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HANDBOOK FOR SURVEYS ON DRUG USE AMONG THE GENERAL POPULATION

FINAL REPORT

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CONTENTS

FOREWORD BY THE EMCDDA

Since 1996, the EMCDDA has been developing and testing a number of epidemiological indicators to assess the extent and patterns of drug use, and its determinants and consequences. Some indicators have been more thoroughly developed and adopted as 'key indicators' ([1]), although other key indicators may be defined in the future.

The EMCDDA has carried out extensive scientific and technical work to develop and test guidelines for the five key indicators, with the assistance of qualified contractors, national focal points and groups of experts. At present, there is an EMCDDA expert group for each key indicator bringing together experts from all Member States.

The purpose of the indicators is to achieve greater uniformity across Member States in measurement of drug use and its consequences. This is important to increase understanding of drug use, and to formulate and evaluate drug policies. The EU action plan on drugs (2000-2004) stresses that actions and targets of drugs policies should be evaluated.

The guidelines for the key indicators were adopted by the EMCDDA Scientific Committee (December 2000) and by the Centre's Management Board (September 2001). According to the Council Regulation that created the Centre ([2]), the key indicators have the status of non-binding recommendations, although their implementation by Member States is highly recommended. National focal points have the task to facilitate and coordinate their implementation at national level.

A Council Resolution on the implementation of the five key indicators was adopted by the Council on December 2001, urging Member States to give priority to the production, collection and dissemination of comparable data and inviting Member States and the Commission, in collaboration with the EMCDDA, to support the implementation of the five indicators. Further to this Resolution, cooperation between EMCDDA, Sanco and Eurostat is being examined.

The purpose of the indicator 'Extent and pattern of drug use in the general population' is to obtain comparable and reliable measures of the extent and patterns of the consumption of different drugs in the general population, the characteristics and use patterns of drug users, and the attitudes and perceptions of different population groups. This information is obtained through national representative household surveys of the general population. Monitoring changes and trends in drug use is very important for assessing the situation, identifying priorities and planning and assessing responses. For this reason, it is highly recommended to conduct repeated surveys using the same questionnaires and methodology (series of surveys).

The EMCDDA guidelines for drug population surveys consist of a list of core items for inclusion in questionnaires of national surveys, or for extraction and reporting equivalent data from existing surveys (called a 'European Model Questionnaire' – EMQ), and basic methodological recommendations on how to conduct drug surveys. The methodological recommendations are not intended to provide a comprehensive textbook on survey methodology, but to discuss limits and strengths of different options.

Recommendations for the key indicators reflect a broad consensus amongst experts at scientific and technical level about methods and criteria that can serve as pragmatic minimum common

([1]) EMCDDA Management, Board 22nd Meeting, 5-7 September 2001. Five key epidemiological indicators: Recommended draft technical tools and guidelines. The indicators are: 1) extent and pattern of drug use in the general population, 2) prevalence of problem drug use, 3) demand for treatment by drug users, 4) drug-related deaths and mortality of drug users and 5) drug-related infectious diseases (HIV, hepatitis).
([2]) Council Regulation (EEC) N° 302/93 of February 1993 on the establishment of a European Monitoring Centre for Drugs and Drug Addiction.

standards for collecting and reporting core data. These recommendations should not be seen as final products; they will be adapted to fill in possible gaps and to meet future information needs.

This Handbook summarises the work conducted since 1996 in different consecutive EMCDDA projects that led to the development of guidelines for this key indicator ([3]). Annex 3 presents the list of those projects, and the experts that participated in them.

Annex 4 presents the list of the current members of the EMCDDA expert group on the key indicator 'Extent and patterns of drug use among the general population (Population surveys)'.

The EMCDDA would like to thank all these European experts for their valuable contributions, and in particular Mr Ruud Bless and his colleagues, who have played an important role in several of the projects mentioned and in the publication of this Handbook.

Julian Vicente Richard Hartnoll

Lisbon, August 2002

([3]) In addition to the guidelines, the EMCDDA is developing a 'European Databank on population surveys on drug use' (NPSD-EU) based on existing national surveys. The Databank itself is not part of the guidelines and participation is on a voluntary basis. It is considered a tool to facilitate data collection and European analysis, promoting guidelines implementation and methodological progress.

WORD FROM THE SCIENTIFIC EDITOR

This Handbook is intended to be a reference toolbox for everyone planning, organising or executing a survey about drug use among the general population. The Handbook is, to a large extent, a compilation, summary and editing of the final reports of the projects 'Improving the comparability of general population surveys on drug use in the EU' (CT.96.EP.08) and 'Coordination of an expert working group to develop instruments and guidelines to improve quality and comparability of general population surveys on drugs in the EU' (CT.97.EP.09), which have been coordinated for the EMCDDA over the years 1997–99 by the editor of this Handbook in collaboration with Dirk Korf, Heleen Riper and Steven Diemel and various European experts who at any time participated in the European Expert Group on Drug Use Surveys (EEDUS) ([4]). From the viewpoint of the EMCDDA the Handbook is an important instrument in the implementation of the key indicator 'Extent and patterns of drug use among the general population'.

The Handbook starts with an introductory positioning paper by Malcolm Ramsay outlining the need for prevalence data and in particular comparable prevalence data for developing drug policies and drugs interventions in the European Union. This is followed by an overview of items, variables and categories that should be included in a prevalence survey. The Handbook outlines arguments for selection, definitions of variables and categories and suggestions for questions to collect the data. Also, the implications of the survey mode applied are examined and alternatives are considered.

This overview is followed by the European Model Questionnaire (EMQ) of the EMCDDA, which can be incorporated into national, regional or local surveys, ([5]) and the EMCDDA's standard tables for reporting prevalence data from general population surveys.

Next we present recommendations for good practice in conducting surveys, addressing both methodological and practical aspects of surveys among the general population. This part of the Handbook does not pretend to replace textbooks on survey methodology but rather offers a checklist of the many aspects of the design and implementation of a survey that have to be considered.

The Handbook concludes with recommendations and suggestions for analysis of the data resulting from prevalence surveys. The idea is that data collection is not an end in itself but an instrument for understanding and interpretation. This concluding chapter should stimulate and challenge researchers to go beyond mere description of survey results.

In the Annex to this Handbook we give schematic overviews of a number of prevalence surveys that have been carried out in Europe and the United States. These overviews list the main characteristics of these surveys and the items and variables included.

Ruud Bless
November 2001

([4]) See in Annex 3 the list of experts who participated in previous EMCDDA projects that lead to the development of guidelines of the key indicator. This group was known as EEDUS.
Annex 4 includes the list of current participants in the EMCDDA expert group who met on 23-24 May 2002.
([5]) The EMQ is now also available in the following languages: French, German, Dutch, Swedish, Finnish, Greek and Maltese.

