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# THEMATIC PAPERS

Prevalence of daily cannabis use  
in the European Union and Norway

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## Introductory note

The information presented in this report is based on data collection within large, probabilistic, nationally representative general population surveys. It can be found in part in the EMCDDA Statistical bulletins and Annual reports, but this is the first time that the data have been brought together and presented in a comprehensive and integrated way.

For the purpose of this report, 'daily cannabis use' is considered as the use of cannabis for 20 days or more in the last 30 days (also called 'daily or almost daily use' or sometimes 'near daily use').

## Executive summary

Cannabis use is relatively common in the European Union (EU) and Norway, with around 23 million people (6.8 % of all 15- to 64-year-olds) having used the drug in the past year and about 12 million (3.6 % of all 15- to 64-year-olds) in the last month. Although the prevalence of last-year cannabis use among the general population is generally stable or decreasing in many countries, demands for treatment in which cannabis is the primary drug continue to rise, indicating a possible increase in related problems. The substance is currently the most frequently mentioned drug by those demanding drug treatment for the first time in the EU and Norway. This suggests that, even though most cannabis use at the population level is likely to be transitory and at low levels, a significant minority of users use the substance intensively and/or for long periods of time. These patterns of use are reported to be associated with harms to the user and possibly with a need for treatment. Although this problem has been increasingly recognised, knowledge of the prevalence of the more intensive forms of cannabis use has been limited at the EU level.

This report brings together, for the first time in Europe, an integrated overview of the prevalence of intensive cannabis use, defined as daily or almost daily cannabis use (use on 20 or more days in the month preceding survey). Self-reported data regarding frequency of cannabis use from large, probabilistic, nationally representative samples of general population surveys from 20 countries, representing more than 83 % of the population of EU and Norway, were collected through two rounds of ad hoc data collection in 2004 and 2007 and through a routine, standard data collection instrument since 2010.

Depending on country, cannabis was used on 20 or more days by between 3.5 % and 44.1 % of people who had used the substance in the last month. Overall, among the 20 countries participating in the study, weighted by their estimated numbers of last-month cannabis users in the general population, the findings suggest that, on average, about 25 % of last-month cannabis users were daily or almost daily users of the substance. The population prevalence of daily or almost daily cannabis users ranged from 0.05 % to 2.6 % (among the 15–64 years olds). The weighted average of prevalence (weighted by population size) was 1 % in the countries that provided data.

Based on the existing information, it can be estimated that there are around 3 million daily or almost daily cannabis users in the EU and Norway. This is, however, a minimum estimate owing to possible under-reporting among survey participants and to a higher probability of frequent users occurring outside the sampling frame of general population surveys.

It is also important to stress that daily cannabis use is concentrated in some population groups, among which prevalence is considerably higher than in the total population, particularly in certain countries. Gender and age are among the most important factors. According to this analysis, the population prevalence among young adults (aged 15–34 years) was almost twice the average (1.9 %), and more than three-quarters of these young users were male. When combined with population sizes and the fact that there is a higher prevalence of daily cannabis use among young adults (aged 15–34), it means that probably just over half of daily cannabis users in Europe come from the population group of young males aged 15–34.

In conclusion, bearing in mind the limitations of the current approach (possible reporting bias, lack of information about intensive users in the past year who did not use daily in the month preceding the survey, cultural and legal differences, etc.), the exercise has confirmed the feasibility and usefulness of collection and analysis of daily cannabis use data at the EU level. This study presents the first European overview of intensive cannabis use with a solid quantification of the phenomenon. The value of these data can be further enhanced by interpreting the results in the context of other data and information, for example treatment demand data or information from in-depth studies.

## Introduction

Cannabis is by far the most widely consumed and available illicit drug in Europe. In the 2012 EMCDDA Annual report, it is conservatively estimated that cannabis has been used at least once (lifetime prevalence) by around 80.5 million Europeans: almost one in four of all 15- to 64-year-olds. Use in the last year or in the last month is markedly lower than lifetime experience, although many EU countries report relatively high prevalence. It is estimated that around 23 million (on average, 6.8 % of all 15- to 64-year-olds) and 12 million Europeans (on average, 3.6 % of 15- to 64-year-olds) have used cannabis in the last year and last month, respectively (EMCDDA, 2012a).

Prevalence figures for the adult population, although useful, do not sufficiently highlight the fact that prevalence rates found among specific subgroups can be very different. As with most forms of drug use, rates of current use are likely to be higher among younger age groups and among males — see EMCDDA (2012b), table GPS-6, part iii and part v.

Cannabis use increased considerably among the general populations of many EU countries from the mid-1990s until the early 2000s, especially among young people. More recently, surveys in most countries have shown stabilisation or even decreases in levels of cannabis use in many countries (EMCDDA, 2012a).

