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Driving under the Influence of Drugs, Alcohol and Medicines

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Prevalence of Psychoactive Substances in the General Population

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Task 2.1.1. Prevalence of Psychoactive Substances in the General Population

Authors:

S.Ravera^{1,2}, J.J. de Gier^{1,2}

¹ University of Groningen, Department of Pharmacotherapy and Pharmaceutical Care, Antonius Deusinglaan 1, 9713 AV Groningen, The Netherlands

² DRUID partners

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- Koos Brouwers (Department of Pharmacotherapy and Pharmaceutical Care, University of Groningen, The Netherlands)

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Introductory note

This report is part of an integrated European Union (EU) project called Driving Under the Influence of Drugs, Alcohol and Medicines (DRUID).

The aim of DRUID is to gain new insights to the impairment caused by psychoactive drugs and their actual impact on road safety, to fill the gaps of knowledge and to provide a solid base to generate harmonized, EU-wide regulations for driving under the influence of alcohol, drugs and medicine.

The consumption of psychoactive substances such as alcohol, drugs and certain medicines are likely to endanger the drivers attitude and impaired driving is still one of the major causes for road accidents. Data about the consumption of medicinal and illicit drugs in the general population give information about the dimension of the problem and about the distribution of specific psychoactive substances consumed in the various EU member states. Data about drug consumption in general are also important to decide which substances should be taken in the focus for further research within the DRUID project.

This report focuses on the consumption of both medicinal and illicit drugs in Europe. The first part of the report illustrates the consumption patterns of some medicinal drug classes that have central nervous system (CNS) effects or side effects. The medicinal drug classes have been chosen in order to cover the most frequently used psychotropic medicines and medicines with CNS side effects that are known to affect driving performance and potentially increase crash risk. Retrospective medicinal drug utilization data was collected through scientific networks, and publicly available websites. In order to enable comparison of drug utilization between countries, and to detect trends over time, the Anatomical Therapeutic Chemical (ATC)/defined daily dose (DDD) methodology was chosen. The second part of the report illustrates the illicit drug use. The illicit drug groups include cannabis, some synthetic drugs, cocaine and opioids. This latter part of the report is based on the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) annual report on the state of the drug problem in Europe. The data are based on information that is provided to the EMCDDA by European countries in the form of a national report which refers to national surveys among target groups.

Medicinal drug consumption in Europe

Introduction

In the year 2000 road accidents killed over 40,000 people in the EU and injured more than 1,7 million (1). The EU set an ambitious goal to half the number of road deaths over the years 2000 until 2010 (2). As an increasing proportion of these road accidents can be attributed to the use of psychoactive substances (i.e. alcohol, drugs and certain medicines), some active steps have to be taken in order to gain a better knowledge of this relevant problem and introduce appropriate measures.

The objective of the Driving Under the Influence of Drugs, Alcohol and Medicines (DRUID) project within the EU 6th framework programme is to give scientific support to the EU transport policy to reach the road safety target by finding answers to the question of the use of drugs and/or medicines that affect people's ability to drive safely and by providing guidelines and measures to face impaired driving (3).

A deep knowledge about the consumption of psychoactive substances in drivers is crucial for improving the current road safety policies. In addition, a better knowledge about the use of medicinal drugs in the general population in the different EU-member states could also play an important role. For these reasons part of the DRUID project (DRUID Work Package 2) will focus on these two points.

This current study will concentrate on utilization of specific psychoactive substances with central nervous system (CNS) side effects consumed in the different EU-countries and about the dimension of their use.

Aim

The aim of this study is to describe the dimension of the consumption of psychotropic medicinal drugs and some frequently used medicinal drugs with CNS side effects in a non-hospitalised population in Europe in a retrospective data collection over the years 2000 until 2005 in order to support further research in the DRUID project. The consumption data was collected to detect trends in the individual countries that illustrate an increased or decreased usage of most relevant medicinal drug groups with known accident risk potentials.

Methods

In this study a methodological approach similar to the approach that was adopted in the European Surveillance of Antimicrobial Consumption (ESAC) project was followed (4).

In order to collect publicly available, comparable and reliable data on the use of psychotropic drugs and drugs with central nervous system (CNS) side effects, existing international networks of surveillance systems were approached. The data were requested for the years 2000–2005; however, if data were available for only a few years, responses were still appreciated.

Countries

We intended to ask thirty countries (the current EU member States, Iceland, Norway and Switzerland) to supply data concerning the use of medicinal drugs of interest in their country.

The countries were approached using two international networks being the Post-Innovation Learning through Life-events of drugs (PILLS) of the Utrecht University, the Netherlands, and the European Drug Utilization Research Group (EURODURG) or directly via public websites when possible (i.e. Scandinavian countries and the Netherlands), and data collection forms were supplied. Nine countries were approached by the PILLS network (i.e. Austria, Belgium, Czech Republic, Germany, Hungary, Lithuania, Portugal, Slovenia and United Kingdom) while nine countries were approached by the EURODURG network (i.e. Bulgaria, Croatia, France, Greece, Iceland, Ireland, Italy, Serbia and Spain). It is important to underline that it was beyond the scope of this study to develop new data collection activities.

Data collection form

The data collection forms were provided in Microsoft Office Excel, and an example can be seen in the Annexes to this report (Annexes, Table 1 and Table 2). These forms were accompanied by a request letter for the data collection and by a questionnaire concerning the characteristics of data sources and data providers (Annexes, Table 3).

Selected medicinal drugs

Data collection was expected to be aggregated at the level of the active substance, using the Anatomical Therapeutic Chemical (ATC) classification system, as recommended by the World Health Organization (WHO) (5).

The following ATC subgroups (Table 1) were included in order to cover the most frequently used psychotropic medicines and medicines with CNS side effects that are known to be of relevance for traffic safety (6-11) (for a list of substances per subgroup, see Annexes, List of selected substances for DRUID 2.1.1.). Glucose-lowering medicines and anti-epileptic drugs, also known to be potentially impairing, were excluded from the selection for this study because extensive measures are in place for the regulation of driving while using these medicines (12).

Table 1. Selected groups of psychotropic medicines and medicines with CNS side effects

ATC
N02A Opioids (total group) N02AC02 Methadone* N02AC06 Levacetylmethadol*
N05A Antipsychotics
N05B Anxiolytics
N05C Hypnotics and sedatives
N06A Antidepressants (total group) N06AA Non-selective monoamine reuptake inhibitors N06AB Selective serotonin reuptake inhibitors N06AX12 Bupropion*
N07B Drugs used in addictive disorders (total group) N07BA02 Bupropion* N07BC02 Methadone* N07BC03 Levacetylmethadol*
R06A Antihistamines for systemic use (total group) R06AE Piperazine derivatives R06AX Other antihistamines for systemic use

*These substances changed therapeutic subgroups within the time frame of this research question.

Unit of expression

Consumption was expressed in defined daily doses (DDD) per 1,000 inhabitants per day or as total number of DDDs per year accompanied by the number of inhabitants for the matching periods and region(s). If needed, results were calculated and expressed as DDD/1,000 inhabitants/day. It is important to note that the DDD is the assumed average maintenance dose per day for a drug used for its main indication in adults, it is a unit of measurement and, therefore, it does not reflect precisely the recommended or prescribed daily dose (5).

The DDD/1,000 inhabitants/day system was chosen since it is a common unit of measurement tool to present drug utilization statistics, and it enables international comparisons of drug use and evaluations of trends in drug use over time (5).

Types of data sources

Data on psychotropic medicines and medicines with CNS side effects comprised reimbursement data (e.g. reimbursement data from community and hospital pharmacies) and sales or distribution data (e.g. sales data collected by a market research company, social insurance companies, ambulatory care data

collected by an organization of community pharmacies, national agencies of medicines, scientific institutes of a health insurance company, ministry of health/national insurance company, national institutes of public health). Consumption data for ambulatory and hospital care were not to be provided.

Results

Using the PILLS and the EURODURG networks, and public websites, twenty-three countries could be approached, and data from thirteen countries were obtained (i.e. consumption data from Bulgaria, Czech Republic, Denmark, Finland, Germany, Hungary, Iceland, Norway, Portugal, Serbia, Slovenia, Sweden and the Netherlands).

Data from Czech Republic were not included in this study, as they did not meet the study criteria (i.e. the medicinal drugs were aggregated at a brand level, and consumption was expressed in number of sold packages); therefore, hereafter, we will refer to the remaining twelve EU data providers.

Characteristics of data providers

A wide range of trustworthy providers provided the consumption data on psychotropic medicines and medicines with CNS side effects. An overview of the specific data providers per country is reported in Annexes, Table 4. Data providers included national agencies of medicines, national institutes of public health, social insurances companies, ambulatory care data collected by organizations of community pharmacies, Ministry of health/national health insurance companies and scientific institutes of health insurance companies.

Population coverage

The available consumption data covered 100% of the country population. Only three countries (Germany, Slovenia and the Netherlands) could not provide consumption data that covered 100% of their country population and only in one case (Sweden) it was not possible to establish whether the percentage of the covered population was equal to 100%.

Drug coverage

The delivered data were supposed to cover 100% of the medicinal drug consumption. However, in some countries, the validity of the collection could have been hampered by the limitation of the data collection system or by underdetection due to a substantial over-the-counter (OTC) sales.

Hospital data

Consumption data for ambulatory and hospital care were neither requested nor included in this study. However, in some countries (i.e. Finland, Iceland, Norway and Serbia) it was not possible to separate the total data from ambulatory and hospital care data.

Drugs with a changed ATC code or with a changed DDD

A small number of the medicinal drugs of interest for this study had a change in the ATC code within the period 2000-2005 (Annexes, Table 5). Levoceterizine remained within the same therapeutic subgroup while bupropion, levacetylmethadol and methadone changed therapeutic subgroups (13). In order to avoid bias the consumption data on these three substances were requested separately.

Four changes in the DDD were made within the time frame of this retrospective study. These changes concerned the following active substances: bezitramide, fentanyl, hydromorphone and oxycodone and they are reported in the Annexes, Table 6 (13).

Graphs

The data on the use of psychotropic medicines and medicines with CNS side effects are expressed as a graph of consumption year on the x-axis and DDD/1,000 inhabitants/day on the y-axis (Figures 1-5 and Annexes, Figures 6-13).

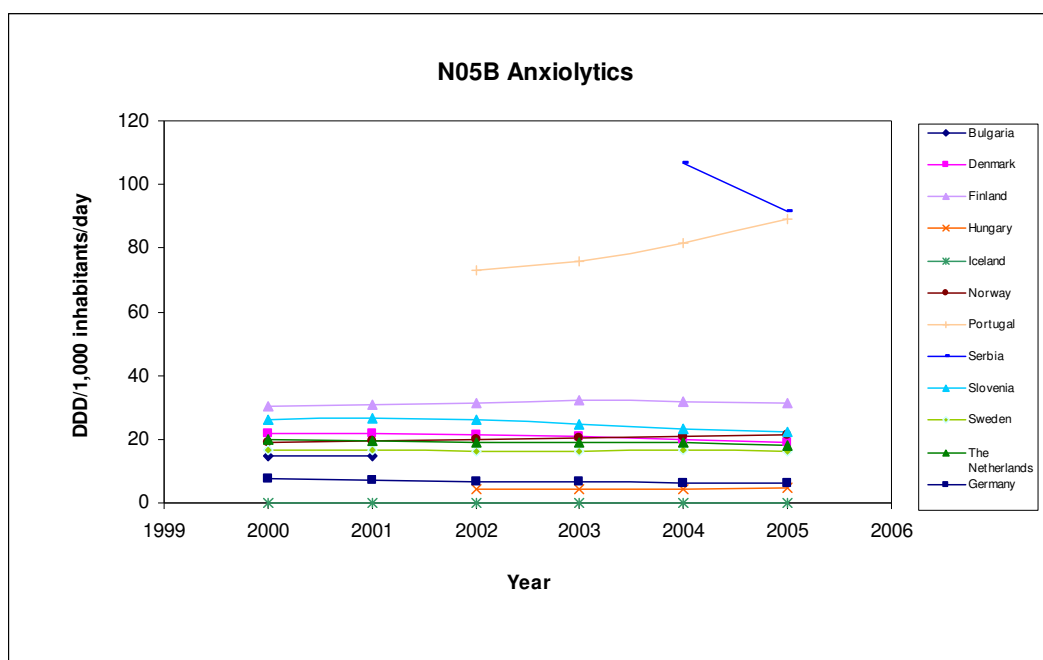


Fig. 1. Trends in anxiolytic consumption (ATC code: N05B) from 2000 to 2005 in some EU countries.

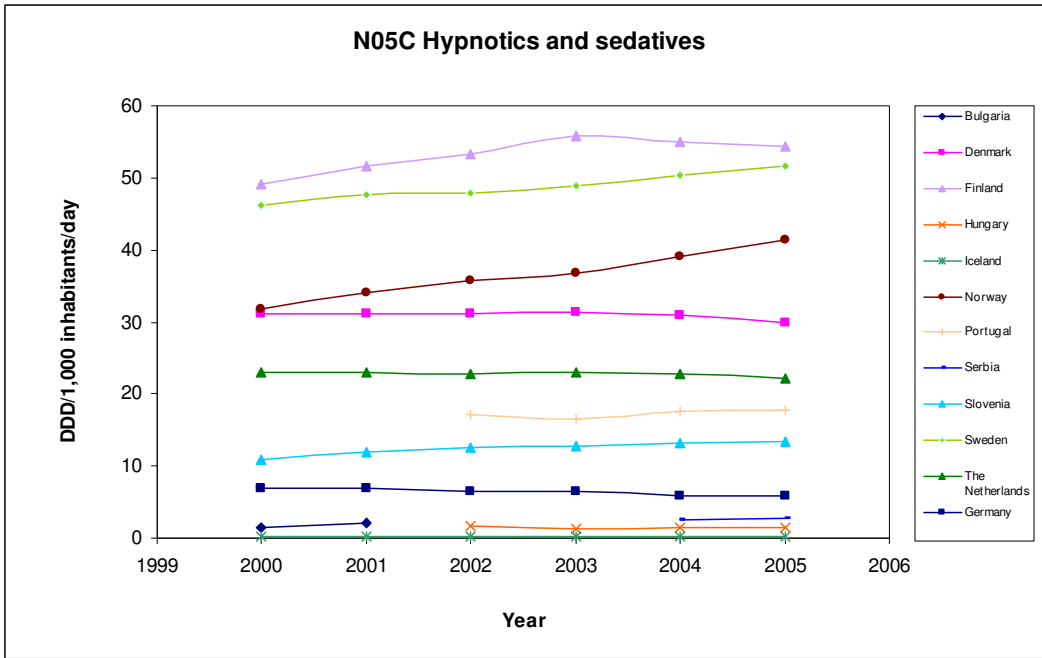


Fig. 2. Trends in hypnotic and sedative consumption (ATC code: N05C) from 2000 to 2005 in some EU countries

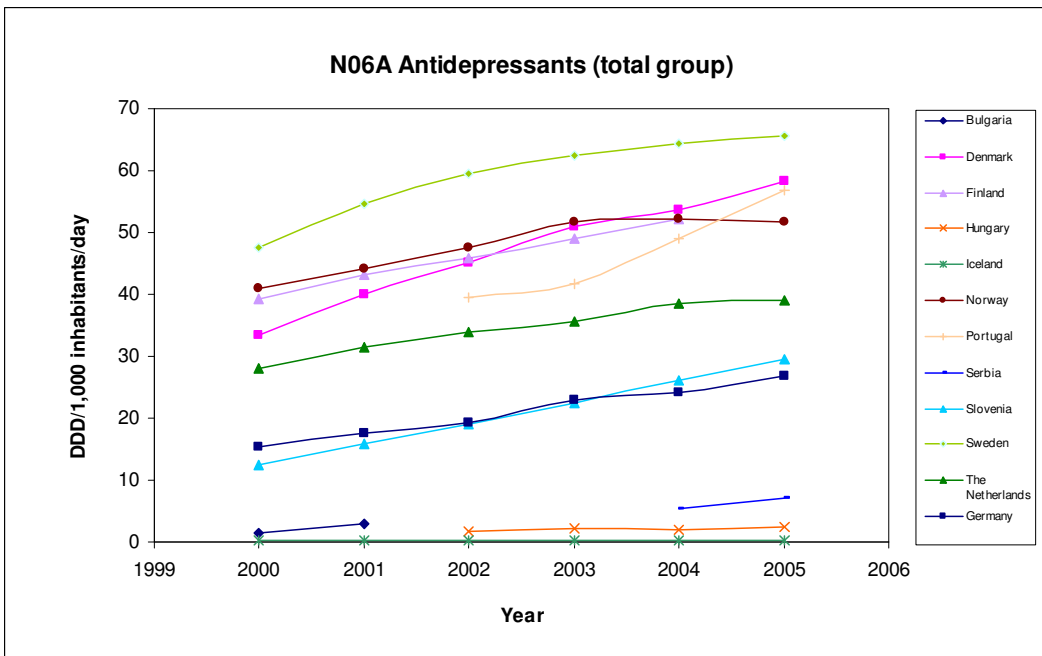


Fig. 3. Trends in antidepressant consumption (total group) (ATC code: N06A) from 2000 to 2005 in some EU countries.

