no effect on the share of drug related crime (expert's comments).

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

Estimates of total annual expenditures in 2007 on drug policy measures

In general the available budget for drug policy increased as they created the Federal Drug Control Service (FNSC) in 2004. Especially the budget for drug supply reduction has increased since 2004 (expert's comments).

Expert comments

The federal target programme has little to do with drugs. It is a very vague programme. Nobody really knows how much money is spent on which targets.

Figures for budget spent on treatment and a comparison between the budgets for demand reduction and supply reduction are not available. Several institutions are active work in these issues, e.g. FDCS, Federal Security, Ministry for Internal Affairs, Ministry for Agriculture. Most of them are focussing on law enforcement (expert's comments).

3.1.2 Other general indicators

Numbers available on arrests and imprisonment for drug-law related offences

The number of arrests and imprisonments for drug-law related offences has increased, as more drugs come into the Russian Federation (expert's comments).

Numbers available on arrests and imprisonment for use/possession for personal use

In most CIS countries, police are known to make arrests for possession of even minimal amounts of narcotic substances. Narcotic laws in Armenia, Belarus, Kazakhstan and the Russian Federation aim to seek out and punish users both for purchase and possession. Out of fear for incarceration or fear of ending up in the official state roster of registered drug users, many injecting drug users do not seek treatment or use clean needles.

This has serious implications for the implementation of harm reduction services. For instance, although syringes can be legally purchased from a pharmacy in the Russian Federation, people working in the field of HIV prevention say that police often watch certain pharmacies to keep an eye out for 'regular buyers'. At the same time, law reforms in 2004 have decriminalized possession of small amounts of drugs, which, in turn, significantly reduced the number of drug users ending up in the Russian Federation's prison system (MAP, 2008).

The focus of law enforcement has shifted from use/possession to production, trafficking and (large scale) dealing, but at street level these changes do not influence or alter the actual selling of drugs. Small–scale drug trafficking and selling of drugs, the availability of drugs and the prices have not changed substantially because of the shift in focus of law enforcement (expert's comments).

In the law no distinction is made between different types of drugs. However in determining the sentences courts sometimes differentiate between types of drugs (expert's comments).

3.2 Supply reduction: Production, trafficking and retail

The main focus is on fighting drug crime, production, trafficking, criminal networks and money laundering. There has been a shift in drug policy in 2004, increasing enforcement efforts on these issues, as larger scale drug-related crimes got increasingly in the hands of organised crime (expert's comments).

Among the new measures introduced recently is an increased alertness of law enforcement at the border with Afghanistan, as most of the heroin comes from this country. Recently an agreement has been reached between governments of the Russian

Federation and Iran, Afghanistan and Central Asia to cooperate on drug related issues. In 2007 an anti-drug committee was created to coordinate the fight against drugs (expert's comment).

Changes regarding drug policy realised during the past ten years

From 1996 to 2004, possession of very small amounts of heroin – as little as 0.005 gram (about one hundredth of an average daily dose) – was a criminal offence for which a prison sentence of five to seven years could be imposed. During that period, many drug users were prosecuted for possession of small amounts of drugs that were meant for personal use. Many ended up in prison for a substantial period.

In recent years there have been some attempts to move away from pursuing drug users.

In 2004, the Russian government inserted a Note to Article 228 of the 1996 Criminal Code to the effect that possession of small amounts of drugs ("less than 10 average single doses") resulted in an administrative violation rather than a criminal offence. Following this amendment, some 32,000 people were released from prison or had their sentences reduced. However, internal opposition to the amendment led to its repeal. In December 2005, a new law was passed which removed the term "average single dose" from Article 228. The new law could result in more drug users being prosecuted and imprisoned for possessing relatively small amounts of any illegal drugs, including cannabis.

Though the use of drugs itself is only an administrative offence, as users usually have drugs with them they can be (and are) charged with possession (expert's comments).

In February 2006 the Russian government partially reversed the reforms of May 2004. Possession of more than one-half of a gram of heroin is now considered a criminal offence. According to Levinson, the number of criminal prosecutions for possession of illicit drugs has risen sharply since February 2006, with 30,000 more people facing prosecution for the crime in 2006 than in 2005 (Human Rights Watch, 2007).

October 2007, a State Drug Control Committee on Additional Measures to Counter Illicit Trade in Narcotic Drugs, Psychotropic Substances and Precursor Chemicals was established by Presidential Decree in the Russian Federation. While the Federal Drug Control Service maintains its responsibility of coordinating law enforcement activities against illicit drug trafficking, the Committee has the mandate to monitor and coordinate the decision-making process and implementation of executing agencies at all levels of the Government (INCB, 2008).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007[1]	1998[1]
School-based prevention	Common	Uncommon
Mass media campaigns	Uncommon	Not at all
Telephone helpline	Uncommon	Not at all

1. Expert's comments.

Preventive measures increased over the years, as there are now more financial possibilities for such interventions.

Telephone help lines exist. However, the coverage is mixed. It differs per region. There are no data about the number of telephone helplines, nor about the message they spread (anti-drugs, harm reduction, referral to treatment, etc)

School-based drug prevention is more common than ten years ago. There is no control regarding the quality of this programme. Mass media campaigns are uncommon. There are not well developed (expert's comments).

Treatments available

	2007[1]	1998[1]
Abstinence oriented in-patient	Predominant	Common
Abstinence oriented out-patient	Predominant	Common
Abstinence oriented mandatory	Uncommon	No data found
Abstinence oriented voluntary	Common	Uncommon
Maintenance oriented	Not at all	Not at all

1. Expert's comments.

Drug users in the Russian Federation who wish to seek medical treatment can do so through the state drug dependence treatment system, which offers them detoxification services and, in some regions, rehabilitation treatment. Today, treatment is mostly voluntary, although in certain, limited circumstances drug users can also be forcibly committed to treatment (Human Rights Watch, 2007).

Narcological clinics (detoxification) are available in all major towns in the Russian Federation, but they cost up to $500/ month which many people cannot afford. The treatment demand is bigger than the services provided, but this differs per city. Sometimes there are waiting lists, but also the costs and the fact that patients get registered as drug user is a barrier for many persons to seek treatment.

However, aftercare – e.g. managing craving and relapse prevention – is provided in only 26 out of 85 regions in the Russian Federation. In some regions there are private and / or religion-based rehabilitation centres besides these state centres. These services are generally even more expensive than the state centres (Human Rights Watch, 2007).

There is ample evidence that the state drug dependence treatment system in Russia is largely ineffective (Human Rights Watch, 2007).

Drug abuse treatment services in Russia include both in-patient and out-patient care, focussing on short-term medical care for withdrawal symptoms associated with drug- and alcohol-addicted individuals. Such care is in most cases provided in narcological dispensaries (n = 182), in-patient facilities for the management of drug detoxification and the complications of drug misuse, and narcological cabinets (n = 1,975), which provide out-patient care mostly for alcohol dependent patients (Bobrova et al., 2007).

In the Russian Federation no difference is made between drugs and alcohol treatment, or between specific treatments for different drugs. There is only a special system available for people suffering from HIV/AIDS, as they go to AIDS centres to get treatment including drug treatment (expert's comments).

In the Russian Federation, the Government is considering drafting legislation on compulsory treatment for drug addicts. The Federal Drug Control Service expects that, once adopted, the new law will lead to the establishment of special medical centres where drug addicts will undergo treatment on the basis of a court decision (INCB, 2008).

Yet (…) the vast majority of individuals addicted to drugs in Russia does not have access to evidence-based medical care to treat their dependence. Russia has made policy decisions relating to the provision of medical treatment for drug dependents that are inconsistent with and in violation of its obligation to provide, within available resources, health care that meets the criteria of available, accessible, and appropriate. While detoxification treatment is widely available throughout Russia, rehabilitation treatment remains unavailable in many parts of the country. Private drug dependence clinics, some of which offer evidence-based rehabilitation treatment, are often unaffordable for drug users. Various obstacles keep drug users away from seeking treatment at state clinics, including the risk of restrictions on civil rights by being registered as a drug user, breaches of confidentiality associated with treatment, and a widespread distrust of drug treatment services that also undermines take-up rates. The treatment offered at detoxification clinics does not follow lessons learned from decades of research on effective drug dependence treatment modalities. On the contrary, policy decisions relating to what drug treatment programs can be offered deliberately ignore the best available medical evidence and recommendations, and as such arbitrarily restrict drug users' access to appropriate health care (Human Rights Watch, 2007).

One of the most effective and best researched drug dependence treatment modalities for opiate dependence known today, maintenance treatment (methadone and buprenorphine) is banned by law in the Russian Federation (Human Rights Watch, 2007; Cook & Kanaef, 2008).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007[1]	1998[1]	1998 -> 2007 Increase (+) Decrease (-) In numbers
Syringe exchange programmes	Common	Uncommon	+ (80 programmes)
Overdose treatment (naloxone)	Uncommon	Not at all	+ (just started)
Outreach work (actively seeking contact with drug users)	Common	Uncommon	+ (80)
Safer use education (flyers, folders, training)	Common	Uncommon	+ (80)
Drop-in centres (low-threshold)	Uncommon (Kazan and St. Petersburg)	Not at all	No data found

1. Expert's comments.

In the Russian Federation, there is no explicit supportive reference to harm reduction in national policy documents (Cook & Kanaef, 2008).

In 2003 the Russian State Duma (parliament) adopted a series of amendments to the Russian criminal code that included an annotation to article 230 that specified that "promotion of the use of relevant tools and equipment necessary for the use of narcotic and psychoactive substances, aimed at prevention of HIV infection and other dangerous diseases" did not violate the article provided that it is implemented with the consent of relevant health and law enforcement authorities (Human Rights Watch, 2007).

These amendments meant that needle and syringe exchange, including distribution of drug paraphernalia such as bleach and sterile water, were from that date more or less approved of by the State. It paved the way for the establishment of more harm reduction NGO's throughout the Russian Federation.

However, for some years, the Russian police service and the Federal Drug Control Service (FDCS) continue to suggest that the provision of sterile injecting equipment to injecting drug users (IDUs) contravene laws prohibiting the 'promotion' of drug use. Despite the amendment, in the form of an explanatory *Note*, to Article 230 of the 1996 Criminal Code, which provides a legal basis for the provision of sterile injecting equipment, the fact is that organisations (mostly civil society) providing this equipment still operate in a climate of legal uncertainty. This is because the draft government order providing guidelines on how these programmes should be established and implemented has yet to be approved and published. Although some federal funding is earmarked for organisations providing free sterile injecting equipment to IDUs, the amount falls far short of that required to provide adequate service provision and coverage. The majority of the 40 NSP (Needle Exhange Programmes) operational in Russian Federation are maintained by international funding (mainly – the Global Fund) (expert's comments).

But, there is no law in which harm reduction as such is mentioned leave alone approved, but some legal protection for drug users is mentioned in the criminal code (expert's comments).

3.4.2 Crime, societal harm, environmental damage

In the Russian Federation, there is no explicit supportive reference to harm reduction in national policy documents (Cook & Kanaef, 2008).

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SOUTH AFRICA

1 General information

Location:
Southern Africa, at the southern tip of the continent of Africa

Area:
1,219,912 sq km

Land boundaries/coastline:
4,862 km / 2,798 km

Border countries:
Botswana 1,840 km, Lesotho 909 km, Mozambique 491 km, Namibia 967 km, Swaziland 430 km, Zimbabwe 225 km

Population:
48,782,756

Age structure:
0-14 years: 29.2% (male 7,147,151/female 7,120,183)
15-64 years: 65.5% (male 16,057,340/female 15,889,750)
65 years and over: 5.3% (male 1,050,287/female 1,518,044) (2008 est.)

Administrative divisions:
9 provinces; Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, North-West, Western Cape

GDP (purchasing power parity):
$467.8 billion (2007 est.)

GDP (official exchange rate):
$282.6 billion (2007 est.)

GDP- per capita (PPP):
$9,700 (2007 est.) (CIA World Factbook)

Drug research
Much of the available information on substance use come from occasional national surveys and irregularly studies conducted in specific locations (e.g. Capetown and the area of Johannesburg) and from information on police arrests and seizures (Da Rocha Silva, 1998).

- Research on drug use and related harm on national and local level and on an ongoing basis (monitoring) does not exist or has been partially developed in South Africa. This research tends to be initiated sporadically within selected communities. Some communities or populations have been severely neglected, such as rural communities and out-of-school young people (Da Rocha Silva et al., 2007; Peltzer et al., 2008);
- Researchers generally do not specialise in drug research (Da Rocha Silva et al., 2007; Peltzer et al., 2008);
- SACENDU=South African Community Epidemiological Network, an integrated drug information system. SACENDU is a network of researchers, practitioners and policy makers, meeting every six months to discuss about quantitative and qualitative data on drugs (research and other kinds) (UNODC, 2002).

Main drug-related problems
The main problem of South Africa is trafficking and consumption. There is also cannabis herb production and increasing production of synthetic drugs, both for the domestic market.

2 Drug problems

2.1 Drug supply

2.1.1 Production

Total quantities (kg)

	2007[1]	1998[2]
Opiates	No data found	No data found
Cocaine	No data found	No data found
Cannabis	3,000,000 kg	2,760,000 kg
ATS	No data found	No data found
Ecstasy	900 kg	No data found

1. CDA, without year.

2. UNODC, 2002.

There was large scale cannabis cultivation in small remote and mountainous or otherwise inaccessible spots. There is no evidence for plantation style cultivation in South Africa in 1998-2001.

Data come from aerial surveys initiated by the South African Police Service's Aerial Application Unit or subcontractors. Crop eradication efforts have been undertaken. Estimates on the amount of hectares fluctuate significantly over the years and some apparent inconsistencies in reporting have been discovered (UNODC, 2002).

Estimated production area for cannabis in 1998 is 1,300 hectares. The standard yield is reported to be 2,120 kg/ha, resulting in 2,760,000 kg cannabis in 1998. This is equivalent to around 830,000 kg marijuana. Most consumed cannabis during 1998-2001 comes from South Africa (UNODC, 2002).

Cannabis plant production is reported to be 3,000,000 kg (the measuring year is not reported but probably 2006), half of which is use in South Africa. Estimates of cannabis production areas have been controversial in recent years, with some unrealistically high figures put forward by the authorities. Current estimates put the amount of land under drug cultivation at 1,000-1,200 hectares (UNODC, 2003).

The production of ecstasy is estimated 900 kg (CDA).

Market value of these drugs/price per gram

No data found on market value of these drugs/price per gram.

2.1.2 Trafficking

Total quantities (kg) seized and number of seizures

	2006[1]	2001[1]
Opium (raw and prepared)	No data found	No data found
Heroin	No data found	No data found
Morphine	No data found	No data found
Cocaine	360	155
Cannabis herb	359,024	123,964
Cannabis resin	36	534
Cannabis plant	No data found	608,330
Amphetamine	No data found	No data found
Mandrax	56	7,297
ATS	No data found	No data found

1. UNODC, 2008.

UNODC mentions statistics from the South African Narcotics Bureau (SANAB) indicating that a total of 495,928 kg of cannabis plant was seized in 2001 which is reported to be a considerable decline of the number of seizures since 1994 (700,000 kg) (UNODC, 2003).

The 2002 UNODC Country Profiles on Drugs (mentions different statistics and partly for other years. Seizures of cannabis have been subject to major annual fluctuations during the 1990s. In 2000 718,000 kg of cannabis herb was seized, ranking second behind the weight of the Mexican seizures (2,050,000 kg). Mandrax is a popular drug (downer) in South Africa (imported from India and China) of which 5,436 kg was seized in 2001. In 2001, 284 kg cocaine was seized. The numbers are on average increasing between 1998 and 2001 (UNODC, 2002).

Seizure reports of amphetamine should be treated with caution because what is seized as amphetamine or "speed" in the South African context is often ephedrine.

South Africa plays an important role in trans-shipment of heroin, hashish, and cocaine. The geographical position, porous borders and international trade links with Asia, Latin America, Western Europe and North America have made it an attractive drug transit country (UNODC, 2002).

Market value

In 2004:
Cannabis herb
Wholesale price/kg: $22.7 (range = $15-$30.3)
In 2005:
Methamphetamine
Wholesale price/kg: $11,290 (range = $37,661-$14,516)
Purity: 2-100%
(UNODC, 2008)
Cannabis plant
Retail price: 0.65 Rand/gram[1] (€0.05)
Cannabis resin
Retail price: 32.50 Rand/gram (€2.29)
Cocaine
Retail price: 300 Rand/gram (€21.14)
Ecstasy
Retail price: 72 Rand/gram (€5.07)
(CDA, without year)

1 1 ZAR = €0.0704823. Exchange rate 18 December 2008.

2.1.3 Retail/Consumption

Estimates on total quantities of drugs retailed*

Cannabis plant	1,500,000 kg
Cannabis resin	123,000 kg
Cocaine	4,600 kg annually
Amphetamines	2,000 kg (2005)
Ecstasy	1,000 kg
(CDA, without year)	

** The measuring year in this master plan is probably 2006.*

Estimated retail value in 2006

Retail price per gram and purity in US$ and €

	2006[1]	**1997**[2]	**Purity**[3]
Heroin	$32.8 €22.65[1]	$42.3 €29.23	50-90%
Cocaine	$46.8 €32.36	$42.3 €29.23	60-90%
Crack	$9.2 €6.36	No data found	No data found
Cannabis herb	$0.2 €0.14	No data found	No data found
Cannabis resin	$14.8 €10.22	$0.9 €0.62	No data found
Mandrax	No data found	$6.8 per tablet €4.69	40-80%
Methampheta-mine	$87.7 €60.62	No data found	3-100%
Ecstasy	$7.8 €5.39	$13.5 per tablet €9.32	No data found

1. UNODC, 2008.

2. UNODC, 2002.

3. Parry & Karim, 1999.

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

General picture around 1998

Reliable national statistical data on drug use prevalence are absent in South Africa. Studies are local or regional, predominantly in densely populated regions e.g. Capetown, Gauteng (Johannesburg and Pretoria), and Durban. Statistics used for 1990-2001 were mainly based on drug-related arrests and treatment seekers (UNODC, 2002).

In 1998 cannabis was probably the most frequently used illicit drug, followed by Mandrax that is mostly used combined with cannabis ('white pipe'). Depressants (benzo's etc.) and inhalants are third and fourth. Cocaine (crack) is the fifth most popular drug. ATS is sixth and heroin and other opiates seventh.

This sequence in popularity has not changed substantially (Department of Social Development, 2007).

2 $1 = €0.690578. Exchange rate 17 December 2008.

General picture around 2006/2007

Sophisticated, methodologically comparable national surveys, and especially general population surveys, on drug use are rare in South Africa, particularly with regard to young people (Da Rocha Silva & Malaka, 2007).

Accurate, up-to-date statistical data on drug use in South Africa are difficult to obtain. Instead deductions are made from recent research, departmental reports and information from international sources (Department of Social Development, 2007).

During the years before 2005 there has been an increase in drug use among younger people (under 20 years) in the Western Cape, namely from 5% in 1996 to 25% in the first half of 2004 (Parry, 2006).

"A new trend is the movement of drug consumption from traditional white urban areas to black communities, schools and universities" (Department of Social Development, 2007).

Life-time prevalence in the general population in percentages

There are no official prevalence figures. Results of repeated local surveys suggest that cannabis is most prevalent and Mandrax (primarily imported from India and China) is second most commonly used. Mandrax is frequently smoked with cannabis ('white pipe'). Although heroin, cocaine and ecstasy are less commonly used, since mid-1990s sentinel surveillances point at significantly increased use of these drugs. In urban areas cocaine is particularly associated with crack from 1998 on. Glue and solvent sniffing is a common problem among street children and youth (UNODC, 2002).

Last-year prevalence in the general population in percentages

	2005[1]	1998
Opiates	0.4	No data found
Cocaine	0.8	No data found
Cannabis	8.9	No data found
Amphetamines	0.5	No data found
Ecstasy	0.4 (2004)	No data found

1. UNODC, 2008.

Last-month prevalence in the general population in percentages

The only school-based Youth Risk and Behaviour Survey (YRBS) conducted in 2002 in South Africa found that current (past month) use of cannabis was 9% among students. In a national household survey in 2005 cannabis prevalence was 2% in the past 3 months among 15-19 year-olds and 1.7% in persons 15 years and above (Peltzer et al., 2008).

Higher current cannabis use rates were found in urban (2.3%) than in rural (1%) areas in 2005. These rates were not found to be related to education level (Peltzer et al., 2008).

Past three months use appears to be well under 1% for most other illicit drugs in general population samples studied in 1994 (Human Science and Research Council (HSRC) African Blacks, 10-21 yrs.), 2002 (YRBS, 13-19 yrs.), and 2005 (SABSSM II, 15-19 vs. > 20). These drugs were inhalants, mandrax, cocaine, opiates, club drugs, hallucinogens, and over-the-counter prescription drugs. Thus, the past month prevalence is smaller (Peltzer et al., 2008).

Current drug use is lower compared with the USA and Australia, though it is difficult to compare different surveys and different populations (Peltzer et al., 2008).

No data found on life-time, last-year or last month prevalence among young people 15-24.

Sophisticated, methodologically comparable national surveys, and especially general population surveys, on drug use are rare in South Africa, particularly with regard to young people (Da Rocha Silva & Malaka, 2007).

2.2.2 Problematic drug users/chronic and frequent drug users

No data found on the number of problematic/chronic-frequent users of opiates, cocaine, cannabis and ATS in the general population in 2007 and before (1998).

The number of injecting drug users in the general population

"Injecting drug use: IDU is not common, but information on drug abuse is not complete and the real situation may be more problematic than it currently appears." (UNODC, 2002).

An extrapolation of figures from Shisana et al. (2005) result in 16,145 injecting drug users of 15 years and older, having injected recently (last three months) or longer ago (not specified) (expert's comments).

No data found on the number of injecting drug users among younger people (< 20 years).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

There is no good information on HIV prevalence among injecting drug users (Parry et al., 1999).

Few studies are done and these are mainly focussing on HIV prevalence rates among samples of arrestees in Capetown, Durban and Johannesburg or on the association between drug use and HIV prevalence. Only 1.3% reported injecting drug use and 0.8% needle sharing. Still, IDUs had higher rates of HIV infection than non-IDUs (Parry & Pithey, 2006).

No data found on the number of newly HIV infected injecting drug users in 2007 and the ten years before and on the number of drug related deaths by overdose in 2007 and the ten years before.

2.3.2 Drug related crime or (societal) harm

Criminality has increased and partly changed in origin during the past ten years. Criminal syndicates from Nigeria and other Central African countries have intruded the drug market now. And South Africa has become a transhipment point for illegal drugs coming from South America and largely going to Europe (Shaw, 2002).

It is also hypothesised that the large influx of people from other African countries (Zimbabwe and other areas) to what is perceived as a more wealthy and stable country (South Africa) has resulted in a dramatic increase of both legal and illegal immigrants, in greater unemployment, thus also in a need to escape to illegal income-creating activities. Drugs provide an easy way of achieving this. Coupled to a suspected involvement of some members of the security personnel (police and customs) in the drug trade, this has led to the exploitation of both the needy and the infrastructure in the drug trade (expert's comments).

3 Drug policy

3.1 General information

"The basis for the national drug control framework is the National Drug Master Plan (Master Plan), adopted by parliament in February 1999." Before that plan the response of government was "disjointed, fragmented and uncoordinated" (UNODC, 2002). The National Master Plan, created a quasi-governmental Central Drug Authority (CDA) to monitor its implementation. Its role has been limited substantially due to insufficient financial resources (UNODC, 2002).

Ten years ago the priorities of the master plan were: crime, youth, community health welfare, research and information dissemination, and international involvement (Drug Advisory Board, 1999). In 2007 other priorities (vulnerable groups) were added to these: e.g. children, people with disabilities, elderly, HIV/AIDS infected people), communication (cross-cutting area), capacity building, and occupational groups at risk. In both the annual reports of 2006/7 and 2007/8 (p. 32), the Central Drug Authority advocated and recommended the adoption of an integrated strategy to combat the drug problem, with the elements being supply, demand and harm reduction (CDA, 2008). There are also critical remarks made on the fact that harm reduction still does not have high priority in South Africa (Leggett, 2008).

3.1.1 Policy expenditures

Ten years ago it was considered impossible to determine accurately the amount of Government spending on drug supply and demand reduction activities. However, the money spent on demand reduction is generally considered low, when compared to supply reduction (UNODC, 2002). Detailed data were and are not available. Government subsidies are paid to registered treatment centres and other organisations. The amounts of money are based on requirements defined in agreed business plans produced by these centres and organisations (expert's comments). Funding for treatment (demand reduction) was very limited (1998-2001), thus the main activities were done by NGOs. Still there was a relatively wide network of public and private substance abuse treatment facilities including some 300 organisations for support and after care, largely in urban areas (the former townships are not covered): 67 community treatment facilities, 147 provincial and private hospitals and psychiatric hospitals, 12 detoxification facilities and 25 specialist in-patient units/half-way houses (UNODC, 2002).

3.1.2 Other general indicators

Numbers available on arrests and imprisonment for drug-law related offences

Based on data from local studies (in Capetown, Durban and Gauteng) it has been concluded that compared with cocaine, since 1999 a larger percentage of all drug-related arrests have been related to ecstasy. The absolute number of heroin-related arrests is however still relatively low.

The national number of cannabis-related arrest (for both possession and sales) in 1998 was estimated to be around 6,000, for mandrax this number was some 1,100 and for heroin it was 60. These numbers were on average increasing until 2001 (UNODC, 2002).

"Drug-related arrests had declined from a peak of over 47,000 in 1994 to 40,000 in 1998. In 2001, 49,323 such cases were made." (UNODC, 2003). No data were found for more recent years.

No data found on numbers on arrests and imprisonment for use/possession for personal use.

3.2 Supply reduction: Production, trafficking and retail

Priorities of supply reduction covered by policy papers and/or law

In 1998-2001, law enforcement activities were mainly focussed on reducing drug production and drug trafficking (UNODC, 2002). In a more recent publication it was concluded that South African drug enforcement was primarily directed against large scale distributors and trafficking syndicates. Local police seldom focus upon retail level distributors (Peltzer et al., 2008).

The most important statement in the National Master Plan, approved in 1999, is to ensure that the law is effectively enforced, especially against those involved in the supply and trafficking of illegal drugs. Drug policy statements (objectives) on this subject have not been substantially changed during the past ten years (Drug Advisory Board, 1999; Central Drug Authority, 2007).

There have been changes from a purely supply reduction approach towards a combination of supply and demand reduction in the period ending in 2006. There is also a shift towards including a culturally-acceptable form of harm reduction since 2006, i.e. an integrated approach (expert's comments). Harm reduction (i.e. needle exchange programmes) is still culturally unacceptable, but "some" maintenance treatments exist.

The Medicines and Related Substances Control Act (101/1965): provides a definitional and conceptual basis for drug control policy. The South African Drugs and Drug Trafficking Act (140/1992) forbids the trafficking of drugs or precursors. Drug dealing is punishable up to 25 years imprisonment. Drug possession up to 15 years (UNODC, 2002). Pending change in legislation governing the Central Drug Authority (presently the Substance Abuse Act: Act 20 of 1992) and prevention and treatment of substance abuse, to enable the Central Drug Authority (CDA) to execute its mandate more effectively and to enable the national Department of Social Development to set and enforce norms and standards for the committal, treatment and aftercare of 'service users' (usually 'addicts' or 'substance dependents') both voluntary and involuntary (UNODC, 2002). Legal changes were designed to provide the Central Drug Authority with an implementing structure nation-wide to work on department and province-specific (mini) drug master plans. This concerns both supply and demand reduction (expert's comments).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007[1]	1998[3]
School-based prevention	Predominant	Predominant
Mass media campaigns	Common[2]	uncommon Target group: Youngsters and adults
Telephone helpline	No data found	No data found

1. Expert's comments.

2. Ongoing national preventive campaign, targeting young people (Ke Mojo) and Soul City (based in Johannesburg) that also reaches historically neglected sectors e.g. rural areas.

3. Parry, 1998.

In 1998-2001 no national programme for primary drug prevention was available in South Africa (UNODC, 2002).

Nowadays, maintenance treatment units for opiate users are absent, treatment is abstinence oriented. Both in-patient and out-patient treatment are available (expert's comments). Substitution therapy is available "(…) for detoxification. Methadone is available as high alcohol-content syrup (Physeptone) while buprenorphine is available at a few private facilities." (Weich et al., 2008; also cited by: Carney & Parry, 2008).

Still there is a relatively wide network of public and private substance abuse treatment facilities including some 300 organisations for support and after care, largely in urban areas (the former townships are uncovered!): 67 community treatment facilities, 147 provincial and private hospitals and psychiatric hospitals, 12 detoxification facilities and 25 specialist in-patient units/half-way houses (UNODC, 2002). Some authors estimates the number of treatment sites at 72-120 (Carney & Parry, 2008).

"South Africa has few state-funded facilities dedicated to substance-abuse treatment, thus drug-treatment services are provided primarily by private facilities (Myers, 2004, 2005). In recent years state funding to state-subsidized specialist treatment facilities has been decreased significantly." (Dewing et al., 2006). There are currently five state-funded specialist treatment centres. The capacity is insufficient for the treatment demand in the country. Additionally, there is a proliferation of private treatment centres over the past decade. Few addicted people can afford this (expert's comments).

Priorities of demand reduction covered by policy papers and/or law

The following priorities were formulated in 1999:

- Motivate youth to refrain from drug abuse;
- Ensure that schools offer effective programmes on drug education, giving pupils the facts, warning them against the risks, and helping them to develop the skills and attitudes to resist drug misuse;

- Develop effective national and local public education strategies focusing particularly on young people;
- Ensure that individual drug abusers have access to a range of advice, counselling, treatment, rehabilitation and after-care services (Drug Advisory Board, 1999).

Some issues were at a later date added e.g. training young people as peer educators (Central Drug Authority, 2007).

Published national drug policy papers from 1999 and 2007 have not significantly been changed in the past ten years. The master plans (Drug Advisory Board, 1999; CDA, without year) are mainly descriptions of what should be done, not what has been done (CDA, without year). The implementation of the National Drug Master Plan is guided by Act 20 of 1992. It is presently under review and is scheduled to be enacted in 2009 (expert's comments).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction in the South African context has been associated primarily with 'needle exchange programmes', a concept that is culturally unacceptable (expert's comments). There is no legal restriction to setting up syringe exchange programmes (Leggett, 2008).

South Africa currently has targeted programmes for IDUs, as information and awareness programmes run by government and civil society that address the link between drug use and HIV (Carney & Parry, 2008). In an effort to enable a shift to be made from the present limited perception of harm reduction to a more culturally acceptable one, the Central Drug Authority has tentatively defined harm reduction in the South African context as including: detoxification and rehabilitation; aftercare and re-integration; medical treatment of problems related to drug use and abuse; education and communication related to long-term recovery; substitution therapy and controlled drug use; control of legal distribution and access to illicit drugs; programmes for limiting the spread of HIV/AIDS and TB etc through intravenous drug use (Central Drug Authority, 2007).