What do the available estimates of cannabis use tell us about the number of people who are experiencing problems or harm through this behaviour? This is an important question for public health, but one which is difficult to answer. One indicator that may provide useful contextual data is requests for treatment by cannabis users. It is worth noting that in the past decade there has been a marked increase in the proportion and number of reported treatment admissions due to cannabis in Europe and that, during this period, a number of countries introduced specific programmes targeting cannabis problems. A total of 108 000 treatment admissions for cannabis were reported for the year 2010 (EMCDDA, 2012a) by the treatment centres reporting through the Reitox network <sup>(1)</sup> to the EMCDDA treatment demand indicator (TDI) <sup>(2)</sup>. In addition, around 98 000 treatment clients reported cannabis as their secondary drug (EMCDDA, 2012a). It is possible that this number of treatment admissions under-represents the extent of demand for services due to cannabis because in many EU countries the treatment centres reporting to the TDI data collection system are centres that focus on more chronic problem drug users (opiate or stimulant users and injectors). On the other hand, the data also have to be interpreted in a way that takes account of the fact that some countries direct individuals to treatment from criminal justice, education or social support systems. Moreover, in general terms, there is now a far greater awareness of the need for cannabis support services, which is likely to be associated with increased provision and a greater likelihood that problematic use will be identified and registered.

<sup>(1)</sup> National focal points are the national institutions appointed by the respective Member State to act as a national partner to the EMCDDA.

<sup>(2)</sup> For more information on the TDI indicator, see the TDI key indicator gateway and the TDI Methods section of 2011 EMCDDA Statistical bulletin.

Data from general population surveys indicate that many of those who have used cannabis in the past will have discontinued its use (EMCDDA, 2012a) and, historically, only a small number of individuals appear to use the drug regularly over a sustained period of time. This is still largely true, although there is some evidence to suggest that patterns of long-term regular use among young people may now be more common (Perkonig et al., 2008). Overall, however, far less is known about levels or trends in the intensive use of this drug, information that is clearly important from a public health perspective. Thus, in addition to estimates of standard prevalence measures (lifetime, last year and last month), it is important to obtain estimates of more intensive cannabis use, as this form of use is more likely to result in adverse consequences, such as dependence or other problems (SAMHSA, 2012).

Choices made in the operational definition of 'intensive cannabis use' are important to the estimation of harm and risk associated with the behaviour. It should be noted that self-reported intensity measures need to be interpreted with caution, even in the case of use of purely behavioural questions in the data collection tool. Added to methodological concerns inherent to the use of these kinds of data is the fact that, without more detailed information on patterns of use, cannabis-consuming episodes and the potency of the drug consumed, such data can provide only a partial indicator of the exposure to pharmacologically active constituents of cannabis consumed over time. It is also worth noting that some of the harm associated with cannabis use may or may not be dose dependent, influenced by the mode of administration or the co-consumption of other products, such as tobacco. That said, methodological and practical difficulties mean that for surveillance purposes, and especially for cross-national comparisons, self-reported frequency of use is currently the best proxy measure to discriminate between different patterns of cannabis consumption with respect to their likely association with problems and harm.

In summary, then, for surveillance purposes frequency of use is likely to be a crude, but also useful and practical, indicator for estimating cannabis use-related problems at the population level. Pragmatically, daily or almost daily use (sometimes termed 'near daily use') is most commonly studied and compared with less frequent use. In the research literature, associations are reported with other illicit drug use; alcohol and tobacco use; driving and involvement in motor vehicle accidents after using cannabis; and impairments in cognitive, memory and learning performance. Frequent cannabis use has been found to predict some mental health disorders, including the development of psychotic symptoms, and has been associated with depressive and manic symptoms and suicides (Fischer et al., 2011).

Studies also show that daily cannabis users, perhaps unsurprisingly, are at higher risk of developing dependence symptoms than less frequent users. In a 2003 general population survey in the United States, it was estimated that almost 40 % of daily cannabis users (in the past year, defined as 300+ days of use) met cannabis dependence or abuse criteria according to the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (SAMHSA, 2004). In another American study, 25–50 % of daily users were estimated to be dependent (NIDA, 2010). Studies comparing frequent or daily cannabis users with and without dependence found a high level of health, mental health and cognitive problems in frequent users, but higher levels still in those meeting diagnostic criteria for dependence (e.g. Looby and Earleywine, 2007). The results of these studies suggest that estimating the prevalence of cannabis dependence would give a better indication of those potentially able to benefit from treatment interventions (even if not all of these users will seek assistance). However,

harms may also be experienced by those not fulfilling the criteria of dependence. It is important to know the size of this broader group, chiefly from the point of view of planning appropriate public health interventions. A caveat here is that some surveys also now include additional short screening instruments designed to provide better measures of both dependence and problems. This information, when available, can usefully complement data on intensive use patterns.

Estimating the size of the population of frequent users of opioids or crack cocaine use necessarily requires indirect statistical methods, as large proportions of these users are not accessible in the usual sampling frames used in general population surveys. However, it can be argued that it is possible to estimate the prevalence of frequent cannabis use using the general population surveys methodology. The justification for this is the higher prevalence of cannabis use and the fact that it is generally less socially stigmatised and therefore more likely to be reported through survey methods. It should be noted, however, that intensive use is a more problematic behaviour to measure from a methodological perspective. There are a number of reasons for this, including the fact that it is likely to occur at lower levels and may be linked to other behaviours that might result in a lower participation in studies, such as school exclusion or social marginalisation. Nonetheless, whilst bearing in mind these methodological issues, the estimation of daily or near daily use does provide a useful indicator for the surveillance of potential needs and allows cross-country comparisons to be made, albeit with caution. In this respect, these data are obviously best interpreted in the context of other indicator data, in particular patterns in treatment attendance, but also other sources that provide insight into the levels of cannabis use within countries.

