Cannabis problems in context — understanding the increase in European treatment demands

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Introduction

The term 'cannabis' is used to define various products that are obtained from the cannabis or hemp plant (*Cannabis sativa* L.), an annual species native to central Asia that now grows in many temperate and tropical parts of the world. The numerous varieties of *Cannabis sativa* exhibit a correspondingly wide range of different biological and chemical characteristics. Three forms of illicit cannabis are found on the European drug market: 'herbal cannabis', consisting of the dried flowering tops, stems and leaves of the plant; 'cannabis resin', the dried brown or black resinous secretions of the flowering tops, usually sold in the form of compressed blocks but sometimes also found as a powder; and, by far the least common, 'cannabis oil', which is a sticky viscous liquid.

Cannabis has a long history of use by man, and at times has been used by different societies as an important source of fibre for cloth and rope, an aid to religious ritual, a herbal medicine and an intoxicant. Worldwide, cannabis is now the most commonly produced, trafficked and consumed illicit drug (UNODC, 2003a). Despite both its long history of use and its current popularity, our understanding of the public health impact of cannabis use remains limited. Recently, evidence of a potential association between cannabis use, and especially intensive cannabis use, and a range of health and social problems has been growing. There is also increased concern about an apparent rise in the number of cannabis users who are seeking help from specialist drug services. However, the extent and nature of problems found within populations of European cannabis consumers remain unclear. Also unclear is the extent to which statistical information on increasing demands for treatment reflects changes in reporting and referral practice as opposed to increases in the number of individuals requiring help. To answer these questions we have to place cannabis treatment demands in the broader perspective of changing consumption patterns in Europe, the evolution and development of reporting systems and even a consideration of the changing nature of the drug itself. These matters are addressed in this selected issue on cannabis problems in context, the aim of which is to facilitate a more informed debate on the potential public health impact of this most common of all forms of illicit drug use.

The legislative context: legal status of cannabis in Europe

The legal penalties that should apply to those who use cannabis remain an issue of some controversy in the EU ([151]), and the Member States diverge considerably in their approach to this question.

Cannabis extracts are classified as narcotic drugs under Schedules I and IV of the 1961 United Nations Single Convention on Narcotic Drugs ([152]). The convention requires measures to be adopted to ensure that a wide range of activities — including the possession of narcotic drugs — are punishable. However, Member States have to interpret and apply the convention taking into account their own circumstances, and Article 36.1.b allows for the possibility for options of 'treatment, education, after-care, rehabilitation and social reintegration'.

What this means in practice is that, across the EU, handling of cannabis offences is heterogeneous. Some countries have issued prosecutorial guidelines or legal codes that direct how certain types of cannabis offence should be dealt with, often recommending different legal pathways for what are considered minor or more serious offences. And in some countries a trend is emerging for therapeutic measures to be implemented as an alternative to criminal prosecution for cases of use and possession of small quantities of drugs without aggravating circumstances. In addition, penal codes may address problematic use by allowing (discretionary or compulsory) suspension of prosecution provided the offender undergoes counselling or treatment. Although these alternatives usually apply to users of all drugs, as a result of changes in the last year, the laws or guidelines in Belgium and the United Kingdom now make specific mention of problematic cannabis users with the aim of directing them towards assistance.

([151]) See European legal database on drugs (ELDD) website (http://eldd.emcdda.eu.int/trends/trends_cannabis.shtml).

([152]) See: http://www.incb.org/e/conv/1961/index.htm.

Physical, psychological and developmental problems associated with cannabis use ([153])

The national reports of the Member States point out that a rise in the number of cannabis treatment demands probably reflects an increased level of problems particularly associated with intensive cannabis use. It should be noted, however, that systematic and comparable data on the problems experienced by cannabis users are largely lacking. The scientific knowledge base in this area is still developing but does provide increasingly convincing evidence of an association between cannabis use and a range of problems, although the nature of the causal linkage is not always clear. An overview of the literature on the problems associated with cannabis use is available online (http://www.emcdda.eu.int/?nnodeid=4811).

It is important to distinguish between the acute (short-term) effects of cannabis and the long-term or chronic impact of the drug. A range of both positive and negative acute effects have been reported. Negative effects include deficits in attention and concentration difficulties, adverse effects on motor function (reflexes, coordination), short-term memory problems, anxiety and panic attacks and depression. Positive effects include euphoria, relaxation and increased sociability. The acute effects of the drug which arouse the greatest concern are short-term drug-induced psychosis or severe panic attacks, an increased risk of accidents, particularly when driving or in hazardous work environments, and, among young people, a negative impact on school performance (Hall et al., 2001).

Understanding the chronic effects of cannabis is more complex for a number of reasons, not least because it is difficult to separate the effects of cannabis from the effects of chronic use of other illicit drugs, tobacco and alcohol. However, among the key concerns in this area are an increased risk of lung cancer and other respiratory diseases and an association with the development of long-term psychiatric health problems, including depressive illness, psychosis and schizophrenia. An additional concern with chronic use is the possible development of dependent behaviour. The extent to which the evidence suggests that cannabis use is a risk factor, a causal factor or simply associated through some more complex relationship with these problems is explored in the review available online.

In most Member States, cannabis is the illicit drug most often involved in reported drug law offences, which is unsurprising given that it is also the drug most commonly used ([154]). However, in contrast to other drugs, such as heroin, there appears to be no strong association between cannabis use and other types of offending.

Cannabis use and the measurement of problems

Although the agreed international diagnostic criteria provide useful guidance on the definitions of harmful drug use, abuse and dependent use, problems arise when cannabis is considered in the light of available European evidence ([155]). In particular, there is considerable variation in key measurement issues. For example, there is little consensus regarding the definition of terms such as 'intensive use', 'regular use' and 'problematic use', and this makes comparing the findings of different studies difficult. Additionally, it is mostly in survey work that attempts have been made to measure 'dependence' or 'abuse' according to the ICD or DSM definitions at the population level; here again standardised tools that would allow convincing comparison of data from different studies or across populations are currently lacking.