1
INTRODUCTION:
TRACKING, MAPPING AND COMPARING DRUG USE THROUGH GENERAL POPULATION SURVEYS

By MALCOLM RAMSAY ([6])

Surveys of drug use in the general population 'came of age' in many European countries during the 1990s (EMCDDA, 1997a). This happened in the wake of increasing awareness of drug use by young people. Governments felt obliged to assess and address that drug use. The first important rehearsal for these developments took place in the United States during the 1970s. This is unsurprising. Historically, the US has experienced some high rates of drug use and has consistently played a leading role in international efforts to regulate and control the use of drugs like cannabis, amphetamine, heroin and cocaine. These drugs all have much longer histories of use in many different parts of the world. They have, however, acquired a fresh significance in an era of globalisation, of sensation-seeking youth culture and of increasingly wealthy consumer societies, complicated both by inequalities and other stresses.
Surveys of the general population can shed considerable light on changing patterns of drug use. However, they are not cheap to carry out; typically, they depend directly or indirectly on the funding power of national governments. Perhaps no serious drug strategy in any western society would now be complete without some form of general population survey. The influence of such surveys is harder to establish. The relationship between policy and research is always a complex one.

Drug surveys of the general population have three main functions:

- They inform the regulation or control of prohibited drugs, for instance by *tracking* changing levels of drug prevalence within particular countries.
- They can shed light on health behaviour, lifestyles and risk prevention, teasing out the extent to which different kinds of people are either more or less likely to use prohibited drugs. In other words, the focus here is on *mapping* patterns of use, both geographically and demographically.
- They can inform discourse about drug policy and drug laws, enabling informed *international comparisons* to be made.

Each of these three functions, national tracking, mapping of health behaviour and international comparison, is discussed briefly in this overview. It should be noted that these functions are not mutually exclusive. Patterns of drug use can be tracked over time. Differences in health behaviour, lifestyle and risk perception, as well as changes over time, can be internationally compared.

([6]) Home Office Research, Development and Statistics Directorate; the views expressed here are those of the author, and not necessarily those of the Home Office or the British government.

The national perspective

Surveys of drug use serve increasingly as a key barometer for European countries, just as they have done in the US since the 1970s (Harrison, 1995). They do this by charting the proportion of the general population that uses prohibited drugs, or has previously consumed them. To this end, the use of large, representative samples is vital, although in some countries it is sometimes the case that just a section of some more wide-reaching survey is devoted to questions about drug use (EMCDDA, 1997a). Results are typically expressed in terms of percentages of age groups in the population (or percentages of the total population) using different sorts of drugs, although on occasion national estimates of numbers of users are calculated and presented. Above all, from a national perspective, the focus of interest is on changes over time in drug prevalence, either from year to year, or from one sweep of a survey to the next one.
For instance, in the US, the *1999 National Drug Control Strategy* opens the chapter assessing that country's drug use profile with a chart documenting the changing prevalence level of drug use within the last month (both in general and separately for cannabis and cocaine), since 1985. The graph points to a lessening in drug use in the late 1980s, coupled with a comparatively stable situation in the 1990s (ONDCP, 1999).

Various self-report methodologies can be employed, depending on survey practice in different countries. For instance, there is direct questioning, either face-to-face or by telephone, both using either pen and paper or computer. Alternatively, confidential tick-box self-completion forms are handed or posted to interviewees; or they can be handed laptop computers to enter their own responses in private.

Survey contexts and methodologies probably have at least some effect on reported prevalence rates, although such issues may be more interesting to researchers than to governments or the media. Effective measurement over time (from one sweep of a survey to the next) depends above all on consistency of methodology, including context and setting.

Governments and the media sometimes have quite varied approaches to the different periods of time for which respondents are asked to recall their use of drugs. The three most widely used recall periods in drug surveys are:

- lifetime (ever);
- last year (last twelve months); and
- last month (last 30 days).

The media may focus to some extent on the lifetime perspective, precisely because this gives the highest readings of levels of drug use. Governments, however, tend to be more interested in the last year or month, because this gives a reading of current, or at least recent, levels of drug use. The fact that this also gives lower readings of drug use may also be relevant. This interest in the last year and month is certainly apparent in the UK (UKADCU, 1999) and also in the US (ONDCP, 1999).
As European countries increasingly develop better-integrated drug strategies, in which health and criminal justice issues are interlocked, so they tend to invest not just in household drug surveys but in a whole range of different research methods, all of which have different advantages, added value and limitations. The limitations of general population surveys should be acknowledged. In particular, they exclude those who are homeless and, often, those living in institutions. The more chaotic drug users may also be under-represented in household surveys, on account of the complicated and problematic nature of their lives. Finally, depending on national circumstances, household surveys need to be supplemented by school surveys of the teenage population, or at least the younger teens.

The limitations affecting general population surveys should not, however, be exaggerated, as they perhaps have been occasionally in the past. It used to be argued that 'surveys are not very helpful in assessing trends in hard drug use (heroin, cocaine, etc.)' (Silbereisen et al., 1995). Yet as, on the one hand, use of different types of drugs has increased and, on the other hand, survey methodologies have been refined, so the likelihood of successfully measuring any changes in the prevalence even of such drugs as heroin and cocaine has been enhanced (Ramsay and Percy, 1997; Ramsay and Partridge, 1999).

The full list of sources of information on drug use includes registers of known addicts as maintained in various European countries. These and other administrative sources can be exploited by researchers and epidemiologists to estimate the extent of problematic drug use (EMCDDA, 1997b). However, some scholars suggest that general population surveys can also

help to gauge the extent of problematic drug use (Ditton and Frischer, forthcoming). Many of the complicated statistical exercises aimed at estimating the total numbers of problematic users suffer from the fact that they are not readily comprehended by the average politician or journalist or member of the public.

General population surveys have some of the simplicity and legitimacy of opinion polls. The anonymity offered to respondents, whether filling in self-completion forms or personally entering responses on laptop computers, mimics the privacy of the voting booth. Whatever the methodology employed, surveys point to the fact that an extremely high proportion of respondents, young and not-so-young, seem to have heard of most of the different types of drugs about which they are asked.

It is worth noting that, in many European drugs survey, the elderly are formally excluded. This is a reflection of the fact that they grew up in an era when both the use and availability of prohibited drugs were highly limited. Those surveys which have included respondents aged over sixty have so far found only very low rates of use by the elderly, even on a lifetime basis (Abraham et al., 1999; Leitner et al., 1994; Sandwijk et al., 1995). Of course, this situation will change over time.

When politicians or the media want to track the changing levels of drug use, surveys of the general population tend to be viewed as highly suitable instruments. Certainly in the UK the first target of the national drug strategy (concerned with reducing the proportion of young people who use drugs, especially heroin and cocaine) is measured through the main drug survey. In England and Wales, the tracking instrument is the British Crime Survey, supplemented by school surveys for those aged under 16. Other European countries do not have the same ambitious 'stretch' targets for reducing drug use as the UK and the US. However, as the third section of this overview indicates, most European countries, with the help of the EMCDDA (European Monitoring Centre for Drugs and Drug Addiction), are gearing themselves up for mutual assessment of the progress of their drug strategies, on a broadly comparable methodological basis.