## 1. Methodology and data collection

The information presented in this report was collected through large, probabilistic, nationally representative general population surveys in 20 European countries. Information from 37 surveys was reported (17 of which were repeated surveys in the same countries).

### Context of the surveys

The surveys from which the data were extracted were focused mostly on substance use (alcohol, tobacco and illegal drugs), although a small number of them were surveys of general health or victimisation (see Table 1).

### Process of data collection

Information on frequency of cannabis use in the month preceding the survey was reported to the EMCDDA through a structured form in 2004 and 2007 — through voluntary ad hoc data collections ('field trials') — and by national focal points and national experts at the time of the field trials. From 2010, the EMCDDA began to routinely collect information on the frequency of cannabis use within the annual reporting of Member States (within standard table 1 on general population surveys <sup>(3)</sup>). Some countries that completed their general population surveys after the 2007 field trial but before the introduction of the routine data collection on frequency of cannabis use were asked to complete a form similar to that used in the 2007 field trial. There were, however, a few countries that collected (updated) data on the frequency of cannabis use in the past month, but which could not be included in this analysis because the data were not available to the EMCDDA. Some of these countries (e.g. Romania) have attempted to collect data on the frequency of use but have had to cease reporting them to the EMCDDA because of low numbers of last-month users.

### Data collection instruments

The actual data collection in countries was conducted under general guidelines defined by the EMCDDA and national experts, which contains a set of common core items (the Handbook for surveys on drug use among the general population and the European Model Questionnaire (EMQ)). These guidelines were written to harmonise and facilitate the development of new questionnaires or to report core results obtained through existing national questionnaires to the EMCDDA <sup>(3)</sup>.

The EMQ includes a variable on frequency of cannabis use, defined as the number of days on which the drug was used in the last 30 days. It can be collected as a simple number of days or

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<sup>(3)</sup> For more information on methodologies of general population surveys, please see the General population surveys key indicator gateway, especially the Handbook for surveys on drug use among the general population and 2012 EMCDDA Statistical bulletin, 'Methods and definitions' section of the general population surveys area.

categories of ranges of frequency (20 days or more, 10–19 days, 4–9 days, 1–3 days). Before 2002, the Handbook suggested corresponding verbal categories (daily or almost daily, several times a week, once a week or more, less than once a week). These were still in use in many countries at the time of data collection (see Table 1).

## Definition of daily cannabis use

For the purpose of this report, ‘daily cannabis use’ has been defined as the use of cannabis on 20 days or more in the last 30 days prior to data collection. This frequency of use could be more precisely called ‘daily or almost daily use’, but here the two terms are used as equivalents.

## Estimation of the prevalence of daily cannabis use

The prevalence of cannabis use on 20 days or more in the month preceding survey is estimated in most countries by combining the last-month prevalence with the proportion of last-month users who used on 20 days or more in the same month. As both parameters are weighted <sup>(4)</sup>, the result is equivalent to direct estimation of prevalence. In two countries (Ireland and the UK) the national experts have estimated directly the prevalence of daily cannabis use because the primary data were not available to the reporting expert.

## EU estimates of parameters of daily cannabis use

In addition to presenting the national data, the proportion of daily users among last-month users, the average prevalence of daily use and the total number of daily users in the EU and Norway were estimated by the EMCDDA.

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<sup>(4)</sup> The parameters are weighted by basic population characteristics so that they are nationally representative for the countries that provided the EMCDDA with data.

**Table 1. General population surveys in the EU and Norway: most recent survey available with collection of data on the frequency of cannabis use in the last month and/or last-month prevalence of cannabis use. All EMCDDA countries are included**

Country <sup>a</sup>	Survey year	Context of survey	Mode of data collection	Wording of the cannabis frequency question	Last-month prevalence of cannabis use (15–64 years) (%)
Belgium <sup>a</sup>	2008	Health	Face-to-face interview with self-administered questionnaire completed on paper for substance use questions	EMQ-b	3.1
Bulgaria	2008	Alcohol, tobacco, drugs and attitudes	Face-to-face interview	Not asked	1.4
Czech Republic <sup>a</sup>	2008	Alcohol, tobacco, drugs	Face-to-face interview	How often have you taken cannabis in the last 30 days? 1. Daily or almost daily (5–7 days a week) 2. Several times a week (3–4 days a week) 3. At least once a week 4. Less than once a week	8.6
Denmark <sup>a</sup>	2010	Health	Self-administered questionnaire, with possible web-based completion	EMQ-c	2.3
Germany <sup>a</sup>	2009	Addiction (licit and illicit drugs, pathological gambling)	Multimode; mail, telephone, Internet	Number of days	2.4
Estonia	2008	Work/family/leisure/health/drugs	Mail	Verbal categories	1.4
Ireland <sup>a</sup>	2006/07	Alcohol, tobacco, drugs	Face-to-face interview (CAPI)	EMQ-c	2.6
Greece <sup>a</sup>	2004	Health	Face-to-face interview	Number of days	0.9
Spain <sup>a</sup>	2009	Alcohol, tobacco, drugs	Face-to-face interview with self-administered questionnaire completed on paper for drug use questions	1–3 days; 4–9 days; 10–19 days; 20–29 days; 30 days; I have not taken cannabis or marijuana in the last 30 days; I have never taken cannabis or marijuana	7.6
France <sup>a</sup>	2010	Health	Telephone interview (CATI)	Number of times	4.8



