European Monitoring Centre
for Drugs and Drug Addiction

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THE STATE OF THE DRUGS PROBLEM IN EUROPE

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Foreword

This report provides a timely and detailed assessment of Europe's drug situation, and we are grateful to our staff who have worked so hard to produce it. However, we must acknowledge that the strength of this document comes not just from our work here in Lisbon but, more fundamentally, from the efforts within the Member States to develop a sound and comprehensive information system. As well as making an important contribution to a mature and informed debate on the drug problem, the existence of this monitoring system, we believe, results in better and more effective policies.

Such policies are increasingly necessary, as the challenges in this area grow ever more complex. A common theme running through this report is the dynamic nature of the drug problem, and we need to ensure that our vision keeps pace with the changing conditions with which we are confronted.

This year, the EMCDDA celebrated 15 years of collecting information and reporting on the European drug problem. To mark this event we held a conference entitled 'Identifying Europe's information needs for effective drug policy'. This provided an opportunity for scientists, professionals and policymakers from across Europe, and beyond, to come to Lisbon to help us map and evaluate the existing knowledge base in the drug field and to identify current and future information needs.

The conference demonstrated that Europe has developed as a formidable laboratory to study and understand drug use and drug-related responses, and this now provides us with considerable opportunities for collective learning and knowledge sharing. Nowhere else exists such a large group of culturally different countries who demonstrate a common determination in improving their understanding and responses to this complex social problem. This can be seen in the development of a transversal drug monitoring system that encompasses 30 countries with a combined population of more than half a billion people. It can also be seen in the EU drugs strategy and action plan, tools that are designed to take stock of the information available and elaborate it into practical and collective action. This is particularly important now, as our Member States face hard choices about funding priorities, and are ever more focused on the need to gain maximum benefit from the investments that have been made. We are confident that our current report contributes to this process.

Furthermore, we make a commitment that the identification of what constitutes effective practice in the drugs field will form an increasingly important part of the EMCDDA's future activities.

The conference also identified a number of important issues that are echoed in the analysis presented here. Our information systems need to perform better in identifying, tracking and reporting on new trends. In achieving this, however, it is essential that our reporting remains accurate, grounded and non-alarmist. Also highlighted was the need to unite in our analysis both supply-side and demand-side issues. In this year's report, we give greater prominence to an analysis of supply-side indicators and the drug market. We do this cautiously, as insufficient efforts have yet been made to improve the quality, reliability and comparability of the European data set in this area. This is now widely recognised, and we are committed to working with our national and European partners to address this issue.

One of the findings of this year's report is that assessing Europe's drug situation needs a simultaneous understanding of national features, of subregional specificities and, increasingly, of common European, or even global, trends. For the future, we need to better describe this complex relationship, as this will help us not only to understand those factors that can promote or inhibit the growth of drug problems, but will also guide us in the development of appropriate interventions.

Finally, it should be noted that the European Union and the United Nations have renewed their drug policy documents almost in parallel in late 2008 and early 2009. The new EU action plan on drugs and the new UN political declaration and action plan both reflect the international commitment to reduce drug use and the harms it can cause. To achieve these objectives constitutes a major challenge and will only be achieved if the planned actions are widely implemented. Monitoring and evaluation are key elements in this process, as they allow us to keep our policies on course and chart the progress made.

Marcel Reimen
Chairman, EMCDDA Management Board

Wolfgang Götz
Director, EMCDDA

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- the European Centre for Disease Prevention and Control (ECDC), the European Medicines Agency (EMEA) and Europol;
- the Pompidou Group of the Council of Europe, the United Nations Office on Drugs and Crime, the WHO Regional Office for Europe, Interpol, the World Customs Organisation, the ESPAD project and the Swedish Council for Information on Alcohol and other Drugs (CAN);
- the Translation Centre for the Bodies of the European Union and the Publications Office of the European Union.

Reitox national focal points

Reitox is the European information network on drugs and drug addiction. The network is comprised of national focal points in the EU Member States, Norway, the candidate countries and at the European Commission. Under the responsibility of their governments, the focal points are the national authorities providing drug information to the EMCDDA.

The contact details of the national focal points may be found at:

http://www.emcdda.europa.eu/about/partners/reitox-network

Introductory note

This annual report is based on information provided to the EMCDDA by the EU Member States, the candidate countries Croatia and Turkey, and Norway in the form of a national report. The statistical data reported here relate to the year 2007 (or the last year available). Graphics and tables in this report may reflect a subset of EU countries; the selection is made on the basis of those countries from which data are available for the period of interest.

Retail prices of drugs reported to the EMCDDA reflect the price to the user. Reports on purity or potency, from most countries, are based on a sample of all drugs seized, and it is generally not possible to relate the reported data to a specific level of the drug market. For purity or potency and retail prices, analyses are based on the reported mean or mode or, in their absence, the median.

Reports of the prevalence of drug use based on general population surveys mostly refer to the national population aged from 15 to 64 years. Countries using different upper or lower age limits include: Bulgaria (18–60), the Czech Republic (18), Denmark (16), Germany (18), Hungary (18–59), Malta (18), Sweden (16) and the United Kingdom (16–59). Prevalence data for the United Kingdom refers to England and Wales.

In reports on treatment demand, 'new clients' refers to those who have entered treatment for the first time in their lives and 'all clients' refers to all those entering treatment. Clients in continuous treatment at the start of the year in question are not included in the data. Where the proportion of treatment demands for a primary drug is given, the denominator is the number of cases for which the primary drug is known.

Analysis of trends is based only on those countries providing sufficient data to describe changes over the period specified. Figures for 2006 may substitute for missing 2007 values in trend analysis of drug market data; for the analysis of other trends, missing data may be interpolated. Trends in price are adjusted for inflation at national level.

Information on the availability and provision of various interventions in Europe is generally based on the informed judgement of national experts, collected through structured questionnaires.

The term 'reports' for drug law offences may describe different concepts in different countries.

The annual report is available for downloading in 23 languages and may be found at http://www.emcdda.europa.eu/publications/annual-report/2009

The 2009 statistical bulletin (http://www.emcdda.europa.eu/stats09) presents the full set of source tables on which the statistical analysis in the annual report is based. It also provides further detail on the methodology used and about 100 additional statistical graphs.

Country overviews (http://www.emcdda.europa.eu/publications/country-overviews) provide a top-level, graphical summary of key aspects of the drug situation for each country.

The national reports of the Reitox focal points give a detailed description and analysis of the drugs problem in each country and are available on the EMCDDA website (http://www.emcdda.europa.eu/publications/national-reports).

Commentary

Hitting a moving target — the challenge of developing a pragmatic policy response to a changing drug problem

Policy consensus permits a more targeted drug action plan

This report covers an important period for drug policy, both in Europe and beyond. In the European Union, we have seen the evaluation of the 2005–08 drug action plan — the fifth since 1990 — and the drafting and launch of its successor, operative for the years 2009–12. Although attention is often given to the differences that exist between Member States in their drug policies, from a historical perspective the considerable agreement that is now evident in discussions at European level is striking. Member States may still have distinct policy perspectives, to some extent reflecting distinct national realities; nonetheless, in many areas, the debate appears increasingly mature and consensus driven. This has permitted a new EU action plan that can be described as pragmatic, focused and targeted. This approach is concretely illustrated in the attention given to specific areas of practice such as the prevention of drug-related deaths, working in prison settings and improving the quality of treatment and other interventions.

Internationally, considerable public and professional interest has been stimulated by the discussions leading up to the adoption of a new United Nations political declaration and plan of action to fight the global drug problem, which followed the review of the goals set at the 1998 Special Session of the General Assembly (UNGASS). In this debate, Europe has provided a strong voice for drug policies that are balanced, scientifically grounded and humane. This has helped to ensure that, in the final agreement, the key progressive elements of the original 1998 UNGASS documents were preserved. Although the UN discussions at times were heated and sometimes reflected entrenched political and ideological positions, there were also signs that a more pragmatic and reasoned approach to identifying what constitutes effective action may be gaining ground. The USA, for example, softened its approach to the provision of sterile injecting equipment to reduce the risk of blood-borne infections, reflecting the substantial evidence base for effectiveness that now exists in this area. And, more generally, in recent policy statements, the USA appears to be moving closer to the European model. A strong consensus also emerged from the UNGASS meeting on the need for effective global monitoring of the drug phenomenon, especially given the continued growth of problems in developing and transitional countries. The reporting mechanism developed to assess the implementation of the UNGASS action plans has been criticised. But with its demise, important areas of work, particularly those concerning demand reduction measures remain outside of the existing global reporting framework. This issue is likely to be an important topic for the forthcoming session of the Commission on Narcotic Drugs.

Law enforcement practice confronted by competing policy objectives

Drug law enforcement receives a high profile in this year's annual report, and a 'Selected issue' addresses the sentencing and other outcomes of those charged with drug offences. The number of violations of drug laws reported in Europe continues to grow. And although the data are difficult to interpret, this observation raises questions about the extent to which law enforcement practice is in step with policy objectives in this area.

Broadly speaking, the European policy debate has moved towards the view that priority should be given to interdiction activities targeting the supply rather than the use of drugs. Reflecting this, in some countries the legal penalties applicable to supply-related offences have been raised or minimum tariffs have been introduced. The extent to which this shift in emphasis away from users and towards drug suppliers is being translated into policing practice is difficult to gauge. Only in a few countries do offences related to drug supply outnumber those for drug possession. Overall, the number of supply-related offences has increased; but the number of offences related to possession or use of drugs has also increased, and to an even greater degree. As well, across Europe the picture for supply-related offences is more mixed, with half of the reporting countries noting a decline in numbers in the medium-term data.

The in-depth review on sentencing for drug law offences in Europe that accompanies this report explores what happens to those who violate drug laws. Custodial sentences are common for supply-related offences, but they tend to be given at the lower end of the available tariffs, averaging 3 years or less. This may simply reflect the reality that many of those charged are at the lower end of the supply chain, for example street dealers or addicts who also sell drugs to support their habit. This finding has implications for the development of minimum sentencing guidelines, if they are intended to deter high-level career criminals from becoming involved in drug supply.

In most countries, custodial sentences are rarely handed out for drug use or possession. That said, a small percentage of those appearing in court will get an immediate prison sentence, possibly because of aggravating circumstances. This means that increasing numbers of drug users come into contact with the criminal justice system only to receive an administrative or minor sanction. Leaving aside the possible deterrent effect of this kind of action, it does raise the question as to what extent this contact with certain groups of drug users represents a missed opportunity for other demand reduction activities. Some countries have developed innovative approaches in this area, but overall these are still rare.

As those charged with drug offences are likely to be a diverse group, needs assessment is a particularly important issue for service development in this area. For health-related interventions, these span a continuum from prevention, education and harm-reduction approaches, to brief interventions and, when warranted, referral to specialised drug treatment and social support services. Developing a workable model to ensure appropriate referral trajectories is likely to pose an organisational challenge. Portugal has addressed this problem somewhat differently. The use of drugs is no longer subject to criminal sanctions, and those found in possession of drugs are directly referred for needs assessment to a special tribunal, known as a 'commission for dissuasion of drug abuse'. The tribunal can issue fines, but sanctioning is not its main objective. This scheme has now been operating for 8 years. Initial fears that this approach would lead to an increase in drug tourism or increased levels of use do not appear to be supported by the data available.

Treatment and health interventions: from 'one fits all' towards a toolbox of targeted measures

Services for drug users in Europe are becoming increasingly diversified and offered as part of an integrated package of care. This can be seen, both conceptually and in practice. For example, harm-reduction and treatment interventions are increasingly linked and offered by the same providers. Despite widespread recognition of the importance of social reintegration, this remains a poorly developed area, and drug users still experience considerable difficulties finding jobs, adequate housing and developing non-drug-related pursuits.

Although progress has been made in treating drug users in Europe, it is uneven, both in terms of the substances addressed and geographical coverage. The greatest advances have been seen in the area of opioid substitution treatment, with the treated population now in the region of 650 000 and growing. However, eastern Europe as a whole only contributes to a small proportion of this total, suggesting that there is a need for an expansion of services in some countries. A lesson that has emerged from a number of countries is that the involvement of general practitioners can contribute to an expansion of treatment provision. Shared care arrangements with specialised centres not only provide support to general practitioners, but also assure treatment quality.

Despite the fact that in most countries it is theoretically possible to continue or start substitution treatment within the prison setting, in practice this is often difficult. Given the number of drug users within prisons in Europe, there is a pressing need to expand treatment opportunities of all types within this setting. This fact is recognised in the EU action plan, but currently remains a neglected area in most countries.

For drugs other than opioids, the availability of services and our understanding of what constitutes effective care are less well developed in Europe. However, this problem has begun to be recognised, with a growing number of European research projects and pilot programmes now addressing the treatment needs of stimulant and cannabis users. In addition, developments in neuroscience have not only improved our understanding of the biological mechanisms of addiction, but are now beginning to facilitate some innovative approaches. Examples here include a cocaine vaccine, now undergoing a large-scale trial in Europe. Developments in information technology have also facilitated innovation, such as Internet-based treatment programmes and the use of text messaging.

New evidence that Europe is moving into a period of declining levels of cannabis use

The popularity of cannabis use increased dramatically during the 1990s, to the extent that now nearly a quarter

of all European adults report having used the drug at least once. Subsequently, the situation began to stabilise, and the most recent data strongly support the analysis presented in last year's report, of an overall decline in the use of this drug. Of particular interest are the latest results from the 'European school survey project on alcohol and other drugs', which provide a window on time trends in drug use among schoolchildren. Patterns found here are likely later to feed through into older age cohorts. Interestingly, just as different temporal patterns could be seen in the upward trend in cannabis use in the past, this pattern now appears to be repeating itself in reverse. The United Kingdom, for example, one of the first countries to record high prevalence levels was also one of the earliest to report a decline in use. This pattern is now seen in most other west European countries. In eastern Europe, levels of use were still increasing in most countries until recently. However, even in these countries, there are signs of stabilisation in the youth population and, if the pattern seen elsewhere is repeated, a subsequent decline could be expected.

Understanding the factors that influence the popularity of a drug such as cannabis is clearly important. However, caution should be used in inferring any simple causal explanations. National and EU policy may have played a part in influencing these trends; but declining levels of use are also seen in the USA and Australia, suggesting that broader sociocultural factors are likely to be important. Standing out in the European picture is a small group of countries, mainly in the north or south of Europe, where levels of cannabis use have remained low and stable for some time. Understanding the protective factors operating in those countries would also be of great interest; but again analysis will need to take full account of cultural, social and historical factors, as well as considering the influence of drug and social policies.

In contrast to the data on overall levels of use, the most recent analysis of patterns of problematic cannabis use in Europe is more mixed and less encouraging. A caveat here is that we currently lack good measures of dependent or problem use and, though some progress is being made in this direction, we must rely on more indirect measures. The number of new cannabis treatment demands may now be stabilising, after rising steadily for several years. Although to what extent this reflects patterns of use or the capacity of services remains unclear. Currently, the best behavioural indicator of problem cannabis use is provided by extrapolation from estimates of the number of daily users of the drug. Trends in daily use are difficult to assess, but the data available do not point to any overall decline. The EMCDDA estimates that somewhere between 2 % and 2.5 % of young adults are using cannabis on a daily or near-daily basis, with much higher levels found among young males. This represents a large population at risk, and highlights the need for better understanding of the service needs of this group.

At a glance — estimates of drug use in Europe

The estimates presented here relate to the adult population (15–64 years old) and are based on the most recent data available. For the complete set of data and information on the methodology see the accompanying statistical bulletin.

Cannabis

Lifetime prevalence: at least 74 million (22 % of European adults)

Last year use: about 22.5 million European adults or a third of lifetime users

Last month use: about 12 million Europeans

Country variation in last year use: overall range 0.4 % to 14.6 %

Cocaine

Lifetime prevalence: about 13 million (3.9 % of European adults)

Last year use: 4 million European adults or a third of lifetime users

Last month use: around 1.5 million

Country variation in last year use: overall range 0.0 % to 3.1 %

Ecstasy

Lifetime prevalence: about 10 million (3.1 % of European adults)

Last year use: about 2.5 million or a quarter of lifetime users

Last month use: less than 1 million

Country variation in last year use: overall range 0.1 % to 3.5 %

Amphetamines

Lifetime prevalence: about 12 million (3.5 % of European adults)

Last year use: around 2 million or a sixth of lifetime users

Last month use: less than 1 million

Country variation in last year use: overall range 0.0 % to 1.3 %

Opioids

Problem opioid users: estimated at between 1.2 and 1.5 million Europeans

Drug-induced deaths accounted for 4 % of all deaths of Europeans aged 15–39, with opioids being found in around three quarters

Principal drug in more than 50 % of all drug treatment requests

About 650 000 opioid users received substitution treatment in 2007

Heroin and cocaine: no strong signs of a diminishing problem

There is little to suggest an improving situation in the use of heroin and cocaine, the two substances that remain at the heart of Europe's drug problem. That said, drawing any clear picture in this area is complicated by difficulties in reconciling the information coming from different indicators. This problem is particularly apparent for cocaine, where as well as a fall in estimated production, the volume of the drug seized in the European Union has fallen in the most recent data, as has the purity of the drug at street level in most countries. In the United Kingdom, a country with a large cocaine market, recent falls in purity have been considerable. These data could suggest declining cocaine availability, but other information puts this conclusion into question. The number of seizures of the drug is still increasing, prices are falling, and there are suggestions of a switch to new trafficking routes through eastern Europe, which may have impeded interdiction efforts. Cocaine use in Europe remains concentrated in western countries, where the trend is generally stable or still increasing. However, there is evidence of the further diffusion of the drug into other countries. Treatment demands related to cocaine are also growing. From the evidence available, it is possible to conclude that current consumption levels remain high and not diminishing in established areas and are continuing to grow elsewhere; but there are indications that suppliers may be experiencing difficulties in meeting consumer demand in some major markets. It will be interesting to see if the future brings more concrete evidence of a decrease in the availability of this drug after recent reports of a decline in global cocaine production.

Heroin still accounts for the greatest share of morbidity and mortality related to drug use in Europe. Use of the drug had generally been declining since the mid-to-late 1990s, but today the picture is less clear, and in some areas raises concerns. Following marked decreases, the number of new treatment demands has been growing since 2002, with a significant number of countries now reporting increases in both the number and proportion of treatment demands related to opioid drugs. Data on drug-related deaths, which are largely associated with heroin use, also provide no indication of a return to the decreasing trend observed prior to 2004. Data on the numbers of drug law offences and seizures also show increases. Worryingly, a small number of countries note that heroin problems have been observed among some young people, suggesting that the drug could be diffusing into new populations. Altogether, it must be viewed as disappointing that the positive analysis of the declining trend in heroin-related problems is no longer sustained. And, while there is currently no evidence of a return to the epidemic spread of heroin use seen in the past, the health and social problems arising from the use of this drug are considerable. Any indications that the situation may be worsening, especially as Europe enters a period of economic difficulties, are grounds for considerable concern.

Polydrug use and concomitant alcohol problems are now the defining elements of the European drug problem

In drug prevention, it has long been understood that substance use problems are best addressed holistically and in the context of healthy lifestyles and informed choices. In contrast, the discourse on drug use is more often substance specific. It is hard not to be drawn to the conclusion that this one-dimensional perspective is becoming increasingly unhelpful in understanding the developing nature of patterns of substance use in Europe. Individuals who use drugs almost never restrict their consumption to a single substance. In Europe today, polydrug patterns are the norm, and the combined use of different substances is responsible for, or complicates, most of the problems we face. This raises the need to develop a more comprehensive, integrated and multi-substance perspective, in order to better understand the situation and design and evaluate appropriate responses. And it applies equally to the drug market. Actions to reduce the supply of one drug are clearly devalued if they simply open the door for the use of a substitute, which may be even more damaging.

This year's annual report is accompanied by a 'Selected issue' on polydrug use, which explores how the use of multiple substances impacts across different groups of drug users. The findings are disturbing. Among the young, multiple substance consumption can increase the risks of acute problems and is predictive of developing a chronic drug habit in later life. Among older, regular drug users, polydrug use is a major issue in drug overdose, it complicates drug treatment and is associated with violence and offending. The choice of drugs available to consumers in Europe is also growing. Noted in the current report are: the increasing range of largely uncontrolled substances targeting the cannabis market; innovation in the production of synthetic drugs; and increasing worries about the misuse of prescription medicines. Additionally, it has become recognised that a defining factor in Europe's substance use problem is the concomitant consumption of alcohol. This too can be seen across every age group. Among schoolchildren, the latest data show a strong association between binge drinking and drug use. Binge

drinking also often goes hand in hand with recreational drug use, increasing the risks of negative outcomes among young adults. Within the chronic drug-using population, alcohol abuse is so common it often goes without mention, and the need to address coexisting alcohol dependence has become an increasingly important issue for drug treatment centres. Alcohol problems can be particularly deleterious for those addicted to opioid drugs, as they may already have compromised liver function through hepatitis infection and the risk of overdose is elevated.

Innovation and precursor availability: interacting factors that are having a growing impact on the market for synthetic drugs

The EMCDDA is observing an increasingly complex and volatile situation in the availability and use of synthetic drugs in Europe. The illicit market and its suppliers show high levels of innovation in terms of production processes, new products and marketing opportunities, as well as demonstrating the ability to adapt quickly to control measures. In addition, the growing sophistication of the marketing of 'legal alternatives' to illicit drugs represents a worrying development.

An example of market volatility can be seen in recent developments in the availability of ecstasy. Until 2007, most ecstasy tablets analysed in Europe contained 3,4-methylenedioxy-methamphetamine (MDMA) or another ecstasy-like substance. However, initial data from the early-warning system from the beginning of 2009 suggest that this may be changing in some Member States, such as Denmark and the Netherlands. In up to half of all tablets analysed in these countries, no MDMA or any of its analogues were found. Rather, the pills contained 1-(3-chlorophenyl)piperazine (mCPP) either alone or in combination with another psychoactive substance. Though mCPP is not listed in the UN conventions, it has been subject to control measures in some EU Member States. The reasons for the current market change are not completely clear, but a shortage of 3,4-methylenedioxyphenyl-2-propanone (PMK), a main precursor for the synthesis of MDMA, is a possible explanation. It cannot yet be said if this development is a temporary digression or marks a more significant transition in the ecstasy market. The EU early-warning system has been monitoring mCPP since 2005, and the EMCDDA and Europol follow developments in this area closely and will produce a report on the market in 2010.

Changes in the ecstasy market may point to increasingly successful efforts to prevent the diversion of precursor chemicals, and these efforts may also have important effects on the availability and use of other substances. For example, there are some signs that methamphetamine may be displacing amphetamine in parts of northern Europe. Again, market factors and precursor chemicals appear important here, with methamphetamine production sites appearing now to be located in Lithuania, whose geographical position facilitates the import of precursors, in this case 1-phenyl-2-propanone (BMK), from outside of the European Union. The situation in Nordic countries adds to concerns about the possible outward diffusion of methamphetamine use beyond the Czech Republic. In this country, methamphetamine problems are long established, but with production usually on a small scale for personal or local consumption. A number of central European countries now also report some methamphetamine use, and Europol reports that a few larger production sites have been detected and dismantled in other parts of Europe. There is also some evidence that methamphetamine use is growing quickly in some of the countries bordering the European Union. To date, the drug has failed to make inroads into the large market for stimulant drugs in western Europe, where cocaine or amphetamine use still dominates. Nonetheless, given the relative ease with which methamphetamine can be produced and the considerable negative impact that this drug can have on public health, there is no room for complacency. The speed at which problems can develop is illustrated by Slovakia, which provides a recent case study of a country where methamphetamine use has grown significantly.

The Internet and marketing: is 'spice' a taste of things to come?

Few areas of contemporary life have not been transformed by advances in information technology, with the Internet now providing not only an unfettered source of information, but also a major virtual marketplace for the exchange of goods and services. It is, therefore, unsurprising that this medium is now having an impact on the drugs field. This year, the EMCDDA launched a first review of Internet treatment approaches, and it appears that, for some forms of prevention, treatment and harm-reduction interventions, the web-based approaches have considerable potential. Less positively, there are difficulties apparent in regulating this virtual and global phenomenon, and the Internet can be used to promote the use of psychoactive substances. Added to the concerns raised by the online marketing of alcohol and medicines are those about the appearance of a range of supposedly 'legal' alternatives to controlled psychoactive substances.

The EMCDDA is now regularly monitoring the psychoactive substances offered by online retailers. This market has grown over the last few years, and now includes a wide range of plant-based products, in particular herbal mixtures, as well as merchandise containing synthetic compounds. New substances appearing on the Internet market can range from drugs used traditionally in some parts of the world, to experimental chemicals synthesised in laboratories and untested in humans. Other innovations include the development of distinct brands and the use of attractive packaging. A notable example of this is the herbal mixtures that have been marketed under the 'spice' label.

Numerous brands of 'spice' have been found with different packaging and different ingredient lists. Forensic analysis, however, has largely failed to detect the plant-based substances declared on the labels, but did identify in some samples synthetic cannabinoids that had been added to the mixtures. These substances were not among the listed ingredients, and would therefore have been consumed unknowingly. The cannabinoids found are relatively obscure research compounds, some are extremely potent, and little is known about their effects on humans.

Attempts to circumvent drug control by marketing unregulated substitutes are not new. What is new is the wide range of substances now being explored, the aggressive marketing of products that have been intentionally mislabelled, the growing use of the Internet, and the speed at which the market reacts to control measures. 'Spice' may also provide us with a warning of problems to come. The ability of sophisticated chemists, often located outside of European jurisdictions, to cheaply conduct organic synthesis, potentially provides access to a considerable number of psychoactive substances. This can bring into the picture whole new chemical groups, comprising many analogues, which can be difficult to detect and pose considerable difficulties for control policies based on individual compounds. Moreover, as some of these substances may have legitimate uses or be sold supposedly for legitimate purposes, they can fall between drug control and trade regulation.

Chapter 1
Policies and laws

Introduction

Two new European and international drug policy documents have been developed in the past year. In December 2008, the European Union unveiled its new action plan on drugs (2009–12), and this was followed, some months later, by the United Nations' new political declaration and plan of action to counter the world drug problem. The content of the new drug policy documents and the role of organisations representing civil society in their formation are discussed in this chapter.

The international policy debates included discussions about drug trafficking, and reviewed here are recent legal developments in minimum penalties for drug trafficking in Europe. Harm reduction was also a key issue for policy debate, and the legal status of two important interventions in this area, needle and syringe exchange and substitution treatment, are also covered in this chapter.

Other topics addressed are the recent adoption and evaluation of national drug strategies and action plans, new data and trends on drug-related public expenditure and developments regarding drug-related research in Europe.

International and EU policy developments

New UN political declaration and plan of action

A new UN political declaration and plan of action ([1]) was adopted at a high-level political meeting during this year's session of the United Nations' Commission on Narcotic Drugs (CND). This was the outcome of a year-long reflection, undertaken as part of the 10-year review of the progress made in reaching the goals and targets set in 1998 during the twentieth UN General Assembly Special Session (UNGASS) on the world drug problem.

The European Union and its Member States played a leading role in the UNGASS review. Europe's position on the UN drug policy to emerge from the review process was expressed in a common position paper drafted by the Council of the European Union. The paper stressed the importance of public health as the first principle of the international drug control system and the need for a system-wide coherence in the drugs field among UN bodies (including INCB, UNODC, UNAIDS, WHO). It also called for the inclusion of a set of key elements and priorities in the new UN Political Declaration. Among these were the need for a comprehensive, integrated and balanced drug policy, with drug demand reduction being given more weight and harm reduction being included. The EU urged that respect of the international human rights conventions, including the right to health, should be a key element of the new drug policy, and that the development of drug policies should be based on scientific evidence. Furthermore, the EU argued that, to combat drug production, support for alternative development should not be conditional on reductions in illicit crop cultivation.

Global illicit drug market

The results of a new study funded by the European Commission on the global illicit drug market were presented at the 2009 session of the Commission on Narcotic Drugs in Vienna ([1]). The study found no evidence that the global drug problem had been reduced between 1998 and 2007. For some nations, the problem declined but for others it worsened, in some cases substantially.

According to the study, illicit drug markets are not vertically integrated or dominated by major dealers or cartels. While sales of illicit drugs are estimated to generate more than EUR 100 billion, the vast majority of those involved in the drug trade make modest incomes. A few individuals make great fortunes, but these account for only a small portion of the total revenue.

A convergence of national drug policies is reported by the study, with demand reduction receiving increasing emphasis and harm reduction finding wider acceptance. Policies towards sellers and traffickers have toughened.

The enforcement of drug prohibition is judged by the study to have caused substantial unintended harm; much of which could have been predicted (e.g. geographical displacement of production and trafficking).

([1]) European Commission, 'Report on global illicit drug markets, 2009' (available at: http://ec.europa.eu/justice_home/doc_centre/drugs/studies/doc_drugs_studies_en.htm).

([1]) Political declaration and plan of action on international cooperation towards an integrated and balanced strategy to counter the world drug problem.

The new UN document is similar in content to the original UNGASS declarations and action plans agreed in 1998. It includes many of the elements put forward by the European Union, as can be seen in the plan of action, which reviews current drug policy problems and lists the actions that UN Member States have committed themselves to implementing during the next decade. Among the key actions and objectives under the heading of drug demand reduction are: better respect of human rights, increased accessibility of services and improved targeting of vulnerable groups. A better balance in drug policies, in favour of drug demand reduction, and the implementation of evidence-based interventions, as well as monitoring and quality assurance mechanisms, are also called for. However, the UN document does not explicitly acknowledge the contribution of harm reduction, an approach that has been pursued in Europe under scientific scrutiny.

EU action plans on drugs

In September 2008, the European Commission published its final evaluation of the 2005–08 EU drugs action plan ([2]). The evaluation reviewed the implementation of the actions and the attainment of the objectives set out in the action plan. It also examined the action plan's impact on the national drug policies of EU Member States and looked at recent trends in Europe's drug situation.

The evaluation found that while not all actions had been fully implemented and not all objectives attained, progress had been made in almost all areas of the action plan. Moreover, the fact that most national drug policy documents contain objectives that echo those of the EU action plan was noted as evidence of increasing convergence among European countries in the field of drug policy. A relative stabilisation of Europe's drug situation in recent years was also observed, but the contribution of the EU action plan to this trend could not be determined.

Overall, despite some operational shortcomings, the EU drugs action plan was judged to have added value in three distinct areas: in committing Member States and EU institutions to achieving common objectives; in providing a framework for coordination and for developing a coherent approach in the drug field; and as a policy model at international level.

The final evaluation of the drug action plan informed the drafting of its successor, the EU drugs action plan (2009–12), which was endorsed by the European Council in December 2008 ([3]). This drug action plan, the fifth since 1990, is the second under the current EU strategy on drugs (2005–12). Its overall aim is to reduce significantly the prevalence of drug use among the population and to reduce the social and health damage caused by the use of and trade in illicit drugs.

The new EU action plan identifies five key priorities that reflect its areas of action: improving coordination, cooperation and raising public awareness; reducing the demand for drugs; reducing the supply of drugs; improving international cooperation; and, improving the understanding of the problem. The new plan is more

EU drugs action plan (2009–12): new features

The participation of civil society in drug policy receives additional attention in the new EU drugs action plan. Through setting up a 'European Action on Drugs', the action plan aims to stimulate European civil society's commitment about and action on drug problems. The action plan also calls on Member States to involve civil society at all appropriate levels of drug policy.

The focus on the quality of interventions in the areas of prevention, treatment, harm reduction and rehabilitation has been reinforced through actions calling for the drafting and exchange of guidelines, good practices and quality standards, and for the development of EU minimum quality standards or benchmarks in these fields. The prison setting also receives additional attention under the heading of drug demand reduction, with actions calling on Member States to provide services for drug users in prison equivalent to those existing outside prison, to implement follow-up care after release from prison and, overall, to improve the monitoring of drug problems and drug services in this setting.

Most of the actions related to supply reduction are aimed at improving law enforcement and judicial cooperation between Member States, often through increased use of EU bodies, projects and tools. Reducing the diversion and trafficking of drug precursors within and through Europe is the subject of seven different actions, with a broadly operational focus.

In the area of international cooperation, a stronger emphasis is placed on alternative development, with three actions calling for intensified financial and political support for such programmes. A better reflection of the balanced approach between demand and supply reduction is also pursued in external agreements and programmes.

Under the heading of information, research and evaluation, a new action calls for the development of key indicators and strategies for the collection of data on drug-related crime, illegal cultivation, drug markets and supply reduction interventions. Increased emphasis is also placed on strengthening research in the drugs field and on developing drug policy evaluation both at national and at EU level.

([2]) 13407/08 ADD 3 Cordrogue 69 (http://register.consilium.europa.eu/pdf/en/08/st13/st13407-ad03.en08.pdf).
([3]) OJ C 326, 20.12.2008, p. 7.

focused than its predecessor, with only about half the number of objectives (24) and fewer actions (72). It also contains objectives and actions that were not present in the earlier action plan ([4]). An external and independent evaluator will conduct a final assessment of the current drug action plan and strategy in 2012, and this will be followed by a period of reflection in order to prepare the next EU drug policy documents.

Civil society and drug policymaking

The involvement of non-governmental organisations (NGOs) in the preparatory discussions for the new EU and UN drug policy documents represents an important step in the engagement of civil society in this field of policy. In May 2008, the European Commission's Civil Society Forum on Drugs debated the first results of the evaluation of the EU drug action plan (2005–08) and discussed the needs and possible contents of the following action plan (European Commission, 2008a). The forum's 26 NGOs suggested that the principles of public health and human rights should be at the heart of EU drug policy, and non-stigmatisation and non-discrimination should be emphasised. They also called for more attention to be given to vulnerable groups, polydrug use, mental health issues, the situation in prisons and the prevention of drug-related deaths. Among the priorities for action identified by the forum are enhanced coordination between governments and civil society, development of quality standards in drug demand reduction, improved data collection mechanisms and support for alternative development in third countries.

The contribution of NGOs to the progress made in achieving the goals set at the 1998 UNGASS was reviewed by the Vienna NGO Committee on Narcotic Drugs, with financial support from the European Commission and several EU Member States. The 'Beyond 2008' process was based on nine regional consultations culminating in a forum held in July 2008 in Vienna. The final declaration and three resolutions adopted by the forum highlighted the many activities of NGOs and their increasing role in drug policy ([5]). The NGOs called on governments and international organisations to consult them regularly and give them increased support. Among the many and varied calls made upon Member States and international organisations, several themes can be identified, including: a comprehensive and balanced drug policy based on human rights, public health and scientific evidence; increased monitoring and evaluation capacities; development and diffusion of best practices and, in particular, of UN guiding principles for effective treatment; accessibility and adequate provision of narcotic drugs as pain relief medicines; alternative sanctions and dispositions for drug-related crimes; and respect for the human rights of prisoners who are drug-dependent or in custody for drug-related crimes.

National drug strategies and action plans

New developments

Drug strategies and action plans are now essential instruments of national drug policies in Europe. All but one of the 30 countries monitored by the EMCDDA have adopted such documents, which they renew periodically.

In 2008, new drug policy documents ([6]) were adopted by Greece, France and the United Kingdom. Greece has adopted an action plan (2008–12) to complement its already existing drug strategy. Among the aims of the new plan is the better provision of drug treatment. The new French action plan (2008–11) covers illicit drugs, alcohol and tobacco. A key priority of the plan is to dissuade young people from beginning to use drugs by reaffirming the prohibition of drug use and informing young people and their parents about the risks related to drug use. The new drug strategy (2008–18) and its action plan (2008–11) adopted by the United Kingdom aim to restrict the supply of illicit drugs and reduce the demand for them, while giving particular attention to protecting families and strengthening communities.

Ten other EU Member States had national drug policy documents expiring in 2008. Spain adopted a new drug strategy in February 2009, and eight other countries (Bulgaria, Ireland, Italy, Lithuania, Cyprus, Portugal, Romania, Slovakia) were in the process of finalising and adopting new drug strategies and action plans during the first half of 2009; Latvia extended its 2005–08 programme with a 1-year action plan. The Netherlands also plan to replace their 1995 white paper on drug policy in 2009, while several countries will see at least one of their policy documents coming to the end of its term during this year (Czech Republic, Luxembourg, Hungary, Slovenia, Croatia, Turkey).

Evaluation

Around two thirds of European countries report that they produce an ongoing or annual review of the implementation of the actions set out in their national drug

([4]) See 'EU drugs action plan (2009–12): new features' p. 19.
([5]) http://www.vngoc.org/details.php?id_cat=8&id_cnt=56
([6]) The term 'national drug-policy document' means any official document approved by a government that defines general principles and specific interventions or objectives in the field of drugs, where officially represented as a drug strategy, action plan, programme or other policy document.

policy documents. In most cases, a progress report based on data collected from service providers and ministries involved in drug policy is submitted to the government or parliament. Most countries have thereby already started to implement Action 70 of the EU drugs action plan (2009–12), which calls upon EU Member States to evaluate and fine-tune their national drug policies on a regular or ongoing basis.

A similar assessment can be made regarding the final evaluation of national drug strategies and action plans, with more than 20 countries reporting that they are currently preparing or have recently carried out such an evaluation. In some cases, the final report is a summary of annual implementation reviews; in others, there is an attempt to get a deeper understanding of the implementation process, of the effectiveness or of the impact of the policy. Of the countries taking the more in-depth approach to evaluation, two (Luxembourg, Cyprus) have decided to work with external evaluators from outside the country.

Drug policy evaluations face considerable difficulties in their attempts to link the outputs of drug strategies or action plans with changes in the drug situation. Among these are problems in assessing the effects of large sets of actions and the limited understanding of the influence of key contextual elements, such as drug markets or trends in drug use and lifestyles among young people. Nevertheless, attempts to establish links between drug strategies or action plans and indicators of the drug situation have been made by some European countries. And this should become more common in the future, with the new EU drugs action plan (2009–12) calling for the development of instruments to measure the effectiveness and impact of drug policies. The EMCDDA is also developing guidelines to help Member States assess and interpret the results of their drug policy documents.

Public expenditure

Detailed, reliable information on drug-related public expenditure is needed by policymakers in order to assess the actual allocation of resources in this area and, ultimately, the cost–benefit relations of drug policy. Estimating in economic terms the resources deployed by the state in response to the use of illicit drugs is therefore an essential step towards understanding the wider impact of drug use.

Estimates of public expenditure are based on government budgets and accountancy documents. However, estimating the total expenditure incurred in implementing national drug policy is difficult, as it involves bringing together figures for activities carried out at different levels of government (e.g. local, regional, national), which may be funded under various budget headings, and are often not specifically identified as related to drugs.

The total drug-related public expenditure in Europe has been estimated at EUR 34 billion for 2005 (EMCDDA, 2008a). Due to high levels of under-reporting it is not possible to update this estimate. The difficulties in information collection in this area are illustrated by the fact that among the 23 countries reporting data for 2007, only the Czech Republic was able to give a breakdown of expenditure across all levels of government. Most countries could provide data on central government expenditure, and seven also reported expenditure by regional or local government (Belgium, Denmark, Estonia, Austria, Finland, Croatia) or from social security funds (Germany).

Labelled and unlabelled expenditure

Labelled expenditure is the planned drug-related public expenditure made by the general government of the state. It reflects the voluntary commitment of the state in the field of drugs and can be traced back by a detailed review of public budgets. Of the 23 countries providing data for 2007, 16 reported only labelled expenditure. In many cases (e.g. Estonia, France, Poland, Romania), the greater part of the labelled expenditure identified was incurred in connection with the implementation of national drug policy documents.

Not all drug-related expenditure is identified as such in national budgets. In most countries, the amount expended in some drug-related activities is embedded in other programmes and interventions (e.g. overall police operations budget, or interventions targeting both licit and illicit substances). In these cases, such 'unlabelled expenditure' must be estimated by a cost-modelling approach. The results of earlier studies show that, in most cases, unlabelled expenditure represents the greater part of the national expenditure on the drugs problem.

