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ANNUAL REPORT 2012

THE STATE OF THE DRUGS PROBLEM IN EUROPE

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for Drugs and Drug Addiction

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Foreword

This is the EMCDDA's 17th annual report on the state of the drugs problem in Europe, and it is gratifying when looking back over the years to note how much progress has been made in developing a sound understanding of the European drug phenomenon. This is not an achievement of the EMCDDA alone; credit must also go to the Member States of the European Union, which have long recognised the value of developing a comprehensive picture of Europe's drug problem. And, while we are very proud of the work of the EMCDDA staff in producing this publication, we also have to acknowledge that it is very much a collective effort. This report is only made possible by the support and hard work of our partners, especially those in the Reitox network, who provide the national data on which the analysis is based. We are also indebted to the many other European and international agencies and bodies that support our work.

This year's report comes at an important and difficult time for Europe. Many countries are experiencing financial and economic problems, and this must form the backdrop for our reporting. The austerity measures that are being adopted bring multiple challenges, and present policymakers with difficult choices as competing priorities call on the public purse. In such times, it is more important than ever that investments are made wisely, based on an understanding of the nature of the problem and what measures are likely to deliver the greatest benefits. The EMCDDA's mission is to work with experts from across Europe to provide this analysis. You will find here, and in the accompanying web-based elements, an up-to-date, scientifically robust and comprehensive overview of the contemporary European drugs problem, together with examples of innovative and good practice.

When considering drug issues, there can be a tendency to be reductive, focusing only on individual elements in this complex problem, as though they exist in isolation. This is not the approach we adopt here. In our view, the strength of the EMCDDA's analysis is that it brings together disparate information on topics that range

from drug markets and interdiction efforts, to drug use, demand reduction responses and policy and legal developments. This allows us to provide a holistic analysis which is greater than the sum of its parts. You cannot fully understand supply issues if you do not understand the drivers of drug demand and vice versa. For example, to understand the changes that we are seeing in heroin availability in Europe today, we need to take into account the impact of interdiction efforts that have effectively targeted major crime organisations. But, critically, we need to also consider that this has taken place at a time when an increase in investment in treatment has removed a significant part of the demand from the marketplace. As you will see from our report this year, these are equally important pieces of information that need to be considered together in order to achieve a sound overview of the developments we are seeing in the European heroin situation.

We need this breadth of vision if we are to respond to the complex and dynamic nature of the drug problem in Europe today. We are presented with a range of challenges, both new and old. They may be linked to advances in information and communication technology, the spread of new psychoactive substances, and increased availability and use of synthetic drugs. Or they may stem from long-established problems that continue to defy our responses, and cause damage to both individuals and communities. The EMCDDA is committed to providing the evidence base to ensure that the debate on drugs in Europe remains informed by a comprehensive, dispassionate and, most importantly, helpful understanding of this complex issue.

João Goulão

Chairman, EMCDDA Management Board

Wolfgang Götz

Director, EMCDDA

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- ♦ the European Parliament, the Council of the European Union — in particular its Horizontal Working Party on Drugs — and the European Commission;
- ♦ the European Centre for Disease Prevention and Control (ECDC), the European Medicines Agency (EMA) 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 European school survey project on alcohol and other drugs (ESPAD) and the Swedish Council for Information on Alcohol and other Drugs (CAN), the Controlled Substances and Tobacco Directorate of Health Canada, the US Substance Abuse and Mental Health Services Administration;
- ♦ the Translation Centre for 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 on the EMCDDA website.

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 2010 (or the last year available). Graphics and tables in this report may reflect a subset of EU countries; the selection may be made on the basis of those countries from which data are available for the period of interest, or to highlight certain trends.

Analysis of trends is based only on those countries providing sufficient data to describe changes over the period specified. Figures for 2009 may substitute for missing 2010 values in trend analysis of drug market data; for the analysis of other trends, missing data may be interpolated.

Background information and a number of caveats that should be borne in mind when reading this annual report are presented below.

Drug supply and availability data

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 example, to variations in yield figures or 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. Retail prices of drugs reported to the EMCDDA reflect the price to the user. Trends in price are adjusted for inflation at national level. 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. The availability of price and purity data may be

Accessing this annual report and its data sources on the Internet

This annual report is available for downloading in 22 languages on the EMCDDA website. The electronic version contains links to all online sources cited in this annual report.

The following resources are available only on the Internet.

The 2012 statistical bulletin presents the full set of source tables on which the statistical analysis in this annual report is based. It also provides further detail on the methodology used and about 100 additional statistical graphs.

The national reports of the Reitox focal points give a detailed description and analysis of the drugs problem in each country.

Country overviews provide a top-level, graphical summary of key aspects of the drug situation for each country.

limited in some countries and there may be questions of reliability and comparability.

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 International Narcotics Control Board (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.

Prevalence of drug use as measured by general population surveys

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, socio-demographic 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 data at intervals of two to four years. In this report, data are presented based on the most recent survey available in each country, which, in most cases, is between 2006 and 2010. Prevalence data for the United Kingdom refer to England and Wales, unless otherwise stated, although separate data for Scotland and Northern Ireland are also available.

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 (all adults) and 15–34 (young adults). Countries using different upper or lower age limits include: Denmark (16), Germany (18), Hungary (18), Malta (18), Sweden (16) and the United Kingdom (16–59). 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) (for more information, see the EMCDDA website). For school students, lifetime and last year prevalence are often 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 school students who turn 16 during the calendar year. In 2011, data were collected in 36 countries, including 24 EU Member States, Croatia and Norway, and the results were published in 2012. In addition, Spain and the United Kingdom carry out national surveys of school students, which provide data on drug use comparable to the results of the ESPAD surveys.

Treatment demand

Data on those entering treatment in Europe for problems related to their drug use are reported anonymously to the EMCDDA treatment demand indicator. Each client entering treatment is queried on their drug use, treatment contact and social characteristics. The time frame for annual treatment entry data is 1 January to 31 December. 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.

Interventions

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. However, for some indicators, quantitative monitoring data are also available.

Commentary

Building on achievements, maintaining momentum and responding to change – the challenge for drug policy in Europe today

Enhancing coordination and cooperation

A strong message emerging from the EMCDDA's latest analysis of the European drug situation is that there is a need to keep 'an eye on the ball' with regard to the problems related to established drugs, while at the same time developing responses to new threats and challenges. Heroin and cocaine continue to account for a large share of the harm, morbidity and mortality associated with drug use in Europe. Here, it will be necessary to maintain momentum in the development and implementation of evidence-based responses. In many respects, considerable, if uneven, progress has been made, but this could easily be put at risk by changing circumstances or by a failure to continue to scale up responses. The analysis also highlights the need to strengthen Europe's capacity to identify and respond to the challenges posed by an increasingly complex and dynamic drug marketplace.

These needs must be seen in the context of the difficult financial situation in many European countries, which means that resources for addressing health and social problems of all descriptions are in short supply. In these circumstances, it is essential to ensure that the available funds are invested in well-targeted activities of proven effectiveness. One way that this can be achieved is by cooperation between EU Member States, in which they seek to maximise the benefits of activities through sharing experiences, working together or better coordinating their actions. The policy framework for this is provided by the EU drug strategy and its accompanying action plans. The current EU strategy (2005–12) has been positively evaluated, with particular importance given to its role in facilitating information exchange.

A new policy framework is now under consideration to follow on from the 2005–12 drug strategy. The new framework is likely to maintain its emphasis on the need for an evidence-based and balanced approach which encompasses a comprehensive set of demand and supply reduction measures. Monitoring, research and evaluation, as well as respect for fundamental human rights, are also likely to remain key elements of the EU approach. The new policy framework will also ensure synergy between

activities in the drugs field and broader issues related to security and health, in which drugs are only one component, such as HIV prevention or the fight against organised crime. The new framework will also help to ensure that Europe speaks with a strong and united voice in the international debate on drugs.

A complicated picture: the cannabis market in Europe

This year, the EMCDDA undertook a major new analysis of the cannabis market, which revealed an increasingly complex and diverse picture for Europe's most used illicit drug. A number of different cannabis 'products' are now available on the European market, with the most important distinction being between herbal cannabis and cannabis resin. The rise of cannabis production within the European Union has resulted in the increasing displacement of imported cannabis resin by home-produced herbal cannabis products. Domestic cannabis production varies considerably. It can take the form of large plantations, where the plant is grown intensively using sophisticated techniques to maximise yield and potency. At the other end of the spectrum, small numbers of cannabis plants may be grown by users for personal consumption.

Although most cannabis offences are still related to the use or possession of the drug, many countries report that their policy is to prioritise measures targeting trafficking and supply. In this context, greater emphasis is now reported to be given to targeting intensive production sites. However, despite increases in the number of plants seized and the development of some innovative new detection methods, Europe still seizes far more cannabis resin than herbal cannabis. This suggests that domestic herbal cannabis production can pose a greater challenge for interdiction efforts, especially when it takes the form of intensive indoor production. Concern is growing about developments in this area: both because of the collateral damage that the presence of drug production sites can cause to local communities and because of evidence of the involvement of organised criminal gangs.

The scale and complexity of the cannabis market is not surprising as it reflects the position of the drug as Europe's

most popular illicit substance. Correspondingly, it is also the substance where political and public sentiment is most divided. Interestingly, levels of cannabis consumption overall appear relatively stable, and there may even be a decline in use in some countries. Although difficult to measure, cannabis-related problems are also now better understood and known to be associated with the intensive and long-term use of the drug. Some worries exist here. The shift towards herbal cannabis, for example, may be exposing users to more potent forms of the drug. Moreover, studies report that the age of initiation is now quite low for many users. An estimated 1 % of the European adult population is using the drug on a daily basis, and among young males in particular, intensive patterns of use can be relatively common in some countries. Taken as a whole, any optimism engendered by a stabilisation in prevalence levels needs to be tempered by the recognition that this drug remains an important public health issue, reflected in the number of demands for drug treatment related to its use.

Today's European students: a more cautious cohort

The latest results from the European school survey project on alcohol and other drugs (ESPAD) provide an important window on time trends in substance use among schoolchildren. Promisingly, for all the major substances, the 2011 findings suggest a reduction or stable situation. Over the five rounds of the survey, recent cigarette use steadily decreased between 1999 and 2007, then stabilised. Students' recent use of alcohol has gradually declined overall in Europe since 2003, while the latest data indicate that the upward trend for heavy episodic drinking, observed from 1995 to 2007, may now be past its peak. Overall, students' experience of illicit drugs — predominantly cannabis — was rising until 2003, dropped slightly in 2007 and since then has remained stable. These findings may provide us with an indication of future trends, as patterns found here may later feed through into older age cohorts.

An interesting observation is that countries that report high prevalence estimates for one substance, tend also to report relatively high estimates for other substances, both licit and illicit, thus high levels of recent use of alcohol and heavy episodic drinking are associated with the use of illicit drugs and inhalants. This finding supports prevention approaches that recognise the need to target both drugs and alcohol when working with young people.

Drugs and the family: an overlooked issue and underused resource

Individuals take drugs, but often their families must share the problems that their consumption can cause.

Families and the related issue of drug users with parental responsibility are analysed in a new EMCDDA study. The report finds that although those with drug problems do not necessarily make bad parents, they are likely to require additional support. Treatment services, in particular, must be sensitive to the needs of those who have parental responsibility, as worries about childcare or child protection can act as a barrier to seeking help. Working with drug-using parents is also challenging for services, as it requires balancing the rights of the parent and of the child; however, the report concludes that good practice and well-targeted interventions can make a real difference. This finding is echoed in the analysis of interventions that target pregnant drug users, where there is strong evidence that the provision of appropriate advice and support can improve the outcome for both mother and child.

Many studies have explored the stress and social disruption that can result from having a family member with a drug problem. Family support services, however, are generally poorly developed in most European countries. This can mean that an important resource for supporting recovery is being overlooked. A focus on the family environment is also becoming increasingly important for drug prevention work, where a growing evidence base points to the effectiveness of broad-based prevention strategies that target both the environment and the individual. The family is particularly important in this respect, and environmental prevention strategies that work to establish stronger families may lower the risk of a range of problematic behaviours, including drug use. Despite the positive findings for interventions in this area, the fact that they remain, to a large extent, poorly developed, highlights the more general problem that findings from research on prevention often fail to be translated into policies and practice.

Drug-using prisoners: a vulnerable population

Despite increasing interest in providing 'alternatives to prison', many people with drug problems continue to pass through Europe's prisons every year. This is reflected in study data showing that drug problems are far more common in prisoners than in the general population. Although some do stop using drugs when incarcerated, the availability of drugs in some prisons also means that others may initiate drug use, or start engaging in more damaging behaviours. Injecting drug users, for example, may share equipment more frequently, heightening the risk of the transmission of blood-borne pathogens such as HIV and hepatitis C virus.

At a glance — estimates of drug use in Europe

The estimates presented here relate to the adult population (15–64) and are based on the most recent data available (surveys conducted between 2004 and 2010/11, mainly 2008–10). For the complete set of data and information on the methodology see the accompanying statistical bulletin.

Cannabis

Lifetime prevalence: about 80.5 million (23.7 % of European adults)

Last year use: about 23 million European adults (6.8 %) or one in three lifetime users

Last month use: about 12 million (3.6 %)

Country variation in last year use: overall range 0.3 % to 14.3 %

Cocaine

Lifetime prevalence: about 15.5 million (4.6 % of European adults)

Last year use: about 4 million European adults (1.2 %) or one in four lifetime users

Last month use: about 1.5 million (0.5 %)

Country variation in last year use: overall range 0.1 % to 2.7 %

Ecstasy

Lifetime prevalence: about 11.5 million (3.4 % of European adults)

Last year use: about 2 million (0.6 %) or one in six lifetime users

Country variation in last year use: overall range 0.1 % to 1.6 %

Amphetamines

Lifetime prevalence: about 13 million (3.8 % of European adults)

Last year use: about 2 million (0.6 %) or one in six lifetime users

Country variation in last year use: overall range 0.0 % to 1.1 %

Opioids

Problem opioid users: estimated at about 1.4 million Europeans

About 710 000 opioid users received substitution treatment in 2010

Principal drug in about 50 % of all drug treatment requests

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

Overcrowding, poor hygiene and a lack of healthcare provision affect many prisons, and contribute to the overall poor health status found in prison populations. Prisoners with drug problems may be doubly disadvantaged in this respect, and may be especially vulnerable to both physical

and mental health problems while incarcerated — with particular concerns existing about their elevated risk of self-harm and suicide. A strong argument therefore exists that any successful approach to improving prison health must recognise the importance of including drug treatment alongside, and integrated with, more generic physical and mental healthcare responses.

Where adequate services are in place, periods of incarceration may provide an opportunity for some to reduce their drug use and engage with services. Opportunities in this area have been increasing, as many countries have scaled up the provision of interventions within prisons, particularly substitution treatment for those who are opioid-dependent. Typically, developments in treatment availability in prison mirror those in the community, but with a considerable time lag. Provision of health services in prisons also varies widely between countries, and there remains an overall need to further develop and improve the quality of the services provided. Rarely do prisons offer a standard of care equivalent and comparable to that provided to the wider community.

Release from prison can also be a critical time for interventions, as the risk of overdose is greatly increased during this post-release period, when ex-prisoners may resume using heroin while their tolerance to opioids is reduced. Pre-release counselling and continuity of care on release are, therefore, essential, as by helping to ensure that vulnerable individuals remain in contact with services they can support recovery and, ultimately, be an extremely cost-effective way of saving lives.

White powders and pills: a less discriminating stimulants market

Cocaine, amphetamines, ecstasy and, sometimes now, synthetic cathinones may be viewed as competing and, to some extent, interchangeable products in the eyes of the consumer. In this context, it is likely that the availability of these substances, as well as price and quality, will influence consumer choices and account for the volatility seen within the contemporary stimulants market. Some recent studies even suggest that it is not uncommon for users to report having taken stimulant drugs in the form of unknown pills or white powders.

In Europe, overall prevalence estimates for amphetamines and ecstasy use are relatively stable, although supply-related factors appear to have affected the availability of both drugs. The ecstasy market is now recovering from a shortage of MDMA (3,4-methylenedioxy-methamphetamine), when many tablets contained other substances. Similarly, methamphetamine has recently

replaced, to some extent, amphetamine in parts of Europe. This is worrying as, historically, use of this drug has been largely restricted to the Czech Republic and Slovakia. This could now be changing, and although the available data are limited, they do raise concerns. Seizure data suggest that the drug is becoming more widely available and production has been scaled up in some countries. Overdose deaths have been reported in Germany, and the drug is more commonly mentioned in reports from other countries. Of concern, the EMCDDA has noted sporadic reports of methamphetamine smoking and the availability of crystal methamphetamine, a highly pure form of the drug. Methamphetamine smoking has historically been extremely rare in Europe, but evidence from elsewhere suggests a strong association with negative consequences.

A European Union risk assessment on 4-methylamphetamine is being conducted in the context of the EU early warning system on new psychoactive substances. This exercise was prompted by clusters of deaths associated with this substance, which appeared to be sold as, or mixed with, amphetamine. It is likely that this form of amphetamine, which is currently uncontrolled in most of Europe, was manufactured in clandestine laboratories by producers seeking new chemical routes for amphetamine production. As such, it represents an example of both the increasing innovation seen in synthetic drug production and the potential for unintended negative health consequences that this can bring.

More diversity in synthetic drug use

While attention has largely been focused on either concerns about established stimulants or on the emergence of new uncontrolled psychoactive substances, a number of other synthetic drugs have entered and established themselves on the European drug market. Although the numbers of Europeans using drugs such as GHB (gamma-hydroxybutyrate), GBL (gamma-butyrolactone), ketamine and, more recently, mephedrone are low, high levels of use are found in some sub-populations, and these drugs appear to have the potential for more widespread diffusion. There are now reports of health problems linked with all of these substances, including dependence among chronic users, and some unexpected problems such as the bladder disease seen in ketamine users. These developments have, to a large extent, taken place beneath the monitoring radar, and they point to a need not only to improve the sensitivity of drug information systems to emergent trends and new health problems, but also to understand better what constitutes appropriate demand reduction interventions in this area.

Cocaine: signs of falling use and status

Widespread cocaine use may be limited to some southern and western countries, but the drug still remains, in terms of overall numbers, the most widely used illicit stimulant in Europe. Now, however, after a decade of increasing popularity, the latest data suggest that the trend may be downward. Perceptions of the drug may also be changing, with some studies reporting that cocaine may be losing its image as a high status drug.

A number of factors may be important here. Quality has been cited as a possible factor, with the suggestion that low cocaine purity may be causing some users to switch to other stimulants. It is also possible that potential users are now more aware of the negative consequences that can accompany cocaine consumption. A recent EMCDDA review on the health consequences of cocaine use concluded that problems were probably underestimated in available data sources. The data that did exist on acute presentations to hospital emergency services suggested that there had been a three-fold increase in cocaine-related emergency admissions since the end of the 1990s, but that presentations appeared to peak around 2008. Similarly, the data available on cocaine-related deaths also show a peak year in 2008. This trend is also found in treatment admission data, where the numbers entering treatment for cocaine-related problems for the first time in their lives increased until 2008, but then fell. A similar picture can be seen in the supply data. Cocaine seizures now appear to be on the decline in Europe: the volume of cocaine seized reached a peak in 2006 and the number of seizures in 2008.

Heroin: evidence of a decline

Since the 1970s, the use of heroin, especially by injection, has been the source of many of Europe's drug-related problems. Given the harm associated with heroin, which includes overdose deaths, the spread of HIV and hepatitis C virus among injecting drug users, and associated criminality, it is unsurprising that European drug policy has mainly concentrated on addressing heroin problems. And, while these problems continue today, they do so at lower levels, in some cases considerably so, as we observe the impact of effective policies and the long-term decline in the use of this drug, especially by injection. It seems increasingly likely that we are now moving into a new era in which heroin will play a less central role in Europe's drug problem.

Such analysis must be made with caution, as future trends are difficult to predict. Moreover, the long-term and chronic nature of heroin problems means that many

current users will remain in need of help for years to come. Nevertheless, indicators point to a decline in overall use and, more importantly, a decline in new recruitment. Across Europe, the number of new treatment demands has fallen, and the average age of those entering treatment for heroin problems has increased.

Market indicators suggest that heroin has become less available in Europe in recent years, and, in some countries, the drug has been replaced by other substances, including synthetic opioids such as fentanyl and buprenorphine. The heroin market collapsed almost a decade ago in some northern European countries and never fully recovered. More recently, short-term market shocks, probably resulting from successful interdiction efforts, have also been reported. The latest European figures for purity, seizures, drug law offences and retail price all show a decrease. Developments in the illicit drug markets will need to be followed closely to ascertain whether recent heroin shortages will lead to the lasting disappearance of the drug in some countries, and what substances will replace it. In this respect, in addition to synthetic opioids, methamphetamine, cathinones and benzodiazepines have all been identified as possible candidates.

Overall, both demand and supply-side factors appear to be important in the changes in heroin use identified here. Successful interdiction efforts need to be viewed alongside a dramatic increase in treatment availability, particularly substitution treatment, which has removed a significant proportion of the demand from the market. An open question is the relationship between opium production in Afghanistan and patterns of heroin consumption in Europe, where no simple link can be seen in the data. Although concern exists that increased production could result in a wave of new heroin use in EU Member States, the historical data do not point strongly in this direction. On the contrary, the European Union may now represent, in some respects at least, a more difficult marketplace for this product.

Injecting in decline too, but still a serious public health risk

Indicators of injecting trends also suggest that this particularly damaging behaviour is now also in decline. Reported levels of injection among new clients entering treatment for drug problems provide the best available data source here. A downward trend is evident among new heroin users entering treatment, and this is most visible in western Europe, but can also be seen in some eastern European countries. Overall, just over a third (36 %) of those entering treatment for heroin problems now report injecting the drug as their main route of

administration. Other drugs may also be injected: around a quarter of those entering treatment for amphetamine problems report injecting their drug, as do about 3 % of those entering treatment for cocaine problems. The move away from injecting is clearly encouraging. Nevertheless, drug injecting remains a major cause of avoidable health problems and death among young Europeans. Injecting is particularly associated with drug overdose, as well as serious infections. Recent outbreaks of HIV in Greece and Romania remind us that despite Europe's success in fighting the transmission of this virus among drug users, it retains the potential to spread rapidly in certain populations. This also underlines the need to ensure adequate coverage of HIV prevention and harm reduction services for at-risk populations.

Bacterial infections are another potentially serious consequence of injecting, and can be life-threatening. In June and July 2012, anthrax cases were reported in five EU countries, possibly related to a common source of contaminated heroin. This outbreak has prompted a joint EMCDDA–ECDC rapid risk assessment.

Finding a new perspective on new drugs

The Internet has reduced the restrictions imposed by time and place, allowing new patterns and trends in drug use to rapidly transcend geographical boundaries. Evidence for this conclusion was plentiful at the second international forum on new psychoactive substances, organised this year by the EMCDDA and the US National Institute on Drug Abuse. Similar 'legal high' products are now being marketed in parts of south-east Asia, European countries, Japan and the United States. The European Union has, by international standards, a sophisticated early warning and risk assessment mechanism for responding to the emergence of new psychoactive substances. This mechanism is currently under review, and a new legal framework is expected. Responses in this area are likely to be most effective if they are coordinated across countries and with clear added value offered by an EU-level mechanism. In 2012, new psychoactive substances continue to be reported to the system at a rate of around one a week. Synthetic cannabinoid receptor agonists and cathinones are still prominent, but substances from more obscure chemical groups are increasingly being reported. To date, new substances have tended to mimic the effects of cannabis or stimulant drugs such as ecstasy or cocaine, and their packaging suggests that the recreational drug market is the main target. However, there have been reports from a few countries of problem drug users switching to injecting cathinones, such as mephedrone and MDPV (3,4-methylenedioxypropylvalerone).

'Bath salts' and 'plant food': the challenge posed by complex and changing products and mixtures

An important task of the EU early warning system is the sharing of forensic and toxicological information. Identifying the psychoactive chemicals in products can be challenging as they may be obscure compounds or mixtures of chemicals. The number of products containing multiple psychoactive substances appears to be rising, and some test purchase samples have been found to include both controlled and non-controlled substances. The commonly used term 'legal highs' is therefore often a misnomer, and consumers of these products are likely to be both unaware of what they are consuming and ignorant of the health and legal implications. Confusion is apparent at the international level, where a lack of a clear terminology and forensic information impedes debate. In the United States, for example, the generic term 'bath salts' covers a range of products containing new psychoactive substances, and which are often sold as 'plant food' in the European Union.

New psychoactive substances also pose problems for drug-use surveys, as many users may not know what they have actually taken. The few studies available paint a picture of considerable heterogeneity between countries, with rates of use relatively low, but not negligible. They also suggest that use of these substances can rise and fall quickly within specific populations. Availability appears to be an important factor here. In Poland, the opening

of a large number of retail outlets was accompanied by increases in reported use and visits to hospital emergency units attributed to new psychoactive substances, both of which decreased after measures were taken to limit availability. In Germany, some data suggest that use of 'Spice' — often found to contain synthetic cannabinoid receptor agonists — declined, but did not disappear after emergency banning measures were introduced. Similarly, despite the introduction of EU control measures, mephedrone still appears to be available on the illicit market in some countries.

To date, the policy debate around new drugs has largely focused on the development of control measures, with countries using a mixture of market regulations, existing drug control legislation and specially drafted new laws. However, there is growing interest in addressing the wider issues surrounding new drugs and, in particular, the need to understand the potential health and social impact of these drugs and to identify appropriate demand reduction strategies. The EMCDDA has received reports of acute medical emergencies and deaths associated with the use of new psychoactive substances. Currently, the data are difficult to interpret, and the improvement of our surveillance and analysis capacity in this area is clearly a priority. EU Member States are also beginning to report the introduction of specific responses to new psychoactive substances. Among the new approaches being studied are innovative Internet-based prevention programmes and the delivery of targeted school based prevention messages.

Chapter 1

Policies and laws

Introduction

This chapter explores recent policy developments in the European Union, and examines the extent to which Member States have integrated their licit and illicit drug strategies, and established links between drug and security strategies. Also presented are a range of national and transnational strategies in non-EU countries, which are considered in terms of their similarities or differences to the European approach to drugs.

The extent to which national drug strategies are linked with budgets is considered, alongside an update on trend data from drug-related public expenditure studies. Also presented is a new analysis of how Member States are configuring their national laws to address the growing challenge posed by new drugs. This chapter concludes with an update on European developments in drug-related research.

EU and international policy developments

Towards a new EU drug strategy

The current EU drugs strategy (2005–12) is the first to be submitted to external evaluation. The evaluators found that the strategy has provided added value to the efforts of the Member States in the drugs field and that the promotion of evidence-based interventions in the EU strategy was commended by stakeholders (Rand Europe, 2012). The report highlighted the area of information, research and evaluation, where the EU approach and infrastructures actively support knowledge transfer within Europe. For the next strategy, which will be drafted during 2012, the evaluators recommended maintaining the balanced approach, adopting integrated policy approaches across licit and illicit substances including new psychoactive substances, building up the evidence base in drug supply reduction and clarifying the roles of EU coordination bodies.

Given the current political interest in the topic and its clear European dimension, an important issue for the upcoming strategy will be responses to new psychoactive substances.

The strategy will be informed by a number of initiatives launched in 2011, which include a European pact against synthetic drugs ⁽¹⁾, an operational action plan on synthetic drugs and new psychoactive substances ⁽²⁾, both adopted by the Council of the European Union, and a communication 'Towards a stronger European response to drugs' adopted by the European Commission and announcing a series of measures on illicit drugs ⁽³⁾. These measures include new European legislation designed to address more rapidly and effectively the emergence of harmful new psychoactive substances ('legal highs', see Chapter 8). Other legislative developments are planned in the areas of drug trafficking, precursor control, money laundering and criminal assets recovery. Furthermore, a proposal is being prepared on the establishment of minimum quality standards in prevention, treatment and harm reduction.

Drug policies in the Western Balkans

The evaluation of the EU drug strategy noted that international cooperation was a useful and influential policy tool, particularly with candidate and pre-accession countries. Prior to the most recent enlargements of the European Union in 2004 and 2007, the future EU Member States were given assistance to develop drug policies that were in line with those of the European Union's balanced and evidence-based approach.

A similar process is currently underway in the Western Balkans, where three candidate countries and three potential candidate countries have all recently adopted comprehensive and balanced drug strategies and action plans (see Table 1). The countries in this region share many common issues, including their location along one of Europe's historical drug trafficking routes, with its attendant heroin and other drug-related problems ⁽⁴⁾. These national policy documents cover drug demand and drug supply reduction and, in some cases, adopt strategic goals, objectives and structures reflecting those of the EU drug policy documents, incorporating monitoring and evaluation systems, as well as coordination mechanisms. The action plans are often detailed, with a time frame,

(1) Available online.

(2) See the box 'COSS: the Standing Committee on operational cooperation on internal security' (Chapter 2).

(3) COM(2011) 689/2.

(4) See Country overviews on the EMCDDA website.

Table 1: Recent drug policy documents in candidate and potential candidate countries in the Western Balkans

Country	Name of policy document	Time span	Main focus	Note
Albania	National strategy against drugs	2004–10	Illicit drugs	Potential candidate country
Bosnia and Herzegovina	National strategy on supervision of narcotic drugs, prevention and suppression of the abuse of narcotic drugs	2009–13	Illicit drugs	Potential candidate country
Former Yugoslav Republic of Macedonia	National drug strategy	2006–12	Illicit drugs	Candidate country
Kosovo (*)	National anti-drug strategy and action plan	2009–12	Illicit drugs	Potential candidate country
Montenegro	National strategic response to drugs	2008–12	Illicit drugs	Candidate country
Serbia	National strategy for the fight against drugs	2009–13	Illicit drugs	Candidate country

(*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244 (1999) and the ICJ Opinion on the Kosovo declaration of independence.

responsible parties, implementation indicators and cost estimates identified for each action.

National drug strategies

One recommendation for the next EU drug strategy is to move towards a more integrated approach for both licit and illicit drugs, possibly also including behavioural

addictions. Another topic for consideration is improved linkage between drug policy and broader security policies, such as those targeting organised crime. On both issues, the current situation in the EU Member States, Croatia, Turkey and Norway is explored below.

Integration of licit and illicit drugs

The adoption of national drug strategies and action plans is a cornerstone of EU drug policy and an established tool used by European countries to set out the aims and objectives of their drug policies. Differences can be seen in the extent to which countries have moved towards policy documents that cover both licit and illicit drugs (Figure 1).

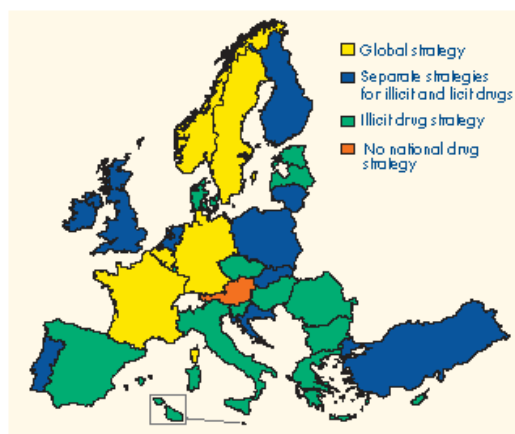
Transnational drug strategies

The next EU drug strategy will be the ninth drug strategy or action plan to be adopted by the European Union since 1990. During this period, transnational organisations in other parts of the world have also been developing such documents.

In Africa, a 'plan of action on drug control and crime prevention (2007–12)' was developed by the African Union, while the 15 Member States of the Economic Community of West African States (ECOWAS) agreed on a political declaration and a 'regional action plan on illicit drug trafficking, organised crimes and drug abuse (2008–11)'. In Asia, the Association of Southeast Asian Nations (ASEAN), comprising 10 countries, adopted the 'ASEAN work plan on combating illicit drug production, trafficking and use (2009–15)'. And, in 2010, the Organisation of the American States (OAS) adopted a 'hemispheric drug strategy' covering the 35 states of the Americas.

While the OAS's strategy is the closest to the EU approach, the plans of the other transnational organisations focus mainly on supply reduction and law enforcement. The ASEAN work plan, for example, aims at eradicating illicit drug production, processing, trafficking and abuse, with the objective of making ASEAN a drug-free area by 2015. The overall aim of the African Union's plan is the strengthening of law enforcement for drug control, with six of the seven key priority areas focusing on drug control and crime prevention. Although incorporating a more balanced approach, the ECOWAS strategy has a strong focus on security issues linked with drug trafficking.

Figure 1: Scope of national drug strategies



NB: Global strategies cover licit and illicit drugs and, in some cases, addictive behaviours. Some illicit drug strategies include a focus on licit drugs. While the United Kingdom has separate strategies for illicit and licit drugs, England and Scotland have separate strategies for illicit drugs, alcohol and tobacco, and Wales and Northern Ireland have global drug strategies that cover alcohol as well as separate tobacco strategies.

Sources: Reitox national focal points.

Five countries have adopted strategies or action plans that have a 'global' scope, covering licit and illicit drugs and, in some cases, addictive behaviours. The broad approach is reflected in the policy document titles: Belgium's 'Comprehensive and integrated policy on drugs'; France's 'Governmental plan to fight drugs and drug addiction'; Germany's 'National strategy for drug and addiction policy'; Sweden's 'Cohesive strategy for alcohol, narcotic drugs, doping and tobacco (ANDT) policy'; and Norway's 'Action plan for the drugs and alcohol field'. With the exception of Norway, which has separate tobacco and gambling strategies, there are no separate national strategies for other licit drugs or addictive behaviours in these countries.

Ten countries have separate strategies or action plans for illicit and licit drugs. These countries differ in the licit drugs that have specific policy documents and whether these documents address individual substances or not. The Netherlands and Slovakia have separate strategies for alcohol and tobacco, whereas Lithuania has a joint alcohol and tobacco strategy. In the seven other countries, licit drug strategies address only alcohol or tobacco; both Ireland and Portugal are currently considering the process of integrating illicit drug and alcohol strategies.

Fourteen countries have only one drug strategy or action plan, which is focused on illicit drugs. Measures for licit drugs may, however, be included in these policy documents to a greater or lesser extent. In some of these countries, for example Spain, there is a strong tendency to include specific measures targeting alcohol or tobacco use, where appropriate. Other countries make occasional references to licit drugs or medicines (Bulgaria, Malta), or call for better integration of drugs and alcohol issues in the future (Greece, Luxembourg). Only one country, Estonia, has a strategy that is focused solely on illicit drugs.

The trend towards an integrated approach to substance use appears to exist primarily among the pre-2004 EU Member States. It is these countries that have adopted a global strategy, or that are in the process of integrating their illicit drug and alcohol strategies or that have included many licit drug objectives in their illicit drug strategy. In central and eastern Europe, the picture is mainly one of separate strategies or just illicit drug strategies, with limited mention of licit drugs.

Despite this trend towards integration of licit and illicit substances in policy documents, the supporting national coordination and budgetary structures may not have been modified in a complementary way.

Drug strategies and security issues

Supply reduction is a major component of drug policies in Europe. The planning and coordination of activities in this area is associated not only with the drug strategy, but is also linked to broader policy developments in the area of security. At EU level, for example, serious organised crime and its involvement in drug trafficking is one of the threats targeted by the European Union's internal security strategy (European Council, 2010).

