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Polydrug use

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Selected issues

This chapter highlights three specific issues relating to the drug problem in Europe: polydrug use, successful treatment and drug use in prison.

Polydrug use

The broad definition of ‘polydrug’ used by many Member States is the use of more than one drug or type of drug by an individual — consumed at the same time or sequentially (as defined in the WHO lexicon). In Europe, the concept of polydrug use dates back to the 1970s. In its broadest terms, polydrug use is defined as the use of an illegal drug plus another legal or illegal drug. However, considerable differences exist in the substances included and in the time frames employed by different Member States. Differences appear to depend on the survey data available and on the perceptions of risk associated with particular substances or combinations. The substances included are usually the main illegal drugs, alcohol and medicines. Energy drinks are sometimes included and France includes tobacco. Time frames for consumption range from a six-hour period to ever experienced during an individual’s lifetime.

According to the broad definition, all illegal drug users would be defined as polydrug users as they almost always use alcohol and/or tobacco at some time in their life. Even when polydrug use is defined according to the more narrow range of ‘illegal drugs’, the combinations and patterns of use vary so much that there is little value in adopting a standard definition. For the purposes of addressing general concerns about polydrug use in the EU, we take acute risks for health as a main focus.

There is general consensus that polydrug use has four main functions: it maximises effects, balances or controls negative effects and substitutes sought after effects. Information about the functions of combining particular drugs is based on descriptions by users of attempts to have, and prolong, pleasurable experiences (Seppälä, 1999; Strang et al., 1993). The substances that are used depend on local availability, fashion and local prescribing practices where

they include medical drugs prescribed to drug users in treatment (in Germany, France, Ireland and the United Kingdom).

Health risks

The combinations of drugs identified in mortality and overdoses provide indications of particular risks associated with drug combinations (see box below).

Health risks associated with combinations of psychotropic substances depend not only on the pharmacological properties and amounts of the substances consumed but also on a range of individual characteristics and social and environmental factors.

Examples of drug combinations considered high risk

- Whilst it is difficult to overdose on benzodiazepines alone, the combination of a large dose of benzodiazepines and a large dose of alcohol or an opiate drug such as heroin or methadone may be fatal.
- When ecstasy is used with alcohol, health risks increase because alcohol impairs thermal regulation and increases dehydration.
- When cocaine is combined with alcohol, the combination may be more directly toxic to the heart and liver than either cocaine or alcohol alone. Alcohol is often present in cocaine cardiac deaths.
- The combined use of different stimulants, including energy drinks, can lead to sympathetic hyperactivity that may result in impaired thermal regulation and cardiac functioning.

Sources: Leccese et al. (2000), DrugScope (2001).

In the context of 'early-warning systems', there is growing concern about the potential mixture of psychoactive substances in tablets sold as ecstasy, which, despite the lack of intention on the part of users, may constitute polydrug health risks. For example, in Denmark during 2001 a range of 10 to 32 % of tablets analysed contained more than one active substance. These tablets primarily contained MDMA and PMA, PMMA, MDE and MDA. In France, two thirds of an analysed sample of tablets sold as ecstasy contained MDMA combined with other active ingredients — mostly medicaments.

Fatal and non-fatal overdose

During the last decade, press attention on drug deaths has focused mainly on rare cases of ecstasy death (Belgium, Denmark, Italy and the United Kingdom). Press interest is not generally captured by the death of problem drug users. The large proportion of the 7 000 to 8 000 acute drug deaths (overdoses) recorded in the EU each year are males who have been using opiates for several years (see the 'Drug-related deaths' section).

Results of toxicological analyses of fatal and non-fatal overdoses associated⁽⁵³⁾ with illegal drug use are not widely available but those that are consistently reveal that most of the deaths are associated with the injecting of heroin combined with other drugs. A recent study of 153 drug users in the United Kingdom who had experienced non-fatal overdose found that more than one drug had been used in 111 (73 %) of cases (Neale 2001). In fatal overdoses, at least one other drug or alcohol is involved in over 50 % of cases in the United Kingdom and up to 90 % in Ireland. Benzodiazepines, alcohol, methadone and cocaine are the substances most frequently found combined with opiates and a common explanation for the overdose in question is that these combinations caused it (ONS, 2000a and b; Farrell, 1989; Bennet and Higgins, 1999; Strang et al., 1999; Taylor et al., 1996)⁽⁵⁴⁾.