3.4.2 Crime, societal harm, environmental damage

No information found on interventions/measures to reduce harm for society.

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SWEDEN

1 General information

Location:
Northern Europe, bordering the Baltic Sea, Gulf of Bothnia, Kattegat, and Skagerrak, between Finland and Norway

Area:
449,964 sq km

Land boundaries/coastline:
2,233 km / 3,218 km

Border countries:
Finland 614 km, Norway 1,619 km

Population:
9,045,389 (July 2008 est.)

Age structure:
0-14 years: 16% (male 745,110/female 703,857)
15-64 years: 65.6% (male 3,008,148/female 2,928,930)
65 years and over: 18.3% (male 729,500/female 929,844) (2008 est.)

Administrative divisions:
21 counties

GDP (purchasing power parity):
$338.5 billion (2007 est.)

GDP (official exchange rate):
$455.3 billion (2007 est.)

GDP- per capita (PPP):
$37,500 (2007 est.) (CIA World Factbook)

Drug research
The main organisations involved in conducting drug-related research are university departments, although non-governmental and governmental organisations are also relevant partners. Several channels for disseminating drug-related research findings are available in Sweden, ranging from scientific journals, to dedicated websites, reports, manuals and conferences. (Country overview)

Main drug-related problems
The main drug problem in Sweden is consumption followed by trafficking. Production plays no significant role.

2 Drug problems

2.1 Drug supply

2.1.1 Production

Production sites for drugs are rare in Sweden. On average less than one simple site for manufacturing of drugs (kitchen lab) is found annually over the last ten years. However, in 2008 about 20 full scale cultivations of marijuana have been disclosed in the southern part of Sweden as reported in the 2008 national report (National Report, 2008). This is a totally new development.

2.1.2 Trafficking

Total quantities (kg) seized

	2005	1998
Heroin	19 kg[1] Number of seizures: 804[2]	71 kg (1997: 12, 1999: 64)[1] Number of seizures: 1,285[2]
Cocaine	34 kg[3] Number of seizures: 546[4]	19 kg[3] Number of seizures: 172[4]
Cannabis resin	1,266 kg[5] Number of seizures: 6,829[6]	391 kg[5] Number of seizures: 4,033[6]
Herbal cannabis	186 kg[7] Number of seizures: 1,516[8]	98 kg[7] (1997: 31, 1999: 34) Number of seizures: 938[8]
Cannabis plants	No data found (41 kg in 1999; 3 kg in 2000; 2.7 kg in 2001.)[9] Number of seizures: no data found (2001:51)[10]	7 kg[9] Number of seizures: 90[10]
Amphetamine	417 kg[11] Number of seizures: 6,499[12]	135 kg[11] Number of seizures: 4,859[12]
Ecstasy	Number of tablets 124,551[13] Number of seizures: 381[14]	Number of tablets 21,273[13] Number of seizures: 104[14]
Methamphetamine	40 kg[15] Number of seizures: 386[16]	8 kg[15] Number of seizures: 288[16]

1. Quantities (kg) of heroin seized, 1995 to 2005 - EMCDDA Table SZR-8-SEIZURE-HEROIN-QUANTITY.htm

2. Number of heroin seizures, 1995 to 2005 - EMCDDA Table SZR-7-SEIZURE-HEROIN-NUMBER.htm

3. Quantities (kg) of cocaine seized, 1995 to 2005 - EMCDDA Table SZR-10-SEIZURE-COCAINE-QUANTITY.htm

4. Number of cocaine seizures, 1995 to 2005 - EMCDDA Table SZR-9-SEIZURE-COCAINE-NUMBER.htm

5. Quantities (kg) of cannabis resin seized, 1995 to 2005 - EMCDDA Table SZR-2-CANNABIS-QUANTITY.htm

6. Number of Cannabis resin seizures, 1995 to 2005 - EMCDDA Table SZR-1-SEIZURE-CANNABIS-NUMBER.htm

7. Quantities (kg) of herbal cannabis seized, 1995 to 2005 - EMCDDA Table SZR-4-SEIZURE-HERBAL-CANNABIS-QUANTITY.htm

8. Number of herbal cannabis seizures, 1995 to 2005 - EMCDDA Table SZR-3-SEIZURE-HERBAL-CANNABIS-NUMBER.htm

9. Quantities (number of plants) of cannabis plants seized, 1995 to 2005 - EMCDDA Table SZR-6-SEIZURE-CANNABIS-PLANTS-QUANTITY.htm

10. Number of seizures of cannabis plants, 1995 to 2005 - EMCDDA Table SZR-5-SEIZURE-CANNABIS-PLANTS-NUMBER.htm

11. Quantities (kg) of amphetamine seized, 1995 to 2005 - EMCDDA Table SZR-12-SEIZURE-AMPHETAMINES-QUANTITY.htm

12. Number of amphetamine seizures, 1995 to 2005 - EMCDDA Table SZR-11-SEIZURE-AMPHETAMINE-NUMBER.htm

13. Quantities (tablets) of ecstasy seized, 1995 to 2005 - EMCDDA Table SZR-14-SEIZURE-XTC-QUANTITY.htm

14. Number of ecstasy seizures, 1995 to 2005 - EMCDDA Table SZR-13-SEIZURE-XTC-NUMBER.htm

15. Quantities (kg) of Methamphetamine seized, 2001 to 2005 - EMCDDA Table SZR-18-SEIZURE-METHAMPH-QUANTITY.htm

16. Number of Methamphetamine seizures, 2001 to 2005 - EMCDDA Table SZR-17-SEIZURE-METHAMPH-NUMBER.htm

According to police reports, the illegal drug most frequently seized in Sweden is cannabis, accounting for 50.6% of all drug seizures in 2006 (Country overview).

In 2006, the total number of drugs seizures was 18,497. With regards to quantities in 2006, the Swedish customs seized the largest amounts ever with a total of 1,358 kg of cocaine and 103 kg of heroin. Another significant quantitative seizure in 2006 was ecstasy, with a total quantity of 291,385 tablets. The quantity of seized amphetamine in 2006 was 422 kg, an amount lower than for 2005 but higher than 2004. The seized quantities of cannabis in 2006 are the lowest quantity seized so far this century. In 2006, the seized quantity of 6.5 tonnes of khat is less than the peak year of 2004, when h 9.3 tonnes were seized by customs and police, and khat seizures are now on par with the level of 2003 (Country overview).

Number of analyzed seizures according to Police and Custom forensic laboratories 2001-2006

Year	Cannabis	Heroin	Amphetamine	Ecstasy	Cocaine
2001	7,156	1,271	5,513	621	328
2002	8,184	1,052	6,660	631	440
2003	8,243	1,057	6,657	489	545
2004	8,102	900	6,773	411	524
2005	8,345	804	6,499	381	546
2006	9,365	800	6,842	309	772

(National Report, 2007)

Retail price/gr (median) 1996-2006 in SEK[1] (€)

Year	Hashish	Marijuana	Amphetamine	Brown heroin	Cocaine	White heroin	Ecstasy
1996	94 (€8.12)	89 (€7.69)	305 (€26.35)	1,498 (€129.41)	1,109 (€95.81)	1,941 (€167.68)	
1997	88 (€7.6)	102 (€8.81)	331 (€28.59)	1,380 (€119.22)	1,214 (€104.88)	1,766 (€152.56)	
1998	99 (€8.55)	111 (€9.59)	332 (€28.68)	1,519 (€131.23)	1,050 (€90.71)	2,072 (€179)	
1999	99 (€8.55)	94 (€8.12)	286 (€24.71)	2,008 (€173.47)	1,210 (€104.53)	1,926 (€166.39)	
2000	87 (€7.52)	74 (€6.39)	272 (€23.5)	1,089 (€94.08)	980 (€84.66)	2,451 (€211.74)	163 (€14.08)
2001	85 (€7.34)	74 (€6.39)	266 (€22.98)	1,063 (€91.83)	1,063 (€91.83)	2,127 (€183.75)	159 (€13.74)
2002	83 (€7.17)	73 (€6.31)	260 (€22.46)	1,041 (€89.93)	833 (€71.96)	1,666 (€143.92)	156 (€13.48)
2003	82 (€7.08)	71 (€6.13)	255 (€22.03)	1,123 (€97.02)	817 (€70.58)	2,042 (€176.41)	128 (€11.06)
2004	81 (€7)	73 (€6.31)	254 (€21.94)	1,017 (€87.86)	814 (€70.32)	2,034 (€175.72)	124 (€10.71)
2005	81 (€7)	81 (€7)	253 (€21.86)	1,215 (€104.96)	810 (€69.98)	1,367 (€118.09)	101 (€8.73)
2006	80 (€6.91)	80 (€6.91)	250 (€21.6)	1,000 (€86.39)	800 (€69.11)	1,500 (€129.58)	100 (€8.64)

(National Report, 2007)

Additional information

Cannabis seized in Sweden originates from Morocco and it is smuggled through Spain and more recently, through Portugal. Cannabis is also trafficked by tourists travelling between Sweden and Denmark, as the prices for cannabis are lower in Denmark. Amphetamine mostly originates from the Netherlands, Belgium, Estonia, Poland and Lithuania, with brown heroin originating from Afghanistan (Country overview).

1 1 SEK = €0.09. Exchange rate 15 February 2009.

Estimated retail value
in 2005:

Cannabis[1]	
Cannabis resin	€9/gr (min: €6/gr - max: €11/gr)
Herbal cannabis	€8/gr (min: €4/gr - max: €11/gr)
Heroin[2]	
Brown heroin	€143/gr (min: €54/gr - max: €269/gr)
White heroin	€169/gr (min: €65/gr - max: €323/gr)
Cocaine[3]	
	€89/gr (min: €43/gr - max: €108/gr)
Synthetic drugs[4]	
Amphetamine	€26/gr (min: €16/gr - max: €43/gr)
Ecstasy	€12/gr (min: €6/gr - max: €16/gr)

1. Price of cannabis at retail level, 2005, EMCDDA Table PPP-1 Part (i)-PRICE-CANNABIS.htm
2. Price of heroin at retail level, 2005, EMCDDA Table PPP-2 Part (i)-PRICE-HEROIN.htm
3. Price of cocaine products at retail level, 2005, EMCDDA Table PPP-3 Part (i)-PRICE-COCAINE.htm
4. Price of synthetic drugs at retail level, 2005, EMCDDA Table PPP-4 Part (i)-PRICE-SYNTHETIC.htm

Data regarding prices of drugs at street level are reported by the Swedish Council for Information on Alcohol and Other Drugs (CAN). In 2006 CAN reported that there was a decrease in the average price of hashish and amphetamines in the last decade. In 1996, the average price for hashish was €10/gram whereas in 2006, the average price was €9/gram. On the other hand, in 1996, the average price for amphetamines was €33/gram whereas, in 2006 the average price was €22/gram (Country overview).

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

In 2005, a public health survey was conducted among 16–84-year olds. Results for 16–64-year olds show a lifetime prevalence for cannabis rate of 12% (14.7% for men, 9% for women) slightly lower than reported in 2004. School surveys on drug use have been carried out in Sweden annually since 1971 by the Swedish Council for Information on Alcohol and other Drugs (CAN). Reported lifetime prevalence for illegal drugs among students between the ages of 15–16 was highest in the 1970s (15%) and subsequently dropped to 4% in 1985 and 5% in 1986, reaching its lowest level in 1989 (4%). Since then the rate rose again to 9% in 2001, before dropping to 6% in 2006. In the most recent survey (2006), last month prevalence was 3% for boys and girls, which was slightly higher than reported in 2003 (2% for both genders). As in most European countries, cannabis was the illegal drug students had most frequently experimented with in their lifetime, with results indicating 5% for students aged 15–16 years. Lifetime prevalence in 2006 of solvents and inhalants was 6%, and 1% for ecstasy and amphetamines (Country overview).

Life-time prevalence (LTP) and last-year prevalence (LYP) (in percentages) in 2006

LTP General population	12.0%[1]
LYP General population	2%[2]
LTP (15-24 years)	15.4%[3]

1. Lifetime prevalence of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population, EMCDDA Table GPS-8-LIFETIME-15-64.htm
2. Last year prevalence (percentage) of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population: last survey available for each Member State, EMCDDA Table GPS-10-LAST-YEAR-15-64.htm
3. Lifetime prevalence of drug use among the age group of 15 to 24 years old in nationwide surveys among the general population. Last survey available for each Member State, EMCDDA Table GPS-17-LIFETIME-15-24.htm

There are no detailed data for recent data on LTP and LYP of cannabis use in the general population and among young people (15-14 years).

Life-time prevalence among young people (15-16 years) in percentages

	2003[1]	1998[3]
Heroin	0	1
Cocaine	0	1
Cannabis	Cannabis 7 (LTP), 5 (LYP), 1 (LMP) [2]	7
ATS	Amphetamines 1 and Ecstasy 1	Amphetamines 1 and Ecstasy 1

1. *Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old, EMCDDA Table EYE-01-LIFETIME PREVALENCE-15-16.htm*
2. *ESPAD 2003 school surveys: lifetime (LTP), last year (LYP) and last month (LMP) prevalence of cannabis use among students 15–16 years - EMCDDA Table EYE-05 Part (i)-CANNABIS-15-16.htm*
3. *School surveys: lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old, EMCDDA Table EYE-03-LIFETIME PREVALENCE-15-16.htm*

2.2.2 Problematic drug users/chronic and frequent drug users

The most recent estimate (2003) on the number of problem drug users from a governmental report presented in October 2005 was close to 26,000 (2.9 drug users per 10,000 inhabitants). According to the report, the number of PDUs has been more-or-less constant over the years since 1998, with a peak in 2001 of close to 28,000 problem drug users. Problem drug use in Sweden is dominated by heroin and amphetamines. In a national survey in 1998, it was found that 73% of PDUs have used amphetamines during the last 12 months, and that 32% reported amphetamines as their primary drug. In the previous survey in 1992 these figures were 82% and 48% respectively (Country overview).

The number of problematic/chronic-frequent users (in the general population)

2003[1]	1998[2]
Rate/1,000 ages 15-64: 4.5 Number: 25,745	Rate/1,000 ages 15-64: 4.16 Number: 25,400

1. *Prevalence of problem drug use at national level: summary table, 2001-2005, rate per 1,000 aged 15-64 - Overall problem drug use, EMCDDA Table PDU-1 Part (i)-NATIONAL-OVERALL-15-64.htm*
2. *Prevalence of problem drug use at national level: full listing of studies, rate per 1,000 aged 15-64 - Overall problem drug use, EMCDDA Table PDU-102 Part (i)-NATIONAL-OVERALL-15-64.htm*

No data found on the number of injecting drug users (in the general population) and among younger people (<20 years).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2006[1]	1998
6.4%	2.6%

1. *Prevalence of HIV infection (percentage) among injecting drug users - Data, 1991 to 2006*
   Prevalence of HIV infection among injecting drug users in the EU - EMCDDA Table INF-1-HIV-AMONG-IDU.htm

The number of newly HIV infected injecting drug users

2006	1998
3.9 (a) 25 (b)	1.8 (a) 17 (b)

1. *HIV infections newly diagnosed in injecting drug users, by year of report from 1992 to 2005, (a) cases per million population and (b) number of cases – EMCDDA Table-INF-104-part0(1).xls*

In 2006, the number of notified cases with acute hepatitis B infections through intravenous drug use was 63, or 47% of all notified cases with a known transmission route (n=162). Over time, a shift in age dispersion can be noticed, with more cases in the younger age groups. Approximately 22% of notified cases during 2006 were found in the age group 15–24 (Country overview).

35 IDUs were reported to have contracted HIV during 2006. During the second half of 2006, an increase in reported HIV cases among IDUs was observed (Country overview).

The number of drug related deaths by overdose

2003	1998
152	138

1. Number of acute drug-related deaths recorded in EU Member States (25 members and candidates) according to national definitions, EMCDDA Table DRD-1 Part (i)-DRUG-RELATED-DEATH.htm

Number of deaths with illegal drugs present in body fluids based on forensic data, in total and for respective substance category

Substances	2006	1998
Verified Heroin	34	55
Heroin/ morphine	64	74
Amphetamine	113	74
Other illegal drugs	13	3
Cannabis only	48	38
Total	272	244

(National Report, 2007)

Additional information

According to the EMCDDA standard definition (which includes acute deaths directly related to drug consumption or overdoses), there were 135 drug-related deaths in 2004 (152 in 2003). Since 1990, the data show an increase in drug-related deaths, which peaked in 2000 and appears to have been declining since then. It must be noted, however, that changes in the registrations system should be taken into consideration when interpreting the data. The change in the ICD system was introduced in 1997: There have been no relevant changes in the registration system since 1997, and this also needs to be taken into account when looking at the trend line for drug-related deaths (Country overview).

Apart from the Cause of Death Register, a special local register on drug-related mortality operated between 1985 and 1996. It consisted of information from all deaths investigated by the Department of Forensic Medicine in the Stockholm reception area (covering counties of Stockholm, Södermanland and Götland). The data between 1985 and 1996 also suggest an increase in the number of drug related deaths. Furthermore, the 1994 – 2006 data from the forensic toxicity register also suggest an increase in the number of drug related deaths in the last ten years (Country overview).

2.3.2 Drug related crime or (societal) harm

No information found on harm for society.

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

The first trial to estimate expenditures for drug use was performed by The Swedish National Audit Bureau, 1993. The expenditures include health care, treatment, probation care, social service, the penal system, the judiciary system and social welfare system. The conclusion of this early study was built upon an estimated number of abusers of 17,000. The public costs was estimated to €330 million 1991 (expert's comments).

Fölster & Säfsbäck made an estimation of the costs excluding the health care sector but including police and custom control. Their estimations built upon the same number of abusers as the 1993 study and they ended up with a sum of €660 million the year 1996 (expert's comments).

In a Governmental investigation (Narkotikakommissionen 2000) another estimate of the public costs was made. In this investigation the number of abusers was assumed to be approximately the same number as before, i.e. 17,000. The estimate of public costs landed on €847 million the year 1999 (expert's comments).

In the only study published in a scientific journal Ramstedt calculated the public expenditures for the drug policy 2002 to between €495-1385 million (Ramstedt, 2006). In that sum costs for the primary health care sector are approximations. Ramstedt calculated the total costs for each institution dealing with abusers and then summed those. Earlier studies calculated the costs assigned to each abuser and multiplied with the number of abusers (expert's comments).

By updating the costs calculated by Ramstedt using the consumer price index an approximation is that the cost of the Swedish drug policy 2007 is €528 -1 474 million (expert's comments).

In a study performed by Statistics Sweden an estimate of the i*llegal activities in the Swedish national accounts were calculated.* The number of addicted persons was estimated to 28,000 year 2001. The number of addicted persons 2007 is approximately 26,000. An extrapolation by using linear regression of the costs of purchasing drugs, grounded on the relation to gross national product of earlier years, can be calculated to be €176 million. This sum only includes costs for trading and the contribution of trading with illegal drugs to the gross domestic product. Public expenditures are not included in this sum (National Report, 2008).

Developing demand reduction is financed with central-government funds is being carried out in Sweden's municipalities. About €21 million of central-government development funds has been allocated among municipalities by county administrative boards in 2006. Of these funds, around:

- SEK 23 million (€2,275,990) (SEK 22 million (€2,177,810) in 2005) has been allocated to out-patient projects targeting young people or adults with addiction problems;
- SEK 93 million (€9,205,260) (SEK 74 million (€7,326,900) in 2005) has been allocated to alcohol and drug prevention, of which:
  - SEK 55 million (€5,446,440) to preventive work (SEK 53 million (€5,249,470) in 2005);
  - SEK 34.5 million (€3,415,570) to early interventions for children in families where substance abuse and violence between adults occur (SEK 18 million (€1,781,190) in 2005);
  - SEK 3.5 million (€346,233) to interventions for women with addiction problems who are victims of violence (SEK 3 million (€296,898) in 2005);
- SEK 93 million (€9,205,260) (SEK 40 million (€3,956,910) in 2005) has been allocated to supporting the development of services for heavy addicts (National report, 2007).

Establishing a national action plan on drugs with a corresponding funding has implied that responses to the actual situation have been possible to launch. It has also been a period of formulating agendas and to lay down broad outlines for responses to various aspects of the drug problem. The cost for the municipalities for persons with alcohol and/or substance abuse has

increased by 7.7% between 2000 and 2005 and housing per se with close to 65% over the same period according to the annual situation report from the NBHW on individual- and family care50 (National Report, 2007).

The national action plan on drugs (2002–2005, 2006–2010) has led to an increased support for drug related research. In the period 2002–2006 the government has supported just over 100 different research projects in the drugs at a cost of €9.6 million (National Report, 2007).

Expenditures increased during the past ten years

The expenditures have increased for all areas as a consequence of the national action plans on drugs. As presented above, the efforts to monitor drug related expenditures are not consistent and the methods differ. It is thus not feasible to specify the development for the three areas (expert's comments).

3.1.2 Other general indicators

Sweden has two separate plans in relation to drugs, one for alcohol and the other for drugs, which were adopted together: the 'National alcohol and drug action plans 2006–10'. The drug action plan is comprehensive, focuses on illegal drugs and covers prevention, treatment and rehabilitation, and supply reduction. Its purpose is to establish a direction for drug preventive work and to guide and improve social efforts to tackle drugs. Implementation is the responsibility of local, regional and national actors. The overall goals of the drug policy are: reducing the recruitment of new drug abusers; inducing more drug abusers to kick the habit; and reducing the supply of drugs. This drug policy is combined with other social policies policy preventing unemployment, social exclusion, and so on (Country overview).

Numbers on arrests and imprisonment for drug-law related offences

Offences types involved in reports for drug law offences[1]

Use/possession for use	86%
Dealing/trafficking	13.9%
Use and trafficking	No data found

1. Offences types involved in reports for drug law offences: percentages of all reports for drug law offences, EMCDDA Table DLO-2-DRUG-LAW-OFFENCES.

Number of reports of drug law offences[1]

2005	1998
18,844	11,490

1. Number of reports of drug law offences 1995 to 2005, EMCDDA Table DLO-1-OFFENCES-NUMBERS.htm

Numbers on arrests and imprisonment for use/possession for personal use

Number of drug law offences related to drug use or possession for use[1]

2005	1999
16,228	8,324

1. Number of drug law offences related to drug use or possession for use 1999-2005, EMCDDA Table DLO-4-OFFENCES-USE+POSSESSION.htm

Percentage of total drug law offences that are related to drug use or possession for use[1]

2005	1998
86.1	79.1

1. Percentage of total drug law offences that are related to drug use or possession for use 1996-2005, EMCDDA Table DLO-5-PERCENTAGE-DRUG-USE+POSSESSION.htm

Cannabis-related offences: as percentage of all drug law offences[1]

2004	1998
35	35.2

1. Cannabis-related offences: as percentage of all drug law offences, 1996-2005, EMCDDA Table DLO-6-CANNABIS-OFFENCES.htm

Heroin-related offences as percentage of all drug law offences[1]

2004	1998
5.2	8.3

1. Heroin-related offences as percentage of all drug law offences, 1996-2005, EMCDDA Table DLO-7-HEROIN-OFFENCES.htm

Persons found guilty of drug offences by type of offence

Table 8.1. Persons found guilty of drug offences by type of offence, 1997 - 2006

Type of offence	Year									
	1997	1998	1999	2000 [1]	2001	2002 [2]	2003	2004	2005	2006
Court sentence and fine issued by the prosecutor	**9 448**	**10 144**	**10 771**	**11 326**	**12 320**	**13 891**	**14 491**	**14 774**	**15 877**	**17 619**
Drug use	3 290	3 707	4 077	4 460	4 898	5 303	5 816	6 525	7 716	9 397
Drug possession	3 545	3 772	3 636	3 628	3 771	4 195	4 590	4 531	4 837	5 021
Possession, use	1 052	1 156	1 279	1 291	1 357	1 544	1 641	1 580	1 522	1 291
Peddling, peddling and possession	558	599	701	685	749	917	963	948	842	965
Possession, use and peddling	116	133	150	141	161	143	148	109	102	102
Production	20	9	29	15	10	7	6	18	25	17
Drug smuggling	590	560	639	770	968	1 495	982	657	556	509
Other offence and combinations	277	208	260	338	406	287	345	406	277	317
Waivers of prosecution	**1 847**	**1 798**	**1 569**	**1 890**	**1 722**	**2 118**	**2 522**	**2 692**	**2 941**	**4 065**
Total	**11 295**	**11 942**	**12 340**	**13 216**	**14 042**	**16 009**	**17 013**	**17 466**	**18 818**	**21 684**
minor offences	9 000	9 551	9 843	10 813	11 127	12 596	13 429	13 645	13 774	16 002
non-minor offences	2 219	2 127	2 210	2 075	2 548	2 974	3 131	3 338	4 490	5 248
serious offences	282	264	287	328	367	440	452	485	435	434
minor offences (%)	80	80	80	82	79	79	79	78	73	74

[1] 2000 corrected numbers.

[2] 2002 corrected numbers in waivers of prosecution.

(National Report, 2007)

Drug offences continue to increase and over the last ten years an average annual increase of close to 7% is noted. Drug use (53%) and drug possession (28%) were the two most common offences committed by persons convicted of drug offences in 2006 (National Report, 2007).

3.2 Supply reduction: Production, trafficking and retail

Main focus in Sweden is on measures against trafficking, retail and possession.

Priorities of drug policy covered by policy papers and/or law

Priorities of drug policy on drug production, supply and trafficking are covered by drug policy papers, but not broken down for specific type of drugs (expert's comments).

Supply reduction is one of the three pillars in the action plans on drugs.
In principle there were no changes in the past ten years but the first national action plan on drugs 2002 – 2005 clearly expressed this objective that also remained unchanged in the present action plan 2006 – 2010 (expert's comments).

The use and possession of illegal drugs are criminal offences under the Narcotic Drugs Punishment Act. Use and possession are punished according to three degrees of severity for drug offences: minor, ordinary and serious. The degree of offence takes into consideration the nature and quantity of drugs and other circumstances. Penalties for minor drug offences consist of fines or up to six months' imprisonment, for ordinary drug offences up to three years, and for serious drug offences two to ten years' imprison-

ment, with penalties of up to 18 years possible for recidivists. The penalties for drug trafficking offences regulated in the Law on Penalties for Smuggling are identical with the penalties provided in the Narcotic Drugs Punishment Act (Country overview).

Sweden also operates a system of classifying substances as 'Goods dangerous to health', which may be used to rapidly control goods that, by reason of their innate characteristics, entail a danger to human life or health and are being used, or can be assumed to be used, for the purpose of intoxication or other influence. The import of such goods is punished in the same way as for drugs offences, whereas their possession and transfer will be punished by up to one year imprisonment (Country overview).

Legal changes during the past ten years

The act and ordinance on "goods dangerous to health" came into force 1999. Simultaneously there was a change in the narcotic drugs punishment act with the implication that "dependence causing properties" was changed to "dependence causing properties or euphoric effects" (expert's comments).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007	1998
School-based prevention	Common[1]	Common
Mass media campaigns	Mainly youth. Abstain from drugs[2]	Mainly youth. Abstain from drugs[2]
Telephone helpline	Uncommon[2]	Uncommon[2]
Other, namely	Websites, community based prevention. At risk groups. At risk families. Recreational settings.[2]	Websites, community based prevention At risk groups. At risk families.[2]

1. National Report, 2007.

2. Expert's comments.

Additional information

The main features of prevention policy in Sweden are a wide range of detailed objectives and actions covering universal as well as selective prevention. The key focus is on social skills and social inclusion. Implementation of curricular school-based prevention programmes is common, but very little is known about the coverage, quality and contents of these programmes (Country overview).

Quality control of school-based prevention is not yet developed and monitoring systems (that is, databases) do not exist. Selective prevention is sometimes targeted at ethnic groups and has an only recently acknowledged political and practical relevance. Selective prevention in recreational settings is carried out by municipalities and the entertainment industry, with a focus on norm-setting and controlling approaches. Special characteristics of the prevention culture in Sweden within the European context are a strong local community-based delivery of prevention, the absence of monitoring systems for prevention, and comprehensive detailed planning of future prevention activities in the national action plan. Prevention in recreational settings in Sweden shows considerable promise (Country overview).

Over the last years a shift in the drug preventive work towards structural and policy issues is seen, in contrast to the former efforts on information and campaigns. The National Action Plan (introduced in 2002) emphasises that it is important that drug issues are given high political priority in the local society and that all efforts should be based on methods that are evaluated (National Report, 2003).

The implementation of this national action plan on drugs is run by the national drugs policy coordinator (NDPCo). 2003 and 2004 show a marked increase in drug prevention activities, mainly due to initiatives from the coordinator. By Government support the majority of the 290 local authorities in Sweden have been able to appoint local drug 5 coordinators for the alcohol- and drug preventive work in order to strengthen the local mobilisation (National Report, 2004).

Treatments available[1]

	2007	1998
Abstinence oriented	Predominant	Predominant
Maintenance oriented	Common	Common-uncommon

1. Expert's comments

In 2006, data on treatment demand was reported by a total of 222 treatment centres comprising of 92 out-patient treatment centres, 98 in-patient treatment centres and 32 treatment centres within the prison setting. In 2006, a total of 6,920 clients entered treatment, of whom 1,426 were new treatment clients (Country overview).

The 2006 treatment demand data suggests that 34.9% of all clients entering treatment reported amphetamines as the primary drug, followed by 24.4% for opioids and 17% for cannabis. Among new treatment clients, 30.4% reported that cannabis was the primary drug, followed by amphetamines at 26.7% and opioids at 19.1% (Country overview).

In 2006, 40% of all clients entering treatment were aged more than 35 years. A lower age distribution was reported among new treatment clients, with 40% under the age of 25 years. As regards gender distribution among all clients entering treatment, 76% were male whereas 24% were female. A slightly different gender distribution was reported among new clients entering treatment, with 64% for males and 36% for females (Country overview).

The social services in the municipalities are responsible for the treatment of problem drug use, even if the cases require medical treatment. Thus most treatment for problem drug use is organised outside hospitals by the social services. Most treatment is drug-free and the vast majority is delivered in out-patient settings. There are treatment facilities specifically for problem drug users, but as a rule of thumb treatment of problem drug use takes place alongside treatment of alcohol and/or other addictions (Country overview).

The Medical Products Agency's Code Statutes LVFS 2004: 15 stipulate that only treatment centres can initiate, and should be predominantly involved in, substitution treatment. Methadone introduced in 1966 and buprenorphine introduced in 1999 are the only officially recognised pharmaceutical substances for substitution treatment. Substitution treatment with methadone has always been subject to strict regulations. Since the new guidelines for substitution treatment came into force in January 2005, provision of medically-assisted treatment has increased. In 2006, a total of 2,739 clients were in substitution treatment, 1,270 of whom were on methadone. In Sweden, there are about 60 treatment units at hospitals used in substitution treatment (Country overview).