Country <sup>a</sup>	Survey year	Context of survey	Mode of data collection	Wording of the cannabis frequency question	Last-month prevalence of cannabis use (15–64 years) (%)
Italy <sup>a</sup>	2008	Alcohol, tobacco, drugs	Mail	On how many occasions have you taken cannabis? Never; 1–2 times; 3–5 times; 6–9 times; 10–19 times; 20–39 times; 40 or more times	6.9
Cyprus <sup>a</sup>	2009	Alcohol, tobacco, drugs and health	Mail	EMQ-b	2.5
Latvia <sup>a</sup>	2003	Alcohol, tobacco, drugs, lifestyle and attitudes	Face-to-face interview with self-administered questionnaire completed on paper for substance use.	EMQ-a	1.8
Lithuania <sup>a</sup>	2008	Alcohol, tobacco, drugs, lifestyle and attitudes	Face-to-face interview with self-administered questionnaire completed on paper for substance use	EMQ-a	1.2
Luxembourg	Old survey				
Hungary <sup>a</sup>	2007	Substance use (licit and illicit, including behavioural addictions)	Face-to-face interview with self-administered questionnaire completed on paper for substance use	At least 20 times/10–19 times/4–9 times/1–3 times/haven't used it	1.2
Malta	2001	Alcohol, tobacco, drugs	Face-to-face interview	Not collected	0.5
Netherlands <sup>a</sup>	2005	Household living conditions	Face to-face interview (CAPI)	Verbal categories	3.3
Austria <sup>a</sup>	2008	Alcohol, tobacco, drugs	Face-to-face interview	Number of days	1.7
Poland	2006	Alcohol, tobacco, drugs	Face-to-face interview	Not available	0.9
Portugal <sup>a</sup>	2007	Alcohol, tobacco, drugs	Face-to-face interview (CAPI)	Verbal categories	2.4
Romania	2007	Alcohol, tobacco, drugs	Face-to-face interview with self-administered questionnaire completed on paper for substance use	Too few last-month users to be able to process the data	0.1
Slovenia	2011	Health	Face-to-face interview	EMQ-c	Not available
Slovakia <sup>a</sup>	2010	Alcohol, tobacco, drugs	Face-to-face interview	Verbal categories	1.4
Finland <sup>a</sup>	2006	Drug use and alcohol drinking patterns	Mail	Number of days	1.6

Country <sup>a</sup>	Survey year	Context of survey	Mode of data collection	Wording of the cannabis frequency question	Last-month prevalence of cannabis use (15–64 years) (%)
Sweden	2010	Public health	Mail	Not collected	1.0
United Kingdom (England and Wales) <sup>a</sup>	2010/11	Crime and victimisation	Face-to-face interview (CASI) for substance use	Verbal categories	3.9
Norway <sup>a</sup>	2009	Alcohol, tobacco, drugs	Face-to-face interview with self-administered questionnaire completed on paper for substance use	EMQ-c but within last 4 weeks	1.6

Data are reported by national focal points to the EMCDDA on structured online forms, by drug, timeframe (lifetime prevalence, last-year prevalence and last-month prevalence), gender and age group. More detailed methodology of each national survey, including sample size and procedures, methods of data collection and related references, are presented in EMCDDA (2012b), in particular Table GPS-121 and GPS-1.

<sup>a</sup>Included in the analysis of daily cannabis use prevalence, presented in this Thematic paper.

CAP, computer-assisted personal interview; CASI, computer-assisted self-interview; CATI, computer-assisted telephone interview.

EMQ-a, verbal categories of 'Daily or almost daily', 'Several times a week', 'At least once a week' and 'Less than once a week';

EMQ-b, numbers of day categories of 20 days or more, 10–19 days, 4–9 days and 1–3 days;

EMQ-c, number of days.

## 2. Results

### Data tables

Table 2 presents an overview of results for 'all adults' in the standard age range of 15–64 years. In a few countries the age ranges for all adults differed slightly. Data from 37 nationally representative surveys conducted between 1998 and 2011 are presented. Most (26) of these surveys were conducted between 2005 and the present.

The number of respondents for each national survey is presented. In most cases it was possible to also obtain a weighted number of people reporting use of cannabis in the last month. In most surveys, the number of users in the last month was over 100, and in some cases even over 1 000. However, in a few surveys the estimated number of last-month users is lower than 50 (owing to limited sample size and/or low last-month prevalence of cannabis) and the results should be interpreted with caution.