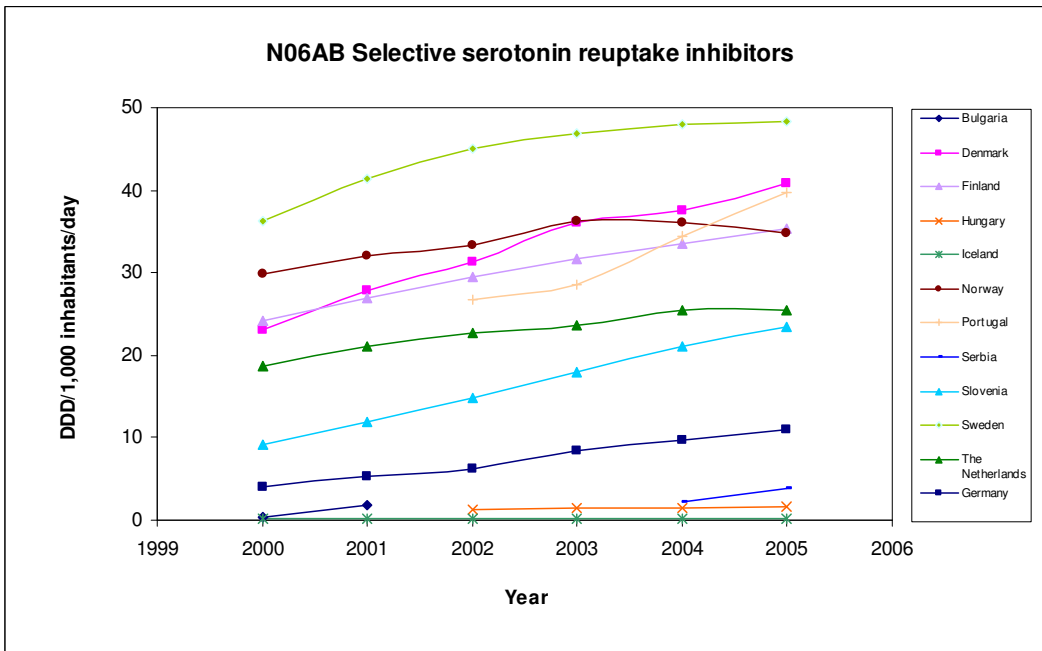


Fig. 4. Trends in selective serotonin reuptake inhibitor consumption (ATC code: N06AB) from 2000 to 2005 in some EU countries.

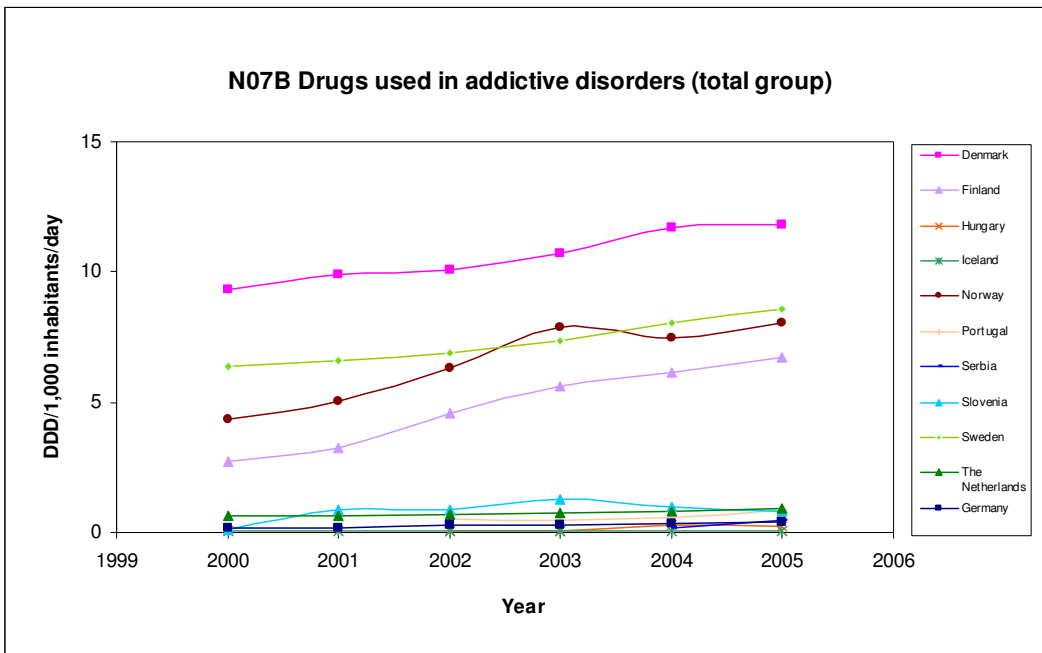


Fig. 5. Trends in drug used in addictive disorders consumption (total group) (ATC code: N07B) from 2000 to 2005 in some EU countries.

Discussion

This study aimed at gaining a step forward in the ability to collect reliable retrospective drug consumption data from public sources, and at assessing the situation in Europe regarding the consumption of psychotropic medicines and medicines with CNS side effects in a non-hospitalized population over the years 2000-2005.

The data collection process was made possible by voluntary cooperation of twelve European countries which provided trustworthy and valid consumption data. However, the collection of the medicine consumption data currently does not cover all the countries that have been invited to join the data collection procedure, and, therefore, several gaps remain on the European map on the accomplishment of the study.

In the data collection process the availability of a cross-national collection system based on the same data sources and data providers could be of fundamental importance and of great reliability. However, in this study, this approach was not available, and, as a consequence, the consumption data were delivered from a wide range of different and heterogeneous sources and providers (Annexes, Table 4). Although the data sources and providers were reliable, limitations such as incompleteness of data and non-availability of information cannot be completely ruled out.

In three countries the delivered consumption data did not cover 100% of the population. These three countries were Germany, Slovenia and the Netherlands. In Germany, since the data provider (i.e. Deutsche Arzneiprüfungsinstitut e. V.–DAPI) receives reimbursement data from only five of the approximately ten 'Rechenzentren' (i.e. data processing centres) that operate in the country, it was expected the data to reflect 80% of the population within the German Statutory Health Care System. In Slovenia, the estimated covered population was equal to 99% since the data provider (i.e. the Ministry of Health/National Health Insurance company) could not establish the exact number of Slovenian citizen who were supposed to have a national health insurance due to some yearly fluctuations in this number. In the Netherlands, the delivered consumption data were based on a representative sample, they covered 80% of the Dutch population, and they referred to drugs that were prescribed by general practitioners and specialists and dispensed by pharmacists, dispensing general practitioners and other outlets as well as being reimbursed under the Health Care Insurance Act. Valid extrapolation was not possible in Sweden and, therefore, it is unknown whether the consumption data cover 100% of the population of the entire country. However, even in data collection systems where 100% of the population is supposed to be covered, census bias cannot be completely ruled out. These could be due, for instance, to underdetection in case of countries where the reimbursement system does not cover the whole population (in data collection systems based on reimbursement data), slight variations in the exact number of insured people (in data collection systems referring to consumption data from insurance companies), missing or incorrect information in the data source from which information about drug use is obtained, etc.

Another source of potential bias might concern the drug coverage. In countries where an OTC drug use of the medicinal drugs of interest is authorized and widespread, underdetection bias in case of data collection systems based on reimbursement data have to be taken into consideration. Underdetection bias can also occur in case of countries where some psychotropic medicines and medicines with CNS side effects are excluded from the reimbursement lists and the data collection system of these countries refers to reimbursement data. For instance, in some countries the use of the medicinal drugs involved in this study might not be reimbursed either because they are too expensive or too inexpensive, either because their reimbursement is limited to specific diagnoses or patient groups, either because they have a questionable therapeutic value or dubious cost/effectiveness ratio (14, 15). These particularities of the reimbursement system might hamper the validity of the data collection, and, therefore, have to be carefully weighted.

Another important point to be considered is the hospital data. As stated before, consumption data concerning ambulatory and hospital care were not to be included in this study. However, consumption data delivered by Finland, Iceland, Norway and Serbia included hospital data as well. It is unknown whether the Swedish consumption data encompassed hospital data or not. In Iceland the hospital data covered approximately 30% of the total consumption data; in the other three countries the percentage of coverage could not be assessed. Therefore, in these countries, the validity of the consumption estimate may be distorted by overestimation.

The last source of hypothetical bias might refer to the ATC/DDD classification of the medicinal drug with an alteration in the ATC codes or in the DDDs over the years 2000-2005. Although the data referring to the active substances with an alteration in their ATC code were requested separately, the majority of the countries was not able to fully provide the consumption of these substance, leading to a substantial underestimation of their use. For example, none of the twelve countries was able to provide data referring to the consumption of levacetylmethadol. This could be due to the fact that this active substance was not marketed (e.g. Hungary) or it was not registered (e.g. Iceland) in the country or it could also be explained with the withdrawal of Orlaam® (Levacetylmethadol) from the EU market in the year 2002 by the European Medicines Agency (EMA) (16).

The consumption of the four active substances with a change in their DDD might have been misclassified as well. No specific details of the calculation of the number of defined daily doses were reported, and, therefore, it is unknown whether the old or the new DDD was used for this calculation.

Other possible sources of bias with respect to the ATC/DDD classification could be associated with the use of different ATC/DDD versions, different DDDs for combination products and the use of unofficial or national DDDs (17).

In light of the considerations that have been shown up to this point, it is possible to conclude that, due to a great variation in the methods of the data collection and in the types of data sources and providers and due to different sources of bias, a cross-national comparison of psychotropic medicine and medicine with CNS side effect consumption in Europe could not be achieved yet. These observations are consistent with the study presented by Vander Stichele et al. (4) and the finding of other authors as well (17-20). On a national level, however, patterns of the use of the medicinal drugs of interest in a given country

can be analysed. Based on the national data, an increase in consumption can be seen only for the antidepressants (ATC code N06A) and for the drugs that are used in addictive disorders (ATC code N07B). Regarding the use of the antidepressants, the consumption data show an increase in all the twelve countries; the highest increase can be seen in Portugal, the lowest increase can be seen in Hungary and Iceland and a small inflection can be noticed in the Norwegian data as for the years 2004 and 2005. The increased consumption of this medicinal class may be due to an increase in the ATC subgroup N06AB use (i.e. Selective serotonin reuptake inhibitors) that could be detected in all the countries with the exception of Norway where a decreased consumption was registered in the years 2004 and 2005. The rise in the use of SSRIs may result from the current clinical practice guidelines that recommend SSRIs as first-line treatments for panic and generalized anxiety disorders, instead of benzodiazepines (21-23). However, note that our figures showed no significant decline in benzodiazepine use across the years 2000-2005.

Regarding the drugs that are used in addictive disorders (ATC code: N07B), an increased consumption could be noticed as well. However, this is valid for eight of the twelve countries that provided the data, namely Denmark, Finland, Germany, Iceland, Portugal, Serbia, Sweden, and the Netherlands. An increased use was also seen in Slovenia, but this only concerned the first three years of interest. An interesting trend was observed in the case of Norway: a remarkable increase was registered in the years 2000, 2001 and 2002 followed by a decrease in the year 2004 and by another slight increase in 2005.

A slight increase or no increase was seen for the rest of the medicinal classes that were taken into consideration in this study. However, a quite remarkable decrease has been seen in the consumption of the antihistamines for systemic use, total group, (ATC code: R06A), and the subgroups piperazine derivatives (ATC code: R06AE), and other antihistamines for systemic use (R06AX) with respect to the German consumption data. This might be due to the implementation of a new legislation, the so-called GMG, in the year 2004. Part of this legislation implied a change in the reimbursement regulations for OTC-pharmaceuticals, and, for most indications, OTC products were no longer reimbursed by the health insurance system, but had to be paid by patients themselves (24). As a consequence, the consumption of some OTC medicinal drug could have been slightly affected.

Lastly, the analysis of the methadone (ATC code: N07BC02) consumption data proved somewhat problematic. Generally speaking, a small increase or no increase was observed for this active substance. However, some unusual drug utilization patterns could be observed in Norway and in Slovenia. In these countries a non-linear trend was noticed and, generally speaking, a rather big variation in the consumption of this medicinal drug was seen over the period of interest. These trends might be explained either with the main utilization of this drug (i.e. maintenance anti-addictive use in patients addicted to opioids) and the consequent difficulties in obtaining valid consumption data or with the various biases that could potentially affect the data collection procedures.

On the whole, it is important to point out that the overall utilization of the psychotropic medicines and medicines with CNS side effects did not show a remarkable decrease, and, except for some ATC classes (N06A, N07B and N07BC02) and a few exceptions (i.e. N02A Swedish consumption data; N05 Bulgarian consumption data; N06AA Bulgarian data; N05B Serbian consumption

data and N07BA02 Norwegian consumption data), it has been quite stable over the period 2000-2005.

Lastly, it is interesting to observe that, according to our figures, in the Scandinavian countries the consumption of the medicinal drugs of interest often seems much higher than in the other European countries. Considering that these countries are well known to be at the top in Europe when it comes to modern and rational prescribing of drugs and considering their long history and experience in data collection, the most appropriate reason is probably that Scandinavian countries could deliver more reliable and complete medicinal drug consumption data in comparison with some of the other countries.