The health and lifestyle perspective

Drug surveys need not be restricted to asking questions about whether specified drugs have or have not been consumed within different periods of time. It is also possible to deploy a wide range of questions that probe the circumstances and consequences of drug use, and the health and lifestyles of users and non-users. In short, health issues relating to drug use can be mapped in many ways, both geographically and demographically.

An early example of this kind of approach, in a European context, is provided by the survey work of Peter Cohen and his colleagues on drug use in Amsterdam (Sandwijk et al., 1995). They incorporated a health status measurement instrument within their questionnaire, which generated information on respondents' physical and mental well-being. The report concludes by highlighting the complexities of the interaction between different types of drug use, different lifestyles and different levels of health. Ultimately, surveys of the general population that involve different sets of people on each occasion (as is necessary for basic tracking, mapping and international comparison) are limited in their ability to explore the extent to which drug users may experience a gradual decline in health. Longitudinal or panel studies have more to offer (see, for instance, Parker et al., 1998).

By analogy with research into diseases, which has shown how even non-infectious illnesses such as cancer may disproportionately afflict particular categories of people (for instance, women in different age groups have varying risks of breast cancer), so the study of drug use is sometimes expressed in terms of epidemiology. The analogy is not a perfect one, given that drug use tends to involve a significant degree of individual choice. However, the extent to which drug users have progressed from initial sporadic to more endemic consumption can certainly be explored through drug surveys. Given sufficient questionnaire space, drug surveys can incorporate tried and tested modules that measure the extent of physical or psychological addiction to drugs (for instance, see Meltzer et al., 1995). By the same token, general population drug surveys can also ask questions about injecting use, although the value of doing this will depend on the extent to which such rare behaviour has reached the point of being measurable (Ramsay and Spiller, 1997).

Even those surveys that do not ask explicitly about dependency, or injecting, can still shed considerable light on health risks. The worst risks, for instance those associated with the use of

heroin or of cocaine, particularly in its 'cooked' form (crack), are rare in European societies, only affecting one per cent or less of young people. This certainly complicates measurement, given the number of respondents in most drug surveys. The purpose of drug surveys is partly to assess levels/types of drug use before they become too extensive/damaging, and also to discover whether certain drugs of concern (crack, for example) appear to be rarely used and a fairly isolated phenomenon. Consequently, surveys can counterbalance easily drawn general conclusions from early warning systems, ethnographic field studies, etc.

In many surveys, age, gender, lifestyle and other socio-economic factors are the basic parameters in mapping patterns of drug use. Drug use tends to be found disproportionately among those who:

- are male
- are young (in particular, in their teens or twenties)
- go out a lot in the evening, for leisure purposes
- drink large amounts of alcohol and/or smoke tobacco
- are unemployed (though this would not apply for all drugs in all countries)

Some such mapping points up paradoxes. For instance, at least in the UK, comparatively affluent young people are relatively prominent as occasional consumers of drugs, but more regular and damaging forms of drug use are more often found amongst those who are less well-off. Drug use by minority ethnic groups is another complex issue, with important variations among different groups, and in comparison with the white population.

Finally, mapping can be more obviously geographical in form. For instance, drug use is generally more prevalent in densely populated areas, or in inner-city settings, than in more sparsely populated areas. When a survey covers a whole country, different regions may have different levels of drug use. Capital cities may be strongly at risk, or there may be particular parts of the country with particularly severe problems. This kind of geographical mapping has obvious benefits in helping to ensure appropriate deployment of preventive or treatment resources. But so too does demographic profiling, which can be used to explore the question of whether there is sufficient, attractive provision to meet the prevention and treatment needs of women, young people, minority ethnic groups and other groups.

International comparisons

People, goods and fashions all now flow extensively across European national frontiers. Prohibited drugs form part of that flux. It makes little sense for different countries just to focus on their own drug problem and policies. The setting up in 1993 of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), which became operational in 1995, reflects this perception.

The EMCDDA itself, in focusing its attention on five harmonised indicators across the two fields of drug prevalence and health consequences, heads the list with drug use in the general population. As its 1999 report notes, cross-national comparative analysis of survey results can contribute to our understanding of drug-use patterns, show international similarities and differences, and help formulate drug policies (EMCDDA, 1999). Of course, some caveats then have to be mentioned: differences between countries are complicated by differences in survey methods. Nevertheless, the first two charts presented, illustrating use of cannabis, amphetamine and cocaine, are based on data from reasonably comparable general population surveys, as carried out in 11 EU countries.

The third chart, showing findings from a school survey, draws on a larger group of 14 countries, reflecting the wider implementation of a cheaper form of survey (Hibell et al., 1997). As organised by the ESPAD group, the 1995 school survey of pupils aged 15–16, later repeated in 1999, represents at least as good a standard of cross-national consistency as surveys of the general population have attained. It is also interesting that this European school survey is based on the American school survey (*Monitoring the Future*), enabling comparisons to be made directly with equivalent American results. However, it is worth bearing in mind that more serious or regular drug use tends to occur after people have left school, or ceased compulsory education, or among school drop-outs and frequent truants, groups which are not covered by school surveys.

Surveys of the general population can act as a sort of early warning system, perhaps not of new drugs but of new trends and possibilities. It is interesting that there are at least some signs of convergence in drug use within Europe, at least where cannabis is concerned (EMCDDA, 1999). Likewise, in parts of Europe and the UK where traditionally heroin has been the predominant drug of concern, there are indications of increasing use of cocaine and crack (Ramsay and Partridge, 1999). By the same token, in the US, where cocaine and crack have loomed large in recent decades, heroin use now seems to be increasing (ONDCP, 1999).

Conclusion

General population surveys of drug use, as carried out in different European countries, are broadly comparable, largely reflecting their common origins in the United States. Further convergence is not an entirely painless process, given that changes in methods employed for existing surveys can disrupt consistent tracking at national level. However, this manual itself signals a greater likelihood of closer matching. The involvement of the EMCDDA in issues of survey planning and design is another indicator of the likelihood of greater harmonisation between surveys of drug use in different countries in the future.

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1
CORE ITEMS, CORE VARIABLES AND MODEL QUESTIONS FOR SURVEYS ON DRUG PREVALENCE

Introduction

Consensus seeking on a European Model Questionnaire

The core items, core variables and model questions described below are the result of a collaborative, iterative process of decision-making within the European expert group that guided the previous projects, 'Improving the comparability of general population surveys on drug use in the EU' (CT.96.EP.08) and 'Coordination of an expert working group to develop instruments and guidelines to improve quality and comparability of general population surveys on drugs in the EU' (CT.97.EP.09), between 1997 and 1999. The results reflect the experience and knowledge already gained in national, European and international research endeavours. For example, existing questionnaires from the WHO, Pompidou and ESPAD working groups have served as important sources of inspiration.