Methadone maintenance treatment (MMT) was introduced in 1967, high-dosage buprenorphine treatment (HDBT) in 1999 (Year of introduction of methadone maintenance treatment (MMT), high-dosage buprenorphine treatment (HDBT) and heroin-assisted treatment, including trials" EMCDDA Table HSR-8-METHADONE-INTRODUCTION.htm)

National guidelines for the treatment of alcohol and drug abuse came into force in 2007 (National Report, 2007).

The guidelines are directed towards both the social service and the health- and medical sector with the aim to develop a higher clearness and uniformity in the care- and treatment sector. Issues covered by the guidelines are *inter alia* detection and early intervention, instruments for judgement and documentation, psychosocial treatment and medically assisted treatment, pregnant women, dual diagnosis (National Report, 2007).

The NDPCo has put forward a detailed proposal for the improvement of the treatment of abusers of heroin and other opiates32 – among other things the possibility of economic sanctions against counties that do not offer treatment. The NDPCo also propose the establishment of an "ombudsman" to care for opiate abusers rights to treatment (National Report, 2007).

Law or other legal provisions/arrangements

In Sweden, social legislation determines that social services in the local community are responsible for the implementation of treatment of problem drug use. Treatment is mainly delivered by public institutions, followed by private and non-governmental organisations. Funding of substance treatment, including treatment delivered by NGOs, is provided by the public budget of the municipalities, which are also subsidised by state funds. In the case of NGOs, public funding is handled by the National Board of Health and Welfare and is based on applications from the NGOs (Country overview).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007[1]	1998
Syringe exchange programmes	In the cities Lund and Malmö (uncommon response)	In the cities Lund and Malmö (uncommon response)
Overdose treatment (naloxone)	Only available on prescription or when administrated by medically trained staff in treatment situations	Only available on prescription or when administrated by medically trained staff in treatment situations
Outreach work (actively seeking contact with drug users)	Common	Uncommon
Safer use education (flyers, folders, training)	Available at specific geographical areas	No data found
Drop-in centres (low-threshold)	Available at specific geographical areas	Uncommon but do exist in metropolitan areas[2]

1. Van der Gouwe et al., 2006.

2. National Report, 1999.

Additional information

Up until 2006, two needle exchange programmes have existed in southern Sweden (Lund since 1986 and Malmö since 1987). These programmes also assist drug users with other medical/social support and refer them to drug-free treatment within the Social Services. Pharmacies are not entitled to sell needles/syringes (Country overview).

Priorities of harm reduction covered by policy papers and/or law

The 'National action plan on drugs (2002–05)' does not use the phrase harm reduction measures and overall the plan follows a restrictive policy. Even though the Drugs Commission in Sweden has commented that drug users can be offered help without the requirement of an immediate and/or long-lasting drug-free life, the Commission advises against legal prescription of heroin, safe injection rooms and other low-threshold programmes. As of 2006, the Swedish government introduced a law which in effect allows each of the 21 regions in Sweden to introduce needle exchange programmes (Country overview).

3.4.2 Crime, societal harm, environmental damage

No information found on interventions/measures to reduce harm for society. However, improved treatment and rehabilitation programmes as a consequence of the drug policy priorities contribute to reduce the harm for society.

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Consulted experts

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SWITZERLAND

1 General information

Location:
Central Europe, east of France, north of Italy

Area:
41,290 sq km

Land boundaries/coastline:
1,852 km

Border countries:
Austria 164 km, France 573 km, Italy 740 km, Liechtenstein 41 km, Germany 334 km

Population:
7,581,520 (July 2008 est.)

Age structure:
0-14 years: 15.8% (male 623,213/female 577,430)
15-64 years: 68.2% (male 2,605,044/female 2,562,354)
65 years and over: 16% (male 501,699/female 711,780) (2008 est.)

Administrative divisions:
26 cantons

GDP (purchasing power parity):
$303.2 billion (2007 est.)

GDP (official exchange rate):
$423.9 billion (2007 est.)

GDP- per capita (PPP):
$40,100 (2007 est.) (CIA The World Factbook)

Drug research
Switzerland has a number of institutes that deal with drug research, like the Institut für Sucht und Gesundheitsforschung (ISGF) in Zürich, l'Institut universitaire de médecine sociale et préventive in Lausanne, SFA/ISPA (Schweizerische Fachstelle für Alkohol und andere Drogenprobleme) in Lausanne, Narcotic Control Schweizerisches Heilmittel Institut SWISSMEDIC and Bundesamt für Statistik.

Main drug-related problems
Consumption is the main drug-related problem in Switzerland. Switzerland is a substantial producer of cannabis herb in Europe. Trafficking includes export of cannabis herb and import of other illicit drugs for the domestic market.

2 Drug problems

2.1 Drug supply

2.1.1 Production

Switzerland has, for instance, reported a sharp increase in illegal cannabis cultivation. A 1999 Swiss EKDT report argued that in 1998 more than 100 tonnes of cannabis were harvested for the drug trade, and it was plausible that Switzerland became the second largest European exporting country after the Netherlands (EMCDDA, 2008).

2.1.2 Trafficking

Total quantities (kg) seized

	2006[1]	2005[2]	1998[3]	1997[3]
Opium (raw and prepared)	1	0.885	0.015	0.042
Heroin	231	256	404	No data found
Morphine	0.02	No data found	0.05	No data found
Other opiates	No data found	No data found	No data found	No data found
Cocaine (base and salts, incl. crack-cocaine)	354	283 361 (2004)	252	No data found
Coca leaf	No data found	No data found	No data found	No data found
Cannabis herb	2,299	4,505	13,164	No data found
Cannabis resin	395	No data found	1,837	653
Cannabis oil	1	No data found	2	No data found
Cannabis plant	149,960 u.	388,112 u.	26,813 u.	No data found
Amphetamine	11	No data found	Stimulants No data found	8
Methamphetamine	14,983 u.	No data found	No data found	No data found
Non defined amphetamines	No data found	No data found	No data found	No data found
Ecstasy (MDA, MDEA, MDMA)	216,811 u.	No data found	Synthetic narcotics 33	5

1. UNODC, 2008.

2. UNODC, 2007.

3. UNDCP, 2001.

Amounts of seized drugs in the period 1999 - 2007

tab_d10

Menge beschlagnahmter Drogen
in den letzten Jahren (Entwicklung von 1999 bis 2007)

sfa/ispa

Quelle: Bundesamt für Polizeiwesen (2008). *Schweizerische Betäubungsmittelstatistik* der entsprechenden Jahre.

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Marihuana (kg)	7800.3	18313.6	11106.5	21893.2	13032.2	5877.9	4505.4	2298.8	3530.6
Haschisch (kg)	651.5	1258.2	317.6	1317.6	323.2	300.6	392.7	394.6	484.0
Haschischöl (kg)	0.6	9.5	17.6	191.6	0.7	1.2	1.7	1.4	0.2
Hanfpflanzen (Stück)	79746	227476	189008	557262	570704	482071	388112	149960	132712
Heroin (kg)	397.5	372.0	227.5	208.5	300.1	177.9	256.3	231.1	134.7
Kokain (kg)	288	207.4	168.6	185.9	188.6	361.4	282.6	354.3	404.1
Crack (g)	25	10	12	2	7	5	20	75	16
Opium (g)	775	9		5	16	9	855	666	3912
Morphin-Heroin-Base (g)	537	135	492	146	73	16	46	20	54
Amphetamine (kg)	10.7	39.1	4.6	10.4	23.6	15.7	10.2	10.7	9.1
LSD (Dosen)	3130	15525	8707	1552	657	5490	392	928	4978
Partydrogen (Dosen)	67353	189569							
Ecstasy (Dosen)			86959	88342	19942	115561	202326	216811	50107
Methadon (Stück)	5006	5472	6630	4079	6323	10517	7963	5969	15454
Methamphetamine (Kg)						3.5	2.6	14.9	2.1
Psylocibin-Pilze (Kg)						15.3	9.0	6.8	6.0
Khat (Kg)						276.4	605.3	550.8	1351.6

ZAHLEN & FAKTEN sfa/ispa

(SFA/ISPA, 2008f)

2.1.3 Retail/Consumption

Opiates

Retail price/gr in 1998: $110
Wholesale price/kg in 1998: $34,294
Retail price/gr in 2006: $39 (range; $15.5 - $93.0) purity 4-15%
Wholesale price/kg in 2006: $21,470 (15,500.0-27,130)

Cocaine

Retail price/gr in 1998: $96
Wholesale price/kg in1998: $41,152
Retail price/gr in 2006: $74 ($73.6 (range; $27.1 - $116.3)
Wholesale price/kg in 2006: $41,090 (23,260.0-62,020.0)

Wholesale price/kg firstly sharply decreased between 1998 and 2002 and then increased. Since a couple of years the price remained stable.

Cannabis herb

Retail price/gr in 2006: $6.4 (range 3.4 - 17.0) purity (1.0 - 25.0)
Wholesale price/kg in 2006: $4,661.0 (range $2,118.6 - $8,474.6)

Cannabis resin

Retail price/gr in 2006: $8.5 (range $$3.4 - 17.0) purity (9.0 - 28.0)
Wholesale price/kg: $4,830.5 (range $1,694.9 - $8,474.6)

Amphetamines
Retail price/gr in 2006: $25.4 (range $10.2 - $42.4)
Wholesale price/kg in 2006: No data found

Ecstasy
Retail price/gr in 2006: $17.0 (range $8 .5 - $33.9) purity (23.0 - 52.0)
Wholesale price/kg in 2006: No data found
(UNODC, 2008)

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

If one takes Switzerland's resident population aged between 15 and 39 as a whole, only a minority have ever used drugs in their lives. For substances such as heroin, cocaine and ecstasy, the proportion is less than 4% (MaPaDroIII, 2006).

The situation is somewhat different with cannabis, where a good quarter of the population have tried it at least once. Unlike the other substances, where use has remained stable, cannabis use has increased slightly. But even here non-consumption is clearly still the norm among the population (MaPaDroIII, 2006).

Half yearly, monthly, weekly and daily cannabis consumption among youth and young adults (comparison of 2004 and 2007) differentiated in age groups (13-15 years, 16-18 years, 19-29 years and total)

Anteile an halbjährlich, monatlich, wöchentlich und täglich cannabiskonsumierenden Jugendlichen und jungen Erwachsenen* nach Alter (Vergleich der Jahre 2004 und 2007)

sfa/ispa *

Quelle: Annaheim, Gmel und Arbeitsgruppe Cannabismonitoring (2008).
Veränderungen im Cannabiskonsum 2004 bis 2007 – Ergebnisse des Schweizerischen Cannabismonitorings.

	13-15 Jährige		16-18 Jährige		19-29 Jährige		Total	
	2004 (n = 95)	2007 (n = 107)	2004 (n = 313)	2007 (n = 241)	2004 (n = 185)	2007 (n = 206)	2004 (n = 593)	2007 (n = 554)
Halbjährlich	42.9%	33.3%	21.6%	27.9%	16.2%	18.8%	19.9%	21.5%
Monatlich	31.0%	33.3%	31.2%	35.3%	37.3%	38.4%	35.7%	37.5%
Wöchentlich	14.3%	23.8%	32.6%	25.4%	30.9%	34.1%	30.2%	31.7%
Täglich	11.9%	9.5%	10.1%	11.5%	15.6%	8.7%	14.2%	9.3%

*Anmerkung: Basis waren 13- bis 29-jährige aktuell Konsumierende, d.h. Personen, die in den sechs Monaten vor der Befragung mindestens einmal Cannabis konsumiert hatten; Mehrfachnennungen möglich.

(SFA/ISPA, 2008b)

The UNODC 2008 ATS Assessment does not mention Switzerland at all. This would assume that either no data about the use of ATS are available in Switzerland or that ATS is not commonly used and/or produced in Switzerland. Since no other reports mention anything about ATS use in Switzerland, it seems that consumption of ecstasy and/or (meth-) amphetamines in Switzerland is low (UNODC, 2008a).

Prior to the release of the new household survey for 2006, Germany had reported stable cocaine use levels. The same applied to most neighbouring countries, including Austria, Switzerland, Belgium, the Netherlands, Denmark, Poland, the Czech Republic and other central European countries (Slovakia and Hungary) (UNODC, 2008).

Percentage of population 15-39 years with drug use experience. Comparison 1992, 1997 and 2002.

tab_d01

Anteil 15- bis 39-Jähriger mit Drogenkonsumerfahrung
Vergleich 1992, 1997 und 2002 (in %)

sfa/ispa

Quellen: 1992: SFA (1997). Berechnungen auf Basis der Schweizerischen Gesundheitsbefragung 1992. n=6838.
1997: SFA (1999). Berechnungen auf Basis der Schweizerischen Gesundheitsbefragung 1997. n=5709.
2002: SFA (2004). Berechnungen auf Basis der Schweizerischen Gesundheitsbefragung 2002. n=6991.

	Frauen			Männer			Gesamt		
Irgend eine Droge (Mehrfachkonsum möglich)	11.5	20.4	21.5	22.0	33.8	34.8	16.7	27.1	28.2
Cannabis	11.1	19.9	21.1	21.5	33.4	34.2	16.3	26.7	27.7
Heroin	0.7	0.7	(0.5)	1.9	1.4	1.3	1.3	1.0	0.9
Kokain	1.8	2.2	1.9	3.5	4.3	4.0	2.7	3.3	2.9
Methadon	0.3	0.3	*	0.5	0.5	*	0.4	0.4	(0.2)
Ecstasy (wurde1992 nicht erhoben)	k.A	1.5	1.5	k.A	2.8	2.9	k.A	2.2	2.2

(SFA/ISPA, 2008d)

Last-year prevalence in the general population in percentages

	2007[1]	1998[2]
Opiates	0.6 (2000)	0.5
Cocaine	1.1 (2003)	0.5
Cannabis	9.6 (2003)	8.5
ATS (amphetamines)	0.8 (2003)	0.7
ATS (ecstasy)	0.8 (2003)	-

1. UNODC, 2008.

2. UNDCP, 2001.

In 2002 almost half of young people in their ninth school year (age 16) admitted having tried cannabis at least once. Furthermore, the average age of first use has fallen (FOPH, 2007).

Nevertheless, it is worth pointing out that young people of school age only seldom use other illegal substances such as heroin, cocaine and synthetic drugs (including ecstasy).

Leaving aside cannabis experimenting with synthetic drugs, cocaine and other illegal substances increases at the age of about 18. Only a small minority takes these drugs regularly. Only a very few try heroin. On the other hand, some two thirds of 20-year-olds have tried cannabis at least once. Regular use of this substance in particular increases after the end of obligatory schooling (age 16), especially among young men. 13% of them use cannabis on a daily basis; the figure for young women is 4%. Nevertheless there are certain indications that cannabis use among young people has gradually stabilised in recent years (FOPH, 2007).

2.2.2 Problematic drug users/chronic and frequent drug users

On the basis of existing data it can be assumed that the number of heroin dependents dropped from around 30,000 in 1992 to 26,000 in 2002 (MaPaDroIII, 2006).

Estimates of prevalence of problematic heroin use in Zurich

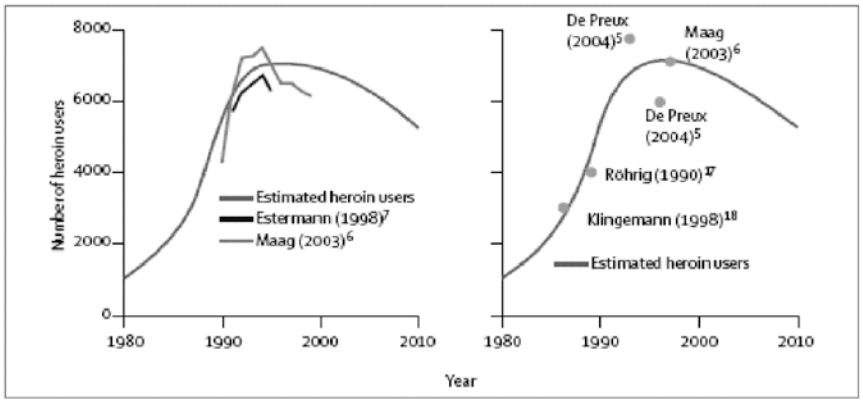


Figure 4: **Estimates of prevalence of problematic heroin use in Zurich, Switzerland[5,7,17,18]**
Data estimated for Switzerland[5-7] were divided by a factor of four (see introduction).

(SFA/ISPA, 2008e)

A SFA study on use of medicinal drugs estimates that 1 percent of the adult population in Switzerland is dependent (i.e. around 60 000 persons) (SFA, 2008e).

According an estimate of the Federal Office of Public Health there are 30,000 problem drug users in Switzerland (expert's comments).

The number of injecting drug users (in the general population)

2007[1]	1997
11,850[1]	24,907-38,399[2]

1. IHRA, 2008.

2. Mathers et al., 2008.

Mathers et al. report that in 1997 the prevalence of people who inject drugs among 15-64 years in Switzerland was between 0.51% (low) to 0.65% (mid) to 0,78% (high). The estimated number of people who inject drugs varies from 24,907 (low) to 31,653 (mid) to 38,399 (high). (Mathers et al., 2008).

In 2007, there are an estimated 11,850 people who inject drugs in Switzerland (IHRA, 2008). The age of this population is going up (expert's comments).

Expert comments

The figures on problem use in Switzerland are rather weak.

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

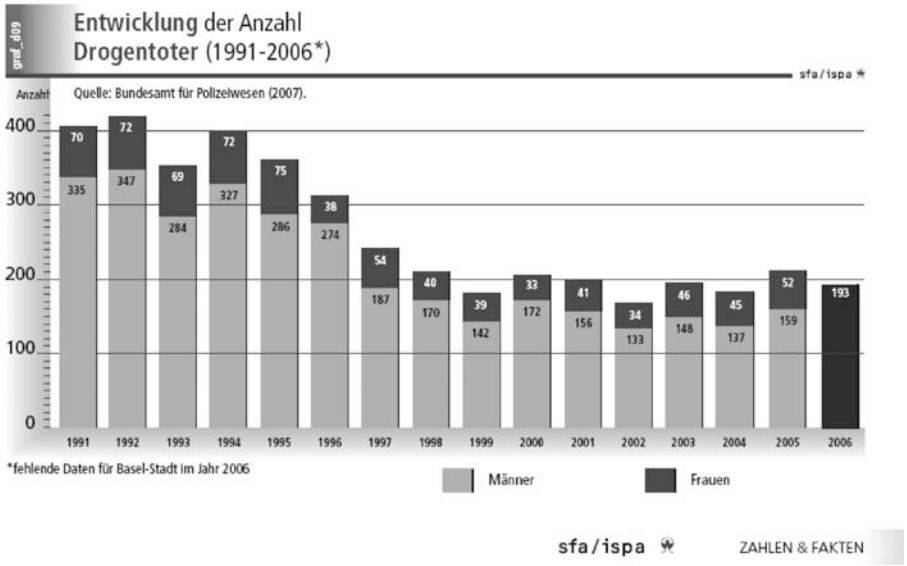
Mathers et al. report that a 2004 estimate of prevalence of HIV among injecting drug users is 1.4%. (Mathers et al., 2008) Another survey mentions an adult HIV prevalence of 0-1.7% among people who inject drugs in 2007 (IHRA, 2008).

As the prevalence of HIV among drug users is still very high (between 10 and 30%) changes in harm reduction services and in individual consumer behaviour could easily result in an increase of new infections. (SFA 2008c) The rate of HIV/AIDS infection has levelled off at 5% to 15%, but hepatitis is widespread. There are indications that almost all dependent drug users are infected with the Hepatitis C virus (FOPH, 2007).

In 1994 28.0% (women) and 24.9% (men) of positive HIV-tests had to be explained by intravenous drug use. In 2006 this figure decreased to 7.2% (women) and 8.2% (men). The 2007 figures show a slight increase. 61 of the total 735 newly infected men and women in 2007 got infected through intravenous drug use. More than two-third of this group were men (SFA, 2008c).

The number of drug related deaths by overdose

Number of drug-related death between 1991 and 2006 (light columns: male, dark columns: women)



(SFA, 2008c)

2.3.2 Drug related crime or (societal) harm

No information found on harm for society.

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

Direct costs of illicit drug use in Switzerland in 2000 in million CHF (in million EUR)[1]

	Costs	%
Hospitals and medical costs	146.3 (99.48)	10.3
Prevention and research	53.2 (36.18)	3.8
Therapies (in-patient and out-patient treatment)	314.2 (213.66)	22.3
Harm reduction	60.0 (40.8)	4.2
Repression	798.4 (542.91)	56.5
Total costs of public policies	**1,225.8** (833.54)	**86.8**
Direct costs HIV/Aids caused by drug use	40.3 (27.40)	2.9
Direct costs in total	**1,412.4** (960.43)	**100**

(SFA/ISPA, 2008c)

3.1.2 Other general indicators

In Switzerland there are a number of problems for concerted action in the field of drug policy and practice. An important one is that the Narcotic law is arranged at Federal level; the health and law enforcement are at Cantonal level and finally the social services and welfare they work at municipal level (Uchtenhagen, 2007).

In 1991 the Federal Council decided on a first package of measures to reduce the drugs problem (MaPaDro I 1991-1997). (FOPH 1991) It gave the Federal Office of Public Health (FOPH) the task of implementing measures in the areas of prevention and therapy, and later in harm reduction. Not included in either of these packages was law enforcement which was instead handled separately. These measures are based on a model of 4 pillars (prevention, therapy and reintegration, harm reduction, and repression and control). Their primary objectives are: to maintain and improve the state of health and social integration during the phase of active drug use; to decrease and hinder the entry into dependence; to increase and facilitate an exit from dependence (i.e. to decrease the number of drug users, the main expected outcome). (De Preux et al., 2004) These measures were strengthened and taken further in a second package of measures (MaPaDro II, 1998–2002; FOPH, 1998).

Since the Confederation has no constitutional competence in drug policy, it cannot enforce this model in a top-down manner. Instead, it must rely on other means in order to convince the main players of Swiss drug policy – the cantons and the cities – to adopt its ideas (Kubler & Widmer, 2004).

Main objective of drug policy of the federal government is a reduction of drug-related problems. This objective is to be implemented by achieving three goals:

- Reducing the consumption of drugs;
- Reducing the negative consequences for drug users;
- Reducing the negative consequences for society as a whole.

1 1 CHF = €0.68. Exchange rate in 2000.

In implementing its drugs policy the federal government will continue to base its global strategy on the four pillar model:

- Prevention helps to reduce drug consumption by making it harder to start using drugs and by preventing the development of addiction.
- Therapy helps to reduce drug consumption by enabling users to break free of their dependency and to stay free of it, or at least by keeping this option open to them. In addition it promotes the social integration of those under treatment and helps to improve their health.
- Harm reduction helps to reduce the negative consequences of drug use on the consumer and indirectly on society as well, by providing individually tailored and socially less problematic ways of consuming drugs.
- Law enforcement uses appropriate regulatory measures to implement the prohibition of illegal drugs, thus helping to reduce the negative consequences of drug taking for society as a whole (FOPH, 2007).

MaPaDro III (the federal government's third package of measures to reduce drug-related problems 2006–2011) is designed to open up the four pillars of this policy and increase the interchange between them. The federal government's role is concentrated above all in the following areas: drawing up the basic principles, evaluation, further training for drug professionals, quality enhancement, information, coordination and international cooperation. Furthermore, in implementing its drugs policy the federal government is paying particular attention to the two cross-sectoral issues of gender and migration (FOPH, 2007).

In recent years the drugs problem has changed and new ways of intervening are required. MaPaDro III identifies the need to adapt and aims to open up the four separate pillars. MaPaDro III is the first package to define the basic principles underlying all four pillars – including law enforcement – which should make it possible to harmonise them better and do away with some of the barriers between them. Furthermore, as MaPaDro III is implemented, the broader context of addiction policy, which also includes legal substances, will be taken into account where necessary and where possible at the current point in time (FOPH, 2007).

The broad consensus on drugs policy born in the 1990s under the impact of the open drugs scenes, has crumbled. There is a greater need to justify drugs policies, not least because of the pressure to make savings in the public purse. MaPaDro III provides a response to this pressure for justification. By describing the current situation and the basic principles underlying the policy, and by demonstrating the continuing need for action, it makes clear the reasons for the federal government's involvement in drugs policy. Furthermore, in defining goals, strategies and measures it makes the nature of the federal government's undertaking more visible (FOPH, 2007).

As far as illegal drugs are concerned, a number of measures are implemented by a wide range of very different players in all four pillars. Yet a coherent drugs policy able to cope with the growing complexity of the problems requires that the aims and activities of all the players should be coordinated. In order to deal with this need for coordination, MaPaDro III for the first time defines common basic principles applying to all the pillars, thus making it possible to improve internal coordination between the federal bodies. On the basis of its position in the structure, which gives it a national and international perspective, the federal government also acts as moderator and coordinator in encouraging reciprocal voluntary coordination between the various players in drug-related fields (FOPH, 2007).

The Federal Law on Narcotics and Psychotropic Substances and the federal government's packages of measures are the framework of Swiss drug policy. Despite the demonstrable successes in drugs policy, it has not yet proved possible to incorporate the four pillar policy into legislation. A National Council committee is currently working on a draft for a partial revision of the Narcotics Act, which would lead to the policy being made part of legislation. The cannabis issue is to be excluded and dealt with instead through the popular initiative "For a rational hemp policy with effective protection of young people" (FOPH, 2007).

Numbers available on arrests and imprisonment for drug-law related offences

In 2007 46,957 reports for drug law offences were registered, i.e. 44 reports less in 2006 (47,001). The number of reports for consumption of illicit drugs slightly decreased in 2007 to 37,030 compared with 38,991 reports in 2006. The reports for selling illicit drugs (2,809 reports) increased in 2007 with 14.6 percent compared to 2,450 reports in 2006. Again the most reports are because of selling cocaine followed by selling marihuana and heroin (EIPD, 2008).

Police reports in 2006

Total number of police reports in 2006	**47,001**
Offences	
Consumption	83%
Trafficking	5%
Trafficking and consumption	8%
Unknown offence	2%
Cases of seizure of drugs	2%
Total number of registered persons	34,365
Gender (in%)	
Men	87%
Women	13%
Age (in%)	
7-14 year	1%
15-17 year	9%
18-19 year	13%
20-24 year	30%
25-29 year	17%
30-34 year	11%
More than 34 year	19%
Number of police records per person (in%)	
Once in a year	81%
Twice in a year	13%
Three times and more in a year	6%

(Federal Office of Police – Swiss statistics on drug offences

Number of police reports for drug use per substance used (1997-2007)

tab_d08

Anzahl Verzeigungen wegen Konsum von Betäubungsmitteln nach konsumierten Drogen* (Entwicklung von 1997 bis 2007)

sfa/ispa

Quelle: Bundesamt für Polizeiwesen (2008). *Schweizerische Betäubungsmittelstatistik* der entsprechenden Jahre.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Marihuana	10783	15734	17350	21492	24527	28985	26335	28771	27574	26147	24645
Hanfpflanze	560	716	639	585	368	428	389	519	487	460	624
Haschisch	14749	11561	9669	9170	7585	6711	6376	7614	7588	7491	5505
Haschischöl	127	130	86	92	100	92	104	57	86	40	44
Opium	16	10	21	12	5	8	11	7	27	23	24
Morphin-Heroin-Base	17	25	70	32	35	28	19	23	36	18	19
Heroin	17808	15870	13450	11721	9579	7022	6960	7002	7074	6468	6287
Kokain	10515	10398	9880	8664	8206	8577	9252	9994	10060	9570	9562
Crack	5	5	15	6	13	14	19	17	37	26	20
Amphetamine	577	579	662	1043	671	613	633	731	823	862	888
LSD	432	238	151	192	170	98	107	176	138	132	135
Partydrogen	1619	1059	916	1627							
Ecstasy					1353		798	775	952	841	967
Methadon	727	773	758	508	392	496	553	522	547	500	536
Methamphetamine								19	36	43	66
Psylocibin-Pilze								32	45	94	70
Khat								16	22	57	68
Andere	1363	1474	1317	1671	1421	1508	1532	1515	1973	1564	1886

*Jeder Fall wird so oft gezählt, wie Arten von Betäubungsmitteln konsumiert worden sind.
Anmerkung: inkl. Fälle verbunden mit Handel und/oder Schmuggel

ZAHLEN & FAKTEN sfa/ispa

(SFA/ISPA, 2008f)

3.2 Supply reduction: Production, trafficking and retail

The primary goal of enforcement is to reduce supply and to fight against the trafficking of narcotics, the illegal financial transactions related to such trafficking (for example, money laundering) and organized crime. Users are not the number one target of police operations in Switzerland. Enforcement of the federal *Narcotics Act* is, to a large extent, the responsibility of the cantons, although the Confederation does monitor the situation closely and can call for and carry out police investigations into drug trafficking. It should be noted that canton and commune laws on policing differ and sometimes result in varying interventions. Furthermore, the drug milieu changes quickly and the methods used to fight drug-related problems are improving and adapting to this milieu. These methods include:

- Focussing enforcement activities on the manufacturing of drugs, trafficking and money laundering;
- Assigning more officers to the "drug police" and making greater use of specialists from other sectors (finance professionals);
- Intercantonal and international co-operation (agreements with police forces from neighbouring countries);
- Accelerating and improving the processing of information (networking systems and access to the police department networks from many European countries);
- Improving co-operation between the police and the private sector (banks, chemical industries, etc.);
- Improving police effectiveness and making greater use of front-line liaison workers;
- Strengthening the legal structure (for example, policing legislation, witness protection). (Collin, 2002).

Priorities of supply reduction covered by policy papers and/or law

As in most of the countries Swiss Narcotic law has followed the evolution of international treaties. For an important part Switzerland just responded to the commitments under these conventions. With respect to the production, distribution, acquisition and use of narcotics, the current legislation provides that narcotics and psychotropic substances cannot be cultivated, manufactured, prepared or sold without cantonal authorization, in accordance with conditions set by the Federal Council. In addition, a special permit from the Federal Office of Public Health is required for the importation or exportation of controlled narcotics. Furthermore, under section 8 of the *Narcotics Act*, the following narcotics cannot be cultivated, imported, manufactured or sold: smoking opium, heroin, hallucinogens (such as LSD) and hemp for the extraction of narcotics or hash. Section 8 also sets out the conditions governing the treatment of addicts with medical prescription of certain narcotics.

The current legislation also contains criminal provisions that apply to: anyone who unlawfully cultivates, manufactures, extracts, processes or prepares narcotics; anyone who, unless authorized, stores, ships, transports, imports, exports, provides, distributes, sells, etc., or buys, holds, possesses or otherwise acquires narcotics; and anyone who finances illicit traffic in narcotics, acts as an intermediary or encourages consumption. Section 19 offenders are liable to imprisonment or a fine depending on the seriousness, according to the *Narcotics Act*, of the act committed. The intentional consumption of narcotics or the commission of a section 19 offence for personal use is punishable by detention or a fine. For petty offences, the appropriate authority may stay the proceedings or waive punishment and may issue a reprimand. However, preparing narcotics for personal use or for shared use with others at no charge is not punishable where the quantities involved are minimal. Finally, anyone who persuades or attempts to persuade someone to use narcotics is also punishable by detention or a fine (Collin, 2002).