However, some work in this area is under way. For example, a current French study aims to better define problematic use and develop specific instruments to measure frequency of use, perceived risk and psychological and physical effects (Beck, 2003).

To date, the most commonly used measure of intensity of use is the number of days on which the drug has been used over a defined period. Daily or almost daily use of cannabis is usually taken as an indicator of 'intensive use'. Although daily cannabis use does not necessarily imply dependence, it is likely that a substantial proportion of daily users would rate positive for dependence or abuse in terms of the standard diagnostic criteria (ICD-10, DSM-IV). As frequency of use is relatively easy to measure and to harmonise in questionnaires, this measure is included in the EMCDDA guidelines for the European model questionnaire. Nine countries currently report frequency of cannabis use data in this form ([156]).

([153]) A specific monograph on cannabis use and related problems will be published in the first half of 2005. Specific information on the health and physical effects of cannabis use can be found on the EMCDDA website.

([154]) See DRCrime_Tbl 5 in the 2004 statistical bulletin.

([155]) For a definition of 'dependence' and 'harmful use', see International Classification of Diseases, 10th edition (ICD-10, World Health Organisation), Codes F10 to F19: mental and behavioural disorders due to psychoactive substance use. Also frequently used is the *Diagnostic and statistical manual of mental disorders* (IV edition) (DSM-IV, American Psychiatric Association), which uses the concepts 'dependence' and 'abuse'.

([156]) Greece, Spain, France, Ireland, Italy, Latvia, the Netherlands and Portugal. Data for Finland are not presented owing to the small number of last month's users in their survey (35). The number of cases and percentages for each country are presented in GPSurvey_Tbl 7 in the 2004 statistical bulletin.

Trends in treatment demands for cannabis problems

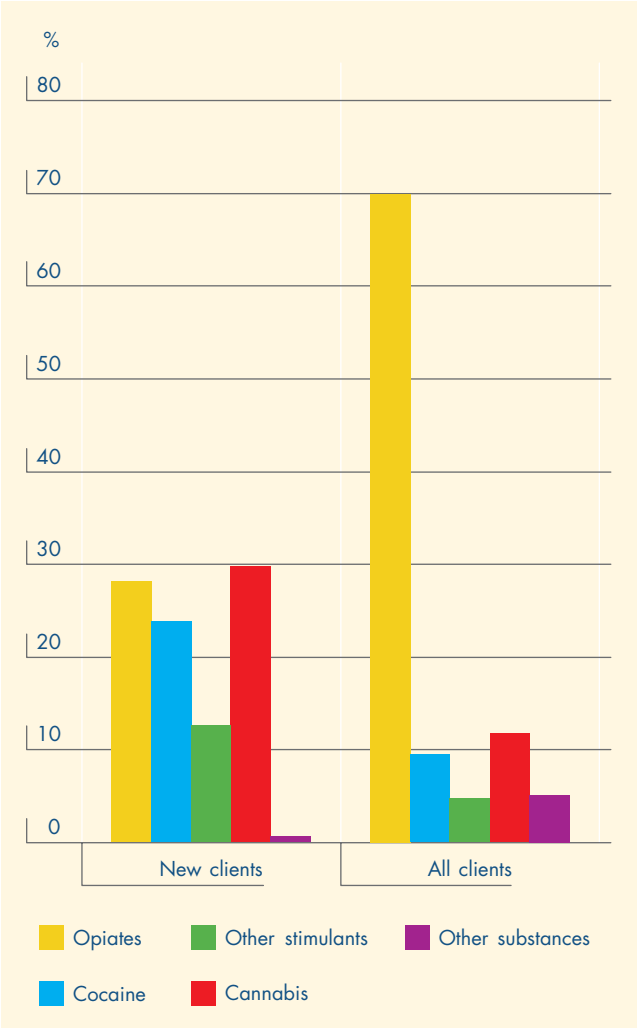
Cannabis is the illicit drug most used in Europe, but only a small proportion of people who have used the drug seek treatment. Despite this, in many countries cannabis is now the second most frequently reported primary drug for which people receive specialised drug treatment. According to TDI (treatment demand indicator) data (see p. 65), collected from all types of specialised treatment services, around 12 % of all clients and 30 % of those new to treatment are now recorded as having a primary cannabis problem (Figure 26).

The proportion of new clients (i.e. those with no previous treatment history) seeking treatment for cannabis use varies considerably between countries, from almost zero in Lithuania to nearly half (48 %) in Germany, but in general is in excess of one fifth (20 %) (Figure 27). However, not all countries can provide data on new treatment demands and within the larger data set of all treatment demands cannabis problems are less evident.

Between 1996 and 2002, according to TDI data from countries for which trend data are available, the number of new clients demanding treatment for cannabis as the primary drug increased from 3 713 to 12 493. In 2002, averaged across the 11 countries for which data are available, such clients represented 29 % of all new clients, up from 9 % in 1996 (see Figure 20 for data sources). Although all these countries, with the exceptions of Greece and the United Kingdom ([157]), report an increase in new cannabis clients as a proportion of all new clients, the magnitude of the increase varied from 6 % in the Netherlands to 31 % in Germany. Information provided in the Reitox national reports suggests that the number of people receiving treatment for primary cannabis use is also increasing in some of the new Member States (Figure 28). A recent review of cannabis treatment demands conducted by the Dutch national alcohol and drugs information system (LADIS) noted that 29 % of new clients entering treatment in 2002 were reported as having cannabis problems and that cannabis clients represented a small yet annually increasing number of individuals. The report also noted that, given the scale of cannabis use in the Netherlands, the proportion of those seeking treatment although growing remained relatively small.