Deaths associated with cocaine, amphetamine or MDMA (ecstasy) without the presence of opiates or benzodiazepines are infrequent and are usually combined with other drugs or alcohol.

Other risks

Polydrug use is also considered to be a particularly high risk for dangerous driving but EU data on drugs and driving is very limited. Violent or aggressive behaviour has

recently been associated with patterns of increased use of alcohol combined with stimulant drugs (Snippe and Bieleman, 1997; Vermaas, 1999).

Trends

In some countries, the number of fatalities that constitute the most serious consequences of polydrug use are still increasing. The substances detected most often were combinations of morphine, benzodiazepine and alcohol, with recent national or local increases in cocaine reported in Spain, France, Italy, the Netherlands and the United Kingdom (see the 'Drug-related deaths' section for more details).

Concern about groups at risk

Social and public concern associated with patterns of polydrug use generally focuses on two groups that are distinct with regard to the type of substances and combinations they use and the environments where their consumption occurs.

- The greatest scientifically evidenced health risk occurs among problem drug users, particularly those who inject opiates and other drugs.
- Media and general public concern also exists about the risk of death and overdose for recreational drug users who are not addicts and whose consumption of illegal drugs is mostly limited to specific social settings or a certain phase in their lives. This concern is disproportionate in view of the relatively limited number of deaths.

For problem users, the number and characteristics of clients seeking treatment in the specialised centres in Europe are used as an indirect indicator. For recreational drug users, the results of a large European survey of recreational drug users in nine European cities and a number of ad hoc 'clubbers' surveys are available.

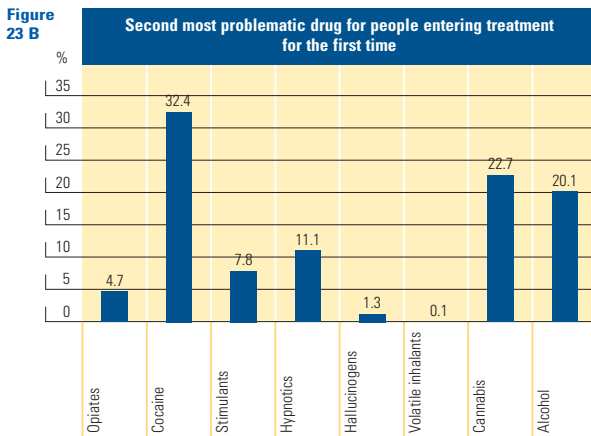
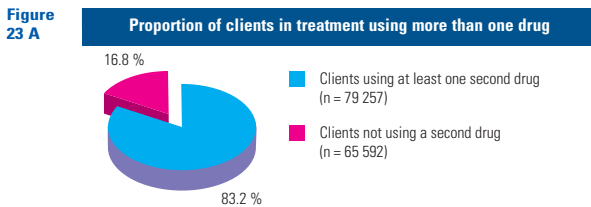
Problem drug users

Since the 1970s, problem drug users have been shown to adjust the ingredients of their drug menus according to the availability of drugs on the market and at different stages in their lives. They may substitute the unavailable substance with another, not necessarily of the same type (Haw, 1993; Strang et al., 1993; Fountain et al., 1999).

⁽⁵³⁾ A drug is deemed implicated, or associated, when it is proven positive at toxicology or when evidence was presented that the drug had been consumed prior to death. This is not to infer that the drug is the cause of death. It may imply the drug(s) as being a contributory factor in the death.

⁽⁵⁴⁾ Table 12 OL provides an example of the number of drugs implicated in opiate deaths in Ireland (online version).

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Sources: 2000 Treatment Demand Indicator (TDI) data on outpatient treatment centres. Reitox national reports 2001.