Cannabis use is illegal in Switzerland. Use is generally punished with a fine. (SFA/ISPA, 2008b) Despite the fact that users are not seen as the number one target of police operations in Switzerland 83% of the police reports for drug law offences have been for consumption (in 2006). Around 50% of these arrests are for possession of cannabis (see arrest tables above).

A planned amendment to the Narcotics Act which also provided for the decriminalisation of cannabis use sparked renewed controversy for a time in 2002. Opinion polls showed that on the issue of cannabis there was no clear majority among the public for any one policy. The amendment of the law, which would also have included the incorporation of the four pillar policy into legislation, failed to get through Parliament in 2004 (NOPH, 2007).

In a referendum of 30 November 2008 a majority of the Swiss population supported the 4 pillar drug policy (68.05%). In the same referendum a majority (63.19%) refused a legalisation of the personal consumption and production of cannabis (expert's comments).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007	1998
School-based prevention	Predominant	Predominant
Mass media campaigns	Predominant	Predominant
Telephone helpline	Predominant	Predominant

Prevention measures are aimed primarily at achieving three objectives:
- To prevent drug use among individuals, especially children and youth;
- To prevent the problems and harmful effects related to drug use from spilling over onto the individual and society;
- To prevent individuals from going from casual drug use to harmful use and addiction, with all of its known consequences.

The Confederation's prevention strategy comprises six objectives:
- To make prevention part of everyday life;
- To focus not only on drugs but also on personal resources and the strengthening of the individual's social network;

- To create alliances between the Confederation, the cantons, the communes and private structures (family, schools, recreational associations, etc.);
- To tap into scientific research;
- To enhance early intervention;
- To ensure the viability of projects funded by the Confederation, even when the Confederation opts out.

It should be pointed out that the most notable change in prevention has been a transition from the concept that prevention was a matter of preventing someone from ever trying drugs to today's concept of preventing the health and social problems related to drug use, thereby integrating the person's social network and environment as well (Collin, 2002).

Treatments available

	2007	1998
Abstinence oriented in-patient	Predominant	Predominant
Abstinence oriented out-patient	Predominant	Predominant
Abstinence oriented mandatory	-	-
Abstinence oriented voluntary	Predominant	Predominant
Maintenance oriented	Predominant	Predominant

In Switzerland, there are many types of in-patient and out-patient treatment available to people suffering from drug addiction. The objectives sought through treatment include:
- Breaking drug addicts of their habit;
- Social reintegration;
- Better physical and mental health.

(Collin, 2002)

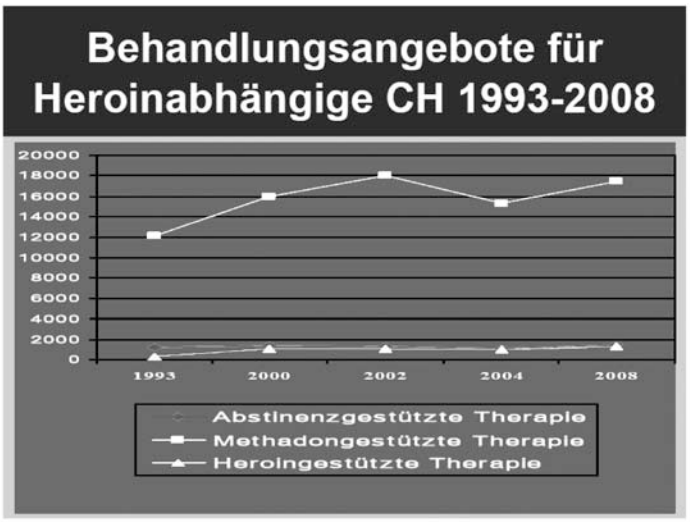
By the end of 1999, there were already 1,650 treatment spaces reserved for hard core heroin addicts in 16 treatment centres. In addition, during the same period, approximately 50% of opiate addicts (estimated to be 30,000) were being treated with medically prescribed methadone, compared to 728 individuals who were receiving this type of therapy in 1979. Those individuals addicted to one or more drugs also have access to in-patient treatment based on abstinence, to a limited number of spaces in transition centres, specialized withdrawal units or clinics, and treatment institutions, as well as out-patient consultation centres. In March 1999, there were 100 institutions providing in-patient withdrawal and rehabilitation treatment in Switzerland, for a total of 1,750 spaces (Collin, 2002).

Substitution treatment (generally methadone prescription) including psychosocial counselling is widespread. In 2005 17,236 patients received methadone substitution treatment (SFA/ISPA, 2008a).

Heroin-assisted treatment (HAT) started in Switzerland in 1994. After a pilot phase, which ended in 1996, the treatment programme was continued and is now part of the regular treatment system in Switzerland. The treatment is provided by special treatment centres (Gerlich et al., 2006).

Heroin assisted treatment has been a recognized type of therapy in Switzerland since 1999. Currently, there are 23 of these centres in the German and French speaking parts of Switzerland. (Gerlich et al., 2006) At the end of 2006 there were in total 1,308 patients in one of these 23 centres, of which two are in prison (SFA/ISPA, 2008a).

Available treatments for heroin addicted persons 1993-2008



(Sessionsanlass FMH; 01.10.2008 Bern)

As in many other countries diversion schemes exist (since the seventies), i.e. drug treatment enforced by a court sentence as an alternative for a prison sentence (expert's comments).

Priorities of demand reduction covered by policy papers and/or law

Drug prevention and treatment are from the start key elements in formal Swiss drug policy. They are two of the four pillars of the Swiss drug policy and as such covered in the drug policy papers (MaPaDro 1, II and III), underpinning the priorities and programmes mentioned above.

In a referendum of 30 November 2008 a majority of the Swiss population supported the 4 pillar drug policy (68.05%). This means a formal sanctioning of the strongly health-oriented approach formulated in the drug policy papers (MaPaDro 1, II and III).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007	1998	1998 -> 2007 Increase (+) Decrease (-) In numbers
Syringe exchange programmes	Common	Common	
Overdose treatment (naloxone)	Common	Common	
Outreach work (actively seeking contact with drug users)	Uncommon	Uncommon	+
Safer use education (flyers, folders, training)	Uncommon	Uncommon	
Drop-in centres (low-threshold)	Common	Common	
Drug Consumption Rooms	Common (12 rooms)	Common	
Heroin Assisted Treatment	Common	Common	

At the end of the 1980s, Switzerland witnessed a rapid increase in drug related problems. The increase of heroine consumption; the advent of open drug scenes in several cities; the rapid emergence of the AIDS epidemic among iv drug users and their degrading social condition had become increasingly visible (De Preux et al., 2004).

The first so-called "low threshold" coping skills institutions made their appearance in Switzerland in the mid 80s. Their

purpose was to reduce the health and social risks and consequences of addiction. First and foremost, these institutions gave drug addicts a roof over their heads and were often equipped with cafeterias, showers and laundry facilities. They provided addicts with someone who would listen and talk to him or her. These facilities have evolved over the past ten years and now incorporate medical support for harm reduction (for example, prevention of AIDS and other infections, needle exchange, out-patient medical care, etc.) and social support (street work, soup kitchens, emergency shelters, low threshold centres, etc.). The Swiss Federal Office of Public Health supports many harm reduction projects as part of MaPaDro's.

Furthermore, the cantons, communes and private institutions also provide such programs. In 1995, the SFOPH established a central service to support certain social assistance agencies, particularly those with low thresholds, and to advise the cantons, communes and private institutions on planning and funding harm reduction programs. Drug addicts have access to such programs without having to meet any particular prerequisites. The objective of these harm reduction services is to limit as much as possible the negative consequences of addiction so that the addict is able to resume a normal existence. In addition, these measures are aimed at safeguarding and even increasing the addict's chances of breaking the drug habit (Collin, 2002).

In 2005 there were more than 200 harm reduction services in 19 cantons, including among others 38 drop-in centres (including out-patient support) 16 drug consumption facilities, 14 day care centres. There were 106 'sleep-in' services, 27 outreach services, 12 specialised services for women, 7 specialised organisations in the field of safer use education (SFA/ISPA, 2008a). Needle exchange for drug addicts (and inmates), offers of employment and housing, support for sex workers and consultation services for the children of drug-addicted parents are included in several of the services named above.

Priorities of harm reduction covered by policy papers and/or law

Switzerland was one of the first countries (together with the Netherlands and the United Kingdom) which developed a formal harm reduction policy. Harm reduction is the third pillar of the Swiss drug policy and as such covered in the drug policy papers (MaPaDro 1, II and III), initiating and giving direction and support to the programmes mentioned above (IHRA, 2008).

3.4.2 Crime, societal harm, environmental damage

No data found on interventions/measures to reduce harm for society.

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TURKEY

1 General information

Location:
South-eastern Europe and South-western Asia (that portion of Turkey west of the Bosporus is geographically part of Europe), bordering the Black Sea, between Bulgaria and Georgia, and bordering the Aegean Sea and the Mediterranean Sea, between Greece and Syria

Area:
780,580 sq km

Land boundaries/coastline:
2,648 km / 7,200 km

Border countries:
Armenia 268 km, Azerbaijan 9 km, Bulgaria 240 km, Georgia 252 km, Greece 206 km, Iran 499 km, Iraq 352 km, Syria 822 km.

Population:
71,892,808 (July 2008 est.)

Age structure:
0-14 years: 24.4% (male 8,937,515/female 8,608,375)
15-64 years: 68.6% (male 25,030,793/female 24,253,312)
65 years and over: 7% (male 2,307,236/female 2,755,576) (2008 est.)

Administrative divisions:
81 provinces

GDP (purchasing power parity):
$853.9 billion (2007 est.)

GDP (official exchange rate):
$663.4 billion (2007 est.)

GDP- per capita (PPP):
$12,000 (2007 est.) (CIA The World Factbook)

Drug research
TUBIM is the Turkish national Monitoring Centre for Drugs and Drug Addiction and collects data on these topics. There are no research institutions available in Turkey working specifically on the issue of drugs and drug addiction (Country overview).

Main drug-related problems
Turkey is mainly a transit country (a bridge between continents), an important trafficking route for heroin from the East (Afghanistan/Iran) to Western Europe and the other way around for ecstasy from Europe (the Netherlands, etc.) to the East.

2 Drug problems

2.1 Drug supply

2.1.1 Production

Total quantities (kg) produced

	2007[1]	1998[1]
Opiates	Only licit production of opium	No data found
Cocaine	No data found	No data found
Cannabis	No data found	No data found
ATS	Captagon production decreased	Substantial Captagon production

1. Expert's comments.

In Turkey amphetamine (Captagon) production and some cannabis production for domestic market can be found.

UNODC reports for seizures of illicit laboratories in Turkey that in 2006 12 Captagon laboratories, and 1 heroin production site were dismantled. Turkey reported the discovery of 12 clandestine amphetamine (Captagon) laboratories in 2006, the largest seizure of laboratories the country has reported to UNODC. The lab types included both manufacturing and tableting operations. In addition, the INCB reported that 197 litres of P-2-P were also seized there in 2006; the largest seizure of its kind by Turkey in recent years. It could be that increased control in Bulgaria has led to a shift in production to Turkey (UNODC, 2008).

Non-specified amphetamines in Europe are more likely to be amphetamine-based than methamphetamine-based. Seizures have declined slightly since their 2004 peak, consistent with reports of shortages in Europe of P-2-P24, its main precursor. This decline may also reflect indications of amphetamine (Captagon) manufacture shifting towards the Near and Middle East, the largest consumer market for Captagon. The discovery of several labs in Turkey, some of which were on the border with Syria, could have necessitated a new source of supply. One of the more interesting trends within Europe has been the continuing shift of production and trafficking in amphetamine to both the new-EU and non-EU States Members. In 1996, the EU-15 countries accounted for 97% of all European amphetamine seizures (UNODC, 2008).

2.1.2 Trafficking

Total quantities (kg) seized

	Turkish MoI 2007[1]	UNODC 2006[2]	Turkish MoI 2003[1]	UNODC 1998[3]
Opiates				
Opium	519	439.53	186	141.67
Morphine base	29	529.22 (base)	711	754.49
Heroin	10,312	10,312.45	3,546	4,651.49
Cocaine	114 TA (110 yearly)	77.5	3	605
Cannabis herb	13,439	19,491.12	2,760	No data found
Cannabis resin	No data found	4,393.20	No data found	9,434.29
Captagon	7,453,720	Captagon 7.5 million kg (2007)	2,332,081	1.1 million (2001)[2]
Amphetamine	233	130[govt]	205[1]	No data found
Methamphetamine	No data found	No data found	No data found	No data found
Ecstasy	1,007,56 kg	1,592,200 u. -31% in 2007	447,091	12 (2001)[2] synthetic narcotics 257,493 u.

1. Ministry of Interior, 2007a.

2. UNODC, 2008.

3. UNDCP, 2001.

Turkey is affected by three main heroin drug trafficking routes namely: the Balkan route, the northern (Black Sea) route and an eastern Mediterranean route. Cocaine enters Turkey from South America. Cannabis enters Turkey through Lebanon, Albania and Afghanistan. Turkey acts as a transit route for opium originating from Afghanistan en route to Western Europe, and also acts as a transit route for Captagon tablets originating in Eastern Europe en route to countries in the Middle East (Country overview).

Global heroin seizures amounted to 58 mt, about the same as a year earlier (-1%). The largest heroin seizures in 2006 were reported by Iran (10.7 mt or 19% of global heroin seizures), followed by Turkey (10.3 mt or 18%), China (5.8 m or 10%), Afghanistan (4 mt or 7%), Pakistan (2.8 mt or 5%), the Russian Federation (2.5 mt or 4%) and Tajikistan (2.1% or 4%) (UNODC, 2008).

Most of the opiates from Afghanistan destined for Western Europe continue to be trafficked via Pakistan, Iran, Turkey and the Balkan countries (UNODC, 2008).

Amphetamine tablets for the Near and Middle East have typically been produced in Southeast Europe (Bulgaria and Turkey) and trafficked and marketed as Captagon to near and Middle East countries (UNODC, 2008).

In 2006, the total number of drugs seized amounted to 7,286 kg. 73.6% of these seizures were related to cannabis followed by 12% of ecstasy seizures and 11% heroin seizures. In 2006, a substantial increase was reported in the quantity of drugs seized for cannabis, heroin and captagon tablets, if compared to the previous year. In 2006, the quantity of seized cannabis resin and herbal cannabis amounted to 24,884 kg whereas in 2005, it amounted to 13,719 kg. The quantity of seized heroin in 2006 amounted to 10,312 kg whereas in 2005 the quantity amounted to 8,173 kg. Furthermore, in 2005 a total of 6,404,923 captagon tablets were seized, rising to 19,971,625 tablets in 2006. In March 2006, almost 2 kg of heroin were seized through a courier in the Hakkari Province, with the purity of the seized heroin reported at 95%. This was the first time in Turkey that the seized heroin had such a high level of purity (Country overview).

Regional ATS trafficking (in and through Turkey) has significantly increased in the last years, with seizure totals of amphetamines, methamphetamines and non-specified amphetamines rising from just 33 kg in 2001 to 729 kg in 2006. Amphetamine seizures alone increased from 52 kg in 2005 to 233 kg in 2007 (UNODC, 2008a).

Estimated retail value in 2005

Cannabis[1]

Cannabis resin	€3/gr (min: €2.7/gr – max: €3.8/gr)
Herbal cannabis	€2/gr (min: €1.8/gr – max: €2.2/gr)

Heroin[2]

Brown heroin	€8/gr (min: €7.2/gr – max: €8.8/gr)

Cocaine[3] €55/gr (min: €44.4/gr – max: €55.5/gr)

Synthetic drugs[4]

Ecstasy	€3.5/gr (min: €2.7gr – max: €3.8/gr)

1. *Price of cannabis at retail level, 2005 - EMCDDA Table PPP-1 Part (i)-PRICE-CANNABIS.htm*
2. *Price of heroin at retail level, 2005 - EMCDDA Table PPP-2 Part (i)-PRICE-HEROIN.htm*
3. *Price of cocaine products at retail level, 2005 - EMCDDA Table PPP-3 Part (i)-PRICE-COCAINE.htm*
4. *Price of synthetic drugs at retail level, 2005 - EMCDDA Table PPP-4 Part (i)-PRICE-SYNTHETIC.htm*

In 2006, a substantial increase can be observed in the average price per gram for the majority of substances, when compared to the previous year. In 2006, the average price for cannabis resin was €6/gram whereas in 2005 the average price was €4/gram. The average price for brown heroin increased from €8/gram in 2005 to €14.5/gram in 2006. Furthermore, the average price for cocaine increase from €50/gram in 2005 to €90/gram, whereas the average price for ecstasy was €3/tablet in 2005 and increased to an average price of €6/tablet in 2006 (Country overview).

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

The first study covering Turkey was conducted by the public sector and by the Turkish Psychiatrists Association in 2002. The survey was conducted with 7681 respondents, surveyed at home. Results from this study indicate that 1.2% of participants (n=97) in this study used illicit drugs at least once in their lifetime. Another study on drugs use among the overall population (aged 15–64) in Turkey was realised in coordination with UNODC. Results from his study indicate that 0.05% of participants in this study had used opium poppy derivative drugs and 0.06% had used volatile drugs at least once in their lifetime (Country overview).

In addition to that, an ESPAD survey, covering 6149 samples aged 15-16 has been conducted in 6 metropolitan cities (Adana, Ankara, Diyarbakır, İstanbul, İzmir and Samsun). According to the result of this study, 4.2% use inhalants 4.3% use cannabis, 1.8% use ecstasy, 3% use tranquilliser, 1.5% use heroin, and 1.6% use cocaine at least one time in the life time period. Apart from that ESPAD survey, a research study exists which was conducted by the Turkish Grand National Assembly Research Commission to examine behaviour among schoolchildren. The study, conducted among 26 009 students in 261 schools (130 official and 131 private) in 60 provinces selected by TUİK (Turkish Statistical Institute), indicates that 15.6% of students smoke tobacco, 16.5% have drunk alcohol at least once in the last month, and 2.9% have used drugs/stimulants in the last three months (Country overview).

The rate of opium poppy derivative drugs in Turkey in the overall population between the ages 15-64 is estimated to be 0.05% and the rate of volatile drugs in 0.06% in average (National Report, 2007).

Life-time prevalence among young people (15-16 years) in percentages

	2003	1998
Heroin	2[1]	No data found
Cocaine	2[1]	No data found
Cannabis	4 (LTP), 5 (LYP), 3 (LMP)[2]	No data found
ATS	Amphetamine 2 + Ecstasy 2[1]	No data found

1. Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old - EMCDDA Table EYE-01-LIFETIME PREVALENCE-15-16.htm.
2. Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old - EMCDDA Table EYE-05 Part (i)-CANNABIS-15-16.htm.

There has been an increase in use of drugs over the years, although heroin use is rather low compared to the use of cannabis and synthetic drugs. There was no XTC use in Turkey 10 years ago, it started to show on the domestic market around 2003; methamphetamine use is still rare. Captagon is produced in Turkey but use in Turkey itself is limited. Cocaine use is also very limited. It can be found in Istanbul and big tourist areas in summer time. The use of Ketamine, GHB, or magic mushrooms is very rare (no seizures of any importance of these drugs so far in Turkey) (expert's comments).

There is no information available on last-year and last-month prevalence in the general population.

2.2.2 Problematic drug users/chronic and frequent drug users

So far, there is no national problem drug use estimate available in Turkey (Country overview).

Data on number of drug users were collected from 2004 onwards. Only reliable data from persons seeking in-patient treatment are available (expert's comments). In 2004, 1,427 persons have been treated for drug addiction (Ministry of Interior, 2007a).

There is no detailed information on the exact number of drug addicts in Turkey nor on the routes of administration (Ministry of Interior, 2007a). The estimated number of drug users is 30,000-40,000; the estimated number of problematic users 5,000 (heroin users) (expert's comments).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2004[1]	1998
0%	No data found

1. Prevalence of HIV infection (percentage) among injecting drug users - Data, 1991 to 2006 Prevalence of HIV infection among injecting drug users in the EU - EMCDDA Table INF-1-HIV-AMONG-IDU.htm

According to a 2008 IHRA report on the state of harm reduction in 2008, adult HIV prevalence amongst people who inject drugs is considered 0% in Turkey (Cook et al., 2008).

Regarding HIV, data from the Ministry of Health General Directorate of Essential Health Services, recorded a total of six IDUs declaring being HIV positive in 2006 (Country overview).

The number of newly HIV infected injecting drug users[1]

2005	1998
0.1 (a) 8 (b)	0.1 (a) 6 (b)

1. HIV infection newly diagnosed in injecting drug users by year of report from 1992 to 2005 (a) cases per million population and (b) number of cases – EMCDDA Table-INF-104-part0(1).xls

Sources: European Centre for the Epidemiological Monitoring of AIDS (EuroHIV)

The number of drug related deaths by overdose

	2007	2003
Drug related overdose	16[1] 24[2]	6[1]

1. Ministry of Interior, 2007a.

2. Expert's comments.

Available figures for drug related deaths by overdose differ substantially.

Until 2005, data on drug-related deaths were collected and accessible through police records. In 2006, within the framework of the Phare project and in direct collaboration with the EMCDDA, a special working group on drug-related deaths data was created. This new working group is composed of three main partners. The Ministry of Justice; the General Directorate of the Security Department of Anti-smuggling and Organised Crime and the General Command of Gendarmerie Department of Anti-smuggling and Organised Crime. The working group, together with several other international experts and the EMCDDA, is currently developing a new and reliable system for data collection on drug-related deaths (Country overview).

There is a study claiming a number of 'deaths from drug overdose and toxicity' for the period 1997-2001, i.e. 374 deaths, with a mortality rate of 0.17 per 100,000 population. Highest mortality rates were found in Istanbul (0.83) and Gaziantep (0.71). The mean age was 34.0, and most cases (71.7%) were below the age of 40. The proportion of female cases was 13.6%. Opiates were implicated in 91.5% of deaths and benzodiazepines in 25.9%. Two fifths (38.8%) of the cases involved use of more than 1 drug. In 36.6% of cases, the route of final drug administration was by injection. The most common location of death was at a home (33.7%). In 1998 the number of drug-related death was 58 (Colak, 2006).

In 2006, there were approximately 51 drug-related deaths reported, with 88% being male (n=51) and 12% female; 44 due to opium poppy and derivates; 5 due to amphetamines; 2 due to MDMA. Furthermore, 86% of the drug-related deaths were due to opium poppy drugs and their derivatives, followed by 1% for amphetamines and 4% for ecstasy (Country overview; National Report, 2007).

2.3.2 Drug related crime or (societal) harm

No information found on drug related crime or (societal) harm.

3 Drug policy

3.1 General information

Turkey's 'National policy and strategy document on counteracting addictive substance and substance addiction 2006–12' replaces the former 'Strategy document on preventing, monitoring and management on drug addiction 1997–2006'. The new strategy is comprehensive, focuses mainly on illegal drugs and covers the same five pillars as in the EU strategy: coordination, supply reduction, demand reduction, international cooperation and information/ research/ evaluation. It also has 12 main objectives, among which are: (1) preventing addictive substance trafficking and abuse, and (2) protecting the whole population and risk groups. The new strategy is complemented by an action plan for the period 2007–09, which was adopted in December 2007 (Country overview).

Besides this strategy an "Action Plan for the Implementation of National Policy and Strategic Document on Counteracting Addictive Substance and Substance Addiction, 2007-2009" (Ministry of Interior, 2007) was produced. Both the National Drug Strategy and First National Drug Action Plan were put in place in 2007.

The Narcotic Coordination Committee has been established recently through the first action plan, and is covering all aspects of the drug phenomenon, not only addiction. This committee consists of all relevant representatives of Ministries. The Turkish Monitoring Centre for Drugs and Drug Addiction (TUBIM) coordinates correspondents all over the country (Country overview).

3.1.1 Policy expenditures

The drug policy expenditures in Turkey increased during the past ten years as the efforts taken by Turkish law enforcement increased substantially. The majority of expenditures target supply reduction (expert's comments).

Total expenditures on in-patient treatment maybe 3 million TRY (1.5 million)[1], for out-patient treatment maybe 2 million TRY (€1 million) (expert's comments).

3.1.2 Other general indicators

Numbers on arrests and imprisonment for drug-law related offences

Offences types involved in reports for drug law offences[1]

Use/possession for use	48%
Dealing/trafficking	52%
Use and trafficking	No data found

1. Offences types involved in reports for drug law offences: percentages of all reports for drug law offences, EMCDDA Table DLO-2-DRUG-LAW-OFFENCES.

Number of reports of drug law offences[1]

2005	2002
13,229	8,360

1. Number of reports of drug law offences 1995 to 2005, EMCDDA Table DLO-1-OFFENCES-NUMBERS.htm

2002 data refer only to police data, while data for the period after 2002 refer to all data reported by the main prosecuting authorities (police, gendarmerie, customs); this change is likely to affect comparability across time (expert's comments).

1 Exchange rate in December 2008: 1 TRY = €0.5

Numbers on arrests and imprisonment for use/possession for personal use

Number of drug law offences related to drug use or possession for use[1]

2005	2002
6,350	3,951

1. Number of drug law offences related to drug use or possession for use 1999-2005, EMCDDA Table DLO-4-OFFENCES-USE-+POSSESSION.htm

Percentage of total drug law offences that are related to drug use or possession for use[1]

2005	2002
48	47.3

1. Percentage of total drug law offences that are related to drug use or possession for use 1996-2005, EMCDDA Table DLO-5-PERCENTAGE-DRUG-USE+POSSESSION.htm

Cannabis-related offences: as percentage of all drug law offences[1]

2005	2002
70.5	74.5

1. Cannabis-related offences: as percentage of all drug law offences, 1996-2005, EMCDDA Table DLO-6-CANNABIS-OFFENCES.htm

Heroin-related offences as percentage of all drug law offences[1]

2005	2002
10.6	12.9

1. Heroin-related offences as percentage of all drug law offences, 1996-2005, EMCDDA Table DLO-7-HEROIN-OFFENCES.htm

The number of drug related arrests has increased in the past decade; one of the reasons for this increase is the fact that Turkish drug control measures were intensified during this period (expert's comments).

The Turkish Penal Code outlines prison sentences of one to two years for those who grow, receive or provide drugs for personal use, while someone using drugs may be subjected to treatment and/or probation for up to three years. There is also an option of judicial supervision rather than arrest under the Penal Procedure Code, for any offence with a maximum possible sentence of three years. For any offence committed under the influence of drugs, there is no penalty for an offender who could not comprehend or control his actions (this exemption will not apply if the drugs were taken deliberately). Instead such offenders, and those posing a serious threat to society due to addiction, may be sent to a secure institution for treatment and protection (Country overview).

Since the introduction of the diversion option (June 2005) probation services started, introducing the possibility for judges to divert convicted drug users to treatment. There are 134 branches, and since this date treatment demand increased considerably (expert's comments).

Production and import or export of drugs are punished by a minimum sentence of 10 years, and sale or supply by a sentence of 5–10 years. However, in this case punishments are linked to drug type, with a specific requirement to increase the above sentences by 50% if the drugs involved are cocaine, heroin, morphine or morphine base; a similar increase is obliged for involvement of organised crime, or individuals in positions linked to legal trade such as doctors, pharmacists, health officers, etc (Country overview).

3.2 Supply reduction: Production, trafficking and retail

The main focus in Turkey is on anti-trafficking measures reflecting Turkey's geographical position as a transit country.

Both the "National Policy and Strategy Document on Counteracting Addictive Substance and Substance Addiction, 2006-2012" (Ministry of Interior, 2006) and the "Action Plan for the Implementation of National Policy and Strategic Document on Counteracting Addictive Substance and Substance Addiction, 2007-2009" (Ministry of Interior, 2007) have a strong emphasis on supply reduction.

In the National Policy the Republic of Turkey has adopted approaches that:

1. consider crimes related to supply of illicit substances as crimes against humanity and substance addiction as a disease and an important public problem;
2. are based on systematic, holistic, inter-disciplinary, multi-sectoral, mutual communication and interaction in efforts for prevention, protection and rehabilitation aspects of trafficking and abuse of addictive substances under the light of own experiences and practices derived from scientific practices;
3. focus on conducting the activities by means of effective, efficient and dynamic thoughts and in pluralist, multi-dimensional cooperation and coordination within the framework of national and international agreements and new policies and strategies devised in conformity with national legislation; respect the dignity and value of being a human (Ministry of Interior, 2006).

There has been a large increase in supply reduction (anti-trafficking) measures over the past years inside Turkey and at its borders, which might have supported the growth of the Northern Black Sea route (through Ukraine). The number of anti-trafficking operations targeting local drug trafficking organizations increased from 36 in 2005 to 444 in 2007 (National Report, 2007). The number of international operations increased from 12 in 2003 to 47 in 2007 (National Report, 2007). There is also an increase of arrested people and of the amount of drug seizures (expert's comments).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007[1]	1998[1]
School-based prevention	Common	Not at all
Mass media campaigns	Uncommon	Uncommon
Telephone helpline	Common, one line deals partially with these issues	No data found

1. Expert's comments.

There is a nationwide prevention programme available, but it has so far been fully implemented in 12 provinces only (expert's comments).

The main prevention programmes undertaken in Turkey focus on a number of areas: increasing awareness of drugs; dissemination of information; increasing individual and social skills; and reinforcing environments that may deter drug-taking (Country overview).

Universal drug prevention in Turkish schools falls under the responsibility of the Ministry of Education. Prevention programmes are mostly targeted at young people through seminars, discussion panels and conferences. Furthermore, training is also provided to teachers and administrators, with the aim of preventing young people from initiating drug use. In 2006, various conferences, seminars, theatre performances and awareness-raising activities were organised around the themes of alcohol, gambling and drug addiction. These were targeted at the general population, non-governmental organisations, public institutions and the private sector (Country overview).

In 2006, a total of 1,013 activities were conducted by 243 personnel, assigned in EGM/KOM/implementation and liaison departments. A total of 178,521 persons were reached, consisting of 7,166 teachers, 15,519 student-guardians, 10,891 NGO members, 5,926 public institutions officers, 6,535 private sector workers and 127,640 primary, high school and university

students. In 2006, TUBİM provincial focal points organised awareness-raising information activities on the prevention of drug use and addiction. These activities were delivered to 10,891 non-governmental organisations, 5,926 public institutions and 6,535 private sector personnel (Country overview).

Treatments available

	2007[1]	1998[1]
Abstinence oriented in-patient	Predominant-common	Uncommon
Abstinence oriented out-patient	No data found	No data found
Abstinence oriented mandatory	Not at all (only for people -18 yrs)	No data found
Abstinence oriented voluntary	Predominant-common	No data found
Maintenance oriented	Not at all	Not at all

1. Expert's comments.

Drug addiction is considered as an illness, according to regulations (Ministry of Interior 2007a). However, according to the Turkish laws, drug use is defined both as a disease and as criminal act.

As a result main focus in Turkey is on abstinence oriented drug treatment; substitution treatment (abstinence or maintenance) does not exist (Mathers et al., 2008).