Public expenditure related to drugs can be categorised according to the classification of the functions of government (COFOG) system (EMCDDA, 2008e). Three countries submitted labelled expenditure classified to the first level of COFOG (Luxembourg, Finland, United Kingdom for England only), with only the United Kingdom including figures for 'general public services', 'education' and 'social protection' ([7]). In these three countries, 'health' received the highest proportion of the total disbursement, followed by 'public order and safety' (Table 1). In contrast, for those countries providing COFOG data for unlabelled

([7]) The COFOG classification has three hierarchical levels. At the first level, government expenditure is broken down into 10 functions.

Table 1: Labelled and unlabelled drug-related public expenditure in 2007 for those EU Member States reporting by COFOG (classification of functions of government)

COFOG category	Luxembourg EUR million (%)		Finland (1) EUR million (%)		United Kingdom EUR million (%)
	Labelled	Unlabelled (2)	Labelled	Unlabelled	Labelled
General public services	–	–	–	–	50.4 (3.6)
Public order and safety	4.7 (37.6)	15.1 (70.2)	–	62.3 (82.2)	358.9 (27.2)
Health	7.8 (62.4)	6.4 (29.8)	14.3 (100)	3.8 (5.0)	958.2 (68.8)
Education	–	–	–	9.7 (12.8)	15.2 (1.1)
Social protection	–	–	–	–	10.5 (0.8)

(1) Data from 2006.
(2) Full details of the modelling procedures used to derive estimates of unlabelled expenditure are provided by Luxembourg.
Sources: Reitox national reports (2008).

expenditure, the greater part was allocated to 'public order and safety', followed by 'health'. This is in line with the findings of earlier reports (see EMCDDA, 2008e), which suggest that, while the greater portion of labelled expenditure may be allocated to 'health' interventions, 'public order and safety' activities receive the lion's share of drug-related public expenditure.

Trends

For most of the countries for which consistent information is available, labelled expenditure, at constant prices, increased in 2007 compared with 2005. Increments varied from 14 % to 23 % (Czech Republic, Ireland, Lithuania, Luxembourg, Croatia) to 72 % (Cyprus, Finland). In the United Kingdom, labelled expenditure remained stable over this period.

National legislation

The European Union's balanced approach to drug policy gives equal weight to reducing the demand for and the supply of drugs. An examination of national legislation passed during the last 10 years shows that EU Member States have been actively legislating in a manner consistent with this political commitment. Countries have been setting up regulatory frameworks for certain harm reduction activities, while increasing the punishments for drug trafficking. Halfway through the period, two EU instruments gave added impetus to these processes. In 2003, the European Council issued a recommendation on the prevention and reduction of drug-related harm, which called for actions including provision of appropriate substitution treatment and access to distribution and exchange of injection materials (8). And, the Council Framework Decision 2004/757/JHA of 25 October 2004 called for stronger penalties for trafficking illicit drugs. This section will describe the trends over the last 10 years in the regulation of harm-reduction activities and penalties against traffickers. It will show that the activity in these areas at national level has been reflected in agreements at EU level, though some countries have exercised their rights to go further than the minimum standards set by these agreements.

Opioid substitution treatment

Since 1998, some 45 legal texts have been reported by 18 countries regarding establishment of or changes to the legal framework of substitution treatment programmes. Several of these texts have been dedicated to establishing or regulating the programmes in some detail: in Ireland (1998), Poland (1999), Germany (2000), Czech Republic and Portugal (2001), Greece and Luxembourg (2002), Belgium and France (2004), Latvia (2005) and Austria and Lithuania (2007).

While European countries have covered many different aspects of opioid substitution treatment in the laws and regulations adopted, up to 2004 there was a noticeable trend for them to define the substances permitted. During this period, about a quarter of the texts authorised or regulated the use of substances such as methadone and buprenorphine. In contrast, one third of those reported since 2002 defined or eased access to programmes. Prescription of substances for opioid substitution is sometimes limited by law to doctors in treatment centres, though prescription by other doctors is often allowed (9). Authorised dispensaries are usually also specified in the legislation, mostly pharmacies or treatment centres, though some countries also allow doctors to dispense.

(8) Council recommendation of 18 June 2003 (OJ L 165, 3.7.2003, p. 31).
(9) See Figure 11, p. 77.

Needle and syringe programmes

Needle and syringe programmes may operate at a local, regional or national level, sometimes with a specific national legal framework to permit them, but usually without. Laws reported in Europe in the early part of the last 10 years were largely aimed at providing a legal basis for such interventions (Slovenia in 1999, Poland in 2001, Finland in 2003), or to define or facilitate access rights to needle and syringe programmes (Belgium and France in 1998, Finland in 2003). The focus of legislation quickly shifted to regulating these programmes, with Belgium, Portugal and Luxembourg passing specific, detailed laws or decrees in 2000, 2001 and 2003 respectively that regulated who may carry out such schemes and whether or not dispensing machines are permitted. In Portugal, the regulatory framework was extended in 2007 to include needle and syringe programmes in prisons.

Some countries have adopted legislation to address concerns that needle and syringe programmes could possibly be in conflict with legal provisions intended to criminalise the 'facilitation' or 'incitement' to use drugs. In Belgium and Germany, this issue has been addressed with a clause in the law that specifically exempts certain programmes from any such charge, although limits may be placed on the number of syringes dispensed. In a few countries, guidance is issued to the police on appropriate law enforcement practice near needle and syringe outlets. Overall, police confiscation of sterile syringes or needles is reported to be rare across the European Union.

Penalties for trafficking

Over the last 10 years, EU Member States have indicated both individually and collectively that drug trafficking offences should be punished more severely, even if the offences themselves are defined differently in the laws of almost 30 countries. 'Trafficking' offences may include production or cultivation, import and export, transporting, offering, selling and/or possession, with intent to distribute or supply, or the concept of acting 'for gain' or 'on a commercial basis'.

In the period 1999–2004, six countries passed laws increasing the penalties for certain drug trafficking offences. In 1999, Ireland created the new offence of possession of a large amount of drugs (worth more than EUR 12 700) with intent to supply, which would carry a mandatory minimum sentence of 10 years' imprisonment. In 2000, the United Kingdom introduced a minimum sentence of 7 years' imprisonment for a third conviction of trafficking in class A drugs, and in 2001 Greece tightened the legislation on sentencing of traffickers, limiting their rights to conditional release. Changes to the Estonian Criminal Code, in 2002 and 2004, increased the maximum penalties for traffickers of small quantities from 3 to 5 years, and of large quantities from 5 to 10 years. In Denmark, the penalties for trafficking were raised from 6 to 10 years and, for trafficking large amounts or particularly dangerous substances, from 10 to 16 years. Also in 2004, Lithuania increased penalties for basic trafficking offences from a maximum of 2 years to between 2 and 8 years, and for a large amount from between 2 and 8 years to between 8 and 10 years.

In October 2004, the Council Framework Decision 2004/757/JHA set out minimum provisions of criminal acts and penalties for trafficking. Since then, four more countries have passed laws to bring basic trafficking penalties into line with the decision. In 2006, the Netherlands raised the maximum penalty for trafficking of large quantities of drugs from 4 to 6 years, while Poland increased the penalties for possession of large quantities and supply to minors from a maximum of 5 years to a maximum of 8 years, setting also a minimum period of 6 months. In Slovakia, the basic penalty for trafficking was increased from between 2 and 8 years to between 4 and 10 years, with the maximum penalty for larger amounts increasing from 10 to 15 or even 20 years. Finally, in Austria, the maximum penalty for giving narcotic substances to others, or cultivation of some narcotic plants, was increased in 2007 from 6 to 12 months' imprisonment. Penalties for more serious offences were not changed, though the definition of a large quantity was reduced from 25 to 15 times the threshold quantity.

European Legal Database on Drugs

The European Legal Database on Drugs (ELDD) is the EMCDDA's online database of information on European drugs-related legislation for the Member States and Norway. The ELDD provides legal texts in their original formats, profiles of the drug laws in each country and detailed reports on specific topics. In its Topic overviews, it also provides summaries of the legal position on selected subjects including illegal drug trafficking, substitution treatment, and needle and syringe programmes ([1]).

([1]) ELDD topic overviews: http://eldd.emcdda.europa.eu/html.cfm/index5036EN.html

Drug-related research

Research on the drugs problem carried out in each European country was reported on in a 'Selected issue'

published by the EMCDDA in 2008 ([10]). This year, references to national research in the latest Reitox reports are analysed to provide an insight into the research recently conducted in European countries. Also reported on in this section is a study on drug-related research in the EU released this year by the European Commission.

Research projects in Member States

European countries referred to more than 350 research projects undertaken or published in 2007 and 2008 in the latest Reitox national reports. The United Kingdom referred to the highest number of research projects, over 80, followed by Germany and the Netherlands, each with over 30, and the Czech Republic, Ireland and Finland, with over 20.

Research on responses to the drug situation accounted for more than one third of the recent studies, while another third focused on prevalence, incidence and patterns of drug use, and one fifth on the consequences of drug use. Among the subject areas that appeared to attract considerably less research attention were: determinants and risk and protective factors, mechanisms and effects of drugs, supply and markets, and methodological issues.

The results of this analysis, while limited in scope, give support to the new EU action plan's calls for increased research efforts in those priority areas that are under-represented, in particular drug supply.

Analysis of drugs research in the European Union

Drug supply is also among the areas identified as being under-represented in current research by a study carried out for the European Commission entitled 'Comparative analysis of research into illicit drugs in the European Union'. The report noted prevention, legal frameworks and interdiction as other fields disproportionately under-researched, while research on epidemiological topics was found to be more common ([11]). The study found that, although comprehensive expertise exists in Member States, improved data comparability between countries and increased visibility of research should be pursued.

Participation in European research activities was found to vary considerably between countries, with much of the international cooperation taking place on an informal basis. However, the study emphasised that drug-related research can be facilitated by European and international networks of researchers. Research capacity, overall quality and funding availability vary widely in the EU, and there is a considerable need for capacity building and for funding to cover a broader range of policy areas linked to the EU drug action plan.

([10]) More information on EU and national drug-related research is available at http://www.emcdda.europa.eu/themes/research
([11]) See http://ec.europa.eu/justice_home/fsj/drugs/fsj_drugs_intro_en.htm

Chapter 2

Responding to drug problems in Europe — an overview

Introduction

This chapter presents an overview of the responses to drug problems in Europe, where possible highlighting trends, developments and quality issues. Prevention measures are first reviewed followed by interventions in the areas of treatment, harm reduction and social reintegration. Taken together, all these measures form a comprehensive drug demand reduction system. They can be considered as complementary, and are sometimes provided in combination and by the same facilities. This is, for example, increasingly the case for treatment and harm reduction measures.

The responses developed in the framework of drug law enforcement are also addressed in a new section which includes the most recent data on drug law offences. The chapter ends with a review of the available data on the needs of drug users in prisons and the existing responses in this particular setting.

Prevention

Drug prevention can be divided into different levels or strategies, which range from targeting society as a whole (environmental prevention) to focusing on at-risk individuals (indicated prevention). Ideally, the different strategies do not compete but complement each other. The following overview focuses on recent developments and on newly reported results of controlled trials in the prevention field.

Universal prevention

Universal prevention addresses entire populations. It aims to deter or delay the onset of drug use and drug-related problems by providing young people with the information and skills necessary to avoid starting to use drugs. Prevention measures undertaken in Europe are now, for the first time, being systematically monitored by the majority of Member States. The most recent reports confirm that interventions aimed at delivering information about drugs, such as one-off lectures, constitute the main approach in school-based and community-located universal prevention in all these countries. The effectiveness of this type of intervention, however, is not supported by the available evidence. However, interventions with better scientific foundations, such as prevention programmes following standardised protocols, are now reported from additional countries (Czech Republic, Cyprus, Austria, Poland, Slovenia, Slovakia).

The limited number of prevention programmes of proven effectiveness is being addressed in Europe by the EU-Dap study (www.eudap.net). Involving 7 000 students aged 12–14 in seven European countries, the study is evaluating a programme based on the comprehensive social influence approach, which combines training in life-skills with normative education and knowledge acquisition on substances. After 2 years, the programme has been found to be effective in reducing frequent drunkenness and frequent use of cannabis.

The EU-Dap results are influenced by gender, with the overall effectiveness of the programme being accounted for by its effect on boys only. It is not clear if this is because girls are less at risk or if they did not respond to the programme. Gender-dependent effects also came up in a Danish controlled trial on a life-skills programme. Girls accounted for the largest effect in terms of bullying, past-week and past-month alcohol consumption, while boys accounted for the largest effect for drinking more than five drinks on one occasion and having tried cannabis.

A controlled trial in Prague compared a community-based programme, which included an educational component, a peer approach, life skills training and parent programmes, against the standard 'minimum preventive programme' in schools (Miovský et al., 2007). The community-based programme was more effective in reducing alcohol use and affecting attitudes towards substance use among pupils aged 13–15, especially in certain vulnerable groups of children, including those from single-parent families. It was therefore suggested that the programme has potential for use in selective prevention.

Selective and indicated prevention

Both selective and indicated prevention acknowledge that problem drug use is concentrated in vulnerable groups or individuals with limited social and personal opportunities (EMCDDA, 2008c). Selective prevention intervenes with specific groups, families or communities, where people, due to their scarce social ties and resources, may be more likely to develop drug use or progress into dependency. The evidence base for this approach is presented in a new section of the EMCDDA's Best practice portal ([12]). Indicated prevention aims to identify individuals with behavioural or psychological problems that may be predictive for developing problem substance use later in life, and to target them individually with special interventions.

Substance-specific mass media campaigns

Substance-specific mass media campaigns targeting cannabis use (Denmark, Ireland, France, Netherlands, United Kingdom) and, more recently, cocaine use (Ireland, Spain, United Kingdom) have been developed in Europe.

Almost all these campaigns warn of the dangers of using the drug, and some of them use shock tactics. Only two campaigns take a different approach. The United Kingdom–Colombian campaign 'Shared responsibility' addresses the responsibility of users for the environmental and social harm associated with cocaine production. The Dutch cannabis campaign in 2006 targeted normative beliefs with real-life stories of young people as positive role models, instead of warnings and depiction of use. Its evaluation found that negative social norms against cannabis smoking were reinforced and that there were no negative effects on intention to use and on normative beliefs (Wammes et al., 2007).

Mass media campaigns highlighting the danger of drug use are only rarely evaluated for changes in behaviour, attitudes or intention to use drugs. In addition, concerns have been expressed about their poor effectiveness and possible harm. For example, a thorough evaluation of the outcome of the US national cannabis campaign revealed no overall effects. There was, however, evidence that the campaign had unintended effects in favour of cannabis, and individuals who had previously been uninterested in the drug, reported an intention to use it (Hornik et al., 2008). Similar problems were reported in the evaluation of the Scottish cocaine campaign 'Know the score' (EMCDDA, 2007a).

Decision-making by young people is a complex process, strongly influenced by peer group interactions and perception of social norms. So far, mass media communication appears not to have responded effectively to this complexity.

New information on selective prevention targeting ethnic groups has been reported by Belgium and Luxembourg. For young offenders, systematic intervention protocols, after contact with the criminal justice system, are reported to exist only in Austria, Germany, Catalonia (Spain) and Luxembourg, while other countries reported generic or punctual interventions. Since 2008, FRED ([13]), a systematic intervention protocol for young offenders, is being implemented with EU-support in 10 Member States. A new evaluation of FRED in 140 German facilities has shown limited levels of re-offending and drug taking among participants.

New indicated prevention projects are reported only from Germany, the Netherlands, Slovakia and Sweden, and they continue to be very rare in Europe despite information about their effectiveness (EMCDDA, 2009b). Current examples of indicated prevention projects in Europe include the Parent Management Training-Oregon model, which is implemented in the Netherlands and Norway for parents of children aged 4–12 with disruptive behaviour disorder. Similarly, the 'Komet för föräldrar' method, which is used in nearly 30 % of Sweden's municipalities, targets parents of children showing externalising behaviour problems combined with difficulties in establishing positive peer relations. A randomised controlled trial involving 159 families showed significantly improved competences in parenting among participating parents and reduced behavioural problems among their children.

Treatment

Around 400 000 drug users are reported to have entered drug treatment in 2007 ([14]). Less than half of those entering treatment did so for the first time. Overall, the great majority of treatment demands (86 %) were made in outpatient treatment centres. This proportion has grown in recent years for various reasons, including the increased availability and diversification of specialised outpatient treatment.

In Europe, the main modalities used for the treatment of drug problems are psychosocial interventions, opioid substitution and detoxification. Psychosocial interventions offer support to users as they attempt to manage and overcome their drug problems. These interventions include counselling, motivational enhancement, cognitive-behavioural therapy, case management, group and family therapy and relapse prevention. Psychosocial interventions form the foundation of community-based outpatient and inpatient treatment, and they also normally complement opioid substitution treatment. Drug detoxification is a

([12]) http://www.emcdda.europa.eu/themes/best-practice/evidence/selective-prevention
([13]) http://www.lwl.org/LWL/Jugend/lwl_ks/Projekte_KS1/Fgn-english
([14]) The treatment demand indicator received data from 23 countries for outpatient centres, with a coverage of more than 70 % of units in most countries, and from 20 countries for inpatient centres, with a coverage of over 50 % of units in most countries.

short-term, medically supervised intervention aimed at resolving the withdrawal symptoms associated with chronic drug use. It is generally provided in inpatient settings. The relative size of the different treatment modalities in each country is influenced by several factors, including the organisation of the national health care system.

Outpatient treatment

Historically, drug treatment was provided largely in residential settings and most of the clients were heroin users. This situation changed during the 1980s and 1990s with the rapid expansion of outpatient treatment and, more recently, with the growing numbers of cannabis and cocaine users seeking treatment. Additionally, problems with licit or prescription drugs became more common.

In 2007, opioids, chiefly heroin, continued to be the main drug reported by users entering treatment in outpatient settings, cited as primary drug by 54 % of clients, followed by cannabis (21 %) and cocaine (18 %). Several countries report an increase in the proportion of clients entering treatment for problems with drugs other than opioids, especially among new clients (see Chapters 3 and 5).

Drug users entering treatment in outpatient settings are predominantly young men, with an average age of 31 years and males almost four times as numerous as females (3.7:1). The age and sex profile of treatment clients varies with primary drug. Cannabis clients are on average much younger (25) than opioid (32) and cocaine (33) clients. Regardless of primary drug, the average age of clients entering treatment for the first time is about 2 years lower than that of all clients. Higher than average male to female ratios are reported for cocaine (5.1:1) and cannabis (5.5:1) clients ([15]).

The most common route of referral for clients entering outpatient treatment is self-referral, accounting for about one third of all clients; about a quarter are referred to treatment by the criminal justice system; and the remaining are referred through social and health services or informal networks, including family and friends. Referral to treatment from hospitals and other medical sources is rare, except in Finland, where it accounts for 25 % of clients. Hungary is also an exception, with over 70 % of clients being referred by the criminal justice system ([16]). It is worth noting that the Hungarian criminal code envisages that 'no punishment applies for possession of small amounts in the case of a drug addict demonstrating to have undergone drug treatment'.

Outpatient psychosocial treatment is mostly provided by public institutions (16 countries) or by non-governmental organisations (10 countries). According to national experts, this type of treatment is available to the majority of those who seek it in 10 countries, and available to nearly all of them in a further 13 countries. In four countries (Bulgaria, Estonia, Romania, Turkey), however, outpatient psychosocial treatment is estimated to be available to less than half of those who actively seek it (see Figure 1A). These ratings may hide considerable variation within countries and differences in the availability of specialised treatment programmes for cannabis or cocaine users.

Opioid substitution treatment

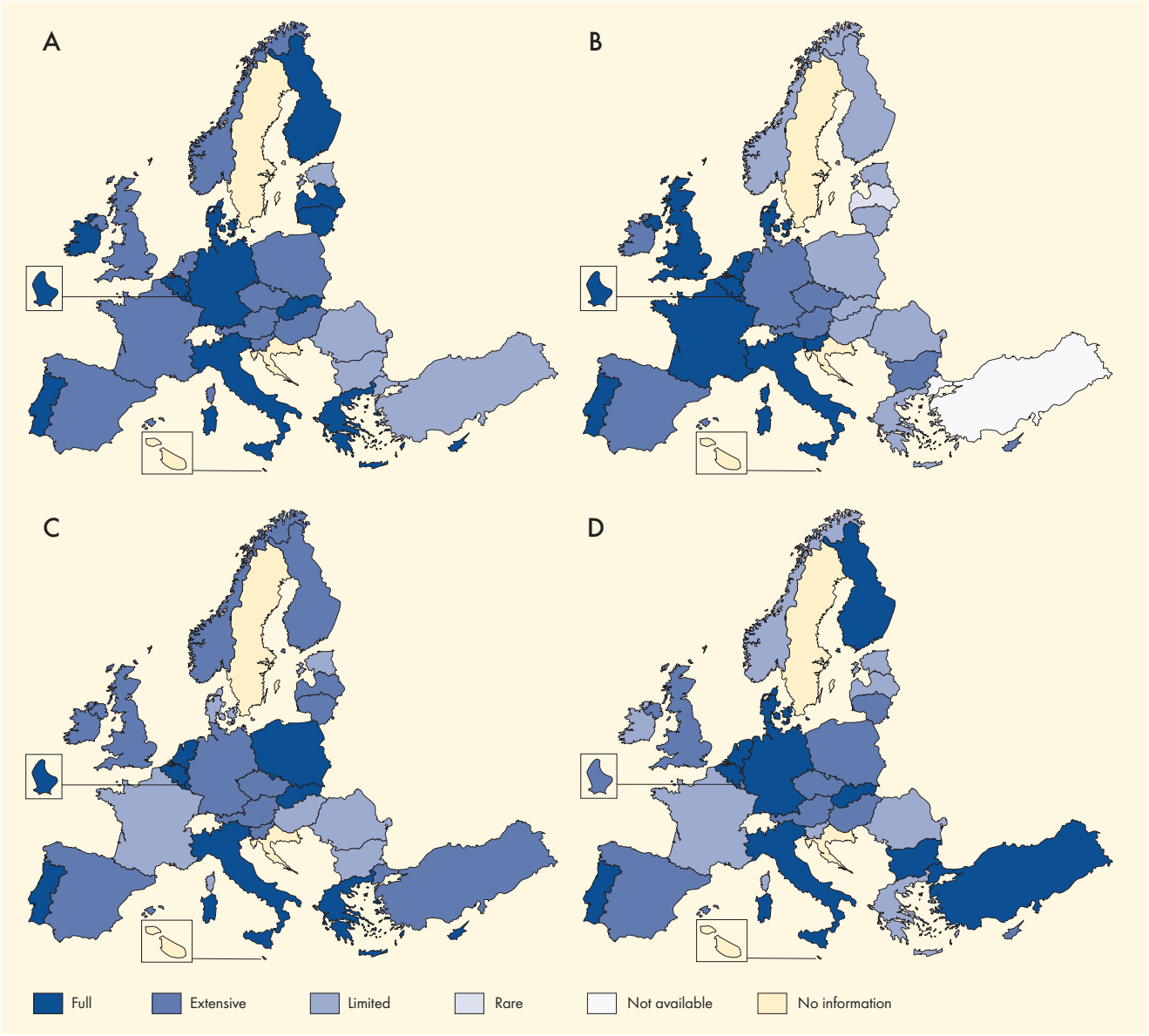
Substitution treatment combined with psychosocial care is the predominant treatment option for opioid users in Europe. It is generally provided as an outpatient treatment, though in some countries it is also available in inpatient settings. For example, in Austria, 65 % of clients undergoing long-term inpatient treatment are prescribed slow-release morphine. Substitution treatment is also increasingly provided in prisons ([17]).

With the introduction of high-dosage buprenorphine treatment in Cyprus in 2007, opioid substitution treatment is now available in all EU Member States, as well as Croatia and Norway ([18]). In Turkey, substitution treatment has yet to be introduced, though it is permitted under a 2004 regulation on treatment centres. In 16 countries, specialised public outpatient services are the main providers of substitution treatment. However, office-based general practitioners, often in shared-care arrangements with specialised centres, play an increasing role in the provision of this type of treatment and are its main providers in some countries (Walloon region of Belgium, Czech Republic, Germany, France, Luxembourg, Austria, Norway) (see Chapter 6).

In 2007, about 650 000 opioid users are estimated to have received substitution treatment in Europe ([19]). According to national experts, this type of treatment is available to nearly all opioid users in nine countries and to the majority of users in a further seven. Elsewhere, substitution treatment is estimated to be available to a minority of opioid users in 10 countries (Estonia, Greece, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia, Finland, Norway). The data on availability of substitution treatment suggests the existence of a regional divide, with

([15]) See Tables TDI-10 and TDI-21 in the 2009 statistical bulletin.
([16]) See Table TDI-16 (part ii) in the 2009 statistical bulletin.
([17]) See 'Assistance to drug users in prison', p. 35.
([18]) See Tables HSR-1 and HSR-2 in the 2009 statistical bulletin.
([19]) See Table HSR-3 in the 2009 statistical bulletin.

Figure 1: Availability of treatment modalities in relation to need, assessed by national experts: (A) psychosocial outpatient, (B) substitution, (C) psychosocial inpatient, (D) detoxification



NB: Availability is defined by the estimated proportion of drug users in need of treatment who can receive it: nearly all (full), the majority, but not nearly all (extensive), more than a few, but not the majority (limited), only a few (rare), not available. Information was collected by means of a structured questionnaire.
Sources: Reitox national focal points.

the lower levels of availability reported for countries in the east or north of Europe (Figure 1B).

Inpatient treatment

Inpatient or residential treatment requires clients to stay overnight for a duration of several weeks to several months. These programmes generally adopt a drug-free policy (without substitution treatment), with the aim of enabling the client to abstain from drug use. Clients are given accommodation, individually structured psychosocial treatments, and take part in activities geared towards rehabilitating them into society. A therapeutic community approach is often used in this context. Inpatient drug treatment is also provided by psychiatric hospitals, notably for clients with co-morbid psychiatric disorders.

In 2007, around 40 000 people, or one in 10 of all drug users entering treatment, are reported to have entered treatment in inpatient settings. More than half of them mentioned opioids as their principal drug (56 %), with most of the other clients identifying their principal drug as cannabis (14 %), stimulants other than cocaine (14 %) and cocaine (7 %).

The mean age of drug users entering inpatient treatment is 30 years, but opioid and cocaine clients are on average older (31) than those in treatment for non-cocaine stimulants (28) and cannabis (26). Most inpatient clients are men, with an overall male to female ratio of 3.6:1. The ratio is lower among primary users of non-cocaine stimulants (2.2:1) and higher among users of cocaine (5.1:1) and cannabis (8:1). In most countries where comparison is possible, the proportion of drug clients with no employment and unstable accommodation is higher among those entering treatment in inpatient settings than among outpatient clients ([20]).

The main providers of inpatient treatment are non-governmental organisations (12 countries) and public institutions (11 countries). Private institutions play this role in Denmark and Luxembourg, while they are the second most important providers in 10 countries. National experts estimate that inpatient psychosocial treatment is available to the majority of those seeking it in 12 countries and to almost all who seek it in a further nine countries. However, in six countries (Bulgaria, Denmark, Estonia, France, Hungary, Romania), this treatment modality was considered to be available to less than half of those who actively seek it (see Figure 1C).

Detoxification

Detoxification is generally a prerequisite to initiate long-term, abstinence-based residential treatment. It is commonly, but not exclusively, an inpatient intervention provided in hospitals, specialist treatment centres or residential facilities with medical or psychiatric wards.

Public institutions are the main providers of detoxification in 21 countries. Non-governmental organisations are the largest providers in Belgium (Flanders) and the Netherlands, while the private sector is predominant in Luxembourg and Bulgaria. National experts estimate that detoxification is available to a majority of those who seek it in nine countries, and to almost all in a further 10. In eight countries (Estonia, Ireland, Greece, France, Latvia, Romania, Slovenia, Norway), detoxification is estimated to be available to less than half of those who actively seek it (see Figure 1D).

Quality assurance

Health planners and policymakers in Europe increasingly look for mechanisms to ensure high quality in drug treatment. They also tend to give priority to 'evidence-based' interventions when considering the provision of treatment and the allocation of funds.

Guidelines are becoming an important tool in the quality assurance of drug treatment. Treatment guidelines include recommendations based on scientific evidence, expert opinion, service user preferences and national health care systems. They are designed to help choose and apply the appropriate drug treatment interventions. In 20 out of 27 reporting countries, national drug treatment guidelines are drawn up by an authorised institution.

Existing guidelines cover, in particular, pharmacological drug treatment. National guidelines for substitution treatment are reported by 18 countries, and 11 countries report guidelines for detoxification. However, about one third of these countries do not report adherence to the guidelines as a condition for operating or receiving funding for a treatment facility.

National guidelines for psychosocial treatment and social reintegration are less common. Only seven Member States (Bulgaria, Czech Republic, Germany, Denmark, Netherlands, Slovenia, United Kingdom) report the availability of guidelines for psychosocial interventions, and five (Czech Republic, Germany, Portugal, Slovenia, United Kingdom) for social reintegration. The scarcity of national guidelines is probably due to the limited evidence available, and this points to the need for more multi-site randomised controlled trials in these fields.

Continued staff training is important in ensuring the delivery of high quality services. Training courses designed specifically for addiction treatment staff and some form of continued training related to drug treatment for medical doctors are common in the European Union. Most countries make similar training opportunities available to other professionals including nurses, social workers and psychologists.

Regular outcome evaluations for all types of drug treatment are reported by few countries. Five Member States evaluate substitution and detoxification treatment, and only Denmark, Germany and the United Kingdom evaluate the outcome of psychosocial treatment interventions on a regular basis. Single or irregular treatment outcome evaluations are also reported by some countries.

Harm reduction

The prevention and reduction of drug-related harm is a public health objective in all Member States and in the EU drugs strategy (European Commission, 2007). Among the main interventions in this field are opioid substitution treatment and needle and syringe exchange programmes,

([20]) See Tables TDI-10, TDI-13, TDI-15 and TDI-21 in the 2009 statistical bulletin.

Best practice portal: new module on treatment

Following the introduction of the modules on universal and selective prevention in 2008, the EMCDDA has launched a new module dedicated to drug treatment on its 'Best practice portal'. It includes a synthesis of findings about the efficacy of pharmacological and psychosocial treatment for opioid, stimulant and cannabis disorders, based on the latest reviews. Work on the portal has been facilitated by a European Commission-funded study on quality of treatment and exchange of best practice (Directorate-General for Health and Consumers, 2008b).

The treatment module presents the findings of studies that compare the efficacy of different interventions. Efficacy is ideally determined by carrying out controlled trials or randomised controlled trials where interventions are compared against specific outcome measures. Most of the evidence base in this area comes from studies conducted in the United States. Studies in Europe are now becoming more common, and include some ground-breaking work on new agents for opioid substitution treatment.

The new module also includes: links to other information sources, evaluated interventions, a glossary and a brief synopsis of the gaps in the current evidence base. The portal will be expanded to include additional topics in the future.

EMCDDA Best practice portal: http://www.emcdda.europa.eu/best-practice

which target overdose deaths and the spread of infectious diseases. These measures are reported to be available in all countries except Turkey. While considerable differences exist in the range and levels of service provision (see Chapters 6 and 7), the general European trend is one of growth and consolidation of harm-reduction measures.

Most countries provide a range of health care and social services, including individual risk assessment and advice, safer use training, infectious diseases testing and counselling, vaccination and treatment of viral hepatitis. These services are often provided at low-threshold agencies. The focus of harm reduction responses has expanded beyond the HIV/AIDS epidemic into the broader perspective of catering for the health and social needs of problem drug users, especially those who are socially excluded.

A process of professionalisation can also be observed in recent years, and more scrutiny is applied to assure high quality standards. For example, in 2006/07, harm reduction services in England were inspected in order to identify areas for improvement. Quality may also be assured through stipulating adherence to specific standards in funding contracts, as reported by the Czech Republic and Estonia.

Responsibility for quality assurance lies with national institutions in 14 countries, while in countries with a federal system, agencies at sub-national level can be in charge. Guidance can be underpinned by research findings on cost-effectiveness, as is the case in the United Kingdom's guidance on needle and syringe programmes (NICE, 2009). Client involvement and feedback by staff is also sought to develop and improve service quality. Mechanisms to disseminate best practice and new research findings to professionals include national knowledge platforms, such as 'resultaten scoren' (scoring results) in the Netherlands and international awareness events, for example on hepatitis C ([21]). A data collection protocol for specialist low-threshold harm reduction agencies was also produced by the European Network of Social Inclusion and Health in cooperation with the EMCDDA (Hedrich et al., 2008a), as part of EU-funded projects to develop and implement European health indicators.

Social reintegration

Social reintegration is recognised as an essential component of comprehensive drug strategies. It can be implemented at any stage of drug use and in different settings, and includes capacity building, improvement of social skills, measures to facilitate and promote employment and to obtain or improve housing. In practice, reintegration programmes may offer vocational counselling, work placements and housing support. Prison-based interventions, which have an impact on relapse and re-offending, may link inmates to community-based housing and social support services in preparation for their release (Directorate-General on Health and Consumers, 2008a). In general, the outcomes of social reintegration measures often rely on efficient collaboration between health and social care institutions.

Homelessness, together with living in unstable accommodation, is one of the most serious forms of social exclusion facing drug users, affecting about 10 % of those entering treatment in 2007 ([22]). This figure is likely to be much higher for certain groups of drug users.

All Member States report the availability of housing schemes that can accommodate drug users. Information on the extent to which the housing needs of drug users are met, however, is scarce. In Slovakia, for example, due to limited financial resources, the housing capacity of the rehabilitation services often falls short of the demand.

Supported accommodation is reported by several countries (e.g. Czech Republic, Germany, Ireland, Netherlands,

([21]) http://www.hepatitiscfachtag.org/
([22]) See Table TDI-15 (part ii) in the 2009 statistical bulletin.

Finland, Sweden, United Kingdom). These temporary housing schemes usually consist of bed and breakfast accommodation or small furnished flats with short-term tenancies, and are often provided at discharge from residential treatment to enable individuals to live independently. In Ireland, for example, users are responsible for paying the rent and some domestic services, while support workers help them with their tenancy and to gain access to education, training or employment.

As 45 % of users entering treatment have at best completed primary school, and about 40 % of users entering treatment are unemployed ([23]), helping drug users to find employment and vocational training are key elements of social reintegration. Programmes in this area are reported by most Member States. In Hungary, the Czech Republic, Lithuania, Slovenia and Slovakia, the reintegration of drug users into the labour market has benefited from projects funded under the EU initiative against discrimination in the labour market (EQUAL). Most of these projects help stabilised drug treatment clients to find work placements in line with their abilities. The value of this approach is supported by the results of a Scottish study, which found that recovering drug users who received employment-related support were three times more likely to have found paid employment (McIntosh et al., 2008).

Drug law enforcement and drug law offences

The enforcement of the legislation on drugs involves various authorities located in different departments of government (e.g. police, justice, health). In practice, the term 'drug law enforcement' is commonly associated with the set of activities implemented by police and police-like institutions (e.g. customs) to enforce the laws relating to drug use and the drug market. Among the areas covered are drug use and possession, trafficking and production, as well as diversion of chemicals and money laundering.

Drug law enforcement is a central component of Europe's response to drugs, and it receives a large, possibly the largest, share of the resources devoted to the drug problem. A recent attempt to compare the allocation of drug-related public expenditure in Europe suggested that, on average, government spending on drug-related 'public order and safety' (police forces, courts and prisons) could be nearly three times the amount spent to deal with the health problems associated with drug use. A significant proportion of the money allocated to 'public order and safety' is likely to be received by police forces (EMCDDA, 2008e).

The nature and intensity of drug law enforcement efforts may vary, depending on national legislation and its application, as well as on the resources and priorities of the institutions involved, which include general law enforcement agencies and specialised units ('drug squads').

Unlike some other areas of law enforcement, where police officers typically respond to breaches of the law, often reported by members of the public, the bulk of drug law enforcement work may be defined as proactive, as it is performed mostly on the initiative of drug law enforcement institutions. This is because many drug offences can be viewed as a 'consensual crime', where consenting individuals secretly participate in an unlawful activity of which the police will remain unaware unless discovered by chance (e.g. during a foot patrol) or by active detection.

As a consequence, drug law enforcement includes a large set of activities which often rely on the gathering, processing and sharing of information by human and electronic means, including computerised databases and dedicated communication networks. This is particularly the case for activities geared to reducing the supply of drugs ([24]), where law enforcement plays a key role, and includes dealing with informants, conducting covert operations ('undercover work') and electronic surveillance, including intercepting communications.

Controlled deliveries of drugs and targeted operations aimed at disrupting or eliminating drug selling points are some of the operational tactics used by law enforcement agencies in Europe. Performing checks and searches on people and vehicles at and around strategic locations, such as ports, airports and land borders, is a more generic tactic, which also includes other aims, such as immigration control.

Law enforcement institutions, especially customs, are also tasked in many countries with enforcing laws on controlled chemicals. This involves processing importation and exportation requests as well as identifying and investigating suspicious transactions. Dismantling clandestine illicit drug laboratories may be another task of law enforcement forces in countries where synthetic drugs are manufactured.

Drug law offences

Initial reports on drug law offences, mainly from the police, are the only data on drug-related crime routinely available in Europe ([25]). The reports usually refer to

([23]) See Tables TDI-12 and TDI-13 in the 2009 statistical bulletin.
([24]) For a definition of drug supply reduction, see the box on p. 28 of the EMCDDA 2008 Annual report.
([25]) For a discussion of the relationships between drugs and crime see EMCDDA (2007b).

offences such as drug production, trafficking and dealing, as well as drug use and possession for use.

Data on drug law offences may be viewed as indirect indicators of drug use and drug trafficking, or as more direct indicators of law enforcement activity. However, they include only those drug-related activities that have come to the attention of law enforcement institutions, and they may also reflect national differences in legislation, priorities and resources. Furthermore, national information systems may differ, especially in relation to recording and reporting practices. For these reasons, it is difficult to make valid comparisons between countries, and it is more appropriate to compare trends rather than absolute numbers.

On the basis of data provided by 21 Member States, representing 85 % of the population aged 15–64 in the European Union, the number of reported drug law offences increased by an estimated 29 % between 2002 and 2007. The data reveal upward trends in all reporting countries except Bulgaria, the Czech Republic, Greece, Luxembourg, Hungary and Slovenia, all of which were stable or observed an overall decline over the period ([26]).

Use- and supply-related offences

There has been no major shift in the balance between drug law offences related to use and those related to supply (dealing, trafficking, production) compared to previous years. In most European countries, offences related to drug use or possession for use continue to comprise the majority of drug law offences, accounting for as much as 91 % (Spain) of the total in 2007 ([27]). Offences related to supply are, however, predominant in the Czech Republic (87 %) and the Netherlands (69 %) (Figure 2). In the Czech Republic, possession of small quantities of drugs without intent to supply is punishable by a warning or a fine, while in the Netherlands drug-use related offences are generally not prosecuted ([28]).

Between 2002 and 2007, the number of drug law offences related to use increased in most reporting countries, with only Bulgaria, Greece, the Netherlands and Slovenia reporting a decline across the period ([29]). Overall, the number of drug law offences related to use in the European Union increased by an estimated 32 % between 2002 and 2007.

EMCDDA 2009 'Selected issue' on sentencing statistics

The EMCDDA published in 2009 a new 'Selected issue' on sentencing statistics, which examines the outcomes of drug-law offences in European countries. The report looks at available national statistics from police, prosecutors and courts, and examines them according to the type of offence (possession, trafficking) and the type of outcome (fine, custody, treatment). The key question being addressed is: What is the most likely outcome in each country for being stopped for a drug possession or supply offence?

This 'Selected issue' is available in print and on the Internet in English only (http://www.emcdda.europa.eu/publications/selected-issues/sentencing).

Offences related to the supply of drugs also increased during the period 2002–07, but at a much lower pace, with an increase of about 14 % in the European Union. Over this period, eight countries report an overall decline in supply-related offences, and eight report an increase ([30]).

Trends by drug

Cannabis continues to be the illicit drug most often mentioned in reported drug law offences in Europe ([31]). In the majority of European countries, offences involving cannabis accounted for between 55 % and 85 % of reported drug law offences in 2007. Offences related to other drugs exceeded those related to cannabis in only two countries: Lithuania, heroin (26 %); and the Czech Republic, methamphetamine (59 %). In Latvia, drug law offences are evenly distributed between cannabis, heroin and ecstasy.