The core items, core variables and model questions presented should be taken as a minimum standard for country-specific questionnaires. The main focus of the expert group has been on the measurement of drug use *prevalence* as such, not on other phenomena such as drug career patterns or context information that may explain drug patterns. This focus has influenced the selection of the topics, items and questions.

The working procedure followed in this consensus-seeking process can be characterised as a progression from the general to the specific. We can roughly distinguish four stages in this process: *topics, items, variables and categories* and *questions.*

First the experts decided which *topics* pertaining to drug use prevalence needed to be covered. The topics finally chosen were *illicit drugs, licit drugs, attitudes and opinions regarding drugs and drug policies,* completed with relevant *respondent attributes.* Many other topics were discussed but not retained, because they were considered either to have no clear relevance to drug use prevalence patterns or to be country specific.

In the second stage, *items* were selected within the chosen topics. For example, with regard to licit and illicit drugs: which drugs to include, prevalence measures and indications of intensity and frequency of use.

Next, the experts discussed which *variables*, and *categories* within variables, could adequately describe the selected items. This resulted, for example, in the choice of 'having ever used', 'having used in the last 12 months' and 'having used in the last 30 days' as indications (measures) of drug prevalence.

In the final stage, it was decided which concrete *questions* could be recommended to get reliable information on the categories of the chosen variables.

It should be noted that, in reality, consensus seeking was less rigid than this four-stage process suggests. Topics were dropped if meaningful items could not be found, items were left out when operational variables could not be agreed and variables were left out when there was no consensus on the formulation of questions that unambiguously 'measure' the variables. At the same time, any consensus seeking on these issues was influenced by expectations about the feasibility of survey modes (which enforce question phrasing and reliability of responses) and considerations about wider survey aims than just measuring drug prevalence patterns.

Structure of this chapter

In this chapter we provide an overview of the core topics, core items, core variables and categories and model questions proposed by the expert group for surveys on drugs prevalence among the general population. Listed below are the areas discussed for each item.

- **Discussion**: The main arguments that played a role in the final selection of the core items, core variables and model questions to generate these variables are discussed.
- **Core variables and categories**: Definitions of the proposed variables and core categories within each variable are presented.
- **Model questions:** Model questions that will result in answers that classify the respondents into the categories of the core variables are suggested. Depending on the nature of the variables and categories required, the questions have to be more or less precise in their phrasing and wording.

  For example, with regard to prevalence variables it is important that the questions call for the same concept and refer to the same periods of time; hence phrasing and wording have to be precise. So, 'taking substances' is considered to be more precise than 'using' or 'consuming', because the latter might, in some languages, be interpreted as a habit and therefore not elicit a response that would reveal incidental or occasional use.

  When seeking information on respondents' attributes, the wording or phrasing of questions will not always matter, as long as we can unambiguously identify the attributes. In fact, we only provide some tentative questions here regarding these attributes, as national surveys will probably apply their own traditional sets of questions to assess such attributes. On the other hand, with regard to respondents' opinions we only present core questions without defining the individual or conceptual scale variables that can be assessed by these questions.
- **Mode implications:** The wording and phrasing of questions cannot be independent of the survey mode used. A question that sounds clear and unambiguous when read might sound odd or confusing when asked verbally by an interviewer. Although we have tried to find formulations which have a general application, in some modes specific instructions or variations in wording might be needed. For each item the most obvious implications and complications will be mentioned.
- **Data manipulations:** An attempt to harmonise variables, categories and questions still might not generate comparable data when the researchers apply different rules for data manipulation when addressing missing data or inconsistencies. For instance, inaccurate figures for item non-response will be obtained when people who have correctly skipped a question are categorised as the same as those who should have provided an answer but did not do so. We recommend a uniform approach whereby skipped questions always return a value on the variable concerned. In our proposal we use code 8888 when the question has been skipped according to the referrals in the questionnaire. For some statistical analysis it might be necessary to recode this value into a logical category of the variable concerned. For real instances of non-response we use the code 9999, although this can be split into subcategories (e.g. refusals). Based on our experiences in handling national data for the Joint Analysis, we advise against accepting so-called 'system' missing values in data files. In general, missing values should only be declared in the context of specific statistical procedures and not as a fixed label in the data set. Also both interviewers and respondents can make mistakes or be inaccurate when completing questionnaires, which can result in inconsistencies. Again, data will not be comparable if one researcher deletes cases with inconsistent answers but another corrects them. Where appropriate, we propose standard procedures for handling inconsistent cases. These have been derived from those used in the construction of the data set for the Joint Analysis.
- **Alternatives:** Finally, for each item we discuss acceptable alternatives with regard to the question formats. These alternatives deal with two issues. Firstly, some countries traditionally collect more detailed information regarding (frequency of) substance use than we propose here, and they might prefer to continue to do so. We consider the effects on comparability, but we do not have research evidence concerning these effects. Secondly, computer-assisted interview modes today increasingly tend to reduce questions to simple yes/no answers. Many CATI programmes are already structured in this way and therefore return

dichotomous variables for each category of all variables. In this case, too, we need to consider the implications, but again without evidence about the effects.

Note:

The EMCDDA Scientific Committee adopted the guidelines for the five epidemiological key indicators at its meeting of December 2000.

The EMCDDA Management Board adopted the guidelines for the five epidemiological key indicators at its meeting of September 2001, considering that some items should not be made mandatory, namely:

- Questions on the fake drug 'Relevin' (aimed at testing the reliability of respondents);
- Questions on drug policies (Q1, Q2 and Q3 of Module 5)

See also Appendix to Chapter 1 of this Handbook (page 62):

'Proposals for new or modified core items of the EMQ'

These proposals were adopted at the annual meeting of the EMCDDA expert group on the key indicator 'Extent and patterns of drug use among the general population'. The meeting took place in Lisbon 23-24 May 2002.

In this meeting minor modifications were introduced in the EMQ.

- 'Age of first use' was adopted for all illegal substances.
- Answer categories of 'Last month frequency of consumption' were slightly modified.

A recall note has been introduced in all appropriate places in the list of items (EMQ).

1. TOBACCO

DISCUSSION

In the context of a prevalence survey about illicit drugs, questions about tobacco consumption have a dual purpose:

(1) Starting with questions about the use of licit drugs makes it easier to address illicit drug use. In this sense, questions about the use of licit drugs act as a sort of 'warm up' for the questions about illicit drugs, which are considered more sensitive by the general public.

(2) It is perceived that there is a relationship between the use of licit and illicit drugs, as they are both psychoactive substances. Including questions about licit drug use will facilitate an examination of this relationship.