Conclusion

An increase in the use of medicinal psychotropic drugs and drugs with central nervous system (CNS) side effects has been observed before (25) and it could also be observed in the results of this study. The major increase was seen in the consumption of antidepressants (ATC code: N06A) and drugs used in addictive disorders (ATC code: N07B). For the other classes of interest either a slight increase or no increase was noted. However, it is important to stress that, generally speaking, the results did not show a significant decrease in the consumption of these medicinal drug groups with known traffic accident risk potentials. The outcomes of this overview of the prevalence in general drug consumption in Europe will serve as a reference base for further research in the DRUID project, and, in particular, they will serve as a reference point for the epidemiological studies. The main purposes of the planned epidemiological studies will be to assess the prevalence of drug use among the driver population, accident-involved/injured drivers and drivers who caused an accident, and to determine the accident risk when driving under the influence of psychoactive substances. In turn, the outcomes of the epidemiological studies will be used to propose a European classification system for medicinal drugs deteriorating the mental and physical fitness to drive and suggest a suitable labeling system for the relevant therapeutic groups based on a European-wide consensus.

It is clear that the European map on the completion of the consumption data collection is not accomplished yet. Further attempts need to be made in order to complete the blank areas by means of a reliable data collection effort.

It is obvious from this study that methodological rigour is essential and necessary to assure the validity, the reliability and the homogeneity of the data and to ensure trustworthy cross-national comparisons. Improvements could be made in order to obtain better data, more harmonization of the data collection techniques, and a standardization of core data variables to establish a reliable epidemiological database.

Last but not least, international collaboration between different countries would be most welcome and it is highly recommended.

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Annexes

Table 1 and table 2: Example of the consumption data collection forms (Microsoft Office Excel).

These two tables show an example of the consumption data collection forms that were sent to the countries of interest via the PILLS network and the EURODURG network. These two forms were sent in Microsoft Office Excel format.

The first table mainly focuses on general information regarding the provided consumption data while the second table mostly focuses on the number of DDDs of the medicinal drugs of interest that were sold and on the population coverage over the years 2000 until 2005.

Table 1: Consumption data collection form

Welcome to this consumption data collection form and thank you very much for your co-operation.	
Please answer the questions below and fill in your data on the DATA sheet. You can return the file by e-mail, stating your country and "consumption data" in the subject please.	
If you have any questions please do not hesitate to contact us, either by phone or e-mail	
About your data	
Please indicate the type of data sources or providers: (i.e. social insurance company; reimbursement data from community and hospital pharmacies; sales data collected by a market research company; national agency of medicines; scientific institute of a health insurance company; ministry of health / national health insurance company; ambulatory care data collected by an organization of community pharmacies; national institute of public health)	
These data cover : % of the population of the country	
Are hospital data included in these data?	
Any other comments:	
Your contact details	
Name:	
Institute:	Country:
Address:	
Phone:	E-mail:

Table 2: Consumption data collection form

Data collection									
				2000	2001	2002	2003	2004	2005
ATC				Number of DDD's	Number of DDD's	Number of DDD's	Number of DDD's	Number of DDD's	Number of DDD's
N02A Opioids									
N05A Antipsychotics									
N05B Anxiolytics									
N05C Hypnotics and sedatives									
N06A Antidepressants									
	N06AA Non-selective monoamine reuptake inhibitors								
	N06AB Selective serotonin reuptake inhibitors								
N07B Drugs used in addictive disorders									
R06A Antihistamines for systemic use									
	R06AE Piperazine derivatives								
	R06AX Other antihistamines for systemic use								
The following three substances changed therapeutic subgroups within the time frame of this research question; (methadone, levacethylmethadol and bupropion). Please fill in the consumption data for these individual substances, using either the old or the new ATC-codes, as present in your database.									
				2000	2001	2002	2003	2004	2005
				Number of DDD's	Number of DDD's	Number of DDD's	Number of DDD's	Number of DDD's	Number of DDD's
	Methadone	old	N02AC 02						
		new	N07BC 02						
	Levacethylmethadol	old	N02AC 06						
		new	N07BC 03						
	Bupropion	old	N06AX 12						
		new	N07BA 02						
Demographics									
PERSONS COVERED	Number of people in database	% of population of the entire country		If the database only covers a region or small part of the country, please fill in the coverage for that (database) area too.				% of population in the database area	
01 July, 2000									
01 July, 2001									
01 July, 2002									
01 July, 2003									
01 July, 2004									
01 July, 2005									
If the index date for the demographics is different, please indicate.									

Table 3: Questionnaire.

This table shows the questionnaire that was sent together with the consumption data collection forms in order to have a complete overview of the characteristics of different data sources and data providers

<i>Country</i>	
Social insurance companies provided data	Y/N If yes coverage:.....% of population Hospital care included: Y/N
Reimbursement data from community and hospital pharmacies	Y/N If yes coverage:.....% of population Hospital care included: Y/N
Sales data collected by a market research company	Y/N If yes coverage:.....% of population Hospital care included: Y/N
National agency of medicines	Y/N If yes coverage:.....% of population Hospital care included: Y/N
Scientific institute of health insurance company	Y/N If yes coverage:.....% of population Hospital care included: Y/N
Ministry of health/ National health insurance company	Y/N If yes coverage:.....% of population Hospital care included: Y/N
Ambulatory care data collected by organization of community pharmacies	Y/N If yes coverage:.....% of population Hospital care included: Y/N
National Institute of Public Health	Y/N If yes coverage:.....% of population Hospital care included: Y/N

Table 4: Specific data sources and providers on psychotropic medicinal drug and medicinal drug with CNS side effects consumption per country.

This table describes the types of sources and data providers that provided consumption data concerning the medicinal drug classes of interest. A reference concerning the period coverage, population coverage, hospital data and drugs with a change ATC code is reported as well.

Country	Data sources and providers
Bulgaria	Consumption data for the period 2000-2001 were provided by a National Agency of Medicines (i.e. the Bulgarian Drug Agency). The data are based on the wholesaler monthly reports concerning the sold products, they cover 100% of the population and no hospital data are included. Consumption data for the period 2002-2005 were not available. Consumption data referring to the ATC subgroups N07BA02 (Bupropion), N07BC02 (Methadone) and N07BC03 (Levacetylmethadol) were not available either.
Denmark	Consumption data for the period 2000-2005 were provided by a National Agency of Medicines (i.e. the Danish Medicine Agency). The data refer to pharmacy sale data and they cover 100% of the population. No hospital data are included. Consumption data referring to the ATC subgroup N07BC03 (Levacetylmethadol) were not available.
Finland	Consumption data for the period 2000-2005 were obtained via the website of the National Agency for Medicines and Social Insurance Institution (i.e. a National Agency of Medicines). The data are based on the volume of sales to pharmacies and hospitals by wholesalers, they cover 100% of the population and they include hospital data as well. Consumption data referring to the ATC subgroup N07BA02 (Bupropion) were available only for the period 2003-2005. Consumption data referring to the ATC subgroup N07BC03 (Levacetylmethadol) were not available.
Germany	Consumption data for the period 2000-2005 were provided by the Deutsche Arzneiprüfungsinstitut e. V. (DAPI) (i.e. a scientific research institute sponsored by community pharmacies and professional pharmacists' organizations). The data refer to reimbursement data from community and hospital pharmacies and they do not cover 100% of the population (80% coverage). No hospital data are included. Consumption data referring to the ATC subgroup N07BC03 (Levacetylmethadol) are not included. This is due to the fact that no DDD was defined for Levacetylmethadol by the WHO and no national DDD was established. Concerning the ATC subgroup N07BC02 (Methadone), it is important to note that, in Germany, methadone is either dispensed as proprietary medicinal products (these DDD are included in the Data sheets) or as methadone preparations which are prepared by pharmacies and supplied to individual patients. The latter are not included in the data, as from the reimbursement code it was not possible to establish the amount of drug or DDD that was dispensed to patients.
Hungary	Consumption data for the period 2002-2005 were provided by the Hungarian National Health Fund Administration that is a social insurance company. The data are pharmacy sales data both for reimbursed and non-reimbursed drugs, they cover 100% of the population and they do not include hospital data. Consumption data for the period 2000-2001 were not available. Since Levacetylmethadol (ATC subgroup N07BC03) was not marketed in Hungary, no consumption data were available.
Iceland	Consumption data for the period 2000-2005 were provided by a National Agency of Medicines (i.e. the Icelandic Medicine Controle Agency). The

	data cover 100% of the population and hospital data are included (percentage: approximately 30%). The consumption data referring to the ATC subgroups N07BA02 (Bupropion) and N07BC02 (Methadone) for the period 2000-2001 were not available. Since Levacetylmethadol (ATC subgroup N07BC03) was not registered in Iceland, no consumption data were available.
Norway	Consumption data for the period 2000-2005 were obtained via the website of the Norwegian Institute of Public Health. The data are based on sales of medicinal products from wholesalers to pharmacies, hospitals, non-pharmacy outlets, etc. etc., they cover 100% of the population and hospital data are included as well. Consumption data referring to the ATC subgroup N07BC03 (Levacetylmethadol) were not available.
Portugal	Consumption data for the period 2002-2005 refer to ambulatory care data collected by an organization of community pharmacies (CEFAR database). The data are based on pharmacy sale data, they cover 100% of the population and no hospital data are included. Consumption data for the period 2000-2001 were not available. Consumption data referring to the ATC subgroups N07BC02 (Methadone) and N07BC03 (Levacetylmethadol) were not available.
Serbia	Consumption data for the period 2004-2005 were provided by the Medicines and Medical Devices Agency of Serbia (i.e. a National Agency of Medicines). Data providers are manufacturers, representatives and distributors of medicinal products. The data cover 100% of the population and the considered population is the population of Serbia without Kosovo and Metohija. Hospital data are included. Consumption data for the period 2000-2003 were not available. Consumption data referring to the ATC subgroup N07BC03 (Levacetylmethadol) were not available.
Slovenia	Consumption data for the period 2000-2005 were provided by the Ministry of Health/National Health Insurance Company. The data cover 99% of the population and no hospital data are included. Consumption data referring the ATC subgroup N07BA02 (Bupropion) for the period 2000-2001 were not available. Consumption data referring to the ATC subgroup N07BC03(Levacetylmethadol) were not available.
Sweden	Consumption data for the period 2000-2005 were obtained via the website of the Apoteket AB. It is unknown whether the data cover 100% of the population and whether hospital data are included. The consumption data referring to the ATC subgroups N07BA02 (Bupropion) and N07BC02 (Methadone) for the period 2000-2003 were not available. Consumption data referring to the ATC subgroup N07BC03 (Levacetylmethadol) were not available.
The Netherlands	Consumption data for the period 2000-2005 were provided by the Genees-en hulpmiddelen Informatie Project (GIP) (i.e. a Scientific institute of health insurance company). They are prescription-related data on drugs that are prescribed by general practitioners and specialists and dispensed by pharmacists, dispensing general practitioners and other outlets as well as being reimbursed under the Health Care Insurance Act. The data cover 80% of the Dutch population and do not include any hospital data. The consumption data referring to the ATC subgroups N07BA02 (Bupropion) and N07BC03 (Levacetylmethadol) were not available. As for the ATC subgroup N07BC02 (Methadone), it is important to note that, in the Netherlands, most of methadone is provided in special programs and that the delivered data do not include any consumption data referring to the above mentioned special programs.

Table 5: Alterations in ATC codes within the therapeutic classes selected for this study. This table shows four alteration in ATC codes within the selected therapeutic classes for this study. Levocetirizine remained within the same therapeutic subgroup and, therefore, this caused no bias. The three other substances changed their therapeutic subgroups and, therefore, they were requested separately in order to prevent bias.

<i>Old ATC code</i>	<i>Active substance name</i>	<i>New ATC code</i>
N02AC02	Methadone	N07BC02
N02AC06	Levacetylmethadol	N07BC03
N06AX12	Bupropion	N07BA02
R06AE08	Levocetirizine	R06AE09

Table 6: Alterations in DDDs within the therapeutic classes selected for this study. This table shows the alterations in DDDs within the selected therapeutic classes for this study. Four changes were made within the time frame of this study.

<i>Present ATC code</i>	<i>Substance</i>	<i>Previous DDD</i>	<i>New DDD</i>	<i>Year changed</i>
N02AC05	Bezitramide	10 mg O	15 mg O	2004
N02AB03	Fentanyl	0,6mg TD	1,2 mg TD	2005
N02AA03	Hydromorphone	4 mg O	20 mg O	2004
N02AA05	Oxycodone	30 mg O	75 mg O	2004

Figures 6-13: These figures depict the trends in the consumption of some of the medicinal drugs of interest for this study.

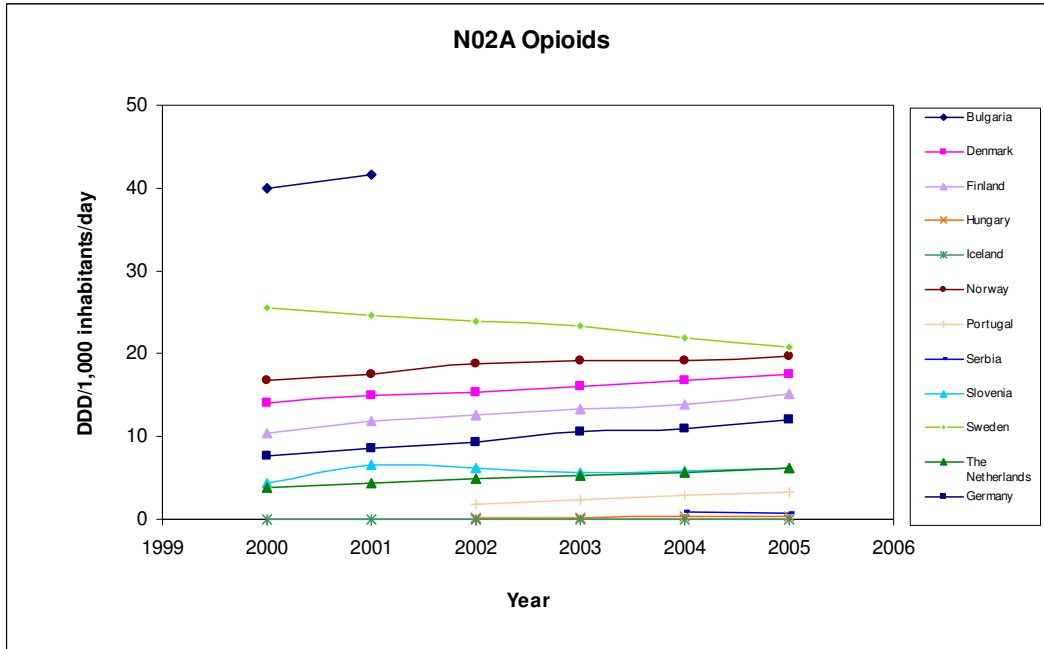


Fig. 6. Trends in opioid consumption (ATC code: N02A) from 2000 to 2005 in some EU countries.