Table 3 presents the most recent data reported by each of the 20 countries on frequency of cannabis use for all adults (15–64 years in most countries). Data from most (18) countries are from 2005 or later. The populations of these countries account for more than 83 % of the EU population aged 15–64 years.

Table 4 presents the most recent data reported by 20 countries for young adults (15–34 years in most countries). The total number of respondents in this age group and the weighted number of cases reporting cannabis use in the last 30 days are presented. Results on young adults are presented because cannabis use is concentrated in this age group.

### Last-month prevalence of cannabis use

In the 20 countries that took part in the data collection on daily cannabis use, last-month prevalence of cannabis use in the population aged 15–64 years ranged from 0.9 % in Greece to 8.6 % in the Czech Republic (see Table 3). An average, weighted by population size of the 20 countries, was 4.2 %. This amounts to roughly 11 740 000 cannabis users in the last month in those countries, over 96 % of the estimated total last-month cannabis users in the EU and Norway. As these countries represent just over 83 % of the population of the EU and Norway, and the average prevalence of all countries was 3.6 % (see above and 2012 EMCDDA Annual report), this indicates that the present analysis includes countries with higher prevalence of past-month cannabis use and misses countries with a low prevalence (see also Table 1 for last-month prevalence of cannabis use in countries where data on daily cannabis use were not available).

**Table 2. Surveys for which daily cannabis use information has been reported to the EMCDDA**

Country	Survey year	Number of last-month users	Net response (valid number of respondents)	All adults (standard age range 15–64 years)			
				Actual age range	Last-month prevalence of cannabis use (%)	% of daily or almost daily users (20 days or more) among last-month users	Prevalence of daily use among all adults (%)
Belgium	2008	204	6 792	15–64	3.1	29.4	0.9
Czech Republic	2004	170	3 526	15–64	4.8	7.2	0.3
Czech Republic	2008	385	4 500	18–64	8.6	9.1	0.8
Denmark	2005	187	8 956	16–64	2.6	15.9	0.4
Denmark	2010	262	11 611	16–64	2.3	20.6	0.5
Germany	2003	371	8 061	18–64	3.4	23.4	0.8
Germany	2009	184	8 030	18–64	2.4	16.8	0.4
Ireland	2002/03	126	4 925	15–64	2.6	22.5	0.6
Ireland	2006/07	n.a.	4 918	15–64	2.6	24.4	0.6
Greece	1998	104	3 398	15–64	2.3	19.5	0.5
Greece	2004	39	4 781	15–64	0.9	12.3	0.1
Spain	2001	1 058	14 113	15–64	6.8	33.6	2.3
Spain	2005	2 460	28 324	15–64	8.7	31.0	2.7
Spain	2009	1 518	20 109	15–64	7.6	33.9	2.6
France	2000	497	11 317	15–64	4.4	26.4	1.1
France	2005	1 222	25 879	15–64	4.8	32.4	1.6
France	2010	1 032	22 774	15–64	4.6	33.3	1.5
Italy	2001	171	6 032	15–64	4.7	19.3	0.8
Italy	2005	1 534	27 995	15–64	5.8	17.6	1.0
Italy	2008	679	10 940	15–64	6.9	24.4	1.7
Cyprus	2006	47	3 504	15–64	1.4	13.0	0.2

Country	Survey year	Number of last-month users	Net response (valid number of respondents)	All adults (standard age range 15–64 years)			
				Actual age range	Last-month prevalence of cannabis use (%)	% of daily or almost daily users (20 days or more) among last-month users	Prevalence of daily use among all adults (%)
Cyprus	2009	84	3 385	15–64	2.5	22.6	0.6
Latvia	2003	81	4 534	15–64	1.8	5.4	0.1
Lithuania	2008	268	4 777	15–64	1.2	6.1	0.1
Hungary	2007	30	2 579	18–64	1.2	21.4	0.3
Netherlands	2000/01	744	14 045	15–64	3.7	23.6	0.8
Netherlands	2005	150	4 516	15–64	3.3	23.0	0.8
Austria	2004	144	3 980	15–64	3.8	25.7	1.0
Austria	2008	56	3 354	15–64	1.7	11.1	0.2
Portugal	2001	335	14 184	15–64	2.4	23.2	0.6
Portugal	2007	293	12 202	15–64	2.4	44.1	1.1
Slovakia	2006	n.a.	2 020	15–64	2.0	–	–
Slovakia	2010	57	4 055	15–64	1.4	3.5	0.05
Finland	2010	25	1 873	15–64	1.4	13.0	0.5
United Kingdom <sup>a</sup>	2005/06	n.a.	29 932	16–59	5.2	–	–
United Kingdom	2010/11	n.a.	27 452	16–59	3.8	15.0	0.6
Norway	2004	57	2 575	15–64	2.2	12.7	0.3
Norway	2009	18	1 624	15–64	1.6	16.7	0.3

For more details on surveys, their methodology and results see EMCDDA 2012b, section on general population surveys.

<sup>a</sup> In the 2005/06 survey for the United Kingdom (England and Wales, British Crime Survey) the question on frequency of cannabis use was posed only to the 16- to 24-year-old age group, but it is imputed to the 16- to 34-year-old group. In this survey the frequency of use was assessed for the last 12 months.