In the 5-year period 2002–07, the number of drug law offences involving cannabis increased or remained stable in most reporting countries, resulting in an estimated increase of 23 % in the European Union. Downward trends are reported by Bulgaria, the Czech Republic and Slovenia ([32]).

Cocaine-related offences increased over the period 2002–07 in all reporting countries except Bulgaria and Germany. In the European Union, overall, offences related to cocaine increased by about 59 % over the same period ([33]).

([26]) See Figure DLO-1 and Table DLO-1 in the 2009 statistical bulletin.
([27]) See Table DLO-2 in the 2009 statistical bulletin.
([28]) See the 'Country overviews' for the Czech Republic and the Netherlands on the EMCDDA website (http://www.emcdda.europa.eu/publications/country-overviews).
([29]) See Figure DLO-1 and Table DLO-4 in the 2009 statistical bulletin.
([30]) See Figure DLO-1 and Table DLO-5 in the 2009 statistical bulletin.
([31]) See Table DLO-3 in the 2009 statistical bulletin.
([32]) See Figure DLO-3 and Table DLO-6 in the 2009 statistical bulletin.
([33]) See Figure DLO-3 and Table DLO-8 in the 2009 statistical bulletin.

The downward trend in heroin-related offences in the European Union noted in previous reports now appears to have ceased, and an increase of about 7 % has been observed for the period 2002–07. However, national trends have been diverging, and the upward trend is mainly due to increases during the last 2 years in Belgium, Greece, Spain, France, Poland and Portugal, and a stabilisation in Germany and Austria ([34]).

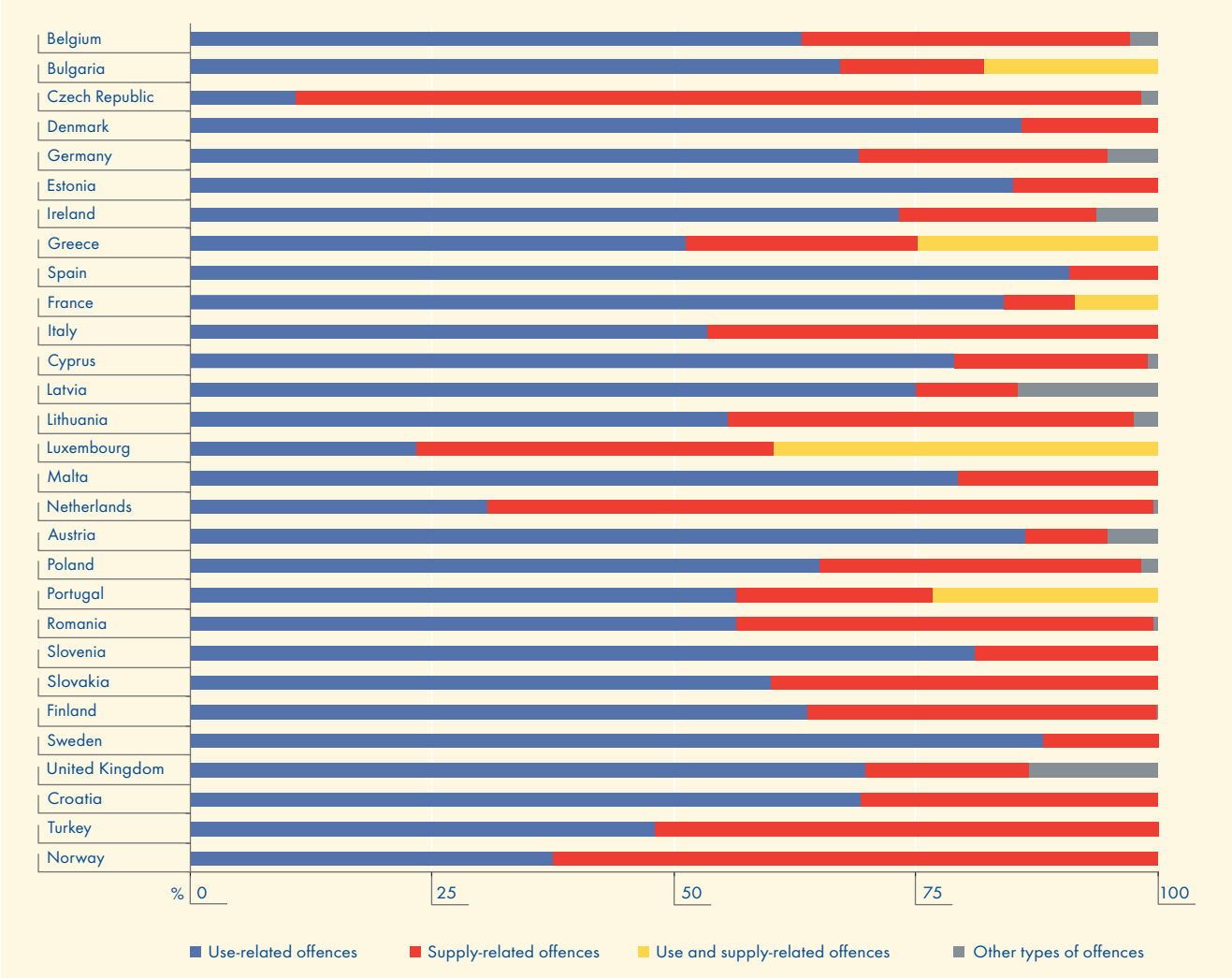
The number of offences related to amphetamines reported in the European Union continues to show an upward trend, with an estimated increase of 59 % between 2002 and 2007. Ecstasy-related offences, in contrast, have decreased by an estimated 22 % over the same period ([35]).

Health and social responses in prison

On a given day, there are over 600 000 people in prison in the European Union ([36]), giving an average imprisonment rate of about 120 prisoners per 100 000 population. National prison population rates range from 65 to 320 prisoners per 100 000 population with most Member States from central and eastern Europe reporting higher than average rates. Nevertheless, the national figures, and the EU-average, remain considerably below the rates reported from Russia (629) and the USA (756) ([37]).

Prisoners convicted of drug law offences make up somewhere between 10 % and 30 % of the prison

Figure 2: Offence type in reports for drug law offences in Europe



NB: For further information, see Figure DLO-2 in the 2009 statistical bulletin.
Sources: Reitox national focal points.

([34]) See Figure DLO-3 and Table DLO-7 in the 2009 statistical bulletin.
([35]) See Figure DLO-3 in the 2009 statistical bulletin.
([36]) Data on prisons in Europe are available from the Council of Europe at: http://www.coe.int/t/e/legal_affairs/legal_co-operation/prisons_and_alternatives/Statistics_SPACE_I/List_Space_I.asp
([37]) Source: http://www.kcl.ac.uk/depsta/law/research/icps/worldbrief for figures for Russia and the United States of America.

population in most EU countries. An unknown proportion of others are sentenced for property crimes to support a drug addiction, or other drug-related crime. Although the total numbers are low, the rate of drug law offenders among sentenced prisoners has increased over the past years in several central and east European Member States.

Drug use in prison populations

There is still a lack of standardisation of definitions, research questions and methodologies used in studies on prison drug use (Vandam, 2009; Directorate-General for Health and Consumers, 2008a), though existing studies show that drug use continues to be more prevalent among prisoners than among the general population. Data from several studies carried out from 2002 onwards, mostly in western Europe, show that between a third and half of those surveyed reported regular use of an illicit drug prior to imprisonment. Studies also indicate that the most harmful forms of drug-use may be concentrated among prisoners, with between a fifth and a third of those surveyed reporting to have ever injected drugs ([38]).

On admission to prison, most users reduce or stop consuming drugs, mainly due to problems in acquiring the substances. However, the fact that illicit drugs find their way into most prisons, despite all the measures being taken to reduce their supply, is recognised by both prison experts and policymakers in Europe. Studies carried out since 2002 show that between 1 % and 50 % of inmates report having used drugs within prison, and that up to 27 % report regular use while incarcerated ([39]). A study of 1 457 prisoners, from six German prisons, found that 22 % had injected drugs in prison, while studies in four other countries reported rates of 10 % or more ([40]). Injecting drug users in custody appear to share their equipment more often compared to users not in prison. This raises issues around the potential spread of infectious diseases among the prison population.

Prison health in Europe

Prisoners are entitled to the same level of medical care as persons living in the community, and prison health services should be able to provide treatment for problems related to drug use in conditions comparable to those offered outside prison (CPT, 2006; WHO, 2007). This general principle of equivalence is recognised in the European Union through the Council Recommendation of 18 June 2003 on the prevention and reduction of health-related harm associated with drug dependence ([41]), and the new EU drug action plan (2009–12) calls for its implementation.

The provision of health care services to prisoners is now receiving more attention from national policymakers, and there are signs that EU Member States are improving the services they offer to prisoners. For example, several countries now report the existence of national prison health policies and programmes. Nevertheless, much remains to be done to ensure that prisoners have access to health care at a level and quality comparable to that offered outside prison. In addition, prisons must face the challenges posed by the specific health care needs of drug users, such as blood-borne infectious diseases and co-morbid psychiatric problems.

Assistance to drug users in prison

Services offered to prisoners in European countries include: information on drugs and health; screening for infectious diseases and vaccination; treatment for drug dependence, including detoxification, substitution treatment and drug-free approaches; preparation for release. Examples of the continued expansion of services to prisoners include the introduction of substitution treatment in prisons in the Czech Republic, Poland and Sweden, a drug-free treatment programme in Cyprus and the extension of the Danish 'treatment guarantee' (to provide access to drug treatment within two weeks of request) to prisons.

The continuation of substitution treatment when imprisoned is approved in official regulations of 26 countries, but not used in five of them, while initiation of this type of treatment in prison is approved in 21 countries. According to expert ratings, however, there are differences in the provision of this intervention. Substitution treatment is available in almost all prisons in nine countries, and in more than half of the prisons in a further four. In the Czech Republic, France, Germany and the United Kingdom, it is estimated that substitution treatment is provided in less than half of the prisons, and in Hungary, Poland, Finland and Sweden only in a few prisons. Finally, in nine countries (Bulgaria, Estonia, Greece, Cyprus, Lithuania, Latvia, Slovakia, Romania, Turkey) this type of treatment is not available in prison, though preparations to introduce it are under way in Bulgaria and Romania, and legal changes are under discussion in Latvia.

Limited provision of substitution treatment in the community is generally mirrored by the absence or the very limited

([38]) See Tables DUP-105 and DUP-2 in the 2009 statistical bulletin.
([39]) See Table DUP-3 in the 2009 statistical bulletin.
([40]) See Table DUP-4 in the 2009 statistical bulletin.
([41]) OJ L 165, 3.7.2003, p. 31.

provision of this type of treatment in prison ([42]). Other obstacles to receiving substitution treatment in prison reported by Member States include: the lack of a regulatory framework for its initiation (Finland), and the requirement to pay for the treatment (French-speaking community in Belgium). The provision of substitution treatment is also often dependent on local conditions, and sometimes relies on the initiative of the individual prison doctor.

Expert ratings of the availability and level of provision of other prevention and harm reduction measures in prison are available for 26 EU countries, Norway and Turkey. Individual counselling on infectious diseases and assessment of drug-related risk behaviour is reported to exist in prisons in 26 countries. Hepatitis C testing upon prison entry is available in 22 countries, but not in Hungary, Poland and Turkey; however, in Hungary, more than 14 % of all prisoners were screened for HCV in the first 9 months of an ongoing campaign that began in 2007. Other interventions include targeted prison hepatitis B vaccination programmes, drug-specific health promotion training for prison staff, and advice and training on safer use, which are each reported to be provided in thirteen countries, though with varying levels of coverage.

The level of provision of measures to prevent overdoses is similar. While pre-release counselling on overdose risk is available in 18 countries, it is estimated that it has been provided to more than a few prisoners over the past 12 months only in eight countries. Information materials on drug-related deaths and emergencies, elaborated specifically for the prison environment, are available in only seven countries ([43]).

The provision of needle and syringe exchange in prison settings is reported by Germany, Spain, Luxembourg, Portugal and Romania, and it is planned in the United Kingdom (Scotland). Resistance from prison staff and lack of confidentiality have been reported as obstacles to the successful implementation of some needle and syringe exchange programmes in prison.

([42]) See Figure HSR-2 in the 2009 statistical bulletin.
([43]) See Table HSR-7 in the 2009 statistical bulletin.

Chapter 3
Cannabis

Introduction

The use of cannabis in Europe has evolved considerably over the last decade, as has the debate on how to respond appropriately to the widespread use of this drug. In the early and mid-1990s, a few countries stood out as having a high prevalence, whereas the European norm was levels of use which, by today's standards, were low. In most countries, cannabis use increased during the 1990s and early 2000s, and this has resulted today in a less varied European picture, even if important differences between countries still exist. Moreover, the last few years have seen a growing understanding of the public health implications of the long-term and widespread use of this drug, and rising reported levels of treatment demand for cannabis related problems. Europe may now be moving into a new phase, as data from general population and school surveys point to a stabilising or even decreasing situation. Levels of use remain high by historical standards, however; and what constitutes an effective response to cannabis use remains a key question in the European debate on drugs.

Supply and availability

Production and trafficking

Cannabis can be cultivated in a wide range of environments and grows wild in many parts of the world. It is currently estimated that cannabis is cultivated in 172 countries and territories (UNODC, 2009) ([44]). These facts taken together mean that it is difficult to produce accurate estimates of the worldwide production of cannabis. The UNODC (2009) estimates global production of herbal cannabis in 2008 at between 13 300 tonnes and 66 100 tonnes.

Cannabis cultivation in Europe is widespread and possibly increasing (Korf, 2008). In 2007, 19 European countries mentioned domestic cannabis cultivation, though the scale of the phenomenon seems to vary considerably. A significant proportion of cannabis used in Europe is, nevertheless, likely to be the result of intra-regional trafficking.

Herbal cannabis in Europe is also imported, mostly from Africa (e.g. Nigeria, Morocco, Ghana, South Africa)

Table 2: Production, seizures, price and potency of herbal cannabis and resin

	Cannabis resin	Herbal cannabis
Global production estimate (tonnes)	2 200–9 900	13 300–66 100
Global quantities seized (tonnes)	1 300	5 600
Quantity seized (tonnes) **EU and Norway** **(Including Croatia and Turkey)**	 853 (859)	 70 (96)
Number of seizures **EU and Norway** **(Including Croatia and Turkey)**	 324 000 (325 000)	 227 000 (241 000)
Mean retail price (EUR per gram) **Range** **(Interquartile range)** ([1])	 3–11 (5–9)	 1–12 (4–9)
Range of mean potency (THC content)	2–13 %	1–10 %

([1]) Range of the middle half of the reported mean prices.
NB: All data for 2007, except global production estimates which are for 2008.
Sources: UNODC World drug report (2009) for global values, Reitox national focal points for European data.

([44]) For information on the sources of data for drug supply and availability, see p. 39.

and less often from south-west Asia (Pakistan) and the Americas (Jamaica) (INCB, 2009a).

Global production of cannabis resin in 2008 is estimated at between 2 200 tonnes and 9 900 tonnes (UNODC, 2009), with Morocco continuing to be the main producer. The area under cannabis resin production is reported to have declined from 134 000 hectares to 76 400 hectares between 2003 and 2005 (UNODC and Government of Morocco, 2007). Resin production is also reported in other countries, including Afghanistan and Pakistan (UNODC, 2009). Cannabis resin produced in Morocco is typically smuggled into Europe via the Iberian Peninsula and the Netherlands, being then further distributed to other European countries.

Seizures

In 2007, an estimated 5 600 tonnes of herbal cannabis and 1 300 tonnes of cannabis resin were seized worldwide, an overall increase of about 10 % over the previous year. North America continued to account for the bulk of herbal cannabis seized (66 %), while quantities of resin seized remained concentrated in western and central Europe (66 %) (UNODC, 2009).

In Europe, an estimated 241 000 seizures of herbal cannabis, amounting to 96 tonnes, were made in 2007 ([45]). The number of seizures has more than doubled between 2002 and 2007. The amount of herbal cannabis seized halved during the first 2 years of this period thereafter increasing, though remaining well below the 130 tonnes seized in 2002. The highest number of seizures of herbal cannabis was reported by the United Kingdom, accounting for approximately half of the total in 2005 and 2006. Turkey (25.5 tonnes) and Belgium (12.8 tonnes) reported record seizures in 2007.

Seizures of cannabis resin in Europe exceed herbal cannabis seizures, both in number and amount seized ([46]). In 2007, about 325 000 seizures of cannabis resin were made, resulting in the interception of 859 tonnes of the drug, almost nine times the quantity of herbal cannabis seized. Between 2002 and 2007, the number of cannabis resin seizures increased, though the amount seized fluctuated over the same period. Just over half of the total number of cannabis resin seizures and around three quarters of the quantity seized in 2007 were reported by Spain, while record quantities of cannabis resin were seized by Belgium (59 tonnes), Portugal (43 tonnes) and Turkey (6 tonnes).

Seizures of cannabis plants have increased steadily since 2002, reaching an estimated 15 000 cases in 2007. Countries report the quantity seized either as the number of plants or as an estimate of the weight. The number of plants seized was 2.4 million, a figure that has been relatively stable over the past 2 years, up from about 1.5 million in 2002. The weight of plants seized has increased markedly over the period and reached 27 tonnes in 2007, of which 25 tonnes were reported by Spain.

Potency and price

The potency of cannabis products is determined by their content of delta-9-tetrahydrocannabinol (THC), the primary active constituent. Cannabis potency varies widely between and within countries, and between different cannabis products. Information on cannabis potency is

Drug supply and availability: data and sources

Systematic and routine information to describe illicit drug markets and trafficking is still limited. Production estimates of heroin, cocaine and cannabis are obtained from cultivation estimates based on fieldwork (sampling on the ground) and aerial or satellite surveys. These estimates have some important limitations, linked for instance with variations in yield figures or with the difficulty of monitoring crops such as cannabis, which may be grown indoors or are not restricted to certain geographical areas.

Drug seizures are often considered as an indirect indicator of the supply, trafficking routes and availability of drugs. They are a more direct indicator of drug law enforcement activities (e.g. priorities, resources, strategies), while also reflecting both reporting practices and the vulnerability of traffickers. Data on purity or potency and retail prices of illicit drugs may also be analysed in order to understand retail drug markets. However, the availability of this type of data may be limited and there may be questions of reliability and comparability. Intelligence information from law enforcement agencies may help complete the picture.

The EMCDDA collects national data on drug seizures, purity and retail prices in Europe. Other data on drug supply comes from UNODC's information systems and analyses, complemented by additional information from Europol. Information on drug precursors is obtained from the European Commission, which collects data on seizures of these substances in the EU, and the INCB, which is involved in international initiatives to prevent the diversion of precursor chemicals used in the manufacture of illicit drugs.

The data and estimates presented in this report are the best approximations available, but must be interpreted with caution, as many parts of the world still lack sophisticated information systems related to drug supply.

([45]) The data on European drug seizures mentioned in this chapter can be found in Tables SZR-1 to SZR-6 in the 2009 statistical bulletin.

([46]) Due to differences in shipment size and distances travelled, as well as the need to cross international borders, cannabis resin could be more at risk of being seized than domestically produced herbal cannabis.

mostly based on forensic analysis of cannabis seized, selected on a sample basis. The extent to which the samples analysed reflect the overall market is unclear and, for this reason, data on potency should be interpreted with caution. In 2007, the reported national mean THC content of cannabis resin ranged from 2.9 % to 13.3 %. The mean potency of herbal cannabis, excluding home-grown sinsemilla ('nederwiet') in the Netherlands, ranged from 1.2 % to 10.2 %. Over the period 2002–07, the reported mean potency of resin and herbal cannabis remained stable or decreased in most of the 16 European countries for which this analysis could be made. However, upward trends in the mean THC content of cannabis resin were registered in Portugal and Luxembourg. Increases in the potency of herbal cannabis were observed in five other countries. Information on the potency of locally produced herbal cannabis over a number of years is available only for the Netherlands, where a recent decline in the mean potency of nederwiet was observed, from a peak of 20.3 % in 2004 to 16.0 % in 2006, remaining at that level in 2007 ([47]).

The mean retail price of cannabis resin, in 2007, ranged from EUR 3 to EUR 11 per gram in the 18 countries providing information, with half of them reporting values between EUR 5 and EUR 9. The mean retail price of herbal cannabis ranged between EUR 1 and EUR 12 per gram in the 17 countries supplying information, with about half of them reporting prices of between EUR 4 and EUR 9. For the 11 countries with data covering the period 2002–07, the mean retail price of cannabis resin, corrected for inflation, declined. Over the same period, the data available for herbal cannabis point to a more stable situation.

Prevalence and patterns of use

Cannabis use among the general population

It is conservatively estimated that cannabis has been used at least once (lifetime prevalence) by around 74 million Europeans, that is over one in five of all 15- to 64-year-olds (see Table 3 for a summary of the data). Considerable differences exist between countries, with national prevalence figures varying from 1.5 % to 38.6 %. For most of the countries, the prevalence estimates are in the range 10–30 %.

Many countries report comparatively high prevalence levels of last year and last month use of cannabis. It is estimated that around 22.5 million Europeans have used cannabis in the last year, or on average 6.8 % of all 15- to 64-year-olds. Estimates of last month prevalence will include those using the drug more regularly, though not necessarily in an intensive way. It is estimated that about 12 million Europeans used the drug in the last month, on average about 3.6 % of all 15- to 64-year-olds.

Population surveys: an important tool for understanding drug use patterns and trends in Europe

Drug use in the general or school population can be measured through representative surveys, which provide estimates of the proportion of individuals that report having used specific drugs over defined periods of time. Surveys also provide useful contextual information on patterns of use, sociodemographic characteristics of users and perceptions of risks and availability.

The EMCDDA, in close collaboration with national experts, has developed a set of core items for use in adult surveys (the 'European Model Questionnaire', EMQ). This protocol has now been implemented in most EU Member States. However, there are still differences in the methodology used and year of data collection, and this means that small differences, in particular between countries, should be interpreted with caution.

Surveys are expensive to conduct and few European countries collect information each year, although many collect it at intervals of two to four years. In this report, data is presented based on the most recent survey available in each country, which in most cases is between 2004 and 2007.

Of the three standard time frames used for reporting survey data, lifetime prevalence (use of a drug at any point in one's life) is the broadest. This measure does not reflect the current drug use situation among adults, but can be helpful to understand patterns of use and incidence. For adults, the EMCDDA's standard age ranges are 15–64 years (all adults) and 15–34 years (young adults), and the focus is on the last year and last month time frames (use during the last 12 months or last 30 days before the survey) ([1]). For school students, lifetime and last year prevalence are similar, as illicit drug use before age 15 is rare.

The European school survey project on alcohol and other drugs (ESPAD) uses standardised methods and instruments to measure drug and alcohol use among representative samples of 15- to 16-year-old school students. Surveys have been conducted in 1995, 1999, 2003 and 2007. In 2007, data were collected in 35 countries, including 25 EU Member States, Norway and Croatia ([2]).

([1]) For more information, see http://www.emcdda.europa.eu/publications/methods/gps-overview

([2]) A summary of the main findings of the 2007 ESPAD survey is available in 23 languages (http://www.emcdda.europa.eu/html.cfm/index77163EN.html). The full report can be found online at the ESPAD website (http://www.espad.org).

([47]) See Tables PPP-1 and PPP-5 in the 2009 statistical bulletin for potency and price data.

Table 3: Prevalence of cannabis use in the general population — summary of the data

Age group	Time frame of use		
	Lifetime	**Last year**	**Last month**
15–64 years			
Estimated number of users in Europe	74 million	22.5 million	12 million
European average	22.1 %	6.8 %	3.6 %
Range	1.5–38.6 %	0.4–14.6 %	0.1–7.2 %
Lowest-prevalence countries	Romania (1.5 %) Malta (3.5 %) Bulgaria (5.6 %) Cyprus (6.6 %)	Romania (0.4 %) Malta (0.8 %) Greece (1.7 %) Bulgaria (1.9 %)	Romania (0.1 %) Malta (0.5 %) Sweden (0.6 %) Lithuania (0.7 %)
Highest-prevalence countries	Denmark (38.6 %) Italy (31.2 %) France (30.6 %) United Kingdom (30.0 %)	Italy (14.6 %) Spain (10.1 %) Czech Republic (9.3 %) France (8.6 %)	Italy (7.2 %) Spain (7.1 %) France, Czech Republic (4.8 %)
15–34 years			
Estimated number of users in Europe	41.5 million	17 million	9 million
European average	31.1 %	12.5 %	6.8 %
Range	2.9–48.0 %	0.9–20.9 %	0.3–13.4 %
Lowest-prevalence countries	Romania (2.9 %) Malta (4.8 %) Cyprus (9.9 %) Greece (10.8 %)	Romania (0.9 %) Malta (1.9 %) Greece (3.2 %) Cyprus (3.4 %)	Romania (0.3 %) Sweden (1.3 %) Greece, Lithuania (1.5 %)
Highest-prevalence countries	Denmark (48.0 %) France (43.6 %) United Kingdom (40.1 %) Czech Republic (38.3 %)	Italy (20.9 %) Czech Republic (19.3 %) Spain (18.8 %) France (16.7 %)	Spain (13.4 %) Italy (10.4 %) Czech Republic, France (9.8 %)
15–24 years			
Estimated number of users in Europe	19 million	10 million	5 million
European average	30.5 %	15.8 %	8.3 %
Range	3.7–43.9 %	1.5–28.2 %	0.5–16.9 %
Lowest-prevalence countries	Romania (3.7 %) Malta (4.9 %) Cyprus (6.9 %) Greece (9.0 %)	Romania (1.5 %) Greece, Cyprus (3.6 %) Sweden (6.0 %) Portugal (6.6 %)	Romania (0.5 %) Greece (1.2 %) Sweden (1.6 %) Cyprus, Lithuania (2.0 %)
Highest-prevalence countries	Czech Republic (43.9 %) France (42.0 %) Denmark (41.1 %) Germany (39.0 %)	Czech Republic (28.2 %) Spain (24.1 %) Italy (22.6 %) France (21.7 %)	Spain (16.9 %) Czech Republic (15.4 %) France (12.7 %) Italy (11.5 %)

European prevalence estimates are based on weighted averages from the most recent national surveys conducted from 2001 to 2008 (mainly 2004–08), therefore they cannot be attached to a single year. The average prevalence for Europe was computed by a weighted average according to the population of the relevant age group in each country. In countries for which no information was available, the average EU prevalence was imputed. Populations used as basis: 15–64 (334 million), 15–34 (133 million) and 15–24 (63 million). The data summarised here are available under 'General population surveys' in the 2009 statistical bulletin.

Cannabis use among young adults

Cannabis use is largely concentrated among young people (15–34 years), with the highest levels of last year use generally being reported among the 15- to 24-year-olds. This is the case in almost all European countries, with the exception of Portugal ([48]).

Population survey data suggest that, on average, 31.1 % of young European adults (15–34 years) have ever used

([48]) See Figure GPS-1 in the 2009 statistical bulletin.

cannabis, while 12.5 % have used the drug in the last year and 6.8 % have used it in the last month. Still higher proportions of Europeans in the 15–24 age group are estimated to have used cannabis in the last year (15.9 %) or last month (8.3 %). National prevalence estimates of cannabis use vary widely between countries in all measures of prevalence, with countries at the upper end of the scale reporting values up to 10 times those of the lowest-prevalence countries.

Cannabis use is generally higher among males than among females (see EMCDDA, 2006a), though marked differences between countries are observed. For example, the ratio of males to females among those reporting use of cannabis in the last year ranged from 6.4:1 in Portugal to 1.4:1 in Austria.

Cannabis use among school students

The ESPAD survey ([49]) provides comparable data on alcohol and drug use among 15- to 16-year-old school students in Europe (Hibell et al., 2009). In 2007, the survey was conducted in 25 EU Member States as well as Norway and Croatia. Some countries (e.g. Spain, Sweden, United Kingdom) conduct their own national school surveys which provide data, including on cannabis use, that is comparable with the ESPAD and the HBSC (Health-Behaviour in School-aged Children) surveys.

The 2007 ESPAD data revealed that the highest lifetime prevalence of cannabis use among 15- to 16-year-old school students is in the Czech Republic (45 %) ([50]), while Estonia, France, the Netherlands, Slovakia and the United Kingdom report prevalence levels ranging from 26 % to 32 %. Lifetime prevalence levels of cannabis use of between 13 % and 25 % are reported by 15 countries. The lowest levels (less than 10 %) are reported in Greece, Cyprus, Romania, Finland, Sweden and Norway. Overall, lifetime prevalence of cannabis use among school students varies little between the sexes.

The highest last month prevalence of cannabis use among 15- to 16-year-olds in Europe is reported by Spain (20 %) and the Czech Republic (18 %) ([51]).

International comparisons

European figures can be compared with those from other parts of the world. For instance, in the United States, the National survey on drug use and health (Samhsa, 2007) estimated a lifetime prevalence of cannabis use of 49 % among young adults (15–34 years, recalculated by the EMCDDA) and a last year prevalence of 21 %. For the same age group, lifetime prevalence of cannabis use was 58 % and last year prevalence 28 % in Canada (2004), while in Australia (2007) the figures were 47 % and 16 %. All these figures are above the corresponding European averages, which are respectively 31.1 % and 12.5 %.

Among school students, only Spain and the Czech Republic report levels of lifetime prevalence of cannabis use that are comparable to those reported in the United States and Australia.

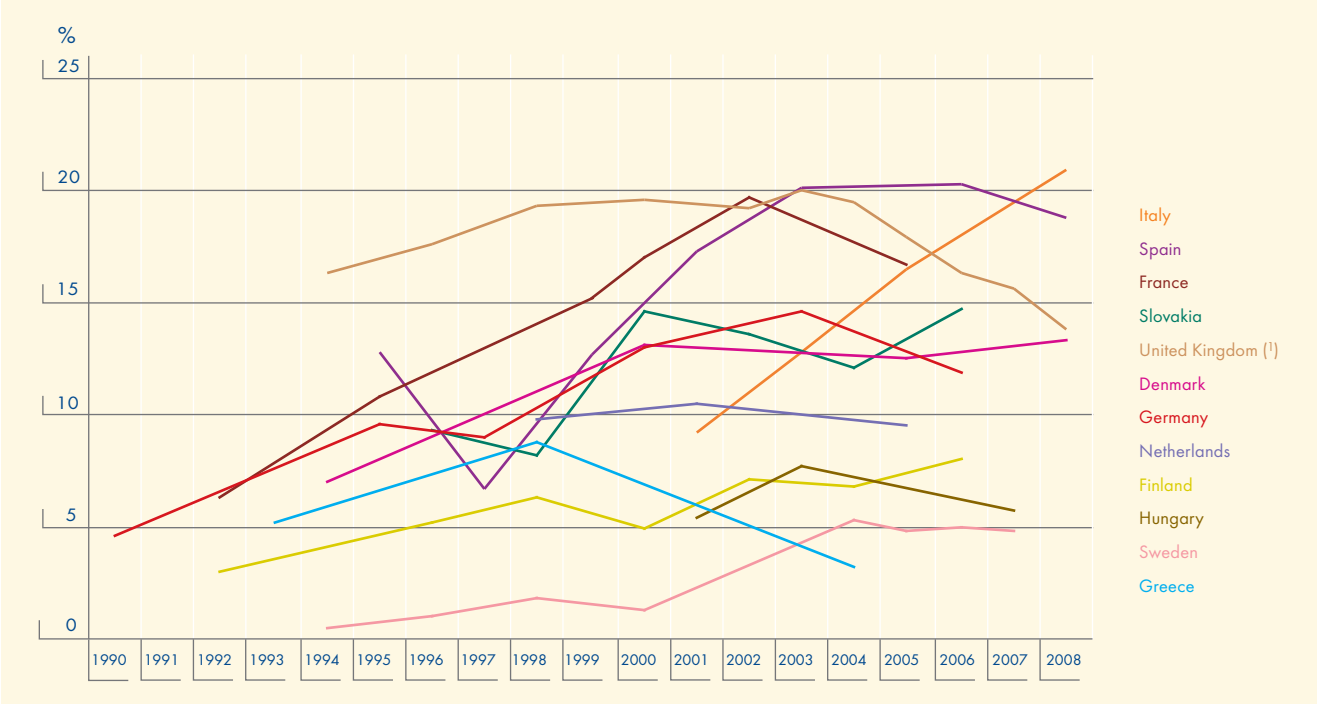
Trends in cannabis use

National survey data reported to the EMCDDA show that in almost all EU countries cannabis use increased markedly during the 1990s, in particular among young people (Figure 3) and school students. By the turn of the century, in most European countries a sizable proportion of the young population had used or were using the drug, as illustrated by the fact that between 1998 and 2003, lifetime prevalence of cannabis use among the 15- to 34-year-olds increased to levels of around 30 % in seven countries and exceeded 40 % in an additional two. Corresponding levels of last year prevalence among this age group were as high as 15–20 % in seven countries and last month prevalence reached 8–15 % in six countries.

The trend in cannabis use in the United Kingdom is particularly interesting. In the early and mid-1990s, this country stood out in the European picture as the one reporting the highest prevalence estimates. This picture has progressively changed, as levels of use rose in other countries. Moreover, cannabis use in the United Kingdom has been steadily declining since around 2003, particularly among the 16–24 age group ([52]), suggesting a generational shift. A downward or stabilising trend can now be seen elsewhere, in both school and some general population survey data. Of the 11 countries for which it is possible to analyse the trend in last year prevalence among young adults between 2002 and 2007, four report decreases of at least 15 % of the initial value, and in a further four the situation appears stable ([53]). In three countries, prevalence levels have increased by at least 15 %, although other data put this upward trend into question.

([49]) See the box on population surveys, p. 40.
([50]) See Figure EYE-1 (part ii) in the 2009 statistical bulletin.
([51]) See Figure EYE-1 (part i) in the 2009 statistical bulletin.
([52]) See Figure GPS-10 in the 2009 statistical bulletin.
([53]) Where information on the exact years was not available, information from the previous or following year was used.

Figure 3: Trends in last year prevalence of cannabis use among young adults (aged 15 to 34)



(1) England and Wales.
NB: See Figure GPS-4 in the 2009 statistical bulletin for further information.
Sources: Reitox national reports (2008), taken from population surveys, reports or scientific articles.

Trends among school students

As with adults, increases in cannabis use among school students occurred in a number of European countries between 1995 and 2003, but in general have come to a halt or decreased more recently. Only two of the countries monitored by the EMCDDA that participated in ESPAD school surveys in 2007 (Lithuania, Slovakia) report an increase of more than three percentage points in lifetime cannabis use since 2003, while nine countries report an equivalent decrease during this period ([54]). School survey data from the United States and Australia also report a decreasing trend, which was first observed in Australia in 1999 ([55]).

Different patterns are found across Europe in the time trends in cannabis use among school students between 1995 and 2007 (Figure 4). Seven countries, located mainly in northern and southern Europe (Greece, Cyprus, Malta, Romania, Finland, Sweden, Norway), have reported overall stable and low lifetime prevalence of cannabis use during the whole period. Most west European countries, as well as Croatia and Slovenia, which had high or strongly increasing lifetime cannabis prevalence up until 2003, saw a decrease or stabilisation in 2007. Among these 11 countries, nine reported a decrease of more than three percentage points and two were stable. The situation is somewhat different in most of central and eastern Europe, where the increasing trend observed between 1995 and 2003 appears to be levelling out. In this region, six countries report a stable situation and two report an increase of more than three percentage points ([56]).

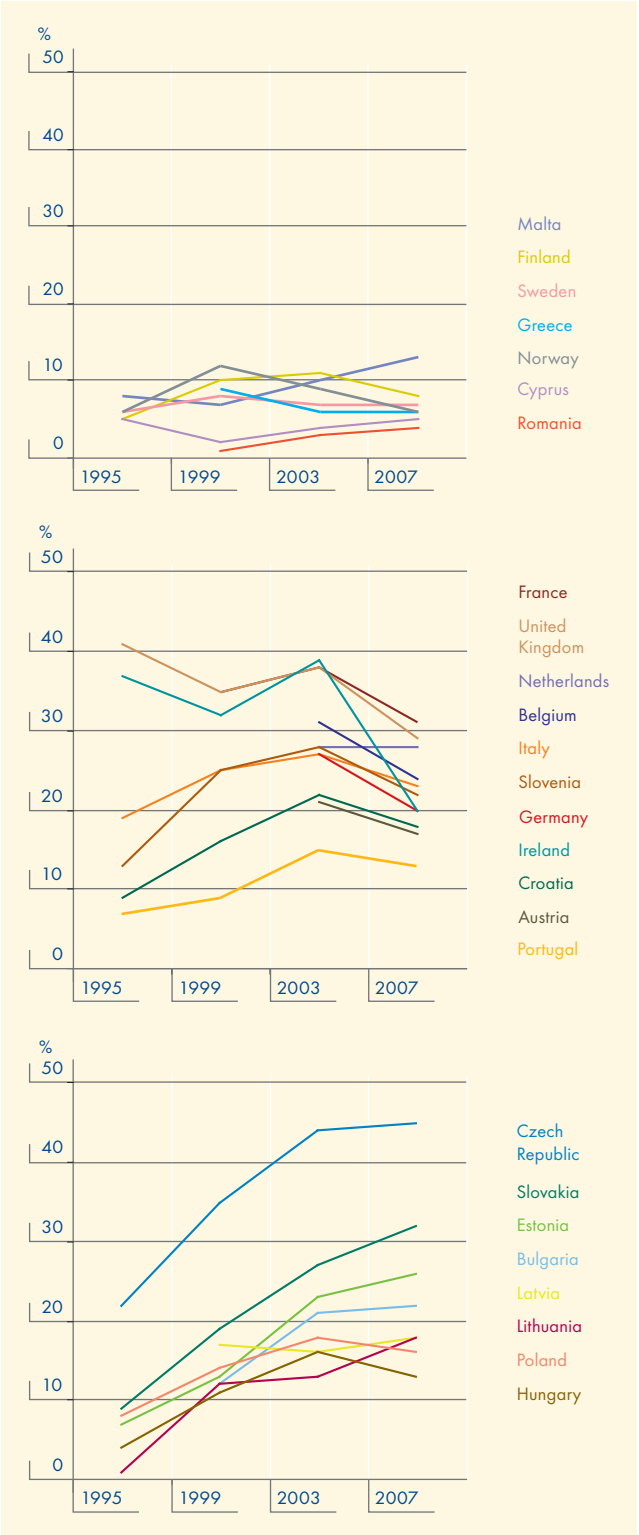
In some European countries, increases in lifetime cannabis use among school students between 1995 and 2003 were accompanied by increases in the lifetime prevalence of cigarette smoking. Since 2003, both trends have reversed in many countries, suggesting a possible link between tobacco and cannabis smoking among young people ([57]).

Patterns of cannabis use

Available data point to a variety of patterns of cannabis use. Of those aged 15–64 who have ever used cannabis, only 30 % have done so during the last year ([58]). However, among those who have used the drug in the last year, on average 50 % have done so in the last month, and recent research shows that repeated use of this substance can be stable over long periods of time, even among younger users (Perkonigg, 2008).

([54]) ESPAD regards increases or decreases of more than three percentage points as indicative of change.
([55]) See Figure EYE-1 (part xii) in the 2009 statistical bulletin.
([56]) See Figure EYE-1 (part xiii) in the 2009 statistical bulletin.
([57]) See the 'Selected issue' on polydrug use.
([58]) See Figure GPS-2 in the 2009 statistical bulletin.

Figure 4: Different patterns in trends in lifetime prevalence of cannabis use among 15- to 16-year-old school students



Sources: ESPAD.

Estimating the prevalence of intensive and long-term patterns of use is an important public health issue due to its correlation with negative consequences, such as respiratory problems, underachievement or dependence (Hall and Solowij, 1998). Daily or almost daily use (use on 20 days or more in the last 30 days) is currently the best available comparable indicator of intensive use. Data on this form of cannabis use in Europe was collected in 2007/08 as part of a 'field trial' coordinated by the EMCDDA in collaboration with national experts and the Reitox focal points of 13 countries, accounting for 77 % of the EU adult population (15–64). On the basis of these data it is estimated that over 1 % of all European adults, about 4 million, are using cannabis daily or almost daily. Most of these cannabis users, about 3 million, are aged between 15 and 34 years, representing approximately 2–2.5 % of all Europeans in this age group ([59]).