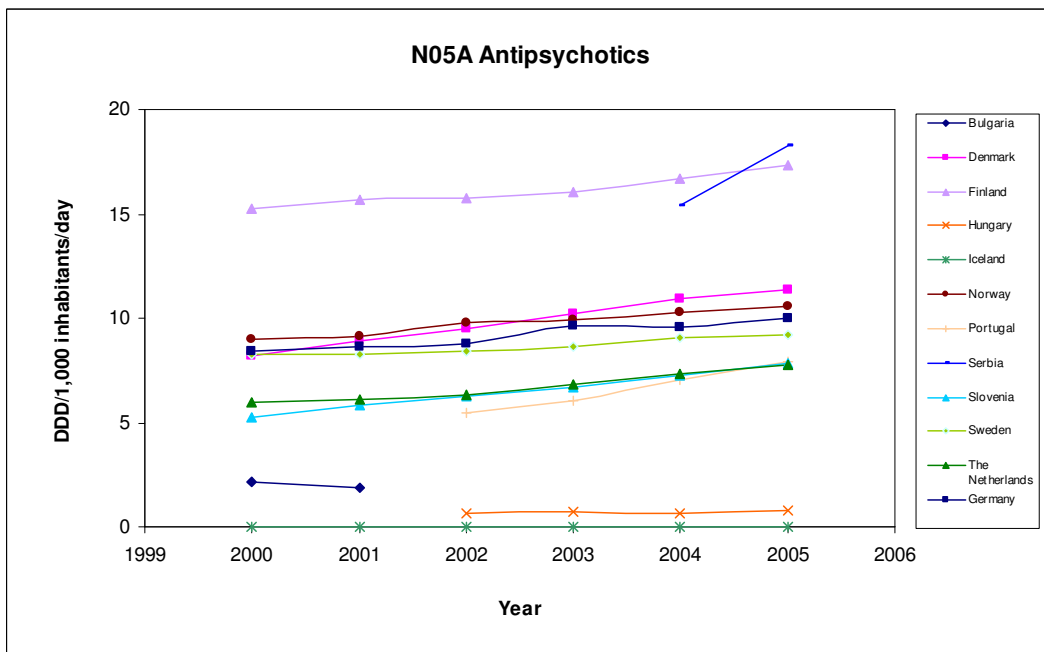


Fig. 7. Trends in antipsychotic consumption (ATC code: N05A) from 2000 to 2005 in some EU countries.

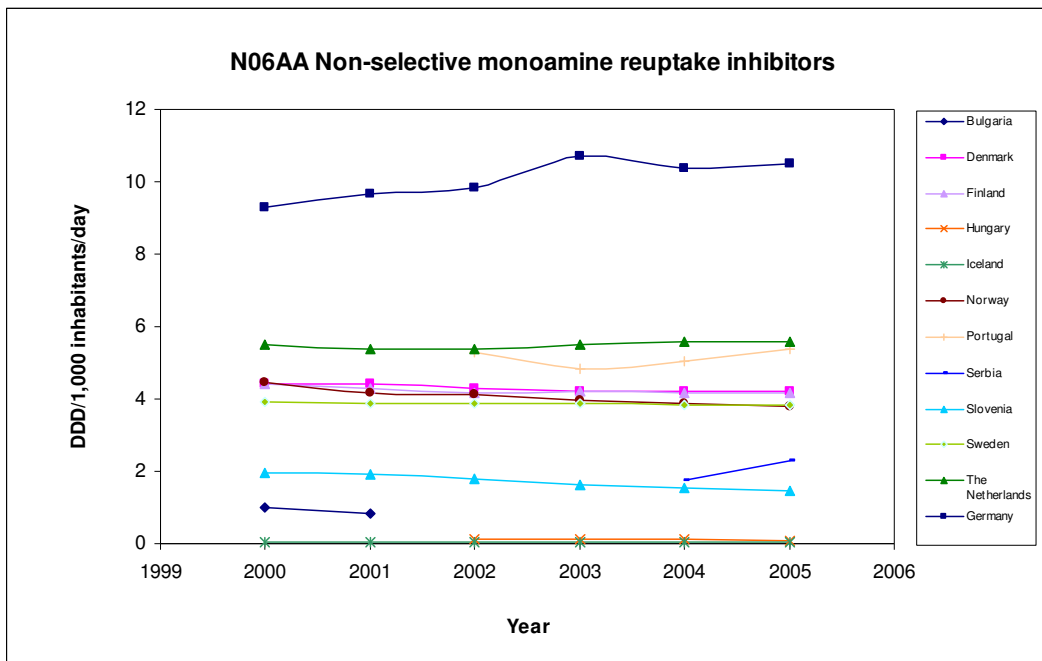


Fig. 8. Trends in non-selective monoamine reuptake inhibitor consumption (ATC code: N06AA) from 2000 to 2005 in some EU countries.

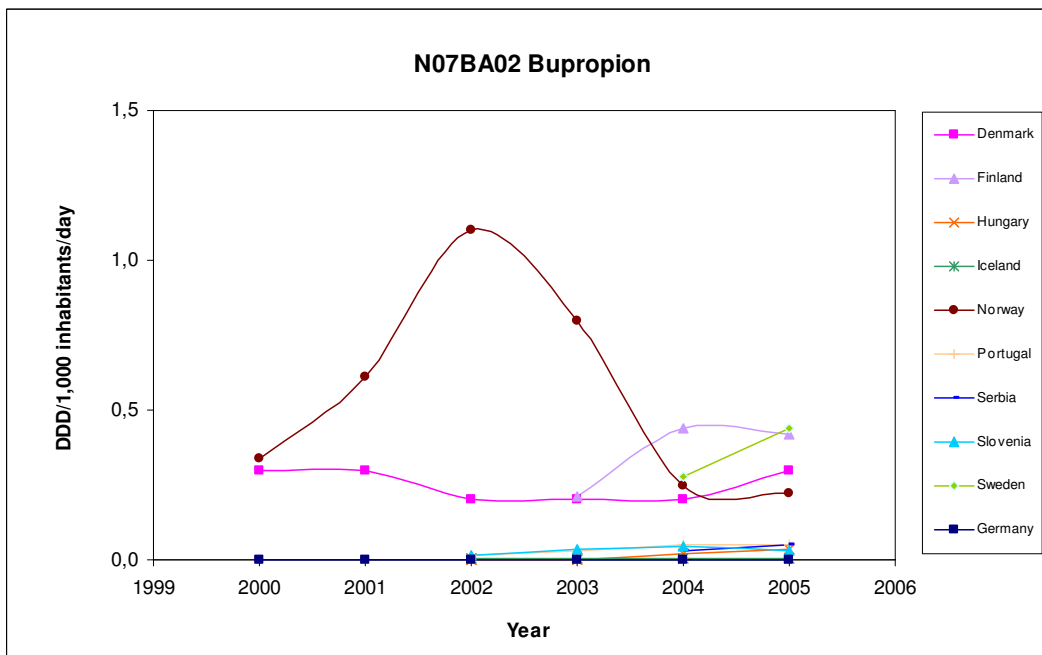


Fig. 9. Trends in bupropion consumption (ATC code: N07BA02) from 2000 to 2005 in some EU countries.

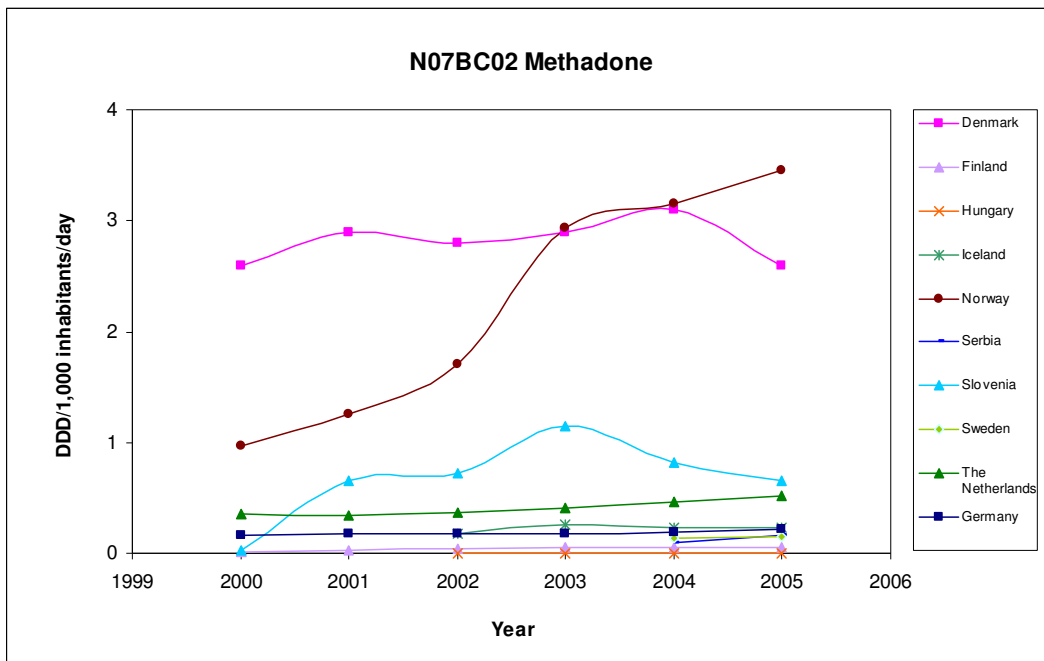


Fig. 10. Trends in methadone consumption (ATC code: N07BC02) from 2000 to 2005 in some EU countries.

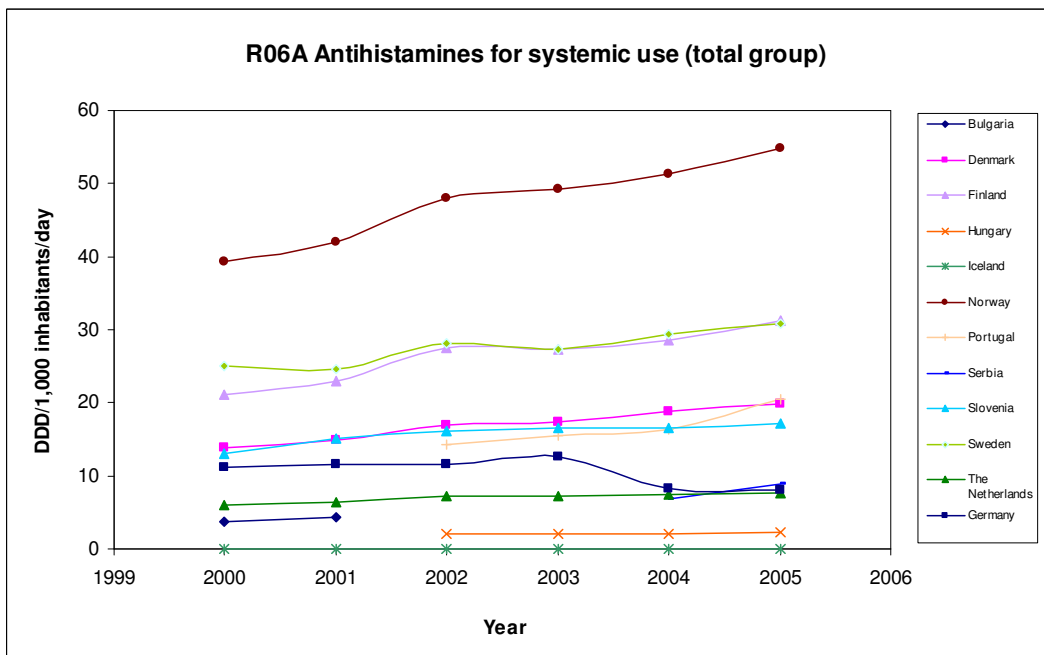


Fig. 11. Trends in antihistamine for systemic use consumption (ATC code: R06A) from 2000 to 2005 in some EU countries.

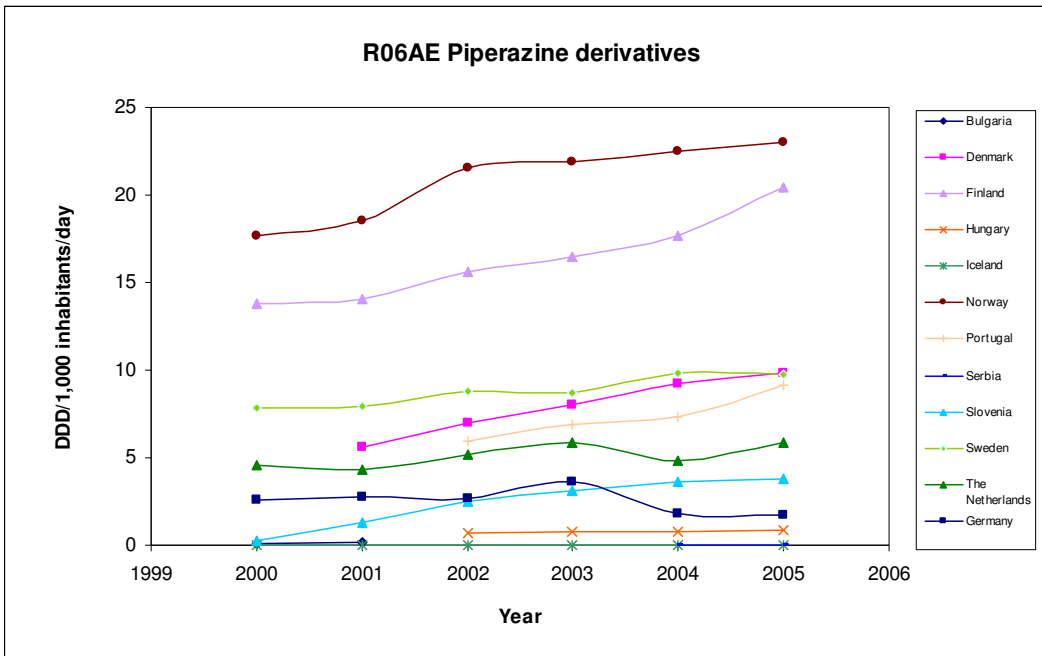


Fig. 12. Trends in piperazine derivative consumption (ATC code: R06AE) from 2000 to 2005 in some EU countries.

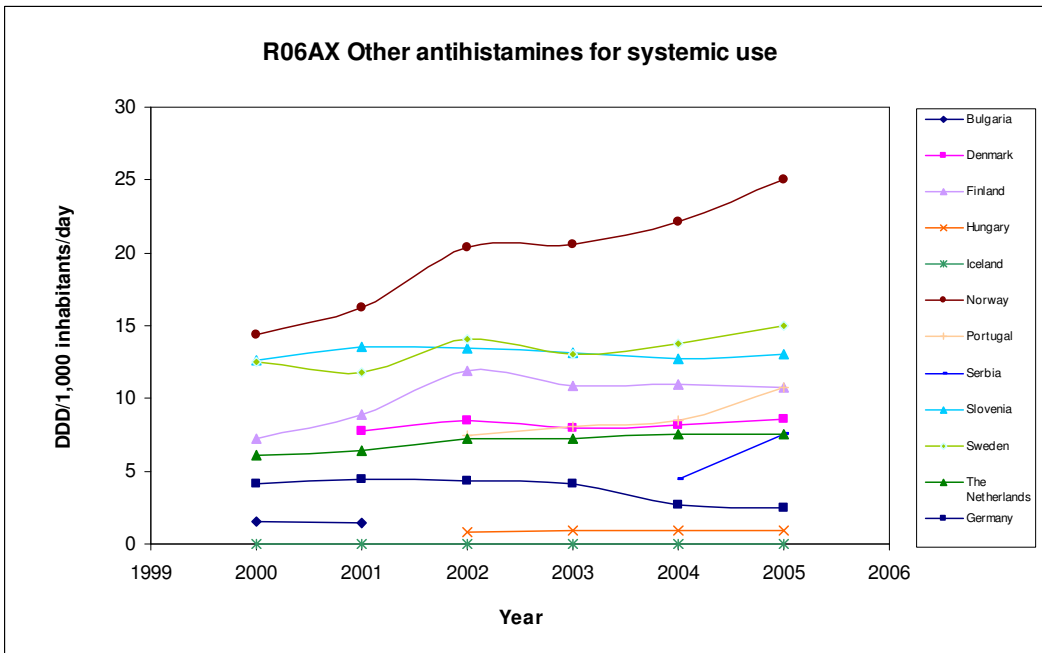


Fig. 13. Trends in other antihistamine for systemic use consumption (ATC code: R06AX) from 2000 to 2005 in some EU countries.