A note of caution must be sounded regarding the extent to which generalisations can be drawn from the consolidated European data set. Longitudinal data on new treatment demands are available from only 11 countries. It is also important to note here that the increase in cannabis treatment demands reflected by TDI data is strongly influenced by data from Spain and Germany, countries that have seen particularly large increases in reports of primary cannabis problems; furthermore, in terms of overall numbers, Spain accounts for around 50 % of all reported treatment demands.

Figure 26: Reported primary drug among new and all clients attending drug treatment services in 2002



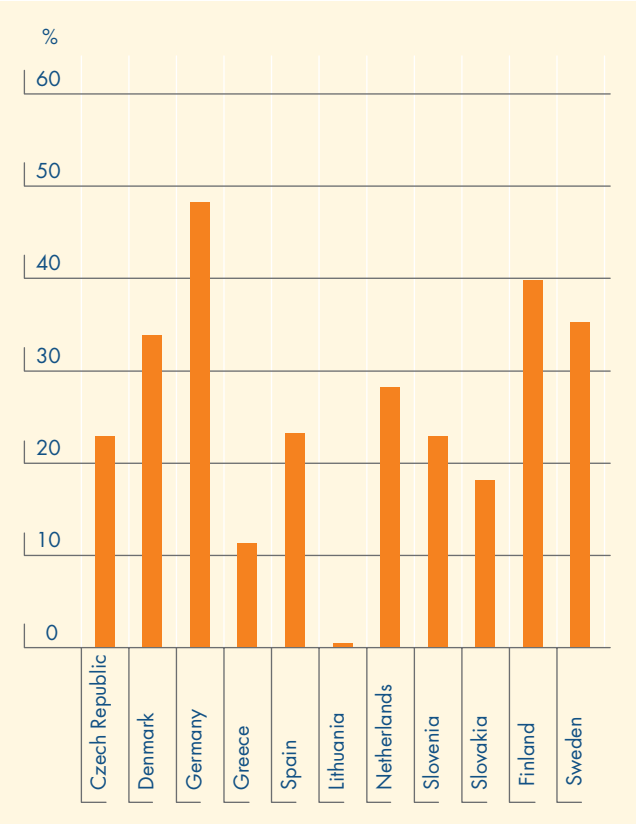
NB: *n* = 42 568 (new clients), 351 372 (all clients).
Countries providing data (new clients): CZ, DK, DE, EL, ES, LT, NL, SL, SK, FI, SE.
Countries providing data (all clients): CZ, DK, DE, EL, ES, IT, LT, LU, HU, NL, SK, SL, FI, SE, UK.
Weighted on the number of clients by country.
Sources: Reitox national reports 2003.

An increase in cannabis treatment demands is not restricted to Europe. In the United States, where a different drug treatment registration system is used ([158]), treatment admissions for marijuana increased from around 20 000 in 1992 to nearly 90 000 in 2000 (SAMHSA, 2001; EMCDDA, 2003d).

([157]) Data on new clients are not available for the United Kingdom and information is reported in the national reports.

([158]) In the United States, admissions to treatment, rather than individuals, are registered. In addition, in contrast to Europe, alcohol is included among the substances of abuse. See the SAMHSA website (http://www.samhsa.gov); note that in the United States, Canada and Australia the term 'marijuana' is used because the term 'hashish' (cannabis resin) is not common.

Figure 27: Cannabis as reported primary drug among new clients attending treatment in 2002



NB: Total number of cases: 42 421.
Sources: Reitox national reports 2003.

In considering the implications of increased treatment demands for cannabis the following key questions arise:

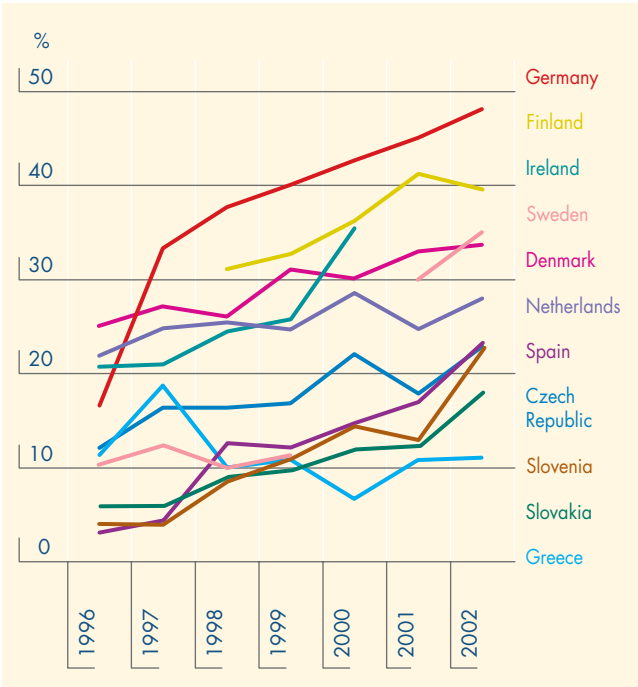
- Does this finding represent an increase in the number of people with physical and psychological problems relating to their use of cannabis? If so,
  - — Does it result from an increase in the regular intensive use of cannabis?
  - — Does it reflect other factors such as a possible increase in cannabis potency?
- Can this increase be explained by factors independent of an increased need for help, such as:
  - — improvements in the coverage of the treatment reporting system;
  - — expansion of the types of treatment facilities available, and in particular specific treatment services targeting adolescents and young people (Reitox national reports, 2003);
  - — changes to the way cannabis use is dealt with by the criminal justice system, within schools or by agencies working with young people, with an increase in referrals to treatment of individuals who would not otherwise have sought help spontaneously.

Understanding the extent to which each of these factors affects treatment attendance is important. A first step is to consider the characteristics of those entering treatment and recorded as having a primary cannabis problem. This analysis is based on those attending outpatient/ambulatory treatment facilities.