At national level, 15 countries reported having at least one policy document, in addition to their drug strategy, defining activities in the area of drug supply reduction. Of these countries, two mentioned a strategy in the area of security, 11 mentioned a strategy to fight crime or organised crime, and two mentioned both types of strategies. In another 14 countries, the national drug strategy was reported as being the only document defining drug supply reduction activities, while Austria has no national policy document in this area.

In most of those countries where supply reduction is incorporated in both the drug strategy and in another strategy, drug experts report that the national drug strategy is the most important document in this area. Two countries (Netherlands, United Kingdom) report that both documents are of equal importance, while the Belgian 'National security plan' and Slovenia's 'National programme for the prevention and suppression of criminality' are considered more important than the drug strategy in defining supply reduction activities.

During the last 20 years, drugs have been a highly visible policy priority, largely because of growing levels of drug use and drug-related problems. A more stable drug situation and new policy priorities at national level (public deficits, unemployment) now appear to be contributing to the increasing integration of drugs policies with broader policies. In practice, this could mean that drug demand reduction increasingly moves closer to health and behavioural addiction policies, while drug supply reduction moves closer to security strategies targeting organised crime. This raises the question as to whether the comprehensive and balanced drug strategies of today will have a place in the future.

Public expenditure

National drug strategies and action plans contain measures to reduce drug-related problems, the implementation of which is funded primarily by government. Accounting for such public funds can provide an important tool in the policy evaluation process. This section explores whether

Advising on drug policy

Governments seek advice on drug policy for various reasons: for example, when they are developing new drug strategies, considering legislative changes or evaluating earlier policy decisions.

Twenty-eight out of 30 countries report the existence of a structure with a formal drug policy advisory role: in some cases, the structure is established by law, in others it is non-statutory. Half of the countries have dedicated advisory bodies; in the others, existing structures — mostly national drug coordination bodies — have an advisory role. The membership of advisory structures ranges from eight to over 30 people, primarily policymakers, civil servants, researchers, drug workers and representatives of civil society. The chair may be a politician (Sweden), an academic (Belgium) or a senior civil servant (Estonia). Their tasks may include supporting the scheduling of substances under drug laws, undertaking and funding research and advising policymakers.

Examples of advisory structures in Europe include: the National Advisory Committee on Drugs in Ireland, with 16 members and chaired by an academic; the United Kingdom's 24-member Advisory Council on the Misuse of Drugs both schedules drugs and advises government; the German Drugs and Addiction Council, comprising 27 members and chaired by the Federal Drugs Commissioner, supports the implementation and development of the national drug strategy and cooperation between the national and local levels; in the Czech Republic, scheduling and advisory work is conducted by five committees and several working groups linked to the Government Council for Drug Policy Coordination.

While advisory bodies appear to be a standard policy structure in Europe, they have different forms, functions and membership. Generally, they provide a forum for government and other sectors to communicate, coordinate and consider policy relevant information.

specific budgets are associated with drug policy documents, and whether information on actual expenditure is made available. However, as funds are allocated at various levels of government and budgetary accounting practices vary across Europe, only a preliminary overview of national practices in this area is available.

Public expenditure related to the drug problem may be affected by austerity programmes, such as those implemented by some countries following the recent global economic recession. A first review of trend data in drug-related public expenditure explores this issue.

Drug strategies and budgets

Of the 29 European countries with national drug strategies or action plans, seven report that their current

drug policy document has either a comprehensive or a sectoral budget. In Cyprus, a yearly budget is annexed to the drug strategy 2009–12, and annual expenditure is also published. In Estonia, national drug strategies are budgeted and annual expenditure is estimated. In the Czech Republic, the 2010–12 action plan was accompanied for the first time by an indicative budget. In Greece, the 2011–12 action plan has an accompanying budget. A budget is also provided for the French national plan 2008–11 (extended into 2012), but its execution is not publicly assessed. Under the United Kingdom drug strategy, there is no central budget, but in Northern Ireland, Scotland and Wales, there are budgets associated to strategies and estimates of expenditure are published. In England, although there is no specific budget, expenditure accounts are regularly published. In some cases, dedicated budgets cover only part of the drug strategy: for example, in Romania, a budget is provided for the health and social care measures of the 2009–12 drug action plan.

Three countries report that they no longer have budgets linked to their drug strategy. Ireland, Portugal and Slovakia had provided budgets and annual expenditure estimates for previous action plans, but not for the current plan. However, both Portugal and Slovakia have inter-ministerial committees developing this area.

In eight countries, a budget which covers all or part of the national drug strategy or action plan is defined every year within the overall national budget. In Luxembourg, the multi-annual action plan is supported by an annual drug budget, and comprehensive expenditure estimates are also provided. In Croatia, the annual drug-related budget is closely linked to the action plan. In Bulgaria, Denmark, Hungary, Finland, Sweden and Norway, governments approve annual budgets to finance drug initiatives.

Eleven countries have not recently linked drug-related budgets to national policy documents. In these cases, the funding needed for the drug strategy or action plan comes directly from the agencies in charge of its implementation.

There is a wide variety of practices in Europe and only a few countries have adopted a clear and transparent approach to budgetary allocation and review in the drugs field. While this might be due to technical difficulties, it nevertheless contributes to the problems that exist in estimating drug-related public expenditure in Europe, and to developing the economic evaluation of drug policy.

Trends in drug-related public expenditure

A key current issue is the impact of the recent economic crisis and the ensuing austerity measures on drug policy

and drug-related budgets. This topic is explored with reference to recent estimates of drug-related public expenditure in European countries. Some caution is required, however, as the amount and quality of information available varies greatly between countries with studies covering different years, using a range of methodologies, and not always estimating the same proportion of budgets.

Some of the funds allocated by governments for expenditure on tasks related to drugs are identified as such in the budget (labelled). Often, however, the bulk of drug-related expenditure is not identified (unlabelled) and must be estimated by modelling approaches. The total budget is the sum of both labelled and unlabelled drug-related expenditure.

In recent years, decreases in drug-related public expenditure have been identified in six countries. In the United Kingdom, a reduction of 5 % in labelled public expenditure in 2010/11 in England ^(f) compared with the previous year was not offset by small increases in labelled expenditure in Northern Ireland, Scotland and Wales. In 2010, labelled expenditure in Estonia fell by 3 % compared with 2009, but by 54 % compared with 2008; in Ireland, labelled expenditure fell by 3 % compared with the previous year. In Hungary, a mid-year revision of the 2010 budget saw the funding for labelled activities reduced by 25 %. In Croatia, available data point to a 10 % cut in labelled drug-related public expenditure in the 2010 budget compared with 2009. In the Czech Republic, despite better data coverage suggesting increasing expenditure in 2010, detailed analysis shows less funding available for treatment and harm reduction.

For another four countries, there are no signs of budgetary cuts in the most recent estimates of drug-related expenditure. In Belgium, total drug-related public expenditure increased by 18.5 % between 2004 and 2008 (before the recession). In Sweden, total drug-related public expenditure in 2011 increased substantially compared with 2007. In Luxembourg, in 2010, there was an annual increase of 5.6 % in total drug-related expenditure. In Finland, in 2009, total drug-related public expenditure increased by 1.6 %.

Studies carried out up to now suggest the existence of considerable variation between countries in terms of the nature and severity of the impact of the economic crisis on their drug-related budgets and expenditure.

National laws addressing new psychoactive substances

In recent years, Europe has seen a diverse range of new psychoactive substances becoming widely available at an unprecedented pace. The speed with which these new substances are launched, combined with a lack of information on the risks associated with their use, challenges the established procedure of adding individual substances to the list of those controlled by drug laws. While the majority of European countries continue to do this, several have responded with innovative changes to their legislation or enforcement policies ^(g).

The most fundamental changes have involved the passing of new criminal laws penalising unauthorised distribution of psychoactive substances, as has occurred in Ireland, Austria and Romania. There are some similarities, but also key differences, between these three examples. Regarding the substance, all three countries define a psychoactive substance as one that stimulates or depresses the central nervous system and is associated with dependency, hallucinations or disturbances in motor function or behaviour. In Ireland, these disturbances should be 'significant'; in Austria, substances can only be listed if they are likely to be abused by certain sections of society with a possible threat to consumer health. In Romanian law, there is no longer a specified requirement for harmfulness, unlike in a government order issued earlier in the same year. In Austria, the Minister for Health must name the substances or groups of substances in a regulation, whereas in Ireland and Romania, naming of the substances is not required — any substance that possesses the properties defined in the legislation is implicitly covered. Supply is a crime in Austria if the supplier has intention to benefit, and intends that the product will be used for its psychoactive effects; in Ireland, only knowledge of likely human consumption is necessary; in Romania, neither is required. Maximum penalties for supply are two years' imprisonment in Austria, five in Ireland and eight in Romania, rising significantly in Austria and Romania if supply causes serious injury or death.

While maintaining their existing drug laws, a number of countries have introduced refinements in order to strengthen or accelerate the procedures used to list new substances as drugs. Scientific risk assessment panels were formally created in Hungary (2010) and Finland (2011) to provide the evidence base for decisions to control new substances. In 2011, the United Kingdom enacted a new procedure (temporary class drug orders) that would allow named substances to be quickly controlled under drug laws for up to

^(f) England accounts for 84 % of the United Kingdom's population, and its drug-related budget is usually more than 80 % of the total. Labelled expenditure accounts for a small part of the United Kingdom's total drug-related expenditure.

^(g) For a summary of policy issues in European countries, see EMCDDA (2011d).

one year, during which time the need for permanent control could be investigated. A similar proposal for a temporary control list was passed by the Slovak parliament, but was suspended before the 2012 election. Another refinement implemented by some countries has been to extend the coverage of existing drug laws by listing substances as defined groups, rather than individually as had been done previously. In 2009 and 2011, synthetic cannabinoids were defined as groups of substances controlled by Luxembourg and Italy, respectively; Italy later added a group definition of cathinones. In 2011, Cyprus added group definitions of synthetic cannabinoids, cathinones and phenethylamines to its drug law, while Germany and France have been studying the feasibility of this approach.

Legislative change can be a lengthy process, and some countries use other existing laws to speed up their response to new substances. Medicines laws have been used to control non-therapeutic substances in at least eight countries. And different types of consumer safety laws have been enforced in Italy, Poland, Portugal and the United Kingdom, targeting psychoactive products in general (resulting in shop closures), or directed towards individual substances. For example, mephedrone was being sold as 'plant food' or 'bath salts' despite having no such uses. These may be rapid interventions before drug law control can be enacted, but they have also allowed countries time to design innovative responses.

Another option to control potentially harmful substances is to adapt existing laws. In 2010, Poland excluded the requirement for harmfulness and any application of general product safety laws from the definition of a 'substitute drug' (a substance to be used instead of a drug or for the same purpose(s)). In parallel, the health protection law was updated to be enforceable on suspicion that a substitute drug poses a threat to human health. In Hungary, in 2012, a temporary schedule was added to the Medicines Law to list non-therapeutic drugs that affect the central nervous system, have the ability to change mental state, behaviour or perception, and therefore can pose as serious a threat to public health as the substances listed in the drug schedules. Under the amended drugs section of the Criminal Code, offering or distribution of such substances is punishable by up to three years in prison. In Sweden, in 2011, law enforcement bodies were given new powers to act on the grounds of protecting public safety and to seize and destroy specified substances assumed to be used for intoxication and likely to cause injury or death. Under the new laws in Austria and the United Kingdom, under certain circumstances, police may confiscate any amount of a substance, even if no offence has been committed.

There are an increasing number of responses targeting the advertising and open sale of new psychoactive substances.

Advertising the psychoactive effects of a substance for sale is punishable by up to five years in prison in Ireland and one to three years in Romania. In the Czech Republic, promotion of addiction to a psychoactive substance can be punished by up to eight years in prison. In Romania, advertising that the products are sold lawfully is punishable by 3–10 years in prison. In Poland, supply of 'substitute drugs' can be punished with a large fine, and advertising them may lead to a year in prison. In Romania, there will be a heavy fine if an offending website is not taken down within 12 hours of a Ministry request.

The rapid emergence of new and unknown drugs has prompted many different responses, which continue to evolve: since 2009, at least seven countries have implemented one innovative response and later initiated another. The size of the criminal penalties, and the degree of psychoactivity or potential harm that would trigger them, vary widely across Europe. Nevertheless, two trends are visible: the use of the threat of prison to deter suppliers; and the exclusion of criminal sanctions for those possessing a substance for personal use.

Drug-related research

To complement and support the priorities set out in the EU drug strategy, the European Commission funds a range of drug-related research and studies. Since 2007, it has invested over EUR 18 million under FP7, the seventh framework programme for research and innovation.

Two major European studies have focused on drug and alcohol dependence in the context of brain disorders. The recently concluded study 'Psychosocial factors relevant to brain disorders in Europe' (PARADISE) showed that substance abuse disorder is associated with a heavy burden and impact on daily life. The most common difficulties were found to be in cognitive functions, emotional functions, self-care, relationships with others, employment and economic life. In 2011, another major European project reported that disorders of the brain, as measured by disability-adjusted life years, are the largest contributor to the European Union's total disease burden, accounting for 26.6% of the total (Wittchen et al., 2011). This study ranked drug and alcohol dependence among the most common brain disorders and only surpassed by anxiety disorders, insomnia, major depression and somatoform disorders.

The 'Access to opioid medication in Europe' (ATOME) project investigates the reasons why opioid medicines for moderate to severe pain and for the treatment of opioid dependence are often not available where needed and not

used adequately. The project will run until the end of 2014, and its first results include the publication of new WHO (2011) policy guidelines (available in 14 languages) and a review of potential barriers to the access and availability of opioids. The project will deliver country reports with concrete recommendations for legislative changes.

The 'Addictions and lifestyles in contemporary Europe – reframing addictions project' (ALICE RAP) will run until 2016, receiving input from over 100 researchers and 70 research institutions in more than 30 countries. Through seven major work packages, the project aims to strengthen the scientific evidence that can inform the public and political dialogue about the challenges to European society posed by drugs and other addictions, and to stimulate debate on approaches to addictions.

The 'Grasping the links in the chain: understanding the unintended consequences of international

counter-narcotics measures for the EU (LINKSCH)' project started in February 2012, and brings together seven partners from four countries, with a view to contributing to a more comprehensive counternarcotics policy aimed at minimising unintended consequences. Finally, the FP7-funded European research area network (ERA-NET) on illicit drugs will be underway by 2013.

The European Commission's 'Drug prevention and information' programme (DPIP) has also funded a number of projects, including a study 'Further analysis of the EU illicit drugs market and responses to it', which analysed the characteristics and operations of the European Union's markets for cannabis, cocaine, amphetamines and ecstasy; and the project 'New methodological tools for policy and programme evaluation' (DPE), which is developing indicators to monitor illicit drug supply and demand and to evaluate policies and interventions (?).

DRUID: driving under the influence of drugs, alcohol and medicines

The DRUID project, which finished in 2011, aimed to provide new insights into the impact of alcohol, illicit drugs and medicines on road safety, and produce recommendations for road safety policy. Harmonised data collection protocols were used to collect samples of body fluids from approximately 50 000 randomly selected drivers in 13 European countries, and from 4 500 drivers who were seriously injured or killed in an accident. The study found that 3.5 % of the drivers tested had alcohol in their system and 1.5 % of drivers were over the common legal blood-alcohol limit of 0.5 grams per litre, significantly increasing their risk of dying in a traffic accident compared to drivers who had not consumed alcohol.

Traces of illicit drugs most commonly found among the drivers randomly tested were tetrahydrocannabinol (THC) (1.3 %) and cocaine (0.4 %). The presence of THC was associated with a slightly increased risk of the driver being injured or being responsible for a fatal accident, while the presence of cocaine and amphetamine significantly increased the risk to the driver. Psychoactive medicines, mainly benzodiazepines, were found in 1.4 % of drivers and could significantly increase the risk of dying in a traffic accident. All risks greatly increased when substances were combined with alcohol or other drugs, as is often the case in Europe.

Looking at responses, the project found that most roadside drug-testing devices and techniques are not sufficiently accurate. Effective interventions include the withdrawal of driving licences for up to 12 months and rehabilitation programmes. However, their effectiveness depends on drawing a distinction between different types of offenders. Nevertheless, one of the main conclusions of DRUID was that efforts to stop drug driving should not divert resources from efforts to stop drink-driving.

Developments in addiction research (1)

Levels of addiction research have almost tripled in EU Member States in the past year, although US scientists continue to produce one third of the new publications. The number of papers on alcohol, nicotine or psychostimulants increased in 2011, while strong increases were also seen in genetic and imaging studies in the addiction field. However, less than 7 % of the studies are on clinical trials on new therapeutic strategies on addiction, a field in need of development.

Among the most relevant clinical trials published in this area were those exploring the use of substitution therapy or anti-craving drugs in methamphetamine addiction, the use of buprenorphine/naloxone in opioid addiction, or new therapies for opioid withdrawal (such as tetrodotoxin). Other studies focused on the behavioural, physiological and molecular basis of associative, or conditioned, learning in drug abuse paradigms, exploring new potential targets for therapeutic development.

Much addiction neuroscience research focuses on the brain's reward system and dopamine; however, new data indicate other possibilities. For example, neuroimaging studies in animals and humans have shown that the prefrontal cortex has a major influence on drug-taking behaviour. Interactions between the dorsal and ventral prefrontal cortex regions change in the course of the addiction process, suggesting the interventions of neurotransmitters such as noradrenaline, serotonin, glutamate and cannabinoid.

(1) Prepared by EMCDDA Scientific Committee members Fernando Rodríguez de Fonseca and Jean-Pol Tassin.

Chapter 2

Responding to drug problems in Europe — an overview

Introduction

This chapter presents an overview of the responses to drug problems in Europe, highlighting, where possible, trends and developments. Prevention measures are reviewed first, followed by interventions in the areas of treatment, social reintegration and harm reduction. All these measures are part of a comprehensive drug demand reduction system and are increasingly coordinated and integrated. The final section focuses on priority setting in drug law enforcement and drug law offences.

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). The main challenges for prevention policies are to match these different strategies to the degree of vulnerability of the target groups (Derzon, 2007), and to ensure that interventions are evidence-based and sufficient in coverage. Most prevention strategies focus on substance use in general, some also consider associated problems, such as violence and sexual risk behaviour; only a limited number of programmes focus on a specific substance, for example alcohol, tobacco or cannabis.

Environmental strategies

Environmental prevention strategies are designed to change the cultural, social, physical and economic environments in which people make their choices about drug use. These strategies typically include measures such as alcohol pricing, and bans on tobacco advertising and smoking where there is good evidence of effectiveness. Other environmental strategies focus on developing protective school environments. Among the examples reported by European countries are: promotion of a positive and supportive learning climate (Poland, Finland); provision of education in citizenship norms and values (France); and making schools safer through the presence of police in the neighbourhood (Portugal).

It has been argued that a range of social problems, including substance use, teenage pregnancy and violence, are more prevalent in countries with high levels of social and health inequality (Wilkinson and Pickett, 2010). Many Scandinavian countries, such as Finland, invest heavily in broader environmental policies that are geared towards increasing social inclusion at family, school, community and society level and which contribute to, and help maintain, lower levels of drug use. Prevention programmes and interventions targeting specific problems or drugs are less used in these countries.

Prevention: the environmental context

Recent findings in social neuroscience (Steinberg, 2008) support the evidence from social studies that environmental context heavily influences adolescents' involvement in risk behaviour.

Around the time of puberty, risk-taking increases as a result of changes in the brain's socio-emotional system, leading to increased reward-seeking and less impulse control in the presence of peers. Such increased sensitivity to others' opinions and perceived norms can help explain why much adolescent risk-taking behaviour, such as uncontrolled drug and alcohol use and reckless driving, occurs almost only in social contexts. At decisive moments, young people in groups may not make 'informed choices' or assess risks rationally.

The research indicates that, rather than concentrating on information provision, prevention interventions for young people should target norms and perceptions of normality. It underlines the importance, from a prevention perspective, of focusing on environmental contexts, such as school, family and recreational settings. The research also highlights the importance of parental control, and provides support for measures aimed at limiting the opportunities for harmful consequences in those environments where young people interact in groups, especially leisure and nightlife settings. Above all, this evidence supports the environmental prevention approach, which relies more on changing contexts than on persuasion alone.

Universal prevention

Universal prevention addresses entire populations, predominantly in school and community settings. It aims to reduce substance-related risk behaviour by providing young people with the necessary competences to avoid or delay initiation into substance use. A recent evaluation of the ‘Unplugged’ prevention programme in the Czech Republic found that participating students reported significantly reduced rates of smoking, as well as less frequent smoking, drunkenness, cannabis use, and use of any drug (Gabrhelík et al., 2012). However, there have been recent reports of reductions in the provision of universal prevention in Greece and Spain, and in prevention staffing levels in Latvia, which supports earlier suggestions that prevention is an area affected by budgetary cuts in this period of economic downturn (EMCDDA, 2011a).

The EU prevention standards manual (EMCDDA, 2011b) is designed to assist Member States to ensure the quality of their prevention programmes, and improvements have been reported by a number of countries. Recently, Ireland has assessed the implementation of its national prevention programme in post-primary schools. The Czech Republic has made improvements to its prevention grants scheme, introducing Europe’s first certification system, under which funding is available only to certified programmes. The certification of professionals is designed to improve the quality of delivery of prevention programmes, and ensure that public funds are spent efficiently.

Selective prevention

Selective prevention intervenes in specific groups, families or communities who, due to their reduced social ties and resources, may be more likely to develop drug use or progress into dependency. Denmark, Germany, Spain, Austria and Portugal have implemented targeted prevention interventions for pupils in vocational schools, a group of young people identified as being at elevated risk of developing drug use problems. Ireland has taken a broader approach in terms of prevention work with at-risk youth, by working to improve literacy and numeracy among disadvantaged students. Community-level interventions targeting high-risk groups of young people, such as reported by Italy and municipalities in the north of Europe, combine individual and environmental strategies through outreach, youth work, and formal cooperation between local authorities and non-governmental organisations. Such approaches aim to target high-risk youth without recruiting them into specific programmes.

Early intervention approaches have frequently been reported in Europe, but the goal and content of such programmes has varied between countries. Recent prevention policy in the United Kingdom has taken ‘early intervention’ back to its original meaning: to provide social, emotional and learning support to children living in disadvantaged circumstances, during the early years of life (9). The aim is to delay or prevent the onset of problems (including substance use), rather than wait and respond when problems appear (Allen, 2011). Parenting programmes can also play an important role in early intervention approaches; however, proactive parental work and training remain rare in the area of selective prevention.

Indicated prevention

Indicated prevention aims to identify individuals with behavioural or psychological problems that may be predictive for developing substance use problems later in life, and to target them individually with special interventions. In most European countries, indicated prevention continues to be based on the provision of counselling to young substance users. One exception is Preventure (10), a Canadian programme adapted to the United Kingdom’s situation, which selectively targets young sensation-seeking drinkers. This is one of the most positively evaluated programmes currently available, and is now also being implemented in the Czech Republic and the Netherlands.

Treatment

Psychosocial interventions, opioid substitution and detoxification are the main modalities used for the treatment of drug problems in Europe. The relative importance of the different treatment modalities in each country is influenced by several factors, including the organisation of the national healthcare system. Drug treatment services may be provided in a variety of settings: specialist treatment units, including outpatient and inpatient centres, mental health clinics and hospitals, units in prison, low-threshold agencies and by office-based general practitioners.

There is no data set allowing a description of the full population of drug users currently undergoing drug treatment in Europe. However, information on an important subgroup of this population is gathered by the EMCDDA’s treatment demand indicator, which collects data on those entering specialist drug treatment services during the calendar year, enabling insights into their characteristics

(9) Differing from the recent use of ‘early intervention’ as ‘early in career’ of substance use.

(10) Available on the Exchange on Drug Demand Reduction Action (EDDRA) website.

and drug-use profiles⁽¹⁹⁾. In 2010, the indicator registered about 472 000 treatment entrants, 38 % (178 000) of whom were reported to have entered drug treatment for the first time in their life. Heroin, cannabis and cocaine have been the main primary drugs reported by treatment entrants during the last five years, with the largest increase observed for cannabis (see Figure 2).

Based on a range of different sources, including the treatment demand indicator and national opioid substitution registers, it can be estimated that at least 1.1 million people received treatment for illicit drug use in the European Union, Croatia, Turkey and Norway during 2010⁽²⁰⁾. While more than half of these clients received opioid substitution treatment, a substantial number received other forms of treatment for problems related to opioids, stimulants, cannabis and other illicit drugs⁽²¹⁾. This estimate of drug treatment in Europe, though in need of refinement, does suggest a considerable level of provision, at least for opioid users. This is the consequence of a major expansion during the last two decades of specialised outpatient services, with a significant involvement of primary healthcare, general mental

health services, and outreach and low-threshold service providers.

Outpatient treatment

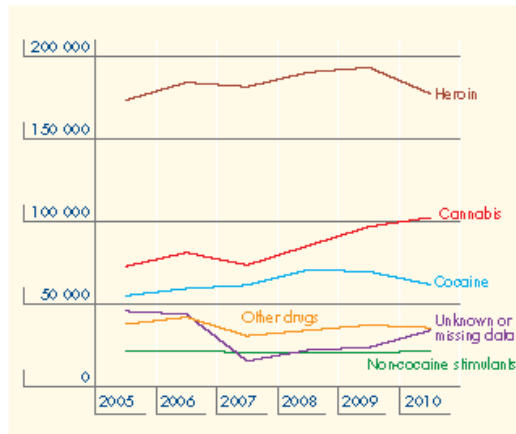
Information is available on about 400 000 drug users entering specialist outpatient treatment during 2010. Almost half of the treatment entrants (48 %) report opioids, mainly heroin, as their primary drug, while 27 % report cannabis, 17 % cocaine and 4 % stimulants other than cocaine⁽²²⁾. The most common route into treatment is self-referral (35 %), followed by referral from health or social services (29 %) and the criminal justice system (20 %). The remaining clients are referred through family, friends and informal networks⁽²³⁾.

Drug users entering outpatient treatment are on average 31 years old. Among this group, males outnumber females by almost four to one, which in part reflects the predominance of males among the more problematic drug users. Male to female ratios are high for all substances, although varying with drug and country⁽²⁴⁾. Gender ratios are generally higher in countries in the south of Europe and among cocaine and cannabis clients; lower ratios are reported in the north of Europe and among stimulant and opioid clients⁽²⁵⁾. Among clients entering outpatient treatment, primary cannabis users are almost 10 years younger (25) than primary users of cocaine (33) and opioids (34). Overall, the youngest clients (26–27) are reported by Hungary, Poland, Romania and Slovakia, and the oldest by Italy, Portugal and Norway (34–35)⁽²⁶⁾.

The two main modalities of outpatient treatment in Europe are psychosocial interventions and opioid substitution treatment. Psychosocial interventions include counselling, motivational interviewing, cognitive behavioural therapy, case management, group and family therapy, and relapse prevention. Psychosocial interventions offer support to users as they attempt to manage and overcome their drug problems, and they are the main form of treatment for users of stimulant drugs, such as cocaine and amphetamines⁽²⁷⁾. They are also provided for opioid users, often in combination with substitution treatment.

In nearly all countries, responsibility for provision of outpatient psychosocial treatment is shared by public institutions and non-governmental organisations. While

Figure 2: Trends in estimated number of clients entering treatment by primary drug



NB: For more information see Figure TDI-1 (part ii) in the 2012 statistical bulletin.
Sources: Reixos national focal points.

⁽¹⁹⁾ The treatment demand indicator received data for specialised drug treatment centres from 29 countries. Most countries provided data for more than 60 % of their units, though for some countries the proportion of units covered is unknown (see Table TDI-7 in the 2012 statistical bulletin).
⁽²⁰⁾ See the box 'Estimating the number of drug users in treatment in Europe', and Table HSR-10 in the 2012 statistical bulletin.
⁽²¹⁾ More detailed information on specific types of treatment for the different substances is available in the respective chapters.
⁽²²⁾ See Table TDI-19 in the 2012 statistical bulletin.
⁽²³⁾ See Table TDI-16 in the 2012 statistical bulletin.
⁽²⁴⁾ For information on treatment clients according to primary substance, see the respective chapters.
⁽²⁵⁾ See Table TDI-21 in the 2012 statistical bulletin.
⁽²⁶⁾ See Tables TDI-9 (part iv) and TDI-103 in the 2012 statistical bulletin.
⁽²⁷⁾ For information on treatment according to primary substance, see the respective chapters.

public institutions are the main provider in 20 countries, non-governmental organisations are the main provider in eight ⁽¹⁹⁾ and the second most important provider in terms of client share in a further 11 countries. Commercial providers generally play a lesser role in the provision of this treatment modality, but are the second most important provider in eight countries (Belgium, Bulgaria, Denmark, Cyprus, Latvia, Lithuania, Slovakia, Turkey) with a client share of between 5 % and 35 %.

In a 2010 survey, national experts reported outpatient psychosocial treatment in Europe to be available to nearly all who seek it in 14 countries, and to the majority of those who seek it in 11 countries. In three countries (Bulgaria, Estonia, Romania) however, outpatient psychosocial treatment is estimated to be available to fewer than half of those who actively seek it. These ratings may hide considerable variation within countries and differences in the availability of specialised treatment programmes for specific target groups, such as older drug users or ethnic minorities. Some countries report difficulties in providing specialised services at a time of economic recession and budgetary cuts.

Regarding access to outpatient psychosocial treatment, experts from 12 of the 29 reporting countries reported no waiting time, while in 11 countries, average waiting times are estimated to be less than a month. In Norway, the average waiting time is estimated to be about eight weeks, while experts from four countries could not provide an estimate. Denmark requires that treatment takes place within 14 days by law.

Substitution treatment is the predominant treatment option for opioid users in Europe. It is generally provided in specialist outpatient settings, though in some countries it is also available in inpatient settings, and is increasingly provided in prisons ⁽²⁰⁾. In addition, office-based general practitioners, often in shared-care arrangements with specialist centres, increasingly play a role. Opioid substitution is available in all EU Member States and in Croatia, Turkey and Norway ⁽²¹⁾. Overall, it is estimated that there were about 710 000 substitution treatments in Europe in 2010. Compared with 2009, the number of clients in substitution treatment increased in most countries, though Spain and Slovakia report small decreases ⁽²²⁾.

Estimating the number of drug users in treatment in Europe

Since 2008, the EMCDDA has collected data annually on the total number of clients who have received drug treatment in Europe. In the most recent data collection, 14 countries provided reliable minimum estimates of the total number of people in contact with treatment services in 2010, which resulted in a total estimate of 900 000 clients. For the remaining 16 countries, a data subset was used of either the number of treatment demands or clients in opioid substitution treatment in that year, whichever total was highest. Thus, data on those receiving opioid substitution treatment were used for seven countries (171 000 clients) and data from the treatment demand indicator were used for nine countries (48 000 clients). Taken together, these data indicate that at least 1.1 million individuals were in contact with treatment services in Europe in 2010. The EMCDDA is working with Member States on the quality assurance of national estimates of the total treatment population, which will further improve the European-level estimate.

Inpatient treatment

Data are available for about 50 000 drug users who have entered drug treatment in inpatient settings in Europe during 2010 ⁽²³⁾. Opioids were reported as the primary drug by half of these clients (48 %), followed by cannabis (16 %), amphetamines and other non-cocaine stimulants (13 %) and cocaine (6 %). Inpatient clients are mainly young men, with a mean age of 31 years and about three males to every female ⁽²⁴⁾.

Inpatient or residential treatment requires clients to stay overnight for a duration of several weeks to several months. In many cases, these programmes aim to enable clients to abstain from drug use, and do not allow substitution treatment. Drug detoxification, a short-term, medically supervised intervention aimed at resolving the withdrawal symptoms associated with cessation of chronic drug use, is sometimes a prerequisite for starting long-term, abstinence-based inpatient treatment. Detoxification is usually provided as an inpatient intervention in hospitals, specialised treatment centres or residential facilities with medical or psychiatric wards.

In inpatient settings, clients receive accommodation and individually structured psychosocial treatments, and take part in activities geared towards rehabilitating and

⁽¹⁹⁾ Public institutions and non-governmental organisations are equally involved in terms of client share in the provision of outpatient (and inpatient) psychosocial treatment in Bulgaria.

⁽²⁰⁾ See the 2012 'Selected issue' on drug users in prison.

⁽²¹⁾ See Tables HSR-1 and HSR-2 in the 2012 statistical bulletin.

⁽²²⁾ See Table HSR-3 in the 2012 statistical bulletin. For more information on availability, accessibility and trends for substitution treatment, see Chapter 6.

⁽²³⁾ This figure should be interpreted with caution as it does not include all users who enter inpatient care.

⁽²⁴⁾ See Tables TDI-7, TDI-10, TDI-19, TDI-21 and TDI-24 in the 2012 statistical bulletin.

reintegrating them into society. A therapeutic community approach is often used in this context ⁽²⁵⁾. Inpatient drug treatment is also provided by psychiatric hospitals, notably for clients with co-morbid psychiatric disorders.

Public institutions are the main providers of detoxification in 22 countries, while the private sector is the main provider in Cyprus and Luxembourg and the second largest in an additional 12 countries. Non-governmental organisations are the largest providers in the Netherlands, and the second largest in another eight countries.

National experts estimate that detoxification is available to almost all who seek it in 12 countries and is available to the majority of those seeking it in a further nine countries. In seven countries (Estonia, Ireland, Greece, Hungary, Latvia, Romania, Norway), detoxification is estimated to be available to less than half of those who actively seek it. In 15 countries, the estimated average waiting time for detoxification is less than two weeks. An average waiting time of two weeks to one month is estimated in eight countries, while in Austria and Slovenia it is estimated at more than one month. Experts from three countries did not provide an estimate. National estimates of waiting times for any of the modalities may, however, hide important variations within countries.

Public institutions are the main providers of inpatient treatment in 14 countries, and non-governmental organisations are the main providers in 11 countries. Private institutions are the main providers in Denmark and the second most important providers in six countries. National experts estimate that inpatient psychosocial treatment is available to almost all who seek it in 10 countries, and to the majority of those seeking it in another 11 countries. However, in seven countries (Bulgaria, Denmark, Estonia, Cyprus, Hungary, Romania, Finland), this treatment modality was considered to be available to less than half of those who actively seek it.

Experts from Greece, Poland, Portugal, Slovakia and Croatia estimated that there is no waiting time for inpatient treatment. In 13 countries, the average waiting time was estimated to be less than one month, and more than one month in four countries.

Social reintegration

The level of social exclusion among problem drug users is generally high, especially among opioid users. Data on the social conditions of those entering drug treatment in 2010 show that over half (56 %) were unemployed and, in the last five years, this percentage has increased in 15 of the 24 countries reporting trend data. Low educational

Therapeutic communities for the rehabilitation of drug users in Europe

The therapeutic community has historically been identified as a drug-free environment in which people with drug (and other) problems live together in an organised and structured way in order to promote social and psychological change. Clients are viewed as active participants in their own and each other's treatment, and responsibility for the daily running of the community is shared by the clients and staff. In recent years, this approach has been increasingly adapted to serve the needs of opioid substitution clients, adolescents, homeless men and women, mothers and children, those infected with HIV or with mental health problems.