Neither argument, however, implies that a model questionnaire about prevalence of illicit drugs should aim at a detailed assessment of smoking habits. Only a basic distinction between active smokers, quitters and abstainers needs to be made. This requires two questions that can be merged into a single variable.

The questions are purposely formulated in a rather casual manner. They should result in the type of answer the respondent would give when asked 'Do you smoke?' or 'Have you ever smoked in a social setting?'. Different ways of smoking tobacco are mentioned to make the question more concrete.

The expert group has considered various questions on tobacco use. Although other routes of administration (e.g. the nasal use of snuff) were discussed, the core item remains restricted to smoking of tobacco. The alternative formulation 'Are you a smoker?' was judged to be less objective and more subject to changing attitudes towards smoking.
More detailed answer categories were also considered (for example, the format used in several surveys which differentiates between 'regular' and 'occasional' smoking). However, these options were judged to be either unnecessary or too complex. Although they might yield slightly different results, they can be treated as alternatives (see below).

CORE VARIABLES

SMOKING

Label	Self-labelled 'status' with regard to smoking of tobacco		
Categories	1	active smoker	= does smoke
	2	quitter	= did smoke in the past
	3	abstainer	= never smoked
	9999	missing	= no answer

MODEL QUESTIONS

Q1 *Do you smoke tobacco, such as cigarettes, cigars or a pipe?*

1	yes	► skip Q2
2	no	

9999 else ► skip Q2

Q2 *Have you ever smoked in the past?*

1 yes
2 no
9999 else

MODE IMPLICATIONS	None

DATA MANIPULATION	SMOKING needs to be calculated from Q1 and Q2 as follows

All modes

IF (Q1 = 1) SMOKING = 1
IF (Q1 = 9999) SMOKING = 9999
IF (Q2 = 1) SMOKING = 2
IF (Q2 = 2) SMOKING = 3
IF (Q2 = 9999) SMOKING = 9999

ALTERNATIVES

Applying the general prevalence model
One may use the standard prevalence questions instead (asking for lifetime, last year and last month prevalence). Active smoking should then equal smoking in the last month and quitters will be those who have smoked ever or in the last year, but not in the last month.

It is probable, however, that slightly different results may be obtained in the classification of respondents. People who have given up smoking in the previous 30 days, or, more importantly, people who do not consider themselves to be 'smokers', might still be classified as active smokers. The prevalence questions might also yield more quitters, as people who once or twice in their life have tried a cigarette may not consider themselves as 'having ever smoked', when asked in the more casual phrasing of our proposed question.

Differentiating intensity
As already mentioned above, many surveys differentiate between regular and occasional smoking, either or both with regard to active smoking and past smoking.

If a question about regular or occasional use follows a 'yes' to the model questions Q1 or Q2, the differentiation has no effect on the model. When the differentiation is included in the categories of Q1 and Q2, both regular and occasional should be read as a single 'yes'. However, we do not really know if we will get the same results. An occasional (past) smoker might not consider himself as a smoker, hence he will respond 'no' to the phrasing of Q1 or Q2. Confronted with the alternatives of regular and occasional, he might opt for occasional and the result will be that more active smokers and/or fewer abstainers will be shown.

2. ALCOHOL

DISCUSSION

Questions about alcohol consumption do have the same aims as discussed above with regard to tobacco. Therefore, the model questions about alcohol are not intended as a detailed assessment of drinking habits. Nevertheless, the expert group decided on including more detail about alcohol consumption than about smoking. One reason for this is the fact that in many countries the assessment of illicit drug use has been traditionally incorporated into alcohol surveys. Another reason may be that intervention structures often cater both for addiction to alcohol and illicit drugs but not for smoking, hence the greater focus on alcohol than on tobacco.

In principle, the proposed model only differentiates between drinkers and non-drinkers and between heavy drinking and normal or occasional drinking. The first is achieved by measuring last year and last month prevalence, the latter by including questions about general drinking behaviour taken from the Alcohol Use Disorders Identification Test (AUDIT, Saunders et al., 1993). These questions relate to general patterns of drinking and binge drinking, whereby binge drinking is indicated by drinking six glasses or more on one occasion. If this standard in alcohol research changes in the future to another number of glasses, our model will change accordingly. Last month frequency is included to assess persistence of a general pattern.

It should be noted that the proposed model questions do not measure alcohol intake as such. We only establish a comparable measure for drinking habits on an ordinal scale. Identical scale values, for instance drinking 2–3 times a week, might imply a different intake of alcohol in one country compared to another, depending on the usual type of alcoholic drink and the standard volume of a typical 'drink'. The complexity of standardising questions about frequency and intensity of use, resulting in comparable figures of alcohol intake, facilitated the consensus about the ordinal scales to differentiate habits as presented below.

CORE VARIABLES

LYP_ALC

Label	Last year prevalence of alcohol consumption	
Categories	1	did drink alcohol during last 12 months
	2	did not drink any alcohol during last 12 months
	9999	missing

DRINKING

Label	General frequency of alcohol consumption	
Categories	1	4 times a week or more often
	2	2 to 3 times a week
	3	2 to 4 times a month
	4	once a month or less
	8888	skipped
	9999	missing

BINGEING

Label	General frequency of drinking 6 glasses or more of an alcoholic drink on the same occasion	
Categories	1	daily or almost daily

2 every week
3 every month
4 less than once a month
5 never
8888 skipped
9999 missing

LMP_ALC

Label Last month prevalence of alcohol consumption

Categories
1 did drink alcohol during last 30 days
2 did not drink any alcohol during last 30 days
8888 skipped
9999 missing

LMF_ALC

Label Last month frequency of alcohol consumption

Categories
1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
8888 skipped
9999 missing

Categories revised in 2002. See Appendix (page 62).

Categories Number of days having taken alcohol in the last 30 days

OR

1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
8888 skipped
9999 missing

MODEL QUESTIONS

Q1 *During the last 12 months, have you drunk beer, wine, spirits or any other alcoholic drink?*

1 yes
2 no ► skip Q2, Q3, Q4, Q5
9999 else ► skip Q2, Q3, Q4, Q5

Q2 *How often do you drink alcohol?*

1 4 times a week or more
2 2 to 3 times a week
3 2 to 4 times a month
4 once a month or less
9999 else

Q3 *How often do you drink 6 gasses or more of an alcoholic drink on the same occasion?*

1 daily or almost daily
2 every week
3 every month
4 less than once a month
5 never
9999 else

Q4 *During the last 30 days, have you drunk any alcohol?*

1 yes
2 no ► skip Q5
9999 else ► skip Q5

Q5 *During the last 30 days, on how many days did you drink any alcohol?*

1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
9999 else

Categories revised in 2002. See Appendix (page 62).

On _____ days
OR
1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
9999 else

MODE IMPLICATIONS

Questions require mode-dependent instructions

Self-completion: Q2, Q3, Q5: Respondents should be instructed to choose the pre-coded answer that best applies to them.