Treatment demand data in Turkey are provided by the Directorate General for Treatment Services of the Ministry of Health. In 2006, data were gathered from 15 national in-patient treatment centres, out of the 17 in-patient treatment centres (Country overview).

During 2006, a total of 2,853 in-patient clients entered treatment, out of which 1,530 were first-time clients. Data regarding treatment clients suggest that 41.8% of all clients entering treatment reported opioids as the primary drug, followed by 37.2% for cannabis and 3.8% for cocaine and ecstasy respectively. Among first time treatment clients, a slightly different trend was identified, with 50.8% for cannabis, followed by 28.6% for opioids and 4.2% for ecstasy (Country overview).

Furthermore, in 2006, 32% of all clients entering treatment were aged less than 25 years. A higher percentage in age distribution was reported among new treatment clients, with 39.2% under the age of 25 years. As far as gender distribution is concerned 94.6% of all clients were male whereas, a relatively smaller proportion of 5.4% were female. A similar trend in gender distribution was reported among first time treatment clients with 95.4% for male and 4.6% for female (Country overview).

The implementation of drug-related treatment in Turkey falls under the responsibility of the state, where the Science Committee for Methods of Drug Addiction treatment is responsible for the national coordination of drug-related treatment. The main tasks of this committee are to monitor, accredit and evaluate treatment services. Drug-related treatment is provided mainly by public agencies, private entities and NGOs. Funding for drug treatment services is mainly provided by the state and through health insurance funds (Country overview).

The majority of treatment services for problem drug users are aimed at dealing with addiction in general and not specifically for users of illicit drugs. Drug-free treatment aimed at achieving a future drug-free life is the main approach adopted by Turkish treatment programmes. The interventions in drug-free programmes consist of psychotherapeutic methods and supporting methods, with the majority of drug related treatment services taking place within in-patient settings. In Turkey substitution treatment is not yet available (Country overview).

Specific treatment differentiated per substance used exists only in 1 private centre. (There are a few private centres for the treatment of drug addiction in Turkey) (expert's comments).

The demand for treatment among drug users increased largely after the Probation Act was put in place, in 2006, but the number of users of different substances however, did not increase (expert's comments).

When the number of people who are in the probation system (diversion) are included, it is obvious that there is a need for more treatment centres and additional expert personnel (National Report, 2007).

There are only data about in-patient treatment available; reliable data for out-patient treatment are not available (National Report, 2007).

Priorities of demand reduction covered by policy papers and/or law

Before 2004, there were no good protocols. Drug treatment services worked according to the hospital rules. There has been no recent change in the laws in last years, but the Turkish penal code has changed, now allowing for diversion (treatment instead of prison sentence).

A change in regulations is needed as the treatment regulations are now still based on a psychiatric concept. Out-patient and long-term in-patient treatment should also be covered (expert's comments).

A decree concerning certification of doctors, psychiatrists and nurses to be assigned to drug treatment centres dealing with training programmes and examinations has been published. A guide book is prepared for diagnosis and treatment criterion to be used as education curriculum (Ministry of Interior, 2007a). There are now official Regulations for Drug Addiction Treatment Centres and a Drug Addiction Treatment Methods Scientific Commission (Ministry of Interior, 2007a). Drug treatment is also a priority in the "National Policy and Strategy Document on Counteracting Addictive Substance and Substance Addiction, 2006-2012" (Ministry of Interior, 2006) and the "Action Plan for the Implementation of National Policy and Strategic Document on Counteracting Addictive Substance and Substance Addiction, 2007-2009" (Ministry of Interior, 2007).

The most important statements

The main objectives of the National Strategy are as follows:

1. Preventing addictive substance trafficking and abuse;
2. Protecting the whole population and risk groups;
3. Improving the existing organizational network in order for all parties to conduct more effective activities for risk groups;
4. Supporting the structures with specialized and qualified personnel to work professionally in the fields of protection, prevention and training;
5. Completing the institutional structuring and increasing the administrative capacity of the centre as EMCDDA Turkish National Focal Point and provinces, better functioning of the organizations, creating a holistic, multi-organizational and shared database and establishing a working environment based on coordination and cooperation;
6. Considering utmost benefit to the society and individuals in line with prevention of substance abuse and trafficking;
7. Protecting the health of communities and individuals at national and international levels;
8. Raising independent, creative, productive and qualified children and young people who are healthy in physical, emotional and social aspects;
9. Providing children and young people with better opportunities for living, protection, growing, and participation parallel to International Convention on the Rights of Child;
10. Developing programmes and projects that will ensure effective participation of children and young people in social life;
11. Educating young people to make them responsible individuals in every field and level (Principles of International Youth Year - 1985);
12. Providing a safe, qualified life with high level of freedom, justice, safety and welfare through an effective fight against trafficking and abuse of addictive substances in the world and Turkey;
13. Creating a social solidarity which will allow every individual in all segments of the society to be sensitive to each activity encouraging committing crime or using an addictive substance (Ministry of Interior, 2006).

The primary objective of the First National Action Plan: to prevent public use of illicit drugs and drug-related crimes, to reduce harmful effects of drugs on public and public health and to improve treatment facilities (Ministry of Interior, 2007).

Those priorities are covered by law and legal provisions, among which the Turkish Drug Law, the Law Concerning the Protection of Families, Highway Traffic Law, Code of Criminal Procedure, Turkish Civil Code, and the Turkish Penal Code.

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available[1]

Types	2007	1998
Syringe exchange programmes	Uncommon-not at all	Not at all
Overdose treatment (naloxone)	No data found	No data found
Outreach work (actively seeking contact with drug users)	Not at all	Not at all
Safer use education (flyers, folders, training)	Not at all	Not at all
Drop-in centres (low-threshold)	Not at all	Not at all

1. Expert's comments.

Harm reduction does not exist as such in Turkey. Substitution treatment is not available but pending for approval. Needle and syringe exchange programs are not available (Mathers et al., 2008) except for some harm reduction intervention at a local level. There are mentions of some needle and syringe exchange in Istanbul (expert's comments).

Harm Reduction is mentioned in the National Drug Strategy and First National Drug Action Plan as well as in treatment protocols. However there are no programmes yet.

The third 'National strategic AIDS action plan for the years 2007–11' was adopted in 2006. This action plan includes targets and strategies concerning prevention, diagnosis and increased access to treatment, increased education, and development of legislation, social support, monitoring, and evaluation of activities regarding HIV/AIDS/HBV/HBC. Several activities are planned for 2008, such as increasing the awareness among intravenous drug users of HIV-AIDS, investigating behavioural changes associated with drug use, training field workers, as well as the 'Turkey HIV/AIDS prevention and support programme'. Currently, neither opioid substitution treatment nor needle and syringe exchange programmes are available in Turkey (Country overview).

3.4.2 Crime, societal harm, environmental damage

No information found on interventions/measures to reduce harm for society.

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T. Bora, Superintendent, Forensic chemist expert, Ministry of Interior, General Directorate of Turkish national police department of Ankara criminal police laboratories.
A. Gevenkiris, Turkish Grain Board, Director of poppy and alkaloid affairs department.
A. Hakan, Expert doctor, Chairman of forensic medicine institute. Ankara Office.
K. Kamer Vehbi, Department Head for probation and help centres.
E. Kavasoglu, Ministry of Health, Treatment service.
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UNITED KINGDOM

1 General information

Location:
Western Europe, islands including the northern one-sixth of the island of Ireland between the North Atlantic Ocean and the North Sea, northwest of France

Area:
244,820 sq km

Land boundaries/coastline:
360 km / 12,429 km

Border countries:
Ireland 360 km

Population:
60,943,912 (July 2008 est.)

Age structure:
0-14 years: 16.9% (male 5,287,590/female 5,036,881)
15-64 years: 67.1% (male 20,698,645/female 20,185,040)
65 years and over: 16% (male 4,186,561/female 5,549,195) (2008 est.)

Administrative divisions:
England: 34 two-tier counties, 32 London boroughs and 1 City of London or Greater London, 36 metropolitan counties, 46 unitary authorities
Northern Ireland: 26 district council areas
Scotland: 32 unitary authorities
Wales: 22 unitary authorities

GDP (purchasing power parity):
$2.13 trillion (2007 est.)

GDP (official exchange rate):
$2.773 trillion (2007 est.)

GDP- per capita (PPP):
$35,000 (2007 est.) (CIA World Factbook)

Drug research
Governmental departments take the lead in funding, coordinating and conducting drug-related research but many universities also carry out drug-related research within relevant research institutes, centres and groups. In addition, a number of non-academic organisations undertake drug-related research when commissioned to do so. Funding is also available from research councils, foundations and trusts. The UK REITOX National Focal Point is based at the Department of Health, and works in collaboration with the John Moores University in Liverpool – maintains a listing of current research and recent publications including journal articles. An extensive number of scientific journals, websites dedicated to research and national drug conferences are the main channels for disseminating drug-related research findings. There are many drug researchers and different research groups at universities and in other institutions and organisations. Different agencies contribute to monitoring the drug problems and drug policy (Country overview).

Main drug-related problems
The main drug problem in UK is consumption followed by trafficking (mainly imported), Production plays a minor role although there is increasing domestic production of cannabis; in 2008 sinsemilla accounted for 81% of the UK cannabis market (expert's comments).

2 Drug problems

2.1 Drug supply

2.1.1 Production

Total quantities (kg) produced

	2007	1998
Opiates	No data found	No data found
Cocaine	No data found	No data found
Cannabis	25,760 kg of herbal cannabis in 2006/07; 366,057 plants seized.	
ATS	No data found	No data found

2.1.2 Trafficking

Total quantities (kg) seized and number of seizures

	2004	1998
Heroin	2,262 kg[1] Number of seizures: 13,659[2]	1,348 kg[1] Number of seizures: 15,192[2]
Cocaine	4,638 kg[3] Number of seizures: 8,739[4]	2,962 kg[3] Number of seizures: 5,209[4]
Cannabis resin	64,906 kg[5] Number of seizures: 2,084[6]	88,522 kg[5] Number of seizures: 84,983[6]
Herbal cannabis	21,491 kg (2003: 29,598, 2002: 35,012)[7] Number of seizures: 42,331[8]	21,730: kg[7] Number of seizures: 32,592[8]
Cannabis plants	95,103 plants[9] Number of seizures: 2,995[10]	123,043 plants [9] Number of seizures: 2,832[10]
Amphetamine	1,393 kg[11] Number of seizures: 7,257[12]	1,811 kg[11] Number of seizures: 18,630[1]
Ecstasy	Number of tablets: 4,986,911[13] Number of seizures:7,351[14]	Number of tablets: 2,127,345[13] Number of seizures: 4,850[14]

1. *Quantities (kg) of heroin seized, 1995 to 2005, EMCDDA Table SZR-8-SEIZURE-HEROIN-QUANTITY.htm*
2. *Number of heroin seizures, 1995 to 2005, EMCDDA Table SZR-7-SEIZURE-HEROIN-NUMBER.htm*
3. *Quantities (kg) of cocaine seized, 1995 to 2005, EMCDDA Table SZR-10-SEIZURE-COCAINE-QUANTITY.htm*
4. *Number of cocaine seizures, 1995 to 2005, EMCDDA Table SZR-9-SEIZURE-COCAINE-NUMBER.htm*
5. *Quantities (kg) of cannabis resin seized, 1995 to 2005, EMCDDA Table SZR-2-CANNABIS-QUANTITY.htm*
6. *Number of Cannabis resin seizures, 1995 to 2005, EMCDDA Table SZR-1-SEIZURE-CANNABIS-NUMBER.htm*
7. *Quantities (kg) of herbal cannabis seized, 1995 to 2005, EMCDDA Table SZR-4-SEIZURE-HERBAL-CANNABIS-QUANTITY.htm*
8. *Number of herbal cannabis seizures, 1995 to 2005, EMCDDA Table SZR-3-SEIZURE-HERBAL-CANNABIS-NUMBER.htm*
9. *Quantities (number of plants) of cannabis plants seized, 1995 to 2005, EMCDDA Table SZR-6-SEIZURE-CANNABIS-PLANTS-QUANTITY.htm*
10. *Number of seizures of cannabis plants, 1995 to 2005, EMCDDA Table SZR-5-SEIZURE-CANNABIS-PLANTS-NUMBER.htm*
11. *Quantities (kg) of amphetamine seized, 1995 to 2005, EMCDDA Table SZR-12-SEIZURE-AMPHETAMINES-QUANTITY.htm*
12. *Number of amphetamine seizures, 1995 to 2005, EMCDDA Table SZR-11-SEIZURE-AMPHETAMINE-NUMBER.htm*
13. *Quantities (tablets) of ecstasy seized, 1995 to 2005, EMCDDA Table SZR-14-SEIZURE-XTC-QUANTITY.htm*
14. *Number of ecstasy seizures, 1995 to 2005, EMCDDA Table SZR-13-SEIZURE-XTC-NUMBER.htm*

Additional information

Heroin from Afghanistan and the Golden Triangle enters the UK via Northern Cyprus and Turkey in freight vehicles. Trafficking of heroin also occurs via flights with a connection to Turkey and Pakistan. Cocaine from South and Central America, in particular Colombia, Peru and Bolivia, arrives in the UK mainly via Spain and the Netherlands, but also by air courier, either

directly from South America or via the Caribbean. Morocco is the primary source of cannabis resin for the UK market. Main routes for transhipment are by road through the Iberian Peninsula, France and Belgium. In addition, there are indications of intensive hydroponic cultivation in the UK. Ecstasy and other synthetic drugs enter the UK from the Netherlands and Belgium, through ferryboats and the Channel Tunnel. However, some synthetic drugs are produced in the UK, including amphetamines (Country overview).

Estimated market value

A substantial fall of around 20 per cent in most drug prices over this four-year period, with a particularly striking price fall for ecstasy (Home Office, 2006).

Seizures

In 2005 there were 189,032 seizures of drugs in the United Kingdom, a 42 per cent increase from the previous year. Increases are reported for all drugs, the largest being for herbal cannabis (74.2%), cannabis plants (44.6%), and cocaine (51.5%). There was a decrease in the quantity of seizures for a number of drugs including herbal cannabis, cannabis resin, cocaine, crack and heroin (National Report, 2007).

Number of seizures of drugs by law enforcement agencies in the United Kingdom, 2003 to 2005

Drug	2003	2004	2005	% change from 2004
Amphetamines	6,952	7,254	8,656	+ 19.3
Cannabis – herbal	36839	42,814	74,575	+ 74.2
Cannabis – resin	60,068	52,218	59,204	+ 13.4
Cannabis plants	2,904	2,995	4,331	+ 44.6
Cocaine	7,707	8,763	13,272	+ 51.5
Crack	4,814	4,974	6,479	+ 31.3
Ecstasy type substances	7,577	7,388	7,539	+ 2.0
Heroin	12,965	13,674	16,402	+ 20.0
LSD	131	152	229	+ 50.7

Source: compiled from Standard Table by J. Corkery
(National Report, 2007)

The quantity of cannabis plants seized increased substantially, as did LSD and amphetamines (National Report, 2007).

Quantity of seizures of drugs by law enforcement agencies in the United Kingdom, 2003 to 2005

Drug	Unit measure for quantities	2003	2004	2005	% change from 2004
Amphetamines	Kg	1,626	1,389	2,330	+ 57.7
Cannabis – herbal	Kg	29,412	21,496	20,650	- 3.9
Cannabis – resin	Plant	65,379	64,920	50,395	- 22.4
Cannabis plants	Kg	83,972	95,103	212,971	+ 124.0
Cocaine	Kg	7,773	4,644	3,862	- 16.8
Crack	Kg	253	135	58	- 57.0
Ecstasy type substances	Tablet (000s)	7,435	4,991	3244	- 35
Heroin		2,732	2,260	1,970	- 12.8
LSD	Dose (000s)	50	23	131	+ 469.6

Source: compiled from Standard Table by J. Corkery
(National Report, 2007)

2.1.3 Retail/Consumption

Estimate of total quantities (kg) used

	2007[1]	1998
Opiates	Price has fallen slightly	No data found
Cocaine	The price of cocaine is stable	No data found
Cannabis	Price has remained stable	No data found
ATS	Price has fallen	No data found

1. National Report, 2007.

Estimated retail value

in 2005:

Cannabis[1]

Cannabis resin:	€2.9/gr (min: €1.6/gr - max: €5.2/gr)
Herbal cannabis:	€3.9/gr (min: €1/gr - max: €7.8/gr)

Heroin[2]

Heroin undistinguished:	€79.5/gr (min: €29.5/gr - max: €147.3/gr)

Purity of heroin[3]

Heroin undistinguished:	No data found
Brown heroin	€46.5 (min: €1 - max: €97)
White heroin:	No data found

Cocaine products[4]

Cocaine	€72.2/gr (min: €29.5/gr – max: €117.8/gr)
Crack	€28.0/gr (min: €7.4/gr - max: €73.6/gr)

Purity of cocaine products[5]

Cocaine	€43 (min: €1 - max: €99)
Crack	€65 (min: €6 - max: €100)

Synthetic drugs[6]

Amphetamine	€14.73/gr (min: €4.42/gr - max: €29.45/gr)
Ecstasy:	€5.89/gr (min: €0.37/gr - max: €14.73/gr)

Purity of synthetic drugs[7]

Amphetamine:	€10.1 (min: €1 - max: €73)
Methamphetamine:	€77 (min: €77/gr max: €77)
Ecstasy:	€81 (min: €46 - max: €132)

1. Price of cannabis at retail level, 2005, EMCDDA Table PPP-1 Part (i)-PRICE-CANNABIS.htm

2. Price of heroin at retail level, 2005, EMCDDA Table PPP-2 Part (i)-PRICE-HEROIN.htm

3. Purity of heroin at retail level, 2005, EMCDDA Table PPP-6 Part (i)-PURITY-HEROIN.htm

4. Price of cocaine products at retail level, 2005, EMCDDA Table PPP-3 Part (i)-PRICE-COCAINE.htm

5. Purity of cocaine products at retail level, 2005, EMCDDA Table PPP-7 Part (i)-PURITY-COCAINE.htm

6. Price of synthetic drugs at retail level, 2005, EMCDDA Table PPP-4 Part (i)-PRICE-SYNTHETIC.htm

7. Purity of synthetic drugs at retail level, 2005, EMCDDA Table PPP-8 Part (i)-PURITY-SYNTHETIC.htm

Data from law enforcement agencies show that the average price of amphetamines, crack, ecstasy and heroin fell in 2006, whilst cocaine and cannabis herb prices remained stable (National Report, 2007).

Law enforcement agencies: Mean price of illegal drugs in the United Kingdom, 2003 to 2006

Drug (price per gram)	2003	2004	2005	2006
	Exchange rate: €1.4246* = £1	Exchange rate: € 1.4401* = £1	Exchange rate: € 1.4725* = £1	Exchange rate: € 1.486* = £1
Amphetamines	£9.00	£8.00	£10.00	£9.00
	€12.82	€11.52	€14.73	€13.37
Cannabis herb	£2.54	£2.54	£2.64	£2.68
	€3.62	€3.66	€3.89	€3.98
Cannabis resin	£2.32	£2.00	£1.94	£2.12
	€3.31	€2.88	€2.86	€3.15
Cocaine	£55.00	£51.00	£49.00	£49.00
	€78.35	€73.45	€72.15	€72.81
Crack (per 0.2g)	£19.00	£18.00	£19.00	£18.00
	€27.07	€25.92	€27.98	€26.75
Ecstasy**	£5.00	£4.00	£4.00	£3.00
	€7.12	€5.76	€5.89	€4.46
Heroin	£62.00	£55.00	£54.00	£52.00
	€88.33	€79.21	€79.52	€77.27
LSD	£3.00	£3.00	£3.00	£3.00
	€4.27	€4.32	€4.42	€4.46

** Conversion rates are the monthly rates quoted by the Bank of England (December monthly averages – spot exchange rate) Euro to Sterling. The source data in pounds (£) are provided in whole pounds.*

*** Average price per tablet*

(National Report, 2007)

2.2 Drug Demand

Survey data on drug use amongst adults in England and Wales (2006/07) show that the fall in recent prevalence of drug use, first seen in 2004/05, has continued. This is mainly accounted for by a fall in cannabis use. Similar trends are seen in Northern Ireland. In Scotland, changes in the methodology of the 2006 survey mean that it is not possible to make any meaningful comparisons with previous surveys.

While prevalence amongst young people (aged 16 to 24) continues to be much higher than amongst the adult population as a whole, similar trends to those found in the wider group can be seen, with declining overall drug use and cannabis use. Use of cocaine, however have continued to increase.

Amongst school children prevalence also continues to fall. The decrease is mainly attributable to a fall in the two most common drugs, cannabis, and, amongst this group, volatile substances. Cocaine use appears to be stable (National Report, 2007).

Young adults under 35 are significantly more likely to use drugs, and amongst those who are under 25 years old, recent (last year) and current (last month) prevalence is higher still. In England and Wales, amongst these young adults, there has nevertheless been a steady decline in the recent use of any drug since 1998 (National Report, 2007).

Cannabis continues to be the most commonly used drug across all age groups, with prevalence rates close to those for use of any drug. Use of other drugs is considerably lower. Since the late 1990s the British Crime Survey shows that use of cocaine increased substantially and it is now the second most used drug amongst adults. However, there has been a corresponding decline in use of amphetamines, previously the second most used drug (National Report, 2007).

2.2.1 Experimental/recreational drug users in the general population

Life-time prevalence in the general population in England and Wales in percentages

	2006-7[1]	1998[2]
Heroin	0.8	No data found
Cocaine	Cocaine powder 7.5	3.8
Cannabis	30.1	26.8
ATS	Amphetamines 11.9 Ecstasy 7.3	Amphetamines 10.8 Ecstasy 4.2

1. *Percentage of 16-59 year olds reporting having used drugs in lifetime, in England and Wales, 2006/07 (National Report, 2007).*
2. *Lifetime prevalence of drug use among all adults (aged 15 to 64 years old) in nationwide surveys among the general population - EMCDDA Table GPS-1- LIFETIME-15-64.htm*

Last-year prevalence in the general population in percentages

	2006-7[1]	1998[2]
Heroin	0.2	0.1
Cocaine powder	2.6	1.2
Cannabis	8.2	10.3
ATS	Amphetamines 1.3 Ecstasy 1.8	Amphetamines 3.0

1. *Percentage of 16-59 year olds reporting having used drugs last year, in England and Wales, 20006/07 (National Report, 2007).*
2. *Home Office 2008 - http://www.homeoffice.gov.uk/rds/pdfs08/hosb1308.pdf*

Last-month prevalence in the general population in percentages

	2006-7[1]	1998[2]
Heroin	0.1	0.0
Cocaine powder	1.2	0.4
Cannabis	4.8	6.1
ATS	Amphetamines 0.5 Ecstasy 0.8	Amphetamines 1.4

1. *Percentage of 16-59 year olds reporting having used drugs last month, in England and Wales, 20006/07 (National Report, 2007).*
2. *Home Office 2008 - www.homeoffice.gov.uk/rds/pdfs08/hosb1308.pdf.*

Life-time prevalence among young people (15-24 years) in percentages

Percentage of pupils reporting use of individual drugs in the last year, England, 2001 to 2006

Drug	2001	2002	2003	2004	2005	2006
Any Drug	20.4	19.7	21.0	17.6	19.1	16.5
Amphetamines	1.1	1.2	1.2	1.3	1.2	1.2
Cannabis	13.4	13.2	13.3	11.3	11.7	10.1
Cocaine	1.2	1.3	1.3	1.4	1.9	1.6
Crack	1.1	1.0	1.2	1.1	1.0	0.8
Ecstasy	1.6	1.5	1.4	1.4	1.5	1.6
LSD	0.7	0.7	0.6	0.7	0.6	0.7
Magic Mushrooms	2.1	1.5	2.1	2.0	1.8	1.4
Opiates	0.8	0.8	0.9	0.7	0.9	0.7
Volatile substances*	7.1	6.3	7.6	5.6	6.7	5.1
Base	*9,357*	*9,830*	*10,371*	*9,666*	*9,174*	*8,132*

Source: Fuller 2007

(National Report, 2007)

Life-time prevalence among young people (15-24 years) in England and Wales in percentages

	2006-7[1]	1998[2]
Heroin	0.7	0.9
Cocaine powder	10.9	6.8
Cannabis	39.5	45.4
ATS	Amphetamines 11.2 Ecstasy 10.3	Amphetamines 21.5 Ecstasy 10.8

1. *Percentage of 16-24 year olds reporting having used drugs in lifetime, in England and Wales, 2006/07 (National Report, 2007)*
2. *Home Office 2008 - www.homeoffice.gov.uk/rds/pdfs08/hosb1308.pdf.*

Life-time prevalence among young people (15-16 years) in percentages

	2003	1997
Opiates	1[1]	1[3]
Cocaine	4[1]	2[3]
Cannabis	38[2]	38[4]
ATS	Amphetamines 3 Ecstasy 5 31 (LYP), 20 (LMP)[1]	Amphetamines 7 Ecstasy 3[3]

1. *Recent school surveys (2003-2005): lifetime prevalence (percentage) of psychoactive substance use among students aged 15-16 years old - EMCDDA Table EYE-01-LIFETIME PREVALENCE-15-16.htm*
2. *ESPAD 2003 school surveys: lifetime (LTP), last year (LYP) and last month (LMP) prevalence of cannabis use among students 15–16 years - EMCDDA Table EYE-05 Part (i)-CANNABIS-15-16.htm*
3. *School surveys: percentage lifetime prevalence of psychoactive substance use among students aged 15-16 years - EMCDDA Table EYE-03-LIFE-TIME-15-16-YEARS.htm*
4. *All ESPAD school surveys: prevalence and patterns of cannabis use among students 15–16 years EMCDDA Table EYE-07 Part (i)-CANNABIS-PREVALENCE-15-16.htm*

Last-year prevalence among young people (16-24 years) in England and Wales in percentages

	2006-7[1]	1998[2]
Opiates	0.2	No data
Cocaine	Cocaine powder 6.0	3.2
Cannabis	20.9	28.2
ATS	Amphetamines 3.5 Ecstasy 4.8	Amphetamines 9.9 Ecstasy 5.1

1. *Percentage of 16-24 year olds reporting having used drugs last year in England and Wales, 2006/07 (National Report, 2007).*
2. *Last year prevalence of drug use among the 15–24 age group in nationwide surveys among the general population – EMCDDA Table GPS-15-LAST-YEAR-15-24.htm*

Last-month prevalence among young people (16-24 years) in England and Wales in percentages

	2006-7[1]	1998[2]
Opiates	0.2	No data
Cocaine	Cocaine powder 3.1	1
Cannabis	12.0	18
ATS	Amphetamines 1.2 Ecstasy 2.5	Amphetamines 5.3 Ecstasy 2.2

1. *Percentage of 16-24 year olds reporting having used drugs last year in England and Wales, 2006/07 (National Report 2007, p 30 Table 2.4)*
2. *Last month prevalence of drug use among the 15–24 age group in nationwide surveys among the general population - EMCDDA Table GPS-16-LAST-MONTH-15-24.htm*

Additional information

Prevalence for 16 to 59 year olds, 1994 to 1998 in percentages

	1994	1996	1998
Lifetime	28	29	32
Within the last year	10	10	11
Within the last month	6	6	6

(National Report, 1999)

Proportion of young adults who have used drugs in their lifetime, in the last year or in the last month, 1996 and 1998 BCS, in percentages

	16-19 years		20 -24 years		25-29 years	
	1996	1998	1996	1998	1996	1998
Lifetime	45	49	49	55	41	45
Last year	31	31	27	28	17	19
Last month	19	22	18	17	10	11

(National Report, 1999)

2.2.2 Problematic drug users/chronic and frequent drug users

The number of problematic/chronic-frequent users (in the general population)

2005[1]	1996[2]
397,033-421,012	Lower Bound of Prevalence Estimate: 162,544 Upper Bound of Prevalence Estimate: 251,000

1. *Prevalence of problem drug use at national level: summary table, 2001-2005, rate per 1,000 aged 15-64 – Part (i) Overall problem drug use, EMCDDA Table PDU-1 Part (i)-NATIONAL-OVERALL-15-64.htm*
2. *Prevalence of problem drug use at national level - full listing of studies - EMCDDA - Table-PDU-102-Part (i)-PROBLEM-DRUG-USE.xls*

The number of injecting drug users (in the general population)

2005	1998
158,881-178,614[1]	No data found

1. *Prevalence of problem drug use at national level: summary table, 2001-2005, rate per 1,000 aged 15-64 – Part (ii) Injecting drug use, EMCDDA Table PDU-1 Part (ii)-NATIONAL-INJECTING-15-64.htm*

Evidence from research into problem drug use shows that opiates continue to be the main problem drug in the United Kingdom. Use of cocaine has continued to rise within the general population and is the second most used drug after cannabis. (National Report, 2007) Cannabis remains by far the most used drug in the general population in England and Wales, but use has declined significantly since 1998. (National Report 2007) Ecstasy remains the third most used drug in the general population, higher amongst young aged 16 to 24 (5%) though recent data shows no significant change from the previous year. In the general population recent and current use amphetamines remains low in the general population (National Report, 2007).

Expert comments

Problem drug use estimates in the UK are available at country (i.e. England, Northern Ireland, Wales or Scotland) and local level. Estimates are obtained though the capture-recapture and/or multiple indicator method, as is found to be appropriate for the data concerned. Definitions of problem drug use vary. Latest estimates for England are for 2005–06, are based on the capture-recapture method where possible, and, defining problem drug use as those who use opiates and/or crack, suggest 332,090 problem drug users, a rate of 10.2 per 1 000 population aged 15 to 64. In the United Kingdom as a whole, using data from recent studies (based on different time periods and definitions of problem drug use), the focal point estimated that there were 398,845 problem drug users, a rate of 10.15 per 1,000 population aged 15-64 (Country Overview).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

2005	2000
0.8-3.2%[1] In 2006: 1,038[2]	870[2]

1. *Prevalence of HIV infection among injecting drug users in the EU, 2005 or most recent data available – Summary table by country - EMCDDA Table INF-1-HIV-AMONG-IDU.htm*
2. *National Report, 2007.*

The overall prevalence of HIV seen among IDUs in 2006 was similar to that seen in recent years, and remains higher than that seen in the late 1990s (National Report, 2007).

The number of newly HIV infected injecting drug users[1]

2005	1998
Cases per million population: 2.8 Number of cases: 163	Cases per million population: 2.8 Number of cases: 168

1. *HIV infections newly diagnosed in injecting drug users, by year of report from 1992 to 2005, (a) cases per million population and (b) number of cases – EMCDDA Table-INF-104-part0(1).xls*

In 2006, 1,038 HIV-infected IDUs were seen for HIV-related treatment or care in England, Wales and Northern Ireland, a 19 per cent increase since 2000 when 870 IDUs were seen for care. In Scotland, 387 HIV-infected IDUs were seen for HIV-related treatment or care in 2006, an 11 per cent decrease since 2000 when 436 IDUs were seen for care (National Report, 2007).