Cannabis clients: characteristics and patterns of use

A number of standard options are available for recording the source of referral for drug users entering treatment. These distinguish drug users who have referred themselves from those who have been referred through other agencies, such as social or criminal justice agencies. Most cannabis clients are referred to treatment by family and friends, social services or the criminal justice system. In comparison

Figure 28: Trends in cannabis as reported primary drug among new clients attending treatment: 1996–2002



NB: Treatment in overall numbers (% of all clients).
Average of trends (%) within countries.
Countries providing data: CZ, DK, DE, EL, ES, NL, SL, SK, FI, SE.
In Sweden, data for 1996–99 are from hospital treatment: the number of cannabis cases is thus relatively low compared with other years.
Sources: Reitox national reports 2003.

with users of other drugs, a smaller proportion of cannabis clients are self-referred for treatment ([159]). A similar picture is also seen in the United States and Canada, where treatment demand for marijuana as primary substance is largely found to be not self-initiated (EMCDDA, 2003d).

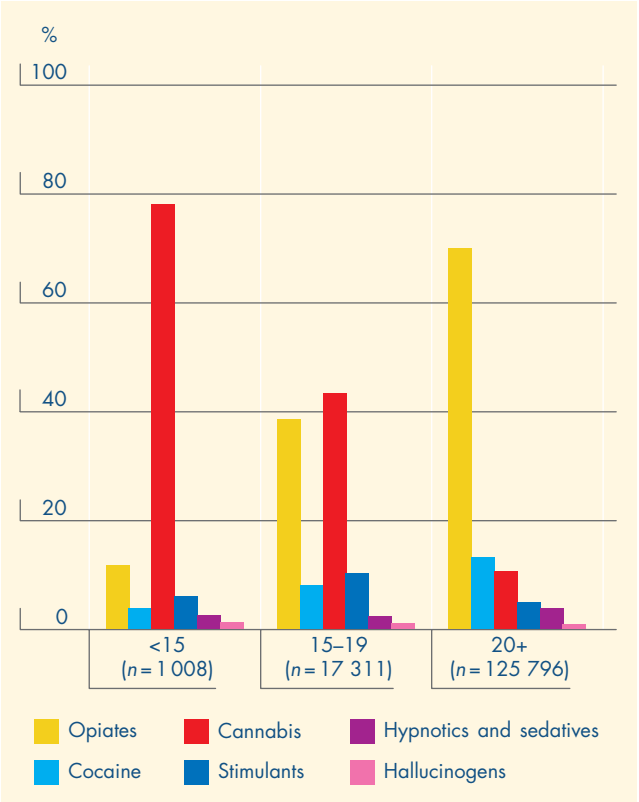
One important difference between referral routes is that those referred by family members or social services (often schools) are typically younger, less likely to be using any other drugs in addition to cannabis and more socially integrated, whereas clients referred by legal authorities or classified as self-referrals tend to be older and often use other drugs as well as cannabis (Reitox national reports, 2003). In Germany and Finland, which have the highest percentages of primary cannabis clients, legal authorities and schools play an important role in referring cannabis clients.

Cannabis clients new to treatment are predominantly young, males (83 %), with a mean age of 22–23 years, whereas, in the case of other drugs, the proportion of clients who are males is marginally lower and the mean age higher. In the case of almost 80 % of new clients classified as 'very young' (under 15 years of age) and 40 % of those aged 15–19, the primary drug for which treatment is sought is cannabis (Figure 29) ([160]). These groups are still predominantly male but include a higher proportion of women than the client group overall. Differences in age and gender distribution by country broadly reflect the same patterns found among all clients.

The relatively young age of cannabis clients is reflected by the large proportion, 45 %, who are still in education, compared with only 8 % of clients being treated for problems with other drugs. A further 24 % of those being treated for cannabis problems are in regular employment, equal to the number who are unemployed ([161]), which is in stark contrast to clients using drugs such as heroin. In addition, cannabis clients more often report living in stable accommodation than those being treated for problems with other drugs ([162]), reflecting the fact that many are young people, students and living with their parents.

Patterns of use among clients receiving outpatient treatment for primary cannabis use vary considerably and are quite different from those found for other drug types, particularly the opiates (Figure 30). Among clients in treatment for a primary cannabis problem in 2002, only 36 % were daily consumers of the drug and only 17 % used cannabis more

Figure 29: Distribution of reported primary drug among outpatient treatment attendees, by age group: 2002



NB: All clients. Countries providing data: DK, DE, EL, ES, LU, HU, SE, FI, UK. Males from Denmark and the United Kingdom account for 56 % of all clients in cannabis treatment under 20 years, with a further 17 % from Spain.
Sources: Reitox national reports 2003; TDI outpatient treatment centres.

frequently than once a week (2–6 times per week); 15 % used the drug once a week or less often and 28 % were occasional users or had not used cannabis in the last month. In contrast, 84 % of opiate users in treatment are daily users.

The proportion of outpatient treatment clients who use cannabis daily varies between countries. The highest proportions of daily cannabis users are reported in the Netherlands (80 %) and Denmark (76 %), while the highest proportion of occasional users is reported in Germany (41 %) ([163]).