Interviewer completion: Q2, Q3, Q5: Interviewers should be instructed to read the answer categories one by one in sequence and mark the first one that applies.

DATA MANIPULATION

Pen-and-paper modes require consistency corrections. Core variables can be computed from questionnaire items

Self-completion modes

IF (Q5 < 8888) Q4 = 1
IF ((Q4 = 1) and (Q5 = 8888)) Q5 = 9999
IF ((Q4 > 1) and (Q5 = 9999)) Q5 = 8888

Q5 LMF_ALC	**Q4 LMP_ALC**			
	1	*2*	*8888*	*9999*
1–4		Q4 = 1	Q4 = 1	Q4 = 1
8888	Q5 = 9999			
9999		Q5 = 8888	Q5 = 8888	Q5 = 8888

IF (Q2 = 1) Q1 = 1
IF ((Q1 > 1) and (Q2 = 9999)) Q2 = 8888
IF ((Q4 = 1) and (Q2 = 8888)) Q2 = 9999

Q2, Q3 DRINKING	**Q1 LYP_ALC**			
	1	*2*	*8888*	*9999*
1–4		Q1 = 1	Q1 = 1	Q1 = 1
8888	Q2 = 9999			

IF (Q3 < 5) Q1 = 1
IF ((Q1 > 1) and (Q3 > 4)) Q3 = 8888
IF ((Q4 = 1) and (Q3 = 8888)) Q3 = 9999

9999		Q2 = 8888	Q2 = 8888	Q2 = 8888

Q3 BINGING	**Q1 LYP_ALC**			
	1	*2*	*8888*	*9999*
1–4		Q1 = 1	Q1 = 1	Q1 = 1
5		Q3 = 8888	Q3 = 8888	Q3 = 8888
8888	Q3 = 9999			
9999		Q3 = 8888	Q3 = 8888	Q3 = 8888

IF (Q4 = 1) Q1 = 1
IF ((Q1 > 1) and (Q4 > 1)) Q4 = 8888
IF ((Q1 = 1) and (Q4 = 8888)) Q4 = 9999

Q4 LMP_ALC	**Q1 LYP_ALC**			
	1	*2*	*8888*	*9999*
1		Q1 = 1	Q1 = 1	Q1 = 1
2		Q4 = 8888	Q4 = 8888	Q4 = 8888
8888	Q4 = 9999			
9999		Q4 = 8888	Q4 = 8888	Q4 = 8888

<u>All modes</u>

LYP_ALC = Q1
DRINKING = Q2
BINGING = Q3
LMP_ALC = Q4
LMF_ALC = Q5

ALTERNATIVES

Differentiation by type of alcoholic drink
In some countries it is normal practice to ask questions about alcohol consumption for specific types of alcoholic drinks. In such cases, LYP_ALC and LMP_ALC should be calculated by accounting for the answers on all corresponding questions regarding each type of drink. The results obtained may differ. Some people could answer 'no' to a general question about drinking any alcohol, but would answer 'yes' in some cases when confronted with the different modalities.

Also, when Q2, Q3 and Q5 are asked separately for each drink, the core variables DRINKING, BINGEING and LMF_ALC could be set equal to the highest frequency specified for any drink. This method has been applied in constructing the joined European file (see Chapter 4). It can result in an underestimation, however, as we do not know if some people combine or alternate their drinking of different drinks.

A compromise would be to include a summing-up variable after questions about individual alcoholic drinks. This approach was applied in the German survey of 1995. This summing-up would then read something like: 'Let's summarise all your answers above. Did you . . .' etc.

Splitting Q2, Q3 and Q5 into separate questions for each answer category
As mentioned above, Q2, Q3 and Q5 require the respondent to know all the answer categories before responding. In the self-completion mode this will not cause any problems, but interviewer completion requires that the interviewer read all possibilities first. This could easily result in errors. If the questions need to be followed by specifying the answer categories, the interviewer may not stick to the exact wording. Errors could also occur if the respondent does not properly understand the differences between the answers he can give.

For this reason, survey agencies will often decide to split these questions into separate ones for each of the answer categories, to be asked in sequence (i.e. the higher frequencies first). The result may not be the same, however. Not knowing the alternatives, the respondent could wait too long before answering 'yes' to any of the questions or may respond too promptly. As a result, this method could show less or more binge or frequent drinkers when compared to self-completion modes.

Alternative answer categories for Q5
The AUDIT questions that are incorporated into our model measure last month frequency on an ordinal scale. However, several countries will prefer to continue using traditional interval measures based on an *exact number of days of drinking during the last 30 days*.

In such cases, data can be made comparable by using the *recode scheme* we applied in the Joint Analysis:

20 + days	= daily or almost daily
10–19 days	= several times a week
4–9 days	= at least once a week
< 4 days	= less than once a week

See also Appendix (page 62).

Asking for the number of drinking days will be more in line with the approach we have chosen for illicit drugs. It also avoids the problem of having to read the answer categories first.

It should be noted that asking for the number of *times* instead of *days* of alcohol drinking will not produce comparable results, as drinking many times in one day could result in a different classification of respondents. The expert group recommends that the number of times a substance has been taken should not be used as a frequency measure.

3. PHARMACEUTICALS

DISCUSSION

Whether to include questions about the use of medicines ('pharmaceuticals') has been debated at several meetings of the expert group. The issue proved to be quite complicated. Although many drug prevalence surveys in the past have included some questions on this item, very few studies have so far investigated the meaning of taking medicines in the context of illicit drug use. Also the methods used for asking questions about medicines are more varied than when assessing the prevalence of illicit drug use.

The expert group concluded that this item has the same purpose, in principle, as the items of tobacco and alcohol: to provide information about a behavioural pattern rather than to assess prevalence. It was also concluded that, in the context of illicit drug use, the item could be restricted to sedatives and tranquillisers. As many people may not know the difference between these substances, the group decided on question formats which combine both, (i.e. by asking about 'sedatives and/or tranquillisers').

A drug prevalence survey is not really concerned with the use of these substances for medical purposes (i.e. prescribed by a doctor to cure an illness). Including regular medication might imply that we are measuring morbidity instead of behaviour.

However, the wording required to differentiate between non-medical and non-prescribed use can become quite confusing, particularly when people actually do both. Also, comparability would still not be achieved as countries differ with regard to availability of sedatives and tranquillisers without prescription, as well as with regard to prescription practices of medical doctors.

The expert group therefore decided on formulations that comprise both medical and non-medical and prescribed and non-prescribed use. In order to indicate a potential pattern of non-prescribed use, a question has been added which refers to the last time the respondent used the substance(s).

In the final model, the item of pharmaceuticals is placed before the questions about illicit drugs. This is in accordance with the background context of the item, but also avoids respondents interpreting sedatives and tranquillisers as another type of illicit drug.