Polydrug use among clients in treatment

At European level, treatment data provide information on primary and secondary drugs: the primary drug is the 'drug that causes the client the most problems' ⁽⁵⁵⁾ and the secondary drugs are the next most problematic drugs after that. The European information system on treatment, based on the Treatment Demand Indicator (TDI) protocol, which registers up to four substances used by each person, could be taken as an indirect indication of problematic polydrug use ⁽⁵⁶⁾, although it is limited to users in treatment.

Most clients in treatment use secondary drugs combined with their main drug (83.2 %) (Figure 23). Many countries report an increase in polydrug use ⁽⁵⁷⁾.

The most common patterns of problematic polydrug use are: heroin combined with other opiates such as diverted methadone or with benzodiazepines; heroin combined with cocaine, cannabis and stimulants or alcohol; and cocaine used with alcohol or stimulants ⁽⁵⁸⁾.

The patterns of use change markedly among countries and sexes. The available data show that in some countries a single pattern prevails, whilst others present different drug combinations. From the available data, homogeneous patterns seem to be found in some countries, for example, in Greece and Italy for primary drug distribution, where heroin is used simultaneously with hypnotics, sedatives, other opiates or cannabis. In Spain and the Netherlands, where the proportion of clients seeking treatment for cocaine as primary drug is rather high, cocaine also frequently appears as a secondary drug combined with heroin or stimulants.

As far as gender distribution is concerned, polydrug users in treatment are mainly men, especially among those using heroin combined with opiates and cocaine or alcohol; a higher proportion of women is found among those using stimulants with cannabis, stimulants, and other substances (hypnotics/sedatives, volatiles) ⁽⁵⁹⁾.

Persons accompanying their main drug with cannabis are mainly aged between 15 and 24; the polydrug users of opiates and cocaine are older (20–39) and those who use other drugs simultaneously with alcohol are the oldest polydrug users in treatment ⁽⁶⁰⁾.

From the data available, the following patterns of use among clients in treatment can be identified:

- older clients, mainly males, using opiates as the main drug combined with other opiates, or cannabis;
- younger clients, males and females, using cannabis and stimulants combined with alcohol or other substances (such as hallucinogens);
- males, under 30, using cocaine combined with alcohol and other stimulants; and
- males, 20–39, using heroin and cocaine.

⁽⁵⁵⁾ In the Treatment Demand Indicator standard protocol 2.0, item 14, primary drug is defined as the 'drug that causes the client the most problems' and item 19, other (= secondary) drug in addition to primary drug, as an indication of multiple drug use (see the web site http://www.emcdda.eu.int/multimedia/project_reports/situation/treatment_indicator_report.pdf).

⁽⁵⁶⁾ Countries where data were available on this topic were: Belgium, Spain, Greece, Italy, the Netherlands, Sweden and Finland.

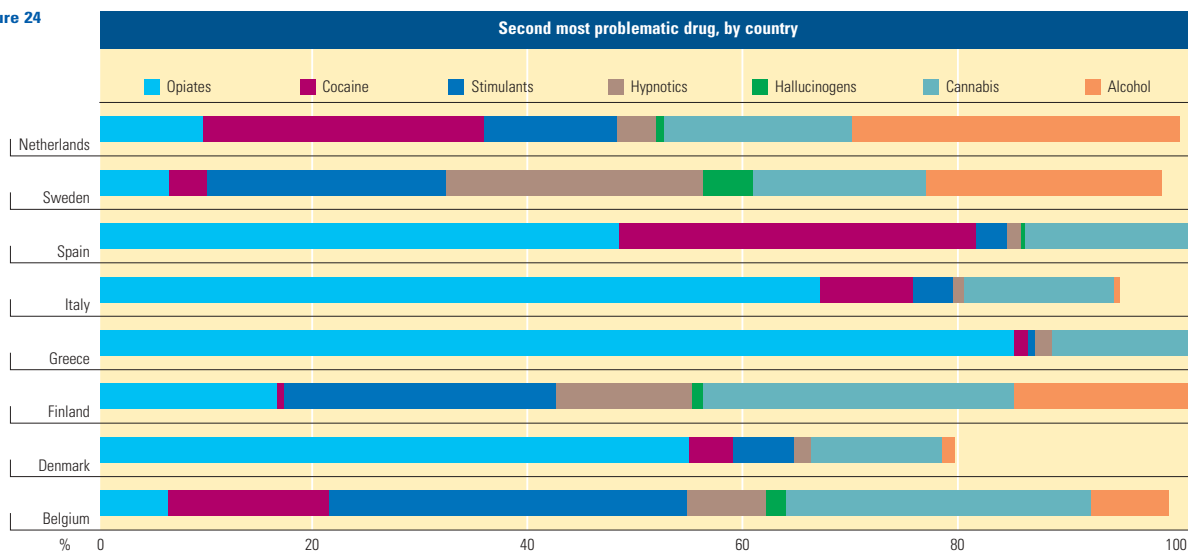
⁽⁵⁷⁾ See Reitox national reports, 'Treatment demand' section, Chapter 1, Figure 6, 'All clients admitted to treatment'.