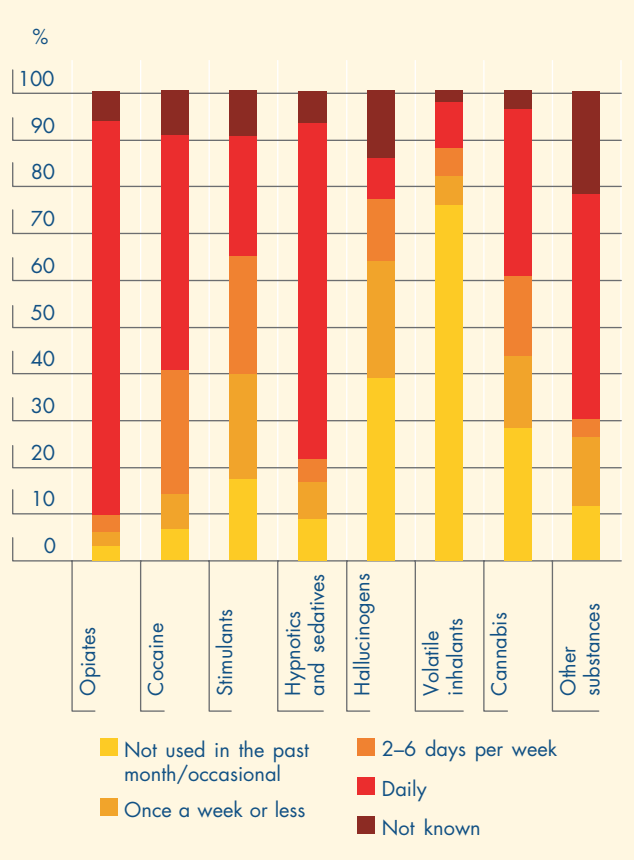
The younger the age at which users first consume cannabis, the higher is the risk of developing drug problems in the future (Kraus et al., 2003). In Europe, 28 % of all cannabis

([159]) See Figure 22 OL: Source of referral among all clients: for all drugs and for cannabis.
([160]) See also TDI_Tbl 4 in the 2004 statistical bulletin.
([161]) See Figure 23 OL: Labour status among cannabis clients and all clients.
([162]) See Figure 24 OL: Living conditions among cannabis clients and all clients.
([163]) See Figure 25 OL: Frequency of cannabis use by country.

clients in treatment in 2002 started using the drug before the age of 15, and the majority (80 %) before 20 years of age. The corresponding figures for opiates are 9 % and 42.8 % and for cocaine 6 % and 26.5 %.

Most countries report that clients in treatment who have primary cannabis problems often show a pattern of polydrug use. This may indicate a reporting artefact, for example if clients with polydrug problems were, for convenience, to be recorded as primary cannabis users. However, quantitative data on the proportion of polydrug users among clients in general are not available. There are differences between clients who use only cannabis and those who use cannabis in combination with another drug (Reitox national reports, 2003): the former are usually younger and better socially integrated (more likely to be in employment and have achieved a higher educational level and less likely to drop out or have dropped out of school)

Figure 30: Distribution of frequency of use of reported primary drug among all outpatient treatment attendees in 2002



NB: n = 109 699 (all clients). Countries providing data: CZ, DK, DE, EL, LU, HU, SE, FI, UK (CZ — all types of treatment centres).
Sources: Reitox national reports 2003; TDI outpatient treatment centres.

than the latter. The most commonly reported secondary substances used by primary cannabis clients are alcohol (32.9 %) and stimulants (25 %) ([164]), although the distribution varies from country to country.

Some cannabis clients in treatment also admit to injecting other drugs, and some report lifetime experience of injecting despite currently using no drugs other than cannabis. For example, in Greece in 2002, although 14.7 % of cannabis clients with recorded secondary drug use had injected in the previous 30 days, 25.4 % of all cannabis clients reported lifetime experience of injecting another substance (Greek national report, 2003). Similarly, information from the Czech Republic (national report) suggests that in some treatment settings up to half of cannabis clients are also injecting.

Trends in treatment demand: changing factors

The increase in demand for treatment for primary cannabis problems should be viewed in the context of changes that have occurred in the characteristics and patterns of use. Between 2000 and 2002, in those countries reporting data, the total number of referrals by legal authorities, family and friends and social services increased exceptionally, by 103 %, 81 % and 136 % respectively ([165]). No relevant differences were found between countries, except that in Germany the proportion of referrals accounted for by the criminal justice system also increased (from 21.7 % to 26.7 %).

No hard data on trends in the sociodemographic characteristics of cannabis clients are available, although some national reports (Czech Republic, France and Luxembourg) describe an increase in the number of clients with educational, social and psychological problems. Between 2001 and 2002 the proportion of daily users among cannabis clients increased from 31.7 % to 39.2 % ([166]); some countries report that the proportion of daily users is higher among older clients (more than 20 years old).

Cannabis in the general population: from experimental to daily use

As described above, although cannabis use increased markedly in almost all countries during the 1990s and is the most commonly used drug, most use still remains occasional or of short duration. It is likely that those most at risk of developing problems or becoming dependent are those that use the drug intensively, but it is in this area that information sources are weakest, although it is known that

([164]) See Figure 26 OL: Most used secondary drug among all cannabis clients by country and TDI_Tbl 9 in the 2004 statistical bulletin.
([165]) See Figure 27 OL: Source of referrals among all clients, 2000–02.
([166]) See Figure 28 OL: Frequency of use among all cannabis clients and TDI_Tbl 8 in the 2004 statistical bulletin.