A 2013 publication in the EMCDDA Insights series will review the role of therapeutic communities in the treatment of drug users in Europe.

attainment is common among clients entering treatment, with 38 % having completed only primary education, and 2 % not even achieving this level. And many are homeless, with 10 % of drug treatment clients reporting no stable accommodation.

Improving a person's capability for gaining and maintaining employment (employability) is a key element in the social reintegration of drug users. Interventions in this area recognise that drug use and problems related to it may jeopardise not only entry and re-entry into the labour market, but also the ability to retain employment. Vocational training in Europe encompasses a wide range of programmes that aim to improve the skills and qualities needed to find and secure employment including interview and presentation skills, time management, computer literacy, self-efficacy and commitment to work. In addition, schemes to develop particular occupational competencies and qualifications may be offered by drug treatment services and by specialist providers, such as national training authorities and employment services (EMCDDA, 2011a).

One promising approach involves the integration of support, such as vocational counselling, skills training and job placement, within drug treatment programmes. Among the models that have been studied is the provision of skills training to unemployed drug users receiving psychosocial treatment in outpatient settings. The effectiveness has also been assessed of individual vocational counselling, job-seeking support, supported employment, case management and other interventions for substitution treatment clients. A number of studies have produced encouraging results with regard to outcome measures including employment rate, income, and welfare utilisation (EMCDDA, 2012b). However, interventions that produce

⁽²⁵⁾ See the box 'Therapeutic communities for the rehabilitation of drug users in Europe'.

consistently positive outcomes have not been identified, and differences in approach, study populations, outcomes assessed, and lack of replication prevent any firm conclusions being made about the overall effectiveness of these measures (Foley et al., 2010). In addition, the available evidence focuses almost exclusively on social reintegration interventions for opioid users, while the needs of treatment clients who use other drugs are yet to be systematically addressed.

Work and other activities that foster a sense of inclusion and provide opportunities for social contact can help to prevent lapse and relapse among drug users (McIntosh et al., 2008). In some European countries, social enterprise organisations are experimenting with so-called recovery work cooperatives as a transition from treatment to mainstream employment (Belgium, Czech Republic, Spain, Latvia, Finland). These recovery work cooperatives are small businesses within the community that support people entering or returning to mainstream employment and, at the same time, have a focus on support, community service and participation in community life. Other specialist interventions exist that, when integrated into drug treatment and rehabilitation programmes, can improve the likelihood of positive outcomes. These include employment support for hard-to-place groups such as drug-using offenders, or drug users with mental health problems (EMCDDA, 2012b). Nevertheless, while programmes may successfully teach employability skills, drug users still have to compete on

the labour market with other applicants at a time of high unemployment in many countries.

Harm reduction

Since the emergence of HIV among drug users more than 25 years ago, Europe has seen a growth and strengthening of harm-reduction responses to drug use, and their increasing integration with a range of other health, treatment and social care services. Harm reduction now addresses the broader health and social needs of problem drug users, especially those who are socially excluded. Core harm-reduction interventions include opioid substitution treatment and needle and syringe programmes, which target overdose deaths and the spread of infectious diseases. Additional approaches include outreach work, health promotion and education, and the provision of injecting equipment other than needles and syringes. Harm reduction covers a wide range of behaviours and harms, including those related to alcohol and recreational drug use (EMCDDA, 2010b).

In 2003, the Council of the European Union recommended a number of policies and interventions to the EU Member States to tackle health-related harm associated with drug dependence⁽²⁴⁾. In a follow-up report in 2007, the Commission of the European Communities confirmed that the prevention and reduction of drug-related harm is a public health objective in all countries⁽²⁵⁾. National drug policies have been increasingly covering the harm-reduction objectives defined in the EU drugs strategy, and there is now broad agreement among countries on the importance of reducing the spread of infectious diseases and overdose-related morbidity and mortality and other harms.

During the past two decades, harm-reduction policies have promoted the adoption of evidence-based approaches and helped to remove barriers to service access. One result has been a significant increase in the number of drug users that are in contact with health services and undergoing treatment in Europe. Harm-reduction interventions for drug users now exist in all EU Member States, and while some are just starting to develop services, most can report high levels of provision and coverage.

Although harm-reduction measures have contributed to the control of HIV among injecting drug users in Europe, with a substantial decline in reports of new infections, HIV continues to be a major public health concern, and new outbreaks have been reported⁽²⁶⁾. Together with the European Centre for Disease Prevention and Control

'Insights' on improving labour market participation of drug users in treatment

The new EMCDDA Insights publication reviews recent developments concerning the social reintegration of drug users and evidence for the effectiveness of interventions that aim to increase employability. This publication is designed to assist policymakers and practitioners in the drugs field in developing effective strategies to promote the social reintegration of drug users.

'Selected issue' on drug users with children

An EMCDDA Selected issue published this year focuses on drug users with children. Among the topics explored are treatment options for pregnant drug users, reducing the barriers to accessing treatment for drug-using parents with children, and prevention programmes targeted at drug-using parents.

These publications are available in print and on the EMCDDA website in English only.

⁽²⁴⁾ Council Recommendation of 18 June 2003 on the prevention and reduction of health-related harm associated with drug dependence (2003/488/EC).

⁽²⁵⁾ COM(2007) 199 final.

⁽²⁶⁾ See the box 'HIV outbreaks in Greece and Romania' (Chapter 7).

(ECDC), the EMCDDA issued guidance for policymakers in the fields of drugs and infectious diseases, presenting a synthesis of current evidence on the prevention and control of infectious diseases among injecting drug users (ECDC and EMCDDA, 2011). This joint guidance aims to improve Europe's chances of preventing most, if not all, injecting-related HIV infections.

Quality standards

The European Commission's EQUUS study aimed to develop a European consensus on minimum quality standards in the field of drug demand reduction. The 2012 final report suggested 33 minimum standards for drug prevention, 22 for drug treatment or rehabilitation and 16 for harm reduction in Europe ⁽²⁹⁾. These minimum standards operate at three different levels (intervention, service and system) appropriate to the different needs of practitioners, service managers and policy planners.

The EQUUS study also included a review, involving experts from 24 European countries, of existing quality standards already implemented at the national level. With regard to drug treatment processes, the standards most frequently reported as already implemented were in the areas of client data confidentiality and assessment of clients' drug use history, whereas the standards concerned with routine cooperation with other services, and those focusing on continuous staff training, were less often implemented. In the area of treatment outcomes, the two types of standard most frequently reported as implemented were those with goals linked to health improvement and reduced substance use. Among the standards less likely to be applied were those focusing on external evaluation and monitoring client discharge; problems related to the implementation of these standards were reported.

The study identifies a broad level of consensus around a set of minimum quality standards in the European drug demand reduction field, and may provide a useful baseline for monitoring future developments in Europe. The full list of EQUUS study standards and results can be found on the Best practice portal.

Drug law enforcement and offences

Drug law enforcement is an important component of national and EU drug policies. It includes a wide range of interventions that are mainly implemented by police and similar institutions (e.g. customs). An important issue for law enforcement agencies, the setting of strategic and operational priorities, is briefly reviewed here. A summary of drug law offences concludes the section.

'Selected issue' on drugs and prison

Drug users represent a substantial part of the prison population and they are disproportionately affected by health and social problems related to drug use. In Europe, assistance to drug users inside prison is available, with different types of interventions, treatment and services.

An EMCDDA Selected issue on drugs and prison, published this year, presents an up-to-date European overview of drug use and related problems among prisoners, their health and social conditions and the interventions targeting drug consumption and its consequences.

This publication is available in print and on the EMCDDA website in English only.

Strategic and operational priority setting

Most drug offences are consensual crimes, and are subject to an individual or institutional assessment as to whether an investigation is warranted, its depth, and how long it will continue. It is not possible for a police unit to work on all detectable drug law offences and a degree of discretion is necessary (Dvorsek, 2006). The priority-setting process is informed by both law enforcement data and by the 'investigative experience' or a drug law enforcement officer's knowledge. However, while the priorities of drug law enforcement units are not always transparent, they are not arbitrary, being generally constrained by a range of legal and organisational obligations. On occasion, a unit may be tasked with investigating a particular type of crime, such as intermediary or wholesale drug cases, or given an official mandate to focus on one area such as criminal asset recovery. At other times, a particular drug may be prioritised for reasons of harm or public nuisance, or even because of intense media coverage (Kirby et al., 2010). Priority setting may also be influenced by the need for strong performance figures (Stock and Kreuzer, 1998). High levels of investigated cases can serve to emphasise the importance and urgency of the drug problem compared to other security threats and, in turn, justify the need for specific law enforcement activities in this field. In all cases, the availability of human and financial resources will facilitate certain options while limiting others.

While data are used to inform the setting of strategic and operational priorities, the priorities themselves will also influence the data that will be collected and made public (Stock and Kreuzer, 1998). Drug seizures, for example, may influence the priority-setting process and also be one of the outcomes of the process. The judicial process may use information on seizure levels as an indicator of the seriousness of the offence being prosecuted. In addition,

⁽²⁹⁾ The final report is available online.

high seizure levels may indicate a need for additional investigations and resources. It is generally accepted that seizure figures are primarily an indicator of law enforcement activity, and their interpretation requires an understanding of the context in which they are produced. Seizures result from the proactive investigation of specific suspects or, more generally, from law enforcement positioning in particular locations such as harbours and airports. In particular, the use of covert surveillance and undercover operations focused around illicit drug deliveries can lead to significant drug seizures. What remains less clear is the proportion of drug seizures that result directly from operational priority setting compared to the proportion made by chance.

Data on drug law offences (see next section) are also a direct indicator of law enforcement activity, since they refer to consensual crimes, which usually go unreported by potential victims. They are often viewed as indirect indicators of drug use and drug trafficking, although they include only those activities that have come to the attention of law enforcement. Understanding law enforcement data, whether drug law offences, arrests or seizures, therefore requires that the underlying strategic and operational priority-setting processes as well as their consequences are taken into account.

Drug law offences

The only data on drug-related crime routinely available in Europe are initial reports on offences against national drug laws, mainly from the police ⁽²⁰⁾. These data usually refer to offences related to drug use (use and possession for use) or drug supply (production, trafficking and dealing), although other types of offences may be reported (e.g. related to drug precursors) in some countries. These data are likely to reflect national differences in legislation, priorities and resources. In addition, national information systems differ across Europe, especially in relation to recording and reporting practices. For these reasons, it is difficult to make robust comparisons between countries, and it is more appropriate to compare trends rather than absolute numbers.

Overall, the upward trend in the number of reported drug law offences has slowed since 2009. An EU index, based on data provided by 22 Member States, representing 93 % of the population aged 15–64 in the European Union, shows that reported offences increased by an estimated 15 % between 2005 and 2010, with a more stable trend since 2008. If all reporting countries are

COSI: the Standing Committee on operational cooperation on internal security

European-level priority setting in the area of operational drug law enforcement lies within the remit of the Council's Standing Committee on operational cooperation on internal security (COSI) and relies on Europol's Organised Crime Threat Assessments ⁽¹⁾. COSI was established in 2010 on the basis of the Treaty of Lisbon and set up by a Council Decision (Council of the European Union, 2009). The committee, which includes high-level officials from Member States' interior ministries and Commission representatives, has a broad remit: to facilitate, promote and strengthen the coordination of operational actions of the authorities competent in the field of internal security.

COSI's key tasks include the development, monitoring and implementation of the internal security strategy and supporting the implementation of a multi-annual policy cycle that aims to tackle the most important criminal threats facing the European Union through increased cooperation between the law enforcement authorities of Member States, EU institutions and EU agencies. With support from COSI, the Council recently adopted eight policy priorities for the period 2011 to 2013, of which three concern drug law enforcement. One of these priorities aims to reduce the production and distribution of synthetic drugs, including new psychoactive substances, in the European Union. In the related operational action plan, Europol and the EMCDDA are tasked with establishing routine monitoring of the dismantling of synthetic drugs facilities in Europe. The next policy cycle, 2013–17, will be based on the 2013 EU Serious and Organised Crime Threat Assessment.

⁽¹⁾ European-level priority setting in the area of drug policy is the task of the Horizontal Working Party on Drugs.

considered, the data reveal upward trends in 19 countries and an overall decline in seven countries over the period ⁽²¹⁾.

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 compared with previous years. In most (22) European countries, offences related to drug use or possession for use continued to comprise the majority of drug law offences in 2010, with Spain, France, Hungary, Austria and Turkey reporting the highest proportions (85–93 %) ⁽²²⁾.

Between 2005 and 2010, there was an estimated 19 % increase in the number of offences related to drug use in Europe. Some country differences can be seen in this analysis, as the number of offences related to use

⁽²⁰⁾ For a discussion of the relationships between drugs and crime and a definition of 'drug-related crime', see EMCDDA (2007b).

⁽²¹⁾ See Figure DLO-1 and Table DLO-1 in the 2012 statistical bulletin.

⁽²²⁾ See Table DLO-2 in the 2012 statistical bulletin.

increased in 18 countries and fell in seven during this period. There has, however, been an overall decrease in drug use offences reported in the most recent data (2009–10) (Figure 3). Offences related to the supply of drugs show an estimated increase during the period 2005–10 of about 17 % in the European Union. Over this period, 20 countries report an increase in supply-related offences, while Germany, Estonia, the Netherlands, Austria and Poland report an overall decline (39).

Trends by drug

Cannabis continues to be the illicit drug most often mentioned in reported drug law offences in Europe (34). In the majority of European countries, offences involving cannabis accounted for between 50 % and 90 % of reported drug law offences in 2010. Offences related to other drugs exceeded those related to cannabis in only four countries: the Czech Republic and Latvia with methamphetamine (54 % and 34 %); and Lithuania and Malta with heroin (34 % and 30 %).

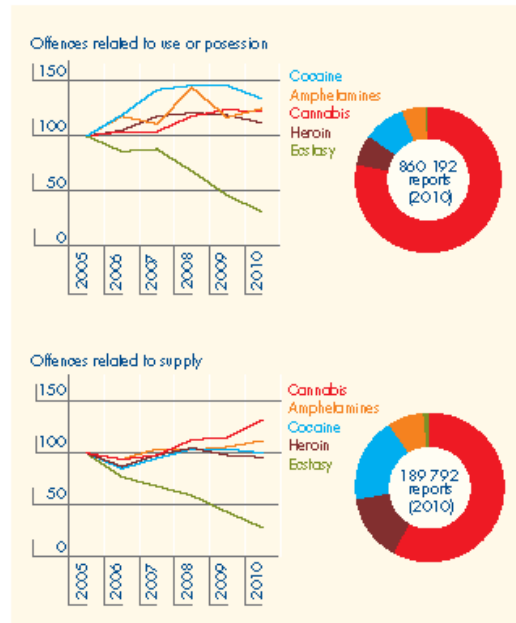
In the period 2005–10, the number of drug law offences involving cannabis increased in 15 reporting countries, resulting in an estimated increase of 20 % in the European Union. Downward trends are reported by Germany, Italy, Malta, the Netherlands and Austria (35).

Cocaine-related offences increased over the period 2005–10 in 12 reporting countries, while Germany, Greece, Austria and Croatia reported decreasing trends. In the European Union, overall, offences related to cocaine increased by an estimated 12 % over the same period, but fell in the last two years (36).

The decline in the number of heroin-related offences observed in 2009 continued in 2010. The EU average for such offences has remained overall relatively stable, with an estimated 7 % increase over 2005–10. The number of heroin-related offences has decreased in more than half of the reporting countries (12), while an overall increase was reported in nine other countries over the same period (37).

The number of offences related to amphetamines reported in the European Union has increased by an estimated 24 % over 2005–10, although it appears to have stabilised in the last two years. In contrast, the number of ecstasy-related offences fell by an estimated two thirds over the same period (a 71 % decrease).

Figure 3: Reports for offences related to drug use or possession for use and to drug supply in the EU Member States: indexed trends 2005–10 and breakdown by drug of reports for 2010



NB: The trends are based on available information on the number of reported drug law offences (criminal and non-criminal) in the EU Member States; all series are indexed to a base of 100 in 2005 and weighted by country population sizes to form an overall EU trend; the breakdown by drugs refers to the total number of reports for 2010. For further information, see Figures DLO-4 and DLO-5 in the 2012 statistical bulletin.
Sources: Reitox national focal points.

(33) See Figure DLO-1 and Table DLO-5 in the 2012 statistical bulletin.
(34) See Table DLO-3 in the 2012 statistical bulletin.
(35) See Figure DLO-3 and Table DLO-6 in the 2012 statistical bulletin.
(36) See Figure DLO-3 and Table DLO-8 in the 2012 statistical bulletin.
(37) See Figure DLO-3 and Table DLO-7 in the 2012 statistical bulletin.

Eurojust: judicial cooperation in the European Union

Organised criminal networks operate across borders and this requires cooperation between countries to ensure that criminals are apprehended and prosecuted wherever they are located. Eurojust, the European Union's judicial cooperation body, was created in 2002 to address this situation. It represents the last step of a historical process that has seen judicial cooperation in the European Union grow from a purely intergovernmental concept to a more direct field of interaction among judicial authorities.

The role of Eurojust, for cross-border criminal cases, is to facilitate and coordinate: information exchange; joint investigation teams; controlled deliveries; the execution of

European arrest warrants; transfer of evidence or criminal proceedings; the implementation of mutual legal assistance requests; the prevention and solution to conflicts of jurisdiction and international asset recovery. A recent analysis reveals that drug trafficking is the most common type of crime in Eurojust's casework, accounting for about one fifth of the cases registered (Eurojust, 2012). In 2011, 242 drug trafficking cases were referred to Eurojust and eight joint investigation teams were active in this field. Data show that the Member States most often involved in judicial cooperation relating to drug trafficking are the Netherlands and Spain, followed at a distance by Italy, Germany and France.

Chapter 3 Cannabis

Introduction

Cannabis is the illicit drug most widely available in Europe, where it is both imported and produced domestically. In most European countries, cannabis use increased during the 1990s and early 2000s. Europe may now be moving into a new phase, as data from general population surveys and a new round of data from the ESPAD school survey points to relatively stable trends in cannabis use in many countries. Levels of use, nevertheless, remain high by historical standards. The last few years have also seen a growing understanding of the public health implications of the long-term and widespread use of this drug and rising levels of treatment demand for cannabis-related problems.

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 has been estimated that cannabis is cultivated in 172 countries and territories (UNODC, 2009). The difficulties in arriving at accurate figures for global cannabis production are acknowledged in the UNODC's most recent estimates, which place global production for 2008 at between 13 300 tonnes and 66 100 tonnes of herbal cannabis and between 2 200 tonnes and 9 900 tonnes of cannabis resin.

Cannabis cultivation in Europe is widespread and appears to be increasing. All 29 European countries reporting information to the EMCDDA mentioned domestic cannabis cultivation, though the scale and nature of the phenomenon seem to vary considerably. A significant proportion of cannabis used in Europe is, nevertheless, likely to be the result of intra-regional trafficking. According to a recent EMCDDA analysis, Russia and Switzerland are also mentioned as sources of herbal cannabis available in Europe. In addition, Albania and, to a lesser extent, Kosovo ^(*), the former Yugoslav Republic of Macedonia and Serbia are significant sources of the

Table 2: Seizures, price and potency of cannabis resin and herbal cannabis

	Cannabis resin	Herbal cannabis	Cannabis plants ⁽¹⁾
Global quantity seized	1 136 tonnes	6 251 tonnes	n.a.
Quantity seized EU and Norway (Including Croatia and Turkey)	534 tonnes (563 tonnes)	62 tonnes (106 tonnes)	3.1 million plants and 35 tonnes (3.1 million plants and 35 tonnes) ⁽²⁾
Number of seizures EU and Norway (Including Croatia and Turkey)	341 000 (358 000)	332 000 (382 000)	25 000 (37 000)
Mean retail price (EUR per gram) Range (Interquartile range) ⁽³⁾	3–17 (7.0–10.2)	3–25 (6.5–9.9)	n.a.
Mean potency (THC content, %) Range (Interquartile range) ⁽³⁾	1–12 (4.5–10.0)	1–17 (5.1–8.0)	n.a.

⁽¹⁾ Countries report the quantity seized either as a number of plants seized or by weight; the totals for both quantities are given here.

⁽²⁾ Half of the total amount of cannabis plants seized in 2010 is accounted for by the Netherlands. The figures are not complete, but may be considered as a reasonable indication.

⁽³⁾ Range of the middle half of the reported data.

NB: All data for 2010; n.a., not applicable or data not available.

Sources: UNODC (2012) for global values, Reitox national focal points for European data.

^(*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244 (1999) and the ICJ Opinion on the Kosovo declaration of independence.

herbal cannabis seized in central and south-eastern Europe (EMCDDA, 2012a).

Some herbal cannabis in Europe is also imported, mostly from Africa (especially South Africa), and less often from the Americas (especially the Caribbean islands) (EMCDDA, 2012a).

A recent survey suggests that Afghanistan has displaced Morocco as the largest global producer of cannabis resin. Production of cannabis resin in Afghanistan is estimated to be between 1 200 tonnes and 3 700 tonnes a year (UNODC, 2011a). Although some of the cannabis resin produced in Afghanistan is sold in Europe, it is likely that Morocco remains Europe's main supplier of this drug. Cannabis resin from Morocco is smuggled into Europe primarily through the Iberian Peninsula, with Belgium and the Netherlands having a role in secondary distribution and storage. Recent reports suggest that Moroccan cannabis resin is being transited through Estonia, Lithuania and Finland en route to Russia.

Seizures

In 2010, an estimated 6 251 tonnes of herbal cannabis and 1 136 tonnes of cannabis resin were seized worldwide (Table 2), an overall stable situation compared with the previous year. North America continued to account for the bulk of herbal cannabis seized (69 %), while quantities of cannabis resin seized remained concentrated in western and central Europe (47 %) (UNODC, 2012).

The number of herbal cannabis seizures made in Europe has increased steadily since 2005, and, with an estimated 382 000 seizures in 2010, has surpassed that of cannabis resin for the first time (Table 2). In 2010, an estimated 106 tonnes of herbal cannabis was intercepted, of which Turkey accounted for nearly half (44 tonnes), a record amount⁽³⁹⁾. Diverging trends are noted, with the amount of herbal cannabis intercepted between 2005 and 2010 remaining relatively stable in the European Union, while increasing fourfold in Turkey.

In 2010, after a steady increase over the last decade, the number of cannabis resin seizures declined to 358 000. The amount of cannabis resin intercepted has been decreasing overall in the last 10 years, reaching a new low in 2010 with an estimated 563 tonnes seized. The quantities of cannabis resin recovered continue to greatly exceed those of herbal cannabis⁽⁴⁰⁾. In 2010, as in

previous years, Spain reported half of the total number of cannabis resin seizures and about two thirds of the quantity seized.

The number of seizures of cannabis plants has increased since 2005, reaching an estimated 37 000 cases in 2010. Countries report the quantity seized either as an estimate of the number of plants seized or by weight. Seizures reported by number of plants remained stable at about 2.5 million in 2005–07 in Europe⁽⁴¹⁾; trends in 2008 and 2009 cannot be determined due to the lack of reliable data from the Netherlands, a country historically reporting large quantities. In 2010, that country was estimated to account for more than half of the 3.1 million plants reported seized in Europe, followed by the United Kingdom. Seizures reported by weight of plants trebled between 2005 and 2008, before slightly decreasing to 35 tonnes in 2010, most of which continued to be accounted for by Spain (27 tonnes) and Bulgaria (4 tonnes).

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, between different cannabis products and between genetic varieties. Information on cannabis potency is mainly based on forensic analysis of selected samples of cannabis seized. 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 2010, the reported mean THC content of cannabis resin ranged from 1 % to 12 %. The mean potency of herbal cannabis (including sinsemilla — the form of herbal cannabis with the highest potency) ranged from 1 % to 16.5 %. The mean potency of sinsemilla was reported by only three countries: 8 % in Sweden, 11 % in Germany, and 16.5 % in the Netherlands. Over the period 2005–10, the mean potency of cannabis resin has been diverging in the 15 countries reporting sufficient data. The potency of herbal cannabis remained relatively stable or decreased in 10 countries, and increased in Bulgaria, Estonia, France, Italy, Slovakia and Finland. Between 2005 and 2010, the potency of sinsemilla remained stable in Germany, and declined slightly in the Netherlands⁽⁴²⁾.

The mean retail price of cannabis resin, in 2010, ranged from EUR 3 per gram to EUR 17 per gram in the

⁽³⁹⁾ The data on European drug seizures mentioned in this chapter can be found in Tables SZR-1 to SZR-6 in the 2012 statistical bulletin.

⁽⁴⁰⁾ Due to differences in shipment size and distances travelled, as well as the need to cross international borders, cannabis resin may be more at risk of being seized than domestically produced herbal cannabis.

⁽⁴¹⁾ The analysis does not include seizures made in Turkey as these have not been reported since 2005. Previous data show substantial seizures in Turkey (20 million cannabis plants in 2004).

⁽⁴²⁾ See Tables PPP-1 and PPP-5 in the 2012 statistical bulletin for potency and price data. For definitions of cannabis products, see the online glossary.

26 countries providing information, with 14 countries reporting values from EUR 7 per gram to EUR 10 per gram. The mean retail price of herbal cannabis ranged from EUR 3 per gram to EUR 25 per gram in the 23 countries supplying information, with 13 of them reporting prices of between EUR 6 per gram and EUR 10 per gram. Over the period 2005–10, the mean retail price of both cannabis resin and herb remained stable or increased in most countries providing data.

Estimated market shares of cannabis products

Various data sources point to a predominance of herbal cannabis throughout Europe in 2009. Herbal cannabis appears to be the most used cannabis product in two thirds of the 30 reporting countries, while cannabis resin is the product of choice in the remaining third (see Figure 4). These market shares appear to have remained stable over time in some countries, where they may reflect long-established consumption patterns; in others, they are the product of recent changes (EMCDDA, 2012a).

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 about 80.5 million Europeans, that is almost one in four 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 1.6 % to 32.5 %. For most countries, the prevalence estimates are in the range of 10–30 % of all adults.

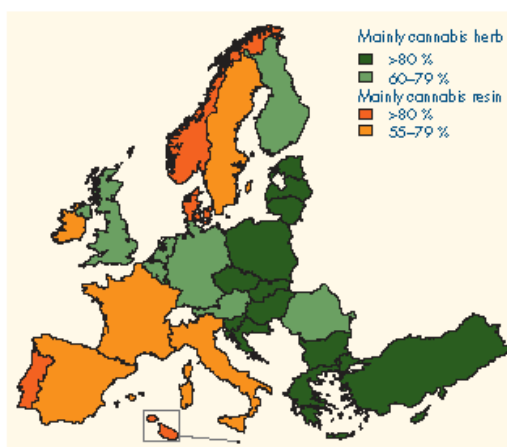
An estimated 23 million Europeans have used cannabis in the last year or, on average, 6.8 % of all 15- to 64-year-olds. Estimates of last month prevalence will include those using the drug more regularly, though not necessarily in a daily or intensive way. It is estimated that about 12 million Europeans used the drug in the last month: on average, about 3.6 % of all 15- to 64-year-olds.

Cannabis use among young adults

Cannabis use is largely concentrated among young people (15–34), with the highest prevalence of ‘last year use’ generally being reported among 15- to 24-year-olds⁽⁴⁹⁾.

Population survey data suggest that, on average, 32.5 % of young European adults (15–34) have used cannabis at some time, while 12.4 % have used the drug in the last year and 6.6 % have used it in the last month. Still higher

Figure 4: Estimated market shares of cannabis products consumed in Europe, 2008/09



Source: EMCDDA, 2012a.

proportions of Europeans in the 15–24 age group are estimated to have used cannabis in the last year (15.4 %) or last month (7.8 %). National prevalence estimates of cannabis use vary widely between countries in all measures of prevalence (Table 3).

Cannabis use is generally higher among males with, for example, the ratio of males to females among young adults reporting use of cannabis in the last year ranging from just over six to one in Portugal to just under unity in Norway⁽⁴⁴⁾.

International comparisons

Figures from Australia, Canada and the United States on lifetime and last year use of cannabis among young adults are all above the European averages, which are 32.5 % and 12.4 % respectively. For example, in Canada (2010) lifetime prevalence of cannabis use among young adults was 50.4 % and last year prevalence 21.1 %. In the United States, the Substance Abuse and Mental Health Services Administration (SAMHSA) (2010) estimated a lifetime prevalence of cannabis use of 52.1 % (16–34, recalculated by the EMCDDA) and a last year prevalence of 24.5 %, while in Australia (2010) the figures are 43.3 % and 19.3 % for young adults.

Trends in cannabis use

During the late 1990s and early 2000s, many European countries reported increases in cannabis use, both in

⁽⁴⁹⁾ See Figure GPS-1 in the 2012 statistical bulletin.

⁽⁴⁴⁾ See Table GPS-5 (part iii) and (part iv) in the 2012 statistical bulletin.

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	80.5 million	23 million	12 million
European average	23.7 %	6.8 %	3.6 %
Range	1.6–32.5 %	0.3–14.3 %	0.1–7.6 %
Lowest prevalence countries	Romania (1.6 %) Bulgaria (7.3 %) Hungary (8.5 %) Greece (8.9 %)	Romania (0.3 %) Greece (1.7 %) Hungary (2.3 %) Bulgaria, Poland (2.7 %)	Romania (0.1 %) Greece, Poland (0.9 %) Sweden (1.0 %) Lithuania, Hungary (1.2 %)
Highest prevalence countries	Denmark (32.5 %) Spain, France (32.1 %) Italy (32.0 %) United Kingdom (30.7 %)	Italy (14.3 %) Spain (10.6 %) Czech Republic (10.4 %) France (8.4 %)	Spain (7.6 %) Italy (6.9 %) France (4.6 %) Czech Republic, Netherlands (4.2 %)
15–34 years			
Estimated number of users in Europe	42.5 million	16 million	8.5 million
European average	32.5 %	12.4 %	6.6 %
Range	3.0–49.3 %	0.6–20.7 %	0.2–14.1 %
Lowest prevalence countries	Romania (3.0 %) Greece (10.8 %) Bulgaria (14.3 %) Poland (16.1 %)	Romania (0.6 %) Greece (3.2 %) Poland (5.3 %) Hungary (5.7 %)	Romania (0.2 %) Greece (1.5 %) Poland (1.9 %) Sweden, Norway (2.1 %)
Highest prevalence countries	Czech Republic (49.3 %) France (45.1 %) Denmark (44.5 %) Spain (42.4 %)	Czech Republic (20.7 %) Italy (20.3 %) Spain (19.4 %) France (17.5 %)	Spain (14.1 %) Italy (9.9 %) France (9.8 %) Czech Republic (8.0 %)
15–24 years			
Estimated number of users in Europe	18 million	9.5 million	5 million
European average	29.7 %	15.4 %	7.8 %
Range	3.0–52.2 %	0.9–23.9 %	0.5–17.2 %
Lowest prevalence countries	Romania (3.0 %) Greece (9.0 %) Cyprus (14.4 %) Portugal (15.1 %)	Romania (0.9 %) Greece (3.6 %) Portugal (6.6 %) Slovenia, Sweden (7.3 %)	Romania (0.5 %) Greece (1.2 %) Sweden (2.2 %) Norway (2.3 %)
Highest prevalence countries	Czech Republic (52.2 %) Spain (39.1 %) France (38.1 %) Denmark (38.0 %)	Spain (23.9 %) Czech Republic (23.7 %) Italy (22.3 %) France (20.8 %)	Spain (17.2 %) France (11.8 %) Italy (11.0 %) United Kingdom (9.0 %)
NB: European estimates are computed from national prevalence estimates weighted by the population of the relevant age group in each country. To obtain estimates of the overall number of users in Europe, the EU average is applied for countries lacking prevalence data (representing not more than 3 % of the target population). Populations used as basis: 15–64, 33.8 million; 15–34, 13.0 million; 15–24, 6.1 million. As European estimates are based on surveys conducted between 2004 and 2010/11 (mainly 2008–10), they do not refer to a single year. The data summarised here are available under 'General population surveys' in the 2012 statistical bulletin.			

general population surveys and in school surveys. Since then, stabilising or even decreasing trends in cannabis use have been reported by many countries (46).

Although, in recent years, almost all European countries have carried out general population surveys, only 16 countries have provided sufficient data to analyse trends in cannabis use over a longer period of time. Among these, five countries (Bulgaria, Greece, Hungary, Sweden, Norway) have always reported low last year prevalence of cannabis use among 15- to 34-year-olds, at levels not exceeding 10 %.

A further six countries (Denmark, Germany, Estonia, Ireland, Slovakia, Finland) have reported higher prevalence levels, but not exceeding 15 % in their latest survey. Denmark, Germany and Ireland reported notable increases in cannabis use in the 1990s and early 2000s, which was followed by an increasingly stable or declining trend. Increases observed in Estonia and Finland over the past decade or longer show no sign of levelling off.

The Czech Republic, Spain, France, Italy and the United Kingdom have all, at some point in the past 10 years, reported last year use among young adults at 20 % or

(46) See Figure GPS-4 (part ii) in the 2012 statistical bulletin.

higher. Patterns among these countries diverged from the mid 2000s, with Spain and France observing generally stable trends, whereas Italy has reported an increase in 2008, and the United Kingdom has seen substantial decreases, with last year prevalence of cannabis use among young adults now at the EU average.

In 2010/11, seven countries reported new survey data, which permitted some consideration of recent trends in cannabis use. When compared with their previous survey, between one year and five years earlier, six of these countries reported relatively stable levels of last year prevalence of use among young adults, and one country (Finland) showed an increase.

Patterns of cannabis use

Available data point to a variety of patterns of cannabis use, ranging from experimental use to dependent use. Many individuals tend to discontinue their cannabis use after one or two experiments; others use it occasionally or during a limited period of time. Perceptions of risk play a part in patterns of use, and it is worth noting that in an EU-wide attitude survey, the majority (91 %) of young Europeans recognise health risks associated with regular use of cannabis, although the perception of risk to health posed by occasional use was less (52 %).

Of those aged 15–64 who have used cannabis at some time, 70 % have not done so during the last year⁽⁴⁶⁾. Among those who have used the drug in the last year, on average, nearly half have done so in the last month, possibly indicating more regular use. These proportions, however, vary considerably across countries and between males and females. Cannabis prevalence levels that are much higher than the European average are found among some groups of young people, for example those attending certain nightlife or dance music settings. Cannabis use is also often associated with heavy alcohol use: among young adults (15–34), frequent or heavy alcohol users were, in general, between two and six times more likely to report the use of cannabis compared to the general population (EMCDDA, 2009b).

The types of cannabis product and the ways they are used can have different associated risks. Patterns of cannabis use that result in high doses being consumed may put the user at greater risk of developing dependence or other problems (EMCDDA, 2008). Examples of these practices

include using cannabis with very high THC content or in large amounts, and inhaling from a water pipe.