List of selected substances for DRUID 2.1.1: The following list shows the substance names in the WHO ATC classification system for the therapeutic subgroups mentioned in the DRUID consumption table.

N02A OPIOIDS

Bezitramide
Buprenorphine
Butorphanol
Codeine, combinations excl. psycholeptics
Codeine, combinations with psycholeptics
Dextromoramide
Dextropropoxyphene (chloride)
Dextropropoxyphene (napsylate)
Dextropropoxyphene, comb. excl. psycholeptics
Dextropropoxyphene, comb. with psycholeptics
Dezocine
Diamorphine
Dihydrocodeine
Dihydrocodeine, combinations
Fentanyl
Hydromorphone
Hydromorphone and antispasmodics
Ketobemidone
Ketobemidone and antispasmodics
Methadone, comb. excl. psycholeptics
Morphine
Morphine and antispasmodics
Morphine, combinations
Nalbuphine
Nicomorphine
Opium
Oxycodone
Papaveretum
Pentazocine
Pethidine
Pethidine and antispasmodics
Pethidine, combinations excl. psycholeptics
Pethidine, combinations with psycholeptics
Phenazocine
Piritramide
Tilidine
Tramadol
Tramadol, combinations

N02AC02 Methadone

Methadone

N02AC06 Levacetylmethadol

Levacetylmethadol

N05A ANTIPSYCHOTICS

Acepromazine
Acetophenazine
Amisulpride
Aripiprazole
Benperidol
Bromperidol
Butaperazine
Chlorproethazine
Chlorpromazine
Chlorprothixene
Clopenthixol
Clotiapine
Clozapine
Cyamemazine
Dixyrazine
Droperidol
Fluanisone
Flupentixol
Fluphenazine
Fluspirilene
Haloperidol
Levomepromazine
Levosulpiride
Lithium
Loxapine
Melperone
Mesoridazine
Molindone
Moperone
Mosapramine
Olanzapine
Oxypertine
Penfluridol
Perazine
Periciazine
Perphenazine
Pimozide
Pipamperone
Pipotiazine
Prochlorperazine
Promazine
Prothipendyl
Quetiapine
Remoxipride
Risperidone
Sertindole
Sulpiride
Sultopride

Tetrabenazine
Tiapride
Trifluoperazine
Trifluoperidol
Triflupromazine
Thiopropazate
Thioproperazine
Thioridazine
Tiotixene
Veralipride
Ziprasidone
Zotepine
Zuclopenthixol

N05B ANXIOLYTICS

Adinazolam
Alprazolam
Benzocetamine
Bromazepam
Buspirone
Camazepam
Captodiamine
Chlordiazepoxide
Clobazam
Clotiazepam
Cloxazolam
Diazepam
Emylcamate
Ethyl loflazepate
Etifoxine
Etizolam
Fludiazepam
Gedocarnil
Halazepam
Hydroxyzine
Hydroxyzine, combinations
Ketazolam
Lorazepam
Lorazepam, combinations
Medazepam
Mebutamate
Mephenoalone
Meprobamate
Meprobamate, combinations
Nordazepam
Oxazepam
Pinazepam
Potassium clorazepate
Prazepam
Tofisopam

N05C HYPNOTICS AND SEDATIVES

Acetylglycinamide chloral hydrate
Allobarbitol
Amobarbitol
Aprobarbitol
Apronal
Barbital
Bromides
Bromisoval
Brotizolam
Butobarbitol
Carbromal
Chloral hydrate
Chloralodol
Cinolazepam
Clomethiazole
Clomethiazole, combinations
Cyclobarbitol
Dexmedetomidine
Dichloralphenazone
Dipiperonylaminoethanol, combinations
Doxefazepam
Emepronium, combinations
Estazolam
Etallobarbitol
Ethchlorvynol
Flunitrazepam
Flurazepam
Glutethimide
Heptabarbitol
Hexapropymate
Hexobarbitol
Loprazolam
Lormetazepam
Melatonin
Meprobamate, combinations
Methaqualone
Methaqualone, combinations
Methohexital
Methylpentynol
Methylpentynol, combinations
Methypylon
Midazolam
Niaprazine
Nitrazepam
Paraldehyde
Pentobarbitol
Propiomazine
Proxibarbal

Pyrithydione
Quazepam
Reposal
Scopolamine
Secobarbital
Talbutal
Temazepam
Thiopental
Triazolam
Triclofos
Valerian
Valnoctamide
Vinylbital
Vinbarbital
Zaleplon
Zolpidem
Zopiclone

Combinations of barbiturates
Barbiturates in combination with other drugs

N06A ANTIDEPRESSANTS

N06AA Non-selective monoamine reuptake inhibitors

Amineptine
Amitriptyline
Amoxapine
Butriptyline
Clomipramine
Desipramine
Dibenzepin
Dimetacrine
Dosulepin
Doxepin
Imipramine
Imipramine oxide
Iprindole
Lofepramine
Maprotiline
Melitracen
Nortriptyline
Opipramol
Protriptyline
Quinupramine
Trimipramine

N06AB Selective serotonin reuptake inhibitors

Alaproclate
Citalopram
Escitalopram
Etoferidone
Fluoxetine
Fluvoxamine
Paroxetine
Sertraline
Zimeldine

N06AF Monoamine oxidase inhibitors, non-selective

N06AG Monoamine oxidase A inhibitors

N06AX Other antidepressants

Agomelatine
Bifemelane
Duloxetine
Gepirone
Iproclozide
Iproniazide
Isocarboxazid
Medifoxamine
Mianserin
Milnacipran
Minaprine

Mirtazapine
Moclobemide
Nefazodone
Nialamide
Nomifensine
Oxaflozane
Oxitriptan
Phenelzine
Pivagabine
Reboxetine
Tianeptine
Toloxatone
Tranlycypromine
Trazodone
Tryptophan
Venlafaxine
Viloxazine

N06AX12 Bupropion
Bupropion

N07B DRUGS USED IN ADDICTIVE DISORDERS

Acamprosate
Buprenorphine
Buprenorphine, combinations
Calcium carbimide
Disulfiram
Lofexidine
Naltrexone
Nicotine

N07BA02 Bupropion

Bupropion

N07BC02 Methadone

Methadone

N07BC03 Levacethylmethadol

Levacethylmethadol

R06A ANTIHISTAMINES FOR SYSTEMIC USE

R06AA Aminoalkyl ethers

R06AB Substituted alkylamines

R06AC Substituted ethylene diamines

R06AD Phenothiazine derivatives

R06AK Combinations of antihistamines

Alimemazine
Bromazine
Brompheniramine
Brompheniramine, combinations
Carbinoxamine
Chloropyramine
Chloropyramine, combinations
Chlorphenamine
Chlorphenamine, combinations
Chlorphenoxamine
Chlorphenoxamine, combinations
Clemastine
Clemastine, combinations
Dexbrompheniramine
Dexbrompheniramine, combinations
Dexchlorpheniramine
Dexchlorpheniramine, combinations
Dimetindene
Diphenhydramine chloride
Diphenhydramine teoclate
Diphenhydramine, combinations
Diphenylpyraline
Diphenylpyraline, combinations
Doxylamine
Histapyrrodine
Histapyrrodine, combinations
Hydroxyethylpromethazine
Hydroxyethylpromethazine, combinations
Isothipendyl
Mepyramine
Mequitazine
Methapyrilene
Methdilazine
Oxomemazine
Pheniramine
Promethazine
Promethazine, combinations
Talastine
Thiazinam
Thiethylperazine
Thonzylamine
Tripeleennamine

Combinations of antihistamines

R06AE Piperazine derivatives

Buclizine
Buclizine, combinations
Cetirizine
Chlorcyclizine
Cyclizine
Cyclizine, combinations
Levocetirizine
Meclozine
Meclozine, combinations
Oxatomide

R06AX Other antihistamines for systemic use

Acrivastine
Antazoline
Astemizole
Azatadine
Azelastine
Bamipine
Cyproheptadine
Deptropine
Desloratadine
Ebastine
Epinastine
Fexofenadine
Ketotifen
Loratadine
Mebhydrolin
Mizolastine
Phenindamine
Pimethixene
Pyrrobutamine
Pyrrobutamine, combinations
Rupatadine
Terfenadine
Thenalidine
Thenalidine, combinations
Tritoqualine
Triprolidine

Source: <http://www.whocc.no/atcddd>

Illicit drug consumption in Europe

This part of the report has been composed with the support of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) based on their data collection and annual reports. More information is available on the EMCDDA website, <http://www.emcdda.europa.eu>

Introduction

In the year 2000 road accidents killed over 40,000 people in the European Union (EU) and injured more than 1,7 million (1). The EU set an ambitious goal to half the number of road deaths over the years 2000 until 2010 (EU White Paper) (2). As an increasing proportion of these road accidents can be attributed to the use of psychoactive substances (i.e. alcohol, drugs and certain medicines), some active steps have to be taken in order to gain a better knowledge of this relevant problem and introduce appropriate measures.

The objective of the Driving Under the Influence of Drugs, Alcohol and Medicines (DRUID) project within the EU 6th framework programme is to give scientific support to the EU transport policy to reach the road safety target by finding answers to the question of the use of drugs and/or medicines that affect people's ability to drive safely and by providing guidelines and measures to face impaired driving (3).

In Europe, the drug situation still represents a serious challenge for health and social policy. A better knowledge about the consumption of illicit drugs substances in the population in the different EU-member states could serve as background information in order to gain better knowledge of the various aspects of this explicit problem and develop appropriate solutions.

This current report will provide a comprehensive update on the current situation regarding illicit drug use in Europe and about the dimension of their use.

Aim

The aim of this report is to describe the dimension of the consumption of illicit drugs (i.e. cannabis, amphetamines, ecstasy, LSD, cocaine and crack cocaine, and opioids) in standard age ranges in Europe in a retrospective data collection over the years 1994 until 2006 in order to support further research in the DRUID project.

Methods

EMCDDA

This report is based on the information that was kindly provided by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). The EMCDDA exists to provide the EU and its Member States with a factual overview of European drug situation and a common information framework to support the drugs debate. A report on the state of the drugs problem in Europe is published every year and it presents the EMCDDA's overview of the drug phenomenon. The annual report is based on information provided to the EMCDDA by the EU Member States and candidate countries and Norway (participating in the work of the EMCDDA since 2001) in the form of a national report. This report refers to the 12th annual report of the EMCDDA that was released in November 2007 (4). The reported statistical data relate to the year 2005 (or the last year available).

EMCDDA's surveys

Drug use in the general or school population is assessed through surveys, which provide estimates of the proportion of people that declare having used drugs over defined periods of time: lifetime, last year or last month.

The EMCDDA, in association with national experts, has developed a set of common core items (i.e. the European Model Questionnaire - EMQ -) for use in adult surveys, and this has been implemented in most EU Member States. However, there are still differences between countries in methodology and year of data collection, and small differences between countries should be interpreted with caution¹.

As surveys are expensive to conduct, few countries collect information annually. In this report, data is presented based on the most recent survey available, which in most cases will be between 2003 and 2006.

Three measures of drug use over time are commonly used for reporting survey data. Lifetime use or prevalence is the broadest. Lifetime prevalence of drug use is a cumulative measure that includes individuals who have tried drugs in the past. For adults has limitations to assess the current situation, but for school students can be a valid indicator of the current situation. Despite limits, it gives a rough estimation of the extent of drug experience and exposure in the population. It can help to estimate incidence (together with year of first use) and to compute basic use patterns (continuation and discontinuation rates). Last year prevalence and last month prevalence give information respectively on the recent and current situation (in particular among adults) regarding prevalence of drug use. In this report, the focus is on reporting use in the last year and in the last month, as these two measures better reflect the present situation, with the latter category often serving as a proxy measure for regular use.

¹ EMCDDA standard age ranges: all adults (15 to 64 years) and young adults (15 to 34 years). Data from some countries cover slightly different age ranges (e.g. 16–64, 18–64, 16–59 years). For more information about methodology of population surveys and the methodology used in each national survey, see the 2007 statistical bulletin (5).

Results and discussion

Cannabis

Prevalence and patterns of cannabis use among the general population

The more recent survey data confirm the picture of cannabis use as the most frequently used illicit substance in Europe. During the 1990s, the use of the drug, particularly among young people increased in virtually all countries. However, some of the more recent data suggests that the upward trend is leveling off, albeit at historically high levels. An important secondary question is to explore trends among those using the drug intensively and for long periods of time. Here, the data is less good but concern exists that more young people are using cannabis in this fashion and that this fact may in part be reflected in the increases in cannabis treatment demands that have been observed in some countries.

It is conservatively estimated that cannabis has been used at least once (lifetime prevalence) by more than 70 million European adults, that is on average nearly a quarter (22 %) of all 15–64-year-olds². National figures vary from 2 % to 37 %, with the lowest figures in Bulgaria, Malta and Romania, and the highest in Denmark (36.5 %), France (30.6 %), the United Kingdom (29.8 %) and Italy (29.3 %) ³. Despite this wide overall range, 12 European countries out of the 26 that provided information reported lifetime prevalence rates in the range 10–25 % ⁴.

Moving the point of reference from lifetime to last year, the levels of reported cannabis use fall but still remain high. Estimates suggest that more than 23 million European adults have use cannabis in the last year, producing an average figure of about 7 % of all 15–64-year-olds. National figures range between 1 % and 11.2 %, with the lowest figures reported by Bulgaria, Greece and Malta, and the highest by Italy (11.2 %), Spain (11.2 %), the Czech Republic (9.3 %) and the United Kingdom (8.7 %). Again, despite the wide overall range, 13 out of the 25 countries that provided information reported last year prevalence estimates between 4 % and 9 % (Figure 1).

Estimates of last month prevalence will include people using cannabis more regularly, although not necessarily in an intensive way. It is estimated that 13.4 million Europeans adults used the drug in the previous month, on average about 4 % of all 15–64-year-olds.

Country figures range between 0.5 % and 8.7 %. The lowest figures were reported by Bulgaria, Malta, Lithuania and Sweden, and the highest from Spain (8.7 %), Italy (5.8 %), the United Kingdom (5.2 %) and France (4.8 %). Of the 26

² The average proportion was computed as the average of national prevalence rates weighted according to the population of the relevant age group in each country. Total numbers were computed by multiplying prevalence among the population concerned in each country and, in countries for which no information was available, imputing the average prevalence. Figures here are probably a minimum, as there could be some underreporting.

³ In this text, United Kingdom figures are based on the 2006 British Crime Survey (England and Wales), due to practical reasons. There are additional estimations for Scotland, Northern Ireland and a combined estimation for the United Kingdom is available (presented in the 2007 statistical bulletin (5)).

⁴ See Table GPS-8 in the 2007 statistical bulletin (5).

countries that provided information, figures from 13 countries fall within the range 2 % to 6 % ⁵.