CORE VARIABLES

LYP_MED

Label	Last year prevalence of taking sedatives and/or tranquillisers	
Categories	1	did take sedatives and/or tranquillisers during last 12 months
	2	did not take sedatives and/or tranquillisers during last 12 months
	9999	missing

MEDHABIT

Label	General frequency of taking sedatives and/or tranquillisers	
Categories	1	4 times a week or more
	2	2 to 3 times a week
	3	2 to 4 times a month
	4	once a month or less
	8888	skipped
	9999	missing

LMP_MED

Label: Last month prevalence of taking sedatives or tranquillisers

Categories:
1 did take sedatives and/or /tranquillisers during last 30 days
2 did not take sedatives and/or tranquillisers during last 30 days
8888 skipped
9999 missing

LMF_MED

Label: Last month frequency of taking sedatives or tranquillisers

Categories:
1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
8888 skipped
9999 missing

Categories revised in 2002. See Appendix (page 62).

Categories: Number of days having taken alcohol in the last 30 days

OR

1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
8888 skipped
9999 missing

LASTMED

Label: Source of sedatives and/or tranquillisers when used last time

Categories:
1 prescribed by a doctor
2 from someone known
3 from pharmacy or drugstore without prescription
4 other source
8888 skipped
9999 missing

MODEL QUESTIONS

Q1 *During the last 12 months, have you taken any sedatives or tranquillisers?*

1 yes
2 no ► skip Q2, Q3, Q4, Q5
9999 else ► skip Q2, Q3, Q4, Q5

Q2 *How often do you take sedatives or tranquillisers?*

1 4 times a week or more
2 2 to 3 times a week
3 2 to 4 times a month
4 once a month or less
9999 else

Q3 *During the last 30 days, have you taken any sedatives or tranquillisers?*

1 yes
2 no ► skip Q4
9999 else ► skip Q4

Q4 *During the last 30 days, on how many days did you take sedatives or tranquillisers?*

1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
9999 else

Categories revised in 2002. See Appendix (page 62).

On _____ days
OR
1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
9999 else

Q5 *How did you obtain sedatives or tranquillisers the last time you took them?*

1 I bought them or had them prescribed for me by a doctor
2 I got them from somebody else I know
3 I bought them without a prescription in a pharmacy or drugstore
4 none of the above applies
9999 else

MODE IMPLICATIONS

Questions require mode-dependent instructions

All modes	Q1–Q5: A more colloquial substance name (e.g. sleeping pills, calming pills) can be substituted for the generic names 'sedatives' and 'tranquillisers'. Common brand names for both substances should be given as examples.
Self-completion	Q2, Q4: Respondents should be instructed to choose the pre-coded answer that best applies to them . Q5: Respondents should be instructed to choose only one answer.
Interviewer completion	Q2, Q4, Q5: Interviewers should be instructed to read the answer categories one by one in sequence and mark the first one that applies.

DATA MANIPULATION

Pen-and-paper modes require consistency corrections.
Core variables can be computed from questionnaire items

Self-completion modes

IF (Q4 < 8888) Q3 = 1
IF ((Q3 = 1) and (Q4 = 9999)) Q4 = 8888
IF ((Q3 > 1) and (Q4 = 8888)) Q4 = 9999

Q4 LMF_MED	**Q3 LMP_MED**			
	1	*2*	*8888*	*9999*
1–4		Q3 = 1	Q3 = 1	Q3 = 1
8888	Q4 = 9999			
9999		Q4 = 8888	Q4 = 8888	Q4 = 8888

IF (Q2 = 1) Q1 = 1
IF ((Q1 > 1) and (Q2 = 9999)) Q2 = 8888
IF ((Q1 = 1) and (Q2 = 8888)) Q2 = 9999

Q2 MEDHABIT	**Q1 LYP_MED**			
	1	*2*	*8888*	*9999*
1–4		Q1 = 1	Q1 = 1	Q1 = 1

8888	Q2 = 9999 Q3 = 9999			
9999		Q2 = 8888 Q3 = 8888	Q2 = 8888 Q3 = 8888	Q2 = 8888 Q3 = 8888

IF (Q4 = 1) Q1 = 1
IF ((Q1 > 1) and (Q4 > 1)) Q4 = 8888
IF ((Q1 = 1) and (Q4 = 8888)) Q4 = 9999

Q4 LMP_MED	**Q1 LYP_MED**			
	1	*2*	*8888*	*9999*
1		Q1 = 1	Q1 = 1	Q1 = 1
2		Q4 = 8888	Q4 = 8888	Q4 = 8888
8888	Q4 = 9999			
9999		Q4 = 8888	Q4 = 8888	Q4 = 8888

All modes
LYP_MED = Q1
MEDHABIT = Q2
LMP_MED = Q3
LMF_MED = Q4
LASTMED = Q5

ALTERNATIVES

Differentiation between sedatives and tranquillisers
Although the model does not distinguish between sedatives and tranquillisers, separate sets of questions can be asked for each substance. In such cases LYP_MED and LMP_MED should be calculated by accounting for the answers on the corresponding questions about sedatives and tranquillisers. As discussed above with regard to alcohol, slightly different results may be obtained. Also, when Q2 and Q4 are asked separately for each substance, the core variables MEDHABIT and LMF_MED could be set equal to the highest frequency specified for either substance. As with alcohol, this method can result in underestimation. When Q5 is asked for each substance the model variable LASTMED should equal the lowest code for either substance.

Apart from this, distinguishing between the two substances can produce very different results when people do not know the difference.

Splitting Q2, Q4 and Q5 into separate questions for each answer category
As it is necessary for the respondent to know all the answer categories before responding to Q2, Q4 and Q5, survey agencies will often prefer to split these questions into separate ones for each of the answer categories, to be asked in sequence. The implications of this have been discussed above. Again, the results can differ, because the respondent, not knowing the alternatives, might answer too promptly or wait too long.

Alternative answer categories for Q5
Some agencies prefer to continue using traditional interval measures, based on an exact number of days of taking sedatives or tranquillisers, instead of general last month frequency on an ordinal scale. As with alcohol, data can be made comparable by using the recode scheme we applied in the Joint Analysis.

20 + days = daily or almost daily
10–19 days = several times a week
4–9 days = at least once a week
< 4 days = less than once a week

See Appendix (page 62).

Asking for the number of days of taking substances is more in line with the approach we have chosen for illicit drugs. This also avoids the problem of having to read the answer categories first.

Again, it should be noted that asking for the *number of times* would not produce comparable results, as taking sedatives and/or tranquillisers several times a day can result in a different classification of the respondent.

4. ILLICIT DRUGS

DISCUSSION

A number of possible questions were considered for broaching the subject of illicit drugs. 'Have you ever heard of . . .?' was discussed as an optional filter question for each individual drug. However, not having heard of a drug does not exclude the possibilty that the respondent has taken that drug. Instead the expert group decided to begin the questions for each individual illicit drug with a *warming-up* question. The final model question 'Do you personally know people who take . . .?' was preferred over the alternative 'Do you have friends or acquaintances who take . . .?', as the latter wording could put the respondent on the defensive. The model question has been intentionally phrased in the present tense to avoid reference to the past or hearsay.