Surveys seldom distinguish between the different types of cannabis used; however, the 2009/10 British Crime Survey estimated that around 12.3 % of adults (15–59) had taken what they believed to be 'skunk' (the street name given to a generally high potency form of the drug) at some time. While similar proportions of cannabis users reported lifetime use of herbal cannabis (50 %) and cannabis resin (49 %), those using the drug in the last year were more likely to have used herbal cannabis (71 %) than cannabis resin (38 %) (Hoare and Moon, 2010). Data from general population surveys in 17 countries⁽⁴⁷⁾, accounting for almost 80 % of the adult population of the European Union and Norway, suggest that just over 40 % of cannabis users who reported using the drug during the last month had used it on one to three days. It can be estimated that around 1 % of adults (15–64) in the European Union and Norway, about 3 million⁽⁴⁸⁾, are using cannabis daily or almost daily (country prevalence ranging from 0.1 % to 2.6 %). Around three quarters of these users will be young adults, aged between 15 and 34 years. In this age group, males are about 3.5 times more likely than females to be daily cannabis users. Of the 11 countries, covering 70 % of the EU population, for which trends in intensive cannabis use can be determined, nine report a stable situation since about 2000⁽⁴⁹⁾. In the other two countries, changes were observed over periods of five to six years with the United Kingdom appearing to have seen a decrease in intensive cannabis use, while Portugal reported an increase in 2007.

Dependence is increasingly recognised as a possible consequence of regular cannabis use, even among younger users, and the number of individuals seeking help due to their cannabis use is growing in some European countries (see following). Some cannabis users — particularly, intensive users — can experience problems without necessarily fulfilling the clinical criteria for dependence.

Cannabis use among school students

The 2011 ESPAD survey (Hibell et al., 2012) gathered information on cannabis use patterns and trends from school students in 26 of the 30 EMCDDA countries. The highest levels of lifetime use of cannabis among 15- to 16-year-olds were reported by the Czech Republic (42 %)

⁽⁴⁶⁾ See Figure GPS-2 in the 2012 statistical bulletin.

⁽⁴⁷⁾ Surveys completed between 2003 and 2011 using a range of methodologies and context. See Tables GPS-10 and GPS-121 in the 2012 statistical bulletin.

⁽⁴⁸⁾ This is a minimum estimate due to under-reporting in surveys, certain populations of intensive cannabis users falling outside of the sampling frame, and the exclusion of individuals with episodes of intensive cannabis use in the last year, but low levels of use in the last month.

⁽⁴⁹⁾ Only data collected after 2000 were taken into account in this analysis.

The 2011 ESPAD report: European school survey on substance use

The European school survey project on alcohol and other drugs (ESPAD) provides regular snapshots of levels of drug use, trends and attitudes of 15- to 16-year-old school students across Europe.

This standardised survey takes place every four years, providing comparable data on the use of illicit drugs, alcohol, cigarettes and other substances by school students. It also reports on perceived availability, age of onset for these substances, and perception of risks and harms.

The 2011 survey (Hibell et al., 2012) interviewed school students born in 1995 from 36 European countries, including 26 of the 30 EMCDDA countries. For the first time, statistical methods have been used to determine if differences are significant (95 % level) both between the 2007 and 2011 surveys and between boys and girls. In previous ESPAD reports, only differences of at least four percentage points were considered to be relevant.

The ESPAD findings on cannabis use are examined in this chapter. Where appropriate, results from comparable surveys carried out in Spain and the United Kingdom are also presented. Findings for ecstasy, amphetamines and cocaine use are reported in the following chapters.

and France (39 %) (Figure 5). None of the other countries included in the survey, or Spain, reported a level of lifetime use above 27 %. Only the Czech Republic and France report levels of lifetime prevalence of cannabis use that exceed those reported for a comparable age group in the United States in 2011 (35 %).

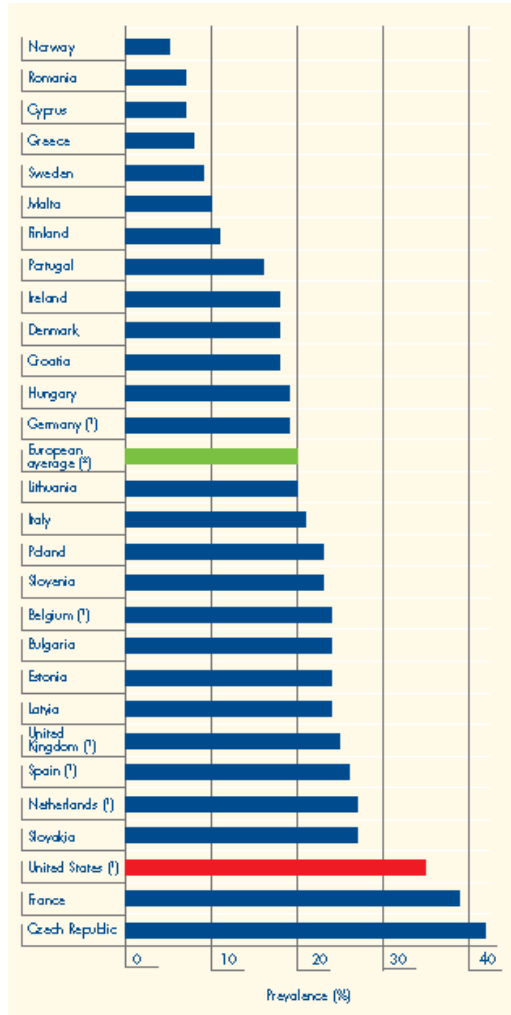
Reported use of cannabis over the last month ranges from 24 % of 15- to 16-year-olds in France to 2 % in Romania and Norway.

The extent of the gender difference varies across Europe, with the ratio of boys to girls among those who have used cannabis at some time ranging from unity in Spain, France and Romania to about 2.5 boys to each girl in Greece and Cyprus.

Trends among school students

Over the 16 years covered by the ESPAD survey, lifetime prevalence of cannabis use among European school students has increased overall. During this period, an upward trend in lifetime use of cannabis among 15- to 16-year-olds that was observed until 2003 fell back in 2007, and was at that same level in 2011. Of the 23 countries that participated in the 2011 round and either the 1995 or 1999 rounds, prevalence of cannabis use is now at least four percentage points higher in 14 countries and lower in two.

Figure 5: Lifetime prevalence of cannabis use among 15- to 16-year-old school students in the ESPAD and comparable surveys carried out in 2010 and 2011



(*) Limited comparability: data for Belgium refer to the Flemish Community; data for Germany refer to live Länder; only a small proportion of schools sampled in the United Kingdom took part in the ESPAD survey — however, an established national survey reported very similar prevalence in 2010 (27 %); data for Spain, which does not participate in ESPAD, are from a national survey conducted in 2010; data for the United States, also not participating in ESPAD, were collected in 2011, with an estimated average age of 16.2, which is above the ESPAD average of 15.8.
 (**) Unweighted average of the European countries is presented here.
 Sources: ESPAD and Reitox national focal points for European data; Johnston et al. (2012) for United States data.

The trends over this period can be grouped by prevalence levels and geography. Eight countries, located mainly in northern and southern Europe (Figure 6, left), have

reported low lifetime prevalence of cannabis use during the whole period. In five of these countries, the prevalence of cannabis use in 2011 is within three percentage points of its level in the earliest ESPAD survey (1995 or 1999). In three of these countries, however, the prevalence of cannabis use is now notably higher compared with the earliest 1990s survey: Portugal (by nine percentage points), Romania (by six percentage points) and Finland (by six percentage points). Between 2007 and 2011, five of these countries reported a statistically significant increase and one a significant decrease.

A second group is made up of eight western European countries that reported relatively high cannabis prevalence in their earliest ESPAD surveys (Figure 6, centre). In two of these countries, cannabis prevalence levels among school students have dropped dramatically over the 16-year period: Ireland, by 19 percentage points, and the United Kingdom by 16 percentage points. Decreases have also been observed between the first surveys in 2003 and the most recent in 2011 in Germany (nine percentage points) and Belgium (seven percentage points). The two countries in this group with the lowest levels of cannabis use in 1995, Denmark and Italy, report similar levels in 2011. Among this group, France alone has observed an increase of at least four percentage points between its first (1999) and most recent ESPAD survey. In addition, while the trend between 2007 and 2011 has been downward or stable in seven of the eight countries, France reports an increase (eight percentage points).

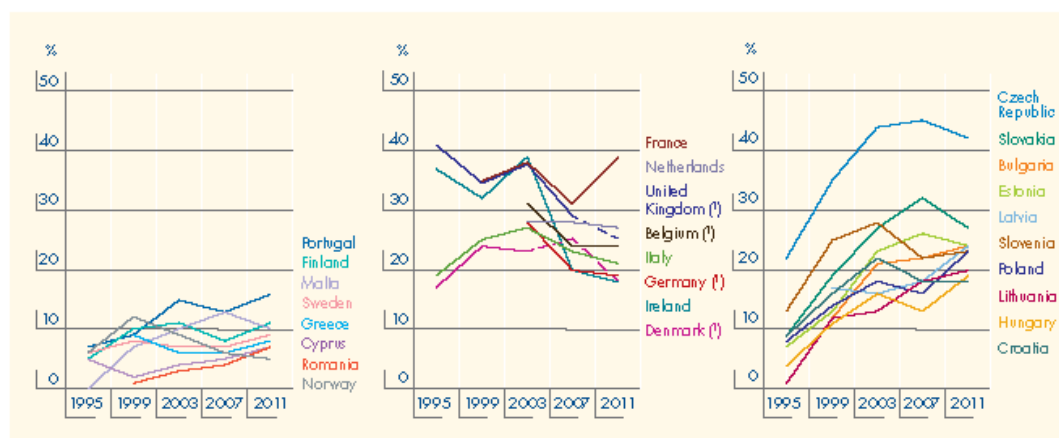
In a third group of 10 countries, situated between the Baltic Sea and the Balkan Peninsula, the prevalence of cannabis use increased between the first survey in 1995 or 1999 and 2011, with eight countries reporting increases of at least 10 percentage points (Figure 6, right). The Czech Republic stands out as having higher prevalence levels than other countries. For most of the other countries in this group, lifetime prevalence of cannabis use among school students has increased from a low level to one around or above the European average. Much of the change in cannabis prevalence in this group of countries took place by 2003, and by 2007 there were indications of levelling off. Since 2007, the prevalence of cannabis use among school students has significantly increased in three of these countries (Latvia, Hungary, Poland), decreased in one (Slovakia) and remained stable in six.

Comparing the last two rounds of the ESPAD survey, a stable trend in lifetime cannabis use among school students is seen in half of the 26 participating EMCDDA countries; significant decreases are observed in four countries, and nine countries show significant increases. The most pronounced increases, between six and eight percentage points, are reported by France, Latvia, Hungary and Poland.

Patterns among school students

The 2011 ESPAD survey shows that, overall, cannabis use is perceived as more risky by students in those countries with fewer users. In terms of perceived risks and harms, students make a clear distinction between experimental

Figure 6: Different patterns in trends in lifetime prevalence of cannabis use among 15- to 16-year-old school students over the five rounds of the ESPAD survey



(¹) Limited comparability: data for Belgium refer to the Flemish Community; data for Germany refer to live *Länder*; 2011 data for the United Kingdom and 2007 data for Denmark are based on small proportions of the schools sampled.

Sources: ESPAD and Reitox national local points.

and regular use, with between 12 % and 47 % reporting that trying cannabis once or twice poses a great risk to health, while regular use of the drug was regarded as a great health risk by between 56 % and 80 %^(f0).

Early initiation of cannabis use has been associated with the later development of more intensive and problematic forms of drug consumption, and eight countries (Bulgaria, Czech Republic, Estonia, Spain, France, Netherlands, Slovakia, United Kingdom) reported rates of 5 % or more for those who had initiated cannabis use at age 13 or younger^(f1); in the United States, the level reached 15 %.

Boys are more likely than girls to report both early initiation and frequent use of cannabis, with between 5 % and 11 % of 15- to 16-year-old male school students in nine European countries reported having used cannabis on 40 or more occasions in their lifetime. In most countries, this proportion was at least double that found among the female students.

Adverse health effects of cannabis use

The health risks to the individual related to cannabis use are generally accepted to be lower than those associated with heroin or cocaine. However, due to the high prevalence of cannabis use, the impact on public health may be significant.

A range of acute and chronic health problems associated with cannabis use have been identified. Acute adverse effects include nausea, impaired coordination and performance, anxiety, and psychotic symptoms, which may be more commonly reported by first-time users. Observational epidemiology studies showed that cannabis consumption by drivers also increases the risk of being involved in a motor vehicle collision (Asbridge et al., 2012).

Chronic effects of cannabis use include dependence and respiratory diseases. Regular cannabis use in adolescence might adversely affect mental health in young adults, with evidence of an increased risk of psychotic symptoms and disorders that increase with frequency and quantity of use (Hall and Degenhardt, 2009).

Treatment

Treatment demand

In 2010, cannabis was the primary drug of about 108 000 reported treatment entrants in 29 countries

(25 % of all drug clients), making it the second most reported drug after heroin. In addition, cannabis was the most reported secondary drug, mentioned in around 98 000 citations. Primary cannabis users account for more than 30 % of treatment entrants in Belgium, Denmark, Germany, France, Cyprus, Hungary, the Netherlands and Poland, but for less than 10 % in Bulgaria, Estonia, Luxembourg, Malta, Romania and Slovenia, and for between 10 % and 30 % in the remaining countries^(f2). Nearly 70 % of all cannabis users entering treatment in Europe are reported by Germany, Spain, France and the United Kingdom.

Differences in the prevalence of cannabis use and its related problems help to explain some of the variation in the levels of treatment entry between countries. Other factors, such as referral practices and the type of treatment provision are also important. France, for example, has a system of counselling centres, which target young clients, who are mainly cannabis users^(f3), while in Hungary, cannabis offenders are offered drug treatment as an alternative to punishment; both systems will increase the numbers entering treatment.

Over the last five years, there has been an overall increase (from 73 000 in 2005 to 106 000 in 2010) in the number of cannabis clients entering treatment in the 25 countries for which data are available, especially for those who entered treatment for the first time in their life.

Profile of treatment clients

Cannabis clients mainly enter treatment in outpatient settings and are reported to be one of the youngest client groups entering treatment, with a mean age of 25 years. Young people citing cannabis as their primary drug represent 76 % of reported treatment entrants aged 15–19 and 86 % of those younger than 15 years. The male to female ratio is the highest among drug clients (about five males to every female). Overall, around half of primary cannabis clients are daily users, about 21 % use it two to six times a week, 13 % use cannabis weekly or less often and 17 % are occasional users, some of whom have not used it in the month before entering treatment. Considerable differences exist between countries. In Hungary, for example, where most cannabis users entering treatment are referred by the criminal justice system, the majority of them are occasional users or have not used the drug during the month before entering treatment^(f4).

^{f0)} See Figure EYE-1 (part iv) in the 2012 statistical bulletin.

^{f1)} See Table EYE-23 (part i) in the 2012 statistical bulletin.

^{f2)} See Figure TDI-2 (part ii) and Tables TDI-5 (part ii) and TDI-22 (part i) in the 2012 statistical bulletin.

^{f3)} In addition, many opioid users in France are treated by general practitioners and are not reported to the treatment demand indicator, thereby inflating the proportions of users of other drugs.

^{f4)} See Tables TDI-10 (part iii), (part iv), TDI-21 (part ii) and TDI-111 (part viii) in the 2012 statistical bulletin.

Treatment provision

In Europe, cannabis treatment includes a broad range of measures including Internet-based treatment, counselling and structured psychosocial interventions, and treatment in residential settings. There is also a frequent overlap between selective and indicated prevention and treatment interventions (see Chapter 2).

In 2011, more than half of European countries reported that specific cannabis treatment programmes were available for users who actively seek treatment, an increase of a third since 2008. In their most recent assessment, national experts from Germany, Greece, Italy, Lithuania, Luxembourg, the Netherlands, Slovenia, Slovakia, the United Kingdom and Croatia estimated that these programmes were available to the majority of cannabis users in need of treatment, while experts from Belgium, the Czech Republic, Denmark, Spain, Austria, Portugal, Romania and Norway estimated that they were available only to a minority of them. Bulgaria, Estonia, Cyprus, Hungary and Poland reported that specific treatment programmes for cannabis users are planned for the next three years.

Cannabis treatment is mainly provided in outpatient facilities, with the criminal justice system, accident and emergency departments, and mental health treatment units acting as important referral agencies. In Hungary, about two thirds of all reported cannabis treatment entrants in 2010 received counselling, provided by a network of accredited organisations.

Multidimensional family therapy and cognitive behavioural therapy are provided to young people (along with their parents) with problems related to cannabis use in Belgium, Germany, France and the Netherlands, as part of an ongoing clinical trial which is also being conducted in Switzerland (see following). In Denmark, a group-based, brief treatment approach is being introduced as a treatment for cannabis use problems, following a successful pilot phase in Copenhagen. The treatment includes elements of motivational interviewing, cognitive behavioural therapy and solution-focused therapy.

A growing number of European countries offer Internet-based cannabis treatment in order to facilitate treatment access to individuals who may be unable or unwilling to seek help within the specialist drug treatment system. In Hungary, an online programme offers web-based

treatment for people who want to cut down or stop using cannabis, and has links with outpatient treatment centres in Budapest. This self-help programme draws on the experience of Internet-based treatment for cannabis users in other European countries.

Recent studies on treatment of cannabis users

There has been a gradual increase in the availability of cannabis treatment evaluation studies, most with a focus on psychosocial interventions such as family therapy and cognitive behavioural therapy.

The EMCDDA has recently commissioned a meta-analysis of European and US studies on multidimensional family therapy. The US studies showed a number of positive results for this approach in terms of reducing substance use and delinquency compared to both individually delivered cognitive behavioural therapy and a manual-guided adolescents' group therapy based on social learning principles and cognitive behavioural therapy (Liddle et al., 2009). With regard to young people in treatment in US criminal justice settings, multidimensional family therapy led to reductions in cannabis use among the more severe cases (Henderson et al., 2010). The European analysis also indicates that it is a viable treatment option for adolescents with severe substance use and behavioural disorders. These were the provisional conclusions from the European multi-site International cannabis need of treatment study (INCANT), which has been running since 2003 in Belgium, Germany, France, the Netherlands and Switzerland.

Brief interventions can be defined as advice, counselling, or both, directed at reducing consumption of drugs, licit and illicit. A recent international study linked screening for alcohol, smoking and substance use with brief interventions, and reported reduced cannabis use at follow-up (Humeniuk et al., 2011).

Research is also being conducted on pharmaceuticals that may support psychosocial interventions in the treatment of cannabis problems by reducing withdrawal symptoms, cravings or use. With regard to cannabis dependence, studies are exploring the potential of oral synthetic THC as a substitution therapy, while rimonabant, an agonist, has shown positive results for reducing acute physiological problems linked to cannabis smoking (Weinstein and Gorelick, 2011).

Chapter 4

Amphetamines, ecstasy, hallucinogens, GHB and ketamine

Introduction

In many European countries, amphetamines (a generic term that includes both amphetamine and methamphetamine) or ecstasy is the second most commonly used illicit substance after cannabis. In addition, 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 more commonly available in Europe, whereas significant methamphetamine use has historically been restricted to the Czech Republic and, more recently, Slovakia.

Methamphetamine has also appeared on the drug markets of other countries in the last few years, particularly in the north of Europe (Latvia, Sweden, Norway and, to a lesser extent, Finland), where it appears to have partially replaced amphetamine. In 2010, further signs of problem methamphetamine use, albeit probably at very low levels, were reported by Germany, Greece, Hungary, Cyprus and Turkey, while seizures of the drug have increased in Estonia and Austria.

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 (3,4-methylenedioxy amphetamine (MDA), 3,4-methylenedioxy-ethylamphetamine (MDEA)). The drug's popularity has historically been linked with the electronic dance-music scene, although recent years have seen some decline in the use and availability of ecstasy in Europe. Latest data, however, indicate a return of MDMA in some European countries.

The overall prevalence levels of hallucinogenic drugs such as lysergic acid diethylamide (LSD) and hallucinogenic mushrooms are generally low and have been largely stable in recent years.

Since the mid 1990s, recreational use of ketamine and gamma-hydroxybutyrate (GHB) — both anaesthetics —

has been reported among subgroups of drug users in Europe. This is becoming a more recognised problem, with services beginning to target the users of these drugs. Recognition is also growing of the health problems related to these substances, particularly bladder disease associated with long-term ketamine use.

Supply and availability

Drug precursors

Amphetamine, methamphetamine and ecstasy are synthetic drugs requiring chemical precursors in the manufacturing process. Insights into the illicit production of these substances can be gleaned from reports of seizures of controlled chemicals — diverted from licit trade — that are necessary for their manufacture.

International efforts to prevent the diversion of precursor chemicals used in the illicit manufacture of synthetic drugs are coordinated through 'Project Prism'. The project uses a system of pre-export notifications for licit trade, and the reporting of shipments stopped and seizures made when suspicious transactions occur (INCB, 2012b).

The International Narcotics Control Board reports that global seizures of 1-phenyl-2-propanone (P2P, also known as benzyl methyl ketone, BMK), which can be used for the illicit manufacture of both amphetamine and methamphetamine, increased fivefold from 4 900 litres in 2009 to 26 300 litres in 2010. Seizures in Mexico (14 200 litres in 2010), Canada (6 000 litres) and Belgium (5 000 litres) accounted for 95 % of the global total reported to the INCB (2012a). In the European Union, seizures of P2P also rose dramatically, from 863 litres in 2009 to 7 493 litres in 2010 (European Commission, 2011). World seizures of phenylacetic acid, a precursor of P2P, quadrupled in 2010 (INCB, 2012a). Seizures of this chemical in the European Union in 2010 (1.5 kg) were small compared with 2009 (277 kg) (European Commission, 2011). World seizures of ephedrine and pseudoephedrine, two key precursors of methamphetamine, decreased in 2010 (INCB, 2012a). However, in the European Union, seizures of these precursors increased

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

	Amphetamine	Methamphetamine	Ecstasy	LSD
Global quantity seized (tonnes)	19	45	3.8	n.a.
Quantity seized EU and Norway (Including Croatia and Turkey)	5.1 tonnes (5.4 tonnes)	500 kg (600 kg)	Tablets 3.0 million (3.9 million)	Units 97 900 (98 000) (1)
Number of seizures EU and Norway (Including Croatia and Turkey)	36 200 (36 600)	7 300 (7 300)	7 800 (9 300)	970 (990)
Mean retail price (EUR)	Gram	Gram	Tablet	Dose
Range (Interquartile range) (2)	6–41 (9.6–21.2)	10–70 (28.6–64.4 %)	2–17 (3.9–8.4)	3–26 (6.5–13.1)
Mean purity (or MDMA content for ecstasy)				
Range (Interquartile range) (2)	5–39 % (7.8–27.2 %)	5–79 % (28.6–64.4 %)	3–104 mg (33.0–90.4 mg)	n.a.
(1)	The total amount of LSD seized in 2010 is underestimated, due to the lack of 2010 data for Sweden, a country reporting relatively large seizures in 2009.			
(2)	Range of the middle half of the reported data.			
NB:	All data are for 2010; n.a.: not applicable or data not available.			
Sources:	UNODC (2012) for global values, Reitox national focal points for European data.			

in 2010: to 1.2 tonnes of ephedrine (685 kg in 2009) and 1.5 tonnes of pseudoephedrine (186 kg in 2009) (European Commission, 2011).

Two precursor chemicals are primarily associated with the manufacture of MDMA: 3,4-methylenedioxyphenyl-2-propanone (3,4-MDP2P, also known as piperonylmethylketone, PMK) and safrole. In 2010, world seizures of PMK amounted to 2 litres, down from 40 litres in 2009, while seizures of safrole fell from 1 048 litres in 2009 to 168 litres in 2010. In the European Union, no PMK was seized in 2010, while only four seizures of safrole were made, amounting to 85 litres.

In 2010, gamma-butyrolactone, a precursor of GHB, continued to be intercepted in the European Union, with a total of 139 seizures amounting to 253 litres.

Amphetamine

Global amphetamine production remains concentrated in Europe, which accounted for almost all of the amphetamine laboratories reported in 2010 (UNODC, 2012). Global seizures of amphetamine declined by 42 % in 2010 to about 19 tonnes (see Table 4). Authorities in western and central Europe continued to seize large amounts of amphetamine in 2010, although seizures also declined, from 8.9 tonnes in 2009 to 5.4 tonnes in 2010. The largest decrease in amphetamine seizures was reported in the UNODC's Near and Middle East and south-west Asia region. A large proportion of the amphetamine seized in this region is in the

form of 'captagon' tablets (UNODC, 2012), some of which may originate from the European Union.

Most amphetamine seized in Europe is produced, in order of importance, in the Netherlands, Belgium, Poland, Bulgaria, Turkey and Estonia. Some 28 sites involved in the production, tableting or storage of amphetamine were discovered in the European Union in 2010 and reported to Europol (58).

In 2010, an estimated 36 600 seizures amounting to 5 tonnes of amphetamine powder and 1.4 million amphetamine tablets (59) were made in Europe. Within an overall downward trend, the number of amphetamine seizures has been fluctuating for the last five years. The number of amphetamine tablets confiscated in Europe has decreased sharply over the period 2005–10 due to falling seizures in Turkey. After record interceptions of about 8 tonnes between 2007 and 2009, quantities of amphetamine powder intercepted have decreased to around 5 tonnes in 2010 (60).

The purity of amphetamine samples intercepted in Europe in 2010 continued to vary widely, ranging from less than 8 % in Bulgaria, Italy, Austria, Portugal, Slovenia, Croatia and Turkey, to around 20 % or more in countries where amphetamine production is reported (Belgium, Latvia, Lithuania, Netherlands) or where consumption levels are relatively high (Finland, Sweden, Norway) and in the Czech Republic and Slovakia (61). Over the past five years,

(58) Ten of these 28 sites were also involved in the production, tableting or storage of other drugs, methamphetamine in most cases.

(59) Three quarters of the amphetamine tablets intercepted were labelled as captagon, and recovered in Turkey. Tablets sold on the illicit drug market as captagon are commonly found to contain amphetamine mixed with caffeine.

(60) The data on European drug seizures mentioned in this chapter can be found in Tables SZR-11 to SZR-18 in the 2012 statistical bulletin.

(61) The data on European drug purities mentioned in this chapter can be found in Table PPP-8 in the 2012 statistical bulletin. EU trend indexes can be found in Figure PPP-2 in the 2012 statistical bulletin.

the purity of amphetamine has fallen or remained stable in most countries reporting sufficient data for trend analysis.

In 2010, the mean retail price of amphetamine ranged from EUR 10 per gram to EUR 22 per gram for over half of the 18 reporting countries. Amphetamine retail prices either decreased or remained stable in 14 out of 20 countries reporting data over 2005–10 ⁽⁶⁹⁾.

Methamphetamine

In 2010, 45 tonnes of methamphetamine was seized worldwide, a marked increase from the 31 tonnes seized in 2009. Most of the drug was seized in North America (34 %), where Mexico, an important producer country, accounted for an exceptionally high 13 tonnes seized in 2010. Large amounts were also seized in east and south-east Asia, a region which accounted for 32 % of the world total in 2010, with 20 tonnes; here, Myanmar is identified as a key producer country (UNODC, 2012).

In Europe, illicit methamphetamine production is concentrated in the Czech Republic, where 307 production sites, mostly small-scale 'kitchen laboratories', were detected in 2010 (down from 342 in 2009). Production of the drug also occurs in Slovakia, as well as Germany, Lithuania, the Netherlands and Poland. Germany reported a substantial increase in quantities of methamphetamine seized in 2010 (26.8 kg, from 7.2 kg in 2009); most of the drug was intercepted in Saxony and Bavaria, which border the Czech Republic where the drug appears to be sourced.

In 2010, almost 7 300 seizures of methamphetamine, amounting to about 600 kg of the drug, were reported in Europe. Both the number of seizures and the quantities of methamphetamine seized increased over the period 2005–10, with a strong increase between 2008 and 2009 and a stabilisation in 2010.

Methamphetamine purity varied greatly in 2010 in the 20 countries reporting data, with mean purities ranging from less than 15 % in Belgium and Denmark to more than 60 % in the Czech Republic, Slovakia, United Kingdom and Turkey. The retail price for methamphetamine also varied greatly in 2010 in the seven countries reporting it: from EUR 10–15 per gram in Bulgaria, Latvia, Lithuania and Hungary to about EUR 70 per gram in Germany and Slovakia.

Ecstasy

The reported number of dismantled laboratories producing ecstasy declined in 2010 to 44 (52 in 2009). Most of these laboratories were situated in Australia (17),

Canada (13) and Indonesia (12). Production of the drug appears to have continued to spread geographically, with manufacture occurring closer to consumer markets in east and south-east Asia, North and South America and Oceania. Despite this, it is likely that western Europe remains an important location for ecstasy production.

Worldwide, seizures of ecstasy amounted to 3.8 tonnes in 2010 (UNODC, 2012), with North America reporting 20 % of the total followed by western and central Europe (13 %).

Overall, both the number of ecstasy seizures and amounts intercepted have declined in Europe since 2005. Over the period 2005–10, the quantity of ecstasy tablets seized in Europe fell by a factor of four, while an increase was reported in 2010, mainly due to seizures in France and Turkey. In 2010, about 9 300 ecstasy seizures were reported in Europe, resulting in the interception of over 3.9 million ecstasy tablets, of which 1.6 million were seized in France and Turkey.

The average MDMA content of ecstasy tablets tested in 2010 was 3–10.4 mg in the 19 countries providing data. In addition, the availability of high-dose ecstasy tablets containing over 130 mg MDMA was reported by several countries (Belgium, Bulgaria, Germany, Netherlands, Croatia). Over the period 2005–10, the MDMA content of ecstasy tablets declined in 10 countries but increased in nine other countries.

During the last few years, there has been a change in the content of illicit drug tablets in Europe: from a situation where most tablets analysed contained MDMA or another ecstasy-like substance (MDA, MDEA) as the only psychoactive substance, to one where the contents are more diverse, and MDMA-like substances less present. This shift was most pronounced in 2009, when only three countries reported that MDMA-like substances accounted for a large proportion of the tablets analysed. In 2010, the number of countries reporting a predominance of tablets containing MDMA-like substances increased to eight.

Amphetamines, sometimes in combination with MDMA-like substances, are relatively common in tablets analysed in Poland, Slovenia and Turkey. Most of the reporting countries mention that piperazines, and in particular mCPP (1-(3-chlorophenyl)piperazine), were found, alone or in combination with other substances in tablets analysed; these substances were found in over 20 % of tablets analysed in Belgium, Denmark, Germany, Cyprus, Hungary, Austria, Finland, the United Kingdom and Croatia.

Ecstasy is now considerably cheaper than it was in the 1990s with most countries reporting mean retail prices in the range of EUR 4–9 per tablet. Over the

⁽⁶⁹⁾ The data on European drug prices mentioned in this chapter can be found in Table PPP-4 in the 2012 statistical bulletin.

period 2005–10, the retail price of ecstasy fell or remained stable in 18 out of the 23 countries for which the analysis could be made.

Hallucinogens and other substances

Use and trafficking of LSD in Europe is considered marginal. The number of LSD seizures increased between 2005 and 2010, while quantities have fluctuated between 50 000 units and 150 000 units, after an all-time peak of 1.8 million units in 2005. Over the same period, the retail price of LSD decreased or remained stable in most reporting countries. In 2010, the mean price was between EUR 6 per unit and EUR 14 per unit for the majority of the 14 reporting countries.

Seizures of hallucinogenic mushrooms, ketamine, and GHB and GBL were only reported in 2010 by three or four countries, depending on the drug. The extent to which the reported seizures reflect the limited availability of these substances, or merely the fact that they are not routinely targeted by law enforcement services, is not clear.

Prevalence and patterns of use

In a few countries, the use of amphetamines, often by injection, accounts for a substantial proportion of the overall number of problem drug users and those seeking help for drug problems. In contrast, amphetamines and ecstasy, usually taken orally or snorted, have an association with attendance at nightclubs and dance events. The combined use of ecstasy or amphetamines with alcohol has been noted, with frequent or heavy alcohol users reporting levels of amphetamine or ecstasy use that are much higher than the population average (EMCDDA, 2009b).

Amphetamines

Drug prevalence estimates suggest that about 13 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), lifetime prevalence of amphetamines use varies considerably between countries, from 0.1 % to 12.9 %, with a weighted European average of 5.5 %. Last year use of amphetamines in this age group ranges from 0 % to 2.5 %, with most countries reporting prevalence levels of 0.5–2.0 %. It is estimated that about 1.5 million (1.2 %) young Europeans have used amphetamines during the last year. Levels of last year use of amphetamines are higher in surveys among young people linked with dance-music or nightlife settings, with results from 2010 studies in the

Czech Republic, the Netherlands and United Kingdom ranging from 8 % to 27 %.

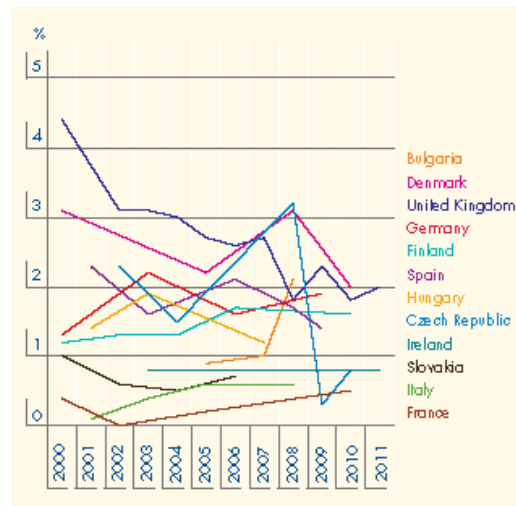
Among 15- to 16-year-old school students, lifetime prevalence of amphetamines use ranged from 1 % to 7 % in the 24 EU Member States, Croatia and Norway with ESPAD surveys in 2011, although only Belgium, Bulgaria and Hungary reported prevalence levels of more than 4 % (69). The Spanish national school survey reports 1 %, while the United States reports 9 %.

Between 2005 and 2010, last year amphetamines use has remained relatively low and stable among the general population in most European countries, with prevalence levels of less than 3 % in all reporting countries. During this period, an increase was reported by only one country, Bulgaria, which observed an increase of one percentage point in last year prevalence of amphetamines use among young adults (Figure 7). ESPAD school surveys conducted in 2011 suggest, overall, little change in the levels of experimentation with amphetamines and ecstasy among students aged 15 to 16 years.

Problem amphetamines use

Recent estimates of the prevalence of problem amphetamines use are available for two countries (70).

Figure 7: Trends in last year prevalence of use of amphetamines among young adults (15–34)



NB: Only data for countries with at least three surveys are presented. See Figure GP8-8 in the 2012 statistical bulletin for further information.
Sources: Reilox national reports, taken from population surveys, reports or scientific articles.

(69) See Table EYE-11 in the 2012 statistical bulletin.

(70) Problem amphetamines use is defined as the injecting or long duration and/or regular use of the substances.