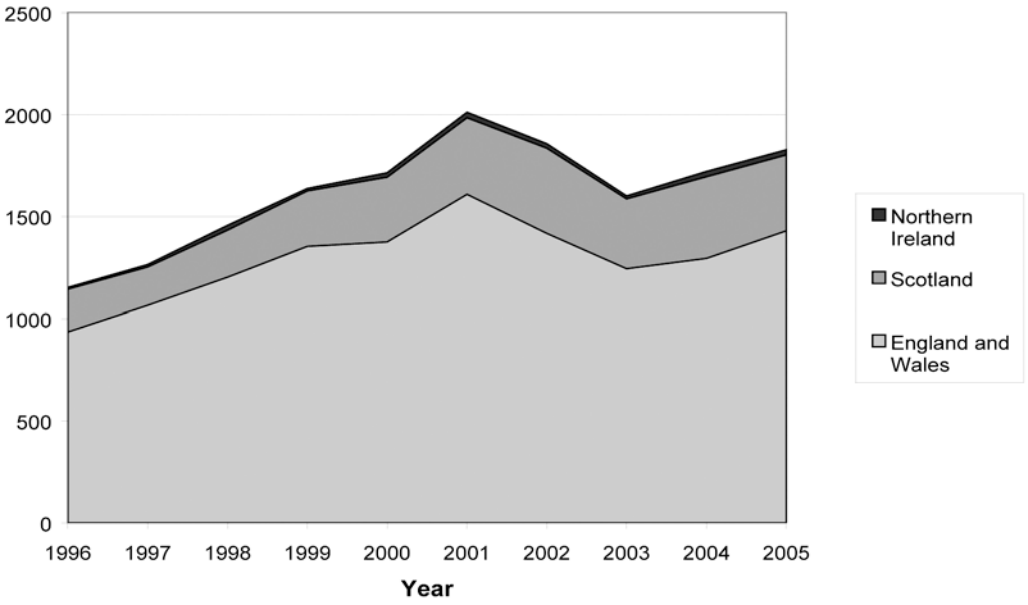
The number of drug related deaths by overdose[1]

2004	1998
3,161	3,411

1. Number of acute drug-related deaths recorded in EU Member States (25 members and candidates) according to national definitions, EMCDDA Table DRD-2 Part (i)-DRUG-RELATED-DEATH.htm

Additional information

Number of deaths using EMCDDA DRD standard definition by country, United Kingdom, 1996-2004



Source: Compiled by J Corkery with data obtained from General Mortality Registers 2007 (National Report, 2007)

- Opiates/opioids (i.e. heroin/morphine; methadone; other opiates/opioid analgesics), alone or in combination with other drugs, accounted for the majority (68%) of fatalities. Heroin/morphine alone or in combination with other drugs, accounted for the highest proportion (46%) of fatalities;
- Deaths involving methadone were more likely to be the result of illicit rather than prescribed drugs (62% or more);
- There was an increase in the number of cases involving methadone from 198 to 217;
- The proportion of cases involving methadone increased from 12 per cent to 17 per cent;
- The proportion of cases involving alcohol-in-combination increased from 26 per cent to 32 per cent;
- The proportion of cases involving heroin/morphine decreased from 46 per cent to 44 per cent (National Report, 2007).

Based on the Drug Strategy definition, the number of drug-related deaths in the UK rose steadily between 1996 to 2001, fell from 2001 to 2003, but has risen subsequently to 1979 in 2005. Males accounted for about 77.8% of deaths and the average age of those dying was 37.7 years (Country Overview).

2.3.2 Drug related crime or (societal) harm

The number of persons dealt with has continued to rise since 2001 in the UK. The main drug concerned is cannabis (National Report, 2007).

General criminal offences routinely recorded by the police do not contain information on the offenders' drug habits, neither do specific drug law offences. It is therefore not possible to provide an accurate estimate of the number of offences that are drug related, but there is substantial research evidence of the link between drug use, particularly use of heroin and crack cocaine, and acquisitive crime. Around three quarters of the users of these drugs admit to committing crime to support their habit. Over two-thirds of those in custody are reported to be problematic drug users. However, acquisitive crime, to which drug related crime makes a substantial contribution, has continued to fall in recent years (National Report, 2007).

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

In 2005/06, labelled expenditure in the United Kingdom is estimated at €1.5 billion. Using a number of sources, it is possible to identify and estimate attributable proportions of unlabelled expenditure across multiple government functions such as health, public order and safety, social protection and education. Estimated unlabelled expenditure for 2005/06 is €7.3 billion, two-thirds of which is public order and safety expenditure with almost a quarter (24%) spends on child and family social work. Estimated overall expenditure is €8.7 billion which amounts to 0.48% of GDP or €144.43 per capita (National Report, 2007).

There is no full overview of expenditures for demand reduction in the UK. The national reports give some data for some countries as e.g. the 2007 report. For 2007/2008 there was a budget of €81 million available for the Young People's Substance Misuse Partnership Grant for England. This budget is for the delivery of a range of local universal, targeted and specialist substance misuse interventions for children and young people (National Report, 2007).

The 2007/08 Pooled Drug Treatment Budget for England was announced to increase from €550m to €569m. In addition, €14.7 million capital funding will be distributed and €79.7 million in capital funding was made available to increase capacity for in-patient and residential (Tier 4) services in England in 2007/08 and 2008/09.

In 2005/06 €97.6 million was invested by the Scottish Government to tackle the drug problem across Scotland. €8.8 million a year was allocated for 2005/06 and 2006/07 to enable more people to enter treatment (National Report, 2007).

3.1.2 Other general indicators

A United Kingdom Drug Strategy was launched in 1998 (UKADCU 1998) setting four principal aims: preventing drug use amongst young people; safeguarding communities; providing treatment; and reducing availability, to be achieved through education, prevention programmes, expanded treatment, legal sanctions and the expansion of legal opportunities. The strategy was updated in 2002 with an increased emphasis on Class A drugs and problem drug users (DSD 2002). Government targets for the strategy are detailed in Public Service Agreements (PSAs). New agreements for reducing the harm caused by drugs (and alcohol) were set in October 2007 placing responsibility on a number of Government departments to meet the targets set. Each of the devolved administrations (Northern Ireland, Scotland and Wales) has its own strategy, tailored to its individual circumstances (Scottish Office 1999; National Assembly for Wales 2000; DHSSPSNI 2006) (National Report, 2007).

In early 2008, the United Kingdom adopted its second ten-year drug strategy 2008–18 called 'Drugs: protecting families and communities'. The strategy focuses mainly on illicit drugs, is comprehensive and covers four broad fields: law enforcement; prevention; treatment and social re-integration; and communication. It is complemented by a three-year action plan which sets 86 actions to be implemented during that timeframe and by a system of public service agreement (PSA) targets which will be maintained and reviewed on a regular basis. There is also devolution of powers to Northern Ireland, Scotland and Wales and the UK Government is responsible for setting the overall strategy and for its delivery in the devolved administrations only in those areas where it has reserved powers. Thus, each of the devolved administrations has its own strategy (Country Overview).

Numbers available on arrests and imprisonment for drug-law related offences

Offences under the Misuse of Drugs Act 1971 recorded by the police show that of a total of 5,428,300 recorded in England and Wales in 2006/07 194,300 (4%) were drug crimes. This is an **increase** of nine per cent from the previous year (178,500). This is largely attributable to increases in the recording of possession of cannabis offence (National Report, 2007).

Numbers available on arrests and imprisonment for use/possession for personal use

Offences types involved in reports for drug law offences: percentages of all reports for drug law offences[1]

Use/possession for use	86.4
Dealing/trafficking	13.6
Use and trafficking	No data found

1. Offences types involved in reports for drug law offences: percentages of all reports for drug law offences - EMCDDA Table DLO-2-DRUG-LAW-OFFENCES.htm

Drug use per se is not a crime in the United Kingdom, but possession, dealing and trafficking are specific offences under the Misuse of Drugs Act 1971. The number of persons dealt with has continued to rise since 2001 in the UK. The main drug concerned is cannabis (National Report, 2007).

Number of reports of drug law offences 1995 to 2005[1]

2004	1998
122,459	130,643

1. Number of reports of drug law offences 1995 to 2005 - EMCDDA Table DLO-1-OFFENCES-NUMBERS.htm

Number of drug law offences related to drug use or possession for use[1]

2004	1999
107,963	108,353

1. Number of drug law offences related to drug use or possession for use 1999-2005 - EMCDDA Table DLO-4-OFFENCES-USE+POSSESSION.htm

Percentage of total drug law offences that are related to drug use or possession for use[1]

2004	1998
86.4	86.3

1. Percentage of total drug law offences that are related to drug use or possession for use 1996-2005 - EMCDDA Table DLO-5-PERCENTAGE-DRUG-USE+POSSESSION.htm

Cannabis-related offences: as percentage of all drug law offences[1]

2004	1998
69	72.6

1. Cannabis-related offences: as percentage of all drug law offences, 1996-2005 - EMCDDA Table DLO-6-CANNABIS-OFFENCES.htm

Heroin-related offences as percentage of all drug law offences[1]

2004	1998
10.3	8.8

1. Heroin-related offences as percentage of all drug law offences, 1996-2005 - EMCDDA Table DLO-7-HEROIN-OFFENCES.htm

The general term 'reports for drug law offences' is used since definitions and study units differ widely between countries. For definitions of the term 'reports for drug law offences', refer to Drug law offences – methods and definitions.

Expert comments

General criminal offences routinely recorded by the police do not contain information on the offenders' drug habits, neither do specific drug law offences. It is therefore not possible to provide an accurate estimate of the number of offences that are drug related, but there is substantial research evidence of the link between drug use, particularly use of heroin and crack cocaine, and acquisitive crime. Around three quarters of the users of these drugs admit to committing crime to support their

habit. Over two-thirds of those in custody are reported to be problematic drug users. However, acquisitive crime, to which drug related crime makes a substantial contribution, has continued to fall in recent years (National Report, 2007).

3.2 Supply reduction: Production, trafficking and retail

Main focus in UK is on consumption and on trafficking (mainly import).

Priorities of supply reduction covered by policy papers and/or law

The Misuse of Drugs Act 1971, with amendments, is the main law regulating drug control in the UK. It divides controlled substances into 3 Classes (A, B, C) with A being the most dangerous. These Classes provide a basis for attributing penalties for offences. Maximum penalties vary not only according to the Class of substance but also whether the conviction is a summary one made at the Magistrate court or one made on indictment following a trial at Crown Court (Country overview).

Drug use per se is not an offence under the Misuse of Drugs Act 1971: it is the possession of the drug which constitutes an offence. Summary convictions for the unlawful possession of Class A drugs such as heroin or cocaine involve penalties of up to 6 months' imprisonment or a fine; on indictment penalties may reach 7 years' imprisonment. Class B drugs such as amphetamines attract penalties at magistrate level of up to 3 months' imprisonment and/or a fine; on indictment up to 5 years' imprisonment and/or an unlimited fine. Possession of Class C drugs, such as barbiturates attracts penalties up to 3 months imprisonment and/or a fine at magistrate level, or up to 2 years' imprisonment and/or unlimited fine on indictment. There are also a number of alternative responses such as a formal warning from the police, who have considerable powers of discretion. Cannabis will revert to being a class B drug in 2009 (Country overview).

Under the Misuse of Drugs Act, a distinction is made between the possession of controlled drugs, and possession with intent to supply to another; this latter is effectively for drug trafficking offences. The Drug Trafficking Act 1994 defines drug trafficking as any production or supply transportation import and export of drugs covered by the Misuse of Drugs Act 1971. The penalties applied depend again on the classification of the drug and on the penal procedure (magistrate level or crown court level). For trafficking in Class A drugs the maximum penalty on indictment is life imprisonment, while trafficking of Class B and C drugs can attract a penalty of up to 14 years in prison. In 2000, a minimum sentence of 7 years was introduced for a third conviction for trafficking in Class A drugs (Country Overview).

In the last years a more strict approach to trafficking offences was developed, including among others a minimum sentence of 7 years imprisonment for a third conviction for trafficking in Class A drugs (National Report, 2001).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007[1]	1998[2]
School-based prevention	Common	Common
Mass media campaigns	Regular	Regular
Telephone helpline	Common	Not at all

1. National Report, 2007.

2. National Report, 1999.

Universal drug prevention initiatives are an important area of policy in the field of prevention. Communication programmes such as 'FRANK' in England and 'Know the Score' in Scotland, provide information and advice to young people and their families Throughout most of the United Kingdom, drug prevention is part of the national curriculum and most schools have a drug education policy and guidelines on dealing with drug incidents. Guidance on drug education recommends an approach that includes all psychoactive substances, including alcohol and tobacco, and places drugs education within the wider health and social education agenda (Country Overview).

In order to reinforce the law on cannabis and the harms associated with its use a widespread education campaign on the harms of cannabis (and all illegal drugs) has been implemented in 2006/7. In partnership with DfES, the Home Office has produced 'Understanding Drugs', a comprehensive teacher and pupil information pack which is now available to every secondary school in England (National Report, 2006).

There are various selective or indicative prevention initiatives targeting high risk groups. Examples are Positive Futures a national sports-based social inclusion programme aimed at marginalised 10 to 19 year olds with projects in most deprived areas in the country, and Sure Start a programme supporting children and their families from birth up to age 14 (up to age 16 for children with special needs or disabilities) (National Report, 2006).

Activities in recreational settings focus on harm reduction with safe clubbing guidelines and person-to-person intervention. Another important element of selective prevention is the focus on vulnerable young people such as young offenders, looked-after children, young homeless people, young people who have been sexually exploited or work in the sex industry, and children whose parents are drug users (Country Overview).

Treatments available[1]

	2007	1997
Abstinence oriented in-patient	Common	Common
Abstinence oriented out-patient	Common	Common
Abstinence oriented mandatory	Uncommon	Not at all
Abstinence oriented voluntary	Common	Common
Maintenance oriented	Predominant	Predominant
Other, namely	Common	Common

1. Expert's comments.

In most parts of the United Kingdom, particularly in England, there is a four-tier system of treatment providing a conceptual framework for treatment provision. Tier 1 refers to generic interventions such as information and advice, screening and referral to more specialist services. Tier 2 refers to open-access interventions, such as drop-in services providing advice, information and some harm reduction services such as syringe exchange. Tier 3 services are specialist community services and include prescribing services, structured day programmes and structured psychosocial interventions, such as counselling and therapy and community-based detoxification. Tier 4 services are in-patient services, including detoxification and residential rehabilitation. The majority of structured treatment is delivered at Tier 3, predominantly through community-based specialist drug treatment services (Country Overview).

Coordination and integration between a range of providers is seen as key in helping problem drug users reintegrate into society. While providing treatment remains a priority, the role of other service providers of housing, employment, education and training has also become important, leading to the concept of Wraparound Services. This integrated approach is seen through the introduction of the Drug Interventions Programme (DIP) in England and Wales, and the establishment of Criminal Justice Intervention Teams which have been developed to improve referral into treatment through the criminal justice system and for those in prison (see Chapter 9) (National Report, 2007).

The 2005–06 treatment demand data for the United Kingdom was based on 1,678 treatment centres comprising of; 1,390 out-patient treatment centres, 88 in-patient treatment centres and 200 general practitioners. In 2005/06, a total of 128,446 clients entered treatment, out of which 49,625 were first time treatment clients (Country Overview).

In 2005–06, opioids were the most reported primary drug among all clients entering treatment at 65.1%, followed by cannabis at 15.8% and cocaine (including crack) at 11.5%. Treatment demand data among first time treatment clients indicated a similar trend with the primary substance of use being opioids at 49.7%, followed by cannabis at 24.8% and cocaine (including crack) at 15.8% (Country Overview).

In 2005/06, 29% of all clients entering treatment were over 35 years old. A lower age distribution was reported among new treatment clients with 37% under the age of 25 years. As far as gender distribution is concerned, 72% of all clients were

male whereas, 28% were female. A similar trend in gender distribution was reported among first time treatment clients with 72% for male and 28% for female (Country Overview).

Substitution treatment remains the main treatment in the United Kingdom. Most substitution treatment is for opiate dependence, and the majority offered through specialist out-patient drug services, and increasingly in shared care with general practitioners. Oral methadone is the drug of choice for substitution treatment, but increasingly also buprenorphine, which has been available since 1999. Furthermore, injectable methadone and heroin are also available, albeit more rarely, in England. The Misuse of Drugs Act 1971, Section 7.3a stipulated that both methadone and buprenorphine treatment can be initiated and provided by medical doctors, specialised medical doctors and treatment centres. The total number of clients in substitution treatment in Scotland was 19 227 (2005 data), 463 in Northern Ireland (2006 data) and an estimated 146 500 in England (2006 data) (Country Overview).

The vast majority of treatments are reported through out-patient services (94%).

Presentations by centre type in the United Kingdom, 2003/04 to 2005/06

Centre type	2003/04		2004/05		2005/06	
	N	%	N	%	n	%
Out-patient	91,659	91.9	111,434	94.6	121,202	94.4
GP	3,966	4.0	3,402	2.9	3,833	3.0
In-patient	4,038	4.0	2,945	2.5	3,411	2.7
Total	99,663		117,781		128,446	

Source: Standard Tables prepared for United Kingdom Focal Point by M. Donmall. (National Report 2007)

Numbers of clients entering treatment and numbers of reporting treatment centres[1]

2005	1998
117,783	34,875

1. Numbers of clients entering treatment and numbers of reporting treatment centres, 1996 to 2005, EMCDDA Table TDI-2 Part (ii)-ALL-CLIENTS-ENTERING-TREATMENT.htm

Up to 2001 data cover 6 months period; from 2002 data cover one year.

Estimated number of clients in methadone treatment and of clients receiving any opioid substitution[1]

	2005	2003
Methadone	109,500	76,000
All	135,000	93,500

1. Estimated number of clients in methadone treatment and of clients receiving any opioid substitution in EU-27 and Norway, 2003-2005, EMCDDA Table HSR-7-METHADONE.htm (UK England)

Methadone maintenance treatment (MMT) was introduced in 1968, high-dosage buprenorphine treatment (HDBT) in 1999 and heroin-assisted treatment (HAT) in the 1920's (Year of introduction of methadone maintenance treatment (MMT), high-dosage buprenorphine treatment (HDBT) and heroin-assisted treatment, including trials - EMCDDA Table HSR-8-METHADONE-INTRODUCTION.htm).

Suboxone, a combination of naloxone alongside buprenorphine, was launched in early 2007 as an alternative treatment to methadone and buprenorphine. The formulation is designed to limit the potential for misuse, as well as lowering its street value. It is used for maintenance treatment of opioid dependence (National Report, 2007).

Limited supply of diamorphine, reported in the previous UK Focal Point Reports, continues although there has been substantial improvement (National Report, 2007).
(www.news.bbc.co.uk/1/hi/health/6376713.stm)

Priorities of demand reduction (prevention) covered by policy papers and/or law

Prevention of young people's drug use is a key element of drug strategies in the United Kingdom. There is a focus on better education and intervention for young people and families, especially those most at risk, and better public information about drugs. (8) This emphasis on drug prevention has not changed in the last decade as can be seen from the establishment of the Drugs Prevention Board in 1998 to improve coordination of prevention activity. Under the auspices of the UK Anti-Drugs Coordination Unit, the board had the task to take forward joint commissioning of effective prevention and education (National Report, 1999).

There has been a high focus on vulnerable young people. The National Institute for Health and Clinical Excellence has produced public health guidance on community-based interventions to reduce substance misuse among vulnerable and disadvantaged children and young people. The Advisory Council on the Misuse of Drugs has reported on the implementation of its recommendations on the children of drug using parents (National Report, 2007).

Priorities of demand reduction (treatment) covered by policy papers and/or law

All UK drug strategies give priority to the provision of better access to effective treatment, particularly for vulnerable or excluded groups, and to encourage client retention. Delivery of drug treatment is through local multi-agency partnerships, representing health criminal justice agencies and social care services (Country Overview).

According to guidance by the National Institute for Health and Clinical Excellence (NICE) treatment providers are expected to offer advice and information, care planned counselling, structured day care programmes, community prescribing, in-patient drug treatment and residential rehabilitation. In addition, drug misusers are to be offered relapse prevention and aftercare programmes; hepatitis B vaccinations; testing and counselling for hepatitis B and C and HIV; and needle exchange (National Report, 2007).

Since 1998 the government has provided additional funding to increase the number of drug using offenders engaged with treatment services. This included the introduction of Drug Treatment and Testing Order pilot schemes. Under this order courts may, with the offender's consent, make an order requiring the offender to undergo treatment either as part of another community order or as a sentence in its own right. It is envisaged that such schemes will be available in all courts in England and Wales by 2001 (National Report, 2000).

The Drug Interventions Programme introduced in 2003 represented a fundamental change in the extent to which drug using offenders are engaged in treatment (www.homeoffice.gov.uk/crime-victims/reducing-crime/drug-related-crime).
Also proposals from the Department of Work and Pensions to ensure drug users receiving State benefits engage in treatment (www.dwp.gov.uk/welfarereform/noonewrittenoff).

Suboxone (buprenorphine/naloxone) has been licensed for use in the United Kingdom. (National Report 2007) since December 2006 It has been introduced to discourage the injecting of buprenorphine, by means of the naloxone component which precipitates withdrawal effects (National Report, 2007).

There is no legal basis for drug treatment in the UK. However, with the *Dangerous Drugs Act 1967,* diamorphine and, at that time, methadone, and, also cocaine, for the treatment of drug misuse cannot longer be prescribed by general practitioners, unless they applied for a licence to do so. Apart from a licensing requirement for these particular drugs, there has been no impediment to prescribing based on the clinical judgement of any doctor. However, when NICE issue a technology appraisal: ".. guidance represents the view of the Institute, which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer."
Also, NICE clinical guidelines are recommendations about the treatment and care of people with specific diseases and conditions in the NHS in England and Wales. This guidance represents the view of the Institute, which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer and informed by the summary of product characteristics of any drugs they are considering.

There were no changes during the past ten years concerning these legal provisions.

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007[1]	1998[2]	1998 -> 2007 Increase (+) Decrease (-) In numbers[2]
Syringe exchange programmes	Common	Predominant	+
Overdose treatment (naloxone)	Naloxone is available, also it is piloted on a 'take home' basis	Common (not take home)	+
Outreach work (actively seeking contact with drug users)	Predominant – nationwide available	Common	+
Safer use education (flyers, folders, training)	Predominant	Uncommon	+
Drop-in centres (low-threshold)	Predominant	Common	+
Substitution treatment	Predominant[2]	Common	+

1. Van der Gouwe et al., 2006.

2. Expert's comments.

Additional information

In UK different activities have been undertaken to reduce and prevent drug-related death including interventions like provision of awareness materials and overdose training for prison staff and prisoner (National Report, 2006).

Interventions include information campaigns of the risks associated with drug use, as well as information on safer injecting and safer sex, needle exchange schemes, infection counselling, support and testing, vaccinations against hepatitis B. In May 2007, the Department for Health (DH) and the National Treatment Agency (NTA) published a document entitles 'Reducing drug-related harm: an action plan'. One of its aims is to improve delivery, by issuing guidance on reducing drug-related harm to commissioners, service users, carers and those working with drug users. This includes guidance on hepatitis C, the provision of needle exchange services and testing, and treatment for blood-borne virus infections in prisons and the community. The Action Plan also contains plans for a health promotion campaign, which will be targeted at risk groups such as homeless drug users, speedballers (i.e. those injecting heroin and crack together) and potential or new injectors. Syringe exchange is offered by a wide range of services, including specialist syringe exchange services, detached outreach and mobile units, pharmacies, and accident and emergency services. Consumption rooms are not available in the UK. In England trials are being conducted to establish the potential role that increased availability of injectable opiates can play in reducing the harms associated with drug use. In 2003, the Misuse of Drugs Act 1971 (see section on national drug laws) was amended to allow doctors, pharmacists, and drug workers to legally supply swabs, sterile water, certain mixing utensils and citric acid to drug users who obtained controlled drugs without a prescription (Country Overview).

Drug-related deaths (DRDs), infectious diseases, co-morbidity and other health consequences are key policy issues within the United Kingdom drug strategies (Scottish Office, 1999; National Assembly for Wales, 2000; DSD, 2002; DHSSPSNI, 2006).

A strategy for England and Wales was published in 2001, focusing on promoting treatment, with service providers expected to provide information and advice on how to reduce DRD, to educate drug users and their families on resuscitation, educate prisoners on the risk of overdose on release from prison, and training of paramedical and Accident and Emergency (A&E) staff. This has been updated in 2007 with the publication of a new Reducing Drug-related Harm: An Action Plan. In Scotland a strategy and action plan to reduce DRD was published in 2005.

Throughout the United Kingdom there is information about volatile substances available on drug information websites. The Scottish Government and the Health Promotion Agency in Northern Ireland ensure that young people, parents and retailers are aware of the dangers of abusing products such as cigarette lighter refills, aerosol sprays and glue. In Scotland 90 per cent of Scottish schools include advice on the risks from volatile substance abuse.

In the 1980s, United Kingdom drug policy was led by a public health approach aimed at containing HIV transmission. The subsequent action, involving harm reduction measures, is regarded as having been successful in containing HIV amongst injecting drug users (IDUs); providing free needles and syringes, promoting the safe disposal of used equipment, information campaigns on safer sex and safer injecting; and HIV/AIDS counselling, support and testing. The Hepatitis C Action Plan for England was developed in 2004, prioritising prevention of infection and disease progression. Treatment for infectious diseases is provided as part of the National Health Service (NHS), including the provision of anti-retroviral treatment for HIV and HCV. Treatment for wound infections is available through primary care, Accident and Emergency (A&E) departments, and in some areas, through needle exchange schemes and specialist drug services. Those in prison have access to HIV and hepatitis testing, and vaccination against HBV. In England, Reducing Drug-related Harm: An Action Plan, also focuses on infectious disease and DRD (National Report, 2007).

Legal changes implemented during the past ten years

An amendment to the Misuse of Drugs Act 1971 was made in 2003 to allow doctors, pharmacists and drug workers to legally supply swabs, sterile water, certain mixing utensils (e.g. spoons, bowls, cups and dishes) and citric acid to drug users who obtained controlled drugs without a prescription came into force in August 2003 (National Report, 2004).

3.4.2 Crime, societal harm, environmental damage

The impact of policies and strategies in the last ten years

In a report looking at the impact of crime reduction policies and strategies since 1997, Enver et al. (2007) reviewed drug misuse. The authors argue that despite apparent progress against a number of targets including: numbers in treatment; targets on drugs and young people; and reducing health harms, there is a degree of disconnection between policies and targets and what might actually be happening in terms of real levels of drug use, availability and associated harms, for example where the number of arrests for young people using cannabis contribute to police targets on drug arrests (National Report, 2007).

Tackle crime and anti-social behaviour associated with drug misuse and reduce the harms caused by drugs to the community and use the criminal justice system to help offenders engage with treatment services (National Report, 2007).

The most important statement is to tackle crime and anti-social behaviour associated with drug misuse and reduces the harms caused by drugs to the community and use the criminal justice system to help offenders engage with treatment services (National Report, 2007).

During the past ten years there was an emphasis on treatment linked to crime and anti-social behaviour.

Priorities of harm reduction covered by policy papers and/or law

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UNITED STATES

1 General information

Location:
North America, bordering both the North Atlantic Ocean and the North Pacific Ocean, between Canada and Mexico

Area:
9,826,630 sq km

Land boundaries/coastline:
12,034 km / 19,924 km

Border countries:
Canada 8,893 km (including 2,477 km with Alaska), Mexico 3,141 km
note: US Naval Base at Guantanamo Bay, Cuba is leased by the US and is part of Cuba; the base boundary is 28 km

Population:
303,824,640 (July 2008 est.)

Age structure:
0-14 years: 20.1% (male 31,257,108/female 29,889,645)
15-64 years: 67.1% (male 101,825,901/female 102,161,823)
65 years and over: 12.7% (male 16,263,255/female 22,426,914) (2008 est.)

Administrative divisions:
50 states and 1 district

GDP (purchasing power parity):
$13.78 trillion (2007 est.)

GDP (official exchange rate):
$13.84 trillion (2007 est.)

GDP- per capita (PPP):
$45,800 (2007 est.) (CIA The World Factbook)

Drug research
There is a great deal of drug related research in the United States. The National Institute on Drug Abuse (NIDA) claims to account for 85% of all global research funding on drug abuse. Its $1 billion budget is dominated by research on the biology of drugs but it also has large grant programs on epidemiology, prevention and treatment. In recent years, the Clinical Trials Network has emerged as a major new initiative. Additional research funds are supplied by other federal agencies such as the Substance Abuse and Mental Health Services Administration and the National Institute of Justice; private foundations provide smaller amounts. The research is conducted both by academics and by specialized research organizations. Funding for research on drug enforcement is little.

Main drug-related problems
The drug-related problems of the United States cover production, trafficking (mainly import) and consumption. There is substantial production of cannabis and ATS for the domestic market. Trafficking includes import of cannabis (mainly from Mexico), ATS (methamphetamine from Mexico and Canada), opiates (mainly from Latin America) and cocaine (mainly from Colombia through Mexico). The United States also face consumption of all four groups of substances.

2 Drug problems

2.1 Drug supply

2.1.1 Production

There are no meaningful estimates of domestic production of either cannabis or ATS available for the US.

The ongoing increase in THC levels is changing the cannabis market. In Canada and the USA, where large scale eradication efforts have been successful, the growth of THC levels likely reflects the ongoing shift towards indoor production of high potency cannabis. The average THC levels of cannabis on the US market almost doubled between 1999 and 2006, from 4.6% to 8.8% (UNODC, 2008).

Marijuana remains one of the most profitable products for drug trafficking organizations. While the bulk of the marijuana consumed in the United States is produced in Mexico, Mexican criminal organizations have recognized the increased profit potential of moving their production operations to the United States, reducing the expense of transportation and the threat of seizure during risky border crossings. Additionally, Mexican traffickers operating within the United States generally attempt to cultivate higher quality marijuana than they do in Mexico. This domestically produced sinsemilla higher-potency marijuana) can fetch 5 to 10 times the wholesale price of conventional Mexican marijuana.
Outdoor marijuana cultivation in the United States is generally concentrated in the remote national parks and forests of seven States (California, Kentucky, Hawaii, Washington, Oregon, Tennessee, and West Virginia). Close to 4.7 million of the over 6.8 million marijuana plants eradicated in the United States in 2007 were eradicated outdoors in California, including 2.6 million plants eradicated from California's Federal lands (The White House, 2008).