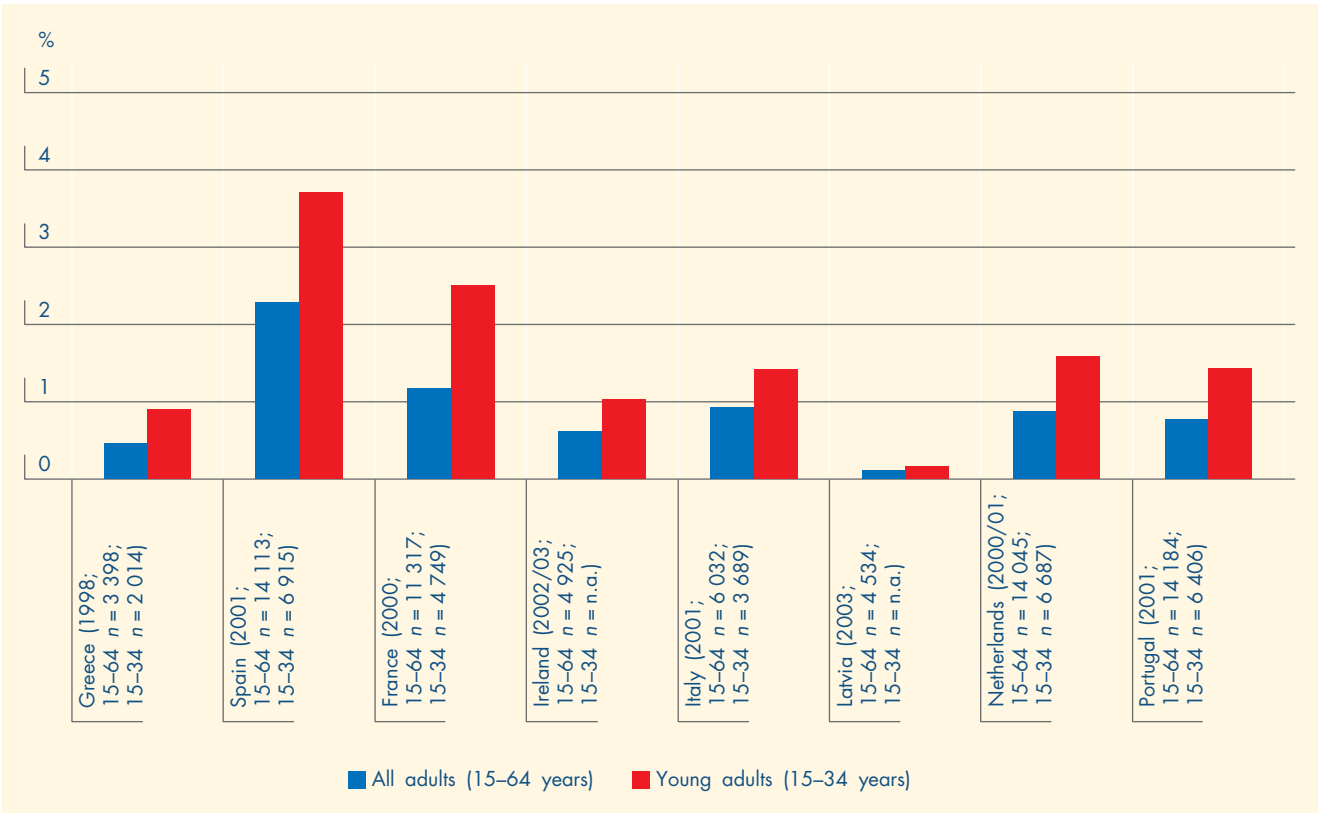
recent users (use in the last 30 days) are typically young males living in urban areas.

'Use in the last 30 days' is an indicator of current use and includes those who are using the drug intensively. In recent surveys, if Sweden (0.1 %) is excluded, 1–7 % of all adults and 3–12 % of young adults report having used the drug in the last 30 days. There are differences between countries, however, and current use is most common in the Czech Republic, Spain, France, Ireland and the United Kingdom. In countries where it is possible to analyse trends in recent use over time, an increase is found, although not a dramatic one.

Data enabling frequency of cannabis use in the last 30 days to be examined in detail are available from nine countries — Greece, Spain, France, Ireland, Italy, Latvia, the Netherlands, Portugal and Finland (not presented). With one exception (Latvia), approximately one quarter (19–33 %) of those who had used cannabis in the last month were doing so on a daily or almost daily basis ([167]) ([168]). In these countries, daily users represented 0.5–2.3 % of the total population ([169]) and 0.9–3.7 % of young adults (15–34 years) (Figure 31). Most people (76–92 %) who admitted having used cannabis in the previous month were between 15 and 34 years old, and consequently daily users were also concentrated in this age range. In addition, daily users are predominantly male, although the proportion varies from 62 % in the Netherlands to 92 % in Greece.

From these data, a crude estimate can be made of the number of people using cannabis intensively in Europe. Assuming that roughly 1 % of the population uses cannabis on a daily basis, then, in a country with 25 million inhabitants (age 15–64 years), there would be 250 000 daily cannabis users. In the EU as a whole,

Figure 31: Proportion of 'daily users or almost daily users' of cannabis among all adults and young adults in some EU countries, measured by national population surveys



NB: Daily or almost daily users = use on 20 days or more during the month previous to the interview.
Data are from the most recent national surveys available in each country.
The age range for all adults is 15–64 years (Italy 44 years) and for young adults 15–34 years. Variations in age ranges may result in small disparities between countries.

Sources: Reitox national reports 2003, taken from population survey reports or scientific articles. See also standard epidemiological tables in the 2004 statistical bulletin.

([167]) In this section, the information will refer to 'use on 20 days or more during the past 30 days', expressed also as 'daily or almost daily use'. The European model questionnaire foresees collection of the exact number of days of use, but for reporting of national figures, the frequency of use was grouped into four discrete categories, the highest one being '20 days or more'.

([168]) See Figure 29 OL: Proportion of daily (or almost daily) users among adults (15–64 years old) who used cannabis in the previous month.

([169]) Proportion of 'last month's users' multiplied by proportion of 'daily or almost daily users', i.e. 6 % (last month prevalence) × 25 % (proportion using '20 times or more') = 1.5 %.

with a total population of 302 million people aged 15–64 years, the prevalence would be around 3 million.

Even among young adults, intensive cannabis use varies among age cohorts, and is generally higher among younger groups. In the 2002 Spanish school survey, 3.6 % of 14- to 18-year-old students reported daily or almost daily use (i.e. at the top end of the range found in young adults aged 15–34). And in the annual French survey of 17- to 19-year-olds (Escapad), daily use of cannabis in the past 30 days was higher still, being reported by 9.2 % of boys and 3.3 % of girls (Beck and Legleye, 2003).