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	13 million	2 million
European average	3.8 %	0.6 %
Range	0.1–11.6 %	0.0–1.1 %
Lowest-prevalence countries	Greece, Romania (0.1 %) Cyprus (0.7 %) Portugal (0.9 %) Slovakia (1.2 %)	Greece, Romania (0.0 %) France, Portugal (0.2 %) Czech Republic, Cyprus, Slovakia (0.3 %)
Highest-prevalence countries	United Kingdom (11.6 %) Denmark (6.2 %) Sweden (5.0 %) Ireland (4.5 %)	Estonia, United Kingdom (1.1 %) Bulgaria, Latvia (0.9 %) Finland, Sweden (0.8 %)
15–34 years		
Estimated number of users in Europe	7 million	1.5 million
European average	5.5 %	1.2 %
Range	0.1–12.9 %	0.0–2.5 %
Lowest-prevalence countries	Romania (0.1 %) Greece (0.2 %) Cyprus (1.2 %) Portugal (1.3 %)	Romania (0.0 %) Greece (0.1 %) Portugal (0.4 %) France (0.5 %)
Highest-prevalence countries	United Kingdom (12.9 %) Denmark (10.3 %) Ireland (6.4 %) Latvia (6.1 %)	Estonia (2.5 %) Bulgaria (2.1 %) Denmark, United Kingdom (2.0 %) Germany, Latvia (1.9 %)
NB:	European estimates are computed from national prevalence estimates weighted by the population of the relevant age group in each country. To obtain estimates of the overall number of users in Europe, the EU average is applied for countries lacking prevalence data (representing not more than 6 % of the target population for young adults, last year use estimates, and not more than 3 % of the target population for the other estimates). Populations used as basis: 15–64, 33.8 million; 15–34, 1.30 million. As European estimates are based on surveys conducted between 2004 and 2010/11 (mainly 2008–10), they do not refer to a single year. The data summarised here are available under 'General population surveys' in the 2012 statistical bulletin.	

In 2010, the number of problem methamphetamine users in the Czech Republic was estimated to be 27 300–29 100 (3.7–3.9 cases per 1 000 aged 15–64), an increase compared with previous years, and more than double the estimated number of problem opioid users. In Slovakia, there were an estimated 5 800–15 700 problem methamphetamine users in 2007 (1.5–4.0 cases per 1 000 aged 15–64), about 20 % fewer than the estimated number of problem opioid users.

Methamphetamine has also appeared on the drug markets in other countries, particularly in the north of Europe (Latvia, Sweden, Norway and, to a lesser extent, Finland), where it appears to have partially replaced amphetamine. In 2010, further signs of problem methamphetamine use, albeit probably at very low levels, were reported by Germany, Greece, Cyprus, Hungary and Turkey, while seizures of the drug have increased in Estonia and Austria.

A small proportion of those entering treatment in Europe mention amphetamines as their primary drug: about 6 % of reported drug clients in 2010 (23 000 clients)⁽⁸²⁾. In addition, stimulants (other than cocaine) are mentioned as a secondary drug by almost 20 000 clients entering treatment for problems related to other primary drugs. Primary amphetamines users account for a sizeable proportion of reported treatment entries in Sweden (28 %); Poland (2.4 %), Latvia (1.9 %) and Finland (1.7 %), and methamphetamine is cited as the primary drug by a large proportion of clients reported entering treatment in the Czech Republic (63 %) and Slovakia (35 %). Amphetamines clients make up between 5 % and 15 % of reported treatment entrants in six other countries (Belgium, Denmark, Germany, Hungary, Netherlands, Norway); elsewhere the proportion is less than 5 %. Between 2005 and 2010, trends in primary users of amphetamines entering treatment have remained stable in most countries,

⁽⁸²⁾ In Germany, Lithuania and Norway, it is not possible to distinguish between amphetamine, MDMA and other stimulants users in the data reported to the EMCDDA, as these are reported as users of 'stimulants other than cocaine'. Overall, in countries where the data are reported, users of amphetamines account for around 90 % of all the 'stimulants other than cocaine' drug category.

with the exception of the Czech Republic and Slovakia: both countries report an increase in the number and overall proportion of new treatment entrants related to methamphetamine over that period and a substantial increase between 2009 and 2010 ⁽⁶³⁾.

Amphetamines users entering treatment are on average 30 years old, with a lower male to female ratio (two to one) than for any other illicit drug. In countries where amphetamines users make up high proportions of treatment entrants, many of them report injecting the drug. In the Czech Republic, Latvia, Finland, Sweden and Norway, between 63 % and 80 % of primary amphetamines clients reported injecting the drug ⁽⁶⁴⁾. A lower level of injecting is reported in Slovakia (34 %), where it has been declining since 2005 ⁽⁶⁵⁾.

Ecstasy

Drug prevalence estimates suggest that about 11.5 million Europeans have tried ecstasy, and about 2 million have used the drug during the last year (see Table 6 for a summary of the data). Use of the drug in the last year is concentrated among young adults, with males generally reporting higher levels of use than females in all countries. Lifetime prevalence of ecstasy use among the 15–34 age group ranges from under 0.6 % to 12.4 %, with most countries reporting estimates in the range of 2.1–5.8 % ⁽⁶⁶⁾.

Lifetime prevalence of ecstasy use among 15- to 16-year-old school students ranged from 1 % to 4 % in the European countries surveyed in 2011 ⁽⁶⁷⁾ with only the United Kingdom reporting a prevalence level of 4 %, in both the ESPAD survey and the English national school survey. The Spanish national school survey reports 2 %. For comparison, lifetime use of the drug among school students of a similar age in the United States is estimated at 7 %.

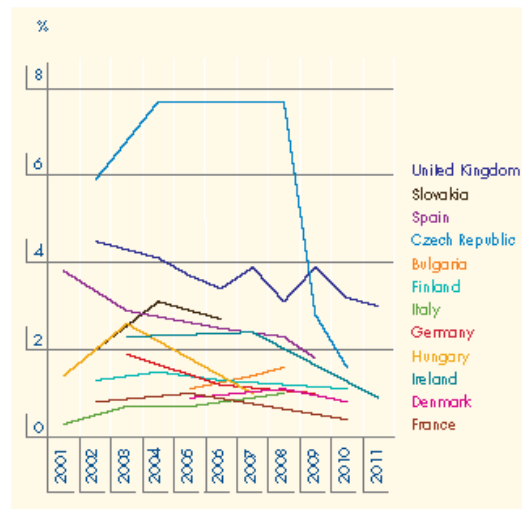
Targeted studies provide a window into ‘recreational’ use of stimulant drugs by young adults attending a range of different nightlife venues across Europe. Information on last year prevalence of ecstasy use among attendees at dance and nightlife settings in 2010/11 is available for two countries: the Czech Republic (43 %) and the Netherlands (Amsterdam, 33 %). Ecstasy use was more common than amphetamines use in the two samples. A 2012 Internet study conducted in the United Kingdom

reported that for UK regular clubbers, last year use of ecstasy exceeded that of cannabis (Mixmag, 2012). In a nightclub survey carried out in Denmark, 40 % of those interviewed (average age 21) reported having tried, at some point in their lives, an illicit drug other than cannabis (typically cocaine, amphetamines or ecstasy). Data from site samples and Internet surveys, however, must be interpreted with caution.

In five of the six countries that report higher than average levels of last year ecstasy use, and for which trends can be described, consumption of the drug among 15- to 34-year-olds typically peaked in the early 2000s, before declining (Czech Republic, Estonia, Spain, Slovakia, United Kingdom) (Figure 8). Over the period 2005–10, these countries have reported stable or downward trends in last year use in young adults (15–34).

Few drug users enter treatment for problems relating to ecstasy. In 2010, ecstasy was mentioned as the primary drug by 1 % or less (almost 1 000 clients in total) of reported treatment entrants in all European countries ⁽⁶⁸⁾.

Figure 8: Trends in last year prevalence of use of ecstasy among young adults (15–34)



NB: Only data for countries with at least three surveys are presented. See Figure GPS-21 in the 2012 statistical bulletin for further information.

Sources: Reitor; national reports; taken from population surveys, reports or scientific articles.

⁽⁶³⁾ See Tables TDI-5 (part ii) and TDI-22 in the 2012 statistical bulletin.

⁽⁶⁴⁾ See Tables TDI-5 (part iv) and TDI-37 in the 2012 statistical bulletin.

⁽⁶⁵⁾ See Tables TDI-2 (part ii), TDI-3 (part iii), TDI-5 (part ii) and TDI-36 (part iv) in the 2012 statistical bulletin. See also Table TDI-17 in the 2007 and 2012 statistical bulletins.

⁽⁶⁶⁾ See Table GPS-1 (part iii) in the 2012 statistical bulletin.

⁽⁶⁷⁾ See Table EYE-11 in the 2012 statistical bulletin.

⁽⁶⁸⁾ See Tables TDI-5, TDI-8 and TDI-37 in the 2012 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	11.5 million	2 million
European average	3.4 %	0.6 %
Range	0.4–8.3 %	0.1–1.6 %
Lowest-prevalence countries	Greece (0.4 %) Romania (0.7 %) Norway (1.0 %) Poland (1.2 %)	Sweden (0.1 %) Greece, France, Romania (0.2 %) Denmark, Poland, Norway (0.3 %)
Highest-prevalence countries	United Kingdom (8.3 %) Ireland (6.9 %) Netherlands (6.2 %) Spain (4.9 %)	Slovakia (1.6 %) Latvia (1.5 %) Netherlands, United Kingdom (1.4 %) Estonia (1.2 %)
15–34 years		
Estimated number of users in Europe	7.5 million	1.5 million
European average	5.7 %	1.3 %
Range	0.6–12.4 %	0.2–3.1 %
Lowest-prevalence countries	Greece (0.6 %) Romania (0.9 %) Poland, Norway (2.1 %) Portugal (2.6 %)	Sweden (0.2 %) Greece, France, Romania (0.4 %) Norway (0.6 %) Poland (0.7 %)
Highest-prevalence countries	United Kingdom (12.4 %) Netherlands (11.6 %) Ireland (10.9 %) Latvia (8.5 %)	Netherlands (3.1 %) United Kingdom (3.0 %) Latvia, Slovakia (2.7 %) Estonia (2.3 %)
NB:	European estimates are computed from national prevalence estimates weighted by the population of the relevant age group in each country. To obtain estimates of the overall number of users in Europe, the EU average is applied for countries lacking prevalence data (representing not more than 3 % of the target population). Populations used as basis: 15–64, 338 million; 15–34, 130 million. As European estimates are based on surveys conducted between 2004 and 2010/11 (mainly 2008–10), they do not refer to a single year. The data summarised here are available under 'General population surveys' in the 2012 statistical bulletin.	

Hallucinogens, GHB and ketamine

Among young adults (15–34 years), lifetime prevalence estimates of LSD use in Europe range from 0.1 % to 5.4 %. Much lower prevalence levels are reported for last year use⁽⁶⁹⁾. In the few countries providing comparable data, most report higher levels of use for hallucinogenic mushrooms than for LSD among both the general population and school students. Lifetime prevalence estimates for hallucinogenic mushrooms among young adults range from 0.3 % to 8.1 %, and last year prevalence estimates are in the range of 0.0–2.2 %. Among 15- to 16-year-old school students, most countries report lifetime prevalence estimates for the use of hallucinogenic mushrooms of between 1 % and 4 %⁽⁷⁰⁾.

Estimates of the prevalence of GHB and ketamine use in the adult and school populations are much lower than those for the use of ecstasy. In the Netherlands, where GHB was included in the 2009 general population survey for the first time, 0.4 % of the adult population (15–64)

reported having used the drug in the last year, which is similar to the last year prevalence of amphetamines use. The British Crime Survey, one of the few national surveys that follow ketamine, noted an increase in last year use of ketamine among those aged 16 to 24: from 0.8 % in 2006/07 to 2.1 % in 2010/11.

Targeted surveys in nightlife settings provide an indication of the drugs that are available in these venues, although prevalence rates are difficult to interpret. Recent studies from the Czech Republic and the Netherlands, as well as an Internet survey conducted from the United Kingdom, report lifetime prevalence estimates for the use of GHB ranging from 4 % to 11 %, and estimates for ketamine ranging from 8 % to 48 %, depending on the setting or respondent group. In Denmark, a nightclub survey reported that about 10 % of those interviewed had used ketamine, GHB, hallucinogenic mushrooms or LSD. The results of a 2011 study conducted in 'gay friendly' dance clubs in south London point to high levels of use of these

⁽⁶⁹⁾ See Table GPS-1 in the 2012 statistical bulletin.

⁽⁷⁰⁾ Data from ESPAD for all countries but Spain. See Figure EYE-3 (part v) in the 2011 statistical bulletin.

substances among some subgroups of the population, with 24 % of the respondents rating GHB as a favourite drug and expressing an intention to use it on the night of the survey, and more than 10 % giving a similar response for ketamine (Wood et al., 2012b). Among UK respondents to an Internet survey who were identified as regular clubbers, 40 % reported last year use of ketamine and 2 % last year use of GHB (Mixmag, 2012).

Health consequences of amphetamines

Many of the studies on the health consequences of amphetamines use have been conducted in countries where crystal methamphetamine smoking, which is almost absent in Europe, is a significant part of the drug problem. Although many of the health effects documented in these studies have also been reported among amphetamines users in Europe, it is not clear that their findings can be directly translated to the European situation.

Use of illicit amphetamines has been associated with a range of acute adverse effects including agitation, headache, tremors, nausea, abdominal cramps, sweating, dizziness and decreased appetite (EMCDDA, 2010c). Users with underlying mental health problems are at greatest risk of acute psychological and psychiatric adverse effects, which may include effects ranging from low mood, anxiety, aggression and depression, to acute paranoid psychosis. As stimulant effects wear off, users may experience drowsiness, judgement and learning impairment.

The chronic adverse effects associated with the use of amphetamines include cardiovascular complications due to the cumulative risk of cardiac and coronary artery disease and pulmonary hypertension. In the context of pre-existing cardiovascular pathology, use of amphetamines may trigger serious and potentially fatal events (myocardial ischaemia and infarction). In addition, long-term use has been linked with damage to the brain and nervous system, psychosis and a range of personality and mood disturbances.

There is good evidence for an amphetamines dependence syndrome after regular intensive use. Associated withdrawal symptoms may include craving, and depression with increased suicide risk (Jones et al., 2011).

Injecting use of amphetamines increases the risk of infectious diseases (HIV and hepatitis) while high rates of sexual risk behaviour make users more vulnerable to sexually transmitted infections. In addition, lack of food and sleep can have negative health effects. Use

of amphetamines in pregnancy is associated with low birthweight, prematurity and increased foetal morbidity.

Prevention in recreational settings

Despite the high levels of drug use that have been observed in some recreational settings, only 11 countries report prevention and harm-reduction strategies in these arenas. These strategies tend to focus either on the individual level or the environmental level. Projects with an individual-level focus include peer education interventions and mobile teams — as implemented in Belgium, the Czech Republic and the United Kingdom — which offer advice and information about drugs, provide medical treatment and distribute harm-reduction materials. Other reported approaches with an individual focus include interventions at music festivals and large recreational events, which target young people who are potentially at high risk of experiencing problems. Examples of interventions here include quick scans for detecting drug problems, first aid and ‘bad trip’ interventions.

A set of regulatory approaches target the nightlife environment, and often focus on the licensing of premises selling alcohol and the responsible serving of alcohol. These interventions aim to improve the security of staff and visitors in nightlife settings, through the establishment of formal cooperation between the main stakeholders in party environments (local authorities, police and owners of premises).

Environmental approaches may include crowd management initiatives, access to free water and safe late night transport. The ‘After taxi’ project in Slovenia subsidises taxi transportation for young people 16–30 years of age. Evidence suggests that this might help to reduce accidents, but does not reduce alcohol or drug-related harm (Calafat et al., 2009). Other examples of environmental prevention approaches in recreational settings include the safer nightlife quality labels promoted by the European project Party+ in Belgium, Denmark, Spain, the Netherlands, Slovenia and Sweden. Evidence suggests that the success of regulatory measures for the prevention of risk behaviour in nightlife settings will depend on implementation factors. It is also important for drug prevention interventions in pubs and clubs to target staff members, because of their own use of and attitude to drugs and alcohol.

The recently launched Healthy Nightlife Toolbox comprises three databases (evaluated interventions, literature reviews and details of experts working in this field) and a handbook that provides guidance for creating a healthy

and safe nightlife. It emphasises that preventive measures in recreational settings should address alcohol and illicit drug use together, as they cause similar problems and are often used in combination. It also highlights the fact that preventive interventions in recreational settings can have beneficial effects on a range of problem behaviours and harms, from acute health problems linked to drug and alcohol use, to violence, driving under the influence and unprotected sex or unwanted sexual contacts.

Treatment

Problem amphetamine use

The treatment options available for amphetamine users in Europe differ considerably between countries. In those northern and central European countries with a long history of treating amphetamine use, some programmes are tailored towards the needs of amphetamine users. In the central and eastern European countries where significant problem amphetamine use is more recent, treatment systems are primarily geared towards problem opioid users, although they are increasingly addressing the needs of amphetamine users. In western and southern European countries, with low levels of problem amphetamine use, there is a lack of dedicated services, which may hinder access to treatment for amphetamine users (EMCDDA, 2010c).

In 2011, 12 countries reported the availability of specialist treatment programmes for users of amphetamines who actively seek treatment, an increase from eight in 2008. National experts from the Czech Republic, Germany, Lithuania, Slovakia and the United Kingdom estimated that programmes were available to a majority of amphetamine users in need of treatment, while for the other seven countries they were available only to a minority of them. Bulgaria and Hungary reported that specific treatment programmes for amphetamine users are planned to be implemented in the next three years.

Psychosocial interventions provided in outpatient drug services are the primary treatment options for amphetamine users. These include motivational interviewing, cognitive behavioural therapy, self-control training and behavioural counselling. The psychological approaches more frequently studied for methamphetamine and amphetamine dependence are cognitive behavioural therapy and contingency management, sometimes in combination (Lee and Rawson, 2008). Both of these approaches appear to be associated with positive results. The more problematic users, for example those whose amphetamine dependence is complicated by

co-occurring psychiatric disorders, may receive treatment in inpatient drug services, psychiatric clinics or hospitals. In Europe, pharmaceuticals such as antidepressants, sedatives and antipsychotics are administered for the treatment of abstinence symptoms at the beginning of detoxification, which is usually provided at specialist inpatient psychiatric departments.

Longer-term treatment with antipsychotics is sometimes prescribed in cases of lasting psychopathologies due to chronic use of amphetamines. European professionals report that the psychological symptoms such as self-harm, violence, agitation and depression, which are often presented by problem amphetamine users, may require a full mental health assessment, treatment and careful monitoring. Such cases are often handled with close liaison with mental health services.

Studies on treatment of amphetamine dependence

Levels of spontaneous remission from amphetamine dependence, without treatment intervention, was higher for amphetamine users when compared with users of other addictive substances, with almost one in two people remitting during a given year (Calabria et al., 2010).

Several drugs have been studied to treat amphetamine and methamphetamine dependence, but robust evidence has yet to be provided for any pharmacological therapy (Karila et al., 2010). While some reduction in amphetamine or methamphetamine use has been reported for therapies based on modafinil, bupropion or naltrexone, further research is needed to clarify the possible role of these substances in the treatment of amphetamine-dependent patients.

Dexamphetamine and methylphenidate have shown potential as substitution therapies for amphetamine or methamphetamine dependence. A pilot study suggested that dexamphetamine may increase treatment engagement in patients with amphetamine dependence (Shearer et al., 2001), while sustained release dexamphetamine increased retention and obtained a lower level of methamphetamine dependence among patients in a recent trial (Longo et al., 2010). A randomised study showed that methylphenidate can effectively reduce intravenous use in patients with severe amphetamine dependence (Tiihonen et al., 2007).

Gamma-hydroxybutyrate dependence and treatment

Dependence on gamma-hydroxybutyrate (GHB) is a recognised clinical condition, with a potentially severe withdrawal syndrome when the drug is abruptly discontinued following regular or chronic use. There is evidence that physical dependence may occur in

recreational users, and cases of withdrawal symptoms on cessation of use. GHB and its precursors have been documented. GHB dependence has also been reported among former alcoholics (Richter et al., 2009).

To date, research has exclusively focused on the description of GHB withdrawal syndrome and related complications, which can be difficult to recognise in emergency cases (van Noorden et al., 2009). These symptoms may include tremor, anxiety, insomnia and agitation. Patients in withdrawal may also develop

psychosis and delirium. Mild withdrawal can be managed in outpatient settings, otherwise inpatient supervision is recommended. As yet, no standard protocols have been devised for the treatment of GHB withdrawal syndrome.

Benzodiazepines and barbiturates are the pharmaceuticals most commonly used to treat GHB withdrawal syndrome. In the Netherlands, the controlled detoxification of GHB using pharmaceutical GHB in an adjusted dose is currently being investigated.

Chapter 5 Cocaine and crack cocaine

Introduction

Cocaine remains the second most commonly used illicit drug in Europe overall, although prevalence levels and trends differ considerably between countries. High levels of cocaine use are observed only in a small number of mostly western European countries, while elsewhere the use of this drug remains limited. There is also considerable diversity among cocaine users, including occasional cocaine users, socially integrated regular users and more marginalised and often dependent users, who inject cocaine or use crack cocaine.

Supply and availability

Production and trafficking

Cultivation of coca bush, the source of cocaine, continues to be concentrated in three Andean countries, Colombia, Peru and Bolivia. The UNODC (2012) estimated for the

year 2010 that a total of 149 000 hectares of coca bush were under cultivation, a 6% decrease from the estimated 159 000 hectares in 2009. This decrease was largely attributed to a reduction in the area under coca cultivation in Colombia, which has been partially offset by increases in Peru and Bolivia. The 149 000 hectares of coca bush translated into a potential production of between 788 tonnes and 1 060 tonnes of pure cocaine, compared with an estimated 842–1 111 tonnes in 2009 (UNODC, 2012; see also Table 7).

The conversion of coca leaves into cocaine hydrochloride is mainly carried out in Colombia, Peru and Bolivia, although it may also occur in other 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 manufacture of cocaine hydrochloride. In 2010, 2 623 cocaine laboratories were dismantled (UNODC, 2012) and a total of 26 tonnes of potassium

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

	Cocaine powder (hydrochloride)	Crack (cocaine base) (1)
Global production estimate (tonnes of pure cocaine)	788–1 060	n.a.
Global quantity seized (tonnes of cocaine, purity unknown)	694	n.a.
Quantity seized (tonnes) EU and Norway (Including Croatia and Turkey)	61 (61)	0.07 (0.07)
Number of seizures EU and Norway (Including Croatia and Turkey)	86 000 (88 000)	7 000 (7 000)
Mean retail price (EUR per gram) Range (Interquartile range) (2)	45–144 (49.9–73.4)	49–58
Mean purity (%) Range (Interquartile range) (2)	22–55 (27.9–45.9)	10–62

(1) Due to the small set of countries reporting information, data should be interpreted with caution.
(2) Range of the middle half of the reported data.
NB: All data for 2010; n.a., data not available.
Sources: UNODC (2012) for global values, Reitox national focal points for European data.

permanganate (81 % of global seizures) was seized in Colombia (INCB, 2012a).

Cocaine consignments to Europe appear to be transited through most countries in South and Central America, though mainly through Argentina, Brazil, Ecuador, Mexico and Venezuela. Caribbean islands are also frequently used in the transshipment of the drug to Europe. In recent years, alternative routes through West Africa (EMCDDA and Europol, 2010) and South Africa (INCB, 2012b) have been detected.

Spain, the Netherlands, Portugal and Belgium appear to be the main points of entry to Europe for cocaine. Within Europe, reports frequently mention Germany, France and the United Kingdom as important transit or destination countries. The United Kingdom estimates that 25–30 tonnes of cocaine are imported into the country each year. Recent reports also indicate that cocaine trafficking is expanding eastward (EMCDDA and Europol, 2010). Cocaine is increasingly being smuggled through south-eastern and eastern Europe, in particular along the Balkan routes (INCB, 2012b) and into harbours in Latvia and Lithuania. In particular, unusually large quantities of cocaine were intercepted in 2010 in Estonia, Latvia, Lithuania and Turkey.

Seizures

Cocaine is the most trafficked drug in the world after herbal cannabis and cannabis resin. In 2010, global seizures of cocaine remained largely stable at about 694 tonnes (Table 7) (UNODC, 2012). South America continued to report the largest amount seized, accounting for 52 % of the global figure, followed by North America with 25 %, Central America with 12 % and Europe with 9 % (UNODC, 2012).

After increasing for 20 years, the number of cocaine seizures in Europe peaked at around 100 000 cases in 2008, before declining to an estimated 88 000 in 2010. The total quantity of the drug intercepted peaked in 2006, then halved to 59 tonnes in 2009, largely because of decreases in the amounts recovered in Spain and Portugal⁽⁷⁾. Quantities of cocaine intercepted in Europe in 2010 slightly increased to an estimated 61 tonnes, mainly due to a substantial increase in seizures in Belgium and a halt in the downward trend reported in Portugal and Spain. In 2010, Spain continued to be the country reporting both the highest number of seizures of cocaine and the largest quantity of the drug seized in Europe.

⁽⁷⁾ See Tables SZR-9 and SZR-10 in the 2012 statistical bulletin.

⁽⁸⁾ For purity and price data, see Tables PPP-3 and PPP-7 in the 2012 statistical bulletin.

⁽⁹⁾ See Figure PPP-2 in the 2012 statistical bulletin.

⁽⁴⁾ See Figure PPP-1 in the 2012 statistical bulletin.

Purity and price

In 2010, the mean purity of cocaine samples tested ranged between 27 % and 46 % in half of the reporting countries. The lowest values were reported in Hungary (22 %), Denmark and the United Kingdom (England and Wales) (both retail only, 24 %), and the highest ones in Belgium (55 %), Turkey (53 %) and the Netherlands (52 %)⁽⁷⁾. Of the 23 countries that provided sufficient data for analysis of trends in cocaine purity over the period 2005–10, 20 reported a decline and three observed a stable or increasing trend (Germany, Latvia, Portugal). Overall, cocaine purity declined by an estimated average of 22 % in the European Union in the period 2005–10⁽⁷⁾.

The mean retail price of cocaine ranged from EUR 49 per gram and EUR 74 per gram in most reporting countries in 2010. The Netherlands and Poland reported the lowest mean price (EUR 45), while Luxembourg reported the highest (EUR 144). Of the 23 countries with sufficient data to make a comparison, 20 reported a stabilisation or decrease in cocaine retail prices between 2005 and 2010. In the same period, the retail price of cocaine in the European Union declined by an estimated average of 18 %⁽⁸⁾.

Drug trafficking through general aviation

Trafficking of drugs by air has emerged as an important issue in recent years, with UNODC (2011b) reporting that the majority of shipments of heroin, cocaine and amphetamine type stimulants coming from Africa are flown into Europe. The Airport Group of the Council of Europe's Pampidou Group was set up to develop and harmonise tools and systems to improve drug detection in European airports. With the support of the Regional Intelligence Liaison Offices (Western Europe) and the World Customs Organisation, officials from 35 countries, mainly located in Europe, annually review data on seizures connected with air transport or mail operations. In 2010, about 15 tonnes of illicit drugs, over half of which was cocaine, was intercepted at airports and mail centres by customs agencies in the participating countries.

General aviation, the non-commercial use of medium-sized and light aircraft, usually flown from small airfields, has been identified as an important issue, as it may be used by criminal organisations for trafficking drugs. In order to harmonise approaches for trafficking drugs. In order to harmonise approaches, the Airport Group published in 2003 a handbook on organising and carrying out checks on general aviation. In response to the Council of the EU Conclusions of 2010 encouraging Member States to focus on this risk, the Airport Group also formed a working party that has developed 20 key risk indicators of drug trafficking by general aviation.

Wastewater analysis: a 19-city study

Sewage epidemiology or wastewater analysis is a rapidly developing scientific discipline with potential for monitoring population level trends in illicit drug consumption. By sampling a source of wastewater (e.g. a sewage influent to a wastewater treatment plant), scientists can estimate the total quantity of drugs consumed by a community by measuring the levels of illicit drug metabolites excreted in urine.

In March 2011, a European pilot study collected and analysed wastewater samples from 19 cities in 12 European countries⁽¹⁾, representing a combined population of approximately 15 million Europeans (Thomas et al., in press).

The use of cocaine was assessed by measuring the concentration of the cocaine metabolite benzoylecgonine in the wastewater. The results varied widely between cities and countries, with the highest levels being for cities in Belgium and the Netherlands, where cocaine consumption in the community was estimated at 500–2 000 mg per 1 000 population per day. The lowest estimates were for cities in northern and eastern European countries (2–14.6 mg per 1 000 population per day). In most cities, levels of cocaine use increased during the weekend, reflecting the recreational use of this drug.

The results of wastewater studies need to be interpreted cautiously. Findings from a city-specific snapshot cannot be extrapolated to represent national consumption levels. In addition, results from different cities may not always be comparable, due to sampling differences and uncertainties associated to the reliability of inter-laboratory measurements. However, while such methods do not provide the detailed prevalence data yielded by drug surveys (e.g. lifetime, recent, current use), their ability to provide objective and timely estimates of illicit drug consumption in a targeted population make them a useful complement to existing monitoring tools.

⁽¹⁾ For more information see the EMCDDA website.

Prevalence and patterns of use

In some European countries, a substantial number of people use cocaine experimentally, only once or twice (Van der Poel et al., 2009). Among more regular cocaine users, two broad groups can be distinguished. The first group is made up of socially integrated users, who tend to use cocaine at weekends, parties or other special occasions, sometimes in large amounts. Many of these users report controlling their cocaine use by setting rules, for example, about the amount, frequency or context of use. The second group is composed of intensive cocaine and crack users belonging to more socially marginalised or disadvantaged groups, including former or current opioid users, who use crack or inject cocaine.

Cocaine use among the general population

Over the last 10 years, cocaine has established itself as the most commonly used illicit stimulant drug in Europe, although most users are found in a small number of high-prevalence countries, some of which have large populations. It is estimated that about 15.5 million Europeans have used cocaine at least once in their life; on average, 4.6 % of adults aged 15–64 (see Table 8 for a summary of the data). National figures vary from 0.3 % to 10.2 %, with half of the 24 reporting countries, including most central and eastern European countries, reporting low levels of lifetime prevalence (0.5–2.5 %).

About 4 million Europeans are estimated to have used the drug in the last year (1.2 % on average). Recent national surveys report last year prevalence estimates of between 0.1 % and 2.7 %. The prevalence estimate for last month cocaine use in Europe represents about 0.5 % of the adult population or about 1.5 million individuals.

Levels of last year cocaine use above the European average are reported by Ireland, Spain, Italy and the United Kingdom. In all of these countries, last year prevalence data show that cocaine is the most commonly used illicit stimulant drug.

Cocaine use among young adults

In Europe, it is estimated that about 8 million young adults (15–34), or an average of 6.3 %, have used cocaine at least once in their life. National figures vary from 0.7 % to 13.6 %. The European average for last year use of cocaine among this age group is estimated at 2.1 % (about 3 million) and for last month use at 0.8 % (1 million).

Use is particularly high among young males (15–34), with last year prevalence of cocaine use reported at between 4 % and 6.5 % in Denmark, Ireland, Spain, Italy and the United Kingdom⁽²⁾. In 16 of the reporting countries, the male to female ratio for last year prevalence of cocaine use among young adults is at least two to one⁽³⁾.

Targeted surveys highlight the elevated levels of cocaine use among regular attendees in clubs and other recreational settings. For example, a 2010 city level study of visitors to pubs in Amsterdam reported last year cocaine use prevalence of 24 %. In the Czech Republic, of the more than 1 000 respondents to a 2010 online questionnaire promoted by electronic dance music media, 29 % reported having used cocaine in the last 12 months. An online survey carried out in 2011 reported that 42 %

⁽²⁾ See Figure GPS-13 in the 2012 statistical bulletin.

⁽³⁾ See Table GPS-5 (part iii) and (part iv) in the 2012 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	15.5 million	4 million	1.5 million
European average	4.6%	1.2%	0.5%
Range	0.3–10.2%	0.1–2.7%	0.0–1.3%
Lowest-prevalence countries	Romania (0.3%) Lithuania (0.5%) Greece (0.7%) Poland (0.8%)	Greece, Romania (0.1%) Hungary, Lithuania, Poland, Finland (0.2%) Czech Republic (0.3%)	Greece, Romania, Finland (0.0%) Czech Republic, Estonia, Lithuania, Poland, Sweden (0.1%)
Highest-prevalence countries	Spain (10.2%) United Kingdom (8.9%) Italy (7.0%) Ireland (6.8%)	Spain (2.7%) United Kingdom (2.2%) Italy (2.1%) Ireland (1.5%)	Spain (1.3%) United Kingdom (0.8%) Italy, Cyprus (0.7%) Austria (0.6%)
15–34 years			
Estimated number of users in Europe	8 million	3 million	1 million
European average	6.3%	2.1%	0.8%
Range	0.7–13.6%	0.2–4.4%	0.0–2.0%
Lowest-prevalence countries	Lithuania, Romania (0.7%) Greece (1.0%) Poland (1.3%) Czech Republic (1.6%)	Greece, Romania (0.2%) Lithuania, Poland (0.3%) Hungary (0.4%) Czech Republic (0.5%)	Romania, Finland (0.0%) Greece, Lithuania, Poland, Norway (0.1%) Czech Republic, Estonia, Hungary (0.2%)
Highest-prevalence countries	Spain (13.6%) United Kingdom (12.8%) Ireland (9.4%) Denmark (8.9%)	Spain (4.4%) United Kingdom (4.2%) Italy (2.9%) Ireland (2.8%)	Spain (2.0%) United Kingdom (1.6%) Cyprus (1.3%) Italy (1.1%)
NB:	European estimates are computed from national prevalence estimates weighted by the population of the relevant age group in each country. To obtain estimates of the overall number of users in Europe, the EU average is applied for countries lacking prevalence data (representing not more than 3% of the target population for lifetime and last year estimates, but 1.8% for the last month estimate). Populations used as basis: 15–64, 33.8 million; 15–34, 13.0 million. As European estimates are based on surveys conducted between 2004 and 2010/11 (mainly 2008–10), they do not refer to a single year. The data summarised here are available under 'General population surveys' in the 2012 statistical bulletin.		

of the more than 7 000 UK respondents had used cocaine during the last year (Mixmag, 2012).

In recreational settings, cocaine use is strongly linked with the consumption of alcohol and other illicit drugs. Data from general population surveys in nine countries have revealed prevalence levels of cocaine use among heavy episodic drinkers⁽⁷⁷⁾ that are two to nine times those of the general population (EMCDDA, 2009b). The British Crime Survey (2010/11) reported that adults who drank alcohol regularly were more likely to find it acceptable to take cocaine than adults who drank less often or not at all; in addition, an association between increasing frequency of visits to a nightclub or pub and increasing levels of cocaine use was identified.

International comparisons

Compared with some other parts of the world for which reliable data exist, the estimated last year prevalence

of cocaine use among young adults in Europe (2.1%) is below the levels reported for young adults in Australia (4.8%) and the United States (4.0% among 16- to 34-year-olds), but close to that reported for Canada (1.8%). Two European countries, Spain (4.4%) and the United Kingdom (4.2%), report figures similar to those of Australia and the United States (Figure 9).