**Table 3. Most recent survey available in each country reporting data on daily cannabis use**

Country	Survey year	Number of last-month users	Net response (valid number of respondents)	All adults (standard age range 15–64 years)			
				Actual age range	Last-month prevalence of cannabis use (%)	% of daily or almost daily users (20 days or more) among last-month users	Prevalence of daily use among all adults (%)
Belgium	2008	204	6 792	15–64	3.1	29.4	0.9
Czech Republic	2008	385	4 500	18–64	8.6	9.1	0.8
Denmark	2010	262	11 611	16–64	2.3	20.6	0.5
Germany	2009	184	8 030	18–64	2.4	16.8	0.4
Ireland	2006/07	n.a.	4 918	15–64	2.6	24.4	0.8
Greece	2004	39	4 781	15–64	0.9	12.3	0.1
Spain	2009	1 518	20 109	15–64	7.6	33.9	2.6
France	2010	1 032	22 774	15–64	4.6	33.3	1.5
Italy	2008	679	10 940	15–64	6.9	24.4	1.7
Cyprus	2009	84	3 385	15–64	2.5	22.6	0.6
Latvia	2003	81	4 534	15–64	1.8	5.4	0.1
Lithuania	2008	268	4 777	15–64	1.2	6.1	0.1
Hungary	2007	30	2 579	18–64	1.2	21.4	0.3
Netherlands	2005	150	4 516	15–64	3.3	23.0	0.8
Austria	2008	56	3 354	15–64	1.7	11.1	0.2
Portugal	2007	293	12 202	15–64	2.4	44.1	1.1
Slovakia	2010	57	4 055	15–64	1.4	3.5	0.05
Finland	2010	25	1 873	15–64	1.4	13.0	0.5
United Kingdom	2010/11	n.a.	27 452	16–59	3.8	15.0	0.6
Norway	2009	18	1 624	15–64	1.6	16.7	0.3

For more details on surveys, their methodology and results see EMCDDA (2012b), section on general population surveys.

**Table 4. Most recent survey available in each country reporting data on daily cannabis use — data on young adults (aged 15–34 years)**

Country	Survey year	Number of last-month users	Net response (valid number of respondents)	Young adults (standard age range 15–34 years)			
				Actual age range	Last-month prevalence of cannabis use (%)	% of daily or almost daily users (20 days or more) among last-month users	Prevalence of daily use among young adults (%)
Belgium	2008	109	2 550	15–34	6.9	31.7	2.2
Czech Republic	2008	316	1 892	15–34	16.7	9.5	1.6
Denmark	2010	111	3 381	16–34	5.1	13.3	0.7
Germany	2009	93	3 876	18–34	5.4	16.5	0.9
Ireland	2006/07	n.a.	n.a.	15–34	4.2	25.0	1.8
Greece	2004	33	2 620	15–34	1.5	12.0	0.2
Spain	2009	821	n.a.	15–34	14.1	33.6	5.0
France	2010	841	7 727	15–34	9.8	33.5	3.3
Italy	2008	606	6 398	15–34	9.9	19.6	1.9
Cyprus	2009	67	1 810	15–34	4.5	25.4	1.1
Latvia	2003	71	n.a.	15–34	1.8	4.3	0.2
Lithuania	2008	55	2 152	15–34	2.6	6.4	0.2
Hungary	2007	26	1 111	18–34	2.7	15.4	0.4
Netherlands	2005	76	n.a.	15–34	5.6	28.9	1.6
Austria	2008	43	1 261	15–34	3.4	9.3	0.3
Portugal	2007	203	4 765	15–34	4.5	46.8	2.1
Slovakia	2010	50	1 769	15–34	2.8	4.0	0.1
Finland	2010	23	875	15–34	1.4	14.3	0.5
United Kingdom	2010/11	n.a.	9 589	16–34	6.8	15.0	1.0
Norway	2009	9	632	15–34	2.1	11.1	0.2