Trends in intensive cannabis use are difficult to assess due to the scarcity of data. Of the seven countries providing data on recent trends, four (Spain, France, Italy, Portugal) reported an increase in the prevalence of daily cannabis use, one a stable situation (Ireland), while only two reported a decline (Greece, Netherlands) ([60]). These results point to a possible overall increase in the number of intensive cannabis users in Europe during the past decade.

Cannabis dependence has been increasingly recognised as a possible consequence of regular use of the drug, even if the severity and consequences may appear less serious than those commonly associated with some other psychoactive substances (e.g. heroin or cocaine). Nevertheless, due to the relatively larger proportion of the population using cannabis regularly, the overall impact of intensive forms of cannabis use on public health may be significant. Users, in particular heavy users, can also experience problems without necessarily fulfilling clinical criteria for dependence.

Studies show that the development of cannabis dependence is less abrupt than with other drugs (e.g. cocaine) and that among those who used the drug at least once in their life, the proportion ever developing dependence might not exceed 10 % (Wagner and Anthony, 2002). In general population survey data from the United States, dependence was detected in some 20–30 % of daily users ([61]). Other studies suggested that cannabis dependence can be relatively stable over time (Swift et al., 2000). Nevertheless, probably over half of

([59]) The European averages are an estimation based on a weighted average (for the population) for countries with information, and imputed for countries without information. The figures obtained are 1.2 % for all adults (15–64 years) and 2.3 % for young adults (15–34 years). See Table GPS-7 in the 2008 statistical bulletin.

([60]) See Table GPS-7 in the 2009 statistical bulletin.

([61]) Analysis of national population survey data for the United States between 2000 and 2006. NSDUH online analysis facility: http://webapp.icpsr.umich.edu/cocoon/SAMHDA/SERIES/00064.xml, accessed on 25 February, 2008 and analysed using variables MJDAY30A and DEPNDMRJ.

dependent cannabis users who stop using the drug are able to do so without treatment (Cunningham, 2000; Ellingstad et al., 2006).

Patterns among school students

The 2007 ESPAD surveys also show that lifetime cannabis use is correlated with perceptions of lower risk and higher availability of the drug ([62]). Compared with the general population of students, cannabis users are more likely to use alcohol, tobacco and other illicit drugs ([63]).

New data from the ESPAD study also sheds some light on more intensive patterns of cannabis use. In 10 European countries, between 5 % and 12 % of 15- to 16-year-old male school students reported having used cannabis on 40 or more occasions. This proportion was at least double that found among the female students, supporting other data that show that intensive patterns of use are more commonly found among young males. Early onset of use has been associated with the later development of more intensive and problematic forms of drug consumption. In most of the 10 countries with relatively high rates of frequent use, between 5 % and 9 % of the school students reported that they had initiated cannabis use at age 13 or younger ([64]).

Short scales to measure problematic forms of cannabis use in general population surveys

There is evidence that cannabis dependence can be measured in the general population as reliably as in samples of treated users, including the measurement of withdrawal symptoms (Mennes et al., 2009). The EMCDDA is therefore developing, in collaboration with several countries, methods for monitoring the more intensive and significant long-term forms of cannabis use.

Different methodologies to estimate, within the general population surveys, the prevalence of intensive and problematic forms of drug use, mainly cannabis use, have been tested in recent years. German experts have reviewed the literature and the work currently done in this field, and have identified four short cannabis scales that have been tested in samples of the general population in Europe. These are the Severity of Dependence Scale (SDS), Problematic Use of Marijuana (PUM), the Cannabis Abuse Screening Test (CAST) and the Cannabis Use Disorders Identification Test (CUDIT) (Piontek et al., 2008). These scales include between four and 10 items, and their psychometric properties (e.g. their ability to differentiate cases from non-cases consistently and in compliance with the desired concept of cannabis dependence or problems) were generally found to be very good.

Some difficulties remain, however, in this field because of the lack of consensus regarding which construct (e.g. dependence, abuse, harmful use, use related problems) or set of constructs should be measured to assess problematic forms of cannabis use. There are also estimation difficulties, as measures of a phenomenon with a low prevalence may produce many 'false positive' cases and, therefore, an overestimation of problematic cannabis use in the overall population. Additional validation studies, which are currently in progress or planned, might help overcome these difficulties.

Treatment

Treatment demand

In 2007, cannabis was the primary drug in about 20 % of all treatment entries (73 000 clients), making it the second most reported drug after heroin. However, country differences are considerable, with Bulgaria, Lithuania and Slovenia reporting less than 5 % of their clients as primary cannabis users and Denmark, France, Hungary, the Netherlands and Turkey reporting more than 30 %. These differences may be explained by the prevalence of cannabis use, drug treatment needs, treatment provision and organisation or referrals practices. In the two countries with the largest proportions of cannabis clients, counselling centres target young drug users in France, and cannabis offenders in Hungary are offered drug treatment as an alternative to punishment. The criminal justice system plays a substantial role in treatment referral in both of these countries but, overall, Member States report that most cannabis users entering treatment in Europe do it on their own initiative.

Clients entering outpatient centres because of cannabis use often also report the use of other drugs. Based on a data collection in 14 countries, 85 % of them take another drug, mostly alcohol (65 %) or cocaine (13 %), and some report use of both alcohol and cocaine (12 %) ([65]).

Trends in new demands for drug treatment

In the 19 countries for which data are available, the number and proportion of primary cannabis users among those entering treatment for the first time increased from around 19 000 to 34 000 (from 25 % to 31 %) between 2002 and 2007 ([66]). This trend seems, however, to have been interrupted between 2006 and 2007, with most countries reporting a decreasing or stable proportion of

([62]) See Figure EYE-1 (part v) and (part vi) in the 2009 statistical bulletin.
([63]) See the 'Selected issue' on polydrug use.
([64]) See Figure EYE-1 (part iii) and (part vii) in the 2009 statistical bulletin.
([65]) See the 'Selected issue' on polydrug use.
([66]) See Figures TDI-1 and TDI-2 and Tables TDI-3 (part iv) and TDI-5 (part ii) in the 2009 statistical bulletin.

new cannabis clients. This might be linked with recent trends in cannabis use, but can also reflect changes in reporting practices, service capacity saturation or use of other services (e.g. primary health care, mental health care).

Client profiles

Cannabis users entering outpatient treatment in Europe are mainly young males, with a male to female ratio of 5.5:1 and a mean age of 25 years ([67]). Among drug users entering outpatient treatment for the first time, primary cannabis use is reported by 67 % of those aged 15–19 years ([68]) and by 78 % of those younger than 15 years.

Overall, 24 % of primary cannabis users entering outpatient treatment are occasional users, probably often referred by the criminal justice system; 12 % use cannabis weekly or less often; about 18 % use it 2–6 times a week; and 47 % are daily users, the most problematic group. Considerable differences are observed between countries. In Hungary, Romania and Croatia, the majority of cannabis clients are occasional users, while in Belgium, Denmark, Spain, France, Malta and the Netherlands the majority are daily users ([69]). A French study, among clients of specialised counselling centres, found that 63 % of daily cannabis users were dependent (Obradovic, 2008).

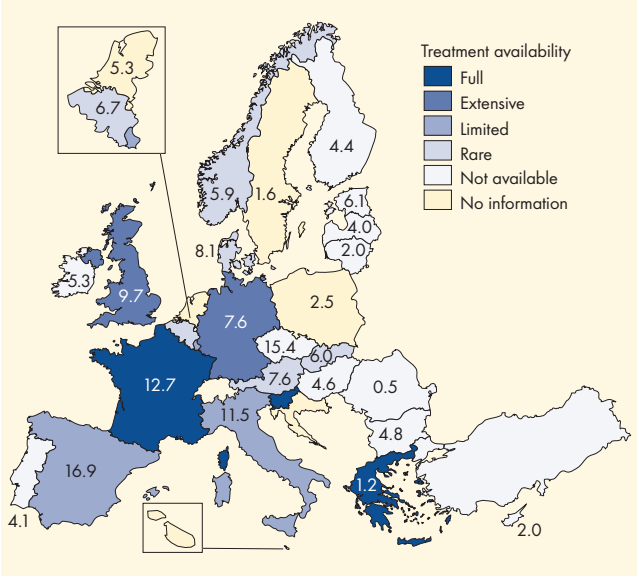
Many cannabis clients are still students and are living in stable accommodation (EMCDDA, 2008a). However, in France 34 % of cannabis clients have attended technical schools, compared to 6.8 % in the general population (Obradovic, 2008), reflecting a lower educational level.

The relationship between cannabis use and co-morbid psychiatric disorders remains an unresolved and complex question (EMCDDA, 2008a). However, studies have found that people with mental health disorders, particularly schizophrenia, have a higher risk of developing intensive cannabis use (Henquet et al., 2005). And, there is clear evidence that cannabis use can adversely affect those with pre-existing mental health problems (ACMD, 2008). It may also be relatively common for drug services to see adolescents referred for cannabis problems who have underlying mental health problems (Schroder et al., 2008). This could be because they may not seek or find appropriate treatment for their problems in generic mental health care services (Zachrisson at al., 2006).

Treatment provision

Specific treatment programmes for cannabis users can provide services tailored to the needs of this group and may also reduce the risk of young people mixing with more problematic and older drug users. In 2008, the EMCDDA collected information on the availability of such programmes in Europe. National experts reported that they existed in 13 out of 25 reporting countries (Figure 5). Availability of services varied between countries. It was estimated that: nearly all those seeking specific treatment would obtain it in France, Greece and Slovenia; more than half of them in Germany and the United Kingdom; and only a minority in the remaining eight countries. Among the 12 countries reporting that specific programmes for cannabis users do not exist, Bulgaria, the Czech Republic, Estonia, Cyprus, Romania and Turkey are planning to set them up during the next 3 years.

Figure 5: Availability of specific treatment programmes for cannabis users and last month prevalence of cannabis use (%) among 15- to 24-year-olds



NB: Availability is defined by the estimated proportion of cannabis users in need of treatment who can receive it: nearly all (full), the majority, but not nearly all (extensive), more than a few, but not the majority (limited), only a few (rare), unavailable.
Data on the availability of specific treatment programmes were provided by national experts, judging the degree to which treatment capacity matches the demand of cannabis users who actively seek treatment. Specific programmes can provide structured treatment to problem cannabis users, support to relatives, counselling to non-problem cannabis users or young offenders. Such programmes are reported to exist in the Netherlands but information on their availability is not known.
Last month prevalence of cannabis use among the 15- to 24-year-olds gives an indication of the proportion of young people who may come into contact with such programmes. It does not indicate the treatment needs or level of problem cannabis use in a country.
For more information on prevalence see Table GPS-16 in the 2009 statistical bulletin.

Sources: Reitox national focal points.

([67]) See Table TDI-21 (part ii) in the 2009 statistical bulletin.
([68]) See Table TDI-10 (part iv) and (part vi) in the 2009 statistical bulletin.
([69]) See Tables TDI-18 (part i) and TDI-111 (part viii) in the 2009 statistical bulletin.

Treatment programmes for cannabis users in Europe

In Greece, OKANA's Units for Adolescents provide an early intervention programme for experimental or occasional cannabis users, while more structured treatment is provided to intensive and problem users. The treatment is mostly based on systemic and family therapy.

In France, about 275 dedicated consultation centres, located throughout the country, provide prevention information, brief interventions and support to young drug users (mostly cannabis), young offenders and their relatives. When problem drug use (e.g. dependence) or severe co-morbidities are diagnosed, clients are referred to specialist services.

In Austria, several counselling centres (e.g. at ChEck it!, B.I.T., Clean Bregenz) implement specific concepts for young cannabis users which aim to separate them from other attendees, mainly opioid users, and integrate their relatives and friends in the counselling or treatment process.

In Germany, the Internet-based cannabis cessation programme 'Quit the shit' ([70]) has been transferred to 12 drug counselling facilities in seven federal states. FRED (see Chapter 2) offers motivational interviewing-based counselling for those referred by the criminal justice system. Candis, a treatment programme for patients with cannabis-related disorders, based on motivational enhancement, cognitive behavioural therapy and psychosocial problem solving is currently implemented in Dresden. An evaluation of this programme showed positive results and findings from an ongoing follow-up study in 10 further centres will determine whether it will be implemented elsewhere.

Belgium, Germany, France, the Netherlands and Switzerland are also collaborating in an international study named Incant, which investigates the effectiveness of a comprehensive family-based treatment for problematic cannabis use.

The scientific literature suggests that a number of psychotherapies, such as motivational and cognitive-behavioural therapies, are effective for cannabis treatment but that none has been found to be more effective than the others (Nordstrom and Levin, 2007). Some problem cannabis users may also benefit from brief interventions, delivered for example by social services for juveniles, general practitioners and schools.

A recent randomised controlled trial involving 326 young intensive cannabis users found, at either 3 or 6 months follow-up, no differences in cannabis cessation rates between those undergoing motivational interviewing and those receiving mere advice or information about drug use (McCambridge et al., 2008). Individual therapist effects and a therapist–intervention interaction, however, were detected in relation to cannabis cessation after 3 months. These findings illustrate the importance of training care providers delivering interventions to young cannabis users, especially outside of specialist services.

Internet-based treatment

Internet-based drug treatment has existed in the European Union since 2004 and its provision is still limited. A recent study provides insights into the current state of development of this type of intervention in the European Union (EMCDDA, 2009a). Internet-based treatment can be defined as 'specifically elaborated or adapted, structured and scheduled drug treatment interventions, offered in and communicated over the World Wide Web'. Interventions for treating cannabis use disorders have been identified in Germany, the Netherlands and the United Kingdom, while others designed for cocaine and 'club drug' (e.g. ecstasy) users were also found in the Netherlands.

Internet-based treatment is developed by organisations in the treatment or prevention fields and aims at helping users to assess their substance use and to assist them in their attempts to change this behaviour. Interventions provide information and knowledge tests or games about drugs and drug dependence, or drug consumption self-tests. Common to all of them is the availability of a structured treatment intervention, which is either a pre-tailored self-help programme without contact to counsellors, or a structured programme with scheduled contacts. The latter can be implemented via one-to-one chats or message boards. Contact with other users via a forum is also sometimes provided, thereby creating virtual self-help groups.

There is still a lack of available evidence on the efficacy of these types of interventions, but findings from the first randomised controlled trials point towards a potential benefit. Preliminary evaluation results of the 'Quit the shit' intervention for cannabis users in Germany has shown that 32 % of participants reported abstinence after completing the programme and that first-time treatment seekers, in particular, were reached. The low access threshold of these interventions may allow them to reach individuals who are reluctant to use other services. At the same time, they might also be confronted with severe problems, such as drug dependence or other mental health problems, which lie beyond the capacities of Internet-based treatment.

([70]) See 'Internet-based treatment'.

Chapter 4

Amphetamines, ecstasy and hallucinogenic substances

Introduction

Amphetamines (a generic term that includes both amphetamine and methamphetamine) and ecstasy are among the most commonly used illicit drugs in Europe. In terms of the absolute numbers, cocaine use may be higher, but its geographic concentration means that in many countries, after cannabis, the second most commonly used illicit substance is either ecstasy or amphetamines. Moreover, in some countries, use of amphetamines constitutes an important part of the drug problem, accounting for a substantial proportion of those in need of treatment.

Amphetamine and methamphetamine are central nervous system stimulants. Of the two drugs, amphetamine is by far the more commonly available in Europe, whereas significant methamphetamine use appears to be restricted to the Czech Republic and Slovakia.

Ecstasy refers to synthetic substances that are chemically related to amphetamines, but which differ to some extent in their effects. The best-known member of the ecstasy group of drugs is 3,4-methylenedioxy-methamphetamine (MDMA), but other analogues are also sometimes found in ecstasy tablets (MDA, MDEA). Ecstasy use was virtually unknown in Europe before the late 1980s, but increased rapidly during the 1990s. The drug's popularity has historically been linked with the dance-music scene and, in general, synthetic drug use is associated with particular cultural sub-groups or social settings.

The most widely known synthetic hallucinogenic drug in Europe is lysergic acid diethylamide (LSD), consumption of which has been low and somewhat stable for a considerable time. In recent years, there appears to have been a growing interest among young people in naturally occurring hallucinogens such as those found in hallucinogenic mushrooms.

Supply and availability

Synthetic drug precursors

Law-enforcement efforts target the controlled chemicals necessary for illicit drug production, and this area is one

Table 4: Production, seizures, price and purity of amphetamine, methamphetamine, ecstasy and LSD

	Amphetamine	Methamphetamine	Ecstasy	LSD
Global production estimate (tonnes)	230–640 [1]		72–137	n.a.
Global quantities seized (tonnes)	23.6	18.2	7.9	0.9
Quantity seized **EU and Norway** **(Including Croatia and Turkey)**	7.9 tonnes (8.1 tonnes)	340 kilograms (340 kilograms)	Tablets 21 million (22 million)	Units 68 000 (68 000)
Number of seizures **EU and Norway** **(Including Croatia and Turkey)**	39 500 (40 000)	4 500 (4 500)	23 000 (24 000)	950 (960)
Mean retail price (EUR) **Range** **(Interquartile range)** [2]	Gram 5–30 (12–23)	Gram 8–51	Tablet 3–19 (4–8)	Dose 4–30 (7–12)
Range of mean purity	4–40 %	3–66 %	21–90 mg	–

[1] Only aggregate estimates of amphetamine and methamphetamine global production are available.
[2] Range of the middle half of the reported mean prices.
NB: All data are for 2007; n.a., data not available.
Sources: UNODC World drug report (2009) for global values, Reitox national focal points for European data.

in which international cooperation is particularly valuable. 'Project Prism' is an international initiative set up to prevent the diversion of precursor chemicals used in the illicit manufacture of synthetic drugs ([71]), through a system of pre-export notifications for licit trade and the reporting of shipments stopped and seizures made when suspicious transactions occur. Information on activities in this area is reported to the International Narcotics Control Board (INCB, 2009b).

The INCB reports large increases in 2007 in world seizures of two key precursors of methamphetamine, ephedrine with 22 tonnes (compared to 10.2 tonnes in 2006), and pseudo-ephedrine with 25 tonnes (compared to 0.7 tonnes in 2006). EU Member States (mainly Sweden and Bulgaria) accounted for 0.6 tonnes of ephedrine, more than twice the amount seized in 2006, and over 7 tonnes of pseudoephedrine, almost all in France.

By contrast, global seizures of 1-phenyl-2-propanone (P2P, BMK), which can be used for the illicit manufacture of both amphetamine and methamphetamine, declined sharply in 2007 to 834 litres (compared to 2 600 litres in 2006). Seizures of P2P in the EU amounted to 582 litres, compared to 2 005 litres in 2006.

Global seizures of 3,4-methylenedioxyphenyl-2-propanone (3,4-MDP2P, PMK), used to manufacture MDMA, continued to decrease in 2007 to 2 300 litres, down from 8 800 litres in 2006. However, world seizures of safrole, which may replace 3,4-MDP2P in the synthesis of MDMA, soared in 2007, with 46 000 litres confiscated (62 litres in 2006), though only 8 litres was confiscated in the EU.

What is a drug precursor?

In the drugs field, the term 'precursor' is used to refer to substances that have licit applications, but which may also be used to manufacture drugs illicitly. Other terms, such as 'essential chemicals', may also be applied to these substances.

The legal basis for international control of 'precursors' is Article 12 of the 1988 United Nations Convention against illicit traffic in narcotic drugs and psychotropic substances. The convention establishes two tables listing 23 'substances frequently used in the illicit manufacture of narcotic drugs and psychotropic substances', whose diversion to illicit ends should be prevented.

Article 12 was transposed into the initial European legislation adopted in 1990 to discourage diversion of these substances to illicit ends (EEC No 3677/90), and regulations adopted later in order to regulate their trade within the EU (EC No 273/2004), between the EU and non-EU countries (EC No 111/2005), and establish licensing procedures and monitoring rules (EC No 1277/2005).

Category 1 of the EU regulations includes mostly substances that are indispensable for the manufacture of synthetic drugs, such as ephedrine and pseudoephedrine (for methamphetamine); 3,4-methylenedioxyphenyl-2-propanone (PMK), isosafrole and safrole (for ecstasy); and 1-phenyl-2-propanone (P2P, BMK) (for amphetamine and methamphetamine). Category 2 contains important reagents such as potassium permanganate and acetic anhydride, which are widely used to manufacture cocaine and heroin, respectively. Category 3 lists more common reagents including hydrochloric acid and sulphuric acid (for heroin and cocaine), and solvents such as acetone (for cocaine and MDMA) and toluene (for methamphetamine and MDMA).

Amphetamine

Global amphetamine production remains concentrated in Europe, which accounted for 81 % of all amphetamine laboratories reported in 2007 (UNODC, 2009), but it is also found in other parts of the world, notably North America ([72]). Global seizures of amphetamines in 2007 amounted to almost 24 tonnes, of which about two thirds was intercepted in the Near and Middle East, linked to 'Captagon' tablets ([73]) produced in south-east Europe (see Table 4). Western and central Europe accounted for 36 % of global seizures, reflecting Europe's role as both a major producer and consumer of this drug (CND, 2008; UNODC, 2009).

Most amphetamine seized in Europe is produced, in order of importance, in the Netherlands, Poland and Belgium, and to a lesser extent in Estonia and Lithuania. In 2007, 29 sites involved in the production, tableting or storage of amphetamines were discovered in the European Union and reported to Europol.

In 2007, an estimated 40 000 seizures amounting to 8.1 tonnes of amphetamine powder were made in Europe ([74]). Over the period 2002–07, the number of seizures has increased steadily while the amount of amphetamine intercepted has fluctuated, though on a generally upward trend, and reached a new high in 2007 ([75]).

([71]) See 'What is a drug precursor?'
([72]) For information on the sources of data for drug supply and availability, see p. 39.
([73]) Captagon is one of the registered trade names for fenetylline, a synthetic central nervous system stimulant, although tablets sold with this logo on the illicit market are commonly found to contain amphetamine mixed with caffeine.
([74]) This analysis is preliminary, as data for the United Kingdom are not yet available for 2007.
([75]) The data on European drug seizures mentioned in this chapter can be found in Tables SZR-11 to SZR-18 in the 2009 statistical bulletin.

The purity of amphetamine samples intercepted in Europe in 2007 varied widely and to such an extent that any comment on average values must be made with caution. Nevertheless, mean purity of samples range from less than 10 % in Denmark, Germany, France and United Kingdom to greater than 30 % in the Netherlands, Poland and some Baltic and Nordic countries. Over the past 5 years, the purity of amphetamine has been stable or falling in most of those 20 countries where sufficient data are available to allow analysis of trends.

In 2007, the mean retail price of amphetamine ranged between EUR 10 and EUR 20 a gram for over half of the 17 reporting countries. Of the 11 countries where a comparison of data for 2007 and 2006 was possible, Spain, France and Austria reported increases in the retail price, while the rest reported stable or decreasing prices.

Methamphetamine

Production of methamphetamine is concentrated in east and south-east Asia and North America, with increasing reports of related activity in Latin America and Oceania. In 2007, 18.2 tonnes of methamphetamine was seized, continuing a stable trend since 2004. Most of the drug was seized in east and south-east Asia (56 %), followed by North America, with Europe contributing with only 2 % of seizures (UNODC, 2009).

Illicit production of methamphetamine does occur in Europe, though it is largely limited to the Czech Republic, where about 390 small-scale 'kitchen laboratories' were detected in 2007. The drug is also reported to be produced in Slovakia and Lithuania.

In 2007, almost 4 500 seizures of methamphetamine, amounting to approximately 340 kg of the drug, were reported in Europe. Norway accounts for the highest number of seizures and the largest amount of methamphetamine recovered. Between 2005 and 2007, both the number and the quantity of methamphetamine seized in Europe have been increasing, though both remain low in comparison to other drugs.

Methamphetamine production in Europe: EMCDDA–Europol joint publication

In 2009, the EMCDDA and Europol launched a series of joint publications on the supply of drugs in Europe. The first report in the series provides a comprehensive overview of methamphetamine production and trafficking issues in Europe, and reviews the responses at European and international levels ([1]).

Reports on the supply of other synthetic drugs in Europe, including amphetamine and ecstasy, will be added to the series at a later stage.

([1]) Available at: http://emcdda.europa.eu/publications

Ecstasy

Global ecstasy production in 2007 is estimated by UNODC (2009) at between 72 and 137 tonnes. Production appears to have become more geographically diffuse, with manufacture occurring closer to consumer markets in North America, east and south-east Asia, and Oceania. Despite this, Europe remains the main location for ecstasy production, which is concentrated in the Netherlands, Belgium, and to a lesser extent, Germany, the United Kingdom and Poland.

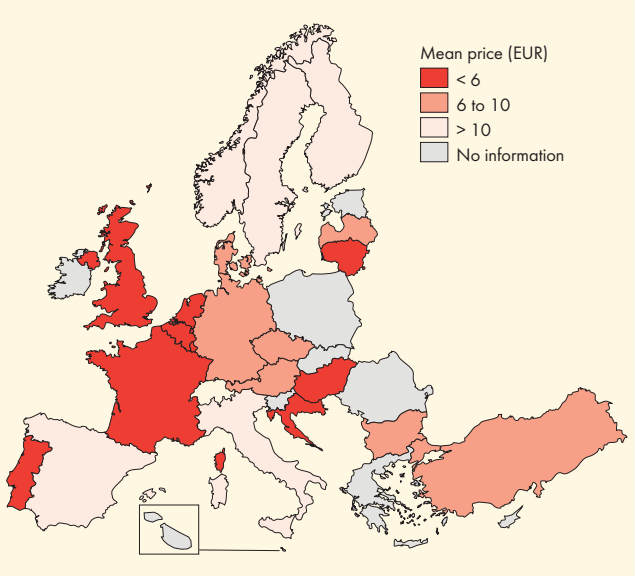
Global ecstasy seizures in 2007 reached 7.9 tonnes, with increases reported in most regions. West and central Europe accounted for 36 % of the global seizures, and south-east Europe for 2 % (UNODC, 2009). Overall, more than 24 000 seizures, resulting in the interception of an estimated 22 million ecstasy tablets were reported in Europe in 2007. The Netherlands reported the largest quantity seized, which at 8.4 million tablets represents a doubling of the quantity reported in 2006. Only two other European countries reported seizures approaching this magnitude in 2007, with France and Germany both reporting about one million tablets seized. The United Kingdom also reported seizing over 6 million tablets in 2006, but data for 2007 are not yet available.

Over the period 2002–07, the number of ecstasy seizures reported in Europe dropped sharply in 2003, but has since shown a slight increase year on year. Over the same period, the quantity seized declined to a low in 2005, but has increased again, and appears to be approaching the 2002 level.

In Europe, most ecstasy tablets analysed in 2007 contained MDMA or another ecstasy-like substance (MDEA, MDA) as the only psychoactive substance present, with 17 countries reporting that this was the case in over 70 % of all tablets analysed. Countries reporting lower proportions of ecstasy tablets with MDMA or its analogues included Bulgaria (47 %), Cyprus (44 %) and Austria (61 %). In Luxembourg, most tablets (83 %) analysed contained no controlled substance, as was the case in Cyprus (53 %). In Turkey, only 23 % of the tablets analysed were found to contain MDMA-like substances.

The typical MDMA content of ecstasy tablets tested in 2007 was between 19 and 75 mg in the 11 countries providing data. In addition, high-dose ecstasy tablets containing over 130 mg of MDMA were reported by

Figure 6: Retail price of ecstasy tablets



NB: Countries which only provided a minimum and maximum value have been included if those values fall within one of the ranges. See Table PPP-4 in the 2009 statistical bulletin.
Sources: Reitox national focal points.

some countries (Bulgaria, France, Netherlands, Slovakia, Norway). There are no clear trends in the purity of ecstasy tablets.

Ecstasy is now considerably cheaper than it was in the 1990s, when it first became widely available. While there are some reports of tablets being sold for less than EUR 2, most countries are reporting mean retail prices in the range of EUR 4–10 per tablet (Figure 6). The data available for 2002–07 suggest that the retail price, adjusted for inflation, has continued to fall.

Hallucinogenic substances

LSD use and trafficking in Europe is still considered marginal. The data available indicate a decline in quantities seized over the period 2002–07, while the number of seizures increased slightly between 2003 and 2007. LSD retail prices (adjusted for inflation) have been slightly declining since 2003, and in 2007 the mean value ranged between EUR 5 and EUR 12 per unit for the majority of reporting countries.

Hallucinogenic mushrooms, which grow wild in many European countries and may be purchased on the Internet, were mentioned by 11 of the 28 countries reporting drug seizures for 2007. In five of the six countries reporting a trend in either seizures, prevalence of use or availability of hallucinogenic mushrooms, the trend was downward. One country (France) reported an increase in prevalence of use and seizures, which was attributed to the availability of mushrooms and mushroom growing kits from the Internet.

Prevalence and patterns of use

Relatively high levels of amphetamines or ecstasy use among the general population are reported by some EU Member States (Czech Republic, Estonia, United Kingdom). In a few countries, the use, often by injection, of amphetamine or methamphetamine accounts for a substantial proportion of the overall number of problem drug users and those seeking help for drug problems. In contrast to these chronic user populations, a more general association exists between the use of synthetic drugs, ecstasy in particular, and nightclubs and dance events; this results in significantly higher levels of use being reported among young people, and exceedingly high levels of use being found in some settings or specific sub-populations. Finally, the overall consumption levels of hallucinogenic drugs such as lysergic acid diethylamide (LSD) and hallucinogenic mushrooms are generally low and have been largely stable in recent years.

Amphetamines

Recent population surveys indicate that lifetime prevalence of the use of amphetamines ([76]) in Europe varies between countries, from nearly zero to 11.7 % of all adults (15–64 years). On average, it is estimated that 3.5 % of all European adults have used amphetamines at least once. Last year use of the drug is much lower, with a European average of 0.5 %. These estimates suggest that around 12 million Europeans have tried amphetamines, and about 2 million have used the drug during the last year (see Table 5 for a summary of the data).

Among young adults (15–34 years), lifetime prevalence of amphetamines use varies considerably between countries, from 0.1 % to 15.3 %, with a weighted European average of about 5 %. Last year use of amphetamines in this age group ranges from 0.1 % to 3.1 %, with the majority of countries reporting prevalence estimates of between 0.5 % and 2.0 %. It is estimated that, on average, 1.1 % of young Europeans have used amphetamines during the last year.

Among 15- to 16-year-old school students, lifetime prevalence of amphetamines use ranges from 1 % to 8 % in the 26 EU Member States, Norway and Croatia, surveyed in 2007, though prevalence levels of more than 5 % were reported only for Bulgaria, Latvia (both 6 %) and Austria (8 %) ([77]).

([76]) Survey data on 'amphetamine use' often do not distinguish between amphetamine and methamphetamine, though, as use of methamphetamine is uncommon in Europe, prevalence should typically reflect the use of amphetamine (sulphate or dexamphetamine).
([77]) Data from all ESPAD countries and Spain. See Figure EYE-2 (part vi) in the 2009 statistical bulletin.

Table 5: Prevalence of amphetamines use in the general population — summary of the data

Age group	Time frame of use	
	Lifetime	Last year
15–64 years		
Estimated number of users in Europe	12 million	2 million
European average	3.5 %	0.5 %
Range	0.0–11.7 %	0.0–1.3 %
Lowest-prevalence countries	Romania (0.0 %) Greece (0.1 %) Malta (0.4 %) Cyprus (0.8 %)	Greece, Malta, Romania (0.0 %) France (0.1 %)
Highest-prevalence countries	United Kingdom (11.7 %) Denmark (6.3 %) Spain (3.8 %) Norway (3.6 %)	Estonia (1.3 %) Denmark (1.2 %) Norway (1.1 %) United Kingdom (1.0 %)
15–34 years		
Estimated number of users in Europe	7 million	1.5 million
European average	5.0 %	1.1 %
Range	0.1–15.3 %	0.1–3.1 %
Lowest-prevalence countries	Romania (0.1 %) Greece (0.2 %) Malta (0.7 %) Cyprus (0.8 %)	Greece, Romania (0.1 %) France (0.2 %) Cyprus (0.3 %)
Highest-prevalence countries	United Kingdom (15.3 %) Denmark (10.5 %) Latvia (6.1 %) Norway (5.9 %)	Denmark (3.1 %) Estonia (2.9 %) Norway (2.0 %) Latvia (1.9 %)

European prevalence estimates are based on weighted averages from the most recent national surveys conducted from 2001 to 2008 (mainly 2004–08), therefore they cannot be attached to a single year. The average prevalence for Europe was computed by a weighted average according to the population of the relevant age group in each country. In countries for which no information was available, the average EU prevalence was imputed. Populations used as basis: 15–64 (334 million) and 15–34 (133 million). The data summarised here are available under 'General population surveys' in the 2009 statistical bulletin.

Problem amphetamine use

The EMCDDA indicator on problem drug use can be applied to amphetamine use, where it defines as such the injecting or long duration and/or regular use of the substance. Only Finland has provided a recent national estimate of problem amphetamine users, estimated at between 12 000 and 22 000 in 2005 ([78]), which is about four times the estimated number of problem opioid users in the country.

The number of reported treatment demands relating to the use of amphetamine as the primary drug is relatively small in most European countries, but accounts for a sizeable proportion of reported treatment entries mainly in Sweden (34 %), Finland (23 %), Latvia (16 %) and Hungary (11 %). Four other countries (Belgium, Denmark, Germany, Netherlands) report between 6 % and 10 % of treatment entries from clients citing amphetamine as their primary drug; elsewhere the proportion is less than 3 % ([79]).

The overall number and proportion of amphetamine users among new clients entering drug treatment have remained broadly stable between 2002 and 2007. Only Denmark, Latvia and the Netherlands report significant increases, while Sweden and Finland report a decrease in the proportion of new amphetamines clients ([80]). However, methodological limitations should be considered when looking at trend data, due to recent changes in some national monitoring systems (e.g. Latvia).

The mean age of amphetamine users entering treatment is 29 years. The proportion of women is higher than for other drugs, with a male to female ratio of about 2:1.

([78]) Equivalent to 3.4 to 6.3 cases per 1 000 aged 15–64 years; recalculated from the original sample aged 15–54, assuming no cases in the 55–64 age group.
([79]) See Table TDI-5 (part ii) in the 2009 statistical bulletin.
([80]) See Figure TDI-1 and Table TDI-36 in the 2009 statistical bulletin.

Amphetamine users in treatment frequently report the use of other drugs, mainly cannabis and alcohol, and sometimes opioids ([81]). In those countries where primary amphetamine users make up a high proportion of those entering treatment, injection is the most frequently reported method of use (63–83 %).

Problem methamphetamine use

In contrast to other parts of the world, where the use of methamphetamine has increased in recent years, levels of its use in Europe appear limited. Historically, use of this drug in Europe has been concentrated in the Czech Republic and Slovakia. In 2007, the number of problem methamphetamine users in the Czech Republic was estimated to be approximately 20 400–21 400 (2.8 to 2.9 cases per 1 000 aged 15–64 years), twice the estimated number of problem opioid users; and in Slovakia, approximately 5 800–15 700 (1.5 to 4.0 cases per 1 000 aged 15–64 years), around 20 % fewer than the estimated number of problem opioid users.

In both of these countries, methamphetamine is reported as the primary drug by a large proportion of clients entering treatment: 61 % in the Czech Republic and 26 % in Slovakia. Between 2002 and 2007, the demand for treatment related to methamphetamine use has been increasing in both countries ([82]).

Injection is the most commonly reported means of administration reported by methamphetamine users in treatment (82 % in Czech Republic, 41 % in Slovakia). Use of other drugs is also often reported, mainly cannabis, alcohol and opioids. In Slovakia, a sharp increase has been noted in the number of recipients of opioid substitution treatment reporting the use of methamphetamine.

Methamphetamine users entering treatment in the Czech Republic and Slovakia are relatively young, on average 24–25 years, and predominantly male. Women, however, make up a higher proportion of those in treatment for problems related to methamphetamine than for other drugs.

Ecstasy

It is estimated that about 10 million European adults have tried ecstasy (3.1 % on average) and that about 2.5 million (0.8 %) have used it in the last year (see Table 6 for a summary of the data). Considerable variation exists between countries, with recent surveys suggesting that between 0.3 % and 7.5 % of all adults (15–64 years) have ever tried the drug, and with most countries reporting lifetime prevalence estimates in the range 1–5 %. Last year use of the drug varies across Europe, from 0.1 % to 3.5 %. On all measures, and as with most other illicit drugs, reported use is far higher among males than among females.

Ecstasy consumption is much more common among young adults (15–34 years), where lifetime prevalence estimates ranged at national level from 0.6 % to 14.6 %, with between 0.2 % and 7.7 % of this age group reporting last year use of the drug. It is estimated that 7.5 million young Europeans (5.6 %) have ever tried ecstasy, with around 2 million (1.6 %) using it during the last year. Estimates of prevalence are higher still if attention is restricted to a younger age band: among the 15–24 age group, lifetime prevalence ranges from 0.4 % to 18.7 %, though most countries report estimates in the 2.1–6.8 % range. Last year use of ecstasy among this age group is estimated at between 1.0 % and 3.9 % in the majority of countries, though there is a considerable difference between the lowest national estimate at 0.3 % and the highest at 12 % ([83]).

Among 15- to 16-year-old school students, lifetime prevalence of ecstasy use ranges from 1 % to 5 % in most of the 28 countries surveyed in 2007. Only four countries report higher prevalence levels: Bulgaria, Estonia, Slovakia (all 6 %) and Latvia (7 %).

The number of primary ecstasy users entering treatment in 2007 remained trivial. In two thirds of the countries, ecstasy is mentioned by less than 1 % of drug clients; elsewhere, the proportion varies between 1 % and 5 %. With an average age of 24 years, ecstasy clients are among the youngest groups entering drug treatment and often report the concomitant use of other substances, including cannabis, cocaine, alcohol and amphetamines ([84]).

LSD and hallucinogenic mushrooms

Lifetime prevalence of LSD use among the adult population (15–64 years) ranges from almost zero to 5.2 %. Among young adults (15–34 years), lifetime prevalence estimates are a little higher (zero to 6.6 %), although much lower prevalence ranges are reported for last year use and among the 15- to 24-year-olds ([85]). In contrast, in the few countries providing comparable data, the use of LSD is often exceeded by that of hallucinogenic mushrooms,

([81]) See Table TDI-37 in the 2009 statistical bulletin.
([82]) See Table TDI-5 (part ii) in the 2009 statistical bulletin.
([83]) See Figure GPS-9 (part ii) and Tables GPS-17 and GPS-18 in the 2009 statistical bulletin.
([84]) See Tables TDI-5 and TDI-37 (part i), (part ii) and (part iii) in the 2009 statistical bulletin.
([85]) See Tables GPS-8 (part i), GPS-9, GPS-11 and GPS-17 in the 2009 statistical bulletin.

Table 6: Prevalence of ecstasy use in the general population — summary of the data

Age group	Time frame of use	
	Lifetime	Last year
15–64 years		
Estimated number of users in Europe	10 million	2.5 million
European average	3.1 %	0.8 %
Range	0.3–7.5 %	0.1–3.5 %
Lowest-prevalence countries	Romania (0.3 %) Greece (0.4 %) Malta (0.7 %) Lithuania (1.0 %)	Romania (0.1 %) Greece, Malta (0.2 %) Poland (0.3 %)
Highest-prevalence countries	United Kingdom (7.5 %) Czech Republic (7.1 %) Ireland (5.4 %) Latvia (4.7 %)	Czech Republic (3.5 %) Estonia (1.7 %) Slovakia (1.6 %) United Kingdom, Latvia (1.5 %)
15–34 years		
Estimated number of users in Europe	7.5 million	2 million
European average	5.6 %	1.6 %
Range	0.6–14.6 %	0.2–7.7 %
Lowest-prevalence countries	Greece, Romania (0.6 %) Malta (1.4 %) Lithuania, Poland (2.1 %)	Romania (0.2 %) Greece (0.4 %) Poland (0.7 %) Italy, Lithuania, Portugal (0.9 %)
Highest-prevalence countries	Czech Republic (14.6 %) United Kingdom (12.7 %) Ireland (9.0 %) Latvia (8.5 %)	Czech Republic (7.7 %) Estonia (3.7 %) United Kingdom (3.1 %) Latvia, Slovakia, Netherlands (2.7 %)

European prevalence estimates are based on weighted averages from the most recent national surveys conducted from 2001 to 2008 (mainly 2004–08), therefore they cannot be attached to a single year. The average prevalence for Europe was computed by a weighted average according to the population of the relevant age group in each country. In countries for which no information was available, the average EU prevalence was imputed. Populations used as basis: 15–64 (334 million) and 15–34 (133 million). The data summarised here are available under 'General population surveys' in the 2009 statistical bulletin.

where lifetime prevalence estimates for young adults range from 0.3 % to 8.3 %, and last year prevalence estimates between 0.2 % and 2.8 %.