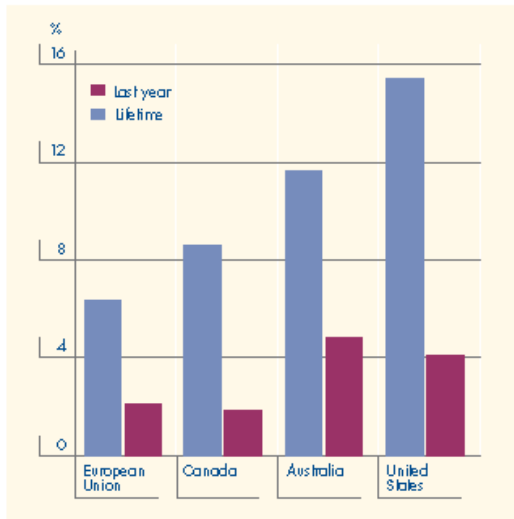
Cocaine use among school students

Lifetime prevalence of cocaine use among 15- to 16-year-old school students in the most recent ESPAD school survey is between 1% and 2% in 13 of the 24 participating EU Member States, Croatia and Norway. All except one of the other 12 countries report prevalence levels of between 3% and 4%, while both the United Kingdom ESPAD and English national school survey report 5%⁽⁷⁸⁾. The Spanish national school survey reports 3%. For comparison, lifetime use of the drug among school students of a similar

(77) Heavy episodic drinking, also known as binge drinking, is here defined as drinking six glasses or more of an alcoholic beverage on the same occasion at least once a week during the past year.

(78) See Table EYE-11 in the 2012 statistical bulletin.

Figure 9: Last year and lifetime prevalence of cocaine use among young adults (15–34) in the European Union, Australia, Canada and the United States



NB: The European estimates are computed from national prevalence estimates weighted by the population of the relevant age group in each country. As European estimates are based on surveys conducted between 2004 and 2010/11 (mainly 2008–10), they do not refer to a single year. The surveys in non-European countries were conducted in 2010. The age range of the US survey is 16 to 34 years (recalculated from original data).

Sources: Reitox national focal points, AIHW (2011), CADUMS (2010), SAMHSA (2010).

age in the United States is estimated at 3%. Where data are available for older school students (17–18), lifetime prevalence of cocaine use is generally higher, rising to 7% in Spain (79).

Trends in cocaine use

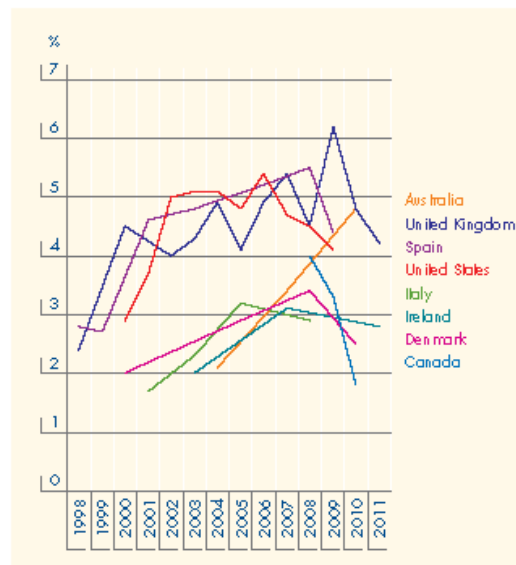
For more than a decade, reports showed increasing trends in cocaine use for the small number of European countries with the highest prevalence levels, before reaching a peak in 2008/09. Recent surveys of cocaine use reveal some positive signs in these countries, and raise the possibility that the drug's popularity is declining. Qualitative studies carried out in recreational settings also suggest there may be some shift in the image of cocaine away from that of a high-status drug (in Denmark and the Netherlands).

Seven countries report last year cocaine prevalence among young adults (15–34) above the EU average of 2.1% (79). In their most recent surveys, Denmark, Ireland, Spain, Italy and the United Kingdom all observed a decline or stabilisation in last year cocaine use among young adults, echoing the trend observed in Canada and

the United States, but not Australia, where an increase is reported (Figure 10). Among the other two highest prevalence countries, Cyprus reported an increase in their most recent survey, from 0.7% in 2006 to 2.2% in 2009; while the Netherlands reported last year cocaine prevalence among young adults at 2.4% in 2009, because of changes in methodology, comparison with earlier surveys is not appropriate.

Cocaine use is relatively low and, in most cases, stable in 12 other countries with three repeated surveys. Possible exceptions to this include Bulgaria, France and Sweden, which have reported signs of an increase, and Norway, where the trend appears to be downward. It should be borne in mind, however, that small changes at low prevalence must be interpreted with caution. In Bulgaria, last year use of cocaine among young adults rose from 0.7% in 2005 to 1.5% in 2008; in France from 1.2% in 2005 to 1.9% in 2010; and in Sweden from zero in 2000 to 1.2% in 2008 (80). Norway reported a decrease from 1.8% in 2004 to 0.8% in 2009.

Figure 10: Trends in last year prevalence of cocaine use among young adults (15–34) in the five EU Member States with the highest figures, Australia, Canada and the United States



NB: See Figure GPS-14 (part ii) in the 2012 statistical bulletin for further information. The age ranges for non-European surveys are: United States, 16–34; Canada, 15–34; Australia, 15–34 for 2010 and 14–39 years for earlier surveys.

Sources: Reitox national focal points, AIHW (2011), CADUMS (2010), SAMHSA (2010).

(79) See Tables EYE-10 to EYE-30 in the 2012 statistical bulletin.

(80) See Table GPS-2 in the 2012 statistical bulletin.

(81) See Figure GPS-14 (part i) in the 2012 statistical bulletin.

Of the 23 countries that participated in the 2011 round and either the 1995 or 1999 round of ESPAD, 18 saw an increase in lifetime prevalence of cocaine use of between one and three percentage points, whereas none showed a decrease. Although the prevalence levels remain low overall, the general increase across countries requires continued vigilance.

Health consequences of cocaine use

The health consequences of cocaine use are likely to be underestimated; this may be due to the often unspecific or chronic nature of the pathologies typically arising from long-term use of cocaine (see Chapter 7). Regular use, including by snorting, can be associated with cardiovascular, neurological and psychiatric problems, and with the risk of accidents and the transmission of infectious diseases through unprotected sex (Brugal et al., 2009), and possibly through the sharing of straws (Aaron et al., 2008). Studies in countries with high levels of use indicate that a considerable proportion of cardiac problems in young people could be related to cocaine use.

Cocaine injection and crack use are associated with the highest health risks among cocaine users, including cardiovascular and mental health problems (EMCDDA, 2007a). When compared with the wider population of cocaine users, recent hospital emergency data from Spain shows an over-representation of users who either inject or smoke the drug.

Problem use

The more harmful forms of cocaine use include regular or long-term use of the drug or its use by injection. As there are no recent indirect national estimates of problem cocaine use for any European country, the main sources of information available on the extent of the more harmful forms of cocaine use are general population surveys, data on drug users entering treatment and studies on crack cocaine use.

A number of countries have collected data on intensive use of cocaine in general population surveys. While such surveys tend to miss marginalised users, they do have the potential to reach socially integrated intensive cocaine users. A 2009 Spanish general population survey, using frequency of use measures, estimated over 140 500 intensive users of cocaine ^(*), or around 4.5 cases per 1 000 population aged 15–64. A city-level

Cocaine-related emergencies: potential for early intervention?

A recent European review identified a threefold increase in cocaine-related hospital emergencies in some countries since the end of the 1990s, with a peak around 2008 in Spain and the United Kingdom (Mena et al., 2012). This corresponds with trends in prevalence of use in the general population, and with reports of cocaine-related deaths. Five of the six countries that reported the highest numbers of hospital emergencies related to cocaine in 2008–10 (Denmark, Ireland, Spain, Netherlands, United Kingdom) also report a prevalence of cocaine use above the European average. Also consistent with prevalence data is the fact that most cocaine-related emergencies were among young adults, and two thirds were males.

Some European countries now monitor cocaine-related harm using data from admissions to hospital emergency departments and patient hospitalisations. Case data may also come from toxicology departments, services providing first aid to drug users, calls to poison centres or police drug squad records. Spain and the Netherlands, in particular, provide relatively robust data. Other countries often rely on sentinel systems based on a selection of hospitals.

Although heterogeneous, European hospital emergency data provide a useful indicator of trends, and also highlight an area with largely unexplored potential: that of assessment, early intervention and referral of thousands of cocaine-using patients every year.

study in Oslo, Norway, also based on a frequency of use measure in a set of surveys (among the general population, prison inmates and injecting drug users), identified 1 600–2 000 problem users of cocaine ^(**), or four per 1 000 population aged 15–64. In Germany, the prevalence of cocaine-related problems was estimated at around two cases per 1 000 population aged 15–64, using the Severity of Dependence Scale.

Crack use is unusual among socially integrated cocaine users, and occurs mainly among marginalised and disadvantaged groups such as sex workers and problem opioid users. In Europe, it is largely an urban phenomenon (Connolly et al., 2008; Prinzieve et al., 2004), with signs of very low overall prevalence. In London, crack use is considered to be a major component of the city's drugs problem. Regional crack cocaine estimates are only available for England, where there were an estimated 184 000 problem crack cocaine users in 2009/10, which corresponds to 5.4 (5.2–5.7) cases per 1 000 population aged 15–64. A majority of these crack users were also reported to be opioid users.

^(*) Defined as those who were over the age of 20 and had used cocaine on at least 30 days in the last year or at least 10 days in the last month, or those who were under 20 and had used cocaine 10 or more days in the last year and at least one day in the last month.

^(**) Defined as those who used the drug more than once a week.

Treatment demand

Further insights into the more problematic forms of cocaine use may be gained from data on the number and characteristics of people entering treatment due to cocaine use. Nearly all reported cocaine clients are treated in outpatient centres, although some might be treated in private clinics for which data are not available. Many problematic cocaine users, however, do not seek treatment (Reynaud-Maurupt and Haureau, 2010).

Cocaine was cited as the principal reason for entering treatment by 15 % of all reported drug users entering treatment in 2010. Among those entering treatment for the first time in their life, the proportion of primary cocaine users was higher (21 %).

Wide differences exist between countries in the proportion and number of cocaine clients, with the highest proportions reported by Spain (44 %), Italy (29 %) and the Netherlands (26 %). Cocaine clients represent between 10 % and 15 % of all drug clients in Belgium, Ireland, Cyprus, Luxembourg, Malta, Portugal and the United Kingdom. Elsewhere in Europe, cocaine accounts for less than 10 % of drug treatment entrants, with seven countries reporting that less than 1 % of all treatment entrants identify it as their primary drug. Overall, five countries (Germany, Spain, Italy, Netherlands, United Kingdom) account for about 90 % of all cocaine clients reported by 29 European countries (84).

Based on 25 countries that have provided data over the period 2005–10, the trend in the reported number of clients entering treatment for primary cocaine use increased until 2008 (from 55 000 to 71 000 clients), stabilised in 2009 (70 000) and slightly decreased in 2010 (67 000) (85). The number of cocaine clients declined in 13 countries between 2007–08 and 2010, with some countries (Spain, Netherlands, Portugal, United Kingdom) reporting a reduction of up to 40 % in the number entering treatment for the first time in their life. In the Netherlands, the number of new cocaine clients decreased between 2009 and 2010, while the number of cocaine clients readmitted to treatment, especially those mentioning opioids as a secondary drug, is reported to be stable (Ouwehand et al., 2011).

Profile of outpatient treatment clients

Clients entering outpatient treatment for primary use of cocaine present a high male to female ratio (about five males to every female), and one of the highest mean

ages (33) among drug treatment clients. Primary users of cocaine report their first cocaine use at a mean age of 22, with 87 % starting before the age of 30 (86).

Most cocaine clients report snorting (65 %) or smoking (27 %) the drug as their main route of administration, and only 6 % report primarily injecting the drug. Almost half of cocaine clients have used the drug up to six times a week in the month before entering treatment, about a quarter have used it daily, and a quarter have not used it or have used it only occasionally during that period (87).

Cocaine is often used in combination with other drugs, especially alcohol, cannabis, other stimulants and heroin. A Dutch analysis carried out in 2011 reported that most cocaine clients use cocaine together with other substances (64 %), most commonly alcohol (Ouwehand et al., 2011).

A subgroup of cocaine users entering outpatient treatment in Europe are the 7 500 primary users of crack cocaine (88); they represent 13 % of all cocaine clients and less than 2 % of all drug clients entering outpatient centres. Most crack cocaine clients (about 5 000) entered treatment in the United Kingdom: they accounted for 36 % of the country's primary cocaine clients and 4 % of all drug outpatient clients. The remaining 2 000 crack cocaine clients are reported mainly by France and the Netherlands, where they represent 23 % and 30 % of cocaine clients, respectively, and by Spain and Italy (3 % and 1 % of cocaine clients). Crack cocaine clients also often use the drug together with other substances, including injected heroin (EMCDDA, 2007a; Escot and Suderie, 2009).

Treatment and harm reduction

Historically, treatment for drug use problems in Europe has focused on opioid dependence. However, with growing public health concern about cocaine and crack cocaine use, many countries are paying more attention to problems related to these drugs. The primary treatment options for cocaine dependence are psychosocial interventions, including motivational interviewing, cognitive behavioural therapies, behavioural self-control training, relapse prevention interventions and counselling.

Eleven Member States, including all those with high levels of cocaine use and treatment entry, report that, alongside general treatment services, specific treatment programmes are available for cocaine or crack cocaine users. However, while national experts from Germany, Italy,

(84) See Tables TDI-5 (part i) and (part ii) and TDI-24 in the 2012 statistical bulletin; data for Spain refer to 2009.

(85) See Figures TDI-1 and TDI-3 in the 2012 statistical bulletin.

(86) See Tables TDI-4 (part ii), TDI-10 (part iii), TDI-11 (part iii) and TDI-18 (part i) in the 2012 statistical bulletin.

(87) See Tables TDI-17 and TDI-18 (part ii) in the 2012 statistical bulletin.

(88) See Table TDI-115 in the 2012 statistical bulletin.

Lithuania and the United Kingdom estimated that these specific programmes were available to the majority of cocaine users in need of treatment, experts from Belgium, Denmark, Ireland, Spain, Austria, Romania and Slovenia estimated that they were available only to a minority.

Some countries report tailoring their cocaine treatment responses to the needs of particular client groups; in the United Kingdom, for example, specialist treatment agencies prioritise treatment services for problem drug users, including crack cocaine users. Both Denmark and Austria report providing treatment for cocaine users within a polydrug use programme. In Denmark, a treatment model for cocaine, cannabis and alcohol problems has been piloted. Clinical guidelines are to be developed and the model will be rolled out in a number of municipalities during the next four years, with a budget of around EUR 1 million. In addition, Bulgaria, Malta and the Netherlands report that specific treatment programmes for cocaine users are planned for the next three years.

Studies on treatment of cocaine dependence

The EMCDDA and the Cochrane Group on Drugs and Alcohol recently published an overview of reviews of the pharmacological treatment of cocaine dependence (Amato et al., in press). This analysed the acceptability, efficacy and safety of psychostimulants, anticonvulsants, antipsychotics, dopamine agonists and disulfiram to treat cocaine dependence. Most of these substances have the potential to block or reduce the reward effect of cocaine in the brain. In addition, antipsychotics may alleviate cocaine-induced psychosis-like symptoms. These studies are not directly comparable, as they have different aims and outcome measures, ranging from reduction of use, reduction or treatment of withdrawal symptoms, and identification of substitution treatments.

The review of studies on psychostimulants identified some positive results for helping cocaine users achieve abstinence. In particular, results for treatment of opioid-cocaine codependent patients with bupropion and dexamphetamine were promising. However, psychostimulants were not found to be effective for substitution therapy. The evaluations of antipsychotic and anticonvulsant drugs for cocaine dependent patients were inconclusive. The current evidence does not support the use of dopamine agonists for treating cocaine dependence. While disulfiram showed positive results for retaining patients in treatment, any benefits appear to be outweighed by the substance's potential for harmful side-effects.

Among the non-pharmacological interventions for treating cocaine dependency, contingency management continues to be the psychosocial intervention with the highest efficacy (Vacci and Montoya, 2009). A recent Belgian study reported that after six months of participation in a contingency management programme with community reinforcement, the rate of abstinence among cocaine users was three times higher than for clients in standard treatment (Vanderplasschen et al., 2011).

Harm reduction

Harm-reduction interventions aimed at more socially integrated cocaine users, mostly powder cocaine users, can be implemented through specific outreach programmes in nightlife settings. Two examples are the recent 'Know the score' cocaine awareness campaign in Scotland and the Belgian Partywise campaign 'How is your friend on coke?' These campaigns are oriented towards raising awareness and providing information (see Chapter 4 for more on interventions in recreational settings).

Interventions aimed at reducing the harms caused by problem cocaine and crack cocaine use are a new area of work in many Member States. Generally, the services and facilities provided for cocaine injectors have been developed to serve the needs of opioid users. Cocaine

Vaccines against illicit drugs

Animal research on anti-drug vaccines dates back to 1972 (Berkowitz and Spector), but interest in developing a pharmacological response to cocaine addiction has recently brought the topic to centre stage. Anti-drug vaccines work by inducing the production of antibodies in the bloodstream and, when successful, can reduce the psychoactive effects of drugs and inhibit craving (Fox et al., 1996).

Currently, anti-drug vaccines are being studied for cocaine, nicotine, methamphetamine and heroin (Shen et al., 2011). The most advanced vaccines address cocaine and nicotine dependence, and have proved to be effective in helping patients to remain abstinent. The main limitation observed is that the antibody response in the majority of patients is low (Hatsukami et al., 2005; Martell et al., 2005). Studies, however, are being carried out to improve this, and commercial products could be available soon, at least for nicotine (Palosa and Benowitz, 2011). Research on anti-methamphetamine vaccines is still in the preclinical phase, where it is focused on antibody characterisation. Anti-opioid vaccines have been developed that are effective in rats, and studies are now concentrating on strategies to reduce the number of applications needed to maintain blood antibody concentration (Stowe et al., 2012).

injecting, however, is associated with specific risks. In particular, it involves a potentially higher frequency of injecting, chaotic injecting behaviour and increased sexual risk behaviours. Safer-use recommendations need to be tailored to the needs of this group. Due to the potential high frequency of injecting, the supply of sterile equipment to injectors should not be restricted, but rather based on local assessment of cocaine use patterns and the social situation of injectors (Des Jarlais et al., 2009).

Provision of specific harm-reduction programmes for crack cocaine smokers in Europe is limited. Some drug consumption facilities in three countries (Germany, Spain, Netherlands) provide facilities for inhalation of drugs,

including crack cocaine. Hygienic inhalation devices including clean crack pipes or 'crack kits' (glass stem with mouth piece, metal screen, lip balm and hand wipes) are reported to be sporadically provided to drug users who are smoking crack cocaine by some low-threshold facilities in Belgium, Germany, Spain, France, Luxembourg and the Netherlands. Foil is also made available to heroin or cocaine smokers at some low-threshold facilities in 13 EU Member States. In the United Kingdom, the Advisory Council on the Misuse of Drugs recently reviewed the use of foil as a harm-reduction intervention, finding evidence that its provision may promote smoking over injecting use (ACMD, 2010).

Chapter 6

Opioid use and drug injection

Introduction

Heroin use, particularly injecting the drug, has been closely associated with public health and social problems 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. After two decades of mostly increasing heroin problems, Europe saw a decline in heroin use and associated harms during the late 1990s and the early years of the present century. Over the last decade, however, the trend has become less clear. The picture is still a mixed one, but increasingly it has been noted that, in parts of Europe, new recruitment into heroin use has fallen, the availability of the drug has declined and, recently, some countries have experienced acute shortages. This has been accompanied by reports of heroin being replaced by other drugs, including synthetic opioids, such as fentanyl, but also the injection of stimulant drugs, including amphetamine, methamphetamine and synthetic cathinones. Any increase in the injection of stimulant drugs brings with it concerns about an increase in health risks.

Supply and availability

Two forms of imported heroin have historically been available in Europe: the more common of these is brown heroin (its chemical base form), originating mainly from Afghanistan. Less common is white heroin (a salt form), which traditionally came from south-east Asia. Although white heroin has become rare, some countries have recently reported white crystalline heroin products probably originating from south-west Asia. Some limited production of opioid drugs also still takes place in Europe, principally home-made poppy products (e.g. poppy straw, concentrate from crushed poppy stalks or heads) reported in Estonia, Lithuania and Poland.

Production and trafficking

As well as accounting for most of Europe's heroin supply, Afghanistan remains the principal global source for this drug. Other producing countries include Myanmar, which

mainly supplies markets in east and south-east Asia, Laos and Pakistan, followed by Mexico and Colombia, which are considered the largest suppliers of heroin to the United States (UNODC, 2012). Potential global opium production is estimated to have increased from 4 700 tonnes in 2010 to 7 000 tonnes in 2011, reaching levels comparable to those of previous years. Much of this increase is due to a recovery in potential opium production in Afghanistan, which has risen from 3 600 tonnes in 2010 to 5 800 tonnes in 2011 (UNODC, 2012). The most recent estimate of global potential heroin production is 467 tonnes (see Table 9), up from an estimated 384 tonnes in 2010 (UNODC, 2012).

Heroin arrives in Europe mainly by two trafficking routes, although there is increasing diversity in the methods and routes used for smuggling the drug. The historically

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

Production and seizures	Heroin
Global production estimate (tonnes)	467
Global quantity seized (tonnes)	81
Quantity seized (tonnes) EU and Norway (Including Croatia and Turkey)	6 (19)
Number of seizures EU and Norway (Including Croatia and Turkey)	50 000 (55 000)
Price and purity in Europe (*)	Heroin base (brown)
Mean retail price (EUR per gram) Range (Interquartile range) (†)	23–160 (24.6–73.6)
Mean purity (%) Range (Interquartile range) (†)	13–57 (17.7–28.0)
(*)	Since few countries report the retail price and the purity of heroin hydrochloride (white), the data are not presented here. They can be consulted in Tables PPP-2 and PPP-6 in the 2012 statistical bulletin.
(†)	Range of the middle half of the reported data.
N.B.	Data are for 2010, except the global production estimate (2011).
Sources:	UNODC (2012) for global values; Eurostat national focal points for European data.

important Balkan route brings heroin produced in Afghanistan through Pakistan, Iran and Turkey, and then towards other transit or destination countries, mainly in western and southern Europe. Heroin is also trafficked via the Silk Route through Central Asia and towards Russia. Some of this heroin is then smuggled through Belarus, Poland and Ukraine to destinations such as the Scandinavian countries. Africa appears to be becoming more important, and is now the main transit area for smuggling heroin into Europe by air (INCB, 2012b). Within the European Union, the Netherlands, and to a lesser extent Belgium, are secondary distribution hubs.

Seizures

Worldwide reported seizures of opium decreased from 653 tonnes in 2009 to 492 tonnes in 2010. Iran accounted for about 80 % of the total and Afghanistan for nearly 12 %. In 2010, global reported seizures of heroin (81 tonnes) and morphine (19 tonnes) increased, each by 5 tonnes (UNODC, 2012).

In Europe, an estimated 55 000 seizures resulted in the interception of 19 tonnes of heroin in 2010, two thirds of which (12.7 tonnes) was reported by Turkey. The United Kingdom (followed by Spain) continued to report the highest number of seizures^(*). Data for the years 2005–10 from 28 reporting countries show an overall increase in the number of seizures, although there was a slight decrease in 2010. Between 2005 and 2010, quantities seized in the European Union have been fluctuating, with a marked decrease reported in 2010, mainly due to the decline in amounts intercepted in Bulgaria and the United Kingdom. Turkey also reported a substantial decline in the amount recovered in 2010; this needs to be understood in the context of earlier interdiction activities which appear to have disrupted the heroin market in parts of Europe.

Global seizures of acetic anhydride used in the manufacture of heroin increased from about 21 000 litres in 2009 to 59 700 litres in 2010. Figures for the European Union have varied greatly in recent years: from a peak of about 151 000 litres in 2008 to 912 litres in 2009; a single seizure of about 21 100 litres in Bulgaria accounted for almost all of the 21 200 litres seized in 2010 (INCB, 2012a).

Over the last decade, Estonia has reported that heroin has largely been replaced by fentanyl on the illicit market. More recently, Slovakia has reported a similar phenomenon, although the number of seizures and quantities seized remain small. In 2010, Slovakia reported

17 fentanyl seizures; in Estonia, half a kilogram of this synthetic opioid was seized.

Purity and price

The mean purity of brown heroin tested in 2010 ranged between 17 % and 28 % for most reporting countries; lower mean values were reported in France (13 %) and Austria (retail only, 13 %) with higher values in Malta (30 %), Spain (32 %) and Turkey (57 %). Between 2005 and 2010, the purity of brown heroin increased in four countries, remained stable in four others and decreased in two. The mean purity of white heroin was generally higher (25–45 %) in the five European countries reporting data^(**).

The retail price of brown heroin continued to be considerably higher in the Nordic countries than in the rest of Europe, with Sweden reporting a mean price of EUR 160 per gram (resulting from a sharp increase in 2010) and Denmark, EUR 83 per gram in 2010. Overall, it ranged from EUR 24 per gram to EUR 74 per gram in half of the reporting countries. Over the period 2005–10, the retail price of brown heroin decreased in 10 of the 14 European countries reporting time trends. The mean price of white heroin was generally higher (EUR 61–251 per gram) in the three European countries reporting data.

Problem drug use

Problem drug use is defined by the EMCDDA as 'injecting drug use or long duration or regular use of opioids, cocaine or amphetamines'. Injecting drug use and the use of opioids form the greater part of problem drug use in Europe although, in a few countries, users of amphetamines or cocaine are important components. Problem drug users are mostly polydrug users, and prevalence figures are much higher in urban areas and among marginalised groups. Given the relatively low prevalence and the hidden nature of problem drug use, statistical extrapolations are required to obtain prevalence estimates from the available data sources (mainly drug treatment data and law enforcement data).

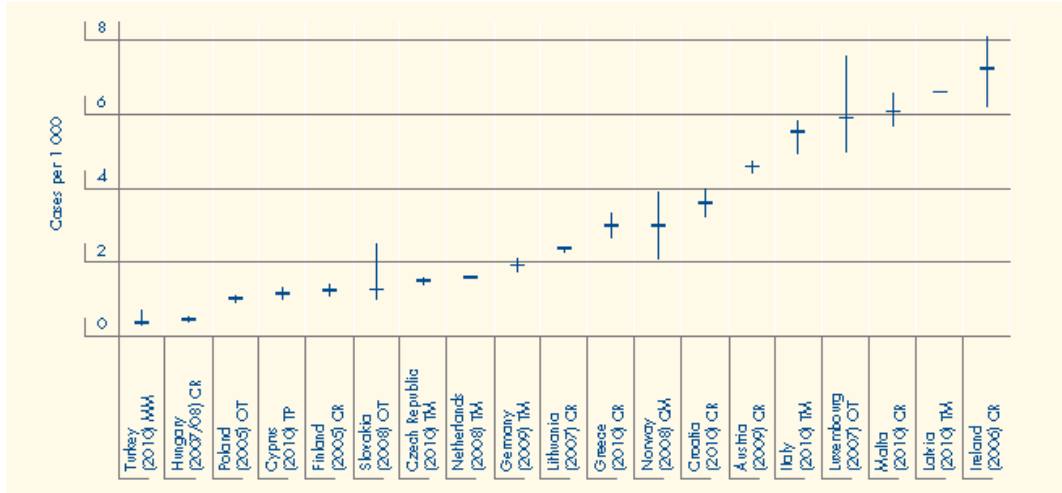
Problem opioid use

Most European countries are now able to provide prevalence estimates of problem opioid use. Recent national estimates vary between less than one and seven cases per 1 000 population aged 15–64 (Figure 11). The highest estimates of problem opioid use are reported by Ireland, Latvia, Luxembourg and Malta, and the lowest by Cyprus, Hungary, Poland and Finland. Turkey reports less than one case per 1 000 population aged 15–64.

^(*) See Tables SZR-7 and SZR-8 in the 2012 statistical bulletin.

^(**) See Tables PPP-2 and PPP-6 in the 2012 statistical bulletin for purity and price data.

Figure 11: Estimates of the annual prevalence of problem opioid use (among the population aged 15–64)



NB: A horizontal mark indicates a point estimate; a vertical mark indicates an 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) and Poland (all ages). Both rates were adjusted to the population aged 15–64. Methods of estimation are abbreviated: CR, capture-recapture; TM, treatment multiplier; MM, mortality multiplier; CM, combined methods; TP, truncated Poisson; OT, other methods. See Figure PDU-1 (part ii) and Table PDU-102 in the 2012 statistical bulletin for further details.

Sources: Reitox national focal points.

The average prevalence of problem opioid use in the European Union and Norway, computed from national studies, is estimated to be 4.2 (between 3.9 and 4.4) cases per 1 000 population aged 15–64. This corresponds to some 1.4 million problem opioid users in the European Union and Norway in 2010 ^(*).

By comparison, estimates for Europe’s neighbouring countries are high, with Russia at 16.4 problem opioid users per 1 000 population aged 15–64 (UNODC, 2011b), and Ukraine at 10–13 per 1 000 population aged 15–64 (UNODC, 2010). Both Australia and the United States report higher estimates of problem opioid use, 6.3 and 5.8 cases per 1 000 population aged 15–64, while the equivalent figure for Canada is 3.0 cases. Comparisons between countries should be made with caution, as definitions of the target population may vary. For example, if non-medical use of prescription opioids was added, the prevalence figure would rise to 39–44 per 1 000 North Americans aged 15–64 (UNODC, 2011b).

Opioid users entering treatment

Opioids, mainly heroin, were cited as the primary drug by more than 200 000 clients reported entering specialist drug treatment in 29 European countries in 2010, or 48 % of all reported treatment entrants. However, considerable differences exist across Europe, with opioid clients accounting for more than 70 % of those entering treatment in seven countries, between 40 % and 70 % in 12, and less than 40 % in 10 countries (Figure 12). Almost 80 % of all opioid users entering drug treatment in Europe are reported by just five countries: Germany, Spain, France, Italy and the United Kingdom ^(**).

Opioids other than heroin are cited as the primary drug by a high proportion of treatment entrants in a number of countries: fentanyl in Estonia, buprenorphine in Finland, and other opioids in Denmark, Latvia and Austria ^(**).

Opioid users entering specialist treatment are on average 33 years old, with female clients being younger in most countries ^(**). Across Europe, male opioid clients outnumber their female counterparts by a ratio of about

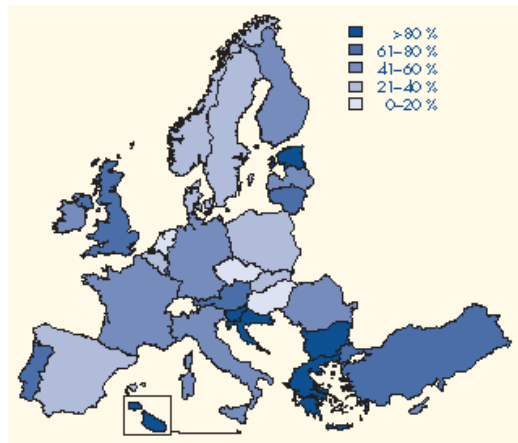
(*) Reported estimates from 18 countries result in an average rate of 3.1 (3.0–3.2) cases per 1 000 population aged 15–64. Incorporating weighted estimates of problem drug use from a further eight countries increases the average rate to 4.2 (3.9–4.4), which has been applied to the 2010 population of the European Union and Norway.

(**) See Tables TDI-5 and TDI-22 in the 2012 statistical bulletin.

(***) See Table TDI-113 in the 2012 statistical bulletin.

(****) See Tables TDI-10, TDI-21, TDI-32 and TDI-103 in the 2012 statistical bulletin.

Figure 12: Primary opioid users as a percentage of all reported drug treatment entrants in 2010



NB: Data expressed as a percentage of those for whom primary drug is known (92 % of the reported clients). Data for 2010 or most recent year available. Data for Lithuania refer to clients entering treatment for the first time in their lives. Primary opioid users may be under-reported in some countries including Belgium, the Czech Republic, Germany and France, as many are treated by general practitioners or psychiatric services that are not reported to the treatment demand indicator.

Sources: ReMix national focal points.

three to one. The great majority of opioid clients report having started to use the drug before the age of 30, with almost half (46 %) of all opioid clients having done so before the age of 20⁽⁹⁵⁾. In general, opioid users report higher levels of homelessness and unemployment and lower levels of education than primary users of other drugs, and they are usually concentrated in urban areas.

Trends in problem opioid use

Data from nine countries with repeated estimates of the prevalence of problem opioid use over the period 2005–10 suggest a relatively stable situation. However, prevalence measures may not be sensitive to trends in drug use initiation, and need to be placed in the context provided by other data sources. In the period 2005–10, the number of clients who entered specialist drug treatment for primary heroin use for the first time in their life in 24 European countries increased from 51 000 in 2005 to a peak of 61 000 in 2007, before decreasing to 46 000 in 2010⁽⁹⁶⁾. This decline is most apparent in western European countries.

The time between first use of heroin and entering treatment can be considerable. Because of this, the number of heroin users entering treatment for the first time reflects both the

historical trend in heroin initiation (incidence) and the contemporary picture. A caveat to this interpretation is that it may be influenced by changes in reporting practices, and the European figures disproportionately reflect trends in larger countries. Nonetheless, despite considerable variation between countries, the evidence suggests that, overall, new heroin use in Europe is in decline.

This analysis can also be viewed alongside trends in other indicators, including injecting drug use (see following), drug-induced deaths and drug-related offences, although, arguably, these data sources are better indicators of prevalence than incidence. A decrease in the number of heroin-related drug law offences can be seen in Europe in recent years. The data on drug-induced deaths is more equivocal. Increases, or a stable situation, was noted by countries up to 2008; in 2009, an overall stable situation was evident and provisional data for 2010 suggests a more recent fall⁽⁹⁷⁾.

Opioid market indicators also provide complementary information here. Acute heroin shortages reported by a number of countries in late 2010 and early 2011 (EMCDDA, 2011a) and a recent decline in heroin seizures point to changes in heroin availability in Europe that might also be associated with a shift in drug use patterns. These include reports of increased injecting of cathinones (Hungary), mixtures containing caffeine and creatine (Romania), increased use of benzodiazepines and other medications (Ireland, Slovenia, United Kingdom), increased injecting of amphetamines (Hungary, Latvia) and worrying reports of use of the synthetic opioid fentanyl (e.g. Estonia, Slovakia).

All things considered, the information suggests that Europe is seeing a gradual decline in new heroin use, which has occurred against the backdrop of increasing availability and coverage of treatment. The heroin population as a whole appears to be both ageing and characterised overall by a relatively high level of service contact. Although this phenomenon is most apparent in the pre-2004 EU Member States, recent data now suggest that it may also be occurring in many of the newer Member States.

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 overdoses. In most European countries, injection is commonly associated with opioid use, although in a few countries, it is associated with use of amphetamines.

⁽⁹⁵⁾ See Tables TDI-33, TDI-106 (part i) and TDI-107 (part i) in the 2012 statistical bulletin.

⁽⁹⁶⁾ See Figures TDI-1 and TDI-3 in 2012 statistical bulletin.

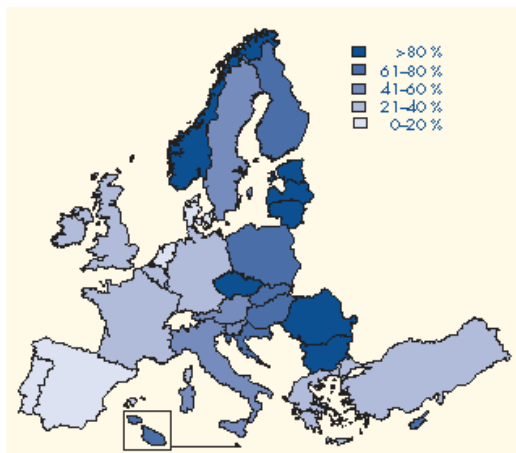
⁽⁹⁷⁾ See Table DRD-2 (part i) in the 2012 statistical bulletin.