⁽⁵⁸⁾ Figure 16 OL: Common patterns in the combination of drugs: most problematic drug used together with secondary drug(s) (online version).

⁽⁵⁹⁾ Figure 17 OL: Second most problematic drug by gender (% on the total, by drug) (online version).

⁽⁶⁰⁾ Figure 18 OL: Second most problematic drug, by age (online version).

Figure 24



Sources: 2000 Treatment Demand Indicator (TDI) data on outpatient treatment centres. Reitox national reports 2001.

Recreational drug users

Prevalence of polydrug use is higher among young people in dance club settings than among young people in other settings, particularly the use of alcohol, cannabis and stimulant drugs (Calafat et al., 1999; ESPAD, 2000). There is also some evidence that, across Europe in general, prevalence of recreational polydrug use is higher among males and regular users of cannabis than it is among females and cannabis experimenters, although there are geographical differences. A large European study of drug users in targeted nightlife settings in 1998 showed that approximately half of all drug users in the techno party scene reported that they combined alcohol and cannabis, followed by alcohol and ecstasy, and cannabis and ecstasy (Calafat et al., 1999). Table 1 shows that recreational drug use is heavily dominated by alcohol. The majority of leisure-time drug users do not consume large quantities of illegal drugs and alcohol in combination. However, studies suggest that the proportion of people adopting ‘heavy’ patterns of drug use is increasing and there are growing concerns about the health risks and potential long-term damage from specif-

ic patterns of recreational drug use (Club Health, 2002; Hunt, 2002; McElrath and McEvoy, 1999; Reitox).

Heavy polydrug use in leisure-time settings is associated with repeated exposure to drug availability and positive images of drug combinations among peers. However, heavy drug use is generally confined to particular social events, holiday periods or during particularly social and outgoing phases in life (Bellis et al., 2000).

An increase in heroin smoking has been reported by some Member States (France and Italy). In recent years, there have been particular concerns about people smoking heroin to come down from ecstasy but the evidence for this is mixed or contradictory. For example, studies in treatment and prison settings in Ireland report that over half of the drug users interviewed had smoked heroin to ‘come down’ off ecstasy whilst surveys of recreational drug users and school students aged 15–16 show that heroin still has a very negative image (ESPAD, 2000).

Local market

Little research has been conducted on drug markets in the EU and it is therefore not possible to provide accurate details on the combinations of drugs available on local markets.

In terms of ‘marketplaces’, in the United Kingdom there are regular media reports of ecstasy, amphetamine, cocaine powder and cannabis dealing in clubs and bars for the clubbing population. However, research in the Netherlands has shown that many young clubbers obtain their drugs via friends rather than dealers. Some of the marketplaces patronised by those who buy and sell heroin, crack cocaine and prescription drugs (such as ben-

Table 1

Drug combinations used by recreational drug users in the same night	
	%
Alcohol and cannabis	50.6
Alcohol and ecstasy	11.9
Alcohol and cannabis and ecstasy	10.4
Cannabis and ecstasy	8.4
Alcohol and cocaine	7.8
Cannabis and ecstasy, alcohol and cocaine	7.8
Cannabis, alcohol and cocaine	2

Source: Calafat et al. (1999).