Among 15- to 16-year-old school students, prevalence estimates for the use of hallucinogenic mushrooms are higher than those for LSD and other hallucinogens in 10 of the 26 countries reporting data on these substances. Most countries report lifetime prevalence estimates for the use of hallucinogenic mushrooms of between 1 % and 4 %, with Slovakia (5 %) and the Czech Republic (7 %) reporting higher levels ([86]).

Trends in the use of amphetamines and ecstasy

The stabilising or even downward trends in amphetamine and ecstasy consumption in Europe, noted in previous

EMCDDA 'Selected issue' on polydrug use

Alongside the 2009 annual report, the EMCDDA is publishing a 'Selected issue' on polydrug use. The document reviews the available definitions of this very common pattern of drug use and presents data which allow a better understanding of the prevalence and characteristics of polydrug use in different populations (school-aged children, adults, problem drug users). Existing interventions that target this phenomenon in the prevention, treatment and harm-reduction fields are also described. The report also includes a brief overview of the risks associated with some of the most common drug mixtures and a discussion on monitoring polydrug use in the future.

This 'Selected issue' is available in print and on the Internet in English only (http://www.emcdda.europa.eu/publications/selected-issues/polydrug-use).

([86]) Data from ESPAD for all countries but Spain. See Figure EYE-2 (part v) in the 2009 statistical bulletin.

reports, are supported by the most recent data. After general increases in the 1990s, population surveys now point to an overall stabilisation, or even moderate decrease, in the popularity of both drugs, although this pattern is not seen in all countries.

Last year use of amphetamine among young adults (15–34) in the United Kingdom has declined substantially from 6.2 % in 1998 to 1.8 % in 2008. In Denmark, amphetamine use increased from 0.5 % in 1994 to 3.1 % in 2000, with a similar figure in 2008 ([87]). Among the other countries reporting repeated surveys over a similar time span (Germany, Greece, Spain, France, Netherlands, Slovakia, Finland), the trends are largely stable (Figure 7). During the 5-year period 2002–07, of the 11 countries with sufficient data on last year prevalence of amphetamine use among the 15–34 age group, four report a decrease of at least 15 % of the initial value, three report stabilisation and four report an increase.

For ecstasy use among young adults (15–34), the picture is more mixed. After general increases in use in some European countries in the late 1980s and early 1990s, leading to similar levels of ecstasy use in Germany, Spain and the United Kingdom in the mid-1990s, last year prevalence of use has decreased to an estimated European average of 1.6 %. Among countries with more recent surveys, prevalence remains higher in the United Kingdom compared to other countries ([88]). Over the 5-year period 2002–07, last year prevalence of ecstasy use among young adults decreased by at least 15 % of the initial value in three of the 11 countries providing sufficient information, while it remained stable in four countries and increased in four.

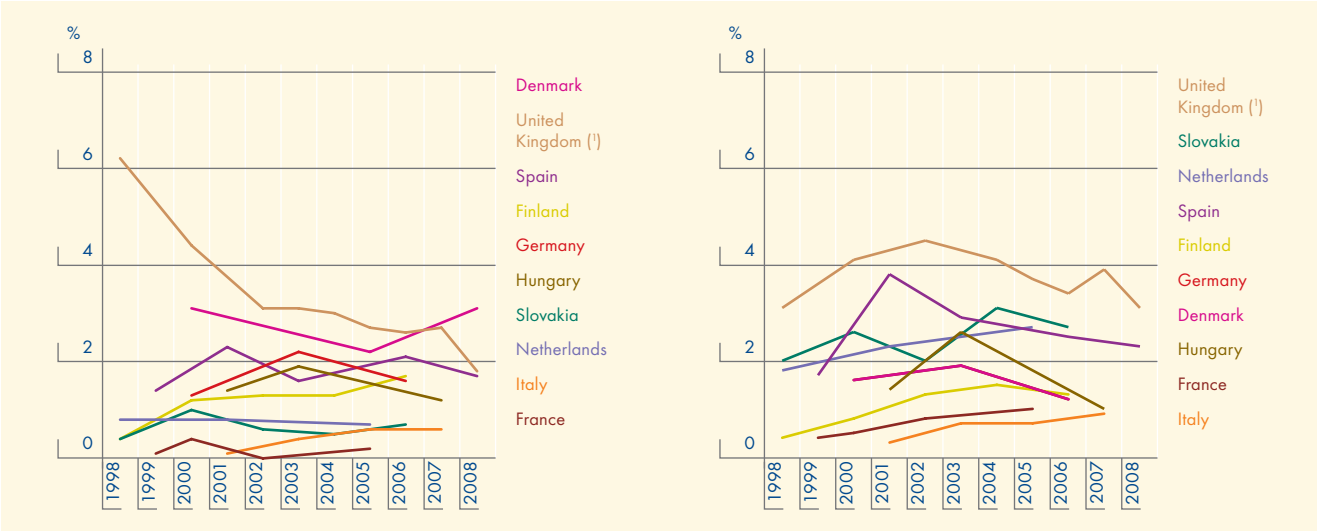
Cocaine could be replacing amphetamines and ecstasy in some countries and among some sectors of the drug-using population. This hypothesis can be illustrated in the United Kingdom and, to some extent, in other countries (e.g. Denmark, Spain), where concurrent increases in cocaine consumption and decreases in the use of amphetamines have been observed (EMCDDA, 2008b).

ESPAD and other school surveys conducted in 2007 suggest, overall, little change in the levels of experimentation with amphetamine and ecstasy among students aged 15 to 16 years. Considering differences of at least two percentage points between 2003 and 2007, lifetime prevalence of amphetamine use increased in nine countries. By the same measure, ecstasy use increased in seven countries. A decrease in lifetime prevalence of amphetamine use was observed only in Estonia, while Czech Republic, Portugal, Croatia reported a decrease in ecstasy use.

Amphetamines and ecstasy in recreational settings: use and interventions

Drug and alcohol use is sometimes associated with certain recreational settings where young people congregate (e.g. dance events, music festivals). Studies on drug use in these settings can provide a window on the behaviour of those

Figure 7: Trends in last year prevalence of use of amphetamines (left) and ecstasy (right) among young adults (aged 15–34)



(1) England and Wales.
NB: Only data for countries with at least three surveys in the period 1998 to 2008 are presented. See Figures GPS-8 and GPS-21 in the 2009 statistical bulletin for further information.
Sources: Reitox national reports, taken from population surveys, reports or scientific articles.

([87]) In Denmark in 1994 the information refers to 'hard drugs', which was considered mainly amphetamines.
([88]) See Figure GPS-21 in the 2009 statistical bulletin.

using amphetamines and ecstasy or other drugs such as ketamine and GHB. Estimates of drug use in these settings are typically high, but are not generalisable to the wider population, and much of the drug use tends to occur on weekends and during holiday periods (EMCDDA, 2006b).

Prevalence data from studies conducted in recreational settings in 2007 are available from five countries (Belgium, Czech Republic, Latvia, Lithuania, Austria). Lifetime prevalence estimates ranged from 15 % to 71 % for ecstasy use and from 17 % to 68 % for amphetamines. Four of these studies also reported lifetime prevalence estimates for hallucinogenic mushrooms, ranging from 4 % to 64 %. Frequent use of ecstasy or amphetamines can also be found in these settings but it is generally much lower.

An indication of the extent to which the use of these drugs may be concentrated among the young, club-going population can be gleaned from the 2007/08 British Crime Survey. Among 16- to 24-year-olds, those who reported visiting a nightclub four or more times in the last month were more than three times as likely to have used ecstasy (8 %) in the last year than those not attending nightclubs (2.3 %) (Hoare and Flatley, 2008).

The health and safety of people who attend nightclubs and use drugs is a growing public health concern. Guidelines, such as the 'Safer dancing' guidelines developed in the United Kingdom, have become an important tool in this field. However, while 12 countries now report having developed such guidelines for nightlife venues, only the Netherlands, Slovenia, Sweden and the United Kingdom report that they are monitored and enforced.

Safe-clubbing guidelines aim to reduce opportunities for drug-related problems to occur and include the accessibility of free cold water, immediate availability of first aid, and outreach prevention work. Reports on the availability of such measures, in nightclubs with sufficiently large target populations for the intervention to be implemented, were provided by national experts. Overall, it shows the limited availability of simple measures to prevent or reduce health risks and drug use in European nightlife settings. Outreach prevention work is reported to be available in the majority of relevant nightclubs only in Lithuania and Slovenia and in a minority of nightclubs in 18 countries. It does not exist in six countries. Five countries report immediate availability of first aid in the majority of relevant nightclubs (Luxembourg, Portugal, Slovenia, United Kingdom, Norway); the measure is available only in a minority of relevant nightclubs in 15 countries, and is unavailable in Greece and Sweden. Finally, free cold water is available in the majority of relevant nightclubs in 11 countries and in a minority of them in nine countries. This measure is not available in Greece, Cyprus and Romania.

Treatment

Users of amphetamines generally receive treatment in outpatient drug services which, in countries with histories of significant levels of the use of amphetamines, can be specialised in treating this type of drug problem. Treatment for the most problematic users of amphetamines may be provided in inpatient drug services or in psychiatric clinics or hospitals.

Specific treatment programmes for problem amphetamines users are reported in nine countries (Germany, Estonia, Spain, Italy, Austria, Portugal, Slovenia, Slovakia, United Kingdom). The availability of these programmes varies between countries. Only three of these countries (Portugal, Slovenia, United Kingdom) report that specialised programmes are available to the majority of amphetamines users who actively seek treatment. In the other six countries, national experts estimate that specialised amphetamines treatment is available to less than half of the users seeking it. The content of these specific programmes for users of these drugs is often not well documented.

Therapeutic options with robust evidence of effectiveness are generally lacking to guide the treatment of dependence on psychostimulants, such as amphetamines. Promising results have been reported for recent investigations on pharmacological agents to manage abstinence or reduce the cravings associated with amphetamines dependence, which up to now have been lacking. A Finnish study on the use of methylphenidate and aripiprazole reported positive initial results, with those who received methylphenidate producing fewer amphetamine-positive urine samples than those receiving aripiprazole or a placebo (Tiihonen et al., 2007). And, a recent literature review showed positive results both for methylphenidate and dexamphetamine in the treatment of methamphetamine dependence (Elkashef et al., 2008).

Dexamphetamine has long been available for the treatment of highly problematic users of amphetamines in England and Wales, where it may be prescribed by any doctor. However, information on this practice in the United Kingdom is limited. A survey of pharmacy services conducted over 10 years ago estimated that 900 to 1 000 clients were receiving this treatment (Strang and Sheridan, 1997). Most prescriptions were issued by doctors working in hospitals or clinics, and almost

all from doctors working in the National Health Service (NHS). A survey of 265 NHS specialist services, carried out in 2000, revealed that dexamphetamine prescribing was available in about one third of the services surveyed (Rosenberg et al., 2002). However, the United Kingdom guidelines on clinical management of drug dependence recommend against substitute prescribing of dexamphetamine, due to a lack of demonstrated effectiveness (NTA, 2007).

As yet, no one psychosocial intervention has shown strong evidence of effectiveness in helping psychostimulant users to maintain abstinence. In the literature, the interventions that have demonstrated the most efficacy in treating users of stimulant drugs are cognitive behavioural approaches such as relapse prevention. The effectiveness of other types of intervention is not well supported. The literature is particularly hindered by the paucity of well-conducted studies among primary amphetamine users, especially treatment outcome studies (Baker et al., 2004). Furthermore, a recent Cochrane review on psychosocial interventions for psychostimulant dependence concluded that consistent, positive behavioural results (retention in treatment, reduction in drug consumption) have been observed only in interventions that included contingency management as a component. However, this approach is rarely used in Europe, though there have been some pilot projects (see Chapter 5).

Further research into psychosocial and pharmacological treatment for those with problems related to the use of amphetamines, especially injectors, is needed. Current treatment practices and treatment coverage in Europe also needs to be better documented, and much remains to be done in the sharing of best practice. The lack of dedicated programmes might be failing to encourage amphetamine or methamphetamine users to seek treatment, especially at early stages of use. In addition, the availability of such programmes could help bring more users into treatment; as was found for problem cannabis users in Germany and France, when these countries expanded the availability of dedicated treatment programmes. Such measures may be particularly useful in those countries that have recently seen a growth in the numbers of problem amphetamine and methamphetamine users, especially injectors (Talu et al., 2009).

Chapter 5
Cocaine and crack cocaine

Introduction

An overall increase in cocaine use and cocaine seizures has been observed in the European Union during the last decade, although this has been largely confined to western Member States, and major differences exist between countries. The data available also indicate considerable diversity among cocaine users, both in terms of patterns of use and in terms of sociodemographics. Those who only experiment with the substance on one or a few occasions make up the largest group. Another group includes socially integrated regular users who, in some countries, account for a relatively large number of young people. Some of them will intensify their use of cocaine, or use it over a long period, which may lead to chronic health and social problems and to the need for treatment. A third set of users includes members of socially excluded groups, including current and former opioid users. Most of them have intensive patterns of cocaine use, possibly using crack or injecting the drug, which may perpetuate or exacerbate existing health and social problems, and may complicate their treatment for opioid use. Because of the diversity of profiles among cocaine users, assessing the prevalence of the drug's use, its health and social consequences and the necessary responses presents a unique set of challenges.

Supply and availability

Production and trafficking

Cultivation of coca bush, the source of cocaine, continues to be concentrated in a few countries in the Andean region ([89]). The UNODC (2009) estimated for the year 2008 that the total cultivation of coca bush translated into a potential production of 845 tonnes of pure cocaine hydrochloride, with Colombia accounting for 51 %, Peru 36 % and Bolivia 13 %. Global cocaine production is estimated to have fallen by 15 % in 2008, mainly due to falling cocaine production in Colombia — from 600 tonnes in 2007 to 430 tonnes in 2008. Cocaine production in Peru and Bolivia, in contrast, continued to increase slightly.

Most of the process to convert coca leaves into cocaine hydrochloride remains located in Colombia, Peru and

Table 7: Production, seizures, price and purity of cocaine and crack cocaine

	Cocaine	Crack ([1])
Global production estimate (tonnes)	845	n.a.
Global quantities seized (tonnes)	710 ([2])	0.8
Quantity seized (tonnes) **EU and Norway** **(Including Croatia and Turkey)**	 76.4 (76.7)	 0.08 (0.08)
Number of seizures **EU and Norway** **(Including Croatia and Turkey)**	 91 400 (92 000)	 9 500 (9 500)
Mean retail price (EUR per gram) **Range** **(Interquartile range)** ([3])	 44–88 (58–67)	 20–112
Range of mean purity (%)	22–57	35–98

([1]) Due to the small set of countries reporting information, data should be interpreted with caution.
([2]) UNODC estimates this figure to be equivalent to 412 tonnes of pure cocaine.
([3]) Range of the middle half of the reported mean prices.
NB: All data for 2007, except global production estimates which are for 2008; n.a., data not available.
Sources: UNODC World drug report (2009) for global values, Reitox national focal points for European data.

([89]) For information on the sources of data for drug supply and availability, see p. 39.

Bolivia, although it may also occur in other South American countries. Colombia's importance in the production of cocaine is corroborated by information on laboratories dismantled and seizures of potassium permanganate, a chemical reagent used in the synthesis of cocaine hydrochloride. In 2007, 2 471 cocaine laboratories were dismantled (78 % of the world total) and a total of 144 tonnes of potassium permanganate was seized in Colombia (94 % of global seizures) (INCB, 2009a).

The available information suggests that cocaine continues to be trafficked to Europe via different routes (EMCDDA, 2008d). Cocaine consignments transit through South and Central American countries, such as Argentina, Brazil, Ecuador, Mexico and Venezuela, before reaching Europe. Caribbean countries are also frequently used in the transhipment of the drug to Europe. On these routes, cocaine is smuggled through commercial flights or by sea. In recent years, an alternative route through West Africa has been identified. From there, cocaine is often transported to Europe by fishing and sailing vessels, though trafficking by air or overland through north Africa has also been reported (Europol, 2007).

Other transiting countries have also been mentioned in recent years. These include South Africa, Russia, but also countries in central and eastern Europe, where the number of cocaine seizures increased from an estimated 412 cases in 2002 to 1 065 in 2007. Belgium, Spain, France, Italy, the Netherlands, Portugal and the United Kingdom have been mentioned as important transit countries for cocaine shipments inside Europe.

Laws to counter drug trafficking in the high seas

Success in disrupting drug trafficking at sea relies on cooperation between states, and this is facilitated by two international conventions.

Under Article 108 of the International Convention on the Law of the Sea (1982), a state that suspects that a ship flying its flag ([1]) is involved in drug trafficking can request the help of other states to suppress such trafficking. Further cooperation is envisaged under Article 17 of the 1988 UN Convention against trafficking. This convention establishes a mechanism that allows any state, having reasonable grounds for suspecting that a ship registered in another country is engaged in drug trafficking, to request the ship's flag state for permission to board the vessel, search for and seize any drugs, and subsequently prosecute the offenders. These acts may take place anywhere outside territorial waters. Competent national authorities are nominated to act as contact points, permanently on-call, in order to reply to such requests as soon as possible. Requests may be granted, granted with conditions or refused. The interdiction can be carried out only by warships or military aircraft, or other ships or aircraft clearly identifiable as being on government service and authorised to that effect.

The actual boarding and subsequent actions are carried out by a team of law enforcement officers from the requesting state, known as a law enforcement detachment (LEDET). When coordinated by intergovernmental agencies such as MAOC-N (Maritime Analysis Operations Centre — Narcotics), a LEDET is sometimes carried by the warship of another country. In this case, to comply with the identification requirement, helicopters and small boats used during the boarding operation will temporarily fly the flag of the LEDET's state rather than that of their warship.

([1]) Jurisdiction over a ship and its crew is assumed by the state in which the vessel is registered (the 'flag state').

Seizures

Cocaine is the most trafficked drug in the world after herbal cannabis and cannabis resin. In 2007, global seizures of cocaine remained stable at about 710 tonnes. South America continued to report the largest amount seized, accounting for 45 % of the global figure, followed by North America with 28 %, and west and central Europe with 11 % (UNODC, 2009).

In Europe, the number of cocaine seizures has been on the increase for the last 20 years, and more notably since 2003. In 2007, the number of cocaine seizures increased to 92 000 cases, though the total quantity recovered dropped to 77 tonnes, down from 121 tonnes in 2006. The fall in the total amount of cocaine seized is largely accounted for by Portugal, and to a lesser extent Spain and France, reporting smaller quantities seized in 2007 compared to the previous year ([90]). In 2007, Spain continued to be the country reporting both the largest quantity of cocaine seized and the highest number of seizures of the drug — about half of the total — in Europe.

Purity and price

The mean purity of cocaine in Europe ranged between 22 % and 57 % in 2007 ([91]). Most of the countries with sufficient data for analysis of trends over time report a decline in the purity of cocaine over the period 2002–07, with the exception of Spain and Portugal.

In 2007, the mean retail price of cocaine ranged from EUR 44 to EUR 88 per gram among the 19 countries reporting data, with about half of them reporting mean prices of between EUR 58 and EUR 67 per gram. For those countries reporting sufficient data to make a comparison, cocaine sold on the street became cheaper between 2002 and 2007.

([90]) See Tables SZR-9 and SZR-10 in the 2009 statistical bulletin.

Understanding falling cocaine prices in Europe

Since 2000, cocaine prices adjusted for inflation have been falling in Europe, while the demand for this substance has increased, as shown by the prevalence of cocaine use in the general population and among problem drug users. This counter-intuitive finding could be explained by several factors. An increase in the supply of cocaine to Europe, reflected in rising volumes of seizures, is certainly a key factor here. The search for an alternative to the United States' market, by South American cocaine traffickers, may be a 'push' factor driving the increased targeting of the European market. Additionally, a 'pull' factor may have been the growing demand for cocaine in Europe. The increased volume of European cocaine consumption together with the relative strength of European currencies compared to the US dollar could have compensated for declining prices and, possibly, smaller profit margins.

Other factors, however, might also have influenced the price of cocaine. Technological developments and the use of new trafficking routes, such as the West African route, where drug control is poorly enforced and which provides low-paid traffickers, could have led to a decrease in transportation costs and a reduction of trafficking risks. More competition inside the cocaine market (Desroches, 2007) might also have influenced the drug's price in Europe.

The lack of data in this area makes this analysis necessarily speculative and underlines the importance of obtaining a better understanding of the factors that influence Europe's drug market. The EMCDDA is committed to continue developing collaborations and research in this area.

Prevalence and patterns of use

Cocaine use among the general population

Overall, cocaine remains the second most used illicit drug in Europe, after cannabis, though levels of use vary greatly between countries. It is estimated that around 13 million Europeans have used it at least once in their lifetime, on average 3.9 % of adults aged 15–64 years (see Table 8 for a summary of the data). National figures vary from 0.1 % to 8.3 %, with 12 out of 23 countries, including most central and eastern European countries, reporting low levels of lifetime prevalence among all adults (0.5–2 %).

It is estimated that around 4 million Europeans have used the drug in the last year (1.2 % on average), although again with variation between countries. Recent national surveys report last year prevalence estimates of between zero and 3.1 %; though in 18 out of 24 countries levels of use do not exceed 1 %. The prevalence estimate for last month cocaine use in Europe represents about 0.4 % of the adult population or around 1.5 million individuals. These estimates are likely to be conservative.

Overall, cocaine use appears to be concentrated in a few countries, notably Denmark, Spain, Italy, Ireland and the United Kingdom, while use of the drug remains relatively low elsewhere in Europe. In countries where amphetamines dominate the market in illicit stimulant drugs, estimates of cocaine use are low in nearly all cases. Conversely, in most countries where cocaine is the main illicit stimulant, low levels of amphetamine use are reported.

Only a small proportion of those who have used cocaine at least once in their life appear to develop intensive patterns of use. Data from general population surveys suggest high discontinuation rates among cocaine users. In countries where lifetime prevalence is above 2 %, most adults who have ever used cocaine (80–95 %) have not used it within the last month ([92]).

Cocaine use among young adults

In Europe, it is estimated that 7.5 million young adults (15–34 years), or an average of 5.6 %, have used cocaine at least once in their life. National figures vary from 0.1 % to 12.0 %. The European average for last year use of cocaine among this age group is estimated at 2.2 % (3 million) and for last month use at 0.8 % (1 million).

Use is particularly high among young males (15–34 years), with last year prevalence of cocaine use reported at between 4.2 % and 7.7 % in Denmark, Spain, Ireland, Italy and the United Kingdom ([93]). In most countries, the male to female ratio for last year prevalence of cocaine use among young adults is at least 2:1.

Last year prevalence of cocaine use among 15- to 24-year-olds is estimated at 2.2 %, which translates into 1.5 million users in Europe. In contrast to the prevalence estimates for cannabis or ecstasy use, which are highest among the 15–24 age group, measures of more recent cocaine use (last year and last month) are similar among the 15–34 and the 15–24 age groups ([94]).

Cocaine use is also associated with alcohol use and certain lifestyles. For example, an analysis of data from the 2007/08 British Crime Survey found that among 16- to 24-year-olds who made nine or more visits to a pub in the last month, 13.5 % report last year use of cocaine, compared with 1.7 % among those who had

([91]) For purity and price data, see Tables PPP-3 and PPP-7 in the 2009 statistical bulletin.
([92]) See Figure GPS-16 in the 2009 statistical bulletin.
([93]) See Figure GPS-13 in the 2009 statistical bulletin.
([94]) See Figure GPS-15 and Tables GPS-14, GPS-15 and GSP-16 for all years; Tables GPS-17, GPS-18 and GPS-19 for latest data in the 2009 statistical bulletin.

Table 8: Prevalence of cocaine use in the general population — summary of the data

Age group	Time frame of use		
	Lifetime	**Last year**	**Last month**
15–64 years			
Estimated number of users in Europe	13 million	4 million	1.5 million
European average	3.9 %	1.2 %	0.4 %
Range	0.1–8.3 %	0.0–3.1 %	0.0–1.1 %
Lowest-prevalence countries	Romania (0.1 %) Lithuania, Malta (0.4 %) Greece (0.7 %)	Romania (0.0 %) Greece (0.1 %) Czech Republic, Hungary, Poland (0.2 %)	Czech Republic, Greece, Estonia, Romania (0.0 %) Malta, Lithuania, Poland, Finland (0.1 %)
Highest-prevalence countries	Spain (8.3 %) United Kingdom (7.6 %) Italy (6.8 %) Ireland (5.3 %)	Spain (3.1 %) United Kingdom (2.3 %) Italy (2.2 %) Ireland (1.7 %)	Spain (1.1 %) United Kingdom (1.0 %) Italy (0.8 %) Ireland (0.5 %)
15–34 years			
Estimated number of users in Europe	7.5 million	3 million	1 million
European average	5.6 %	2.2 %	0.8 %
Range	0.1–12.0 %	0.1–5.5 %	0.0–2.1 %
Lowest-prevalence countries	Romania (0.1 %) Lithuania (0.7 %) Malta (0.9 %) Greece (1.0 %)	Romania (0.1 %) Greece (0.2 %) Poland (0.3 %) Hungary, Czech Republic (0.4 %)	Estonia, Romania (0.0 %) Czech Republic, Greece, Poland (0.1 %)
Highest-prevalence countries	United Kingdom (12.0 %) Spain (11.8 %) Denmark (9.5 %) Ireland (8.2 %)	Spain (5.5 %) United Kingdom (4.5 %) Denmark (3.4 %) Ireland, Italy (3.1 %)	United Kingdom (2.1 %) Spain (1.9 %) Italy (1.2 %) Ireland (1.0 %)
15–24 years			
Estimated number of users in Europe	3 million	1.5 million	0.6 million
European average	4.4 %	2.2 %	0.9 %
Range	0.1–9.9 %	0.1–5.6 %	0.0–2.5 %
Lowest-prevalence countries	Romania (0.1 %) Greece (0.6 %) Lithuania (0.7 %) Malta, Poland (1.1 %)	Romania (0.1 %) Greece (0.2 %) Poland (0.3 %) Czech Republic (0.4 %)	Estonia, Romania (0.0 %) Greece (0.1 %) Czech Republic, Poland, Portugal (0.2 %)
Highest-prevalence countries	United Kingdom (9.9 %) Spain (9.3 %) Denmark (9.2 %) Ireland (7.0 %)	Denmark (5.6 %) Spain (5.4 %) United Kingdom (5.0 %) Ireland (3.8 %)	United Kingdom (2.5 %) Spain (1.7 %) Italy (1.2 %) Ireland (1.1 %)

European prevalence estimates are based on weighted averages from the most recent national surveys conducted from 2001 to 2008 (mainly 2004–08), therefore they cannot be attached to a single year. The average prevalence for Europe was computed by a weighted average according to the population of the relevant age group in each country. In countries for which no information was available, the average EU prevalence was imputed. Populations used as basis: 15–64 (334 million), 15–34 (133 million) and 15–24 (63 million). The data summarised here are available under 'General population surveys' in the 2009 statistical bulletin.

not visited a pub. Visiting nightclubs was also associated with increased cocaine use, as nearly 10 % of the 16- to 24-year-olds who visited a club on four or more occasions during the last month report last year use of cocaine, compared with 3.3 % among those who had not visited a club. The survey also reported low levels of crack use, even among cocaine users, confirming findings from other studies that report differences in the profiles of the users of these two substances (Hoare and Flatley, 2008). Studies conducted in recreational settings also report higher prevalence levels of cocaine use than in the general population (EMCDDA, 2007a). In addition, a recent

internet survey conducted among fans of electronic music in the Czech Republic reported that 30.9 % of respondents had used cocaine.

The 2008 Eurobarometer survey, which was conducted in the 27 EU Member States, shows that 85 % of 15- to 25-year-olds perceive cocaine use as a high risk to a person's health. The proportions of respondents perceiving a similar level of health risk from using other substances are much lower: 40 % for cannabis, 28 % for tobacco and 24 % for alcohol. Only heroin use is perceived as a high risk by a greater proportion of respondents. There is little variation between countries, and 95 % of the respondents considered that cocaine should continue to be banned (European Commission, 2008b).

Cocaine use among school students

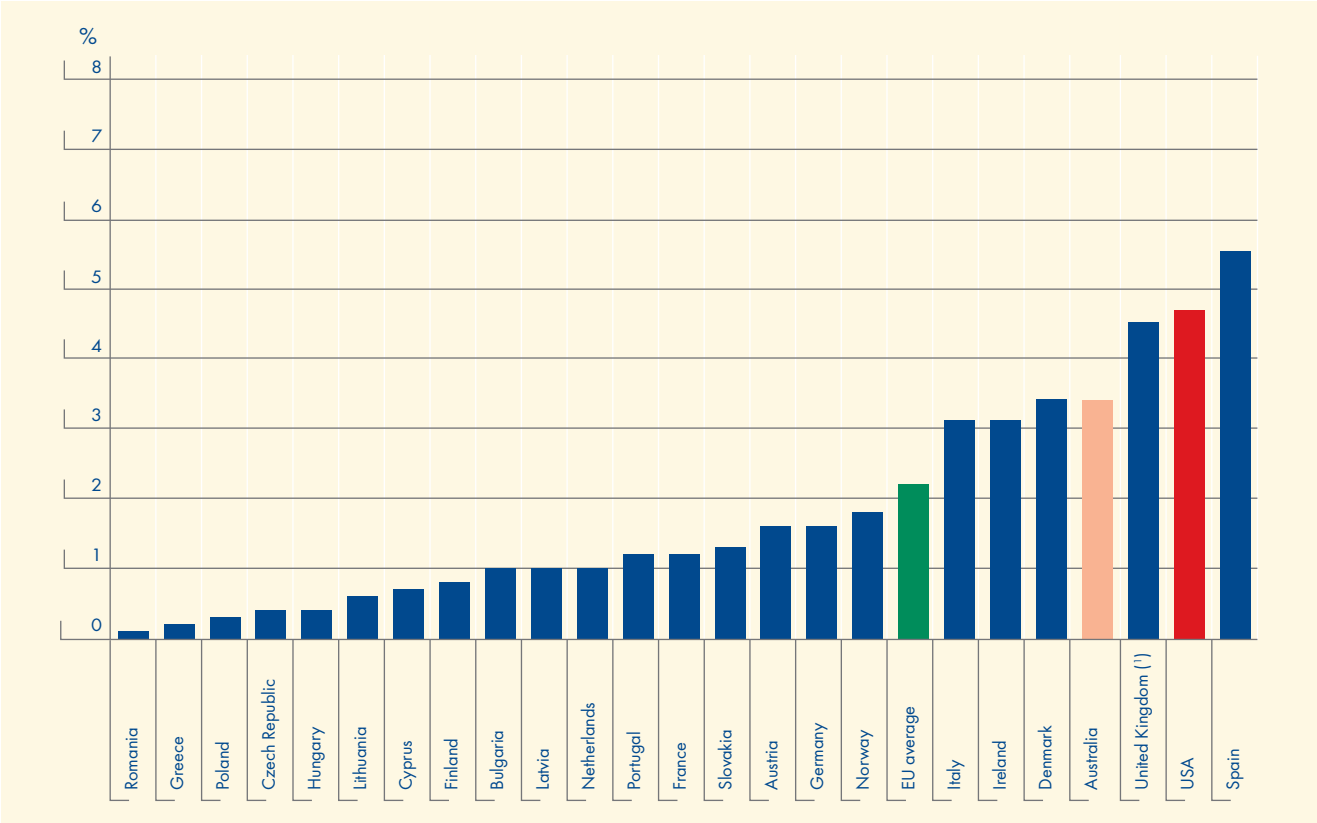
Estimates of the prevalence of cocaine use among school students are much lower than those for cannabis use.

Lifetime prevalence of cocaine use among 15- to 16-year-old school students in the ESPAD survey is between 1 % and 2 % in half of the 28 reporting countries. Most of the remaining countries report prevalence levels of between 3 % and 4 %, while France, Italy and the United Kingdom report 5 %. Lifetime prevalence of cocaine use among males is higher than that among females in most countries, and the highest levels (6 %) are reported by France and Italy ([95]).

International comparisons

Overall, the estimated last year prevalence of cocaine use is lower among young adults in the European Union than among their counterparts in Australia and the United States. However, two countries, Spain and the United Kingdom (England and Wales), report higher figures than Australia, and only Spain reports a higher estimate than that of the United States (Figure 8).

Figure 8: Last year prevalence of cocaine use among young adults (15–34) in Europe, Australia and the USA



(1) England and Wales.
NB: Data are from the last survey available for each country. The European average prevalence rate was calculated as the average of the national prevalence rates weighted by national population of 15- to 34-year-olds (2006, taken from Eurostat). US and Australian data have been recalculated from original survey results to the age band 15–34 years. See Figure GPS-20 in the 2009 statistical bulletin for further information.
Sources: Reitox national focal points.
SAMHSA (USA), Office of Applied Studies (http://oas.samhsa.gov/nhsda.htm#NHSDAinfo). National survey on drug use and health, 2007.
Australian Institute of Health and Welfare 2008. 2007 National Drug Strategy Household Survey: detailed findings. Drug statistics series No 22. Cat. No PHE 107. Canberra: AIHW (http://www.aihw.gov.au/publications/phe/ndshs07-df/ndshs07-df.pdf).

([95]) See Table EYE-12 in the 2009 statistical bulletin.

Trends in cocaine use

In simple terms, trends in cocaine use in Europe have followed different patterns. In the two countries with the highest prevalence of cocaine use (Spain and the United Kingdom), the use of the drug increased dramatically in the late 1990s, before moving to a more stable, though still generally upward, trend. In a second group of countries, including Denmark, Ireland and Italy, increasing prevalence has been less pronounced and occurred somewhat later. Levels of use in these three countries are nevertheless high compared to other European countries. Elsewhere in Europe, the picture is difficult to interpret, with low prevalence levels overall and with both small increases and small decreases observed in some countries. Of the 11 countries for which it is possible to analyse the trend from 2002 and 2007, last year prevalence among young adults (15–34 years) increased by at least 15 % of the initial value in five countries (Ireland, Italy, Latvia, Portugal, United Kingdom) ([96]), decreased in two countries (Hungary, Poland), and was stable in four (Germany, Spain, Slovakia, Finland) (Figure 9).

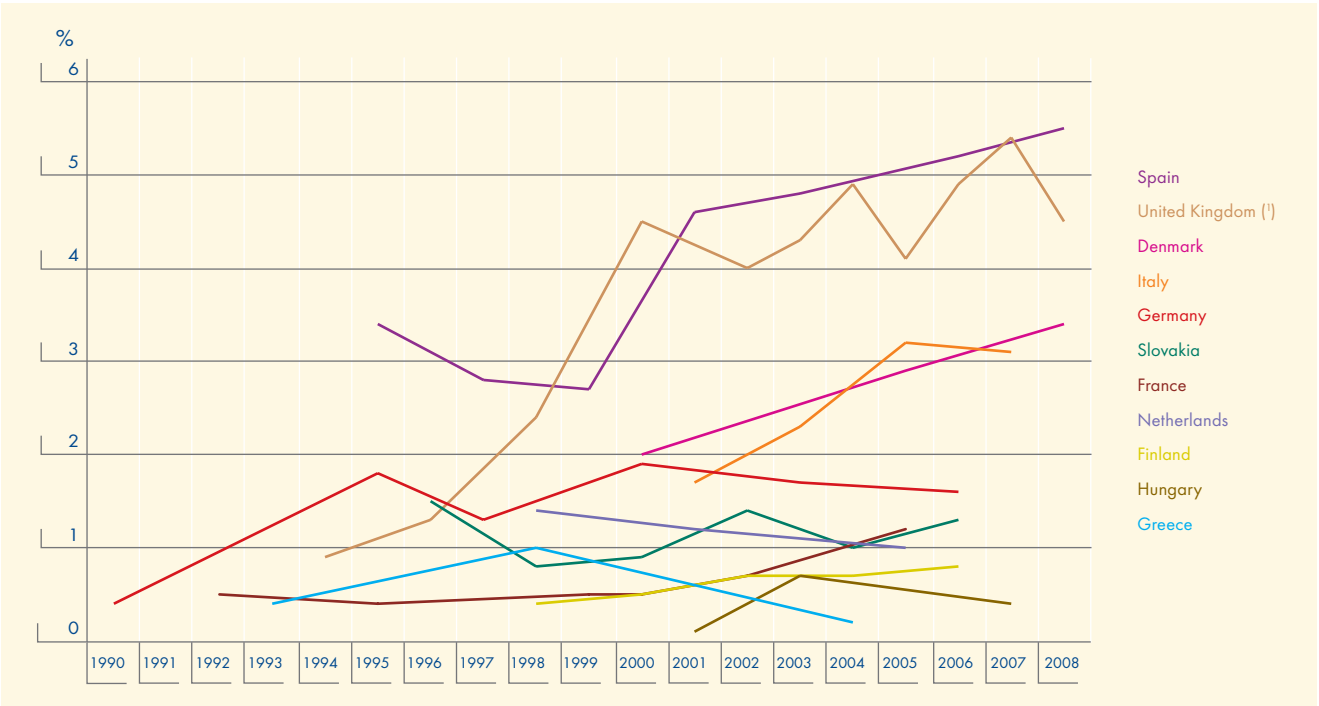
In the ESPAD school surveys carried out in 2007, lifetime prevalence of cocaine use among 15- to 16-year-old school students increased by at least two percentage points since 2003 in France, Cyprus, Malta, Slovenia and Slovakia. The Spanish school survey reported a decrease of two percentage points between 2004 and 2007.

Health consequences of cocaine use

The extent of the health consequences of cocaine use is likely to be underestimated. This is partly due to the often unspecific or chronic nature of the pathologies typically arising from long-term use of cocaine, and partly to the difficulties in establishing causal links between the illness and the use of the drug. Regular cocaine use, including by snorting, can be associated with cardiovascular, neurological and psychiatric problems, and with increased risk of accidents and violence. Concomitant use of other substances, including alcohol, can also increase some cocaine related problems (see EMCDDA, 2007a).
A survey carried out in the United States estimated that frequent cocaine users had a seven-fold higher risk of non-fatal myocardial infarction than non-users (Qureshi et al., 2001). Overall, it was estimated that a quarter of non-fatal myocardial infarctions in persons aged 18–45 years were attributable to 'frequent cocaine use'.

Recent reports show that in countries with relatively high prevalence levels of cocaine use, the drug appears to be involved in the majority of drug-related hospital emergencies. The American Drug Abuse Warning

Figure 9: Trends in last year prevalence of cocaine use among young adults (aged 15–34)



(1) England and Wales
NB: See Figure GPS-14 (part ii) in the 2009 statistical bulletin for further information.
Sources: Reitox national reports (2008), taken from population surveys, reports or scientific articles.

([96]) Denmark also observed an increase, but during a different time frame.

Network (DAWN) estimated that cocaine, alone or in combination with other drugs, was involved in six out of every 10 drug-related emergency visits in 2006. In Spain, the national reporting system of hospital emergencies related to non-medical use of psychoactive substances found that, in 2006, cocaine was the substance most frequently reported (59 %); followed by cannabis (31 %), sedatives (28 %) and heroin (22 %), with alcohol being frequently associated with all these substances. In a study among patients attending a hospital emergency department in Barcelona for problems directly related to cocaine use, the main complaints were anxiety or agitation (48 %) and thoracic pain or palpitations (25 %).