Only 14 countries were able to provide recent estimates of the prevalence of injecting drug use ^(*). The available data suggest large differences between countries, with estimates ranging from less than one to five cases per 1 000 population aged 15–64. In the 13 countries which have reported an estimate of current injectors, there were, on average, about 2.4 injecting drug users per 1 000 population aged 15–64. In addition to active injectors, there are a large number of former injecting drug users in Europe (e.g. Sweeting et al., 2008), but figures are not available.

About 37 % of primary opioid clients (mainly heroin users) entering specialist drug treatment in 2010 reported injecting as their usual mode of administration. Levels of injecting among opioid users vary between countries, from 7 % in the Netherlands to 94 % in Latvia. High proportions of injectors are found in central and eastern Europe as well as in some northern countries (Figure 13).

Drawing conclusions on time trends in the prevalence of injecting drug use based on repeated prevalence estimates is difficult because of the lack of data and, in some cases, the statistical uncertainty in the estimates. Of the eight countries with sufficient data to analyse trends, injecting levels appear to have decreased in the United Kingdom and remained relatively stable in Greece, Cyprus, Hungary, Slovakia, Croatia and Norway. The Czech Republic reported an increase in the number of injectors, mostly methamphetamine users, between 2005 and 2010 ^(*).

Figure 13: Injecting as usual mode of administration among primary opioid users entering treatment in 2010



NB: Data expressed as a percentage of reported clients for whom the route of administration is known. Data for 2010 or most recent year available. See Table TDI-5 (part iii) and (part iv) in the 2012 statistical bulletin.
Sources: Reitox national focal points.

Considering data available for a number of other indicators, there appears to be an overall decrease in opioid injection and, in particular, in heroin injection in Europe. Most European countries have reported a decrease in the proportion of injectors among primary heroin clients entering drug treatment for the first time in their lives between 2005 and 2010, a trend confirmed by a longer term analysis (2000–09) of heroin users entering specialised treatment for the first time in Europe (EMCDDA, 2012c). The decrease in heroin injection is observed in all countries, although the decline is more marked in western European countries. In 2009, while the western countries reported that heroin smoking had become the main route of drug administration for more than half of the heroin clients (53 %), in eastern countries, 70 % of heroin clients reported injection to be the main route of administration (EMCDDA, 2012c). Furthermore, recent studies from Ireland and Norway identify an increasing time interval between first heroin use and first heroin injection (Bellerose et al., 2011; Bretteville-Jensen and Skretting, 2010).

Injection and other routes of administration

Data collected on drug users entering treatment provide the largest and most comprehensive source of information on the drug-taking behaviour of those with drug-related problems in Europe ^(†).

Overall, injecting was the second most commonly reported route of administration by drug users entering treatment primarily for problems with opioids in 2010. Of the 140 000 primary opioid clients entering treatment in outpatient centres, for whom the route of administration is known, 36 % reported injecting the drug, while 45 % reported smoking or inhaling it and 19 % cited sniffing or ingesting the drug orally. In contrast, 3 % of the 53 000 cocaine users entering treatment in the same settings reported injecting the drug, 68 % reported sniffing it, and the remainder reported smoking or inhaling it. Among the 9 000 users of amphetamines or other non-cocaine stimulants, 24 % reported injecting as the main route of administration, while 40 % ingested the drug orally, 32 % sniffed it and 4 % reported other means of administration.

Patterns of drug use have changed over time. An analysis of treatment entry data between 2000 and 2009 showed a decrease in drug injection among primary heroin clients in all European countries (from 58 % to 36 %), particularly in western Europe (EMCDDA, 2012c). In addition, among opioid users entering treatment in outpatient settings since 2009, those smoking the drug outnumbered those injecting it ^(‡).

^(†) It should be noted that treatment entry data cannot be extrapolated to the whole population of drug users in treatment, and may not be representative of the wider population of drug users, which includes those not in treatment. More information on the size of the total treated population is available on the EMCDDA website.

^(‡) See Table TDI-17 in the 2010, 2011, 2012 statistical bulletins.

^(*) See Figure PDU-2 in the 2012 statistical bulletin.

^(*) See Table PDU-6 (part iii) in the 2012 statistical bulletin.

Treatment of problem opioid use

Provision and coverage

Both drug-free and substitution treatments for opioid users are available in all EU Member States, Croatia, Turkey and Norway. In most countries, treatment is conducted in outpatient settings, which can include specialised centres, general practitioners' surgeries and low-threshold facilities. In a few countries, residential treatment plays an important role in the treatment of opioid dependence ⁽¹⁰⁹⁾. A small number of countries offer heroin-assisted treatment for a selected group of chronic heroin users.

For opioid users, drug-free treatment is generally preceded by a detoxification programme, which provides them with pharmaceutical assistance to manage the physical withdrawal symptoms. This therapeutic approach 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 outpatient and inpatient settings, the types most commonly reported are residential and hospital-based drug-free treatment.

The most common type of treatment for opioid dependence in Europe is substitution treatment, typically integrated with psychosocial care and provided at specialist outpatient centres. Sixteen countries report that it is also provided by general practitioners. In some countries, general practitioners provide this treatment in a shared-care arrangement with specialist treatment centres. The total number of opioid users receiving substitution treatment in the European Union, Croatia, Turkey and Norway is estimated at 709 000 (698 000 for EU Member States) in 2010, up from 650 000 in 2008, and about half a million in 2003 ⁽¹⁰¹⁾. The vast majority of substitution treatments continue to be provided in the 15 pre-2004 EU Member States (about 95 % of the total), and medium-term trends (2003–10) show continuous increases (Figure 14). The greatest increases in provision among these countries were observed in Greece, Austria and Finland, where treatment numbers almost tripled.

An even higher rate of increase was observed in the 12 countries that have joined the European Union since 2004. In these countries, the number of substitution clients rose from 7 800 in 2003 to 20 400 in 2010, with much of the increase occurring after 2005. Proportionally, the expansion of substitution treatment in these countries over the seven-year period was highest in Estonia (sixteenfold

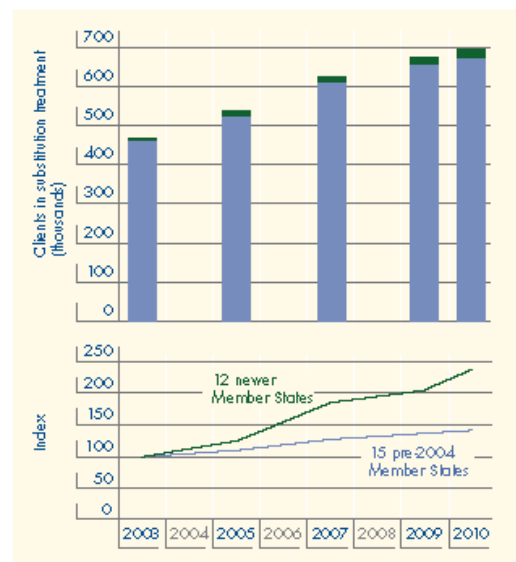
from 60 to over 1 000 clients, though still reaching only 5 % of opioid injectors) and Bulgaria (eightfold). The smallest increases were reported in Lithuania, Hungary and Slovakia.

A comparison of the estimated number of problem opioid users with the number of clients in substitution treatment suggests varying coverage levels in Europe. Of the 18 countries for which reliable estimates of the number of problem opioid users are available, nine report a number of clients in substitution treatment corresponding to about 50 % or more of the target population ⁽¹⁰²⁾. Six of those countries are pre-2004 EU Member States, and the remaining countries are the Czech Republic, Malta and Norway.

While, on average, about half of all problem opioid users in the European Union and Norway have access to substitution treatment, substantial differences exist between countries, with considerably lower coverage levels in Greece (28 %), Lithuania (17 %), Slovakia (12 %), Poland (8 %) and Latvia (2 %).

Estimates of the proportion of problem opioid users in any type of treatment are possible for eight countries

Figure 14: Clients in opioid substitution treatment in the 15 pre-2004 and the 12 newer EU Member States – estimated numbers and indexed trends



NB: Years for which data were not collected are in grey. For more information, see Figure HSR-2 in the 2012 statistical bulletin.
Sources: Reitox national focal points.

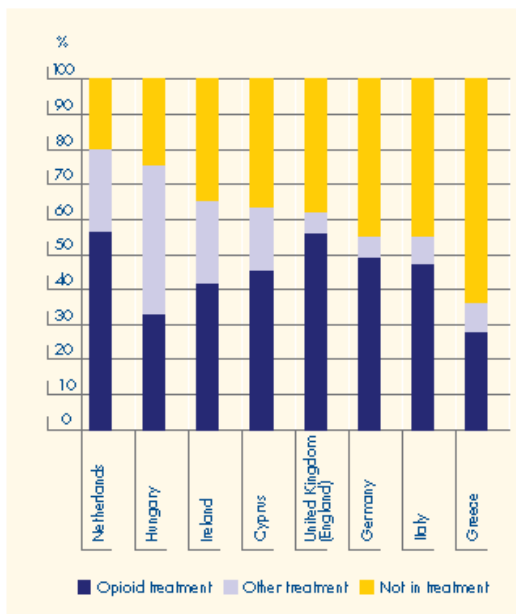
⁽¹⁰⁹⁾ See Table TDI-24 in the 2012 statistical bulletin.

⁽¹⁰¹⁾ See Table HSR-3 in the 2012 statistical bulletin.

⁽¹⁰²⁾ See Figure HSR-1 in the 2012 statistical bulletin.

(Figure 15). In Ireland, Cyprus, Hungary, the Netherlands and the United Kingdom (England), it is estimated that more than 60 % of problem opioid users are in treatment, while this proportion is estimated to be less than 40 % in Greece. The data also suggests differences in the treatment of choice for opioid dependence. Treatments other than opioid substitution, mostly drug-free modalities, represent less than 10 % of all treatments provided to problem opioid users in Germany, Greece, Italy and the United Kingdom (England). In Ireland, Cyprus and the Netherlands, treatments other than opioid substitution treatment represent between 15 % and 25 % of all treatments for problem opioid users, while in Hungary this proportion is 43 %. Correspondingly, while both Greece and Hungary report low coverage estimates for opioid substitution treatment (around 30 %), the proportions of problem opioid users that are estimated to be not in contact with any treatment service differ considerably: from over 60 % in Greece compared with around 25 % in Hungary. This illustrates the need to consider both the level of substitution treatment available and the availability of other treatment approaches.

Figure 15: Treatment coverage of problem opioid users in selected European countries: proportion (%) of the estimated problem opioid-using population in or out of treatment



NB: Countries included for which there are reliable estimates of the population of problem opioid users, the number receiving substitution treatment and the total number of problem opioid users in treatment. For more information, see Figure HSR-1 in the 2012 statistical bulletin.
Sources: Reitox national focal points.

Lengthy waiting times for substitution treatment can be a significant barrier to treatment access. According to a survey carried out in 2011, limited availability of treatment and the lack of resources, as well as delays due to procedural reasons, are the main causes for lengthy waiting times. Experts from 12 of the 29 reporting countries estimated that the average waiting time was less than two weeks, and in a further six countries it was estimated to be between two weeks and one month. In another five countries (Lithuania, Hungary, Romania, Finland, Norway), the waiting time was one to six months, while waiting times in Greece exceeded six months. National average waiting times may, however, mask considerable regional variation. For example, in Athens and Thessaloniki, waiting times were estimated to have reached about three years, due to limited capacity, though shorter waiting times in 2010 were reported in other Greek cities. Experts from four countries could not provide an estimate of waiting times.

In Europe, methadone is the most commonly prescribed opioid substitute, received by up to three quarters of substitution clients. Buprenorphine-based substitution medications are prescribed to up to a quarter of European substitution clients, and are the principal substitution medications in the Czech Republic, Greece, France, Cyprus, Finland and Sweden⁽¹⁰³⁾. The combination buprenorphine-naloxone is available in 15 countries. Treatments with slow-release morphine (Bulgaria, Austria, Slovenia), codeine (Germany, Cyprus) and diacetylmorphine (Belgium, Denmark, Germany, Spain, Netherlands, United Kingdom) represent a small proportion of all treatments.

Opioid detoxification, effectiveness and outcomes

There is increasing evidence that opioid detoxification has better outcomes when supported by psychotherapy and followed by pharmacological relapse prevention. A recent review of studies found that this treatment combination can help patients to complete treatment, to reduce their use of opioids, and to remain abstinent at follow-up (Amato et al., 2011). Furthermore, the number of clinical absences during treatment was lower in the patients offered psychosocial support. Day and Strang (2011) found that inpatient settings were more effective than outpatient settings in helping clients to complete detoxification (51 % versus 36 % in the outpatient group).

Prevention of relapse after heroin detoxification can be supported by naltrexone, an opioid antagonist. However, medication compliance and retention rates

⁽¹⁰³⁾ See Table HSR-3 in the 2012 statistical bulletin.

with naltrexone treatment in the overall study populations remain low. Naltrexone was found to be effective for those obliged to comply with treatment in order to avoid major consequences, for example health professionals, and individuals under legal supervision (Minozzi et

al., 2011). While, overall, detoxification for opioid dependence seems to be less effective than substitution treatment, the World Health Organisation (2009), nevertheless, recommends that detoxification is offered as an option to motivated clients seeking treatment.

Quality of life in drug users in substitution treatment

Opioid-dependent drug users, as a group, experience a lower quality of life compared to that of the general population and people with other medical illnesses. This has been the focus of recent studies in Germany, Latvia and the United Kingdom, with the results providing support for the value of substitution treatment. Poor quality of life factors are also predictors of relapse, especially among older drug users (EMCDDA, 2010d). A recent systematic review (De Maeyer et al., 2010) showed that participation in treatment improved individuals' quality of life starting from the first months of treatment. All

of the substitution treatment options appeared to be equally effective in improving quality of life, although those prescribed methadone usually experienced improvements earlier (after about one month) than those receiving buprenorphine. In subjective reports, however, buprenorphine was rated more highly than methadone, possibly due to the lack of a need to administer the drug daily. Attaining good quality of life outcomes is a key target in drug treatment, and this can benefit from further research into the relative effectiveness of the available substitution options.

Chapter 7

Drug-related infectious diseases and drug-related deaths

Introduction

Drug use is associated, both directly and indirectly with a range of negative health and social consequences. Problems are disproportionately found among long-term users of opioids, some forms of stimulants and among those who inject. The use of opioid drugs in particular is associated with drug overdose deaths, and the scale of this problem is illustrated by the fact that, over the last decade, Europe has experienced about one overdose death every hour. However, it is also important to remember that chronic drug users are also at a far greater risk of dying from other causes, including organic diseases, suicide, accidents and trauma. Regardless of the substance used, drug injecting continues to be an important vector for the transmission of infectious diseases, including HIV and hepatitis C, with new HIV outbreaks recently experienced by some European countries underlining the importance of maintaining effective public health responses in this area.

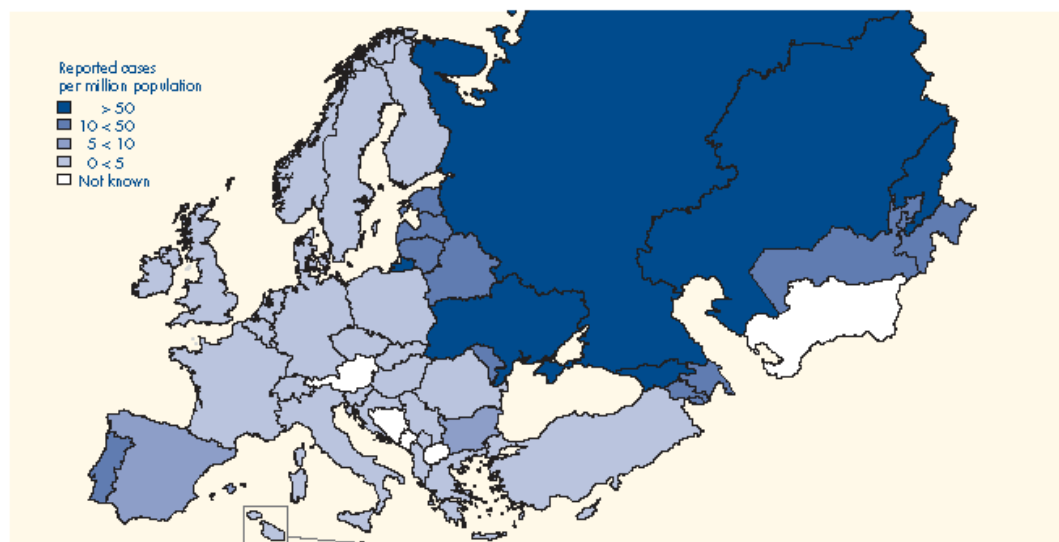
Drug-related infectious diseases

The EMCDDA is systematically monitoring infection with HIV and hepatitis B and C viruses among injecting drug users⁽¹⁰⁴⁾. The morbidity and mortality caused by these infections are among the most serious health consequences of drug use. Other infectious diseases may also disproportionately affect drug users, including hepatitis A and D, sexually transmitted diseases, tuberculosis, tetanus, botulism, anthrax and human T-lymphotropic virus infection.

HIV and AIDS

By the end of 2010, the rate of reported new HIV diagnoses among injecting drug users remained low in most countries of the European Union, and the overall EU situation compares positively both in a global and wider European context (Figure 16).

Figure 16: HIV infections newly diagnosed in injecting drug users in 2010 in Europe and Central Asia



NB: Colour indicates the rate per million of population of reported newly diagnosed HIV cases attributed to the injecting drug use risk group that were diagnosed in 2010. Data for Albania, Turkey and the Russian Federation are for 2009.
Source: ECDC and WHO, 2011.

⁽¹⁰⁴⁾ For details on methods and definitions, see the 2012 statistical bulletin.

The average rate of newly diagnosed cases in the 26 EU Member States able to provide data for 2010 reached a new low of 2.54 per million, or 1 192 newly reported cases ⁽¹⁰⁵⁾. This compares with rates of 19.7 per million in the US (CDC, 2009), 104.3 per million in Russia, both for 2009, and 151.5 per million in Ukraine in 2010 (ECDC and WHO, 2011). The available data on the prevalence of HIV in samples of injecting drug users in the European Union also compare positively with prevalence in neighbouring countries in the east ⁽¹⁰⁶⁾, although comparisons between countries should be undertaken with caution due to differences in study methodology and coverage.

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 several countries, may also have played an important role (EMCDDA, 2010e).

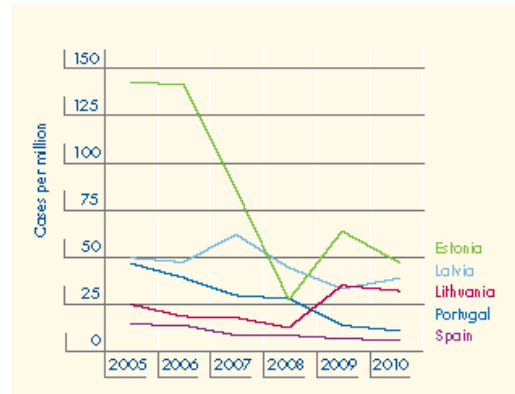
Despite this overall positive picture, new data suggest that HIV transmission related to injecting drug use continued in 2010, with two countries in particular (Greece, Romania) reporting new outbreaks of HIV infection among injecting drug users in 2011 ⁽¹⁰⁷⁾. In both countries, these outbreaks were preceded by increases in the prevalence of the hepatitis C virus (HCV) among injecting drug users, suggesting that rising HCV prevalence may act as an early indicator of increases in injecting risks among injecting drug user populations, possibly before HIV has started to spread (Vickerman et al., 2010).

Trends in HIV infection

Data on reported newly diagnosed cases related to injecting drug use for 2010 suggest that, overall, infection rates are still falling in the European Union, following a peak in 2001–02. Of the five countries reporting the highest rates of newly diagnosed infections among injecting drug users between 2005 and 2010, Spain and Portugal continued their downward trend, while, among the others, only Latvia reported a small increase (Figure 17) ⁽¹⁰⁸⁾.

These data are positive, but they must be viewed in the knowledge that potential for new HIV outbreaks among injectors continues to exist in some countries. Taking a two-year perspective (between 2008 and 2010),

Figure 17: Trends in newly reported HIV infections in injecting drug users in the five EU Member States reporting the highest rates



NB: Data reported by end of October 2011, see Figure INF2 in the 2012 statistical bulletin.
 Source: ECDC and WHO, 2011.

increases were observed in Estonia, from 26.8 cases per million to 46.3 per million, and in Lithuania, from 12.5 cases per million to 31.8 per million. Bulgaria, a country with, historically, a very low rate of infection, also saw a peak of 9.7 per million in 2009, before falling back to 7.4 per million in 2010.

Prevalence data from samples of drug injectors are available for 25 European countries over the period 2005–10 ⁽¹⁰⁹⁾, and although sampling differences mean this information needs to be carefully interpreted, it does provide a complementary data source. In 17 of these countries, HIV prevalence estimates remained unchanged. In seven (Germany, Spain, Italy, Latvia, Poland, Portugal, Norway), HIV prevalence data showed a decrease. Only one country (Bulgaria) reported increasing HIV prevalence: in the capital city, Sofia, consistent with the increase in cases of newly diagnosed infections. The increases in HIV transmission in Greece and Romania reported in 2011 were not observed in HIV prevalence or case reporting data before 2011. Possible further indications of ongoing HIV transmission were observed among small samples of young injecting drug users (aged under 25) in six countries: prevalence levels above 5 % were recorded in Estonia, France, Latvia, Lithuania and Poland, and increasing prevalence in Bulgaria, over the period 2005–10.

⁽¹⁰⁵⁾ Data for Austria and Turkey are not available. For the EU Member States plus Croatia, Turkey and Norway, the rate was 2.52 cases per million population, or 1 204 newly reported cases in 2010.
⁽¹⁰⁶⁾ See Tables INF-1 and INF-108 and Figure INF-3 (part i) in the 2012 statistical bulletin.
⁽¹⁰⁷⁾ See the box ‘HIV outbreaks in Greece and Romania’.
⁽¹⁰⁸⁾ Data for Spain do not have national coverage. The recent increase in Estonia may be due to changes in the surveillance systems since 2009; however, to what extent is unclear.
⁽¹⁰⁹⁾ Trend data are not available for Estonia, France, Ireland, the Netherlands and Turkey. See Table INF-108 in the 2012 statistical bulletin.

HIV outbreaks in Greece and Romania

In 2011, early warning systems detected outbreaks of HIV transmission in Greece and Romania prompting speedy responses in both countries. Responding to a call from the European Commission, the ECDC and the EMCDDA produced a rapid assessment of the risks of further HIV outbreaks in Europe (EMCDDA and ECDC, 2012).

The numbers of newly diagnosed drug injectors infected with HIV increased from 9–19 per year until 2010 to 241 cases in 2011 in Greece, and from 1–6 cases per year until 2010 to 114 cases in 2011 in Romania. While these increases occurred against a background of low levels, or reductions, in the provision of prevention services in Greece and Romania, other factors, such as increased stimulant use, may also have played a role.

In response to the outbreaks, Greece substantially increased the coverage of needle and syringe programmes and drug treatment capacity, with 22 new opioid substitution units launched by December 2011.

The rapid risk assessment report suggested that the possibility exists for similar outbreaks to occur in some other EU countries, given the increases in reported hepatitis C infection (an indicator of injection risk) and low coverage of HIV prevention services.

AIDS incidence and access to HAART

Information on the incidence of AIDS, though a poor indicator of HIV transmission, can be important for showing the new occurrence of symptomatic disease. High incidence rates of AIDS 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. A global review suggests that this may still be the case in some European countries (Mathers et al., 2010).

Latvia continues to be the country reporting the highest incidence of AIDS related to injecting drug use, with an estimated 27.1 new cases per million population in 2010, up from 20.8 per million a year earlier. Relatively high AIDS incidence among injecting drug users is also reported for Estonia (9.7 new cases per million population), Portugal (8.3), Lithuania (6.0) and Spain (5.7), although the 2005 to 2010 trend was downward in all of these countries⁽¹¹⁹⁾.

Hepatitis B and C

Viral hepatitis, in particular infection caused by the hepatitis C virus (HCV), is highly prevalent in injecting drug users across Europe (Figure 18). HCV antibody

levels among national samples of injecting drug users in 2009–10 varied from 1.4 % to 70 %, with seven of the 11 countries with national data (Greece, Italy, Cyprus, Austria, Portugal, Finland, Norway), reporting prevalence over 40 %⁽¹²⁰⁾, a level that may indicate that injecting risks are sufficient for HIV transmission (Vickerman et al., 2010). HCV antibody prevalence levels of over 40 % were also reported in the most recent national data available for Denmark, Luxembourg and Croatia and in nine other countries providing sub-national data (2005–10). The Czech Republic, Hungary, Slovenia (all national, 2009–10) and Turkey (sub-national, 2008) report HCV prevalence of under 25 % (5–24 %), although infection rates at this level still constitute a significant public health problem.

Over 2005–10, declining HCV prevalence in injecting drug users at either national or sub-national level was reported in six countries, while five others observed an increase (Bulgaria, Greece, Cyprus, Austria, Romania). Italy reported a decline at national level between 2005 and 2009 — more recent data are not available — with increases in three of the 21 regions (Abruzzo, Umbria, Valle d'Aosta).

Studies on young injectors (under 25) suggest a decline in prevalence of HCV at sub-national level in Slovakia, which may indicate falling transmission rates. Increases among young injecting drug users were reported in Bulgaria, Greece, Cyprus and Austria, although sample sizes in Greece, Cyprus and Austria were small. Increasing HCV prevalence among new injecting drug users (injecting for less than two years) was reported in Greece (nationally and in one region)⁽¹²¹⁾. These studies, while difficult to interpret for methodological reasons, do illustrate that many injectors continue to contract the virus early in their injecting career, suggesting that the time window for initiating HCV prevention measures may often be small.

Trends in notified cases of hepatitis B and C are difficult to interpret as data quality is low. 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 (Wiesing et al., 2008). Averaged across the 16 countries for which data are available for the period 2009–10, injecting drug use accounts for 48 % of all HCV cases and 32 % of the acute HCV cases notified (where the risk category is known). For hepatitis B, injecting drug users represent 6 % of all notified cases and 12 % of acute cases. These data confirm that injecting drug users continue to form an important at-risk group for viral hepatitis infection in Europe⁽¹²²⁾.

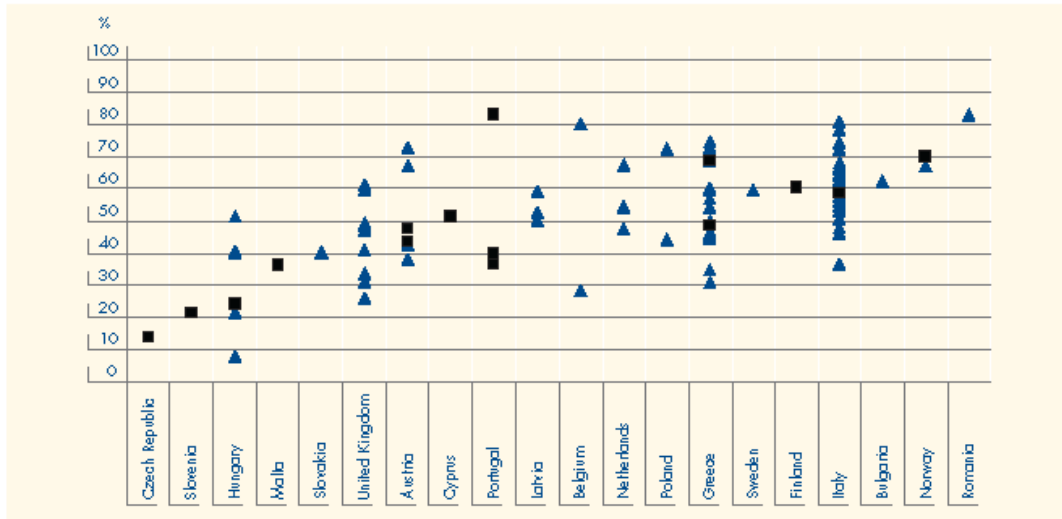
⁽¹¹⁹⁾ See Table INF-104 (part ii) and Figure INF-1 (part i) in the 2012 statistical bulletin.

⁽¹²⁰⁾ See Tables INF-2 and INF-111 and Figure INF-6 (part i) in the 2012 statistical bulletin.

⁽¹²¹⁾ See Tables INF-112 and INF-113 and Figure INF-6 (part ii) and (part iii) in the 2012 statistical bulletin.

⁽¹²²⁾ See Tables INF-105 and INF-106 in the 2012 statistical bulletin.

Figure 18: Prevalence of HCV antibodies among injecting drug users



NB: Data for the years 2009 and 2010. Black squares are samples with national coverage; blue triangles are samples with sub-national (local or regional) coverage. Differences between countries have to be interpreted with caution owing to differences in types of settings and study methods; national sampling strategies vary. Countries are presented in order of increasing prevalence, based on the average of national data or, if not available, of sub-national data. For more information, see Figure INF-6 in the 2012 statistical bulletin.

Sources: Reitox national focal points.

Other infections

In addition to viral infections, injecting drug users are vulnerable to bacterial diseases. The outbreak of anthrax among injecting drug users in Europe (see EMCDDA, 2010a) has highlighted an ongoing problem with severe illness due to spore-forming bacteria among injectors. A European study on four bacterial infections (botulism, tetanus, *Clostridium novyi*, and anthrax) found large variations in rates in injecting drug users between countries in 2000–09, with an unexplained concentration of reported cases in the northwest of Europe: Ireland, United Kingdom and Norway (Hope et al., 2012).

In Europe, tuberculosis, a bacterial disease usually attacking the lungs, is predominantly concentrated in high-risk groups, such as migrants, homeless people, drug users and prisoners. Being HIV-positive increases the risk of developing the disease by a factor of 20 to 30 (WHO, 2010). Data on the prevalence of active tuberculosis among drug users in treatment are available for five countries, where it varies from zero (Austria, Slovakia) to 3.1 % (Lithuania), with intermediate levels in Greece (0–0.5 %) and Portugal (0.1–1 %). In addition, Norway reported that cases are ‘very rare’. Moreover, four countries report the proportion of ‘drug users’ among new tuberculosis cases with known risk factor information in 2010: 0.9 % in Hungary, 1.2 % in Belgium (injecting drug

users), 3.3 % in the United Kingdom (England and Wales, problem drug users) and 5.9 % in Latvia.

Preventing and responding to infectious diseases

The prevention of infectious diseases among drug users is an important public health goal of the European Union and a component of most Member States’ drug policies. Countries aim to prevent and control the spread of infectious diseases among drug users by a combination of approaches including: the provision of sterile drug injection equipment; vaccination, testing and treatment of infectious diseases; and drug treatment, particularly opioid substitution treatment. In addition, outreach or low-threshold agencies provide information, education and behavioural interventions. These measures have been promoted by EU agencies as the core interventions for HIV and hepatitis prevention, treatment and care for injecting drug users (ECDC and EMCDDA, 2011).

Interventions

The effectiveness of opioid substitution therapy in reducing HIV transmission and self-reported injecting risk behaviour has been confirmed in several studies and reviews. There is growing evidence that the combination of opioid

substitution treatment and needle and syringe programmes is more effective in reducing HIV or HCV incidence and injecting risk behaviour than either approach alone (ECDC and EMCDDA, 2011).

In Europe, the availability and coverage of needle and syringe programmes are increasing: of the 30 countries responding to a survey in 2011, 26 indicate needle and syringe programmes as a priority, compared with 23 countries in 2008. In Sweden, where syringe exchange programmes have been operational since 1986, but limited to Skåne County, a new programme in Stockholm was scheduled to open in 2011. Overall, while experts consider current levels of syringe provision as meeting the needs of the majority of injecting drug users in two thirds of European countries, national experts in five countries indicated that free, sterile syringes and other clean drug injection equipment would be available only to a minority of injecting drug users. Nonetheless, during the period 2008–11, the number of countries reporting full or extensive coverage of needle and syringe programmes increased by a third, from 15 to 20.

Information on the number of syringes distributed by specialised programmes in 2005 and 2010 is available for 22 EU countries and Norway⁽¹¹⁴⁾. In this subset of countries, a large increase was seen in the number of syringes given out: from 34.5 million in 2005 to more than 51 million in 2010 (37 %). This overall increase may hide different subregional trends: in the 10 countries for which reliable injecting drug use estimates are available, the number of syringes handed out by specialised programmes in 2010 is equivalent to 110 syringes per injecting drug user⁽¹¹⁵⁾.

In Europe, few active injecting drug users receive hepatitis C antiviral treatment. However, advances in the treatment of the disease⁽¹¹⁶⁾ and a growing evidence base for its effectiveness among injecting drug users, including modelling studies that suggest the possibility of reducing the transmission of the virus (Martin et al., 2011), indicate the potential for extending strategies to treat hepatitis C among injecting drug users.

Voluntary counselling combined with confidential testing is identified by national experts as a priority in responding to hepatitis C in injecting drug users in 19 countries. Since 2008, there has been an increase of over 50 % in the number of countries where experts indicate sufficient HCV-testing coverage, and a small increase in the number of countries reporting that at least half of the target population would receive infectious disease risk

counselling. Among injecting drug users taking part in the Unlinked Anonymous Monitoring survey in England in 2010, 83 % reported having undertaken a voluntary confidential HCV test, compared with 49 % in 2000.

Furthermore, 55 % of those infected with HCV were aware of their status in 2010, compared with 40 % in 2000 (HPA, 2011). In Budapest, a unique harm-reduction programme was initiated in 2010, with female outreach workers providing HIV and hepatitis B and C testing targeted at females who inject drugs or are related to injecting drug users.

In contrast to HCV, a safe and effective vaccine exists to prevent the spread of hepatitis B virus (HBV). Currently, 25 European countries incorporate hepatitis B into national vaccination programmes, and 16 report that specific HBV vaccination programmes for injecting drug users exist⁽¹¹⁷⁾.

Drug-related deaths and mortality

Drug use is one of the major causes of health problems and mortality among young people in Europe. Mortality related to drug use comprises the deaths caused directly or indirectly by the use of drugs. This includes deaths from drug overdoses (drug-induced deaths), HIV/AIDS,

Hepatitis C treatment for injecting drug users: new pharmaceuticals

Patients with chronic hepatitis C virus (HCV) infection, including injecting drug users, can be treated using pharmacological therapy.

First introduced in 2001, pegylated interferons (PEG-IFN) alpha-2a and alpha-2b have become the standard treatment for chronic hepatitis C. In Europe, these two forms of PEG-IFN are licensed for use with differing doses of oral ribavirin (depending on the HCV genotype), and with slightly different dose recommendations. PEG-IFN alpha plus ribavirin is considered the best treatment available. It has been shown to be effective in at least 50 % of those treated (Rosen, 2011), achieving comparable response rates in HCV-infected injecting drug users (Hellard et al., 2009). Successfully treated patients maintain low viral loads for several months after treatment, and can have a reasonable quality of life, provided that they maintain a healthy lifestyle. The combined therapy, however, may be toxic, and it is partly to overcome the side effects, but also to enhance existing HCV treatment, that researchers are exploring other therapeutic strategies. The interventions under study include the protease inhibitors telaprevir and boceprevir, approved in the United States in 2011, after positive results in clinical trials (Rosen, 2011).