2.1.2 Trafficking

Total quantities (kg) seized

	2006[1]	2005[2]	1998[3]
Opium (raw and prepared)	300	No data found	No data found
Heroin	1,725	1,727	1,580.700 govt
Morphine	2 3,220 u.	No data found	No data found
Other opiates	No data found	No data found	No data found
Cocaine (base and salts, including crack-cocaine)	146,972	174,599	117,000 govt
Coca leaf	No data found	No data found	No data found
Cannabis herb	1,138,832	No data found	799,000.88 govt
Cannabis resin	175	388 (164 in 2004)	No data found
Cannabis oil	No data found	No data found	No data found
Cannabis plant	287,108 u.	272 u. 206,829 u. (2004)	No data found
Amphetamine	No data found	No data found	Stimulants[4] 1,824.363 216 lt. 411,768 u.
Methamphetamine	4,539 90197u.	No data found	No data found
Non defined amphetamines	1,226 603,409 u.	No data found	No data found
Ecstasy (MDA, MDEA, MDMA)	473 6,673.158 u.	No data found	No data found

1. UNODC, 2008.

2. UNODC, 2007.

3. UNDCP, 2001.

4. Only stimulants are mentioned.

Additional information

In 2006, in the USA 0.1% of the world total of opium was seized (300 kg).

In 2006, in the USA 2% of the world total of heroin was seized (1,727 kg)

(UNODC, 2008)

In addition to the decrease in small-scale ('kitchen') laboratories in the USA, the number of industrial-scale laboratories discovered in that country has also declined dramatically from 245 in 2001 to 11 in 2007. This trend coincided with a significant increase in the quantity of methamphetamine seized along the US-Mexico border[5] where clandestine operators had relocated after the introduction of successful domestic precursor controls in the USA. Following historical patterns of subregional relocations ('ballooning') of clandestine ATS manufacture, increasing efforts in Mexico to control clandestine manufacture could result in shifts further south. There are already reports of sporadic clandestine ATS manufacture in South America, and evidence is also emerging of new patterns and a higher incidence of precursor trafficking in that region.

(UNODC, 2008a)

Estimated retail value

There are no post-2000 estimates of quantities or expenditures (expert's comments).

1997

Using a consumption-based approach, we investigated the dollar expenditures by Americans on illicit drugs.
We estimated that:
In 1998, Americans spent $66 billion on the following drugs

- $39 billion on cocaine
- $12 billion on heroin
- $2.2 billion on methamphetamine
- $11 billion on marijuana
- $2.3 billion on other illegal drugs

Between 1988 and 1998, expenditures on cocaine appear to have fallen. This trend results partly from a decrease in the number of users, but mostly from a decrease in cocaine street price. Heroin expenditures fell from 1988 to the middle of the 1990s. Heroin expenditures appear to have increased since then.

Trends in methamphetamine purchases are imprecise because of significant measurement problems. While expenditures may have fallen due to changes in the consumer price index, consumption levels have remained about the same over the last decade.

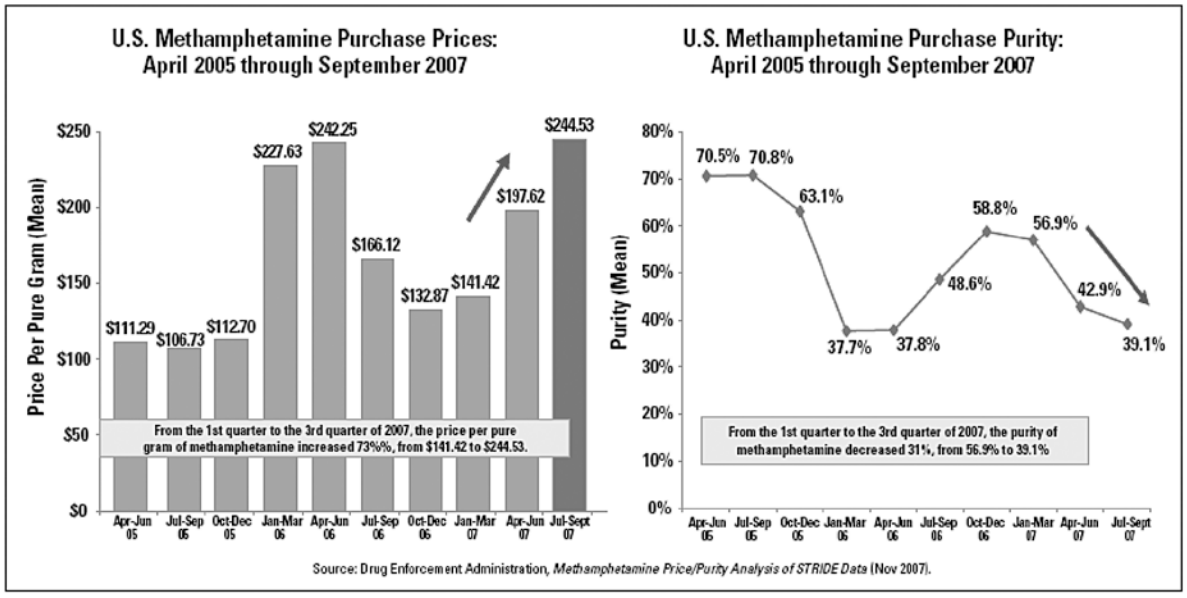
Between 1989 and 1998, expenditure on marijuana increased slightly (as marijuana prices increased) then decreased slightly (as marijuana prices fell).
Between 1989 and 1998, expenditures on other illicit drugs, and on legal drugs used illicitly, remained fairly constant (ONDCP, 2000).

Additional information

Price of one pure gram of powder cocaine 1998 average (< 2 grams): $132.09 (trend from 1981 price is dropping).
Price of one pure gram of crack cocaine 1998 average (1-15 grams): $77.34 (trend from 1981 price is dropping).
Price of one pure gram of heroin 1998 average (1-10 grams): $294.42 (trend from 1981 price is dropping).
Price of one pure gram of methamphetamine 1998 average (<10 grams): $256.02 (trend from 1981 price is dropping).
Price of one pure gram of marijuana 1998 average (<10grams): $8.67 (trend from 1981 price in 1981 was lower than in 1998, increased between 1983-1995 and is in 1998 at lowest point) (ONDCP 2004).

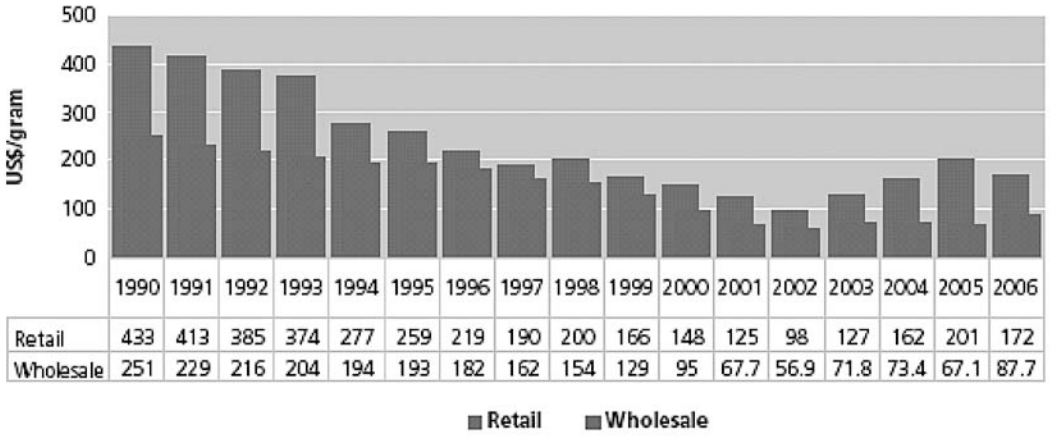
No prices or estimates for prices for ecstasy or amphetamines are mentioned.

United States Methamphetamine Purchases



(The White House, 2008)

Fig. 27: USA: Heroin retail and whole sale prices,1990-2007 (US$/gram)



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Retail	433	413	385	374	277	259	219	190	200	166	148	125	98	127	162	201	172
Wholesale	251	229	216	204	194	193	182	162	154	129	95	67.7	56.9	71.8	73.4	67.1	87.7

(UNODC, 2008)

Opiates
Retail price per gram 2006: $172
Retail price per gram 1998: $162
Wholesale price per kilogram: 2006 $87,720
Wholesale price per kilogram1998: $125,000

Heroin
Retail price per gram 2006: $171.6; range (50-375); purity % (0.1-89)
Wholesale price per kilogram 2006: $87,720 range (30,000-100,000); purity % (60-66)

Black tar
Retail price per gram 2006: $195; range (40-350); purity % (5-53)
Wholesale price per kilogram 2005: $112,500; range (15,000-210,000); purity % (16-74)

HCL
Retail price per gram 2006: $94 range (13-350); purity % (71) (2007) $122
Retail price per gram 1998: $124
Wholesale price per kilogram 2006: $30,500; range (9,000-52,000)
Wholesale price per kilogram 1998: $31,960

Crack
Retail price per gram 2006: $106; range (12-200)
Wholesale price per kilogram 2006: $22,500; range (13,000-32,000)

Cannabis herb
Retail price per gram 2006:$15; range (10-25); purity % (2-13)
Wholesale price per kilogram 2006:$2,000; range (360-14,300); purity % (4-13)

Cannabis resin
Retail price per gram 2006:$100
Wholesale price per kilogram 2006: $9,000; purity % (0.1-52.7)

Amphetamine
No data found on USA in World Drug Report 2008

Methamphetamine
Retail price per gram 2006: $112; range (15-210); purity %(16-74)
Wholesale price per kilogram 2006: $31,350; range (5,500-57,200); purity (37-99)

Ecstasy

Retail price per gram 2004: 25; range (20-30)

Wholesale price per kilogram 2004:10,000; range (5,000-13,000)

(UNODC, 2008)

	Retail price per gram 2006	Range/ Purity % 2006	Wholesale price per kg 2006	Range/Purity 2006	Retail price per gram 1998	Range/ Purity 1998	Wholesale price per kg 1998
Opiates	$172	No data found	No data found	No data found	$162	No data found	No data found
Heroin #4	$171,6	(50-375)/ (0,1-89)	No data found	(30,000-100,000)/ (60-66)	No data found	No data found	No data found
Black tar	$195	(40-350)/ (5-53)	$112,500 (per gram in 2005)	(15,000-210,000) in 2005/(16-74)	No data found	No data found	No data found
Cocaine	$94		$30,500	No data found	$124		$31,960
HCL	$94	(13-350)/71	$30,500 (per gram)/ (9,000-52,000)	No data found	No data found	No data found	No data found
Crack	$106	(12-200)	$22,500	(13,000-32,000)/ No data found	No data found	No data found	No data found
Cannabis herb	$15	(10-25)/ (2-13)	$2,000	(360-14,300)/ (4-13)	No data found	No data found	No data found
Cannabis resin	$100		$9,000	No data found/ (0.1-52.7)	No data found	No data found	No data found
Amphetamine	No data found	No data found	No data found	No data found	No data found	No data found	No data found
Methamphetamine	$112	(15-210)/ (16-74)	$31,350	(5,500-57,200)/ (37-99)	No data found	No data found	No data found
Ecstasy	$25 (in 2004)	(20-30)/ (in 2004)	$10,000 (in 2004)	(5,000-13,000)/ No data found	No data found	No data found	No data found

(UNODC, 2008)

Table 11 - Total Expenditures on Illicit Drugs, 1989-2000 ($ in billions, 1998 dollar equivalents)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Cocaine	$76.9	$70.8	$61.3	$55.0	$49.4	$45.9	$42.2	$43.0	$41.3	$41.8	$39.0	$37.1	$36.1
Heroin	$21.8	$20.9	$17.6	$13.8	$10.9	$10.2	$10.5	$11.2	$11.7	$12.2	$11.6	$12.0	$11.9
Methamp	$3.2	$3.2	$2.6	$2.2	$2.3	$2.7	$3.3	$2.8	$2.4	$2.0	$2.2	$2.2	$2.2
Marijuana	$11.3	$11.1	$13.5	$12.8	$12.5	$11.2	$11.4	$9.3	$9.0	$10.1	$10.7	$10.2	$10.4
Other Drugs	$3.3	$2.8	$2.2	$2.3	$1.5	$1.5	$2.6	$2.7	$2.7	$2.5	$2.3	$2.3	$2.3
Total	$116.5	$108.8	$97.3	$86.1	$76.5	$71.5	$70.0	$68.9	$67.2	$68.6	$65.6	$63.7	$62.9

Columns may not add due to rounding error.
Sources: Tables 3 through 9

(ONDCP, 2000)

2.2 Drug Demand

2.2.1 Experimental/recreational drug users in the general population

Life-time prevalence in the general population (> 12 years)

	2007[1]	1998[2]
Opiates (heroin)	1.5% (2005)	1.1%
Cocaine (HCL)	13.8% (2005)	10.6%
Cocaine (crack)	3.3%(2005)	2.0%
Cannabis (specify substance)	40.1% (2005)	33.0%
ATS (amphetamine)	3.7% (2005)	No data found
ATS (methamphetamine)	4.3% (2005)	No data found
ATS (ecstasy/MDMA)	4.7% (2005)	No data found

1. OAS/CICAD, 2006.

2. SAMHSA, 1998.

80418 (8.1B)

Table G.2 Types of Illicit Drug Use in Lifetime among Persons Aged 12 or Older: Percentages, 2002-2007

Drug	2002	2003	2004	2005	2006	2007
ILLICIT DRUGS[1]	46.0	46.4	45.8	46.1	45.4	46.1
Marijuana and Hashish	40.4	40.6	40.2	40.1	39.8	40.6
Cocaine	14.4	14.7	14.2	13.8	14.3	14.5
Crack	3.6	3.3	3.3	3.3	3.5	3.5
Heroin	1.6	1.6	1.3	1.5	1.5	1.5
Hallucinogens	14.6[a]	14.5	14.3	13.9	14.3	13.8
LSD	10.4[b]	10.3[b]	9.7	9.2	9.5	9.1
PCP	3.2[b]	3.0[b]	2.8	2.7	2.7	2.5
Ecstasy	4.3[b]	4.6[a]	4.6[a]	4.7	5.0	5.0
Inhalants	9.7[a]	9.7[a]	9.5	9.4	9.3	9.1
Nonmedical Use of Psychotherapeutics[2,3]	20.4	20.6	20.4	20.4	20.7	20.3
Pain Relievers	12.6[a]	13.1	13.2	13.4	13.6	13.3
OxyContin®	0.8[b]	1.2[b]	1.3[b]	1.4[b]	1.7	1.8
Tranquilizers	8.2	8.5	8.3	8.7	8.7	8.2
Stimulants[3]	10.0[b]	9.7[b]	9.3	8.6	9.1	8.7
Methamphetamine[3]	6.5[b]	6.4[b]	6.0[b]	5.2	5.8[a]	5.3
Sedatives	4.2[b]	4.0[b]	4.1[b]	3.7	3.6	3.4
ILLICIT DRUGS OTHER THAN MARIJUANA[1]	29.9	29.9	29.4	29.5	29.6	29.7

*Low precision; no estimate reported.

[a] Difference between estimate and 2007 estimate is statistically significant at the 0.05 level.
[b] Difference between estimate and 2007 estimate is statistically significant at the 0.01 level.

[1] Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.6 in Appendix B of the *Results from the 2007 National Survey on Drug Use and Health: National Findings*.

[2] Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

[3] Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in prior NSDUH reports. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with the 2006 and 2007 estimates. See Section B.4.6 in Appendix B of the *Results from the 2007 National Survey on Drug Use and Health: National Findings*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, and 2007.

(SAMHSA, 2007)

Table 2.1 Percentage and Estimated Number of Users (in Thousands) of Illicit Drugs, Alcohol, and Tobacco in the U.S. Civilian, Noninstitutionalized Population Aged 12 or Older in Their Lifetime, the Past Year, and the Past Month: 1998

	Time Period					
	Lifetime		Past Year		Past Month	
Drug	%	Number of Users (in 1,000s)	%	Number of Users (in 1,000s)	%	Number of Users (in 1,000s)
Any Illicit Drug Use[1]	35.8	78,123	10.6	23,115	6.2	13,615
Marijuana/hashish	33.0	72,070	8.6	18,710	5.0	11,016
Cocaine	10.6	23,089	1.7	3,811	0.8	1,750
Crack	2.0	4,476	0.4	971	0.2	437
Inhalants	5.8	12,589	0.9	2,009	0.3	713
Hallucinogens	9.9	21,607	1.6	3,565	0.7	1,514
PCP	3.5	7,640	0.2	346	*	*
Heroin	1.1	2,371	0.1	253	0.1	130
Nonmedical use of any psychotherapeutic[2]	9.2	20,193	2.6	5,759	1.1	2,477
Stimulants	4.4	9,614	0.7	1,489	0.3	633
Sedatives	2.1	4,640	0.2	522	0.1	210
Tranquilizers	3.5	7,726	0.9	1,940	0.3	655
Analgesics	5.3	11,595	1.9	4,070	0.8	1,709
Any illicit drug other than marijuana[1]	18.9	41,337	4.9	10,788	2.5	5,388
Alcohol	81.3	177,512	64.0	139,807	51.7	112,850
Cigarettes	69.7	152,313	30.6	66,735	27.7	60,406
Smokeless Tobacco	17.2	37,667	4.4	9,582	3.1	6,730

Note: Due to improved survey procedures implemented in 1994, these estimates are not comparable with those presented in NHSDA Main Findings prior to 1994.

*Low precision; no estimate or number reported.

[1] Any illicit drug indicates use at least once of marijuana or hashish, cocaine (including crack), inhalants, hallucinogens (including phencyclidine [PCP] and lysergic acid diethylamide [LSD]), heroin, or any prescription-type psychotherapeutic used nonmedically. Any illicit drug other than marijuana indicates use at least once of any of these listed drugs, regardless of marijuana use; marijuana users who also have used any of the other listed drugs are included.
[2] Nonmedical use of any prescription-type stimulant, sedative, tranquilizer, or analgesic; does not include over-the-counter drugs.

Source: Office of Applied Studies, SAMHSA, National Household Survey on Drug Abuse, 1998.

(SAMHSA, 1998)

Excluding persons in custody, between 1988 and 1998, about 3.2 million to 3.9 million Americans were hardcore users of cocaine and approximately 2.9 million to 6.0 million were occasional users. Another 630,000 to 980,000 Americans were hardcore users of heroin, and 140,000 to 600,000 were occasional users. Considering the overlap between hardcore cocaine users and hardcore heroin users, the estimates suggest that there were about 3.3 million hardcore users of heroin or cocaine in 1998.[11] Although imprecise, these estimates are consistent with reported estimates derived by others using different methodologies and data.

(ONDCP, 2000)

One of the more disturbing data trends identified in the past several years is a dramatic rise in current drug use among adults aged 50-54. This trend does not necessarily mean that people are taking up drug use as they enter middle age, but rather that a segment of the population that experienced high rates of drug use in their youth continue to carry high rates of use with them as they get older (The White House, 2008).

However, data has also alerted us to a rising and troubling threat: the abuse of prescription drugs. The only major category of illegal drug use to have risen since 2002, prescription drug abuse poses a particular challenge, as these substances are widely

available to treat legitimate medical conditions and can often be obtained within the home. These medications are both a blessing to those with chronic illness and a challenge for those who are at risk for substance abuse. Opioid pain-killers are the most widely abused drugs in this category. The 2006 National Survey on Drug Use and Health shows that 71 percent of those abusing prescription pain relievers in the past year obtained them from friends or family; the vast majority received them for free (The White House, 2008).

Last-year prevalence in the general population

	2007[1]	1998
Opiates (heroin)	0.2% (2005)	0.6% (2000-opiates)[2]
Cocaine (all types)	3.0% (2006)[2]	No data found
Cocaine (HCL)	2.3% (2005)	No data found
Cocaine (crack)	0.6% (2005)	No data found
Cannabis	10.4% (2005)/ 12,2% (2006)[2]	No data found
ATS (amphetamine)	1.6% (2006)[2]	No data found
ATS (methamphetamine)	0.5%(2005)	No data found
ATS (ecstasy/MDMA)	0.8% (2005)/ 1.0% (2006)[2]	No data found

1. OAS/CICAD, 2006.

2. UNODC, 2008.

Last-month prevalence in the general population[1]

	2007	1998
Opiates (specify substance)	0.1% (2005)	No data found
Cocaine (HCL)	1.0% (2005)	No data found
Cocaine (crack)	0.3% (2005)	No data found
Cannabis (specify substance)	6.0% (2005)	No data found
ATS (amphetamine)	-	No data found
ATS (methamphetamine)	0.2% (2005)	No data found
ATS (ecstasy/ MDMA)	0.2% (2005)	No data found

1. The White House, 2008.

Life-time prevalence among young people (<20 years)

Drug use prevalence in specific populations (2005)
(Population surveyed: 10th graders)

Type of drug	Lifetime (percentage)	Last 12 months (percentage)			Last 30 days (percentage)		
	Total	M	F	Total	M	F	Total
Alcohol	63.2	–	–	56.7	32.8	33.6	33.2
Tobacco (Cigarettes)	38.9	–	–	–	–	15.1	14.9
Solvents & Inhalants	13.1	5.0	6.9	6.0	–	–	2.2
Marijuana and Hashish	34.1	28.1	24.9	26.6	–	–	15.2
Hallucinogens	5.8	4.8	3.1	4.0	–	–	1.5
LSD	2.5	1.9	1.0	1.5	–	–	0.6
Other hallucinogens	5.2	4.2	2.9	3.5	–	–	1.3
Heroin	1.5	1.1	0.8	0.9	–	–	0.5
Other Opioids	–	–	–	–	–	–	–
OxyContin	–	3.4	3.0	3.2	–	–	–
Vicodin	–	5.5	6.2	5.9	–	–	–
Cocaine HCL	5.2	3.6	3.3	3.5	–	–	1.5
Crack	2.5	1.6	1.7	1.7	–	–	0.7
Other Cocaine Type	4.6	3.3	2.7	3.0	–	–	1.3
Tranquilizers / Sedatives/ Depressants	7.1	4.3	5.3	4.8	–	–	2.3
Flunitrazepam (Rohypnol ®)	–	0.3	0.6	0.5	–	–	–
GHB (Gamma hydroxybutyric acid)	–	–	–	0.8	–	–	–
Ketamine	–	–	–	1.0	–	–	–
Amphetamines	11.1	6.6	9.0	7.8	–	–	3.7
MDMA (Ecstasy)	4.0	2.6	2.5	2.6	–	–	1.0
Methamphetamines	4.1	2.6	3.0	2.9	–	–	1.1
Any illicit drug	38.2	30.5	28.9	29.8	–	–	17.3

(OAS/CICAD, 2006)

The annual prevalence of heroin consumption among 8th-12th grade students in the USA fell from 1.3% in 2000 to 0.8% in 2005 and remained at that level in both 2006 and 2007.

Since 2001, youth use of marijuana has declined by 25 percent, while youth use of any illicit drug has declined by 24 percent— remarkably similar trends (The White House, 2008).

80418 (8.2B)

Table G.4 Types of Illicit Drug Use in the Past Year among Persons Aged 12 or Older: Percentages, 2002-2007

Drug	2002	2003	2004	2005	2006	2007
ILLICIT DRUGS[1]	14.9	14.7	14.5	14.4	14.5	14.4
Marijuana and Hashish	11.0[b]	10.6	10.6	10.4	10.3	10.1
Cocaine	2.5	2.5	2.4	2.3	2.5	2.3
Crack	0.7	0.6	0.5	0.6	0.6	0.6
Heroin	0.2	0.1	0.2	0.2	0.2[a]	0.1
Hallucinogens	2.0[b]	1.7	1.6	1.6	1.6	1.5
LSD	0.4[b]	0.2	0.2	0.2	0.3	0.3
PCP	0.1[b]	0.1[b]	0.1[a]	0.1	0.1	0.1
Ecstasy	1.3[b]	0.9	0.8	0.8	0.9	0.9
Inhalants	0.9	0.9	0.9	0.9	0.9	0.8
Nonmedical Use of Psychotherapeutics[2,3]	6.3	6.4	6.2	6.3	6.7	6.6
Pain Relievers	4.7[a]	4.9	4.7[a]	4.9	5.1	5.0
OxyContin®	--	--	0.5	0.5	0.5	0.6
Tranquilizers	2.1	2.1	2.1	2.2	2.1	2.1
Stimulants[3]	1.4[a]	1.3	1.4	1.3	1.5[b]	1.2
Methamphetamine[3]	0.7[b]	0.7[a]	0.8[b]	0.7	0.8[b]	0.5
Sedatives	0.4	0.3	0.3	0.3	0.4	0.3
ILLICIT DRUGS OTHER THAN MARIJUANA[1]	8.7	8.5	8.2	8.3	8.6	8.5

*Low precision; no estimate reported.
-- Not available.

[a] Difference between estimate and 2007 estimate is statistically significant at the 0.05 level.
[b] Difference between estimate and 2007 estimate is statistically significant at the 0.01 level.

[1] Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.6 in Appendix B of the *Results from the 2007 National Survey on Drug Use and Health: National Findings*.
[2] Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.
[3] Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in prior NSDUH reports. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with the 2006 and 2007 estimates. See Section B.4.6 in Appendix B of the *Results from the 2007 National Survey on Drug Use and Health: National Findings*.

(SAMHSA, 2007)

80418 (8.3B)

Table G.6 Types of Illicit Drug Use in the Past Month among Persons Aged 12 or Older: Percentages, 2002-2007

Drug	2002	2003	2004	2005	2006	2007
ILLICIT DRUGS[1]	8.3	8.2	7.9	8.1	8.3	8.0
Marijuana and Hashish	6.2	6.2	6.1	6.0	6.0	5.8
Cocaine	0.9	1.0	0.8	1.0	1.0	0.8
Crack	0.2	0.3	0.2	0.3	0.3	0.2
Heroin	0.1	0.1	0.1	0.1	0.1[a]	0.1
Hallucinogens	0.5[a]	0.4	0.4	0.4	0.4	0.4
LSD	0.0	0.1	0.1	0.0	0.1	0.1
PCP	0.0	0.0	0.0	0.0	0.0	0.0
Ecstasy	0.3[a]	0.2	0.2	0.2	0.2	0.2
Inhalants	0.3	0.2	0.3	0.3	0.3	0.2
Nonmedical Use of Psychotherapeutics[2,3]	2.7	2.7	2.5	2.7	2.9	2.8
Pain Relievers	1.9	2.0	1.8[a]	1.9	2.1	2.1
OxyContin®	--	--	0.1	0.1	0.1	0.1
Tranquilizers	0.8	0.8	0.7	0.7	0.7	0.7
Stimulants[3]	0.6[a]	0.6[a]	0.5[a]	0.5	0.6[a]	0.4
Methamphetamine[3]	0.3	0.3	0.3	0.3	0.3	0.2
Sedatives	0.2	0.1	0.1	0.1	0.2	0.1
ILLICIT DRUGS OTHER THAN MARIJUANA[1]	3.7	3.7	3.4	3.7	3.9	3.7

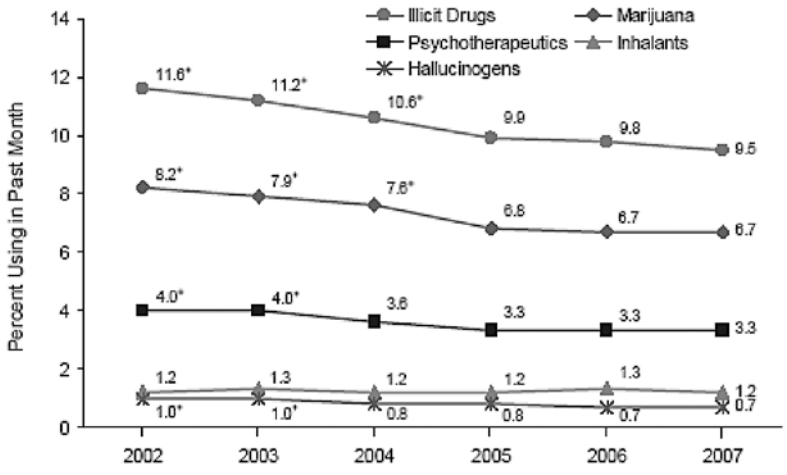
*Low precision; no estimate reported.
-- Not available.

[a] Difference between estimate and 2007 estimate is statistically significant at the 0.05 level.
[b] Difference between estimate and 2007 estimate is statistically significant at the 0.01 level.

[1] Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.6 in Appendix B of the *Results from the 2007 National Survey on Drug Use and Health: National Findings*.
[2] Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.
[3] Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in prior NSDUH reports. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with the 2006 and 2007 estimates. See Section B.4.6 in Appendix B of the *Results from the 2007 National Survey on Drug Use and Health: National Findings*.

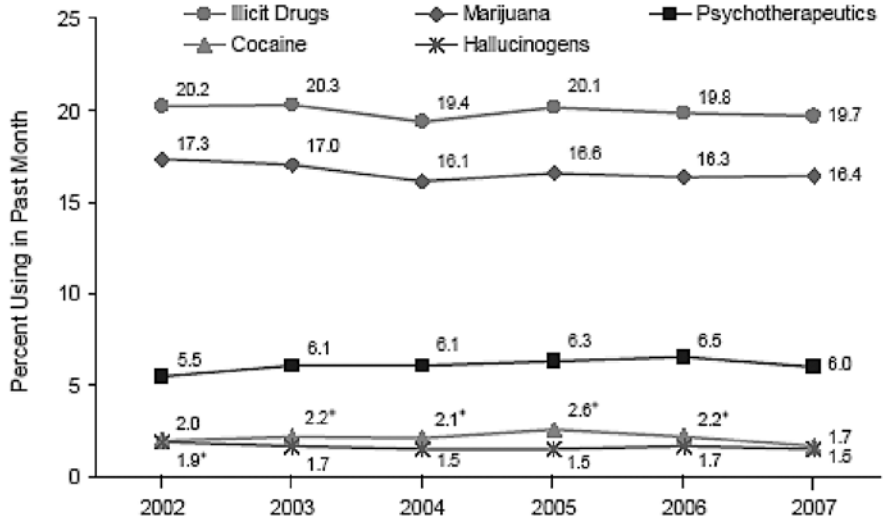
(SAMHSA, 2007)

Figure 2.5 Past Month Use of Selected Illicit Drugs among Youths Aged 12 to 17: 2002-2007



+ Difference between this estimate and the 2007 estimate is statistically significant at the .05 level.

Figure 2.6 Past Month Use of Selected Illicit Drugs among Young Adults Aged 18 to 25: 2002-2007



* Difference between this estimate and the 2007 estimate is statistically significant at the .05 level.