Cocaine injection and crack use are associated with the highest health risks (including cardiovascular and mental health problems, health deterioration). These are generally aggravated by social marginalisation and additional specific problems, such as the risks associated with injection. The concomitant use of opioids and cocaine appears to be linked to a higher risk of opioid overdose (EMCDDA, 2007a).

Dependence is one of the negative consequences of cocaine use for the individual. A study conducted in the United States showed that about 5 % of cocaine users can become dependent in the first year of use, though not more than around 20 % of users developed dependence in the long term (Wagner and Anthony, 2002). Another study showed that, among those who become dependent, close to 40 % recover without drug or alcohol treatment (Cunningham, 2000). There is also evidence that many cocaine users controlled their use of the drug by setting rules, for example, about the amount, frequency or context of use (Decorte, 2000).

Problem cocaine use and treatment demand

National estimates of problem cocaine use (injection or long duration/regular use) are available only for Spain and Italy, while regional and crack cocaine estimates ([97]) are available for the United Kingdom. In Italy, in 2007, there were estimated to be between 3.8 and 4.7 problem cocaine users per 1 000 adults. According to the most recent data for Spain, in 2002 there were between 4.5 and 6 problem cocaine users per 1 000 adult population (15–64 years). Estimates of problem cocaine users probably underestimate the population in need of treatment or brief interventions, because socially integrated problem cocaine users might be under-represented in the data sources used.

Cocaine, mainly powder cocaine, was cited as the principal reason for entering treatment by about 17 % of all drug treatment clients in 2007, corresponding to around 61 000 reported cases in 25 European countries. Among those entering treatment for the first time, the proportion reporting cocaine as their primary drug is higher (22 %).

There are wide differences between countries regarding the proportion of cocaine clients among both all and new clients. Spain reports the highest proportions among all clients (45 %) and new clients (60 %), followed by the Netherlands (32 % and 29 %) and Italy (23 % and 26 %). In Belgium, Ireland, Cyprus, Luxembourg and the United Kingdom, cocaine clients represent between 11 % and 13 % of all drug clients and between 11 % and 19 % of new clients; elsewhere in Europe, cocaine accounts for less than 10 % of drug treatment clients, with seven countries reporting less than 1 % ([98]).

The number of clients entering drug treatment for primary cocaine use has been increasing in Europe for several years, though the trend is strongly influenced by a few countries. Between 2002 and 2007, the largest proportional increases among new clients were reported by Spain, Ireland and Italy. In those countries with sufficient data to analyse trends over time, the number of all clients entering treatment citing cocaine as their primary drug increased as a proportion from 13 % to 19 % (based on 18 countries) ([99]). For new treatment clients, the proportion rose from 17 % to 25 % (based on 19 countries). Since 2005, among the countries with the highest proportions of cocaine clients, Spain and Italy report a stable situation, while the Netherlands shows a falling proportion of new clients entering treatment for cocaine. However, the proportion is now increasing in other countries such as Denmark, Ireland, Greece and Portugal ([100]).

Profile of treatment clients

Nearly all cocaine clients are reported by outpatient treatment centres, although some cocaine users might be treated in private clinics, which are almost not represented in the current monitoring system.

Cocaine clients have one of the largest male to female ratios (five men for every woman) and one of the highest mean ages (around 32 years) among drug treatment clients. This is particularly the case in some countries with large numbers of primary cocaine clients, especially Italy where the sex ratio is 8:1 and the mean age 35 years.

([97]) See 'Crack cocaine use in Europe', p. 67.
([98]) See Figure TDI-2 and Table TDI-5 (part i) and (part ii) in the 2009 statistical bulletin; data for Spain refer to 2006.
([99]) Only clients reporting primary use of opioids, cannabis, cocaine and other stimulants are included.
([100]) See Figures TDI-1 and TDI-3 and Table TDI-3 (part ii) in the 2009 statistical bulletin.

Crack cocaine use in Europe

Cocaine is available in two forms in Europe: as cocaine powder (cocaine HCl, a hydrochloride salt) and the less commonly used crack cocaine (a free base). Crack is typically smoked, and is known for inducing an intense 'high' that may lead to problematic patterns of use. In general, it is manufactured from cocaine HCl in locations close to where it is retailed and used.

The use of crack started to spread in the United States in the mid-1980s, mainly in deprived inner city sections of metropolitan areas, disproportionately affecting ethnic minorities. It has been feared that a similar phenomenon could happen in Europe but, until now, a serious crack epidemic has not been observed.

Crack cocaine is, however, used in some European cities, although it is difficult to know the exact size of the phenomenon. Reports on the situation in London (GLADA, 2004) and Dublin (Connolly et al., 2008) also suggest that increases can take place. In London, crack use is considered to be a major component of the city's drugs problem, and its increase since the mid 1990s is mainly attributed to a growing population of opioid users who also use crack.

Most of the treatment demands related to crack and most of the seizures of the drug are reported by the United Kingdom. One study has estimated the number of problem crack cocaine users in England at 5.2–5.6 per 1 000 adult population in 2006–07. Sizable crack problems have also been reported by cities in other European countries.

Crack use occurs mainly among marginalised and disadvantaged groups such as sex workers and problem opioid users, and some countries report it among specific ethnic minorities (e.g. France, Netherlands, United Kingdom). Among socially integrated individuals, including regular powder cocaine users, crack use is very unusual (Prinzleve et al., 2004). Nevertheless, the persistence of crack use in some groups and cities underlines the risk of its spread to larger populations.

Almost half the cocaine clients start using the drug before the age of 20, and 88 % before the age of 30. Long time lags (9–12 years) between first cocaine use and first treatment entry are reported in Spain, Italy and the Netherlands ([101]).

Most cocaine clients snort (55 %) or smoke (32 %) the drug and less than 7 % report injecting it ([102]). An analysis carried out in 14 countries in 2006 revealed that around 63 % of cocaine clients are polydrug users. Among them, 42 % also use alcohol, 28 % cannabis and 16 % heroin. Cocaine is also often mentioned as a secondary drug, especially among clients with a primary heroin problem (28 %) ([103]).

In 2007, around 8 000 clients are reported to have entered outpatient treatment for primary use of crack cocaine, representing 15 % of all cocaine clients and 2.7 % of all drug clients in outpatient treatment. Most crack clients (around 6 500) are reported by the United Kingdom, where they account for 45 % of the cocaine clients in treatment. Almost one quarter (22 %) of primary crack clients also use heroin, and these clients report high levels of unemployment and homelessness ([104]).

Overall, two main groups of cocaine clients have been identified in treatment: socially integrated individuals using powder cocaine; and a more marginalised group of clients, using cocaine, often crack-cocaine, in combination with opioids. The first group typically reports snorting the drug, and sometimes consuming it in conjunction with other substances such as alcohol or cannabis, but not with opioids. Some members of this group are referred to treatment by the criminal justice system. The second group often reports injecting drugs, uses both cocaine and opioids, sometimes smokes crack, and presents precarious health and social conditions. It includes former heroin users re-entering drug treatment for cocaine use.

Treatment and harm reduction

Treatment

In Europe, public drug treatment facilities are mostly oriented towards the needs of opioid users, and those focusing on the treatment of cocaine users are rare and often private. Some countries (e.g. Ireland, Italy, Spain), however, have implemented strategies or treatment programmes targeting cocaine users, and France is in the process of developing such programmes.

The heterogeneity of cocaine users, and of their problems and needs, complicates the organisation and delivery of treatment services to those who need them. Certain populations of cocaine users are hard to reach, and therefore difficult to get into treatment. For instance, marginalised cocaine injectors and crack users often do not seek treatment voluntarily. For this reason, in Ireland outreach work and other interventions are recommended in order to attract into treatment users who would otherwise not be reached (Connolly et al., 2008). Outreach treatment programmes can also be beneficial for certain groups. An example of this is provided by

([101]) See Tables TDI-10, TDI-11 (part iii), TDI-21 and TDI-103 (part ii) in the 2009 statistical bulletin.
([102]) See Table TDI-17 (part iv) in the 2009 statistical bulletin.
([103]) See the 'Selected issue' on polydrug use.
([104]) See 'Crack cocaine use in Europe', and Tables TDI-7 and TDI-115 in the 2009 statistical bulletin.

a Dutch study targeting marginalised crack users. The treatment programme achieved high levels of compliance and treatment satisfaction among its clients. Those treated reported improvements in health, living conditions, family and social relations and psychiatric status (Henskens et al., 2008).

Socially integrated cocaine users may also be difficult to get into treatment. For example, they may not find their needs addressed in treatment services where opioid users are the main clientele. Measures to overcome these problems are reported by some countries. For example, in Italy, 'Progetto nazionale cocaina', launched in 2007, provides specialised services with opening times more suitable for socially integrated cocaine users and their families (e.g. after work). A similar approach is also reported in Ireland, where specific programmes are developed to attract powder cocaine users.

It is also important to maintain problem cocaine and crack users in treatment, as intensive cocaine use is associated with behavioural, social and psychological dysfunctions (e.g. impulsive and aggressive behaviour) and, in some groups, with chaotic lifestyles and severe mental and physical deterioration. Thus, maintaining regular attendance at therapy sessions and meaningful therapeutic dialogue is reported as difficult by professionals (Connolly et al., 2008). Use of cocaine can also disrupt treatment for dependence on other drugs and jeopardise successfully achieved abstinence from heroin. In Germany for example, concomitant cocaine use has been identified as a decisive factor in those dropping out of opioid substitution treatment.

Attracting and maintaining users in treatment is also difficult in a context where there is no particular psychosocial intervention with strong evidence of effectiveness and no effective pharmacotherapy available to help dependent users maintain abstinence or reduce use during this period.

These difficulties can be tackled by the development of specific treatment programmes and training courses adapted to the problems associated with cocaine and crack use. Cocaine-specific training for treatment staff is reported from Ireland, Italy and the United Kingdom. In addition, 11 Member States, including all those with high levels of cocaine use and treatment demand, report that specific treatment programmes, alongside traditional treatment services, are available for cocaine or crack cocaine users. However, while national experts from Italy, Portugal, Slovenia and the United Kingdom estimated that these programmes were available to a majority of cocaine users in need of treatment, experts from Denmark, Germany, Ireland, Austria, the Netherlands, France and Spain estimated that they were available only to a minority of them.

Following a period during which almost all the research originated in the United States, several studies on the treatment of cocaine dependence are now carried out in Europe. In the United Kingdom, a clinical trial is investigating the effectiveness of cognitive behavioural therapy in conjunction with contingency management (see EMCDDA, 2008b) in primary cocaine users. According to a recent Cochrane review, this combination has yielded the best results for the treatment of stimulant dependence (Knapp et al., 2007). Another clinical trial in the United Kingdom is investigating the efficacy of modafinil, in conjunction with voucher-based contingency management, among patients receiving opioid substitution treatment and using crack cocaine. Modafinil has already shown therapeutic potential in several trials as a substitute agent for stimulant dependence.

In the Netherlands, five clinical trials are currently investigating the efficacy of a number of pharmaceutical agents for treating cocaine dependence, including dexamphetamine and modafinil. Another Dutch clinical trial investigated the combination of the community reinforcement approach with contingency management in opioid substitution clients with cocaine dependence. The results showed a significant reduction of cocaine consumption compared with the standard treatment.

Finally, a joint Spanish and Italian multi-site study is investigating the efficacy of the cocaine vaccine TA-CD. It is the largest trial conducted on this vaccine to date, with several hundred volunteers participating. Initial safety studies of the TA-CD vaccine in the US have shown reductions in the subjective effects of cocaine and in the use of the drug, and better treatment retention.

Harm reduction

Harm-reduction interventions targeting problem crack and cocaine users is a new area of work in many Member States. One reason for the limited provision of interventions in this field, in particular for crack users, might be a lack of knowledge among key workers about the drug, the target group and their needs.

Member States usually provide cocaine-injecting users with the same services and facilities as are provided to opioid users, including: recommendations for safer use, training for safer injecting, and needle and syringe programmes. However, cocaine injecting can be associated with higher risks of equipment sharing and with frequent injection, which can lead to vein collapse

and to injecting in higher-risk parts of the body (e.g. the legs, hands, feet and groin). Therefore, safer use recommendations should be adapted to these specific risks. In some countries (e.g. Belgium, France), clean crack pipes are also provided in some low-threshold agencies.

Harm-reduction interventions targeting cocaine users in recreational settings focus mainly on raising awareness. Programmes offer advice and information to young people on the risks associated with alcohol and drug use in general, usually including material on the risks of cocaine use.

Chapter 6

Opioid use and drug injection

Introduction

Heroin use, particularly injecting the drug, has been closely associated with problem drug use in Europe since the 1970s. Today, this drug still accounts for the greatest share of morbidity and mortality related to drug use in the European Union. A decline in heroin use and associated problems has been observed in the last 10 years, though more recent data suggest that, in some countries, the trend may have changed direction. In addition, reports of the use of synthetic opioids, such as fentanyl, and the injection of stimulant drugs, such as cocaine or amphetamines, reflect the increasingly multi-faceted nature of problem drug use in Europe.

Supply and availability

Two forms of imported heroin have historically been offered on the illicit drugs market in Europe: the commonly available brown heroin (its chemical base form), which comes mainly from Afghanistan; and white heroin (a salt form), which typically originates from south-east Asia, though this form is considerably less common ([105]). In addition, some opioid drugs are produced within Europe, principally home-made poppy products (e.g. poppy straw, poppy concentrate from crushed poppy stalks or heads) in some east European countries (e.g. Latvia, Lithuania).

Production and trafficking

Heroin consumed in Europe originates predominantly in Afghanistan, which accounts for most of the global illicit opium output. The other producing countries are Myanmar, which mainly supplies markets in east and south-east Asia, Pakistan, Laos, followed by Mexico and Colombia, which are considered the largest suppliers of heroin to the United States (UNODC, 2009). Global opium production is estimated to have decreased from a peak in 2007, mainly due to a decrease in Afghan production from 8 890 tonnes to some 8 000 tonnes in 2008. The most recent estimate of global potential heroin production is 735 tonnes in 2007 (UNODC, 2009). The rising number of laboratories dismantled in Afghanistan over the last few years suggests that opium is increasingly being transformed into morphine or heroin in the country itself. However, large seizures of opium and morphine in neighbouring countries (Pakistan, Iran) indicate that significant processing is also taking place outside Afghanistan (CND, 2008; UNODC, 2009).

Heroin enters Europe mainly by two major trafficking routes: the historically important Balkan route and its several branches, following transit through Pakistan, Iran and Turkey, where the largest quantity is seized; and the 'northern route' via central Asia and the Russian Federation, with heroin trafficked for example to Poland directly by train (INCB, 2009a) or to Norway via Lithuania. Secondary trafficking routes were reported for south-west Asian heroin, for example from Afghanistan and Pakistan by air through countries in the Middle

Table 9: Production, seizure, price and purity of heroin

Production and seizures	Heroin
Global potential production estimate (tonnes) ([1])	735
Global quantity seized	
Heroin (tonnes)	65
Morphine (tonnes)	27
Quantity seized (tonnes)	
EU and Norway	8.8
(Including Croatia and Turkey)	(22)
Number of seizures	
EU and Norway	56 000
(Including Croatia and Turkey)	(58 000)
Price and purity in Europe	**Brown heroin**
Mean retail price (EUR per gram)	
Range	14–119
(Interquartile range) ([2])	(35–77)
Mean purity (%)	
Range	9–50
(Interquartile range) ([2])	(16–27)

([1]) The UNODC figure is based on its estimate of the global output of illicit opium (8 870 tonnes in 2008) (UNODC, 2009).
([2]) Range of the middle half of the reported mean price or purity.
NB: Data are for 2007, except for the global potential production estimate.
Sources: UNODC World drug report (2009) for global values, Reitox national focal points for European data.

([105]) For information on the sources of data for drug supply and availability, see p. 39.

East and East Africa to illicit markets in Europe (INCB, 2009a; WCO, 2008). Heroin from south-west Asia is also smuggled directly to Europe (United Kingdom) by air from Pakistan. Within the European Union, the Netherlands and, to a lesser extent, Belgium play an important role as secondary distribution hubs (Europol, 2008).

Seizures

Worldwide reported seizures of opium increased markedly in 2007 to 510 tonnes, with Iran accounting for 84 % of the total. Global reported seizures of morphine decreased sharply to 27 tonnes, while global heroin seizures increased slightly to 65 tonnes. The largest seizures of heroin were reported by Iran (25 % of the world total), followed by Turkey and Afghanistan (UNODC, 2009).

In Europe, an estimated 58 000 seizures resulted in the interception of 22 tonnes of heroin in 2007. The United Kingdom continued to report the highest number of seizures, while Turkey again reported the greatest quantity seized, with 13.2 tonnes recovered in 2007 ([106]). Data for the years 2002–07 from 25 reporting countries indicate that after a fall in the first year, the number of seizures has increased steadily since 2003. The overall trend in the quantity of heroin intercepted in Turkey differs from that observed in the European Union. While Turkey reported a five-fold increase in the quantity of heroin seized between 2002 and 2007, the amount seized in the European Union has shown an overall decline during this period, albeit with an increase from 2006 to 2007.

Global seizures of acetic anhydride (used to manufacture heroin) increased to 56 300 litres in 2007, with almost half of it recovered in Russia (25 000 litres), followed by Turkey (13 300 litres) and Slovenia (6 500 litres) (INCB, 2009b). The INCB estimates that 'almost 80 %' of the acetic anhydride used in Afghan heroin laboratories is smuggled through eastern and south-eastern Europe, and encourages the EU Commission and EU Member States to prevent the diversion of acetic anhydride from the internal market (INCB, 2009a).

Purity and price

In 2007, for most reporting countries the mean purity of brown heroin tested ranged between 15 % and 30 %, although values under 15 % were reported in France (12 %) and Austria (9 %), and higher ones in the United Kingdom (50 %) and Norway (35 %). The typical purity of white heroin was generally higher (30–50 %) in the few European countries reporting data ([107]).

Heroin prices at different levels of the market

Monitoring drug prices is an important tool for understanding drug markets. The EMCDDA collects data on retail prices, usually expressed in euros per gram, dose or pill. Based on this information, it is possible to estimate the typical price paid by a user to obtain a given drug in a European country. Changes in prices over time can point to possible changes in the supply of or demand for drugs. Information on wholesale prices, that is the price paid by drug dealers to the major distributors in the market where the drug is consumed, is another useful indicator that can allow insights into the profits of the market.

Comparable data on both wholesale and retail prices for 2007 are available for only a few countries (Czech Republic, Germany, Spain, Romania, United Kingdom). Among these countries, the reported wholesale price of heroin ranges from EUR 12.5 to EUR 35.8 per gram, and the mean retail price, where available, ranges from EUR 36 to EUR 62.7. At both wholesale and retail levels of the market, the lowest prices are reported for Romania and the highest for Spain. The ratio between retail and wholesale price also varies considerably, from 1.6:1 in the Czech Republic to 2.8:1 in the United Kingdom. Possible differences in drug purity, either between countries, market levels or over time, necessitate caution when making comparisons. Nonetheless, analysis in this area can be informative, especially in respect to trends over time as it can point to important changes taking place in the market.

The retail price of brown heroin continued to be higher in the Nordic countries than in the rest of Europe, with Sweden reporting a mean price of EUR 119 per gram and Denmark EUR 96. In 10 other countries, the retail price of brown heroin ranged between EUR 30 and EUR 80 per gram, while in Turkey the mean price for a gram of the substance was EUR 15. Over the period 2002–07, the retail price of brown heroin fell in seven of the 12 European countries reporting time trends, and increased in five. The retail price of white heroin is reported only by a few European countries, where it ranged between EUR 31 and EUR 151 per gram.

Prevalence estimates of problem opioid use

Data in this section are derived from the EMCDDA problem drug use (PDU) indicator, which includes mainly injecting drug use and the use of opioids, although in a few countries users of amphetamines or cocaine constitute an important component. It is worth noting that many countries report that most 'problem opioid users' could be described as polydrug users who also use opioids. Given the relatively low prevalence and the hidden nature of this

([106]) See Tables SZR-7 and SZR-8 in the 2009 statistical bulletin. Note that where data for 2007 is absent, the corresponding data for 2006 are used to estimate European totals. This analysis is preliminary as data for the United Kingdom are not yet available for 2007.

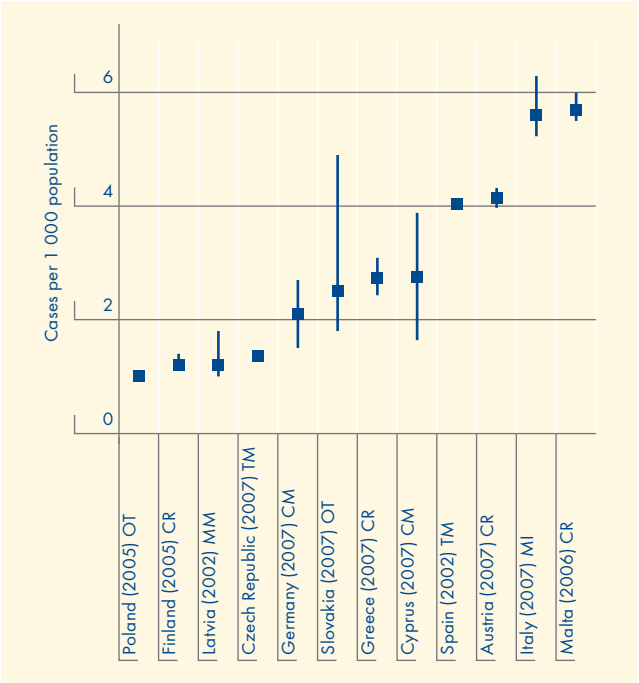
([107]) See Tables PPP-2 and PPP-6 in the 2009 statistical bulletin for purity and price data.

type of drug use, statistical extrapolations are required to obtain prevalence estimates from the available data sources.

Estimates of the prevalence of problem opioid use in European countries during the period 2002–07 range roughly between one and six cases per 1 000 population aged 15–64; overall prevalence of problem drug use is estimated to range from under three cases to 10 cases per 1 000. The countries reporting the lowest well-documented estimates of problem opioid use are the Czech Republic, Latvia, Poland and Finland (though both the Czech Republic and Finland have large numbers of problem users of amphetamines), while the highest estimates are reported by Malta, Italy, Austria and Spain (Figure 10).

The average prevalence of problem opioid use in the countries providing data is estimated to be between 3.6 and 4.6 cases per 1 000 of the population aged 15–64. Assuming that this reflects the EU as a whole, it implies some 1.4 million (1.2–1.5 million) problem opioid users in the EU and Norway in 2007 ([108]). Problem opioid users who are in prisons, especially those with longer sentences, may be under-represented in this estimate.

Figure 10: Estimates of the annual prevalence of problem opioid use (cases per 1 000 population aged 15–64)



NB: The symbol indicates a point estimate; a bar indicates an estimation uncertainty interval: a 95 % confidence interval, or one based on sensitivity analysis. Target groups may vary slightly, owing to different estimation methods and data sources; therefore, comparisons should be made with caution. Non-standard age ranges were used in the studies from Finland (15–54), Malta (12–64) and Poland (all ages). All three rates were adjusted to the population aged 15–64, assuming that drug use in other age groups will be negligible. For Germany and Cyprus, the interval represents the highest and lowest bounds of all existing estimates, and the point estimate a simple average of the midpoints. Methods of estimation are abbreviated: CR = capture–recapture; TM = treatment multiplier; MI = multivariate indicator; MM = mortality multiplier; CM = combined methods; OT = other methods. See Figure PDU-1 (part ii) in the 2009 statistical bulletin for further details.

Sources: Reitox national focal points.

Opioid users in treatment

Opioids, mainly heroin, continue to be cited as the principal drug by the majority of those seeking treatment in Europe. However, considerable differences exist across Europe in the proportion of drug users entering treatment for problems related to these drugs; with opioid clients accounting for more than 90 % of those entering treatment in Bulgaria and Slovenia, between 50 % and 90 % in 15 countries, and between 10 % and 49 % in a further nine ([109]). Overall, of the around 325 000 treatment entries for which the primary drug is known, 49 % cited heroin as their primary drug; if other opioids are included, this figure rises to 55 % of these clients ([110]). In some countries, both the proportion and the number of treatment entries related to opioids other than heroin have increased in recent years ([111]).

Many opioid users are enrolled in programmes providing long-term care. This is reflected in a higher proportion of primary opioid users among drug users already in treatment. A recent analysis of data on clients in drug treatment in 14 countries found that primary opioid users accounted for 61 % of all drug clients in treatment, but only for 38 % of clients entering treatment for the first time ([112]). The percentage of primary opioid users among those clients who were in treatment for more than 1 year was reported to be over 50 % in all countries participating in the study.

Clients entering treatment for primary opioid use often report the use of other drugs. In 2006, an analysis of data from 14 countries found that 59 % of heroin clients use a secondary drug, mainly cocaine (28 %), cannabis (14 %) and alcohol (7 %) ([113]).

([108]) This estimate has been adjusted from 1.5 to 1.4 million on the basis of new data. Because of large confidence intervals and the fact that the estimate is based on data from different years, it is not possible to conclude that the new estimate indicates a decrease in the prevalence of problem opioid use in Europe.
([109]) See Table TDI-5 (part ii) in the 2009 statistical bulletin.
([110]) See Table TDI-113 in the 2009 statistical bulletin.
([111]) See 'Misuse of prescription opioids', p. 76.
([112]) See Table TDI-38 in the 2009 statistical bulletin.
([113]) See the 2009 'Selected issue' on polydrug use.

Incidence of problem opioid use

Monitoring the incidence of problem drug use — the number of individuals who start using a substance during a given year and who become problem drug users — is necessary in order to track trends in Europe's drug situation and to devise suitable policies and interventions.

The EMCDDA has been stimulating research into estimating the incidence of problem drug use and has recently published guidelines on this topic (Scalia Tomba et al., 2008). It has also launched, in collaboration with the University of Zurich, a study to test a new 'one-day' method using the distribution of 'latency time' (time to treatment) in a cross-sectional sample of treated heroin users. The method uses a function that describes the probability of being in substitution treatment (General Inclusion Function, GIF) when no regulations restrict access to treatment, taking into account latency time, mortality and rates of drug use cessation. Estimates can be derived from treatment data for a single day, whereas the established methods need long time series covering at least 8 to 10 years.

The study was conducted in six EU Member States (Spain, Italy, Malta, Netherlands, Slovakia, United Kingdom) and suggested that the GIF method allows the estimation of incidence of problem heroin use, even with incomplete substitution treatment data sets. In at least five regions, the incidence estimates allowed the derivation of prevalence estimates that were in a good accordance with other existing estimates (e.g. by the capture–recapture method).

The GIF method seems to be robust and might, in addition to incidence estimates, also provide cost-effective estimates of problem opioid use prevalence as well as of substitution treatment coverage, and their change over time. Future work might include studies in other EU countries, analyses of spatial differences and by gender and routes of administration.

Trends in problem opioid use

The limited number of repeated estimates of the incidence and prevalence of problem opioid use, together with the statistical uncertainty around individual estimates, contributes to the difficulty of monitoring time trends. Data from nine countries with repeated prevalence estimates during the period 2002–07 suggest a relatively stable situation. An apparent increase observed in Austria until the year 2005 has not been confirmed in recent data. Elsewhere, information exists that may point to recent changes. In Cyprus, an estimate made in 2007 indicates that there has been a significant increase in problem opioid use, which has been linked with an increase in foreign nationals in treatment ([114]). Information from the French 'TREND' system, which relies both on qualitative and quantitative data, points to the diffusion of heroin to new groups of users, which worryingly includes socially integrated individuals and visitors to 'techno' parties.

Where adequate and up to date estimates of the incidence and prevalence of problem opioid use are not available, it may still be possible to analyse trends over time using other, mainly indirect, indicators such as treatment demand data. Based on a sample of 19 countries, the overall number of primary heroin users entering treatment increased between 2002 and 2007. Focusing on a more recent time frame, users entering treatment for primary heroin use increased both in number and as a proportion of all drug clients in eight countries between 2006 and 2007. These increases often followed marked decreases in previous years. Furthermore, since as early as 2004, 10 countries report increases in both the number and proportion of new clients entering treatment with heroin as the primary drug ([115]).

Other indicators support this analysis. Data on drug-induced deaths in 2007, which are mostly associated with opioid use, provide no indication of a return to the decreasing trend observed until 2003 (see Chapter 7). More than half of the reporting countries recorded increasing numbers of drug-induced deaths between 2006 and 2007 ([116]). Similarly, a decline noted in the number of heroin seizures in the European Union until 2003 has now been replaced by a steady increase. In the most recent data on drug law offences, an increase in the number of heroin-related cases may also be observed.

The available data suggest that the downward trend in opioid indicators observed until 2003 has levelled off. This is perhaps most clearly visible since 2003 among seizures and drug-induced deaths, and after 2004 in new treatment demands related to heroin use. These changes have occurred alongside increased opium production in Afghanistan, raising concerns that these events might be linked through increased availability of heroin on the European market.

Injecting drug use

Prevalence of injecting drug use

Injecting drug users are among those at highest risk of experiencing health problems from their drug use, such as blood-borne infections (e.g. HIV/AIDS, hepatitis) or drug-induced deaths. Only 12 countries were able to provide recent estimates of the levels of injecting drug

([114]) See Tables PDU-6 (part ii) and PDU-102 in the 2009 statistical bulletin for full information, including confidence intervals.
([115]) See Table TDI-3 in the 2009 statistical bulletin.
([116]) See Table DRD-2 (part i) in the 2009 statistical bulletin.

EMCDDA 'Selected issue' on injecting drug use

Injecting drug use is one of the main determinants of serious public health problems among drug users, including HIV/AIDS, hepatitis C and overdose. Across Europe, the prevalence and trends of injecting drug use vary between Member States, and may change over time. Alternative routes of administration (e.g. smoking) may co-exist with drug injecting, and drug users may alter their route of administration.

The 'Selected issue' focuses on the situation and trends of injecting drug use and on specific interventions that target injecting drug users in Europe. The publication also discusses the possible mechanisms behind decreases of drug injecting observed in some countries or regions, and why levels may still be high (or increasing) in other regions. It also discusses interventions and policies that aim to reduce injecting and those that may promote users to adopt less harmful routes of administration.

This 'Selected issue' is available in print and on the Internet in English only (http://www.emcdda.europa.eu/publications/selected-issues/injecting-drug-use) from December 2009.

use ([117]), despite their importance for public health. Improving the level of information available on this special population continues to be an important challenge for the development of health monitoring systems in Europe.

The available estimates suggest large differences between countries in the prevalence of injecting drug use. Estimates range from less than one to five cases per 1 000 population aged 15–64 for most of the countries, with an exceptionally high level of 15 cases per 1 000 reported in Estonia.

The lack of data makes drawing conclusions on time trends in the prevalence of injecting difficult, although the available data suggest a stable situation in the Czech Republic, Greece, the United Kingdom and Norway ([118]). An increase was also observed in Cyprus.

Data from infectious disease surveys may also provide information on national differences and changes over time regarding drug injection. Comparisons between countries should, however, be made with caution due to the variety of recruitment settings used. Relatively high proportions (above 20 %) of new injecting drug users (injecting for less than 2 years) have been found in three countries, possibly indicating significant new recruitment into injecting. In 10 other countries, this proportion was under 10 % ([119]). Another indicator of more recent initiation into injecting is the proportion of young injectors (under age 25) found in samples. These accounted for more than 40 % of injectors sampled in the Czech Republic, Estonia, Latvia, Lithuania, Austria, Romania and Slovakia, whereas less than 20 % of injectors sampled were under 25 years of age in 11 other countries.

Injecting among opioid users

Injecting is frequently reported as the usual mode of administration by opioid users entering treatment, accounting for over half of opioid clients in most countries, between 25 % and 50 % in seven countries and less than 25 % in five countries. The lowest proportions of injectors among opioid users entering treatment are reported by Denmark and the Netherlands, and the highest by Lithuania, Latvia and Romania ([120]). Treatment reports also suggest that among opioid users, the popularity of injecting may vary considerably within countries. For example, in the autonomous communities of Spain the proportion of injectors among new opioid clients ranges from 0.9 % to 47.2 %.

Among opioid users entering treatment for the first time, the proportion reporting injecting the drug (42 %) is lower than that among all opioid users entering treatment (44 %). This is the case in almost all of the 22 reporting countries. An analysis of the data on drug users in treatment in 14 countries found that injection among all drug users in treatment remains high, at 62 %, though there are some notable exceptions, such as the Netherlands with a value of 6.1 % ([121]).

The proportion of injectors among heroin users entering treatment continued to decrease in 2007. This trend is now evident in some countries where it had not previously been observed (e.g. Czech Republic, Germany). Between 2002 and 2007, the proportion of injectors among primary opioid clients entering treatment has decreased in most countries, with statistically significant declines reported in 13 countries. Two countries, however, report an increase over this period (Bulgaria, Slovakia) ([122]).

Other studies generally confirm a declining trend of injection among opioid users. In France, for example, a decrease in the prevalence of injecting has been observed in the treatment data since 2001, and studies reveal that initiation of heroin use has become increasingly

([117]) See Figure PDU-2 in the 2009 statistical bulletin.
([118]) See Table PDU-6 (part iii) in the 2009 statistical bulletin.
([119]) See Figure PDU-3 in the 2009 statistical bulletin.
([120]) See Tables PDU-104, TDI-5 and TDI-17 (part v) in the 2009 statistical bulletin.
([121]) See Tables TDI-17 (part v) and TDI-38 in the 2009 statistical bulletin.
([122]) See Tables TDI-4 and TDI-5 in the 2006 and 2009 statistical bulletins.

Misuse of prescription opioids

Opioid analgesics are the most powerful drugs available for the management of severe and chronic pain. Opioids are also used as substitution drugs in the management of opioid dependence. These drugs, available on prescription, can be misused and this may lead to adverse health effects such as dependence, overdose and harms associated with injection. Prescription opioids may enter the illicit drug market through the diversion of substitution drugs from their proper use. Internet pharmacies seem also to play a substantial role in the availability of prescription opioids in the United States (INCB, 2009a), but their role in Europe appears to be limited. In Europe, the expansion in the prescription of substitution drugs to opioid-dependent drug users has been accompanied by increasing reports of the misuse of these drugs.

Opioids other than heroin are reported as the primary drug by about 5 % (17 810) of clients entering drug treatment in Europe. The most frequently reported substances are: buprenorphine, which in Finland is recorded as the primary drug for 41 % of all treatment demands and in France for 7 %; methadone, which accounts for 18.5 % of all treatment demands in Denmark; and other prescription opioids in Latvia, Austria and Sweden, where they account for between 5 % and 15 % of all treatment demands ([1]). The Czech Republic also reported an estimated 4 250 problem buprenorphine users in 2007. This mainly reflected a shift in the substances used by problem heroin users, but not an increase in the overall prevalence of problem opioid use. The German Phar-Mon system, which monitors a wide range of medications that have potential for misuse, also recorded an increase in the misuse of prescription opioids, where substitution drugs play a more important role than analgesics (Roesner and Küfner, 2007).

The misuse of prescription opioids raises important issues regarding the prevention of diversion of substitution drugs and opioid analgesics to the illicit market. At the same time, care must be taken to ensure that the legitimate use of these substances is not compromised (Cherny et al., 2006).

([1]) See Table TDI-113 in the 2009 statistical bulletin.

Co-morbidity: drug use and mental disorders

Co-morbidity is the often unrecognised co-occurrence of drug use problems and psychiatric disorders in the same individual. Studies have identified both an elevated prevalence of psychiatric problems among patients in drug treatment and an elevated prevalence of drug problems among patients in psychiatric services (EMCDDA, 2005).

The mental disorders most commonly reported among drug users in Europe include depression, anxiety, schizophrenia, personality disorders, attention deficit and hyperactivity. Specific treatment for drug users with co-morbidity in Europe remains limited. National experts report that specific programmes exist in 18 countries, but in 14 of these they are available only to a minority of clients in need. In seven other countries, there are no dedicated programmes at all, but five of them plan to develop such programmes in the next 3 years.

A European prospective multi-centre study (Isadora) has recently been conducted involving dual-diagnosis patients from acute psychiatric wards ([1]). Its findings highlight the difficulties of comparative analyses in this area, underlining the need for a more harmonised approach for diagnosis, treatment and study of co-morbidity in Europe (Baldacchino et al., 2009).

([1]) http://isadora.advsh.net/

associated with snorting, and injection now appears to occur at a later stage of the drug using career than it did in the past.

Treatment of problem opioid use

The mean age of clients entering outpatient treatment for primary opioid use is 33 years and almost all countries have reported an increase since 2003 ([123]). Female clients, opioid users entering treatment for the first time and those in the Member States that have joined the EU since 2004 are on average younger than their counterparts.

Female drug users are identified as being a particularly vulnerable group. Overall, the male to female ratio among opioid clients is 3.5:1, though females make up a higher proportion of opioid clients in northern countries (e.g. Sweden, Finland) and a lower proportion in southern countries (e.g. Greece, Italy, Portugal) ([124]).

Opioid users entering treatment report higher rates of unemployment and lower levels of educational attainment than other clients (see Chapter 2). High levels of psychiatric disorders are reported in this population; for example an Italian study found that most (72 %) drug treatment clients with a concomitant psychiatric morbidity were primary opioid users ([125]).

Almost all opioid users entering treatment report initiation before the age of 30 and about half before the age of 20. An average time lag of about 8 years is reported between first use of opioids and first contact with drug treatment ([126]).

([123]) See Tables TDI-10, TDI-32 and TDI-103 in the 2009 statistical bulletin.
([124]) See Tables TDI-5 and TDI-21 in the 2009 statistical bulletin.
([125]) See also 'Co-morbidity: drug use and mental disorders'.
([126]) See Tables TDI-11, TDI-33, TDI-107 and TDI-109 in the 2009 statistical bulletin.

Treatment provision and coverage

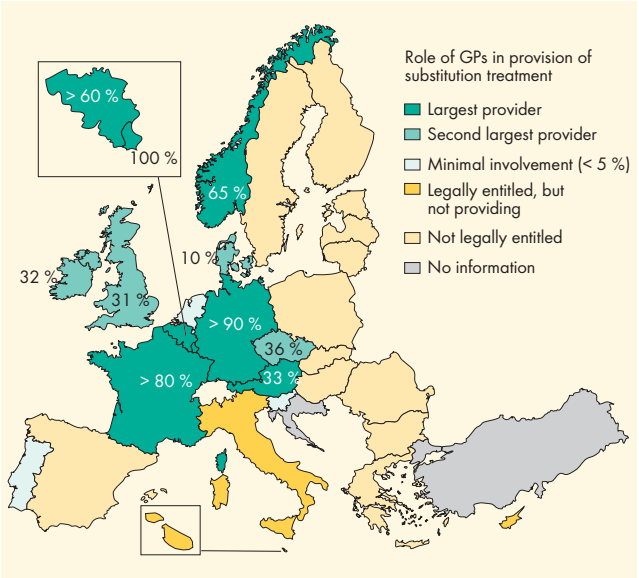
Treatment for opioid users is mostly conducted in outpatient settings, which can include specialist centres, general practitioners and low-threshold facilities (see Chapter 2). In a few countries, inpatient centres are a major component of the drug treatment system, notably in Bulgaria, Greece, Finland and Sweden ([127]). The range of options available in Europe for the treatment of opioid dependence is broad and increasingly differentiated, though it varies geographically in terms of accessibility and coverage. Drug-free and substitution treatment for opioid use are available in all EU Member States, Croatia and Norway. In Turkey, the future use of substitution treatment is currently under study.

Drug-free treatment is a therapeutic approach, which generally requires individuals to abstain from all substances, including substitution medication. Patients participate in daily activities and receive intensive psychological support. While drug-free treatment can take place in both outpatient and inpatient settings, the type most commonly reported by Member States is residential programmes that apply therapeutic community principles or the Minnesota model.

Substitution treatment, generally integrated with psychosocial care, is typically provided at specialised outpatient centres. Thirteen countries report that substitution treatment is also provided by general practitioners, usually under shared-care arrangements with specialised treatment centres (see Figure 11). In the Czech Republic, France, the Netherlands, Portugal, the United Kingdom and Croatia, any general practitioner may provide substitution treatment, while in Belgium, Denmark, Germany, Ireland, Luxembourg, Austria and Norway, only those that are specifically trained or accredited are entitled to provide it. A number of countries report that, by improving geographical coverage, reducing waiting times and facilitating access to treatment, the involvement of general practitioners has helped to improve the availability and coverage of substitution treatment (Czech Republic, Germany, France, Austria, United Kingdom).