The effects of cannabis dependence or abuse appear to be less severe than those of other drugs. Most intensive cannabis users seem to be relatively integrated young people, who are at greater risk of other social problems (driving accidents, failure to complete their education or family disruption) than other criminal activities, and the interventions should accordingly be appropriate and not create further problems or exclusion.

Cannabis potency and dose issues

It has been speculated that an increase in the potency of cannabis is in part responsible for increased problems and, consequently, more treatment admissions. Understanding the issues associated with cannabis potency, the dose that individual users receive and its likely impact on acute and chronic problems raises a number of complex issues. To explore the scientific evidence available on cannabis potency a special study was conducted by the EMCDDA, the key results of which can be found on page 90.

Cannabis potency is only one factor in calculating the dose an individual will receive over any given period (Hall et al., 2001). Mode of administration, smoking technique, the amount of cannabis used in any session and the number of smoking sessions an individual engages in are all equally, or even more, important in terms of calculating individual exposure levels. High-potency cannabis has always been available to some extent, and concern about this topic is not new. It is also important to note that it is not understood if cannabis users modify their behaviour to reach a desired dose effect. Therefore, the extent to which high potency cannabis necessarily results in high doses requires further investigation.

Responding to the needs of those with cannabis-related problems

Understanding the needs of those seeking help for cannabis problems is fundamental to the development of effective responses. Analysis of treatment demand and other indicator data suggests that both cannabis users referred for treatment and users as a whole constitute a heterogeneous population with correspondingly heterogeneous needs. This suggests that a continuum of responses is necessary, ranging from prevention and risk reduction activities through to formal treatment activity. One possible concern is whether it is appropriate to refer young people whose use of cannabis is only occasional to specialised drug centres. The answer to this question very much depends on how services are configured and the extent to which clients mix with chronic users of other substances. Nonetheless, the identification of appropriate referral routes for those with differing patterns of cannabis consumption remains an important topic for further consideration.

On the prevention side, few initiatives have been designed specifically to respond to the increase in cannabis consumption among young people, as prevention is rarely substance specific. However, some Member States report new developments in this area, adopting two main strategies: (1) stressing the danger that young people who use cannabis will become involved in the criminal justice system; and (2) attempting to reverse the social perception of cannabis use as normative behaviour through mass or targeted media campaigns.

In Germany, Greece, Ireland, Finland and the United Kingdom, measures to reduce the psychosocial consequences of first offences for cannabis consumption among adolescents have been introduced. A recent example of this (2000 onwards) is the FRED programme in Germany, which is now operational in eight *Länder* and offers young drug users early intervention of short duration on a voluntary basis ([170]). In the United Kingdom, youth offending teams work on a similar basis. Following a change to the way in which some aspects of cannabis use were dealt with by the criminal justice system and reclassification of the drug (from class B to class C), possession, not consumption, is the offence; possession gets a warning. There is a specific process for formally warning young persons (i.e. those under 18). The United Kingdom also introduced a mass media campaign to reaffirm the negative and illegal nature of cannabis.

Another recent initiative is to take the prevention campaign to 'coffee shops' where small amounts of cannabis are available. This intervention takes the form of a course and manual for coffee-shop owners in order to prevent drug-related problems in these establishments. The handbook provides information on cannabis, drug legislation, psychiatric disorders, first aid, entrepreneurship and

([170]) Further information on this and other prevention programmes is available from the EMCDDA EDDRA database (http://eddra.emcdda.eu.int/eddra/plsql/showQuest?Prog_ID=2091).

Cannabis potency (*source:* EMCDDA, 2004c)

1. EU countries fall into two distinct groups depending on whether herbal cannabis or cannabis resin is the most commonly consumed product. Of the countries for which information was available, cannabis resin was more common in Germany, Ireland, Portugal and the United Kingdom, whereas herbal cannabis was more common in Belgium, the Czech Republic, Estonia, the Netherlands and Austria.

2. There has been no long-term marked upward trend in the potency of herbal cannabis or cannabis resin imported into Europe. In all EU countries, with the possible exception of the Netherlands, most cannabis consumed is imported, although systematic data on the availability of home-produced herbal cannabis are currently lacking.

3. Indoor cultivation of cannabis occurs to some extent in all European countries. In the Netherlands, it is estimated that this product represents over half of the cannabis consumed, but in most countries imported products are more important.

4. Herbal cannabis grown indoors using intensive methods (e.g. hydroponic systems with artificial lighting, propagation by cuttings and control of day length) usually has a higher THC content than the imported drug. Although the potency range of home-grown herbal cannabis may overlap with that of imported cannabis, the average potency of home-grown cannabis can be two or three times greater.

5. The overall increases in cannabis potency that have been reported in some countries can be almost entirely attributed to an increase in the proportion of home-grown cannabis consumed.

6. Taking into account the market share of different cannabis products, the effective potency has remained relatively stable in nearly all countries for many years, at around 6–8 %. The only exception is the Netherlands, where, by 2001, it had reached 16 %.

7. In the Netherlands, locally produced cannabis resin has a particularly high THC content, but this material is still uncommon in that country and almost unknown elsewhere.

8. Statements in the popular media that the potency of cannabis has increased by 10 times or more in recent decades are not supported by the limited data that are available from either the United States or Europe. The greatest long-term changes in potency appear to have occurred in the United States, but it has to be borne in mind that before 1980 cannabis potency in the United States was low by European standards.

9. The overall conclusion of the study is that there have been some modest changes in THC levels that are largely confined to the relatively recent appearance on the market of intensively cultivated domestically grown cannabis in the EU. In addition, it is noted that the THC content of cannabis products is extremely variable. A clear information need exists to develop monitoring systems that can assess the market share of different cannabis products and track changes over time. Currently, this information is to a great extent lacking.