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zodiazepines) are well known, but are usually separate from those for clubbers. Different substances are sold in different marketplaces: some concentrate on diverted prescription drugs whilst others trade primarily in heroin and/or crack cocaine. In the case of diverted prescribed drugs, distribution is conducted by a large number of people each selling some or all of their own prescribed drugs (Edmunds et al., 1996; Fountain et al., 1999).

Polydrug use interventions

Two distinct target groups can be defined for which interventions are designed: older problem polydrug users and young recreational drug users.

Older problem polydrug users

In the context of older problem polydrug users, prevention of drug-related harm is of importance due to the possible unexpected consequences. Interventions include providing drug users with adequate knowledge on the effects of specific drugs and the consequences of multiple drug use and how to handle drug emergencies.

Polydrug use has shown to be more difficult to treat than single drug use. Member States do not report specific treatment programmes for particular drug combinations but nearly all services are open to polydrug users. The focus is on behaviour rather than substances. However, in acute treatment and in withdrawal, polydrug use might be very relevant.

The combination of heroin and benzodiazepines has implications for the efficacy of treatment. If opiate use is being addressed while coexisting benzodiazepine use is neglected, there is potential for reducing the efficacy of substitution treatment, for example with methadone. In the United Kingdom, the official prescribing guidelines (Department of Health et al., 1999) stress that stimulants should not be prescribed to polydrug users.

In all countries except Sweden, a considerable problem consists in getting substances other than opiates under control in medically assisted treatment, for example with methadone. In countries other than Sweden, the advantage of having regular contact with drug users in substitution programmes is obviously considered more important than the disadvantage of concurrent use of other drugs. In Sweden, however, polydrug users are not accepted in methadone treatment irrespective of the seriousness of the heroin problem.

Psychiatric comorbidity is often diagnosed in polydrug users. Denmark, the Netherlands, Austria, and Sweden report on a high and possibly increasing number of polydrug users admitted to psychiatric hospitals.

There is little research on the effectiveness of the treatment of polydrug users. Generally, the adjustment of treatment to each specific case contributes to treatment success. The UK NTORS study found that after one year, opiate users who were frequent users of stimulants at intake showed marked improvements in terms of reduced levels of opiate **and** stimulant use (Gossop et al, 1998). Greece reports that substitution programmes claim that the treatment interventions contribute to a reduction in polydrug use (Kethea — NSPH, 2001).

The development of special treatment programmes for specific groups such as polydrug users is considered a need in the German national report, and the United Kingdom suggests disseminating examples of good practice. Finland states the need for training, and some activities to train treatment staff in dealing with polydrug users are already under way.

Recreational drug users

Some countries (Spain, France and Italy) have launched broad mass-media campaigns to warn against multiple drug use in recreational settings. In Italy, the campaign was supported by local initiatives at major youth events. Specific substances are not always mentioned and the consequences of use are not clearly spelled out. In other countries (Belgium, Germany, the Netherlands, Austria and the United Kingdom) these health warnings and advice are passed through drug workers or peers and self-help groups.

Pill-testing projects may inform users about dangerous and unexpected pill contents on site, by magazines and posters or through the Internet. For example, in autumn 2000, Austrian *ChEck iT!* found several pills sold as ecstasy containing PMA/PMMA and immediately put out warnings on site and through the Internet (Kriener et al., 2001). In November 2001, the Dutch DIMS project, for example, provided a rapid alert about pills containing PMA.

Treatment for users of several drugs in the recreational scene is virtually non-existent. One reason could be that most drug services are only equipped to deal with opiate and severe dependence problems.

Policy issues

The rituals and social controls polydrug users employ to achieve the sought-after effects whilst simultaneously reducing risk need to be studied for better understanding of the social and environmental circumstances that contribute to risk among different drug-using groups (Boys et al., 2000; Decorte, 1999; Akram and Galt, 1999).