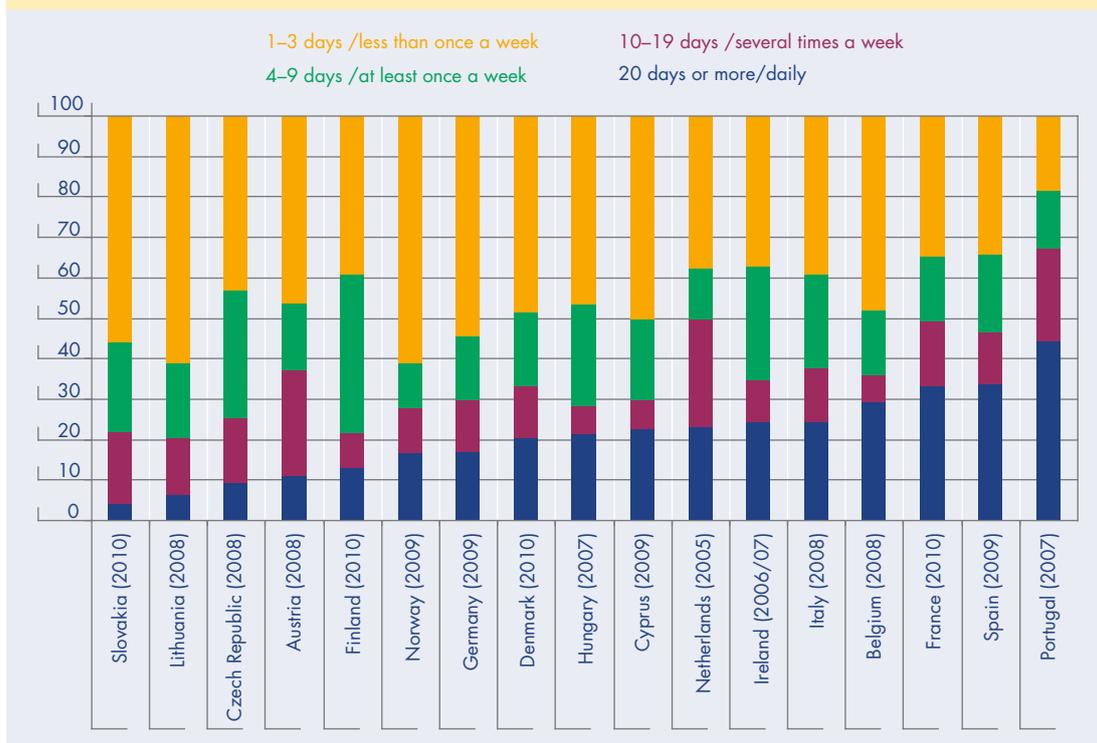
For more details on surveys, their methodology and results see EMCDDA (2012b), section on general population surveys.

## Proportion of daily or almost daily users among people who used cannabis in the last month

Twenty countries reported data on daily cannabis use among all adults (aged 15–64; see Table 3). Depending on the country, cannabis was used on 20 days or more by 3.5 % (Slovakia in 2010) to 44.1 % (Portugal in 2007) of respondents who had used the substance in the last month. The average prevalence in the 20 countries, weighted by the estimated numbers of last-month cannabis users in the general populations of each country, was 24.8 %.

The remaining cannabis users reported using the substance on 10–19 days (on average 14.6 %), 4–9 days (17.8 %) or 1–3 days (45 %) in the previous month. Figure 1 shows the distribution of last-month cannabis users across the groups defined by frequency of cannabis use.

**Figure 1. Distribution of frequency of cannabis use in all adults (aged 15–64 years) who have used the drug in the last month, by country**



## Prevalence of daily or almost daily cannabis use

Among all adults (15–64 years), prevalence ranged from 0.05 % (Slovakia) to 2.6 % (Spain, see Table 3), with a median of 0.55 %. Interquartile range was 0.6 % (the first quartile being 0.25 % and the third quartile 0.85 %).

The weighted average of prevalence (weighted by population size) was 1 %.

Among young adults (15–34 years), prevalence ranged from 0.1 % (Slovakia) to 5 % (Spain; see Table 4). The median was 0.95 %. The interquartile range was 1.65 % (the first quartile being 0.2 % and the third quartile 1.85 %).

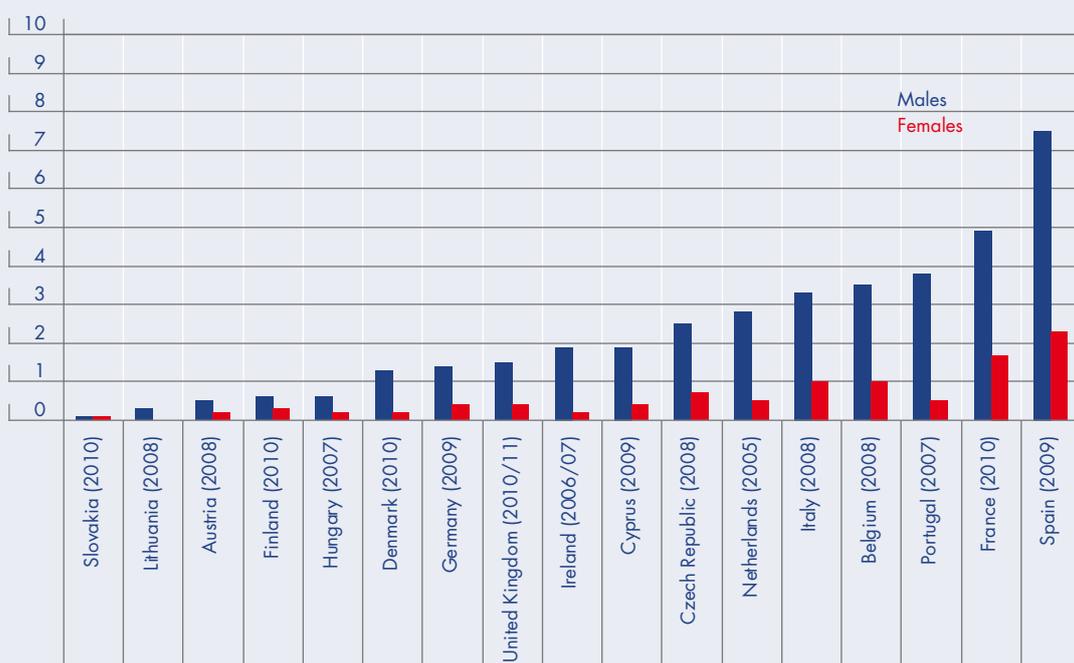
The weighted average of prevalence (weighted by population size of the countries taking part in the analysis) was 1.9 %.