(SAMHSA, 2007)

80402 (1.11B)

Table G.10 Illicit Drug Use in Lifetime, Past Year, and Past Month, by Detailed Age Category: Percentages, 2006 and 2007

	TIME PERIOD					
	Lifetime		Past Year		Past Month	
Age Category	2006	2007	2006	2007	2006	2007
TOTAL	45.4	46.1	14.5	14.4	8.3	8.0
12	12.1[a]	9.9	6.9[a]	5.4	3.1	2.7
13	16.3	16.4	9.9	10.2	4.6	4.0
14	23.2	21.4	15.8	14.7	7.0	6.7
15	31.9[a]	29.0	22.8	21.4	11.1	11.0
16	37.3	37.6	28.3	28.6	14.9	14.8
17	43.1	41.5	32.2	30.8	17.1	17.4
18	50.1	46.9	37.6	34.8	20.7	20.7
19	54.9	53.3	37.2	36.6	22.4	22.3
20	59.7	57.1	38.2	36.6	23.6	22.0
21	61.7	60.3	36.0	37.6	20.1	23.1
22	62.3	59.6	34.3	32.8	19.5	20.0
23	61.9	62.7	30.9	31.6	18.1	17.5
24	62.4	62.1	31.4	28.7	17.9	16.1
25	60.5	60.1	28.3	25.4	15.5	15.4
26-29	60.4	57.8	24.7	23.0	14.1	12.8
30-34	55.3	55.5	17.5	16.9	10.0	9.4
35-39	56.2	56.1	14.2	13.9	8.0	7.3
40-44	60.9	58.6	13.6	13.1	8.3	7.0
45-49	61.6	61.0	11.9	11.9	6.7	7.2
50-54	54.6	58.9	9.1	10.6	6.0	5.7
55-59	43.4[b]	51.6	4.9[b]	8.0	2.4	4.1
60-64	28.2[b]	35.0	3.4	4.4	2.1	1.9
65 or Older	9.8	10.7	1.1	1.0	0.7	0.7

*Low precision; no estimate reported.
NOTE: Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

[a] Difference between estimate and 2007 estimate is statistically significant at the 0.05 level.
[b] Difference between estimate and 2007 estimate is statistically significant at the 0.01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006 and 2007.

(SAMHSA, 2007)

2.2.2 Problematic drug users/chronic and frequent drug users

There is no information on the number of problematic/chronic-frequent users (in the general population).

The number of injecting drug users (in the general population)

2007	1998
294,929-2,589,858	294,929-2,589,858

In the United States the number of injecting drug users is estimated to be 1,364,000 (IHRA, 2008).

Mathers et al. report a 2002 estimate of prevalence of people who inject drugs in the USA of 0.67%(low), 0.96%(mid), 1.34%(high). The number of people who inject drugs is estimated 294,929 (low) 1,857,354 (mid), 2,589,858 (high) (Mathers et al., 2008).

2.3 Drug related Harm

2.3.1 HIV infections and mortality (drug related deaths)

The number of HIV infected injecting drug users

Mathers et al. report a 2003 HIV prevalence among people who inject drugs of 8.74 (low), 15.57 (mid) to 22.4 (high) (Mathers et al., 2008).

The number of newly HIV infected injecting drug

Transmission by multiple use of contaminated injecting equipment accounts for 18% of new HIV diagnoses in the United States (2005). (UNAIDS, 2008)

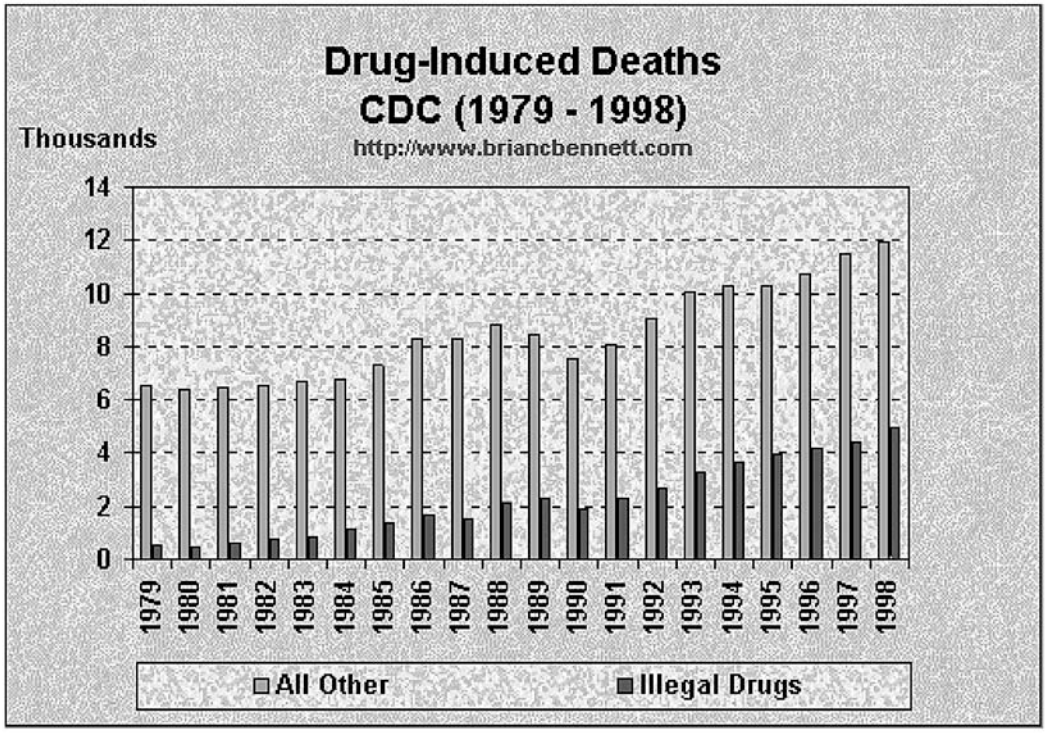
The number of drug related deaths by overdose

2007	1998
33,541[1]	16,926[2]

1. Kung, 2008.

2. CDC, CDC Wonder System.

In 2005, a total of 33,541 persons died of drug-induced causes in the United States. The category "drug-induced causes" includes not only deaths from dependent and nondependent use of either legal or illegal drugs, but also includes poisoning from medically prescribed and other drugs.



(CDC, CDC Wonder System)

2.3.2 Drug related crime or (societal) harm

There are substantial costs associated with methamphetamine production, particularly from environmental hazards. Drug market violence was substantial in 1998 and is now much less but it is impossible to document that. Many outdoor markets have moved indoors, which has reduced crime and disorder (expert's comments).

3 Drug policy

3.1 General information

3.1.1 Policy expenditures

Estimates of total annual expenditures in 2007 on drug policy measures

National Drug Control Strategy Budget, 2004–2006[2]
(millions)

Area	Approved budget (US$)			Executed budget (US$)		
	2004	2005	2006	2004	2005	2006
Demand Reduction	$5,377.3	$5,079.2	$4,810.4	$4,984.2	$5,005.1	$4,804.4
Supply Reduction	$6,705	$7,083.5	$7,764.7	$6,883.2	$7,637.2	$8,194.8
Total	$12,082.3	$12,162.7	$12,575.1	$11,867.4	$12,642.3	$12,999.2

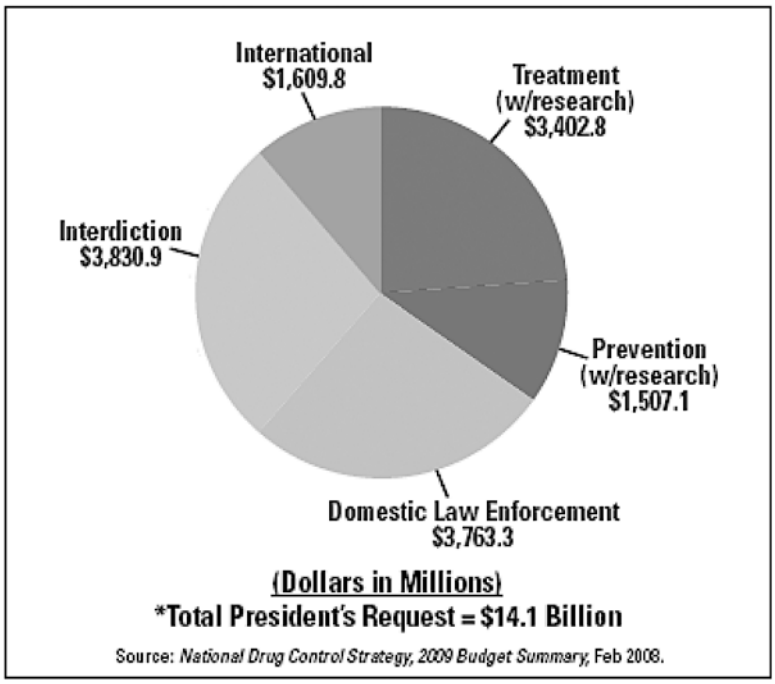
(OAS/CICAD, 2006)

Through the President's Access to Recovery Program, approximately $400 million in Federal funds have delivered a comprehensive spectrum of services tailored to the individual, including recovery support services (The White House, 2008).

Expert comments

These only include federal expenditures and exclude some major items, in particular the costs of prosecution and imprisonment. It is usually assumed that state and local governments spend as much as the federal government. Total national expenditures, dominated by enforcement, are probably around $35 billion.

Federal Drug Control Spending by Function, FY09*



(The White House, 2008)

Additional information

The executive budget the for National Drug control Strategy grew from $12.1 billion in 2004 to $12.5 billion in 2005, primarily due to increased resources for supply reduction. Spending on demand reduction showed little change from 2004 to 2005, and a decreased budget for 2006 was reported for this component of the strategy (OAS/CICAD, 2006).

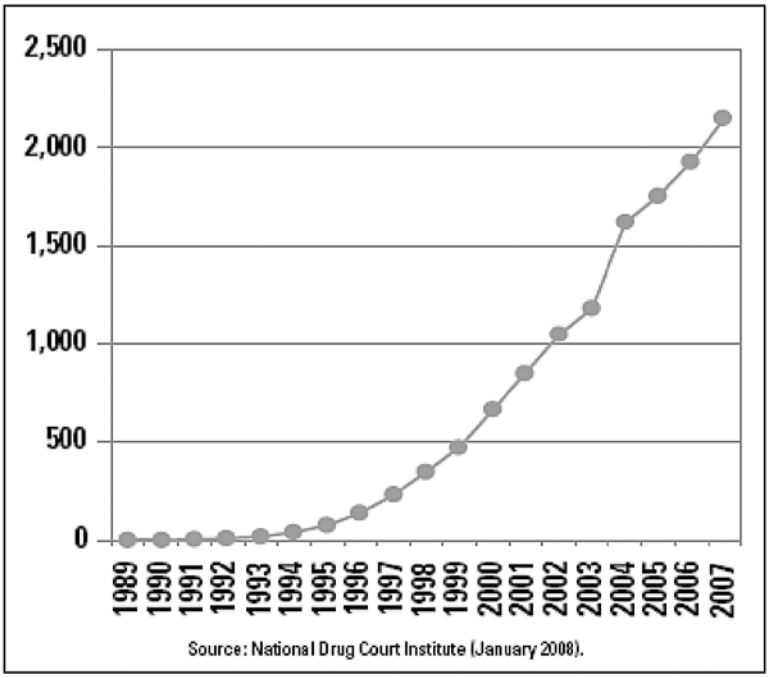
Expert comments

The problem in making comparisons with 1998 is that the federal government changed the method for calculating expenditures in 2002. As a result it is impossible to make comparisons between 1998 and 2007 but it is safe to say that both federal and total government expenditures did increase over that time period.

3.1.2 Other general indicators

Numbers available on arrests and imprisonment for drug-law related offences

Figure 15.
The Number of Drug Courts Continues to Increase Nationwide (1989-2007)



(The White House, 2008)

Numbers available on arrests and imprisonment for use/possession for personal use

Sourcebook of Criminal Justice Statistics 2003, page 392

Table 4.40

Arrests by the Drug Enforcement Administration

By type of drug, fiscal years 1992-2003[a]

			Type of drug							
	Total		Heroin[b]		Cocaine[c]		Cannabis[d]		Other dangerous drugs[e]	
Fiscal year	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1992	24,874	100%	2,285	9.2%	12,710	51.1%	6,166	24.8%	3,713	14.9%
1993	22,059	100	2,021	9.2	10,984	49.8	5,578	25.3	3,476	15.8
1994	22,081	100	2,015	9.1	11,251	51.0	5,355	24.3	3,460	15.7
1995	24,993	100	2,546	10.2	12,026	48.1	6,231	24.9	4,190	16.8
1996	27,698	100	2,682	9.7	12,674	45.8	6,735	24.3	5,607	20.2
1997	33,626	100	3,090	9.2	14,901	44.3	7,650	22.8	7,985	23.7
1998	37,841	100	3,299	8.7	16,447	43.5	8,066	21.3	10,029	26.5
1999	40,695	100	3,590	8.8	17,038	41.9	8,606	21.1	11,461	28.2
2000	40,324	100	3,610	9.0	16,336	40.5	8,541	21.2	11,837	29.4
2001	35,359	100	3,372	9.5	13,538	38.3	6,976	19.7	11,473	32.4
2002	30,060	100	2,487	8.3	12,010	40.0	5,576	18.5	9,987	33.2
2003	27,198	100	2,329	8.6	10,516	38.7	5,679	20.9	8,674	31.9

Note: Some data have been revised by the Source and may differ from previous editions of SOURCEBOOK.

[a]Percents may not add to 100 because of rounding.
[b]Includes morphine, opium, and other opiate-related substances.
[c]Includes crack.
[d]Includes marijuana, hashish, and hashish oil.
[e]Includes stimulants (e.g., methamphetamine), depressants (e.g., barbiturates), and hallucinogens (e.g., LSD and PCP).

Source: Table adapted by SOURCEBOOK staff from table provided by the U.S. Department of Justice, Drug Enforcement Administration, Defendant Statistical System.

(Hindelang Criminal Justice Research Center, 2005)

Arrests have been flat, except for marijuana possession arrests, which have increased. Total incarceration for drug offenses has increased sharply (expert's comments).

Additional information

In the criminal justice system, Drug Courts are putting nonviolent offenders with drug problems in treatment programs instead of jails (The White House, 2008). The total numbers for drug courts are very small, barely 1% of all those processed by the criminal justice system.

In 2007, there were an estimated 1.6 million adults aged 18 or older on parole or other supervised release from prison during the past year. Almost one fourth of these (24.1 percent) were current illicit drug users, higher than the 7.7 percent among adults not on parole or supervised release (SAMHSA, 2007).

In 2007, adults aged 18 or older who were on parole or a supervised release from jail during the past year had higher rates of dependence on or abuse of a substance (37.2 percent) than their counterparts who were not on parole or supervised release during the past year (8.9 percent) (SAMHSA, 2007).

In 1996, California became the first State to allow the use of marijuana for medical purposes. California's Proposition 215, also known as the Compassionate Use Act of 1996, was intended to ensure that "seriously ill" residents of the State had access to marijuana for medical purposes, and to encourage Federal and State governments to take steps toward ensuring the safe and affordable distribution of the drug to patients in need (The White House, 2008).

However this feature has been under fire ever since it started and also in the National Drug Control Strategy there is a substantial criticism toward the medical prescription of marijuana.

Medical use of cannabis

Under state law, 12 states currently provide legal protection for seriously ill patients whose doctors recommend the medical use of marijuana: Alaska, California, Colorado, Hawaii, Maine, Montana, Nevada, New Mexico, Oregon, Rhode Island, Washington, and Vermont. Federal law does not prevent states from removing state criminal penalties for the medical use

of marijuana. Nothing in the U.S. Constitution or federal law prohibits states from enacting penalties that differ from federal law *(*Marijuana Policy Project).

3.2 Supply reduction: Production, trafficking and retail

The main focus is on trafficking and retail.

Priorities of drug policy on drug production, supply and trafficking covered by policy papers and/or law

Drugs legislation in the United States aims at reducing the number of drug users in the country. The principal legislation addressing drug abuse is the Controlled Substances Act (1970).This federal law divides narcotics into five schedules based on a drug's potential for abuse, likelihood for dependence and accepted medical use. Schedule I contains those drugs with the highest potential for abuse and lowest medical use, and Schedule V contains those with high medical use and low potential for abuse. However, different States have their own legislation for scheduling drugs and for punishment, which allows each State to interpret the federal law as applied in state sentencing. This enables States to decide upon harshness of sentencing for those individuals that appear in State courts (the majority of drug cases).

Punishments vary according to the amount of a drug a person is caught with for serious (Schedule I and II) drugs. People caught with smaller amounts (for personal use or close friend supply) are punished less harshly than those who have larger amounts for dealing.

National Drug Control Strategy: With tools that have proven effective, we will rise to these challenges and seek to achieve a further 10 percent reduction in youth drug use in 2008, using 2006 as the baseline. This effort will continue to be guided by the three National Priorities set by the President in 2002:

- Stopping Drug Use Before It Starts;
- Intervening and Healing America's Drug Users;
- Disrupting the Market for Illegal Drugs.

(The White House, 2008)

Most important statements

The National Drug Control Strategy will complement and support the National Security Strategy of the United States by focusing on several key priorities:

- Focus U.S. action in areas where the illicit drug trade has converged or may converge with other transnational threats with severe implications for U.S. national security;
- Deny drug traffickers, narco-terrorists, and their criminal associates their illicit profits and access to the U.S. and international banking systems;
- Strengthen U.S. capabilities to identify and target the links between drug trafficking and other national security threats and to anticipate future drug-related national security threats;
- Disrupt the flow of drugs to the United States and through other strategic areas by building new and stronger bilateral and multilateral partnerships.

(The White House, 2008).

3.3 Demand reduction: Experimental/recreational drug use + problematic use/chronic-frequent use

Prevention programmes implemented

	2007	1998
School-based prevention	Predominant	Predominant
Mass media campaigns	Predominant	Predominant
Telephone helpline	No data found	No data found

Additional information

Drug Abuse prevention programmes in the US, targeting key populations and are in general compatible with the CICAD Hemispheric Guidelines on School-based Prevention (OAS/CICAD, 2006). But there is insufficient information to assess the extent of coverage of the target population.

There are many mass media campaigns targeting especially young people in the USA. Also there are substance specific campaigns addressing the dangers of methamphetamine use, ecstasy use, cannabis etc. There is a National Youth Anti-Drug Campaign (The White House, 2008).

Treatments available

	2007
Abstinence oriented in-patient	635 public and 4118 private
Abstinence oriented out-patient	1637 public and 9216 private
Abstinence oriented mandatory	445 public and 2,379 private detox centres
Abstinence oriented voluntary	1,866 public and 11,329 private treatment and rehabilitation centres
Maintenance oriented	Common

(SAMHSA, 2007a)

Table 1a
Admissions by primary substance of abuse: TEDS 1996-2006
Number

[Based on administrative data reported to TEDS by all reporting States and jurisdictions. See Table 6a.]

Primary substance	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*
Total	1,643,731	1,607,957	1,712,268	1,725,885	1,759,420	1,781,019	1,901,007	1,868,340	1,892,154	1,861,209	1,800,717
Alcohol	832,844	796,874	828,252	824,641	813,134	788,522	813,719	776,257	755,068	731,098	714,032
Alcohol only	473,536	445,699	462,692	461,532	454,447	433,716	448,999	431,035	418,006	403,403	393,810
Alcohol w/secondary drug	359,308	350,975	365,560	363,109	358,687	354,806	364,720	345,222	337,062	327,695	320,222
Opiates	240,971	251,417	267,010	280,145	298,865	315,932	332,357	326,840	329,148	325,693	320,734
Heroin	224,366	235,143	247,069	257,508	270,419	277,697	286,219	273,963	264,466	256,751	245,984
Other opiates/synthetics	16,605	16,274	19,941	22,637	28,446	38,235	46,138	52,877	64,682	68,942	74,750
Non-RX methadone	1,302	1,209	1,576	1,606	1,869	2,051	2,561	2,719	3,371	3,885	4,346
Other opiates/synthetics	15,303	15,065	18,365	21,031	26,577	36,184	43,577	50,158	61,311	65,057	70,404
Cocaine	263,896	236,770	254,365	242,143	238,766	230,948	245,686	254,660	263,294	261,436	250,135
Smoked cocaine	195,751	174,900	186,973	176,507	174,551	168,937	179,358	184,815	189,676	188,003	178,475
Non-smoked cocaine	68,145	61,870	67,392	65,636	64,215	62,011	66,328	69,845	73,618	73,433	71,660
Marijuana/hashish	192,918	197,840	220,173	232,105	250,622	266,150	289,220	291,668	307,429	297,226	289,988
Stimulants	52,964	68,166	71,356	73,568	81,419	97,545	124,433	135,247	148,222	171,292	156,486
Methamphetamine	41,045	53,694	56,517	58,801	64,481	78,575	102,908	114,631	126,701	152,698	149,415
Other amphetamines	10,940	13,737	14,010	13,890	15,697	17,529	20,160	19,331	20,485	17,627	6,228
Other stimulants	979	735	829	877	1,241	1,441	1,365	1,285	1,036	967	843
Other drugs	19,452	18,942	21,718	26,702	31,247	33,331	30,586	29,823	29,884	27,828	26,246
Tranquilizers	4,540	4,796	5,369	5,913	6,650	7,450	8,295	8,164	8,804	8,170	8,011
Benzodiazepine	3,528	3,835	4,524	5,048	5,777	6,500	7,334	7,402	8,101	7,637	7,536
Other tranquilizers	1,012	961	845	865	873	950	961	762	703	533	475
Sedatives/hypnotics	3,308	3,240	3,459	3,459	3,661	3,996	4,488	4,275	4,479	4,401	3,866
Barbiturates	1,438	1,278	1,232	1,148	1,244	1,274	1,549	1,337	1,348	1,362	989
Other sedatives/hypnotics	1,870	1,962	2,227	2,311	2,417	2,722	2,939	2,938	3,131	3,039	2,877
Hallucinogens	2,839	2,672	2,378	2,789	3,137	3,155	2,715	2,238	2,368	2,017	1,510
PCP	2,504	1,896	1,846	2,321	2,840	3,193	3,927	4,179	3,264	2,853	2,777
Inhalants	1,974	1,819	1,603	1,423	1,320	1,259	1,219	1,219	1,258	1,365	1,034
Over-the-counter	550	506	486	1,091	769	624	640	710	889	770	768
Other	3,737	4,013	6,577	9,706	12,870	13,654	9,302	9,038	8,822	8,252	8,280
None reported	40,686	38,148	49,394	46,581	45,367	48,591	65,006	53,845	59,109	46,636	43,096

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 10.9.07.

(SAMHSA, 2007a)

In 2007, the number of persons aged 12 or older needing treatment for problems with illicit drug use was 7.5 million (3.0 percent of the total population). Of these, 1.3 million (0.5 percent of the total population and 17.8 percent of the persons who needed treatment) received treatment at a specialised drug treatment facility in the past year. These estimates did not change significantly between 2002 and 2007. The number of persons needing treatment for problems with illicit drug use in 2007 (7.5 million) was similar to the number needing treatment in 2002 (7.7 million), 2003 (7.3 million), 2004 (8.1 million), 2005 (7.6 million), and 2006 (7.8 million). Also, the number of persons needing but not receiving specialised treatment in the past year for problems with illicit drug use in 2007 (6.2 million) was similar to the estimates in 2002 (6.3 million), 2003 (6.2 million), 2004 (6.6 million), 2005 (6.3 million), and 2006 (6.2 million) (SAMHSA, 2007).

In the criminal justice system, diversion schemes exist offering the option of drug treatment enforced by a court sentence as an alternative for a prison sentence. These diversion schemes are linked to so-called drug (treatment) courts (DTCs) and are only available for non-violent offenders with drug problems (The White House, 2008).

Patients Receiving Treatment and Treatment Programs[7]

Patients and Treatment Programs	2004	2005
Number of patients (in millions)	1.07	1.08
Number of treatment programs	13,454	14,047

(OAS/CICAD, 2006)

Methadone maintenance was pioneered in the United States in the mid-1960s, and has a long tradition in the country. In October 2002, buprenorphine was also approved for use by the Food and Drug Administration. Despite this early start

with Opiate Substitution Treatment, there are major geographical differences in service provision. Historically, expansion of methadone programmes in the United States has been hindered by restrictive licensing and control; misinformation about the nature of the treatment among local communities, health care providers and the public; and fears that methadone clinics would create centres for crime and drug trafficking. It was estimated in 2000 that only 20% of US heroin users were receiving methadone (IHRA, 2008).

Priorities of drug treatment covered by policy papers and/or law

Guidelines for standards of care exist on national, state and local level. These guidelines are mandatory regulations for the Opioid Drugs in Maintenance and Detoxification Treatment of Opiate Addiction. Otherwise, the country indicates that application of the standards of care for drug abuse treatment is not required by law (OAS/CICAD, 2006).

Most important statements

"Stopping drug use before it starts" addresses the prevention priority, stopping drug use before it starts, and details efforts to expand and amplify the cultural shift away from drug use, especially among young people (The White House, 2008).

There have been no changes in these drug policy statements (objectives) during the past ten years (expert's comments).

3.4 Harm reduction

3.4.1 HIV and mortality

Harm reduction interventions available

Types	2007	1998	1998 -> 2007 Increase (+) Decrease (-) In numbers
Syringe exchange programmes	Common	Uncommon	+
Overdose treatment (naloxone)	Uncommon	Uncommon	+
Outreach work (actively seeking contact with drug users)	Uncommon	Uncommon	+
Safer use education (flyers, folders, training)	Uncommon	Uncommon	+
Drop-in centres (low-threshold)	Uncommon	Uncommon	+

Additional information

Community-based outreach in HIV prevention programmes specifically targeting people who use drugs exist in the United States, including programmes run by and for people who use drugs. A number of cities in the United States have developed mobile harm reduction units that provide syringe exchange, condoms, VCT and other health-related services to street-involved populations of sex workers and people who use drugs. However, significant gaps still exist. Harm reduction advocates identify the need for interventions to address issues such as race, ethnicity, culture, gender, sexual orientation, age and socio-economic status in order to increase accessibility (IHRA, 2008).

In the United States, so-called Needle and Syringe Programmes (NSPs) began in the mid- to late 1980s as unofficial, activist based projects. However, over time, many states introduced legislation to allow NSPs to operate legally and to provide funding support for their implementation. As of November 2007, a total of 185 NSPs were operating in thirty-six states and the District of Columbia.

There has been an increase of funding at the state and local levels for NSPs in recent years, which has resulted in the number of programmes stabilising and their services expanding. For example, in 2006 the North American Syringe Exchange Network (NASEN) recorded 166 registered NSPs in the United States, compared with 68 in 1994/1995, 101 in 1996, 113 in 1997, 131 in 1998, 154 in 2000, 148 in 2002 and 174 in 2004. However, despite this increased access, the Harm Reduction Coalition estimates that NSPs still reach less than 20% of people who inject drugs in the US. The United States government has placed a ban on federal funding for NSPs since 1988. The bulk of funding for these programmes (74 to 87%) therefore comes from city, county and state governments. State support of NSPs is essential in enhancing service provision, and research has shown that the presence of government funding of NSPs in the US is associated with a larger number of syringes being exchanged

and a greater variety of services being offered by the programmes, including increased likelihood of offering voluntary HIV counselling and testing (VCT)(IHRA, 2008).

Pharmacy sales of syringes to injecting drug users are limited in the United States by laws, regulations and pharmacy practices. For example, in 2002, forty-seven states and the District of Columbia had enacted drug paraphernalia laws under which the distribution and possession of any item used to consume illegal drugs, including syringes, is prohibited. In addition, eight states also require prescriptions in order to purchase syringes legally. Pharmacy regulations or guidelines in twenty-three states also have the effect of restricting the sale of syringes to people who inject drugs (IHRA, 2008).

Safer crack kits also form part of the harm reduction response in the United States. In 2006, the Beth Israel Medical Center Survey of US Needle and Syringe Exchange found that out of 150 responding programmes, 51 programmes (34%) stated that they had distributed safer crack use kits that year. Safer crack use kits are available from programmes in a number of cities including New York City, Bridgeport, Hartford, Providence, Marin County, San Francisco, Seattle, Chicago, Los Angeles, Minneapolis and Albuquerque (IHRA, 2008).

Priorities of harm reduction covered by policy papers and/or law

In October 2007, the extension of the United States' national strategy on HIV prevention contained the objective to 'increase the proportion of people who inject drugs who abstain from drug use or, for those who do not abstain, use harm reduction strategies to reduce risk for HIV acquisition or transmission'. In addition, the 2001 National Hepatitis C Prevention Strategy supports harm reduction. According to the plan, achieving the goal of reducing HCV incidence 'requires: 1) harm reduction programs directed at persons at increased risk for infection to reduce the incidence of new HCV infections'. However, the National Drug Control Strategy does not support harm reduction (IHRA, 2008).

The federal government provides financial and technical support for HIV prevention, treatment and care through the President's Emergency Plan for AIDS Relief (PEPFAR) to levels exceeding any other national government. However, PEPFAR funds are not permitted to be used for NSPs and although OST programmes can be supported by these funds, PEPFAR guidelines only allow OST to be provided to people living with HIV.

3.4.2 Crime, societal harm, environmental damage

No information found on crime, societal harm, environmental damage.

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List of abbreviations

AIDS:	Acquired Immune Deficiency Syndrome
ADAM:	Arrestee Drug Abuse Monitoring System
AIHW:	Australian Institute of Health and Welfare
ARQ:	Annual Research Questionnaire (of the UNODC)
ATS:	Amphetamine Type Stimulants
BRQ:	Bi-annual Report Questionnaire (of the UNODC)
CADS:	Canada's Alcohol and other Drugs Survey
CAS:	Canadian Addiction Survey
CDC:	Centre for Disease Control
CHB:	Chronic Hepatitis B
CICAD:	Inter-American Drug Abuse Control Commission
CIS:	Commonwealth of Independent States
CND:	Commission on Narcotic Drugs (United Nations)
CPI:	Consumer Price Index
DARE:	Drug Abuse Resistance Education
DASC:	Drug Availability Steering Committee
DEA:	Drug Enforcement Administration (United States)
DRD:	Drug-related Death
DTC:	Drug Treatment Court
EMCDDA:	European Monitoring Centre for Drugs and Drug Addiction
ESPAD:	European School Survey Project on Alcohol and Other Drugs
GBP:	Pond Sterling
GDP:	Gross Domestic Product
HCV:	Hepatitis C Virus
HIV:	Human Immunodeficiency Virus
HR:	Harm Reduction
IDI:	Illicit Drug Index
IDU:	Injecting Drug User
IHRA:	International Harm Reduction Association
INCB:	International Narcotics Control Board
LTP:	Lifetime Prevalence
LYP:	Last Year Prevalence
LMP:	Last Month Prevalence
NADS:	National Alcohol and Drugs Survey (1989 in Canada)
NASEN:	North American Syringe Exchange Network
NCHECR:	National Centre in HIV Epidemiology and Clinical Research
NGO:	Non-Governmental Organisation
NIDA:	National Institute on Drug Abuse
NSDUH:	National Survey on Drug Use or Health
OAS:	Organization of American States
OECD:	Organisation for Economic Cooperation and Development
ONDCP:	Office of National Drug Control Policy
OST:	Opiate Substitution Treatment
PEPFAR:	President's Emergency Plan for AIDS Relief
PDU:	Problem Drug Use
QALI:	Quality Adjusted Life Indices
QALY:	Quality Adjusted Life Years
REITOX:	European Information Network on Drugs and Drug Addiction
SEP:	Syringe Exchange Programme
STRIDE:	System to Retrieve Information from Drug Evidence
TEDS:	Treatment Episode Data Set

UNAIDS:	Joint United Nations Programme on HIV/AIDS
UNDCP:	United Nations International Drug Control Programme
UNODC:	United Nations Office on Drugs and Crime
UWSA:	United Wa State Army
WDR:	World Drug Report
WHO:	World Health Organization
WMHS:	World Mental Health Survey

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