Prevention, especially in recreational settings should include clear guidance and advice on risks involved in

multiple drug use. More evidence-based knowledge is needed to ascertain the best possible care for polydrug users and especially for problem drug users with mental disorders.

For better understanding of pharmacotoxicological risks from specific combinations, a priority is for clinicians to follow up patients with suspected drug intoxications and to provide evidence-based information about acute and long-term damage to health.

Successful treatment

In the EU action plan on drugs (2000–04), the third strategy target is ‘to increase substantially the number of successfully treated addicts’. No aggregated data exist at European level to directly measure the level of achievement of this objective. However, many evaluations have been carried out across Europe exploring if and what type of treatment works. Findings on successful treatment are presented here according to the type of treatment intervention: withdrawal treatment, drug-free treatment and medically assisted treatment. The success criteria vary between the different types of treatment and are also related to social reintegration and rehabilitation after treatment.

Withdrawal treatment

Withdrawal treatment, or detoxification, is generally considered the first step in a complete treatment process. This intervention aims, firstly, at arriving at a stage where the client is physically drug free and no longer craves for illegal drugs and, secondly, at transferring or referring the client to drug-free treatment. In Sweden and Finland, this process is a prerequisite for starting methadone treatment.

Evaluations of withdrawal treatment have been carried out across the Member States and Norway but nevertheless, globally, it is the least evaluated type of treatment intervention. Overall, withdrawal treatment with medicaments such as Naltrexone, clonidine, lofexidine and buprenorphine have proved effective in decreasing withdrawal signs and symptoms, although the effect on different kinds of withdrawal symptom varies between medicaments (Greenstein et al., 1997). Methadone is widely used for treating withdrawal symptoms although research findings suggest that methadone’s strength lies in maintenance therapy.

Withdrawal treatment with no use of medicaments, also known as ‘cold turkey’, exists although its extent is not really known. Nor are there any reports on the effects and outcomes of non-medically based withdrawal treatment compared to medically assisted withdrawal treat-

ment. The recently emerged concept of rapid detoxification with Naltrexone under full narcosis (sometimes referred to as ‘turbo withdrawal treatment’) should be investigated in more depth.

One intervention in Portugal which combined the delivery of naltrexone and psychotherapy found that after three months there were notable improvements in socio-demographic and psychological variables as well as in risk behaviour (Costa, 2000). An experiment in Germany detoxified methadone users with naltrexone under full narcosis. The patients’ satisfaction was fair but as many as 50 % reported severe discomfort in the first month following the intervention. Six months after discharge one third of the patients had not consumed hard drugs (Tretter et al., 2001).

Although some withdrawal treatment interventions have been subject to evaluation, more in-depth knowledge is needed on the pros and cons of the different modalities and on which type of withdrawal treatment should be used for which type of patient.

Drug-free treatment

Drug-free treatment applies physic-social techniques in its aim for the client to become, first, abstinent and, then, long-term free of drug craving. The primary success criterion used for drug-free treatment is the completion of treatment as planned drug free, although others such as improvements in psychological, social and economic well-being are also essential. Important ‘spin-off’ effects are a reduction in crime and risk behaviour as well as an improvement in the health and general welfare of the client.

Evaluations of drug-free treatment interventions have shown that, to a greater or lesser extent, it succeeds in fulfilling these objectives (Gossop et al., 2001). Evaluation results fluctuate greatly, but generally 30 to 50 % of clients entering drug-free treatment complete it successfully. A Danish study concluded that, depending on the kind of drug-free treatment interventions, successful completion rates spanned from 17 to 58 % of the clients entering treatment (Pedersen, 2000).

Another widely acknowledged notion is that treatment duration is closely linked to treatment outcome or, in other words, the longer the time spent in drug-free treatment the better. This idea is backed up by a German study which suggested that retention rates/duration in drug-free treatment correlate with its outcomes (Sonntag and Künzel J., 2000). Some research has tried to identify the threshold at which successful treatment outcomes are likely to increase. One study found that clients