Applying these prevalence rates to the population sizes of corresponding age gives an estimate of over two-thirds (around 70 %) of daily cannabis users in European countries being in the age group 15–34 years.

## The role of gender

The prevalence of daily cannabis use by gender (among young adults only) is presented in Figure 2. Prevalence in young males is considerably higher than in their female peers. In some countries, 3.0–7.5 % of young males are daily cannabis users. In the 17 countries where information is available and sample sizes are sufficient, males would account for more than three-quarters of daily cannabis users in the age group 15–34 years. This, combined with population sizes and the fact that there is a higher prevalence of daily cannabis use among young adults (aged 15–34, see above), means that probably just over half of daily cannabis users in Europe come from the population group of young males aged 15–34.

**Figure 2. Prevalence of last-month daily cannabis use among 15- to 34-year-olds by gender**



## Changes over time

In the 15 countries for which more than one data point was available, data suggest a relatively stable prevalence of daily cannabis use overall. Applying approximate confidence intervals to the estimates, it appears that an increase probably occurred in Portugal whereas decreases probably occurred in Germany, Austria and the United Kingdom (among the 15- to 34-year-olds in the latter case) <sup>(5)</sup>.

## Estimation of the prevalence of daily cannabis use in the EU and Norway

In the 20 countries providing data, it can be estimated that there are approximately 2 960 000 daily users. For the rest of the EU countries, representing less than 17 % of the total EU population, information on last-month cannabis use prevalence is available, corresponding to approximately 444 000 users <sup>(6)</sup>. Assuming that, among these past-month users, the proportion of daily users will be equivalent to that in countries providing data (i.e. 24.8 %), a simple calculation yields an estimate of around 110 000 daily cannabis users in these countries, making an estimated total of over 3 million <sup>(7)</sup> daily cannabis users in the EU and Norway.

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<sup>(5)</sup> Over 4- to 6-year periods. Only data collected after 2000 were taken into account in this analysis.

<sup>(6)</sup> With the exception of Slovenia, where only last-year prevalence is available. However, by applying the EU average proportion of last-month users to the figure for last-year users (50 %), an approximate total figure can be derived for the purpose of this rough calculation.

<sup>(7)</sup> This would be lower than an estimate obtained by applying average population prevalence of daily cannabis users in the countries providing data (just over 1 %) to the entire EU and Norway population, giving a figure of around 3.5 million. However, the estimate provided above would probably be more accurate, given that countries not reporting data on daily cannabis use are, in general, those with lower or much lower prevalence of last-month cannabis use.

### 3. Discussion: strengths and limitations of the data on daily cannabis use in Europe

The estimates of daily or almost daily cannabis use presented in this report are useful but do have limitations. In particular, comparisons between countries need to be made with caution because of some differences in data collection methods and survey instruments used (see Table 1).

The resulting EU estimates cannot be attached to a particular year. The data from which they were derived correspond mostly to the period 2005–10 (although for a number of countries, including the most populated countries, the surveys correspond to the years 2009–10). However, countries with more recent results were those with higher prevalence, and therefore limiting the analysis to more recent years would probably overestimate EU prevalence due to these non-at-random missing data. Moreover, although the national surveys were not conducted in the same year, their estimates appear relatively stable during consecutive years in most countries with repeated surveys during the examined time period. The same applies to last-month prevalence of cannabis use in cases where data on daily cannabis use were not available.

In addition, cultural differences, particularly those impacting on the willingness to report cannabis use, are likely to exist. It is reasonable to assume that (downwards) reporting biases may be more pronounced in countries where the use of the drug is most stigmatised, and there is probably an association between levels of stigmatisation and prevalence of use. These limitations apply to both national and EU estimates. It is, however, worth noting that the national estimates of daily cannabis use are obtained using the same basic methodological principles: nationally representative population surveys with generally large sample sizes (see Table 2) in which information is self-reported and data collection scales are relatively well harmonised. Also, it is not likely that the above-mentioned cultural differences will result in over-reporting (the possible bias is in only a downwards direction), so the overall estimate can be understood in this context.

The estimates are derived from a sample of those reporting cannabis use in the last month, and thus will not include those who have been using the drug on a daily basis in the last year but not consumed it (near) daily in the month prior to interview. Thus, more research is needed to understand whether and how the estimates can be interpreted in relation to the annual prevalence. Annual prevalence of intensive cannabis use would be relevant from the point of view of understanding prevalence of related harms in the corresponding time frame (e.g. dependence, harmful use). On the other hand, 1-year prevalence would suffer from a higher recall bias. In this respect, the recall period of 'last month' should, as a rule, give a more precise result.

This exercise does demonstrate that data collection on daily cannabis use using general population surveys is feasible and it permits an estimate to be made from surveys currently covering around 83 % of the EU's population.

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