Cannabis use among young adults

Cannabis use is disproportionately high among young people, with, depending on the country surveyed, between 3 % and 49.5 % of young European adults (15–34 years) reporting having ever used cannabis, 3–20 % reporting use in the last year, and 1.5–15.5 % reporting use in the last month. The highest lifetime figures are reported from Denmark, France, the United Kingdom and Spain, with the highest reported levels of last year prevalence from Spain, the Czech Republic, France and Italy. On average 30 % of young adults report lifetime use and 13 % use in the last year, and over 7 % report use in the last month. As a point of comparison, last year and last month estimates for adults aged 35 to 64 years, are 3 % and 1.6 % respectively ⁶.

If attention is restricted to young people in the 15–24-year age range, prevalence estimates for lifetime use range between 3 % and 44 % (with most countries reporting figures in the range 20–40 %). Last-year prevalence rates range from 4 % to 28 % (in most countries 10–25 %); and last month prevalence rates are between 1 % and 19 % (in most countries 5–12 %). Among males in this age group, prevalence estimates are higher still. Lifetime use was reported by 11–51 % of young males (in most countries 25–45 %), use in the last year was reported by 5–35 % (in most countries 15–30 %), and last month use by 1.7–23.7 % (in most countries 6–20 %) ⁷.

⁵ See Table GPS-12 in the 2007 statistical bulletin (5).

⁶ See Table GPS-9, GPS-11 and GPS-13 in the 2007 statistical bulletin (5).

⁷ See Tables GPS-17, GPS-18 and GPS-19 and Figures GPS-2, GPS-3, GPS-6, GPS-7 and GPS-12 in the 2007 statistical bulletin (5).

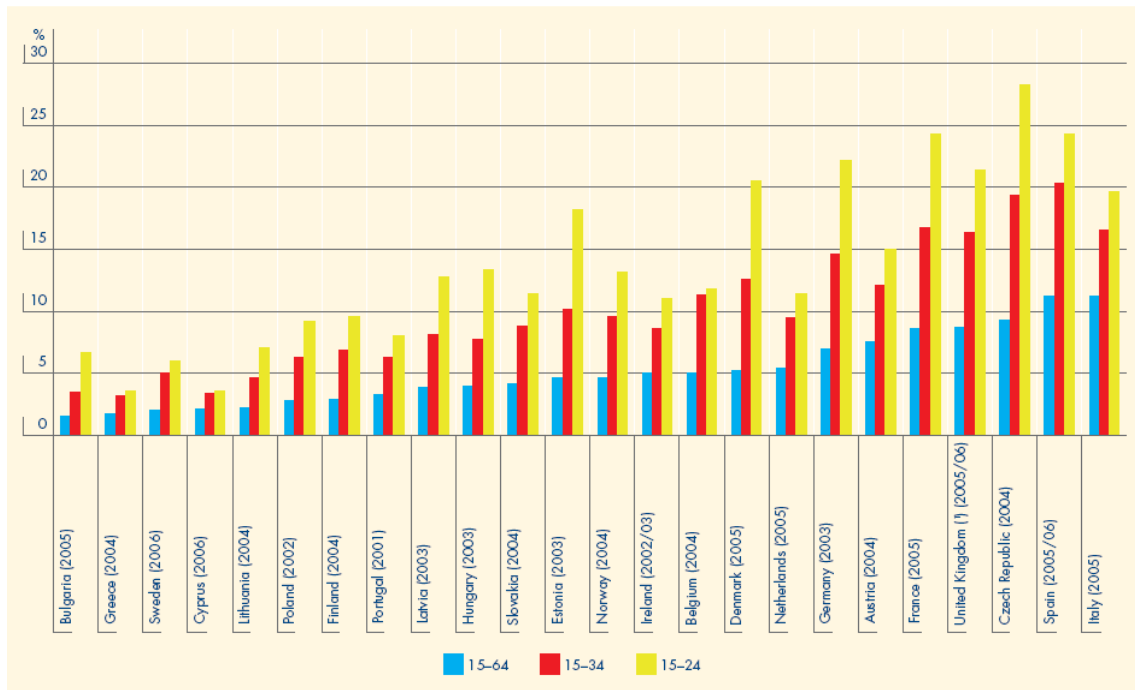


Fig. 1. Last year prevalence of cannabis use among adults (aged 15-64) and young adults (aged 15-34 and 15-24).

Data are from the most recent national surveys available in each country at the time of reporting. Countries are ordered according to the overall (all adults) prevalence. See Tables GPS-10, GPS-11 and GPS-18 in the 2007 statistical bulletin for further information (5).

Sources: Reitox national reports (2006), taken from population surveys reports or scientific articles.

NB: ⁽¹⁾ England and Wales.

Patterns of cannabis use

As noted above, the use of cannabis, as with most other illegal drugs, is notably higher among younger people, although even here significant country variation can be found. Use is also notably higher among males, than among females, although this difference tends to be less pronounced for young people. In general, the ratio of men to women increases in more recent measures of use and, again, considerable country variation can be observed, for example, gender ratios for reported use of cannabis in the last month range from 1.5 in Italy to 1.14 in Lithuania.

For many, cannabis use tends to be discontinued after a short experimental period and rates of use generally decline as individuals grow older. Tracking the careers of cannabis users in the available data and identifying changes over time in consumption patterns is, however, difficult. Some insight into this issue can be gained by comparing reported lifetime use with more recent consumption measures. On average, this analysis suggests that 32 % of all adults (15–64 years) who have ever used cannabis have done so in the last year and 18 % in the last month. These proportions, sometimes known as 'continuation rates', vary considerably across countries, and will be influenced by a number of factors

including the historical development of cannabis use within a country and the number of new cases.

Nonetheless, understanding the proportion of cannabis users that go on to regular and long term patterns of use is likely to be important for understanding the potential public health impact of the use of this substance. Despite concerns that there may be a growth in the number of those using the drug regularly or intensively⁸, there is currently very little information available to allow this issue to be explored. The EMCDDA is currently working closely with a number of Member States on the development of a better methodological approach to this issue. A crude estimation made by EMCDDA in 2004, based on limited data, suggested that around 1 % of European adults, or about 3 million people, may be 'daily or almost daily' cannabis users. It is planned that this estimation can be updated in the near future. Several countries have reported increases of regular or intensive cannabis use, but only Spain reported comparable data on 'daily use'⁹ which increased from 0.7 % in 1997 to 2 % in 2006.

Another important information need in this area is to better understand the factors associated with discontinuing use. As noted above, most of those who initiate cannabis use will discontinue it after an interval of time. Understanding the factors associated with giving up is clearly important for the design of interventions in this area. Some information in this area is becoming available, for example, the 2005 French population survey noted that among those who had ever used cannabis, but have not used it in the last year, for most (80 %) the main reason for not using the drug was simply a lack of interest in a drug; this is despite the fact that most adults (almost 60 %) considered that they could easily obtain cannabis if they wanted to.

Trends in cannabis use among adults

Tracking trends in drug use in Europe is made difficult by the absence in many countries of reliable time series data. However, an increasing number of countries have launched surveys from the 1990s onwards, and these are now beginning to provide valuable insight into trends over time.

Time series provided by surveys can shed light on the development of cannabis use in Europe. One finding is that there are important temporal differences between countries and waves of popularity observable in the use of the drug since it began to become popular in the 1960s¹⁰. An example of this is data from Sweden where a relatively high level of experimentation was reported

⁸ There is as yet no universally accepted definition of 'intensive cannabis use'. It is, however, a broad term meaning use of cannabis that exceeds a certain threshold of frequency. It does not necessarily imply the existence of 'dependence/abuse' or other problems, but it is considered to increase the risk of negative consequences, including dependence. In this section, figures refer to 'daily or almost daily use' (defined as use on 20 or more days out of the last 30 days). This benchmark has often been used in studies and can be derived from the European model questionnaire. Ongoing methodological studies (national and EMCDDA) will help to understand better relationships between intensive/frequent use and problems.

⁹ 1997 (0.7 %), 1999 (0.8 %), 2001 (1.5 %), 2003 (1.5 %), 2005/06 (2 %). This measure (use on 30 days during last 30 days) is different from the previously used 'daily or almost daily use' (use 20 days or more during last 30 days) which will produce a higher estimation. In France, a 'regular consumer' is defined as using the drug '10 times or more in the last 30 days' (4.3 % of adult males, 1.3 % of adult females). In the United Kingdom, 'frequent use' is considered 'use more than once per month in the last year', and is not comparable with measures used in this section.

¹⁰ See also Figure 4 in the 2004 annual report (6).

in the 1970s among conscripts and school students, followed by a substantial decrease in the 1980s, and then a new rise during the 1990s to levels similar to those of 1970s followed by a subsequent decrease in more recent years. A similar phenomena is seen in the Finnish data with major drug waves; first in the 1960s and then again in the 1990s.

From the survey evidence is that cannabis, it can be concluded that cannabis use increased markedly during the 1990s in almost all EU countries. This increase has continued until recently in many countries, although there are now signs of stabilization in some countries, especially among what can be considered the high-prevalence group. An example here is the United Kingdom, which in general terms often appears to be a 'frontrunner' in respect to drug use trends. During the early 1990s, the United Kingdom stood out as a high-prevalence country, reporting on most measures the highest prevalence figures in Europe. However, last year prevalence levels among young adults (15–34) stabilized from 1998 and have fallen between 2003 and 2006 (20.0 % to 16.3 %). Interestingly, in the youngest age group (16–24), a steady decrease has been observed since 1998, suggesting that cannabis use has become less popular among the young ¹¹.

Levels of cannabis use in France, Spain and Italy have all began to approach United Kingdom prevalence levels in recent years (2002, 2003 and 2005 respectively), following a period of steady increases. Again, some evidence of stabilization in the situation is becoming apparent: France reported a decrease in use in 2005; and although Spain reports a slight increase until 2006, overall there are signs that the trend may be leveling off in the most recent data. In the Czech Republic, a country with high prevalence rates, trends are difficult to assess within the data available — although the information for young adults suggests that prevalence levels may have fallen slightly.

Among the middle and lower ranking countries in terms of last year prevalence among young adults (16–34 years), the latest data from Denmark and the Netherlands show a slight fall, while levels of use still appear to be increasing in Estonia, Germany, Hungary, Slovakia and Norway ¹². However, most of these increases are small and, in general, less pronounced in the more recent estimates.

Finland and Sweden remain among the countries reporting the lowest levels of cannabis use and, although prevalence estimates have increased, there is no suggestion of convergence with higher prevalence countries. The increase observed in Sweden between 2000 and 2004 in last year prevalence among young adults (1.3 % to 5.3 %), although large, is difficult to interpret because of methodological changes in the way the survey was conducted, and prevalence estimates in the 2004, 2005 and 2006 surveys suggest a stable situation.

¹¹ See Figure GPS-10 in the 2007 statistical bulletin (5).

¹² See Figures GPS-4 and GPS-8 in the 2007 statistical bulletin (5).

Trends in cannabis use among school students

Another useful window on cannabis patterns and trends is provided by school survey data, which show levels of cannabis use increasing in many EU countries during the late 1990s and early 2000s.

Overall, the general picture emerging from the school survey data reflects that found in adult surveys. The highest rates of lifetime prevalence of cannabis use among school students aged 15–16 years in Europe are reported by the Czech Republic and Spain (44 % and 41 % respectively). Belgium, France, Ireland and the United Kingdom all report rates between 30 % and 40 % and Germany, Italy, the Netherlands, Slovenia and Slovakia report rates above 25 %. As a point of contrast, Greece, Cyprus, Romania, Sweden, Turkey and Norway all report lifetime prevalence estimates lower than 10 %.

Analysis of ESPAD data from the first three rounds of this survey (1996–2003) showed marked geographical differences in trends in lifetime prevalence of cannabis use among school students aged 15–16 years. Countries can be categorized into three geographical groups. In Ireland and the United Kingdom, which have long histories of cannabis use, lifetime prevalence is high but has remained stable during the last decade. In the eastern and central European Member States, together with Denmark, Spain, France, Italy and Portugal, lifetime prevalence of cannabis use increased substantially between 1995 and 2003. In the third group of Member States (Finland and Sweden in the north and Greece, Cyprus and Malta in the south) plus Norway, estimates of lifetime prevalence among school students have remained at relatively low levels (around 10 % and below). Data from the next round of the ESPAD study is expected next year.

Only four countries (Italy, Poland, Sweden, United Kingdom) reported new data from national school surveys in 2005, and Belgium reported a survey from the Flanders region. In Sweden the situation appeared stable and slight decreases were noted in the other four surveys.

Amphetamines, ecstasy and LSD

In many European countries, the second most commonly used illicit substance is some form of synthetically produced drug, although on a European scale, there are now more users of cocaine. The use of these substances among the general population is typically low, but prevalence rates among younger age groups are significantly higher, and in some social settings or cultural groups the use of these drugs may be particularly high. Globally, amphetamines (amphetamine and methamphetamine) and ecstasy are among the most prevalent synthetic illicit drugs.

Prevalence and patterns among the general population and youth

Among EU Member States, use of amphetamines or ecstasy appears to be relatively high in only a few countries: the Czech Republic, Estonia and the United Kingdom; and, to a lesser extent in Latvia and the Netherlands.

In terms of measures of recent use, ecstasy is now the most commonly used synthetic drug in 17 European countries, and amphetamines in nine¹³. Data from school surveys suggest that use by school students of ecstasy, amphetamine and psychotropic drugs other than cannabis cluster among a few individuals. For example, school students who have tried ecstasy also report prevalence rates for use of cocaine and hallucinogenic drugs that are more than 20 times higher than in the general school student population¹⁴ and around five times higher than among those who have ever used cannabis.

Amphetamines

Recent surveys among the adult population report that lifetime prevalence of the use of amphetamines in Europe ranges from 0.1% to 3.6% of all adults (15–64 years), except in Denmark (6.9 %) and the United Kingdom (England and Wales), where it reaches 11.5% (reflecting a higher past use, whereas current use is more in line with other countries). The countries with the next highest figures are Norway (3.6 %), Germany and Spain (3.4 %). On average nearly 3.5 % of all European adults have used amphetamines at least once¹⁵. Last year use is much lower: 0.7 % on average (range 0–1.3 %). Data from general population surveys suggest that roughly 11 million people will have tried amphetamines, and about 2 million Europeans will have used the drug in the last year.

Among young adults (15–34 years) ever in lifetime use of amphetamines is reported by 0.2–16.8 %, although, if the figures from the United Kingdom (England and Wales) (16.8 %) and Denmark (12.7 %) are considered separately, the range is limited to 0.2–5.9 %¹⁶. Half of the countries providing data have prevalence rates below 4 %, with the highest rates after the United Kingdom and Denmark reported by Norway (5.9 %), Germany (5.4 %) and Latvia (5.3 %). On average, 5.1 % of young European adults have tried amphetamines¹⁷. Last year

¹³ Survey data on 'amphetamine use' often do not distinguish between amphetamine and methamphetamine, however, typically this will be related to the use of amphetamine (sulphate or dexamphetamine), as use of methamphetamine is uncommon.

¹⁴ See Figure EYE-1 (part iv) in the 2007 statistical bulletin (5).

¹⁵ For the method of computation see footnote 2.

¹⁶ See Figure GPS-19 in the 2007 statistical bulletin (5).

¹⁷ See Figure GPS-15 in the 2007 statistical bulletin (5).

use in this age group ranges from 0.1 % to 2.9 %, with Estonia (2.9 %), the United Kingdom (2.6 %) and Latvia (2.4 %) reporting the highest prevalence rates (Figure 2). It is notable that, when last year use is considered, the figures from the United Kingdom and Denmark are more in line with those of other countries. It is estimated that, on average, 1.5 % of young European adults have used amphetamines in the year 2005.