⁽¹¹⁴⁾ See Table HSR-5 (part i) and (part ii) in the 2012 statistical bulletin.

⁽¹¹⁵⁾ See Figure HSR-3 in the 2012 statistical bulletin.

⁽¹¹⁶⁾ See the box 'Hepatitis C treatment for injecting drug users: new pharmaceuticals'.

⁽¹¹⁷⁾ See Table HSR-6 in the 2012 statistical bulletin.

accidents, violence, suicide and chronic health problems caused by repeated use of drugs⁽¹¹⁸⁾. Such deaths are mainly concentrated among problem drug users, although some (e.g. traffic accidents) occur among occasional users.

Estimates of overall drug-related mortality can be derived in various ways, for example by combining information from mortality cohort studies with estimates of drug-use prevalence. Another approach is to use existing general mortality statistics and estimate the proportion related to drug use. 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⁽¹¹⁹⁾.

Depending on recruitment settings (e.g. drug treatment facilities) and enrolment 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. Drawing on an analysis of data from over 30 cohort studies following patients up to 2010, it was estimated that 10 000–20 000 opioid users die each year in Europe (EMCDDA, 2011c). Typically, annual mortality rates are 10–20 per 1 000 person-years, representing an excess mortality 10 to 20 times greater than expected. Most deaths occur among males in their mid-thirties. Four broad categories of cause of death can be identified: overdose, disease, suicide and trauma. The relative importance of the different causes of death varies across populations, between countries and over time. Generally, though, the main and most well-documented cause of death among problem drug users in Europe is drug overdose.

Drug-induced deaths

The most recent estimates suggest that there were about 7 000 overdoses or drug-induced deaths in 2010 in the EU Member States and Norway, indicating a decrease when compared with the more than 7 600 cases reported in 2009⁽¹²⁰⁾. The numbers are likely to be conservative as national data may be affected by under-reporting or under-ascertainment of drug-induced deaths. In the EU Member States and Norway, between 6 300 and 8 400 drug-induced deaths were reported each year during the period 1996–2009. In 2009, the most recent

year for which data are available for almost all countries, more than half of all reported drug-induced deaths were accounted for by Germany and the United Kingdom.

In 2010, the average EU mortality rate due to overdoses is estimated at 20 deaths per million population aged 15–64 years, with considerable differences between countries. Rates of over 20 deaths per million are found in 14 out of 30 European countries, and rates of over 40 deaths per million in seven countries.

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 23 countries providing data in 2009 or 2010, opioids accounted for the large majority of all cases, with 15 countries reporting proportions of 80 % or more, of which six were over 90 %. Substances often found in addition to heroin include alcohol, benzodiazepines, other opioids and, in some countries, cocaine. This suggests that a substantial proportion of all drug-induced fatalities occur in a context of polydrug use.

Men account for most overdose deaths reported in Europe (80 % overall)⁽¹²¹⁾. Patterns differ between countries, with a higher proportion of males reported in southern countries (Greece, Italy, Portugal, Romania, Croatia) and in Estonia, Latvia and Lithuania, as well as in Turkey. In the Member States that have joined the EU since 2004, reported drug-induced deaths are also more likely to occur among males and in younger people.

Denmark, Spain, the Netherlands and Norway report higher proportions of older cases of drug-induced deaths. In the majority of countries, the average age of those dying from heroin overdoses is mid-thirties and, in many countries, the average age is increasing. This suggests a stabilisation or decrease in the number of young heroin users, and an ageing cohort of problem opioid users. Overall, 11 % of overdose deaths reported in Europe occur among those aged under 25 years, and 57 % among those aged 35 and over⁽¹²²⁾.

A number of factors are associated with heroin overdoses, both fatal and non-fatal. These include injection, simultaneous use of other substances, in particular

⁽¹¹⁸⁾ See the 2011 'Selected issue' on mortality related to drug use.

⁽¹¹⁹⁾ For information on mortality cohort studies, see the Key indicators on the EMCDDA website.

⁽¹²⁰⁾ The European estimate is based on 2010 data for 20 of the 27 EU Member States, and 2009 data for seven others and Norway. Belgium is excluded as no data are available. For more information, see Table DRD-2 (part i) in the 2012 statistical bulletin.

⁽¹²¹⁾ As most of the drug-induced deaths reported to the EMCDDA are opioid overdoses (mainly heroin), the general characteristics of the reported deaths are presented here to describe and analyse deaths related to heroin use.

See Figure DRD-1 in the 2012 statistical bulletin.

⁽¹²²⁾ See Figures DRD-2 and DRD-3 and Table DRD-1 (part i) in the 2012 statistical bulletin.

alcohol and benzodiazepines, co-morbidity, previous experience of overdose, not being in drug treatment and homelessness. The time immediately after release from prison or discharge from drug treatment is a particularly risky period for overdoses, as illustrated by a number of longitudinal studies (EMCDDA, 2011c). There is also increased risk of death associated with being alone at the time of overdose.

Other opioids

Besides heroin, a range of other opioids are found in toxicological reports, including methadone (EMCDDA, 2011a) and, more rarely, buprenorphine ⁽¹²³⁾. There is increasing international concern (particularly in Australia, Canada and the United States) about deaths associated with the misuse of prescription painkillers such as oxycodone. In Europe, while evidence of deaths resulting from the use of prescribed opioid analgesics remains limited, there have been 'outbreaks' of overdoses linked to synthetic opioids, such as illegally produced 3-methylfentanyl in Estonia, in recent years, pointing to the need to closely monitor changes in patterns of drug use that may be associated with elevated risks of mortality.

Deaths related to other drugs

Deaths caused by acute cocaine poisoning seem to be relatively uncommon, and cocaine is very rarely identified as the only substance contributing to a drug-induced death. But, as cocaine overdoses are more difficult to define and identify than those related to opioids, they may be under-reported (see Chapter 5).

For 2010, at least 640 deaths related to cocaine were reported in 16 countries. Due to the limited comparability in the available data, it is difficult to describe the European trend. The most recent data for Spain and the United Kingdom, the two countries with the highest levels of cocaine prevalence, confirm a decrease in deaths related to the drug observed since 2008.

Deaths in which stimulants other than cocaine are present, such as amphetamines and ecstasy (MDMA), are infrequently reported and, in many of these cases, the drug has not been identified as the direct cause of death ⁽¹²⁴⁾. The advent of the availability of currently uncontrolled psychoactive substances has also been associated in media and toxicological reports of drug-related deaths, although monitoring in this area is difficult. Deaths associated with cathinones, including

mephedrone and MDPV have been reported, but not in great numbers. Some deaths have also been linked to other new substances, a recent example of which is 4-methylamphetamine, where mortality data has prompted the EMCDDA and Europol to undertake a European-level assessment ⁽¹²⁵⁾.

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 ⁽¹²⁶⁾. Between 2000 and 2003, most EU Member States reported a decrease, followed by a subsequent increase from 2003 until 2008/09 when levels stabilised. Preliminary data available for 2010 suggest an overall figure below that for 2009, with a continued decrease in the numbers of deaths reported in Germany, Spain, Italy, the Netherlands, Austria, the United Kingdom and Turkey.

A majority of the countries with above-average mortality rates in 2010 are located in the north of Europe, while many of the countries with rates below the European average are located in southern Europe. Data are presented in Figure 19 for a selection of countries that joined the European Union before 2004 and Norway. Due to methodological differences, caution must be exercised when comparing countries.

Assessing trends in the newer EU Member States and candidate countries is more difficult, as the number of reported deaths is small and improvements in reporting capacity may reduce the comparability of data over time. Despite these difficulties, an increase has been observed in the mortality rate linked to drug-induced deaths in Estonia and, to a lesser extent, in the Czech Republic, Lithuania, Hungary, Croatia and Turkey.

The sustained numbers of reported drug-induced deaths in some countries 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. Possible explanations include: increased levels of polydrug use (EMCDDA, 2009b) or high-risk behaviour; increases in the numbers of relapsing opioid users leaving prison or treatment; and an ageing cohort of more vulnerable drug users.

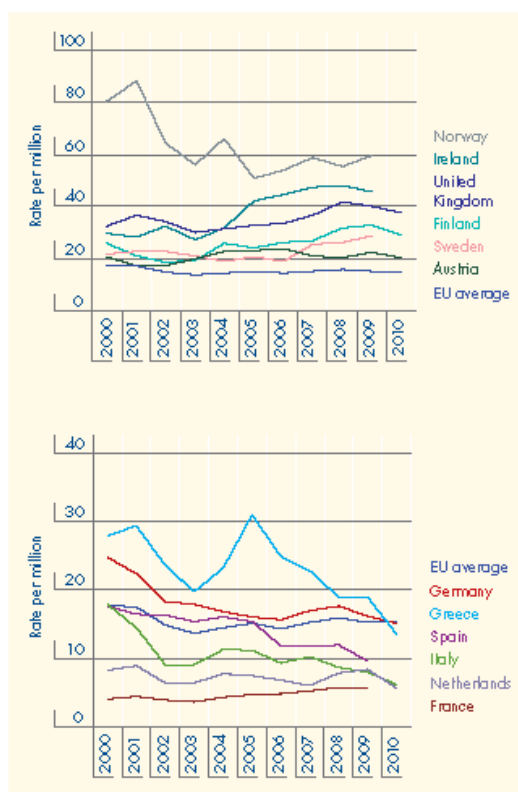
⁽¹²³⁾ See Table DRD-108 in the 2012 statistical bulletin.

⁽¹²⁴⁾ For data on deaths related to drugs other than heroin, see Table DRD-108 in the 2012 statistical bulletin.

⁽¹²⁵⁾ For more information on new substances and the European early warning system, see Chapter 8.

⁽¹²⁶⁾ See Figures DRD-8 and DRD-11 in the 2012 statistical bulletin.

Figure 19: Trends in mortality rates in the general population due to drug-induced deaths in a selection of pre-2004 EU Member States and Norway — countries with rates above the EU average in 2010 (top) and below EU average (bottom)



NB: The EU average is computed for the 27 EU Member States and Norway. The 2010 figure is provisional, as data were available for only 20 countries. Data are presented for Norway and the pre-2004 Member States with more than 100 drug-induced deaths reported in the most recent year.

Deaths indirectly related to drug use

By combining existing data from Eurostat and HIV/AIDS surveillance, the EMCDDA has estimated that about 1 830 people died of HIV/AIDS attributable to drug use in the European Union in 2009⁽¹²⁷⁾, with almost 90 % of these deaths occurring in Spain, France, Italy and Portugal. Among the countries with estimated rates far above the other countries, mortality rates due to HIV/AIDS attributed to injecting drug use decreased in Spain, Italy and Portugal, but they increased in Latvia and Lithuania, compared with 2008. The recently reported outbreaks of HIV cases among injecting drug users in

Greece and Romania (EMCDDA and ECDC, 2012) needs close monitoring with regard to patient care and levels of HIV/AIDS-related deaths.

Other diseases that also account for a proportion of deaths among drug users include chronic conditions such as liver diseases, mainly due to infection with the hepatitis C virus (HCV) and often worsened by heavy alcohol use and HIV co-infection. The consequences of HCV infection can be particularly serious for drug users, with evidence suggesting that it can double their risk of a drug-related death, and that it may account for the elevated risk of drug-related death among older drug users (Merrall et al., 2012). Deaths caused by other infectious diseases are rarer. Causes of death among drug users such as suicide and trauma as well as homicide have received much less attention, despite indications of a considerable impact on mortality.

While the long-term trend in HIV-related mortality among drug users is downwards, other causes of mortality have shown little sign of decreasing in recent years, despite the scaling up of treatment, notably opioid substitution treatment, and other services. A number of interrelated factors may help explain this intractable problem. In addition to those mentioned earlier, specifically on the risk factors for drug-induced deaths, these factors include: the use of alcohol and other drugs; high levels of ill-health; co-morbidity; and social exclusion and marginalisation. More effort is required to better understand and target both the direct and indirect factors associated with mortality among problem drugs users if this major health cost associated with drug consumption is to be reduced in Europe.

Reducing drug-related deaths

Reducing the loss of life due to drug use is a key policy priority in the majority of European countries, with 16 reporting that it is a focus in their national or regional drug policy documents, or that it is the subject of a specific action plan. In some other European countries, such as Austria and Norway, increases in drug-related deaths observed in previous years have raised awareness of the need for improved responses.

Being in drug treatment significantly reduces the mortality risk of drug users and, due to its better pharmacological safety profile, buprenorphine is the recommended medication for opioid maintenance in some countries⁽¹²⁸⁾. A buprenorphine-naloxone⁽¹²⁹⁾ combination has obtained marketing authorisation in half of the European

⁽¹²⁷⁾ See Table DRD-5 (part iii) in the 2012 statistical bulletin.

⁽¹²⁸⁾ See treatment guidelines on the Best practice portal.

⁽¹²⁹⁾ Naloxone reverses the effects of opioids, and is widely used in hospitals and emergency medicine.

countries⁽¹²⁹⁾. Considerable risks have also been identified, related to drug tolerance, for drug users entering or leaving treatment. Studies show that the risk of drug-induced death on relapse after treatment or in the weeks after release from prison is substantially elevated.

Alongside improving access to drug treatment, other interventions to reduce overdose risks among drug users include the provision of training, and overdose risk information. Overdose training combined with a take-home dose of naloxone is an intervention that can prevent deaths from opioid overdose. In 2011, two thirds of European countries reported that ambulance personnel are trained in naloxone use; in just over half of these countries, naloxone is reported to be one of the standard medications carried in ambulances. Only Italy, Romania and the United Kingdom report the existence of community-based harm-reduction programmes that provide take-home naloxone to opioid users, their family members and carers. Legal barriers remain in place in other European countries, including Estonia, which has the highest drug-related mortality rate among adults (15–64) in the European Union. However, it was demonstrated in the United Kingdom that, with minimal training, healthcare professionals, including drug workers, can increase their knowledge, skills and confidence for managing an opioid overdose and administering naloxone (Mayet et al., 2011).

The majority of countries report the distribution of overdose risk information — often in several languages in order to reach migrant drug users — through specialised drugs agencies and websites and, more recently, also through telephone messaging and e-mail. Between 2008 and 2011, three additional countries reported full or extensive coverage of overdose risk information materials.

Additional care and support may also be required to meet the needs of vulnerable groups of drug users, such as HCV-infected and older drug users. Overdose risk assessment by trained drug or health workers can assist the early identification of high-risk individuals, and potentially act as a catalyst for reducing harm. While national experts indicate that provision of overdose risk assessment is sufficient to meet the needs of the majority of opioid users in less than half of the European countries, this marks a significant increase (44 %) between 2008 and 2011.

Highly targeted interventions, such as supervised injecting facilities, reach specific subgroups of highly marginalised drug users and contribute to reducing morbidity and mortality. In Denmark, a mobile injection room, providing a safer injecting environment and medical supervision was established in Copenhagen in 2011 by a private organisation⁽¹³⁰⁾. Similar to the supervised drug consumption facilities in Germany, Spain, Luxembourg, the Netherlands and Norway, the new facility in Denmark is equipped to reduce the impact of non-fatal overdoses.

⁽¹²⁹⁾ See Table HSR-1 in the 2012 statistical bulletin.

⁽¹³⁰⁾ For more information, see the Mobile Fixerum website.

Chapter 8

New drugs and emerging trends

Introduction

Within Europe, and globally, new drugs and new patterns of drug use are attracting increasing political, media and public attention. In part, this has been fuelled by developments in communication technologies, which have impacted on all aspects of modern life including, now, the nature of the drug market and consumer demand. Against this rapidly shifting background, the provision of timely and objective information on new drugs and emerging trends has become even more important. The European response to this is based on an early warning network, which uses information from a range of sources, including forensic science, surveys, Internet monitoring, and hospital emergency data.

Action on new drugs

The European Union's early warning system has been developed as a rapid-response mechanism to the emergence of new psychoactive substances. Following a review of the system in 2011, the European Commission is working on a new instrument to replace Council Decision 2005/387/JHA⁽¹²⁾.

New psychoactive substances

Between 2005 and 2011, 164 new psychoactive substances were formally notified through the early warning system. In 2011, for the third consecutive year, a record number of substances (49) were detected for the first time in Europe, up from 41 substances in 2010 and 24 in 2009.

This marked increase in the number of substances notified is occurring in the context of a continually developing 'legal high' phenomenon, and reflects both the number of substances that have been launched on the European drugs market and the improved reporting capacities of national early warning systems. The presence of some of these new drugs on the market has been detected through test purchases of 'legal high' products on the Internet and from specialised shops. In most cases, however, they were detected through forensic analysis of seizures.

No first identifications in biological samples (blood, urine) were reported in 2010 or 2011, whereas a quarter of the substances notified in 2009 were detected in biological samples.

New drugs discourse: new psychoactive substances or 'legal highs'?

There are a number of terms used to describe new drugs, and some EMCDDA definitions for concepts in common usage are provided below.

Within the terms of the European Union's early warning system, a new psychoactive substance is defined as a new narcotic drug or a new psychotropic drug that has not been scheduled under the 1961 and 1971 United Nations international drug control conventions, and which may pose a threat to public health comparable to the substances listed therein⁽¹⁾.

The term 'designer drug' appeared in the 1980s with the emergence of the 'ecstasy' compounds (MDMA and others) on the illicit drug market. It refers to unregulated psychoactive substances designed to mimic the effects of controlled drugs by slightly altering their chemical structure in order to circumvent existing controls. The term implied that these substances are typically manufactured from chemical precursors in a clandestine laboratory.

The EMCDDA defines 'legal highs' as an umbrella term for unregulated psychoactive substances or products claiming to contain them, which are specifically intended to mimic the effects of controlled drugs. The term encompasses a wide range of synthetic and plant-derived substances, which are usually sold on the Internet or in smart or head shops. Describing these substances as 'legal' can be incorrect or misleading: some products may contain substances controlled under drug legislation, while others may be covered by medicines or food safety laws (EMCDDA, 2011a).

Other terms used include 'herbal highs', which emphasises the purported natural origin of a product.

To circumvent consumer and marketing regulations, new psychoactive substances are also sold under various product labels, such as 'research chemicals', 'bath salts' and 'plant food'.

⁽¹⁾ Council Decision 2005/387/JHA provides a legally binding definition of the substances it covers.

⁽¹²⁾ 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.

As in 2010, about two thirds of the newly notified substances reported in 2011 were synthetic cannabinoids or synthetic cathinones; these two groups also represent two thirds of all new substances reported to the early warning system since 2005 (EMCDDA and Europol, 2011). Synthetic cannabinoids are the largest of the six different groups monitored (see Figure 20). Also monitored are a number of medicines (e.g. phenazepam and etizolam), metabolites or precursors of medicines (5-hydroxytryptophan) and substances based on medicines (e.g. amfetamine – a derivative of fencamfamine). An example of this is methoxetamine, a ketamine derivative reported in 2010 and actively monitored by the early warning system, a substance with a potential for acute (Wood et al., 2012a) and chronic toxicity similar to that seen with ketamine.

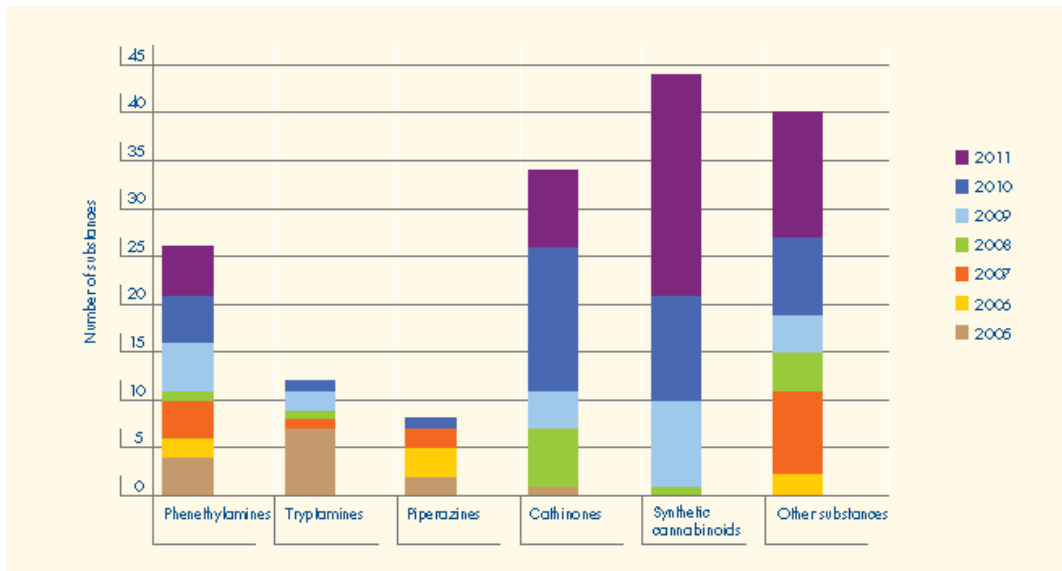
Production and supply of new drugs

Most new psychoactive substances appearing on the European illicit drugs market are reported to be synthesised outside Europe, with China and, to a lesser extent, India being identified as the primary source countries. European law enforcement agencies have uncovered facilities associated with the importation, mixing and packaging of these substances. Reports

indicate the involvement of organised crime in both the tableting and marketing of these substances, which are sold mainly as ‘legal highs’ on the Internet and in smart and head shops. In some cases, however, they are sold as illicit drugs such as ‘ecstasy’, using logos typically associated with this type of drug.

European law enforcement involvement in transnational cases related to the trafficking, mixing and packaging of new psychoactive substances are reported to have increased in recent years. Investigations focusing on mephedrone found that the drug was largely manufactured in China, often entering European countries in which it was controlled via a third country where it was not (Europol). Minor seizures, mainly of cathinones and synthetic cannabinoids, were reported by Germany, Estonia and Hungary, and from Denmark, concerning *mCPP* ⁽¹⁸⁾. Larger seizures, involving mainly unspecified new psychoactive substances, were reported by Latvia (about 5 kg) and Spain (seizure from a head shop totalling 96 kg) as well as a seizure of more than 20 kg of mephedrone originating from India in the Czech Republic. Other production-related facilities were dismantled or seized in Belgium, Ireland, Poland (5 kg of mephedrone) and the Netherlands, where 150 kg of white powders and approximately 20 000 packages containing several synthetic cannabinoids were seized at one facility.

Figure 20: Main groups of new psychoactive substances identified through the early warning system since 2005



NB: Number of new psychoactive substances notified to the European early warning system under Council Decision 2005/387/JHS. See EMCDDA online drug profiles for information about phenethylamines, tryptamines, piperazines, cathinones and synthetic cannabinoids. The category ‘other substances’ includes various plant-derived and synthetic psychoactive substances, which do not strictly belong to any of the other chemical families, and a small number of medicinal products and derivatives.
Source: Early warning system.

⁽¹⁸⁾ 1-(3-chlorophenyl)piperazine.

On occasion, seized substances, sold as 'plant food' or 'research chemicals', have been found to contain controlled drugs, in particular cathinones and piperazines. One example is the detection of PMMA in 'legal high' products, which clearly poses a threat to users (EMCDDA and Europol, 2011; Sedelov et al., 2011). A recent report in the United Kingdom showed that 19 % of Internet test purchases of samples advertised for sale as 'legal highs' contained a controlled substance, while 22 % contained piperazines, 20 % cathinones, and 18 % synthetic cannabinoids (Serious Organised Crime Agency, 2011). However, the extent to which organised crime is involved in the trade of new substances is unclear. Currently, the market seems to be largely driven by opportunist entrepreneurs taking advantage of the Internet to market and sell their products.

Internet availability

The online availability of 'legal highs' is monitored regularly by the EMCDDA through targeted Internet studies (snapshots) (see EMCDDA 2011a). The most recent snapshot was conducted in January 2012, using 20 of the 23 official EU languages, as well as Norwegian, Russian and Ukrainian ⁽¹⁸⁴⁾.

The number of online shops offering to supply customers in at least one EU Member State with psychoactive substances or products likely to contain them has continued to increase. In the January 2012 snapshot, 693 online shops were identified, up from 314 in January 2011 and 170 in January 2010.

Three natural products — kratom, salvia and hallucinogenic mushrooms — continue to be the 'legal highs' most frequently offered online, followed by eight synthetic substances, the availability of which increased in the course of 2011 (Table 10). The 2012 snapshot identified a notable increase in the availability of different synthetic cathinones, which may suggest an ongoing search by online operators for a replacement for mephedrone. Mephedrone itself continued to be available online and appears to have rebounded following a major decline in online availability from March 2010 to July 2011, as the substance was placed under control by an increasing number of EU Member States (EMCDDA, 2011a). 'Spice-like' products were identified in 21 online shops in 2012, which represents a considerable reduction from the 55 online shops that offered these products in 2009.

The Internet is a global marketplace and online shops selling new substances appear to have their origins in many countries. However, market behaviour and

Table 10: Ten new psychoactive substances or 'legal highs' most commonly offered for sale in online shops surveyed in 2011 and 2012

	Number of online shops offering the product		
	January 2012	July 2011	January 2011
Kratom (natural)	179	128	92
Salvia (natural)	134	110	72
Hallucinogenic mushrooms (natural)	95	72	44
Methoxetamine (arylcyclohexylamine)	68	58	14
MDAI (aminoindane)	65	61	45
6-APB (benzofuran)	54	49	35
MDPV (cathinone)	44	32	25
4-MEC (cathinone)	43	32	11
Methiopropamine (thiophene)	39	28	5
5-IAI (aminoindane)	38	27	25

Source: EMCDDA.

preferences are not necessarily global, as many product lines appear to target specific geographical markets. For example, the product 'Kronic' is almost exclusively sold by Australian and New Zealand-based operators.

While these data may give some indication of the availability of 'legal highs' online, information is not available on actual sales. To gauge the levels of use of new psychoactive substances in Europe, whether acquired through the Internet or by other means, the available data on use prevalence must be examined.

Prevalence

Prevalence data on new psychoactive substances are scarce and often suffer methodological limitations, including lack of common definitions, and use of self-selected or non-representative samples. In 2011, national representative studies were conducted for the first time on the prevalence of 'legal highs' and new psychoactive substances among the general population (Ireland, United Kingdom) and students (Spain). The results indicate that prevalence levels are generally low, but there may be a potential for rapid rise of use in certain sub-populations.

Also in 2011, a European survey of youth attitudes, which interviewed more than 12 000 young people (15–24), estimated that 5 % of young Europeans had used 'legal highs' at some time, with about half of the countries falling in the range 3–5 %. The highest estimates were reported

⁽¹⁸⁴⁾ The search terms used were 'legal highs', 'herbal highs' (Spice, kratom and salvia), GBL (gamma-butyrolactone), hallucinogenic mushrooms, mephedrone and the pipradrol-related substances: 2-DMP (desoxy pipradrol), desoxy-D2PM (2-(diphenylmethyl)pyrrolidine) and D2PM (diphenylpyrrolidine).

Pooled, anonymous urine samples: an objective source of information on drug use

New approaches to identifying and measuring drug use in the population based on wastewater analysis have the potential to overcome some of the limitations of population surveys. The reliability of data based on self-reporting of drug use can be affected by variations in the content of the drugs that are used. This is particularly so for synthetic drugs and new psychoactive substances, where the user may not know the substance being consumed. Analysis of communal wastewater from sewage plants has been used to determine population-level use of illicit drugs such as MDMA and cocaine. However, this technique is problematic for new psychoactive substances, as little is known about their metabolism and stability.

A pilot study to assess the feasibility of using pooled urine to identify the drugs being used in the nightlife settings in London was undertaken in 2011 (Archer et al., 2012). The study detected both established illicit drugs and new psychoactive substances, including mephedrone, TFMPP (3-trifluoromethylphenylpiperazine) and 2-AI (2-aminindane). The drugs present at the highest concentrations in the samples were mephedrone, ketamine and MDMA. In addition to parent drugs, metabolites of the relevant parent drugs were also detected.

This study demonstrates the feasibility of using pooled urine samples to identify the drugs in use in nightlife settings. This methodology has potential to provide objective data on drug use in these settings, and particularly to detect new psychoactive substances.

by Ireland (16 %) followed by Latvia, Poland and the United Kingdom (all at nearly 10 %) (Gallup, 2011).

In Spain, the 2010 national survey on drug use among school students aged 14 to 18 years introduced a special module on emerging drugs. The nine substances studied were: ketamine, 'Spice', piperazines, mephedrone, nexus (2C-B), methamphetamine, magic mushrooms, 'research chemicals' and 'legal highs'. Overall, 3.5 % of students reported ever in lifetime use of one or more of these drugs, (2.5 % last year). Low levels of 'Spice' products use were reported: 1.1 % for lifetime and 0.8 % for last year prevalence. Mephedrone use was also very low in this group (0.4 % lifetime use).

Mephedrone and 'legal highs' were included for the first time in a joint household survey in Ireland and Northern Ireland (United Kingdom) conducted in 2010/11, after mephedrone was put under control (NACD and PHIRB, 2011). The sample included over 7 500 respondents, aged 15–64. In Northern Ireland, lifetime prevalence was estimated at 2 % and last year prevalence at 1 % for both

mephedrone and 'legal highs' (199). Lifetime prevalence levels were higher among those aged 15–24, reaching 6 % for both mephedrone and 'legal highs'. In Ireland, new psychoactive substances (last year use, 4 %) were the second most frequently reported illicit drugs after cannabis (6 %). The highest levels of last year use of new psychoactive substances were reported by 15- to 24-year-olds (10 %).

Results from the 2010/11 British Crime Survey (Smith and Flatley, 2011), show that among the general population (16–59) in England and Wales, last year use of mephedrone (1.4 %) was at a level similar to that of ecstasy. Among the 16–24 age group, last year prevalence of mephedrone was the same as that of powder cocaine (4.4 %). Most of those who reported using mephedrone in the last year also reported having used another illicit drug (mainly cannabis, cocaine or ecstasy). An important caveat to understanding the significance of these results is that the data collection for the survey covered pre- and post-mephedrone ban periods.

A small number of Internet surveys and studies with self-selected convenience samples monitoring the use and availability of new psychoactive substances have been carried out. An online survey on 'legal highs' conducted among 860 respondents with experience in 'legal highs' in Germany showed that herbal blends were the most prevalent 'legal high' products, followed by 'research chemicals' and 'bath salts' and similar products. Similarly, a study carried out in nightlife settings in the Czech Republic found herbal substances to be the most commonly mentioned 'legal highs', with 23 % of the 1 099 respondents reporting that they had used *Salvia divinorum*. Also in the Czech Republic, 4.5 % of a sample of 1 091 Internet users aged 15 to 34 reported use of a new psychoactive substance.

Other studies are often focused on the use of one type of substance, such as 'Spice', BZP (benzylpiperazine) or mephedrone. In 2011, for the first time, the US Monitoring the Future annual school survey reported on the prevalence of synthetic cannabinoids use among young people. Among 12th graders, past-year use of products containing synthetic cannabinoids (Spice and K2) was found to be just over 11 %.

The 2011 round of an online drug-use survey for UK clubbing magazine *Mixmag* and the *Guardian* newspaper (*Mixmag*, 2012) which draws on previous *Mixmag* surveys (EMCDDA, 2009a, 2010a) collected 15 500 responses from around the world but mostly

(199) In Northern Ireland, the category 'legal highs' includes party pills, herbal highs, party powders, kratom and *Salvia divinorum*, whereas in Ireland, it also includes herbal smoking mixtures or incense, bath salts, plant feeds or other powders, magic mint, divine mint for Sally D, and other new psychoactive substances mentioned by the respondent.

from the United Kingdom. In 2010/11, reported levels of use of mephedrone in the last year and last month were three times higher among clubbers (30 % and 13 %) than non-clubbers (10 % and 3 %) (Mixmag, 2012). Clearly, data from self-selecting samples such as these cannot be regarded as representative in any way; such surveys do, however, provide an interesting window on drug use among those responding.

Responses to new drugs

Across Europe, measures are beginning to be developed to reduce both the demand for, and the supply of, new psychoactive substances. Individual Member States have taken initiatives to improve and accelerate their legal responses to new psychoactive substances, products and the establishments selling them (see Chapter 1).

In 2011, the First international multidisciplinary forum on new drugs highlighted the need to strengthen demand reduction responses to new psychoactive substances, including prevention, harm reduction and treatment.

Estimating psychoactivity

With an increasing number of new substances reported to the EU early warning system, it becomes important to establish at an early stage whether the substances possess psychoactive properties. The potential use of inexpensive methods for the prediction of properties (toxicity, pharmacology, psychoactivity) of new drugs, without the need to conduct experimental studies in animals or humans, is currently being explored.

One technique under investigation is the use of mathematical models to predict the behaviour of new substances. The models are based on the 'similarity principle', which assumes that molecules with closely related chemical structures possess similar psychochemical properties and activity. In this way, knowledge about a known substance is used to predict the effects of an unknown one.

The possibility of predicting the mode of action of novel compounds, of which little is known, appears promising. In a recent study, the psychoactive potential of the medicine ostarine was assessed using computational methods (Mohd-Fauzi and Bender, 2012). The analysis involved two stages: the first stage focused on predicting whether the medicine was likely to target proteins known to be involved in psychoactive effects; the second step explored the likelihood that the substance would permeate the central nervous system. The results of the study indicated that ostarine was unlikely to cause psychoactive effects in humans.

However, the availability of a wide range of compounds with varying content and quality complicates the provision of clear preventive or harm-reduction messages.

In the United Kingdom, 'legal high' facts, emergency help and drug treatment information are provided by the online service 'Talk to Frank'; in Ireland, prevention and harm-reduction information on new drugs has been in circulation since 2010.

In Poland, from 2008, the National Bureau for Drug Prevention has prepared and launched three prevention campaigns: a web-based campaign providing information on possible consequences and threats of using 'legal highs', meetings between parents and school representatives which provided information on new psychoactive substances and which were mediated by counsellors or teachers, and a universal prevention programme targeting the school population aged 15–18 implemented by teachers and school counsellors.

The Recreational Drugs European Network (ReDNet) project is a multi-site research study with the aim of improving the level of information available to young people (16–24) and professionals on the effects of these new recreational drugs and the potential health risks associated with their use. It uses a number of innovative information communication technologies for the dissemination of non-judgemental information to target groups.

There is a need to better understand the possible acute and chronic health implications of the use of new substances. Medical care for acute toxicity is required, but there is also a need for specific training on medical management of individuals who become unwell with in recreational settings and guidance on when pre-hospital emergency services should be called. Nevertheless, given the similarities to amphetamines and MDMA, it is likely that management strategies akin to the treatment responses for these more well-known drugs would be also useful for users of some types of new psychoactive substances.

Treatment for individuals who have had exposure to new psychoactive drugs and seek formal help is primarily supportive, and there is limited information available on what constitutes appropriate psychosocial treatment for users of 'legal highs'. In the United Kingdom, a multidisciplinary specialist clinic for users of club drugs including 'legal highs' has been piloted, offering a range of responses including brief interventions, pharmacological therapies, and planned care support, demonstrating good retention and outcomes.

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