According to expert estimates, the availability of opioid substitution treatment is relatively high in 16 countries, where it is available to at least half of opioid users (see Chapter 2). In those countries, drug-free treatment is the treatment of choice for between 10 % and 25 % of opioid users. In a further 10 countries (Estonia, Greece, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia, Finland, Norway), substitution treatment is estimated to be available to a minority of opioid users. This might be because drug-free treatment is the treatment of choice,

Figure 11: Provision of opioid substitution treatment by office-based general practitioners (GPs)



NB: The percentage of substitution treatment clients receiving their treatment from general practitioners in the Community is indicated on the map.
Sources: Reitox national focal points.

especially for younger or first-time clients, or due to difficulties in gaining access to substitution treatment. In Greece for example, the waiting time for opioid substitution treatment is on average more than 3 years.

Provision of psychosocial care is considered essential to ensuring the effectiveness of substitution treatment. According to expert estimates, it is provided to almost all substitution clients in seven countries (Greece, Italy, Latvia, Portugal, Romania, Slovakia, United Kingdom) and to a majority of them in a further 14 countries. In four countries (Estonia, Luxembourg, Hungary, Netherlands), it is estimated to be provided only to a minority of clients in substitution treatment.

The total number of clients receiving substitution treatment in the EU, Croatia and Norway is estimated to be about 650 000 in 2007, up from 560 000 in 2005 and 500 000 in 2003. The available data suggest an increase in all countries except Spain, where the numbers receiving substitution treatment have been declining since 2002, and France, Luxembourg, Hungary and the Netherlands, where small decreases or stable figures are reported. Among the countries that have expanded their provision of substitution treatment, the highest rates of increase have been seen in Estonia, where the number of clients increased within 5 years from 60 to more than 1 000, and Bulgaria, where the number of treatment places increased from 380 to nearly 3 000 between 2003 and 2007. The number of clients in substitution treatment has also more than doubled

([127]) See Table TDI-24 in the 2009 statistical bulletin.

over this period in the Czech Republic, Latvia, Finland and Norway, while increases in excess of 40 % are reported by Greece, Poland, Portugal, Romania and Sweden.

A simple comparison of the estimated number of problem opioid users and of delivered treatments suggests that more than 40 % could be receiving substitution treatment. However, there is still a lack of precision in both data sets, and this estimate should be viewed with caution. Comparisons are difficult for the same reason, though available data indicate that the proportion of problem opioid users receiving substitution treatment differs considerably between countries, with estimated rates ranging from 5 % to over 50 % ([128]).

Most substitution clients in Europe receive methadone (70 %), but the number of countries where it is the only prescribed substance is decreasing, with buprenorphine now available in all but four EU Member States (Bulgaria, Spain, Hungary, Poland). In the Czech Republic, France, Latvia and Sweden, more than 50 % of those on substitution treatment are prescribed buprenorphine. Additional options include slow-release morphine (Bulgaria, Austria, Slovenia) and codeine (Germany, Austria, Cyprus). A new buprenorphine–naloxone combination was approved for the EU market in 2006 and is reported to have since been introduced in 11 countries. Six European countries also provide heroin-assisted treatment to users who do not benefit sufficiently from other treatments.

Treatment effectiveness, quality and standards

Reviews of randomised controlled trials and observational studies conclude that substitution treatment with either methadone or buprenorphine can be effective in the management of opioid dependence. Overall, this type of treatment has been linked to a number of positive outcomes including: retention in treatment, reductions in illicit opioid use and injecting, reductions of mortality and criminal behaviour, and stabilisation and improvement of health and social conditions of chronic heroin users. In addition, recent randomised controlled trials have found heroin assisted treatment to be effective in reducing illicit drug use, improving physical or mental health and reducing criminal behaviour among clients considered as hard to treat or having failed with other treatment modalities.

Psychosocial and psychotherapeutic interventions combined with pharmacotherapy have also been shown to be effective in treatment outcome studies (Schulte et al., 2008). These approaches aim to increase treatment motivation, prevent relapse and reduce harm. In addition, they may provide advice and practical support to clients who have to address their housing, employment and family related problems in parallel to treating their opioid dependence.

A set of minimum requirements and international guidelines for psychosocially assisted pharmacological treatment of persons dependent on opioids was recently developed by WHO (2009). This document is a response to a resolution from the United Nations Economic and Social Council (Ecosoc) and it is based on systematic reviews of the scientific literature and consultations with a range of renowned experts from different parts of the world. Guidelines for substitution treatment have also been developed by most European countries (see Chapter 2).

([128]) See Figure HSR-1 in the 2009 statistical bulletin.

Chapter 7

Drug-related infectious diseases and drug-related deaths

Drug-related infectious diseases

Infectious diseases such as HIV and hepatitis B and C are among the most serious health consequences of drug use. Even in countries where HIV prevalence in injecting drug users is low, other infectious diseases including hepatitis A, B and C, sexually transmitted diseases, tuberculosis, tetanus, botulism and human T-lymphotropic virus may disproportionately affect drug users. The EMCDDA is systematically monitoring HIV and hepatitis B and C among injecting drug users (prevalence of antibodies, or other specific markers in the case of hepatitis B) ([129]).

HIV and AIDS

By the end of 2007, the incidence of reported HIV infection among injecting drug users appears to have remained low in most countries of the European Union, and the overall EU situation appears relatively positive in a global context. This may, at least partly, follow from the increased availability of prevention, treatment and harm-reduction measures, including substitution treatment and needle and syringe programmes. Other factors, such as the decline in injecting drug use that has been reported in some countries, may also have played an important role. Nonetheless, in some parts of Europe, data suggest that HIV transmission related to injecting drug use still continued at relatively high rates in 2007, underlining the need to ensure the coverage and effectiveness of local prevention practice.

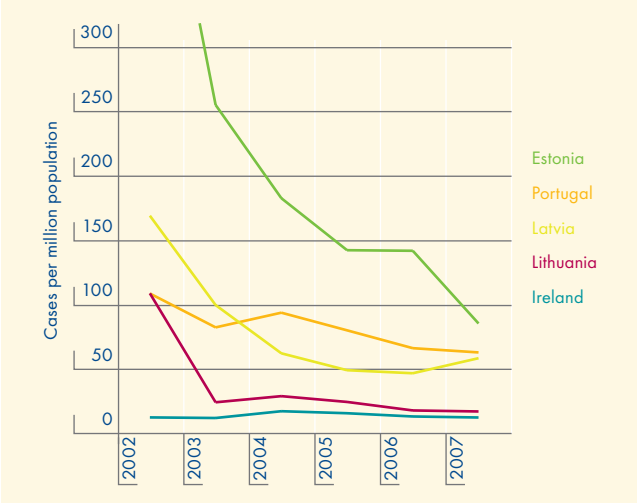
Trends in HIV infection

Data on newly reported cases related to injecting drug use for 2007 suggest that infection rates are still generally falling in the European Union, following the peak in 2001–02, which was due to outbreaks in Estonia, Latvia and Lithuania ([130]). In 2007, the overall rate of newly reported infections among injecting drug users in the 24 EU Member States for which national data are available was 4.7 cases per million population, slightly down from 5.0 in 2006 ([131]). Of the three countries reporting the highest rates of newly reported infections, Portugal and Estonia continued their downward trends, although in Portugal this trend seems to be levelling off. In contrast, in Latvia an increase from 47.1 cases per million population in 2006 to 58.7 cases per million in 2007 was reported (Figure 12).

Overall, marked increases in new HIV infection have not been observed between 2002 and 2007, and reported rates remain low. However, in Bulgaria and Sweden, the rate of newly reported infections accelerated — from 0.3 new cases per million population in 2002 to 5.6 cases in 2007 in Bulgaria, and in Sweden from 3.5 new cases per million in 2002 to a peak of 6.7 cases in 2007 before returning to previous levels in 2008 — suggesting the continued potential for HIV outbreaks among injecting drug users.

Trend data from HIV prevalence monitoring in samples of injecting drug users are an important complement to data from HIV-case reporting. Prevalence data are

Figure 12: Trends in five EU Member States with high rates of newly reported HIV infections in injecting drug users



NB: For Estonia, the value for 2002 is off-scale (516 cases per million). For further information, see Table INF-104 in the 2009 statistical bulletin.
Sources: ECDC and WHO Europe.

([129]) For details on methods and definitions, see the 2009 statistical bulletin.
([130]) See Table INF-104 in the 2009 statistical bulletin.
([131]) National data are not available for Spain, Italy and Austria.

available from 25 countries over the period 2002–07 ([132]). In 11 countries, HIV prevalence remained unchanged during the period. In six countries (Bulgaria, Germany, Spain, Italy, Latvia, Portugal) HIV prevalence showed statistically significant decreases, all based on national samples. Regional increases were reported, however, in two of these countries: in Bulgaria, one city, Sofia; and in Italy, three out of 21 regions. In two countries (Lithuania, Poland) HIV prevalence showed statistically significant increases, both based on national samples.

The comparison of trends in newly reported infections related to injecting drug use with trends in HIV prevalence among injecting drug users suggests that the incidence of HIV infection related to injecting drug use is declining in most countries at national level.

However, the high annual rate of new HIV diagnoses related to injecting drug use in Estonia, Latvia and Portugal suggests that transmission is still occurring in these countries at relatively high levels, even if the rates are now declining in Estonia and Portugal. For Estonia, recent transmission is supported by 2005 prevalence data, which suggest that around a third of new injecting drug users (those injecting for less than 2 years) were HIV positive. Further indications of ongoing HIV transmission are provided by reports of prevalence levels of over 5 % among young injecting drug users (samples of 50 or more injecting drug users under age 25) in several countries: Spain (national data, 2006), France (five cities, 2006), Estonia (two regions, 2005), Lithuania (one city, 2006) and Poland (one city, 2005) ([133]).

AIDS incidence and access to HAART

Information on the incidence of AIDS, though not a good indicator of HIV transmission, is important for showing the new occurrence of symptomatic disease. High incidence rates of AIDS in some European countries may indicate that many injecting drug users infected with HIV do not receive highly active antiretroviral treatment (HAART) at a sufficiently early stage in their infection to obtain maximum benefit from the treatment.

Estonia is the country with the highest incidence of AIDS related to injecting drug use, with an estimated 33.5 new cases per million population in 2007, up from 17.1 new cases per million in 2006. Relatively high levels of AIDS incidence are also reported for Latvia, Spain, Portugal and Lithuania: 13.2, 8.8, 8.6 and 6.2 new cases per million, respectively. Among these four countries, the trend is downward in Spain, Latvia and Portugal, but not in Lithuania ([134]).

HIV among injecting drug users in the European Union and neighbouring countries: increasing trends in the East

The HIV epidemic among injecting drug users continues to develop differently across Europe. In the countries of the European Union, the rates of reported newly diagnosed cases of HIV infection in injecting drug users are mostly at stable and low levels, or in decline. However, in many of the former Soviet republics, rates increased in 2007 (Wiessing et al., 2008b), suggesting that existing prevention measures may be insufficient and in need of strengthening.

In those eastern countries where some declines had occurred since the peak year of 2001 (Russia, Belarus), new increases have been noted in more recent years. In 2007, newly diagnosed and reported rates of HIV infection among injecting drug users varied from zero in Turkmenistan to 80 cases per million population in Kazakhstan and 152 cases per million in the Ukraine. The most recent figure for Russia is 78 cases per million in 2006.

In absolute terms, Ukraine reports the largest number of newly reported cases of HIV among injecting drug users in 2007 (7 087 cases), followed by Uzbekistan (1 816 cases) and Kazakhstan (1 246 cases), while in 2006, Russia reported 11 161 cases. Several other former Soviet republics, with overall lower numbers and rates, show an increasing trend in reported cases, suggesting that epidemics may be taking place among injecting drug users. These countries include Azerbaijan, Belarus, Georgia, Kyrgyzstan, Moldova and Tajikistan.

Hepatitis B and C

While high prevalence levels of HIV infection are found only in some EU Member States, viral hepatitis and, in particular, infection caused by hepatitis C virus (HCV), is more highly prevalent in injecting drug users across Europe. HCV antibody levels among national samples of injecting drug users in 2006–07 vary from around 18 % to 95 %, with half of the countries reporting levels in excess of 40 %. Three countries (Bulgaria, Czech Republic, Slovenia) report a prevalence of under 25 % in national samples of injecting drug users ([135]); though infection rates at this level still constitute a significant public health problem.

Within countries, HCV prevalence levels can vary considerably, reflecting both regional differences and the characteristics of the sampled population. For example, in the United Kingdom, local studies report levels between

([132]) See Table INF-108 in the 2009 statistical bulletin.
([133]) See Tables INF-109 and INF-110 in the 2009 statistical bulletin.
([134]) See Figure INF-1 in the 2009 statistical bulletin.
([135]) See Tables INF-111 to INF-113 in the 2009 statistical bulletin.

29 % and 60 %, while in Italy, different regional estimates range from around 36 % to 92 %.

Recent studies (2006–07) show a wide range of prevalence levels among injecting drug users under 25 years and those injecting for less than 2 years, suggesting different levels of HCV incidence in those populations across Europe ([136]). Nonetheless, these studies also indicate that many injectors contract the virus early in their injecting career and that therefore there is only a small time window for initiating effective HCV prevention measures.

The prevalence of antibodies to hepatitis B virus (HBV) also varies to a great extent, possibly partly due to differences in vaccination levels, although other factors may play a role. The most complete data set available is that for the antibody to the hepatitis B core antigen (anti-HBc), which indicates a history of infection. For 2006–07, three of the 10 countries providing data on injecting drug users report anti-HBc prevalence levels of over 40 % ([137]).

Trends over time in notified cases of hepatitis B and C show different pictures, but these are difficult to interpret.

Hepatitis C prevalence as a possible indicator of injection-related HIV risk

A group of modellers and epidemiologists brought together by the EMCDDA has examined the potential for using information on the prevalence of hepatitis C virus (HCV) among drug injectors as an indicator of HIV transmission risk. HCV is transmitted via needle sharing in similar ways to HIV. As HCV is much more infectious, it might reveal the overall level of risk behaviour, including needle sharing, paraphernalia sharing and changing of injecting partner, in populations of injecting drug users where HIV has not yet spread.

Analysis of paired HCV and HIV prevalence data has shown that HCV prevalence among injectors of up to about 30 % (95 % confidence interval, 21–38 %) is associated with zero or very low prevalence of HIV. At higher levels of HCV prevalence, a linear relationship was found between HIV and HCV prevalence, and time series data suggest that the observed HIV prevalence increases at about half the rate of HCV prevalence.

These results suggest that HCV prevalence could be used to help develop targeted prevention and harm-reduction interventions among injecting drug users. In addition, it might also be used to assess the risk of an HIV outbreak in countries where HIV prevalence among injecting drug users is still low.

Source: Vickerman et al. (submitted).

However, some insight into the epidemiology of these infections may be provided by the proportion of injecting drug users among all notified cases where risk factors are known (Wiessing et al., 2008a). For hepatitis B, the proportion of injecting drug users has declined between 2002 and 2007 in four out of 17 countries. In the case of hepatitis C, the proportion of injecting drug users among notified cases has declined in seven countries between 2002 and 2007, and has increased in four other countries (Czech Republic, Luxembourg, Malta, United Kingdom) ([138]).

Preventing and responding to infectious diseases

Seventeen EU Member States and Turkey report that the prevention of infectious diseases among drug users is part of their national drug strategy, and six other countries report that it is the subject of a specific strategy. Ten of these 23 countries also report existing strategies to prevent infectious diseases at local or regional level.

EU Member States respond to the spread of infectious diseases among drug users by a combination of approaches, including: drug treatment; the provision of sterile injection equipment; and community-based activities that provide information, education, testing and behavioural interventions, often through outreach or low-threshold agencies. Experts from 27 countries reported on the level of priority given to selected interventions to prevent infectious diseases among drug users ([139]). Access to sterile injecting equipment through needle and syringe programmes is reported as a priority by 23 countries, testing and counselling for infectious diseases by 16 countries and the dissemination of information, education and communication material by 14 countries.

Access to sterile syringes is the most frequently reported priority, as was found in a similar exercise carried out in 2005. An increased number of countries now report infectious disease counselling and testing, and targeted hepatitis immunisation programmes as a priority.

Interventions

Research has shown that sustained treatment is associated with reductions in injecting drug use and related risk behaviours, and thereby with protection from HIV infection. In most European countries, harm reduction and treatment service provision have increased considerably since the mid-1990s (Hedrich et al., 2008b). Opioid

([136]) See Figure INF-6 (part ii) and (part iii) in the 2009 statistical bulletin.
([137]) See Table INF-115 in the 2009 statistical bulletin.
([138]) See Tables INF-105 and INF-106 in the 2009 statistical bulletin.
([139]) See Table HSR-6 in the 2009 statistical bulletin.

Treatment of injecting drug users with chronic hepatitis C

Up to 30 % of patients with untreated chronic hepatitis C will develop liver cirrhosis within 30 years, and the costs incurred in the management of end-stage liver disease are considerable (Jager et al., 2004). To reduce the burden of hepatitis C in Europe, it is essential to promote and expand access to treatment for the largest patient group — chronic carriers of the virus who are active drug injectors.

Current treatments for chronic hepatitis C — a 6 to 12 months course of combination therapy with long-acting interferon and ribavirin — are effective with more than 50 % of patients achieving a sustained virological response. Although the number of long-term studies remains limited, available research has shown good compliance and success in antiviral treatment of injecting drug users (e.g. Moussalli et al., 2007). Cost-effectiveness of treating hepatitis C in prisons (Sutton et al., 2008) and the safety and effectiveness of the treatment for drug users with co-morbid psychiatric disorders have also been shown (Loftis et al., 2006).

Access of drug users to hepatitis C treatment, however, remains low. Reasons for this might include insufficient treatment capacity, lack of information about treatment options, or low prioritisation of drug users. Several EU countries, including Denmark, Germany, France, the Netherlands and the United Kingdom, have in recent years reviewed their policies in order to expand access to testing and treatment for chronic hepatitis C virus carriers who are active injecting drug users.

Hepatitis C therapy in the context of drug addiction is sometimes challenging, but it can improve with carefully planned and organised clinical management and with the patients' cooperation following informed consent. Multidisciplinary teams, which can manage drug dependence, liver treatment and co-morbid mental problems, improve treatment outcomes (Grebely et al., 2007).

substitution treatment is available in all EU Member States, Croatia and Norway, but in several countries the provision of this intervention remains limited (see Chapters 2 and 6).

Individual counselling on infectious diseases is estimated by national experts to have been received in the last year by nearly all problem drug users in 17 countries ([140]). In 12 countries, this was also the case for HCV testing, while experts in 11 countries estimated that most problem drug users received practical advice and training in safer use and injecting during the past year. Hepatitis B vaccination is integrated in the routine immunisation schedules of 21 out of 28 reporting countries, and in 17 countries, specific vaccination programmes targeting drug users in the community also exist. Health education activities for drug users, involving peer educators, are also reported by 17 countries.

Needle and syringe programmes exist in all EU Member States, Croatia and Norway. The programme in Cyprus, however, has hardly been used in 2007. In 15 countries, most injecting drug users are estimated to have received syringes from such a programme during the last 12 months at least once. In 11 countries, only a minority of injectors received syringes during the same period, despite nine of these countries listing access to sterile injecting equipment as a priority measure to prevent the spread of infectious diseases.

The number of syringes provided through needle and syringe programmes increased between 2005 and 2007 in 18 of the 26 countries for which data are available. Numbers of syringes given out yearly per client varies considerably, with examples from around 50 syringes per needle and syringe programme clients in Croatia and Lithuania, to 200 in Finland and 300 in Romania in 2007 ([141]).

The total number of syringes given out in 2007 was 33 % higher than in the year 2003 in the 14 countries for which reliable data or estimations are available. Ongoing increases over this period were reported from Belgium, Bulgaria, the Czech Republic, Estonia, Hungary, Austria, Slovakia and Finland. The number of syringes supplied in Latvia remained the same, while decreases were reported in Spain, Lithuania, Luxembourg, Portugal and Poland.

Data provided from 15 countries show that more than 125 000 persons have accessed agencies with needle and syringe programmes in 2007 ([142]). Information on client access is, however, not available for four of the largest EU Member States (Germany, Spain, Italy, United Kingdom). A national survey conducted in the 120 French 'CAARUD' harm-reduction centres showed that they had been used by an estimated 40 000 individuals in 2007 (Toufik et al., 2008). In the United Kingdom, a new needle exchange monitoring system was established in 2008.

Low-threshold facilities can provide the opportunity to deliver primary health care services and harm reduction interventions to hard to reach populations. A recent evaluation of low-threshold health service centres targeting injecting drug users in Finland concluded that this combination of services had played a significant role in the prevention of infectious diseases. It was also considered as a cost-effective innovation, capable of operating within the country's restrictive drug policy (Arponen et al., 2008).

([140]) Experts from 26 EU countries, Turkey and Norway rated the level of provision of selected interventions to drug users.
([141]) See Table HSR-5 (part i) and (part ii) in the 2009 statistical bulletin.
([142]) See Table HSR-5 (part ii) in the 2009 statistical bulletin.

Needle and syringe schemes may also have a role in promoting good health. Training in health promotion, based on formal curricula or training handbooks, is offered to staff of needle and syringe programmes in 20 countries and to pharmacists in nine countries. Guidelines for work in low-threshold settings, which cover topics such as infectious disease testing, syringe exchange, outreach work and peer training, are also reported in 11 EU Member States.

Drug-related deaths and mortality

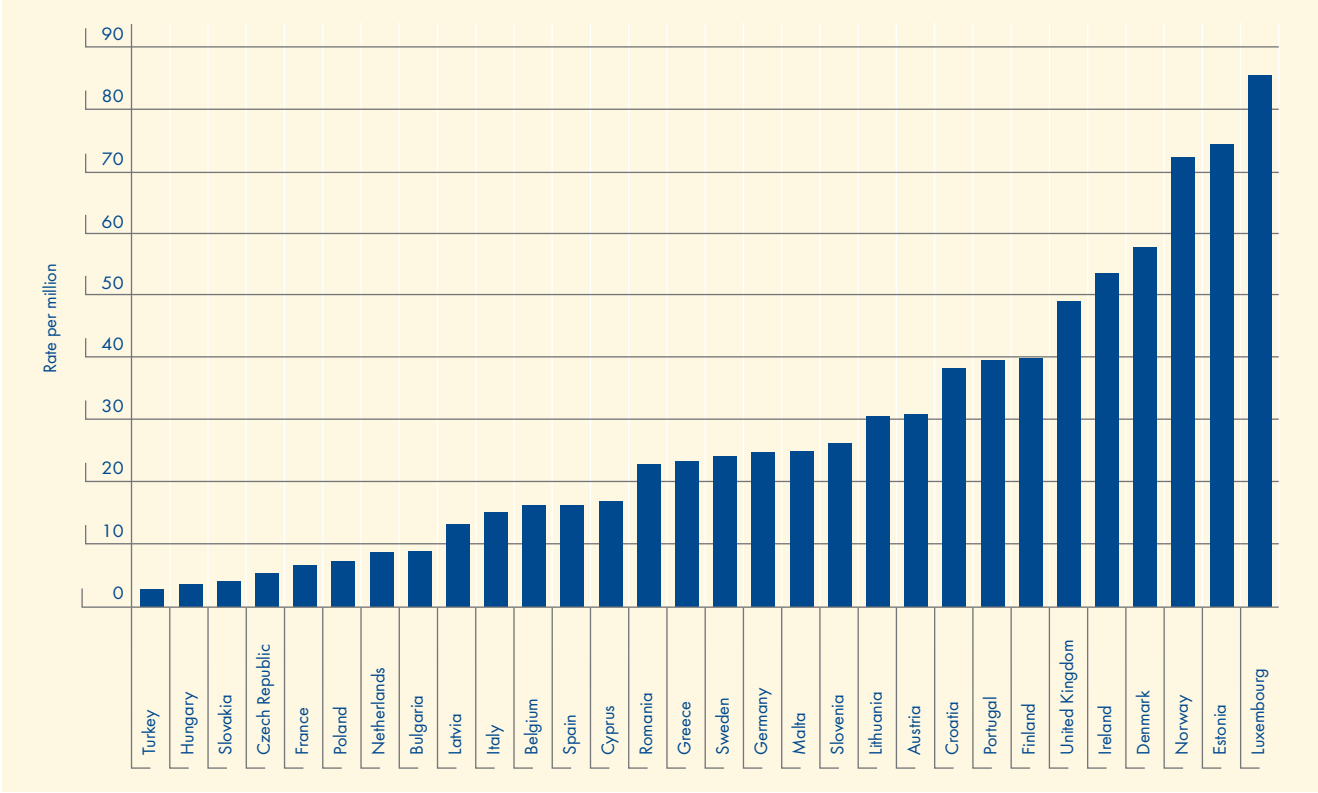
Drug use is one of the major causes of health problems and death among young people in Europe. This can be illustrated by an international study supported by the EMCDDA, which found that, in seven European urban areas, between 10 % and 23 % of mortality among those aged 15 to 49 could be attributed to opioid use (Bargagli et al., 2005).

Drug-related mortality includes deaths that are directly caused by the pharmacological action of one or several substances (drug-induced deaths) and deaths that are indirectly caused by the use of drugs, often with other concurrent factors (e.g. accidents). Known causes of deaths include acute toxicity, traffic accidents in particular when combined with alcohol (EMCDDA, 2007c), violence, suicide among already vulnerable people, or chronic conditions due to repeated use (e.g. cardiovascular problems in cocaine users). While most drug-related deaths occur among problem drug users, some occur among other groups of users, including those using drugs only occasionally ([143]).

Drug-induced deaths

The EMCDDA definition of drug-induced deaths refers to those deaths that are directly caused (overdoses) by the consumption of one or more drugs, of which at least one is an illicit drug. The number of deaths can be influenced

Figure 13: Mortality rates among all adults (15–64 years) due to drug-induced deaths



NB: For the Czech Republic, EMCDDA Selection D was used instead of the national definition; for the United Kingdom, the drug strategy definition was used; for Romania, data refer only to Bucharest and several counties in the competence area of the Toxicology Laboratory of Bucharest; for Portugal, data include all cases in which illicit drugs were identified in post-mortem analyses, and are likely to produce an overestimate compared to Selection D. The calculations of population mortality rates are based on national populations for 2006 as reported by Eurostat. Comparisons of population rates should be made with caution, as there are some differences in case definitions and quality of reporting. For more information on the data see Figure DRD-7 (part i) in the 2009 statistical bulletin.

Sources: Reitox national reports (2008), taken from national mortality registries or special registries (forensic or police) and Eurostat.

([143]) See 'Drug-related mortality: a complex concept', in the 2008 annual report.

by factors such as the prevalence and patterns of drug use (injection, polydrug use), the age and the co-morbidities of drug users, and the availability of treatment and emergency services.

Improvements in the reliability of European data have allowed better descriptions of European and national trends, and most countries have now adopted a case definition in line with that of the EMCDDA ([144]). Nevertheless, differences between countries in the quality of case ascertainment, reporting to national mortality registries and reporting to the EMCDDA mean that comparisons should be made with caution.

During the period 1990–2006, between 6 400 and 8 500 drug-induced deaths were reported each year by EU Member States, Croatia, Norway and Turkey, adding up to more than 135 000 deaths. In 2006, the United Kingdom and Germany accounted for half of all reported deaths. Population mortality rates due to drug-induced death vary widely between countries, ranging from 3 to over 85 deaths per million population aged 15–64 years, with an average of 22 deaths per million in Europe. Rates of over 20 deaths per million are found in 17 out of 30 European countries, and rates of over 40 deaths per million in six countries (Figure 13). Among Europeans aged 15–39 years, drug overdose accounted for 4 % of all deaths ([145]).

Deaths related to opioids

Heroin

Opioids, mainly heroin or its metabolites, are present in the majority of drug-induced deaths reported in Europe. In the 22 countries providing data, opioids accounted for 35 % to almost 100 % of all cases, with 11 of these countries reporting proportions of over 85 % ([146]). Other substances are also found in the toxicology reports in addition to heroin. The most frequently reported are alcohol, benzodiazepines, other opioids and, in some countries, cocaine. This suggests that a substantial proportion of all drug-induced fatalities may be related to polydrug use.

Men account for most heroin overdose deaths occurring in Europe (82 %). In most countries the mean age of those dying from drug overdose is in the mid-thirties, and in many instances it is increasing, suggesting a possible stabilisation or decrease in the number of young heroin users. Overall, 14 % of overdose deaths reported in Europe occur among those aged under 25 years, though in Bulgaria, Austria and some countries reporting small numbers of drug-induced deaths (Malta, Cyprus, Slovakia, Romania), more than a third of overdose deaths occur in this age group. This may indicate a younger population of heroin or injecting drug users in these countries ([147]).

Factors associated with heroin overdoses include injection and simultaneous use of other substances, in particular alcohol, benzodiazepines and some antidepressants, as well as co-morbidity, having experienced previous overdoses and being alone (Scottish Government, 2008). The time immediately after release from prison or discharge from drug treatment was identified as a particularly high-risk period for overdoses.

It is estimated that for each fatal overdose, there could be as many as 20 to 25 non-fatal overdoses, but their consequences are poorly recognised. The EMCDDA is conducting a critical review of associated risk factors and possible interventions in this field.

Methadone and buprenorphine

Research shows that opioid substitution treatment reduces the risk of fatal overdose. A number of deaths showing the presence of substances used in substitution treatment (methadone or buprenorphine) are nevertheless reported each year, mostly due to misuse or, in a small number of cases, to problems occurring during treatment.

The presence of methadone in a substantial proportion of drug-induced deaths is reported by several countries, although in the absence of common reporting standards, the role played by the substance is often unclear, as other drugs may be present. In addition, other factors may be involved, including: loss of opioid tolerance, excessive dosage or inappropriate use, such as irregular and non-therapeutic use. Deaths due to buprenorphine poisoning are infrequent, despite its increasing use in substitution treatment in Europe (see Chapter 6). In Finland, however, buprenorphine is now the most common substance detected in drug-induced deaths, usually in combination with sedative medicines or alcohol, or taken by injection.

Fentanyl and other synthetic opioids

An epidemic of fentanyl poisonings in Estonia caused the death of 117 injecting drug users in 2005/06 (EMCDDA, 2008b). No information on deaths related to fentanyl

([144]) For detailed methodological information see the 2009 statistical bulletin.
([145]) See Figure DRD-7 (part i) and Tables DRD-5 (part ii) and DRD-107 (part i) in the 2009 statistical bulletin.
([146]) As most cases reported to the EMCDDA are opioid overdoses (mainly heroin), general characteristics of reported drug-induced deaths are used for description of opioid cases.
See Figure DRD-1 in the 2009 statistical bulletin.
([147]) See Figures DRD-2 and DRD-3 and Table DRD-1 (part i) in the 2009 statistical bulletin.

in Estonia in 2007 is available, though recent studies confirm the increased use of the drug by injecting drug users. In 2007, two thirds of the injectors surveyed in Tallinn reported fentanyl as their primary drug, and one in 10 injectors attending the syringe exchange programme reported injecting fentanyl in the last month. Another study carried out in Tallinn found that injectors reporting fentanyl as their main drug had higher HIV prevalence and higher odds for injecting risk behaviour and lifetime overdose compared to amphetamine injectors (Talu et al., 2009). In Finland, opioids such as oxycodone, tramadol or fentanyl were reported in 21 deaths, though the role of these drugs was not specified.

Deaths related to other drugs

Cocaine-induced deaths are more difficult to define and identify than those related to opioids. Deaths directly caused by overdose seem to be uncommon, and these are usually linked with very large cocaine doses. Otherwise, most cocaine deaths appear to be the result of chronic toxicity leading to cardiovascular and neurological complications. The role of the drug in these deaths may not always be identified, in which case they will not be reported as cocaine-related. Interpreting the data is further complicated by the frequent presence of other substances, making the drawing of causal links difficult.

In 2007, around 500 deaths related to cocaine were reported in 12 Member States (compared to 450 in 14 countries in 2006). Nevertheless, it is likely that the number of cocaine-induced deaths in the European Union is under-reported.

Deaths in which ecstasy is present are infrequently reported and, in many of these cases, the drug has not been identified as the direct cause of death. While amphetamine deaths are also infrequently reported in Europe, in the Czech Republic a substantial proportion of fatal overdoses — excluding medicines — (11 out of 40) in 2007 have been attributed to pervitin (methamphetamine), compared to 14 deaths attributed to opioids. In Finland, amphetamines were present in 40 % of the 229 reported deaths in 2007, although this does not necessarily imply that the drug was the direct cause of death ([148]).

Trends in drug-induced deaths

Drug-induced deaths increased sharply in Europe during the 1980s and early 1990s, paralleling the increase in heroin use and drug injection, and thereafter remained at high levels. However, data from countries with long time series suggest differentiated trends: in some (e.g. Germany, Spain, France, Italy), deaths peaked in the early to mid-1990s; in other countries (e.g. Greece, Portugal, Finland), deaths peaked around the year 2000; and in some others (e.g. Denmark, Netherlands, Austria, United Kingdom), an upward trend was observed, but without a clear peak ([149]).

Between 2000 and 2003, most EU Member States reported a decrease, followed by a subsequent increase in deaths between 2003 and 2006. Preliminary data available for 2007 suggest a figure at least equal to that for the previous year, with increases reported by 14 out of 18 countries.

The reasons for the sustained numbers of reported drug-induced deaths are difficult to explain, especially given the indications of decreases in injecting drug use and increases in the numbers of opioid users in contact with treatment and harm reduction services. Against this possible reduction in the at-risk population, stable or rising numbers of drug-induced deaths have become a major cause of concern.

A number of possible explanations may exist for this phenomenon, all of which require further investigation. These include: an ageing and more chronic population becoming more vulnerable; increased levels of polydrug use or high-risk behaviour; a failure of existing services to target or reach those most vulnerable; or even an increase in the numbers of relapsing opioid users leaving prison or treatment, who are known to be at particularly high risk ([150]).

Overall mortality related to drug use

In addition to drug-induced deaths, the overall mortality related to drug use includes those deaths that are caused indirectly by drug use. These deaths are concentrated among problem drug users, although some could happen among occasional users (e.g. traffic accidents, some suicides). Although the number of deaths indirectly related to drug use is difficult to quantify, its impact on public health can be considerable.

Overall mortality can be estimated in different ways: one method consists of combining information from mortality cohort studies with estimates of drug use prevalence ([151]). Another approach is to use existing general mortality statistics and estimate the proportion related to drug use. Other specialised information sources can be used, for

([148]) For data on deaths related to drugs other than heroin, see Table DRD-108 in the 2009 statistical bulletin.
([149]) See Figures DRD-8 and DRD-11 in the 2009 statistical bulletin. For historical reasons, the EU trend refers to EU-15 and Norway.
([150]) See 'Reducing overdose deaths after prison', p. 89.
([151]) See 'Estimating total mortality attributed to problem drug use: new developments', p. 87.

instance, in the case of mortality related to HIV/AIDS, Eurostat and EuroHIV information is combined.

Mortality cohort studies

Mortality cohort studies track the same groups of problem drug users over time and, through linkage with mortality registries, try to identify the causes of all deaths occurring in the group. This type of study can determine overall and cause-specific mortality rates for the cohort, and can estimate the group's excess mortality compared to the general population. Large-scale longitudinal cohort studies can be used to test hypotheses about, for example, the reasons for changes in the numbers of drug-induced deaths, as well as to monitor the overall risk and detect changing patterns in the causes of death.

Depending on recruitment settings (e.g. studies carried out in drug treatment facilities) and inclusion criteria (e.g. injecting drug users, heroin users), most cohort studies show mortality rates in the range of 1–2 % per year among problem drug users. Although the relative importance of the causes of death varies between countries and over time, the main cause is generally drug overdose, accounting for up to 50–60 % of deaths among injectors in countries with low prevalence of HIV/AIDS. Unfortunately, some countries show a low detection rate of overdoses in the general mortality registries and, therefore, a significant proportion of deaths recorded with an 'unknown' or an insufficiently specified cause (e.g. cardiac arrest) might be overdoses. To improve the validity of the description of causes of deaths other sources of information (i.e. special police or forensic mortality registries) can be consulted too.

The EMCDDA has developed a protocol to encourage Member States to undertake mortality cohort studies, with the aim of providing comparable information about mortality risks in problem drug users and to inform prevention and care policies. The most recent European studies were conducted in Germany, Spain, Italy, the Netherlands, the United Kingdom and Norway. A third of the EU Member States have yet to carry out a mortality cohort study, though several countries report studies that are on-going or planned for 2009 (e.g. Czech Republic, France, Latvia, Poland).

Deaths indirectly related to drug use

It can be estimated that in 2006, over 2 100 people died of HIV/AIDS attributable to drug use in the European Union ([152]), with 89 % of these deaths occurring in Spain, France, Italy and Portugal. Following the introduction of highly active antiretroviral therapy in 1996, HIV/AIDS mortality decreased markedly in most EU countries, although the decrease was much less pronounced in Portugal. Increases observed in recent years in Estonia are consistent with the high estimates of HIV prevalence among injecting drug users in this country (5 to 6 out of 10) and the high proportion of them reportedly unaware of their infection. Recent increases have also been reported in Latvia. At present, estimated HIV/AIDS mortality rates among drug users are low in most countries, except in Spain and Portugal. In Italy, France and Latvia, HIV/AIDS mortality and overdose mortality are of similar levels ([153]).

Other diseases that also account for a proportion of deaths among drug users include chronic conditions such as liver diseases (due to hepatitis C infection and heavy alcohol use), cancer and cardiovascular problems. Other causes have received much less attention, despite indications that they have a considerable impact. For instance, trauma (accidents, homicides and other violence) and suicide could account for 25 % or more of the mortality of problem drug users. A literature review

Estimating total mortality attributed to problem drug use: new developments

Recent mortality cohort studies in the European Union indicate that drug-induced deaths (overdoses) represent typically between a fifth and a half of the overall number of fatalities among problem drug users. This suggests that the total mortality in this population could be around two to five times the number of registered drug-induced deaths. This multiplier varies across countries according to different factors, including risk behaviours, rate of fatal overdoses and prevalence of other possible causes of death.

The EMCDDA is promoting research into estimating the total mortality among problem drug users. In 2008, a project in collaboration with researchers from the Czech Republic reviewed the literature, data sources and possible methods in this field ([1]). An expert group recommended two methods for future studies: a multiplier method based on the number of registered fatal overdoses; and an extrapolation method based on mortality rates in cohorts of problem drug users and national estimates of the population of problem drug users. Both methods have been successfully pilot-tested in the Czech Republic, and the EMCDDA plans to set up a group of interested countries that could use this work in the near future.

([1]) See http://www.emcdda.europa.eu/themes/key-indicators/drd

([152]) The year 2006 was taken as the more recent year for which information from almost all Member States regarding causes of death is available through Eurostat. For detailed information on sources, for the transmission groups, numbers and computations see Table DRD-5 (part iii) in the 2009 statistical bulletin.

([153]) See Figure DRD-7 (part ii) in the 2009 statistical bulletin.

(Darke and Ross, 2002) found that the suicide rate among heroin users was 14 times higher than among the general population. In recent cohort studies in Europe, suicide accounted for 6 % to 11 % of deaths among problem drug users. However, the overall impact of these causes is difficult to assess due to the limited availability of data.

Reducing drug-related deaths

Twelve countries report that their national drug strategy includes a part dedicated to the reduction of drug-induced deaths. One country, the United Kingdom, has a specific action plan to reduce drug-related harm, which sets out specific actions for the prevention of drug-related deaths. Thirteen countries have neither a specific strategy or a section of the national drug strategy dedicated to the reduction of drug-induced deaths, and two countries reported no information.

Interventions

A prospective long-term study among problem drug users entering treatment in Italy showed that the risk of death among the cohort was, compared to the general population, increased by a factor of 10 (Davoli et al., 2007). Being in treatment lowered the risk of death to four times that of the general population, confirming thereby that drug treatment reduces drug-related mortality. However, the study also showed that the highest mortality rate among drug users was observed in the 30 days after cessation of treatment. This finding highlights the need for careful after-care management, as well as the avoidance of very short treatment episodes, where risks could outweigh the benefits of treatment.