10. The study identifies a number of important areas that require attention if cannabis potency issues are to be properly evaluated. These include: consensus on the nomenclature of cannabis products; improved monitoring of market information, improvement in laboratory analytical standards, data collection and presentation at European level; studies to explore the relationship between potency, smoking behaviour and blood THC/metabolite levels in Europe; and the need to investigate the extent to which high-potency cannabis results in increased dose exposure and any possible relationship to health problems. It is noted that the costs and benefits of responding differently to different cannabis products merits consideration.

educational skills. In the Netherlands, there is a tradition of personalised and direct approaches towards cannabis consumption, as illustrated by Hash and Weed Week ([171]), when heavy cannabis users hold group meetings at which the consequences of intense use and the potential for behavioural change are discussed.

To some extent, these approaches take a harm-reduction as well as a prevention-orientated approach. However, despite the well-known link between smoking and respiratory problems and increasing concern regarding the negative health impact of intensive cannabis use, interventions aimed at reducing harm associated with cannabis use remain poorly developed in comparison with those aimed at users of other drugs.

Treatment options available to those with cannabis problems are mostly to be found in treatment centres offering care for clients addicted to licit or illicit drugs or with other kinds of addictive behaviours. Services that are

([171]) http://eddra.emcdda.eu.int/eddra/plsql/showQuest?Prog_ID=385.

designed for cannabis users are reported by some countries (Denmark, Germany, Greece, France, the Netherlands, Austria, Sweden and Norway), but, in general, specialist care of this sort appears to be extremely limited. In many countries, treatment services for problem cannabis users are integrated with facilities for the treatment of generic drug problems (Belgium, the Czech Republic, Denmark, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal, Slovenia and Norway).

For the most part, those with a cannabis-related problem are treated alongside clients being treated for problem use of other illicit drugs, typically opioids. As many of these specialised drug treatment centres are configured to meet the needs of an often chaotic and marginalised population, their suitability for those with less acute needs, such as most cannabis users, is debatable. Treatment services in Member States are aware of these issues, and a number of countries, in their Reitox national reports, observed that it could be counterproductive and disadvantageous to mix problem cannabis users with problem heroin users or polydrug users and cited this as one reason why cannabis users should not receive inpatient care. It is easier to design programmes specifically for cannabis users on an outpatient basis. The Austrian national report suggests that inpatient care, if required, should preferably take place within a generic adolescent psychiatry department rather than a specialist drug unit. Recent innovations reported by Member States in responding to the needs of cannabis users include a 'cognitive treatment manual' for chronic cannabis users produced in Sweden, an Internet self-help site for problem cannabis use established in the Netherlands and the introduction of acupuncture treatment in Finland.

Conclusions

The objective of this review is to place the observed increase in reported cannabis treatment demands in a broader analytical context. In doing so it is apparent that many important questions that are fundamental to an informed policy debate on this controversial topic remain unanswered. What is also apparent is that the available evidence does not justify an alarmist position but nor is it cause for complacency.

People with cannabis-related problems constitute a non-trivial proportion of treatment demands in specialised facilities in some countries and form an important sub-group within the larger treatment population. Most are young males, typically around 20 years old, and most started using the drug at 16 or 17 years of age.

Cannabis clients have different patterns of drug use than those consuming other substances; moreover, there are important differences among cannabis clients. The profiles of different sub-groups of cannabis users in treatment is likely to be directly relevant to understanding their needs and thus to the provision of appropriate responses. Important dimensions here are frequency of use, current and past use of other drugs and referral source. In broad terms, summarising national reports and TDI data, two clear client profiles can be discerned:

- younger users, often students, referred to treatment services by family or school and consuming cannabis alone or sometimes together with alcohol or stimulants;
- polydrug users, who are typically older and less socially integrated, referred to treatment more often by legal authorities or health and social services, and overlapping with the chronic drug-using population.

In addition, there is some evidence of a further group referred to treatment by legal authorities who are not using other drugs and appear to be only occasional users of cannabis.

In reflecting on changes in the characteristics of primary cannabis treatment demands over time, the available information suggests:

- increased numbers referred from the criminal justice system in some countries;
- increased referrals from family and other social support networks (family, friend, social services, school);
- an increased proportion of intensive (daily) cannabis use, although daily users remain in the minority;
- increasing levels of social and educational problems in some countries, although data in this area are weak.

In considering the increase in treatment demands, it appears that changes in referral practice have an impact, and a substantial proportion of those referred appear not to be intensive drug users. Nonetheless, in some countries at least, a significant number of treatment demands come from individuals whose use of cannabis is intensive. The problems experienced by this group remain poorly understood and research in this area is urgently needed. The observation that a majority of treatment demands made by the very young are for cannabis suggests that special consideration of the needs, referral pathways and responses of this group is required.

It is also important to recognise that treatment demand is not a direct indicator of the scale and nature of cannabis

problems. General population survey data suggest that, compared with occasional use, intensive cannabis use is relatively uncommon. However, the widespread use of cannabis means that considerable numbers of people may be using the drug intensively — at least for some part of their life.

Estimates would suggest that intensive use may affect between 0.5 % and 2 % of the adult population and between 1 % and 3 % of young adults. The prevalence among young males is likely to be substantially higher. It is difficult to draw from the survey evidence a clear picture of the number of users experiencing problems with or becoming dependent on cannabis. Although the effects of cannabis dependence or abuse are less severe than those of other drugs, this may nevertheless have a considerable public health impact because of the scale of use and the fact that many of those most affected are young and may be using the drug intensively during important developmental stages or when they are particularly vulnerable. Among socially disadvantaged families or communities, cannabis dependence or abuse may compound individuals' problems by harming education or employment opportunities.

In summary, there remains a critical need for research to provide an understanding of the relationship between different patterns of cannabis use and the development of problems. The extent to which cannabis users experience problems and the nature of the problems that may be found still remain poorly understood. Methodological tools are required to assess problems at the population level. Such information is a prerequisite to the development, targeting and implementation of effective public health responses to cannabis use in Europe.