Only Finland can provide a recent estimate of problem amphetamine use (defined as injecting or long duration/regular use), which in 2002 was estimated to amount to between 10 900 and 18 500 problem amphetamine users (3.1–5.3 cases per 1 000 aged 15–64 years), about three times the number of problem opioid users.

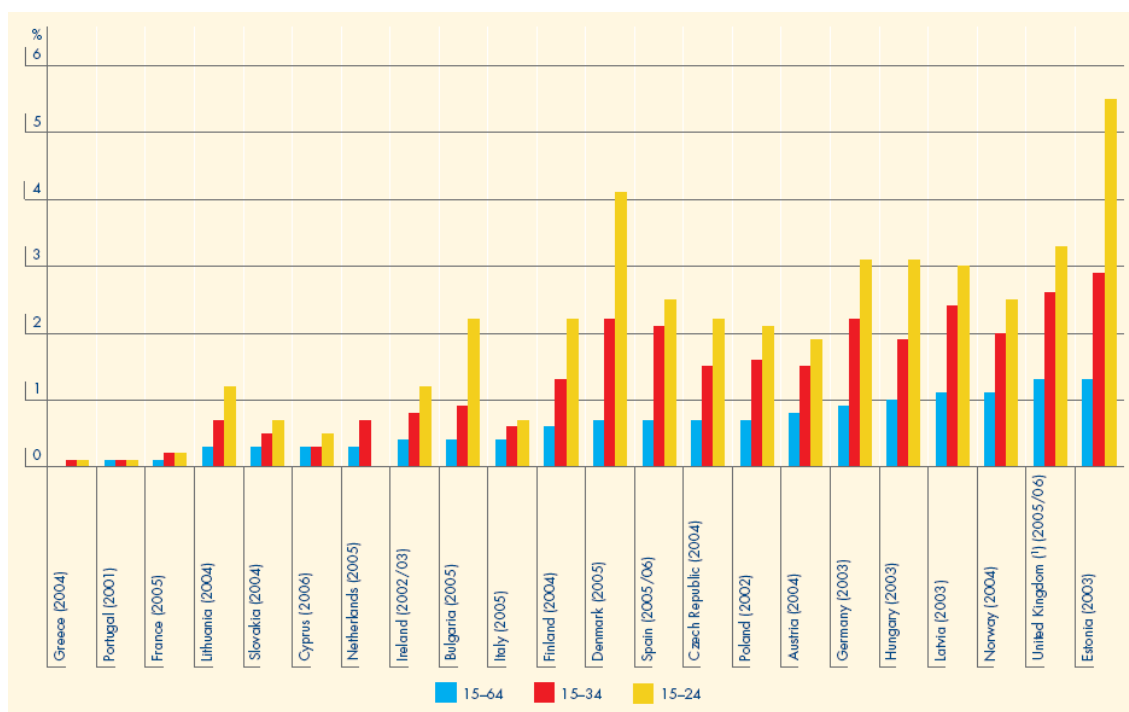


Fig. 2. Last year prevalence of amphetamines use among all adults (aged 15-64) and young adults (aged 15-34 and 15-24)

Data are from the most recent national surveys available in each country at the time of reporting. Countries are ordered according to the overall (all adults) prevalence. See Tables GPS-10, GPS-11 and GPS-18 in the 2007 statistical bulletin for further information (5).

Sources: Reitox national reports (2006), taken from population surveys reports or scientific articles.

NB: ⁽¹⁾ England and Wales.

Methamphetamine

Levels of methamphetamine use in Europe is limited, in contrast to the international picture, which as seen a growth in the use of this drug in recent years. European countries are concerned, however, about the potential of the use of this drug to grow in Member States, prompting some precautionary measures, for example in the United Kingdom there has been a decision to reclassify methamphetamine among the most harmful drugs (Class A).

Historically, methamphetamine use in Europe use has been concentrated in the Czech Republic and to some extent Slovakia. Recent estimates of problem methamphetamine use are reported by two countries (Czech Republic, Slovakia). In 2005, in the Czech Republic there were estimated to be 18 400–24 000 methamphetamine users (2.5–3.2 cases per 1000 aged 15–64 years), almost twice the number of problem opioid users, and in Slovakia, 6 000–14 000 methamphetamine users (1.5–3.7 cases per 1 000 aged 15–64 years), slightly less than the estimated number of opioid users. Methamphetamine has become the most frequent primary drug among those demanding treatment for the first time in Slovakia, and high levels of methamphetamine use have now been reported among some subpopulation groups in Hungary.

In other parts of Europe, significant methamphetamine use is not reported. Two important caveats here are: most surveys do not allow the use of methamphetamine to be distinguished from that of amphetamines; and, methamphetamine has occasionally been found in tablets sold as ecstasy and therefore may have been unknowingly consumed ¹⁸.

Ecstasy

Ecstasy has been tried by 0.3–7.2 % of all European adults. Half of the countries report lifetime prevalence rates of 2.5 % or lower, with the highest prevalence rates being reported by the United Kingdom (7.2 %), the Czech Republic (7.1 %), Spain (4.4 %) and the Netherlands (4.3 %). The prevalence of last year use of ecstasy ranges from 0.2 % to 3.5 % of adults, with the highest rates reported by the Czech Republic (3.5 %), Estonia (1.7 %) and the United Kingdom (1.6 %), although half of the countries report prevalence rates of 0.5 % or below. It is estimated that almost 9.5 million Europeans (3 % on average) have tried ecstasy, and almost 3 million have used it in the last year.

Among young adults (15–34 years), lifetime prevalence of ecstasy use ranges from 0.5 % to 14.6 %, with the highest figures reported for the Czech Republic (14.6 %), the United Kingdom (13.3 %) and the Netherlands (8.1 %) ¹⁹. On average, over 5 % of young European adults have tried ecstasy.

Among 15- to 24-year-olds, lifetime prevalence of ecstasy ranges from 0.4 % to 18.7 %, with the highest figures reported by the Czech Republic (18.7 %), the United Kingdom (10.4 %), and Hungary (7.9 %) ²⁰. Last year use among this age group ranges from 0.3 % to 12 %, with the Czech Republic (12.0 %) and Estonia (6.1 %) reporting the highest rates (Figure 3).

Among the 15–24 age group, higher rates of lifetime prevalence of ecstasy are found among males (0.3–23.2 %) than among females (0.3–13.9 %). In recent school surveys, increases in lifetime prevalence of ecstasy use occurred largely

¹⁸ See 'Amphetamine and methamphetamine: differences and similarities' (4).

¹⁹ See Figure GPS-26 in the 2007 statistical bulletin (5).

²⁰ See Figure GPS-22 in the 2007 statistical bulletin (5).

in parallel among both male and female school students, although there is a progressive increase in the gender gap with increasing age. Among young people, large increases in prevalence levels may occur with small increases in age, for example data available from 16 countries show that, compared to younger students, lifetime prevalence of ecstasy use among 17- to 18-year-old school students is, in most cases, considerably higher ²¹.

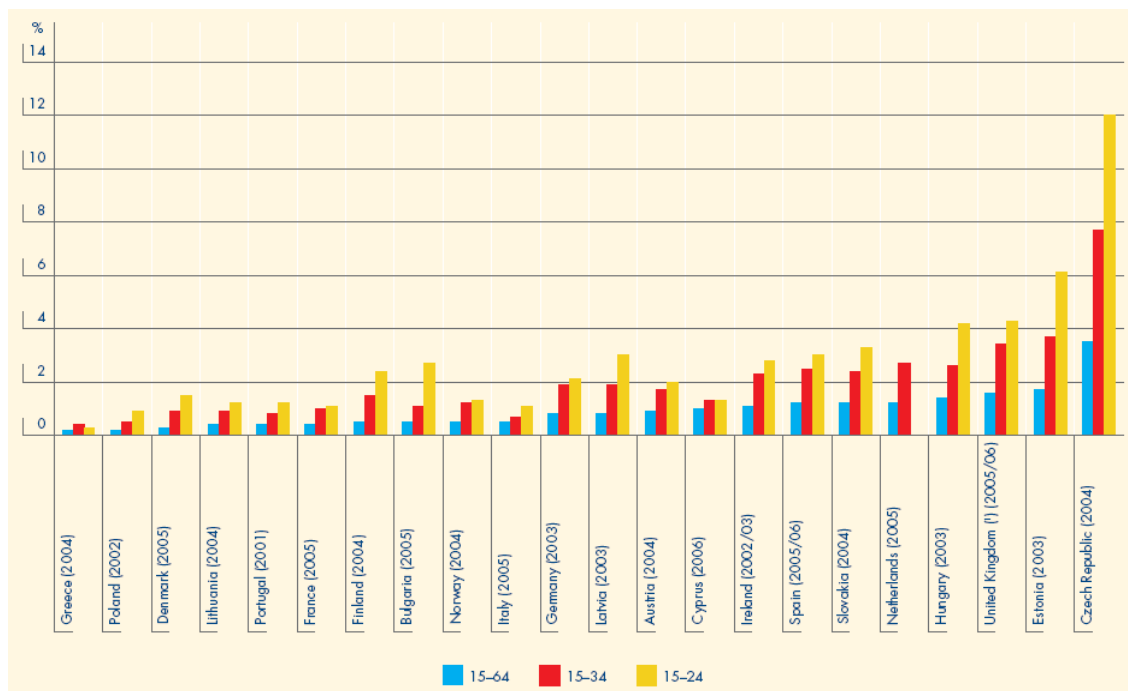


Fig. 3. Last year prevalence of ecstasy use among all adults (aged 15-64) and young adults (aged 15-34 and 15-24).

Data are from the most recent national surveys available in each country at the time of reporting. Countries are ordered according to the overall (all adults) prevalence. See Tables GPS-10, GPS-11 and GPS-18 in the 2007 statistical bulletin for further information (5).

Sources: Reitox national reports (2006), taken from population surveys reports or scientific articles.

NB: ⁽¹⁾ England and Wales.

²¹ See Figure EYE-1 (part ii) in the 2007 statistical bulletin (5).

LSD

Trends in Europe

Overall in Europe, there is continuing evidence of stabilizing or even decreasing trends in amphetamine and ecstasy consumption. Amphetamine use among young adults (15–34) has declined substantially in the United Kingdom (England and Wales) since 1996, and to a lesser extent in Denmark and Czech Republic, while in other countries the prevalence levels appear largely stable, although some small increases are reported ²².

A more mixed picture is found for ecstasy use among young adults (15–34)²³. After general increases in use during the 1990s, in recent years several countries, including two high prevalence countries, Spain and the United Kingdom, report some stabilization or even moderate decreases. In some countries, a decrease in prevalence is observed among the 18–24 age group, but not among those aged 18–34 ²⁴, suggesting a decline in the drug's popularity among the younger age groups. A question arising from the data in some countries (Spain, Denmark, United Kingdom) is whether cocaine is replacing amphetamines and ecstasy as the stimulant drug of choice ²⁵.

In newly available national or regional school surveys, reported in 2006 (Italy, Poland, Sweden; Flanders in Belgium), no change or even some decrease is recorded in ever in lifetime use of amphetamines and ecstasy ²⁶.

Recreational settings

Studies of drug use in recreational settings such as dance events can provide a useful window on the behaviour of those using stimulant drugs on a regular and intensive basis. Rates of drug use in these settings are typically high, but are not generalizable to the wider population. For example, studies of people surveyed in selected dance music settings report high levels of ecstasy use and lower but still high levels of amphetamine use ²⁷.

An annual reader survey conducted by the United Kingdom *Mixmag* music magazine, whose readership consists of regular dance club-goers report that the proportion of those defined as heavy ecstasy users (usually consuming more than four pills per session) more than doubled between 1999 and 2003, from 16 % to 36 % (McCambrige et al., 2005). Although the representativeness of this sample is questionable, it does support the general concern that there has been an increase in the quantity of ecstasy tablets consumed by some groups of users. Increasingly intense use of ecstasy and poly-drug use by experienced ecstasy users is also reported in a United Kingdom Internet study (Scholey et al., 2004). However, it is of note that reports from Amsterdam suggest that last year and last month use of ecstasy decreased by 20 % between 1998 and 2003 and the average amount of ecstasy used on each occasion also declined in this period. According to a 2005 survey among pub-goers in Amsterdam, only 3 % used ecstasy during the night out.

²² See Figures GPS-17 and GPS-18 in the 2007 statistical bulletin (5).

²³ See Figure GPS-21 in the 2007 statistical bulletin (5).

²⁴ See Figure GPS-24 in the 2007 statistical bulletin (5).

²⁵ See Figure GPS-34 in the 2007 statistical bulletin (5).

²⁶ See Figure EYE-4 in the 2007 statistical bulletin (5).

²⁷ See the 2006 selected issue on drug use in recreational settings (7).

Although data available on the combined use of drugs and alcohol remains limited, consumption of alcohol in recreational dance music settings, often in quantities considered hazardous to health and in combination with stimulant drugs, is a growing cause for concern.

Cocaine and crack cocaine

As consumption of cocaine has increased, the use of this drug has become a major issue for European drug policy. In recognition of the growing importance of this subject, patterns of cocaine use were explored in detail in a Selected Issue on cocaine (2007) (8).

Prevalence and patterns of cocaine use

Cocaine is now, after cannabis, the second most commonly used illicit drug in many EU Member States and in the EU as a whole. Based on recent national population surveys in the EU and Norway, it is estimated that cocaine has been used at least once (lifetime prevalence) by more than 12 million Europeans, representing almost 4 % of all adults²⁸. National figures on reported ever in lifetime use range from 0.2 to 7.3 %, with three countries reporting values of more than 5 % (Spain, Italy, United Kingdom)²⁹.

Use of cocaine in the last year is reported by at least 4.5 million Europeans (1.3 % on average). Last year use of cocaine ranges from 0.1 % in Greece to 3.0 % in Spain, with Italy and the United Kingdom also reporting prevalence levels above 2 %³⁰. Survey estimates suggest that 2 million Europeans (0.6 % on average) have used cocaine in the last month³¹.

Prevalence of cocaine use, as it is with other illicit drugs, is concentrated among young adults (aged 15–34). Around 7.5 million young European adults (5.3 % on average) have used it at least once in their life, with five countries reporting prevalence levels of 5 % or above (Germany, Italy, Denmark, Spain, United Kingdom; reference years, respectively, 2003, 2005, 2005-2006 and 2004)³². Estimates of cocaine use for shorter reference periods³³ suggest that in the past year, of the 3.5 million (2.4 %) young adults who have used the drug, 1.5 million (1 %) have used it in the past month.

Among school students, overall prevalence rates for cocaine use are much lower than those for cannabis use. In most countries, ever in lifetime prevalence of cocaine use among 15- to 16-year-old school students is 2 % or lower, rising to 6 % only in Spain and the United Kingdom³⁴. Data on 17- to 18-year-old school students available from 16 countries show considerably higher lifetime prevalence estimates for cocaine use among the older age group in Spain, where estimates rise to 19 %³⁵. In most of the other 15 countries, prevalence is higher among the older students but differences are less notable. However, it should be

²⁸ For the method of computation see footnote 2.

²⁹ See Table GPS-8 in the 2007 statistical bulletin (5).

³⁰ See Table GPS-10 in the 2007 statistical bulletin (5).

³¹ See Table GPS-12 in the 2007 statistical bulletin (5).