The provision of awareness raising and prevention materials is reported from most countries for which information is available. According to experts from 28 countries ([154]), printed or multi-media overdose prevention materials for drug users have been provided during the last year to most or nearly all problem drug users in nine countries, and to a minority of them in 12 countries and in the French Community in Belgium. Such materials do not exist in Turkey, and few problem drug users have access to them in Estonia, Latvia, Hungary and Slovakia. No information is available from Bulgaria.

A large proportion of fatal and non-fatal drug overdoses are witnessed by others, including drug users' peers or family members, health and social staff, police or prison guards, who would be in a position to intervene. Ten countries report specific materials that aim at helping families of drug users to recognise and manage drug overdoses; in eight countries, such materials are available for police officers; and in seven countries, they have been developed for prison staff ([155]). Other target groups include workers of drugs agencies, ambulance personnel, accident and emergency staff, as well as immigrants from Russian-speaking countries and the Roma population. The number of countries where materials for several target groups are available, however, is limited, and not all materials are accessible nationwide.

Education about overdose risk is reported by all countries, and in nine of them it exists in most relevant cities with a significant number of problem drug users. However, in four countries, such activities take place only in a minority of relevant cities, and in a further 12 countries in just a few cities.

Specific training courses on overdose responses are provided either in individual or group sessions. Drug users are informed about overdose risks, including decreased tolerance after periods of abstinence, the effects and risks of polydrug use, in particular concomitant alcohol use, risks of using drugs when alone and skills in first aid. It is estimated by national experts that in seven countries a majority of problem drug users received some overdose response training in the last 12 months, while in 10 countries only a minority received it, and in a further six countries (Belgium, Latvia, Austria, Poland, Romania, Slovakia) only a few problem drug users received this type of instruction. Overdose response training is not available in Estonia, Hungary and Turkey.

Drug users with previous experience of non-fatal overdose are at high risk of experiencing future overdoses (Coffin et al., 2007) and should be specifically targeted. Individual overdose risk assessments are conducted by trained staff, and aim at identifying those in need of additional support. According to experts, in nine countries most problem drug users received an overdose risk assessment at least once during the last year, while in 16 countries only a minority received this type of intervention. No information is available from Bulgaria, Germany and France.

The provision of naloxone to users is not a standard approach in overdose prevention throughout Europe, though the distribution of take-home supplies is common in drugs services in Italy, where they may also be purchased in pharmacies without prescription. In the United Kingdom, the legal status of naloxone was changed in June 2005, permitting its administration by any member of the public in life-saving circumstances. In addition, the impact of overdose training integrated with naloxone take-home

([154]) See Table HSR-8 in the 2009 statistical bulletin. Experts from 26 EU countries, Turkey and Norway rated the level of provision of selected interventions to prevent drug-related deaths.

([155]) See Table HSR-8 (part ii) in the 2009 statistical bulletin.

Reducing overdose deaths after prison

In England, it has been estimated that 15 % of the 1 506 drug overdose deaths in 2005 occurred in people recently released from prison (Department of Health, 2007). International studies confirm this elevated risk of death due to unintentional drug overdose in the time immediately after release from prison (e.g. Farrell and Marsden, 2008). These studies also underline the need for better responses to mental health and drug problems for those who have been in prison.

According to expert ratings from 24 countries, prison pre-release counselling on overdose risk and prevention is currently not provided in six European countries, only provided to a few problem drug users in prison in 10 countries, and to less than half of them in a further six countries. Only Italy and Luxembourg provide this service to the majority of the target population. As the day of release may be difficult to predict, especially for remand prisoners, overdose risk awareness education should ideally be offered on a regular basis in prisons to reduce risk behaviours.

Opioid substitution treatment, which has shown a protective effect in the prison context (Dolan et al., 2005), appears to be becoming more available in prisons in the EU, and the legal option to initiate substitution treatment in prison exists in 21 countries (see Chapter 2). The opportunity to start this type of treatment in prison reduces the risk of overdose and death on leaving prison, and reduces reincarceration rates (WHO, 2009). It is, however, important that prison health services and community-based treatment providers are appropriately linked to avoid any gaps in the continuity of treatment.

supply was assessed in a cohort study with 239 opioid users recruited from treatment services (Strang et al., 2008). Results show improved knowledge of signs of overdose and increased confidence of using naloxone. During the first 3 months, all 12 overdoses where naloxone was used had been reversed successfully, while one death had occurred in the six overdoses in which it was not used. The authors conclude that wider provision may reduce drug-related deaths further and recommend additional studies of the impact of overdose training and emergency naloxone-supply among opioid users.

Another controversial approach is the provision of supervised drug consumption facilities ([156]), which aim to reduce the risk of death for their clients by providing prompt and appropriate medical attention in the event of an on-site overdose. Operational data from such facilities in Europe, Canada and Australia indicate that drug overdoses that occur in the facility are successfully managed, with no reported fatal overdoses. Milloy and colleagues calculated the number of deaths potentially averted by the operation of the drug consumption facility in Vancouver. They estimated that between two and 12 deaths a year may have been averted (Milloy et al., 2008). This confirms earlier findings regarding the likely beneficial effect of these facilities on overdose deaths in neighbourhoods where coverage is sufficient.

([156]) See EMCDDA (2004) for a review of this issue.

Chapter 8

New drugs and emerging trends

Introduction

The use of new psychoactive substances and new patterns of drug use can have important public health and policy implications. They are, however, difficult to detect because, typically, they first emerge at low levels and in specific localities or among restricted sub-groups of the population. Few countries have monitoring systems that are sensitive to new phenomena in the drug field, and methodological difficulties to detect them are considerable. Nonetheless, the importance of identifying potential new threats is widely recognised. The European Union's early-warning system provides a quick-response mechanism to the emergence of new psychoactive substances on the drug scene. Activities in support of the early-warning system form an important part of the work of the EMCDDA and fit within a broader perspective of using a wide variety of data sources to improve the timeliness and sensitivity of the European drug monitoring system.

Action on new drugs

The Council decision on new psychoactive substances ([157]) establishes a mechanism for the rapid exchange of information on new psychoactive substances that may pose public health and social threats (the early-warning system) ([158]). It also provides the possibility to trigger a formal risk assessment process, the findings of which may lead to a political decision to place new substances under control across the European Union.

More than 90 substances have been reported through the early-warning system since its establishment in 1997. Until recently, phenethylamines and tryptamines accounted for a large proportion of notifications. However, in the past few years, a much more diverse range of substances has appeared. Included among these are numerous piperazine and cathinone derivatives, as well as a heterogeneous mix of other substances, including plant products, a few unusual stimulants and hallucinogens and some medicinal products.

During 2008, 13 new psychoactive substances were officially notified for the first time in the EU through the early-warning system. Besides new synthetic drugs, which accounted for 11 of the newly notified substances, the group included two plants, but no medicinal products.

The chemical make-up of the two plants reported — kratom and kava — is relatively well known from the literature. They have been traditionally used in other parts of the world and their presence on the European drug scene seems to be limited.

Most of the newly reported synthetic compounds are psychotropic substances similar to those listed in Schedules I and II of the 1971 United Nations Convention on Psychotropic Substances. Of the new substances reported in 2008, compared with previous years, fewer belong to the main chemical groups — phenethylamines (one), tryptamines (two) and piperazines (none). Notably, six of the newly notified substances are cathinone derivatives. Most of the new synthetic substances have stimulant properties, while only three produce hallucinogenic effects.

For the first time ever, in 2008, a synthetic cannabinoid (JWH-018) was reported through the early-warning system. The appearance of synthetic cannabinoids marks the latest stage in the development of 'designer drugs': from those based on fentanyl in the 1980s; to ring-substituted phenethylamines in the late 1980s and tryptamines in 1990s; to piperazines and cathinone derivatives in the 2000s. There are over a hundred compounds with cannabinoid receptor activity, and it can be assumed that new substances from different chemical groups will continue to appear on the drug scene. All this presents a constant challenge to public health and law enforcement agencies, both for the forensic and toxicological identification of new substances, and for the prompt assessment of risk and, where necessary, implementation of control measures.

([157]) Council Decision 2005/387/JHA of 10 May 2005 on the information exchange, risk assessment and control of new psychoactive substances (OJ L 127, 20.5.2005, p. 32)(http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:127:0032:0037:EN:PDF).

([158]) http://www.emcdda.europa.eu/themes/new-drugs/early-warning

Psychoactive plants reported through the early-warning system

Products of five psychoactive plants have been reported in recent years. The species detected by the early-warning system are not under international control, but may be controlled by EU Member States.

Kava (*Piper methysticum*) is a shrub that has been used for centuries in the South Pacific Islands for ceremonial purposes. A tea brewed from the roots of the plant can be taken for its anti-anxiety and relaxant effects. Concern has been growing that long-term use of kava can cause liver damage. Neither the plant or its active principles (kavalactones) are reported to be controlled in any EU Member State.

Khat is comprised of leaves and fresh shoots of *Catha edulis*, a shrub cultivated in East Africa and the Arabian Peninsula. It is used as a mild stimulant by chewing the fresh vegetable matter. The active components, cathinone and cathin, are close chemical relatives of synthetic drugs such as amphetamine and methcathinone, and are internationally controlled under the 1971 UN Convention. *Catha edulis* is controlled in 12 EU Member States.

Kratom (*Mitragyna speciosa*) is a tree native to south-east Asia. The leaves can be chewed, smoked or brewed into a tea. At low doses, it has stimulant effects. At higher doses, kratom has opioid-like effects, and has been used in traditional medicine to treat pain and opioid withdrawal. The main active principles of kratom are mitragynine, mitraphylline and 7-hydroxymitragynine; though mitragynine is probably responsible for kratom's analgesic activity and for relieving the opioid withdrawal symptoms. The plant, mitragynine and 7-hydroxymitragynine are controlled in Denmark, while Lithuania controls the plant and mitragynine.

Salvia divinorum is a perennial herb native to southern Mexico, where due to its hallucinogenic properties it is traditionally used for ceremonial purposes. The main active principle, salvinorin-A, is a potent kappa opioid receptor agonist. Recreational modes of use of *Salvia* include chewing the leaves, and smoking or sublingual administration of concentrated extracts, which appear to produce intense effects. Ingestion of the leaves or seeds of the plant produces a longer-lasting, but less intense effect. *Salvia divinorum* or its active principles are controlled in six Member States and Croatia.

Hawaiian baby woodrose (*Argyreia nervosa*) is a perennial climbing vine. Its seeds contain the active principle d-lysergic acid amide (LSA, also known as d-lysergamide), a substance closely related to LSD, and can produce mild hallucinogenic effects. LSA is controlled as a drug in Ireland and the United Kingdom.

'Spice' products and related synthetic cannabinoids

Products marketed on the Internet and in some specialised shops under the name 'spice' have been available since at least 2006. Although 'spice' may be advertised as incense, when smoked the effects are described by some users as similar to those of cannabis. Following a report from Sweden, the early-warning system has been monitoring 'spice' products since the beginning of 2008.

Packaging information on 'spice' products indicates that they are composed of as many as 14 ingredients of plant origin. While at least two of the ingredients — *Pedicularis densiflora* and *Leonotis leonurus* — may have some psychoactive effect, little is known about the pharmacology and toxicology of the plant materials purportedly contained in 'spice' products. Thus, no definite statements can be made as to the potential health risks or possible psychoactive effects of these products. Synthetic ingredients are not mentioned in the product information.

In 2008, 'spice' products, as well as various other 'spice-like' herbal mixes, could be purchased from online shops, and were available in 'head' or 'smart' shops selling 'legal highs' in at least nine EU Member States (Czech Republic, Germany, Latvia, Lithuania, Luxembourg, Austria, Poland, Portugal, United Kingdom).

Extensive forensic science investigations have been undertaken by Member States in order to identify the psychoactive ingredients of 'spice' products. In December 2008, Germany and Austria detected the synthetic cannabinoid JWH-018 ([159]). The chemical structure of JWH-018 differs substantially from that of tetrahydrocannabinol (THC), the main active principle in all cannabis products. In experimental animals, JWH-018 produces the same effects as THC, and has been reported to be more potent. Early in 2009, a second synthetic cannabinoid, CP 47,497 ([160]), and three of its homologues were detected in 'spice' samples in Europe.

Synthetic cannabinoids have been identified only in a limited number of samples, and in varying amounts. It would appear that these synthetic substances have been added surreptitiously, as packaging information on 'spice' products only mentions herbal ingredients.

The substances JWH-018 and CP 47,497 and its homologues are not known to have been widely used as psychoactive drugs, in their own rights. Therefore, it is still to be established if a specific demand for these particular substances exists, and if there is a need for further action as stipulated by Council Decision 2005/387/JHA.

Responding to potential health concerns, five Member States have taken diverse legal actions to ban or

([159]) Naphthalen-1-yl-(1-pentylindol-3-yl)methanon.
([160]) 5-(1,1-Dimethylheptyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol.

National risk assessment procedures

In 2008, the EMCDDA conducted a study of the different national legal procedures involved in putting new substances under the control of the drugs legislation, the time taken for such a procedure, and whether any national risk assessment procedure would be involved. Across the 26 countries studied, three distinct approaches to risk assessment are apparent. In six countries, national risk assessment is not carried out. Generally, these countries rely on risk assessments carried out at international or European level. In seven countries, national risk assessment may be carried out on an ad-hoc basis, when necessary. And, in 13 countries, a form of risk assessment will be undertaken when considering whether to control a substance, either mandated by the drug law or equivalent or as part of the required procedure for proposing any new legislation.

The levels of harm detected will not affect the speed of the legislative procedure in 12 of the 20 countries that may carry out their own risk assessments. Four countries (Germany, Luxembourg, Slovakia, Sweden) may switch to a fast-track legislative procedure if the levels of risk are judged high. In France, Austria and Norway, cases of urgency will lead to a shortened duration for the risk assessment itself. In the Netherlands, both possibilities are available.

In 16 countries, national risk assessments are carried out by a group of experts within the public administration, either a competent ministry or a state or governmental agency. Six countries do or might provide for the possibility of consultation with independent scientists, if a need is perceived. And, in three countries (Netherlands, Austria, United Kingdom), risk assessment is performed by independent scientific bodies.

See ELDD Legal reports for further information (http://eldd.emcdda.europa.eu).

otherwise control 'spice' products and related compounds. Germany used emergency narcotics legislation to control five synthetic cannabinoids found in 'spice' for 1 year. France classified as narcotics six synthetic cannabinoids found in 'spice' products. Austria used its medicines act to prohibit smoking mixes containing six synthetic cannabinoids from being imported or marketed in the country. Luxembourg decided to control various synthetic cannabinoids as psychotropic substances. Poland amended the narcotic law, placing under control JWH-018 and two of the claimed herbal ingredients of 'spice'.

Internet: a marketplace for psychoactive substances

The Internet has emerged as a new marketplace for psychoactive substances, providing retailers with the possibility of offering for sale alternatives to controlled drugs to a large public. The online marketplace has implications for the potential spread of new psychoactive substances, and monitoring it is an increasingly important element of identifying new drug trends. In particular, it is necessary to focus on the risks associated with the substances offered for sale. Information about new products is needed by both the users and professionals, including clinical toxicologists, poison control specialists and those working in the drugs field.

To identify current developments in the online drug market, the EMCDDA conducts an annual snapshot study. In 2009, a total of 115 online shops were surveyed. Based on the country code domains and other information on the websites, these online shops appear to be located in 17 European countries. The majority of online retailers identified were based in the United Kingdom (37 %), Germany (15 %), Netherlands (14 %) and Romania (7 %).

Hallucinogenic mushrooms containing psilocin and psilocybin were not offered for sale in any of the online shops surveyed in 2009, unlike 2008. However, four online retailers based in France and the Netherlands offered sclerotia — the hardened mycelium of the hallucinogenic mushrooms *Psilocybe mexicana* and *Psilocybe tampanensis*.

New products offered for sale in 2009 include a range of herbal smoking products and 'party pills' containing new legal alternatives to benzylpiperazine (BZP). There has also been an increasing focus on snuff products or herbal powders.

'Spice' products ([161]) were offered for sale by 48 % of the retailers surveyed. While the online shops selling 'spice' were based in 14 different European countries, more than two fifths of these shops were located in the United Kingdom (42 %), with significant numbers also in Ireland, Latvia and Romania.

Concern about 'spice' products has led to a number of countries taking legal action to ban or otherwise control these substances. By March 2009, 'spice' products had been withdrawn from online shops based in Germany, Austria and France.

In 2009, alternative smoking blends to 'spice' started to appear on the online marketplace. The retailers surveyed offered for sale at least 27 different herbal smoking blends as alternatives to 'spice'. These products are advertised as containing plant-based ingredients, though some also contain the hallucinogenic mushroom *Amanita muscaria*. The 'spice' alternatives offered for sale in Austria and Germany include several herbal smoking blends that are

([161]) See ''Spice' products and related synthetic cannabinoids' p. 92.

being sold as 'room odorisers' or incense. The speedy appearance of substitute products for 'spice' underlines the ability of this marketplace to respond rapidly to changes in the legal status of psychoactive substances, often by bringing new substances on to the market.

Since BZP became subject to control measures in EU Member States, this substance may no longer be used in 'party pills' sold as legal alternatives to ecstasy. At the beginning of 2009, many online retailers were offering BZP-free 'party pills'. For example, online shops based in Ireland, Poland and the United Kingdom were offering 'retro pills', which are purported to contain 1-(4-fluorophenyl) piperazine (pFPP), a substance described as having mild hallucinogenic and strong euphoric effects.

Snuff products are marketed as an alternative to controlled drugs such as cocaine or amphetamines. The products are purported to contain caffeine and a range of other plant-based ingredients such as *Acorus calamus*, *Hydrastis canadensis* and *Tilia europea*.

Follow-up on substances

Piperazines

In 2007, the EMCDDA–Europol active monitoring report on mCPP (1-(3-chlorophenyl)piperazine) concluded that it has no particular appeal to users and seems unlikely to establish itself as a recreational drug in its own right. In 2008, however, mCPP continued to be the most widely available new synthetic drug on the illicit drug market, encountered alone or in combination with MDMA. This is evidenced both by the number of seizures and the amount of seized material reported to the EMCDDA and Europol. It is still unclear if the substance is used to enhance or mimic some of the effects of MDMA or simply as a 'cutting agent'. However, as mCPP is not a controlled substance in most Member States, it is likely that seizures are under-reported.

On 3 March 2008, the Council decided that Member States shall take the necessary measures, in accordance with their national law, to submit BZP to control measures proportionate to the risks of the substance, and criminal penalties, as provided for under their legislation complying with their obligations under the 1971 United Nations Convention on Psychotropic Substances ([162]). Member States shall endeavour to take this action, as soon as possible, but no later than 1 year from the date of the decision. At the time of the preparation of this report, 17 Member States ([163]) have reported that they have controlled BZP.

GHB/GBL and ketamine

In Europe, gamma-hydroxybutyric acid (GHB) and ketamine have been under surveillance since 2000, when a risk assessment of both of these substances was conducted under the terms of the 1997 joint action on new synthetic drugs (EMCDDA, 2002).

Few countries report prevalence data on GHB and ketamine, and the prevalence estimates that are reported remain at much lower levels than for other illicit drugs. Changes in the situation are difficult to assess due to prevalence data being obtained from non-probabilistic samples with limited comparability over time and between samples. The Dutch 'Trendwatch' study reported a slight increase in the use of GHB in specific networks and regions in the Netherlands in 2007, but both GHB and ketamine are used less often than other party drugs and mostly in hidden populations, at home and at parties. In contrast to increases reported in previous years, the latest statistics on medical emergencies related to GHB in Amsterdam indicate a marked decline, from 444 cases in 2006 to 110 in 2007. A study carried out at a London hospital reported 58 emergencies related to ketamine use in 2006, and the same number in 2007. In most of the ketamine-related presentations, the drug was co-ingested with other drugs, with only 11 % involving ketamine on its own, and none of these required admission to critical care (Wood et al., 2008).

The ESPAD school population surveys carried out in 2007 provide the most recent data on GHB use among 15- to 16-year-old school students across Europe. Among the school students surveyed in 26 EU countries plus Norway and Croatia, lifetime prevalence of GHB use ranges from zero to 3 %, though most countries report a level of 1 % or less.

([162]) Council Decision 2008/206/JHA of 3 March 2008 on defining 1-benzylpiperazine (BZP) as a new psychoactive substance which is to be made subject to control measures and criminal provisions (OJ L 63, 7.3.2008, p. 45)(http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:063:0045:0046:EN:PDF).

([163]) Belgium, Denmark, Germany, Estonia, Ireland, Greece, France, Italy, Cyprus, Lithuania, Luxembourg, Malta, Hungary, Portugal, Slovakia, Sweden and Finland; as well as Croatia, Turkey and Norway.

References

ACMD (2008), *Cannabis: classification and public health*, Advisory Council on the Misuse of Drugs, Home Office, London (http://drugs.homeoffice.gov.uk/publication-search/acmd/acmd-cannabis-report-2008?view=Binary).

Arponen, A., Brummer-Korvenkontio, H., Liitsola, K. and Salminen, M. (2008), *Trust and free will as the keys to success for the low threshold health service centers (LTHSC)*, National Public Health Institute, Helsinki (http://www.ktl.fi/attachments/suomi/julkaisut/julkaisusarja_b/2008/2008b24.pdf).

Baker, A., Lee, N.K. and Jenner, L. (editors) (2004), *Models of intervention and care for psychostimulant users* (2nd edition), National Drug Strategy Monograph Series No. 51, Australian Government Department of Health and Ageing, Canberra.

Baldacchino, A., Groussard-Escaffre, N., Clancy, C. et al. (2009), 'Epidemiological issues in comorbidity: lessons learnt from a pan-European Isadora project', *Mental Health and Substance Use: Dual Diagnosis* 2, pp. 88–100.

Bargagli, A.M., Hickman, M., Davoli, M. et al. (2005), 'Drug-related mortality and its impact on adult mortality in eight European countries', *European Journal of Public Health* 16, pp. 198–202.

Cherny, N.I., Catane, R. and Kosmidis, P.A. (2006), 'Problems of opioid availability and accessibility across Europe: ESMO tackles the regulatory causes of intolerable and needless suffering', *Annals of Oncology* 17, pp. 885–7.

CND (2008), *World drug situation with regard to drug trafficking: report of the Secretariat*, Commission on Narcotic Drugs, United Nations: Economic and Social Council, Vienna.

Coffin, P.O., Tracy, M., Bucciarelli, A. et al. (2007), 'Identifying injection drug users at risk of nonfatal overdose', *Academic Emergency Medicine* 14, pp. 616–23.

Connolly, J., Foran, S., Donovan, A.M. et al. (2008), *Crack cocaine in the Dublin region: an evidence base for a Dublin crack cocaine strategy*, HRB Research Series 6, Health Research Board, Dublin (http://www.hrb.ie/uploads/tx_hrbpublications/HRB_Research_Series_6.pdf).

Cunningham, J.A. (2000), 'Remissions from drug dependence: is treatment a prerequisite?', *Drug and Alcohol Dependence* 59, pp. 211–3.

Darke, S. and Ross, J. (2002), 'Suicide among heroin users: rates, risk factors and methods', *Addiction* 97, pp. 1383–94.

Davoli, M., Bargagli, A.M., Perucci, C.A. et al. (2007), 'Risk of fatal overdose during and after specialised drug treatment: the VEdeTTE study, a national multi-site prospective cohort study', *Addiction* 102, pp. 1954–9.

Decorte, T. (2000), *The taming of cocaine*, VUB University Press, Brussels.

Department of Health (2007), *Reduction of drug-related harm: an action plan*, Department of Health, London (http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_074850).

Desroches, F. (2007), 'Research on upper level drug trafficking: a review', *Journal of Drug Issues* 37, pp. 827–44.

Directorate-General for Health and Consumers (2008a), *Final report on prevention, treatment, and harm reduction services in prison, on reintegration services on release from prison and methods to monitor/analyse drug use among prisoners*, Directorate-General for Health and Consumers, Brussels (http://ec.europa.eu/health/ph_determinants/life_style/drug/documents/drug_frep1.pdf).

Directorate-General for Health and Consumers (2008b), *Quality of treatment services in Europe — drug treatment situation and exchange of good practice*, Directorate-General for Health and Consumers, Brussels (http://ec.europa.eu/health/ph_determinants/life_style/drug/documents/drug_treament_frep_en.pdf).

Dolan, K.A., Shearer, J., White, B. et al. (2005), 'Four-year follow-up of imprisoned male heroin users and methadone treatment: mortality, re-incarceration and hepatitis C infection', *Addiction* 100, pp. 820–8.

ECDC and WHO Regional Office for Europe (2008), *HIV/AIDS surveillance in Europe 2007*, European Centre for Disease Prevention and Control, Stockholm.

Elkashef, A., Vocci, F., Hanson, G. et al. (2008), 'Pharmacotherapy of methamphetamine addiction: an update', *Substance Abuse* 29, pp. 31–49.

Ellingstad, T.P., Sobell, L.C., Sobell, M.B. et al. (2006), 'Self-change: a pathway to cannabis abuse resolution', *Addictive Behaviours* 31, pp. 519–30.

EMCDDA (2002), *Report on the risk assessment of GHB in the framework of the joint action on new synthetic drugs*, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2004), *European report on drug consumption rooms*, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2005), *Co-morbidity: drug use and mental disorders*, Drugs in focus No 14, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2006a), *A gender perspective on drug use and responding to drug problem*, Selected issue, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2006b), *Developments in drug use within recreational settings*, Selected issue, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2007a), *Cocaine and crack cocaine: a growing public health issue*, Selected issue, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2007b), *Drugs and crime: a complex relationship*, Drugs in focus No 16, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2007c), *Drugs and driving*, Selected issue, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2008a), *A cannabis reader: global issues and local experiences*, Monograph No 8, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2008b), *Annual report 2008: the state of the drugs problem in Europe*, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2008c), *Drugs and vulnerable groups of young people*, Selected issue, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2008d), *Monitoring the supply of cocaine to Europe*, Technical datasheet, European Monitoring Centre for Drugs and Drug Addiction, Lisbon (http://www.emcdda.europa.eu/publications/technical-datasheets/cocaine-trafficking).

EMCDDA (2008e), *Towards a better understanding of drug-related public expenditure in Europe*, Selected issue, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2009a), *Internet-based drug treatment interventions: best practice and applications in EU Member States*, Insights No 10, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

EMCDDA (2009b), *Preventing later substance use disorders in at-risk children and adolescents: a review of the theory and evidence base of indicated prevention*, Thematic papers, European Monitoring Centre for Drugs and Drug Addiction, Lisbon (http://www.emcdda.europa.eu/publications/thematic-papers/indicated-prevention).

European Commission (2007), 'Report from the Commission to the European Parliament and the Council on the implementation of the Council Recommendation of 18 June 2003 on the prevention and reduction of health-related harm associated with drug dependence', COM (2007) 199 final (http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007_0199en01.pdf).

European Commission (2008a), *Civil Society Forum on Drugs in the European Union*, Brussels 20–21 May 2008, Final report (http://ec.europa.eu/justice_home/fsj/drugs/forum/docs/final_report_2008_en.pdf).

European Commission (2008b), 'Young people and drugs among 15–24 year-olds', *Flash Eurobarometer* 233 (http://ec.europa.eu/health/ph_publication/eurobarometers_en.htm).

European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) (2006), *The CPT standards — 'Substantive' sections of the CPTs General Reports*, CPT/Inf/E (2002)1-Rev.2006 (http://www.cpt.coe.int/EN/documents/eng-standards-prn.pdf).

Europol (2007), *Project COLA: European Union cocaine situation report 2007*, Europol, The Hague.

Europol (2008), *European Union drug situation report 2007*, Europol, The Hague.

Farrell, M. and Marsden, J. (2008), 'Acute risk of drug-related death among newly released prisoners in England and Wales', *Addiction* 103, pp. 251–5.

GLADA (2004), *An evidence base for the London crack cocaine strategy*, Greater London Authority, London.

Grebely, J., Genoway, K., Khara, M. et al. (2007), 'Treatment uptake and outcomes among current and former injection drug users receiving directly observed therapy within a multidisciplinary group model for the treatment of hepatitis C virus infection', *International Journal of Drug Policy* 18, 437–43.

Hall, W. and Solowij, N. (1998), 'Adverse effects of cannabis', *Lancet* 1352, pp. 1611–16.

Hedrich, D., Majo Roca, X., Marvanyközi, F. and Razc, J. (editors) (2008a), *Data-collection protocol for specialist harm reduction agencies*, Foundation Regenboog-AMOC, Correlation Network, Amsterdam (http://www.correlation-net.org/images/stories/pdfs/products/datacollection.pdf).

Hedrich, D., Pirona, A. and Wiessing, L. (2008b), 'From margin to mainstream: the evolution of harm reduction responses to problem drug use in Europe', *Drugs: Education, Prevention and Policy* 15, pp. 503–17 (doi:10.1080/09687630802227673).

Henquet, C., Krabbendam, L., Spauwen, J. et al. (2005), 'Prospective cohort study of cannabis use, predisposition for psychosis, and symptoms in young people', *BMJ* 330, p. 11.

Henskens, R., Garretsen, H., Bongers, I. et al. (2008), 'Effectiveness of an outreach treatment program for inner city crack abusers: compliance, outcome, and client satisfaction', *Substance Use & Misuse* 43, pp. 1464–75.

Hibell, B. et al. (2009), *The ESPAD Report 2007: alcohol and other drug use among students in 35 European countries*, The Swedish Council for Information on Alcohol and Other Drugs (CAN) and Council of Europe Pompidou Group.

Hoare, R. and Flatley, J. (2008), *Drug misuse declared: findings from the 2007/08 British Crime Survey*, Home Office Statistical Bulletin, Home Office, London.

Hornik, R., Jacobsohn, L., Orwin, R. et al. (2008), 'Effects of the National Youth Anti-Drug Media Campaign on youths', *American Journal of Public Health* 98, pp. 2229–36.

INCB (2009a), *Report of the International Narcotics Control Board for 2008*, United Nations: International Narcotics Control Board, New York.

INCB (2009b), *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances 2008*, United Nations: International Narcotics Control Board, New York.

Jager, J., Limburg, W., Kretzschmar, M. et al. (editors) (2004), *Hepatitis C and injecting drug use: impact, costs and policy options*, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

Knapp, W.P., Soares, B.G., Farrell, M. and Lima, M.S. (2007), 'Psychosocial interventions for cocaine and psychostimulant amphetamines related disorders', *Cochrane Database of Systematic Reviews* (3), CD003023.

Korf, D. (editor) (2008), *Cannabis in Europe: dynamics in perception, policy and markets*, Pompidou Group, Pabst Science Publishers, Lengerich, Germany.

Loftis, J.M., Matthews, A.M. and Hauser, P. (2006), 'Psychiatric and substance use disorders in individuals with hepatitis C: epidemiology and management', *Drugs* 66, pp. 155–74.

McCambridge, J., Slym, R.L. and Strang, J. (2008), 'Randomized controlled trial of motivational interviewing compared with drug information and advice for early intervention among young cannabis users', *Addiction* 103, pp. 1819–20.

McIntosh, J., Bloor, M. and Robertson, M. (2008), 'Drug treatment and the achievement of paid employment', *Addiction Research and Theory* 16, 37–45.

Mennes, C.E., Ben Abdallah, A. and Cottler, L.B. (2009), 'The reliability of self-reported cannabis abuse, dependence and withdrawal symptoms: Multisite study of differences between general population and treatment groups', *Addictive Behaviors* 34, 223–6.

Milloy, M., Kerr, T., Tyndall, M. et al. (2008), 'Estimated drug overdose deaths averted by North America's first medically-supervised safer injection facility', *PLoS ONE* 3(10): e3351 (doi:10.1371/journal.pone.0003351).

Miovský, M., Miovská, L., Řehan, V. and Trapková, B. (2007), 'Substance use in fifth- and seventh-grade basic school pupils: review of results of quasi-experimental evaluation study', *Československá Psychologie* 103 (Supplement 51), pp. 109–18 (http://cspsych.psu.cas.cz/files/cspsych_supplement2007.pdf).

Moussalli, J., Melin, P., Wartelle-Bladou, C. and Lang, J.P. (2007), 'Prise en charge de l'hépatite C chez les patients utilisateurs de drogues' [Management of hepatitis C among drug user patients], *Gastroenterologie clinique et biologique* 31, pp. S51–5.

NICE (2009), *Needle and syringe programmes: providing people who inject drugs with injecting equipment*, Public health guidance 18, National Institute for Health and Clinical Excellence, London.

Nordstrom, B.R. and Levin, F.R. (2007), 'Treatment of cannabis use disorders: a review of the literature', *American Journal of Addiction* 16, pp. 331–42.

NTA (2007), *Drug misuse and dependence: UK guidelines on clinical management* (http://www.nta.nhs.uk/publications/).

Obradovic, I. (2008), *Activité des « consultations jeunes consommateurs » (2005–2007)*, *Tendances* 63, Observatoire Français des Drogues et des Toxicomanies, Paris.

Perkonigg, A., Goodwin, R.D., Fiedler, A. et al. (2008), 'The natural course of cannabis use, abuse and dependence during the first decades of life', *Addiction* 103, pp. 439–49.

Piontek, D., Kraus, L. and Klempova, D. (2008), 'Short scales to assess cannabis-related problems: a review of psychometric properties', *Substance Abuse Treatment, Prevention, and Policy* 3, p. 25.

Prinzleve, M., Haasen, C., Zurhold, H. et al. (2004), 'Cocaine use in Europe: a multi-centre study: patterns of use in different groups', *European Addiction Research* 10, pp. 147–55.

Qureshi, A.I., Suri, M.F.K., Guterman, L.R. and Hopkins, L.N. (2001), 'Cocaine use and the likelihood of non-fatal myocardial infarction and stroke. Data from the third national health and nutrition examination survey', *Circulation* 103, pp. 502–6.

Roesner, S. and Küfner, H. (2007), 'Monitoring des Arzneimittelgebrauchs 2006 bei Klienten von Suchtberatungsstellen (PHAR-MON), *Sucht* 54 (Supplement 1), pp. S65–S77.

Rosenberg, H., Melville, J. and McLean, P.C. (2002), 'Acceptability and availability of pharmacological interventions for substance misuse by British NHS treatment services', *Addiction* 97, pp. 59–65.

Samhsa (2007), *National survey on drug use and health, Substance Abuse and Mental Health Services Administration,* Rockville (http://oas.samhsa.gov/nhsda.htm#NHSDAinfo).

Scalia Tomba, G.P., Rossi, C., Taylor, C. et al. (2008), *Guidelines for estimating the incidence of problem drug use*, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

Schroder, R., Sellman, D., Frampton, C. and Deering, D. (2008), 'Profile of young people attending alcohol and other drug treatment services in Aotearoa, New Zealand: clinical file search', *Australian and New Zealand Journal of Psychiatry* 42, pp. 963–68.

Schulte, B., Thane, K., Rehm, J. et al. (2008), 'Review of the efficacy of drug treatment interventions in Europe', in *Quality of treatment services in Europe — drug treatment: situation and exchange of good practice* (http://ec.europa.eu/health/ph_determinants/life_style/drug/documents/drug_treament_frep_en.pdf).

Scottish Government (2008), *Reducing drug users' risk of overdose*, Scottish Government Social Research (http://www.scotland.gov.uk/Resource/Doc/243164/0067668.pdf).

Strang, J. and Sheridan, J. (1997), 'Prescribing amphetamine to drug misusers: data from the 1995 national survey of community pharmacies in England and Wales', *Addiction* 92, pp. 833–8.

Strang, J., Manning, V., Mayet, S. et al. (2008), 'Overdose training and take-home naloxone for opiate users: prospective cohort study of impact on knowledge and attitudes and subsequent management of overdoses', *Addiction* 103, pp. 1648–57.

Sutton, A.J., Edmunds, W.J., Sweeting, M.J. and Gill, O.N. (2008), 'The cost-effectiveness of screening and treatment for hepatitis C in prisons in England and Wales: a cost-utility analysis', *Journal of Viral Hepatitis* 15, pp. 797–808.

Swift, W., Hall, W. and Copeland, J. (2000), 'One year follow-up of cannabis dependence among long-term users in Sydney, Australia', *Drug and Alcohol Dependence* 59, pp. 309–18.

Talu, A., Rajaleid, K., Abel-Ollo, K. et al. (2009), 'HIV infection and risk behaviour of primary fentanyl and amphetamine injectors in Tallinn, Estonia: implications for intervention', *International Journal of Drug Policy* (doi:10.1016/j.drugpo.2009.02.007).

Tiihonen, J., Kuoppasalmi, K., Fohr, J. et al. (2007), 'A comparison of aripiprazole, methylphenidate, and placebo for amphetamine dependence', *American Journal of Psychiatry* 164, pp. 160–2.

Toufik, A., Cadet-Taïrou, A., Janssen, E. and Gandilhon, M. (2008), The first national survey on users of the CAARUD centres', *Tendances* 61, Observatoire Français des Drogues et des Toxicomanies, Paris.

UNODC (2009), *World drug report*, United Nations Office on Drugs and Crime, Vienna.

UNODC and Government of Morocco (2007), *Morocco cannabis survey 2005*, United Nations Office on Drugs and Crime, Vienna.

Vandam, L. (2009), 'Patterns of drug use before, during and after detention: a review of epidemiological literature', in Cools, M. et al. (editors), *Contemporary issues in the empirical study of crime*. Maklu, Antwerp.

Vickerman, P., Hickman, M., May, M. et al. (submitted), 'Can HCV prevalence be used as a measure of injection-related HIV-risk in populations of injecting drug users? An ecological analysis', *Addiction*.

Wagner, F.A. and Anthony, J.C. (2002), 'From first drug use to drug dependence; developmental periods of risk for dependence upon marijuana, cocaine, and alcohol', *Neuropsychopharmacology* 26, pp. 479–88.

Wammes, A., Van Leeuwen, L. and Lokman, S. (2007), *Evaluatierapport DVP-Campagne 2006 'Je bent niet gek als je niet blowt'*, Trimbos Institute, Utrecht.

WCO (2008), *Customs and drugs report 2007*, World Customs Organisation, Brussels.

WHO (2007), *Health in prisons: a WHO guide to the essentials in prison health*, WHO Regional Office for Europe, Copenhagen (http://www.euro.who.int/document/e90174.pdf).

WHO (2009), *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence*, World Health Organization, Geneva (http://www.who.int/substance_abuse/publications/opioid_dependence-guidelines.pdf).

Wiessing, L., Guarita, B., Giraudon, I. et al. (2008a), 'European monitoring of notifications of hepatitis C virus infection in the general population and among injecting drug users (IDUs) — the need to improve quality and comparability', *Eurosurveillance* 13(21):pii=18884 (http://www.eurosurveillance.org/viewarticle.aspx?ArticleId=18884).

Wiessing, L., Van de Laar, M.J., Donoghoe, M.C. et al. (2008b), 'HIV among injecting drug users in Europe: Increasing trends in the East', *Eurosurveillance* 13(50) (http://www.eurosurveillance.org/viewarticle.aspx?ArticleId=19067).

Wood, D.M., Bishop, C.R., Greene, S.L. and Dargan, P.I. (2008), 'Ketamine-related toxicology presentations to the ED', *Clinical Toxicology* 46, p. 630.

Zachrisson, H.D., Rödje, K. and Mykletun, A. (2006), 'Utilization of health services in relation to mental health problems in adolescents: a population based survey', *BMC Public Health* 6:34 (www.biomedcentral.com).

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The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is one of the European Union's decentralised agencies. Established in 1993 and based in Lisbon, it is the central source of comprehensive information on drugs and drug addiction in Europe.

The EMCDDA collects, analyses and disseminates factual, objective, reliable and comparable information on drugs and drug addiction. In doing so, it provides its audiences with an evidence-based picture of the drug phenomenon at European level.

The Centre's publications are a prime source of information for a wide range of audiences including policymakers and their advisers; professionals and researchers working in the field of drugs; and, more broadly, the media and general public.

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