³² See Table GPS-9 in the 2007 statistical bulletin (5).

³³ See Tables GPS-11 and GPS-13 in the 2007 statistical bulletin (5).

³⁴ See Table EYE-3 in the 2007 statistical bulletin (5).

³⁵ See Table EYE-2 in the 2007 statistical bulletin (5).

noted that last year and last month prevalence levels of cocaine use are much lower.

Use of cocaine is not confined to certain social groups, but use of the drug by socially integrated young adults in recreational settings can reach higher levels than those reported in general population surveys. Studies targeting dance music settings in several European countries revealed lifetime prevalence of cocaine use ranging from 10 % to 75%³⁶.

Patterns of cocaine use vary greatly between different groups of users. Among socially integrated users, the drug is usually snorted; many are also using other substances including alcohol, tobacco, cannabis, and stimulants other than cocaine³⁷, and this kind of poly-drug consumption can lead to elevated health risks.

Overall, the use of crack in Europe remains relatively uncommon and is concentrated among marginalized and excluded subpopulations in some cities. However, cocaine smokers do represent a significant proportion of treatment demands, although they remain in the minority.

Among those not injecting other drugs, the injecting of cocaine does not appear to be common, even among treatment clients (see below). However, there have been increasing reports of heroin injectors also injecting cocaine, or cocaine and heroin mixtures.

Estimations of prevalence of problem cocaine use³⁸ are available for only three countries (Spain, Italy, United Kingdom). The estimates obtained in these countries are in the range of 3 to 6 problem users of cocaine per 1 000 adults (aged 15–64)³⁹.

³⁶ See the 2006 selected issue on drug use in recreational settings (7).

³⁷ See Figure 15, in the 2006 annual report (9).

³⁸ Defined as long-term and/or regular and/or injecting cocaine use.

³⁹ See Table PDU-2 in the 2007 statistical bulletin and the 2007 selected issue on cocaine (5) (8).

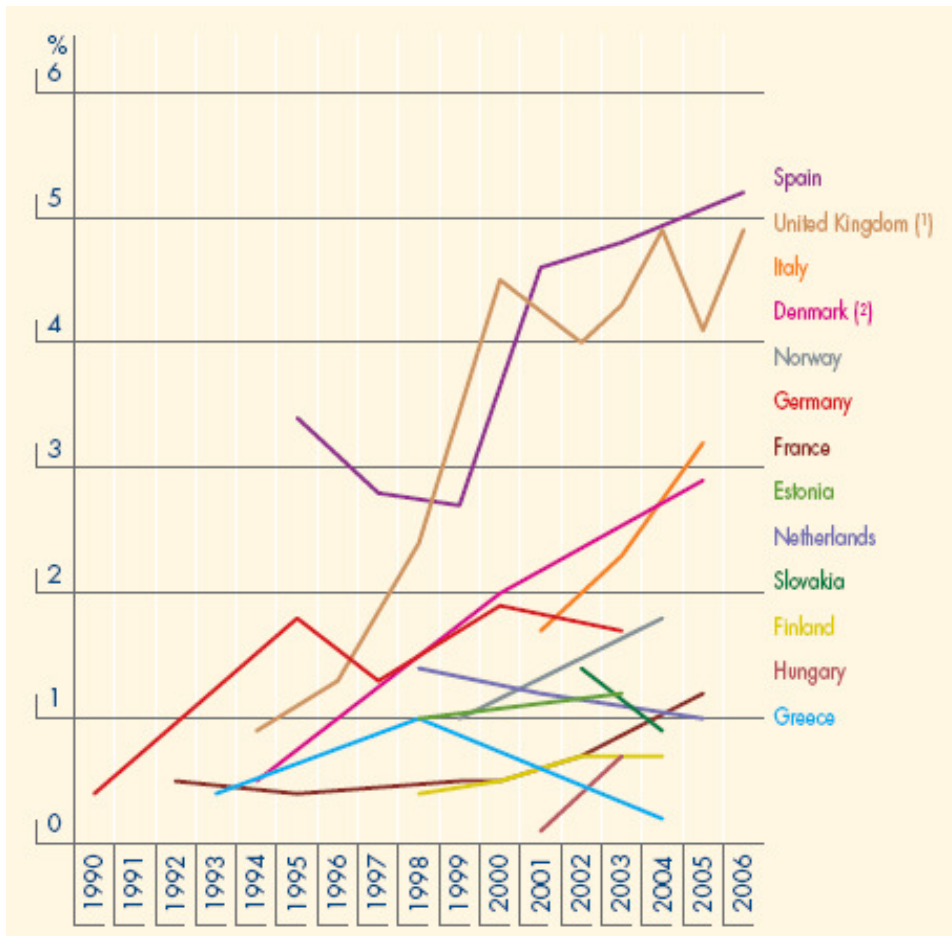


Fig. 4. Trends in last year prevalence of cocaine use among young adults (aged 15-34)

Data are from the most recent national surveys available in each country at the time of reporting. See table GPS-4 in the 2007 statistical bulletin for further information (5).

Source: Reitox national reports (2006), taken from population surveys reports or scientific articles.

NB: ⁽¹⁾ England and Wales.

⁽²⁾ In Denmark, the value for 1994 correspond to "hard drugs"

Trends in cocaine use

Signs of stabilization in cocaine use among young adults noted in the 2006 annual report (2004 data) are not supported by recent data (2005 data). Increases in the last year prevalence of cocaine use among the 15–34 age group have been registered in all countries reporting recent survey data, although there may be some leveling off in Spain and the United Kingdom (England and Wales), the Member States with the highest prevalence levels. Notable increases were also reported by Italy and Denmark (Figure 4).

Analysis of data for countries with longer time series and appreciable prevalence rates can allow detection of trends within subgroups of the population. In both Spain and the United Kingdom, the increase in prevalence was generally greater among males than among females. The reported increase in last year cocaine prevalence in Spain since 2001 can be attributed to increased levels of use in the 15–24 age group, rather than across 15–34 year olds as a whole. Data on cocaine use among school students in Spain also indicate that the long-term trend is upwards.

It has been suggested that, in some European countries, a 'replacement' of other stimulants by cocaine could have taken place⁴⁰. Data from surveys conducted with young people in dance music club settings need to be treated with caution because of the highly selected nature of the sample. Nonetheless, they can provide a window on the behaviour of regular drug consumers, and studies conducted in the Netherlands indicate that, in some municipalities, cocaine has outstripped ecstasy among club-goers as the most commonly used stimulant, with the drug gaining increased acceptability among some groups.

Opioid use and drug injection

Prevalence estimates of problem opioid use

Data in this section are derived from the EMCDDA problem drug use (PDU) indicator, which includes mainly estimates of injecting drug use and the use of opioids, although in a few countries, users of amphetamines are also an important component⁴¹. Estimating the number of problem opioid users is difficult, and analyses of a sophisticated nature are required to obtain prevalence estimates from the available data sources. Moreover, as most studies are based on a localized geographical area, such as a city or district, extrapolation to generate national estimates is difficult.

Estimation is also complicated as patterns of problem drug use in Europe appear to be becoming more diverse. For example, poly-drug use problems have become progressively more important in most countries, and some countries where opioid problems (almost exclusively heroin problems) have historically predominated now report changes towards other drugs, such as cocaine.

⁴⁰ See *Amphetamines, ecstasy and LSD* in this report and Figure GPS-34 in the 2007 statistical bulletin (5).

⁴¹ Although the technical definition used by the EMCDDA for PDU is 'injecting drug use or long duration/regular use of opioids, cocaine and/or amphetamines', problem drug use estimates have principally reflected heroin use. In the few countries where problematic use of amphetamines is reported, well-documented estimates are available. Estimates of problematic cocaine use are scarce and the PDU indicator is, except in few high-prevalence countries, likely to be less reliable for this drug.

Recent estimates of the prevalence of problem opioid use at national level range roughly between one and six cases per 1 000 population aged 15–64. In comparison, the full PDU prevalence is estimated to be between one and eight cases per 1 000. Some of the lowest well-documented estimates available are from the new countries of the EU, although this is not the case for Malta, where a relatively high prevalence has been reported (5.8–6.7 cases per 1 000 aged 15–64) (Figure 5).

From the limited data available, an average prevalence of problem opioid use of between four and five cases per 1 000 of the population aged 15–64 can be derived. This translates into some 1.5 million (1.3–1.7 million) problem opioid users in the EU and Norway. However, these estimates are far from robust and more extensive data are required.

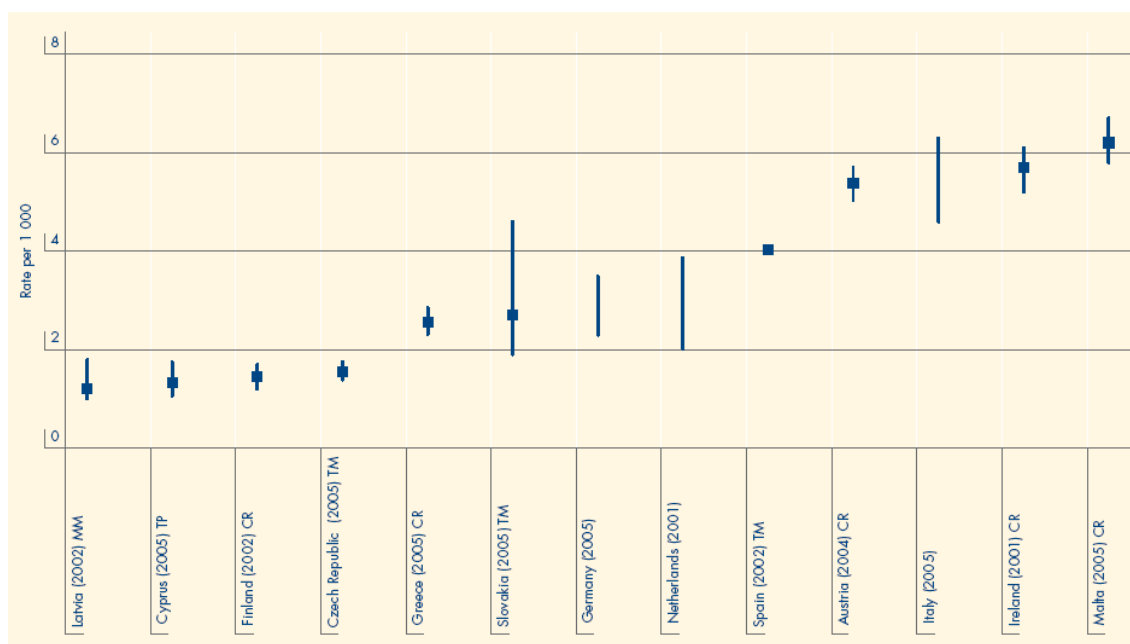


Fig. 5. Estimates of the prevalence of problem opioid use (rate per 1000 population aged 15-64), 2001-2005

NB: The symbol indicates a point estimate; a bar indicates an estimation uncertainty interval, which can be either a 95 %-confidence interval or an interval based on sensitivity analysis (see Table PDU-3 for detailed information). Target groups may vary slightly owing to different estimation methods and data sources; therefore, comparisons should be made with caution. Where no method is indicated, the line given represents an interval between the lowest lower bound of all existing estimates and the highest upper bound of them. Estimation methods: CR = capture– recapture; TM = treatment multiplier; TP = truncated Poisson; MM = mortality multiplier. For more information, see Tables PDU-1, PDU-2 and PDU-3 in the 2007 statistical bulletin (5).

Sources: National focal points

Time trends in problem opioid use

A lack of reliable historical data complicates the assessment of trends over time in problem opioid use and trends should thus be interpreted with caution. Reports from some countries suggest that problem opioid use may, on average, have stabilized somewhat in recent years. Data from repeated estimates on problem opioid use for the period between 2001 and 2005 are only available from eight countries and provide a relatively stable picture with only one country (Austria) showing a clear increase⁴².

Despite the general indication that the overall trend in the prevalence of opioid use is relatively stable, there are indications of increases in heroin seizures (see above), possibly relating to increased availability of heroin on the European market, and increasing reports of the use of opioids diverted from legitimate uses. In Italy, estimates of the incidence of heroin use based on treatment demand data suggest a rise since 1998, after a period of decline, with an annual incidence in 2005 of around 30 000 new heroin users. In Austria, also, the proportion of those under age 25 has increased among new substitution treatment clients, suggesting a rise in the number of young people experiencing problems, associated with the diversion and uncontrolled use of prescribed opioids. Similarly, after a period of decline, the Czech Republic reports an increase in the injecting of a diverted substance (in this case, buprenorphine), and information available from Belgium suggests that there has been an increase in the illicit use of methadone. Recent monitoring of low-threshold services in France raises concerns about the illicit use of buprenorphine, including injecting use, and use among young people who have initiated their problem drug use with buprenorphine rather than heroin; concerns about new subgroups of young and marginalized injectors have also been reported. In Finland, heroin also appears to have been largely replaced by buprenorphine among new opioid treatment demands and is increasingly associated with overdose deaths.

⁴² See Figure PDU-4 (part ii) in the 2007 statistical bulletin (5).

At a glance - estimates of illicit drug use in Europe

Note that these estimates relate to the adult population and are the most recent estimates available. For complete data and full methodological notes see the 2007 statistical bulletin.

Cannabis

Lifetime prevalence: at least 70 million, or one in five European adults
Last year use: about 23 million European adults or one-third of lifetime users
Use in the past 30 days: over 13 million Europeans
Country variation in last-year use: Overall range 1.0–11.2 %

Cocaine

Lifetime prevalence: at least 12 million, or around 4 % of European adults
Last year use: 4.5 million European adults or one-third of lifetime users
Use in the past 30 days: around 2 million
Country variation in last-year use: Overall range 0.1–3 %

Ecstasy

Lifetime prevalence: about 9.5 million European adults (3 % of European adults)
Last year use: 3 million or one-third of lifetime users
Use in the past 30 days: more than 1 million
Country variation in last year use: Overall range 0.2–3.5 %

Amphetamines

Lifetime prevalence: almost 11 million or around 3.5 % of European adults
Last year use: 2 million, one-fifth of lifetime users
Use in the past 30 days: less than 1 million
Country variation in last year use: Overall range 0.0–1.3 %

Opioids

Problem opioids use: between one and eight cases per 1 000 adult population (aged 15–64)
Over 7 500 acute drug deaths, with opioids being found in around 70 % of them (2004 data)
Principal drug in about 50 % of all drug treatment requests
More than 570 000 opioid users received substitution treatment in 2005.

Conclusion

Based on the EMCDDA report, it can be concluded that drug use still constitutes a relatively high problem in Europe.

Despite the fact that tracking trends in drug use is difficult, survey data show that cannabis is the most frequently used illicit substance in Europe, followed by cocaine. In some European countries the use of some forms of synthetically produced drugs is raising and reaching the cocaine use levels, specially among younger age groups. Lastly, due to a lack of reliable data, it is complicated to assess the general trends in opioids use and data have to be interpreted with caution. However, the prevalence of opioid use seems relatively stable (4).

Since drug use is a multifaceted and complex phenomenon and it is not only a problem limited to the individual, special efforts have to be made in order to reduce this problem and the damage that drugs can cause, both to those who use them and the communities in which they live.

Concerning the DRUID project, these data will serve as background information for a better understanding of the European illicit drug use problem and, subsequently, for estimating the prevalence of illicit drug use in the driving population. Successively, recommendations and measures will be developed in order to scourge and combat impaired driving.

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