A side benefit of the model warming-up question is that an additional or alternative *prevalence estimate* could also be obtained. This would be particularly useful in the case of drugs which are only taken by a small number of respondents. The answers could further be interpreted as *risk factors* or *predictors* for drug use.

Warming-up questions are followed by questions about respondents' personal use of drugs. For all drugs we include the standard prevalence measures (lifetime, last year and last month) and one ordinal frequency measure related to the last month category.

The expert group decided not to include a measure for lifetime frequency in the proposed model. Such questions can help distinguish between sporadic and more frequent use and could be informative about the nature of a 'drug epidemic', but interpretation of the responses would be too complex and any analytical potential would therefore be limited.

A general frequency measure to establish behavioural patterns, similar to those related to last year for tobacco, alcohol and pharmaceuticals, was not thought to add more information about drug-taking habits than already provided by last month frequency, due to the expected low prevalence rates for taking illicit drugs.

The expert group decided to include a question about the age of onset only with regard to cannabis, since it is the illicit drug that is most often taken and started with. This question should come immediately after the question about lifetime prevalence. It is advisable to ask for an exact age rather than an age range in which cannabis might have been taken for the first time. Though the expert group acknowledged that the age of onset given could be imprecise due to poor memory, the exact age might still be accurate at an aggregate level and allow more sophisticated analysis.

The expert group recommends including the following illicit drugs in the model questionnaire: cannabis, ecstasy, amphetamines, cocaine, heroin and LSD. Other drugs can be included, although it is as well to be aware of the possibility of questionnaire fatigue due to the repetitive nature of the questions.

The proposed core selection is based on a consensus opinion about which drugs would be relevant for all EU Member States. Cannabis should be asked about first, as it is the most common illicit drug and its use would not be considered particularly embarrassing nowadays. Ecstasy should be placed before amphetamines to avoid people interpreting ecstasy as a form of amphetamine.

Most of the expert group would have liked to differentiate between cocaine and crack-cocaine. However, the proposed model does not make this distinction as a separate question about crack was not considered cost-effective in a general population survey, which at best will reveal very low prevalences. In any case, crack should not be mentioned as an example of cocaine. Similarly, 'other opiates' should not be mentioned in connection with heroin nor 'other hallucinogens' in connection with LSD.

In computer-assisted survey modes, it is possible to alternate the order in which the drugs appear in the questionnaire to avoid a bias on a particular drug that comes at the end. However, randomisation of the order should still comply with the recommendation that cannabis appear first and that ecstasy precede amphetamines.

In principle, any colloquial variations of the names of the substances concerned can be added. The phrasing of the question for the interviewer completion mode should be specified exactly. When there are many alternative names, the phrasing can become rather clumsy and confusing. Instead, it would be better if the interviewer has a list of synonyms available. On the basis of this list he can accept or reject an answer when the respondent spontaneously asks if a particular colloquially named substance is meant.

The usual method of mentioning alternative names between brackets, which works well in self-completion modes, is inappropriate for interviewer completion modes, where it will be an invitation to interviewers to make up their own wording.

The expert group also recommended that a dummy drug be included. In the model we have chosen the name Relevin, which was used in the standard European School Survey (ESPAD). Including a dummy drug enables the researchers to evaluate the reliability of the answer patterns of respondents. It should be placed between the other drugs being investigated, in order to give the impression that it is a 'real' drug. It can be given any name that sounds like an illicit drug. We do acknowledge, however, that the value of including a dummy drug might be disputed. We have no proof that people who claim to have used the dummy should not be considered reliable with regard to their answers on other questions. The pre-tests of the model questionnaire suggested that respondents who realise that Relevin does not exist might question the reliability or seriousness of the survey.

CANNABIS

CORE VARIABLES

KNO_CAN

Label: Personally knowing people who take cannabis

Categories:
1 knows people who take cannabis
2 does not know people who take cannabis
9999 missing

LTP_CAN

Label: Lifetime prevalence of taking cannabis

Categories:
1 has ever taken cannabis
2 has never taken cannabis
9999 missing

AGE_CAN

Label: Age of onset of taking cannabis

Categories:
nn age in years
8888 skipped
9999 missing

LYP_CAN

Label: Last year prevalence of taking cannabis

Categories:
1 did take cannabis during last 12 months
2 did not take cannabis during last 12 months
8888 skipped
9999 missing

LMP_CAN

Label: Last month prevalence of cannabis

Categories:
1 did take cannabis during last 30 days
2 did not take cannabis during last 30 days
8888 skipped
9999 missing

LMF_CAN

Label: Last month frequency of taking cannabis

Categories:
1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
8888 skipped
9999 missing

Categories revised in 2002. See Appendix (page 62).

Categories: Number of days having taken cannabis in the last 30 days

OR

1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
8888 skipped
9999 missing

MODEL QUESTIONS

For the model questions it is preferable to use 'hashish or marijuana' instead of the generic name 'cannabis'

Q1 *Do you personally know people who take cannabis?*

1 yes
2 no
9999 else

Q2 *Have you ever taken cannabis yourself?*

1 yes
2 no ► skip Q3, Q4, Q5, Q6
9999 else ► skip Q3, Q4, Q5, Q6

Q3 *At what age did you take cannabis for the first time?*

nn	(age)
9999	else

Q4 *During the last 12 months, have you taken cannabis?*

1	yes	
2	no	► skip Q5, Q6
9999	else	► skip Q5, Q6

Q5 *During the last 30 days, have you taken cannabis?*

1	yes	
2	no	► skip Q6
9999	else	► skip Q6

Q6 *During the last 30 days, on how many days did you take cannabis?*

1	daily or almost daily
2	several times a week
3	at least once a week
4	less than once a week
9999	else

Categories revised in 2002. See Appendix (page 62).

On _____ days
OR

1	20 days or more
2	10-19 days
3	4-9 days
4	1-3 days
9999	else

MODE IMPLICATIONS	Q6 requires mode-dependent instructions
Self-completion	Q6: Respondents should be instructed to choose the pre-coded answer that best applies to them.
Interviewer completion	Q6: Interviewers should be instructed to read the answer categories one by one in sequence and mark the first one that applies.

DATA MANIPULATION Pen-and-paper mode requires consistency corrections. Core variables can be computed from questionnaire items

Pen-and-paper modes

IF (Q6 < 8888) Q5 = 1
IF ((Q5 = 1) and (Q6 = 8888)) Q6 = 9999
IF ((Q5 > 1) and (Q6 = 9999)) Q6 = 8888

Q6 LMF_CAN	**Q5 LMP_CAN**			
	1	*2*	*8888*	*9999*
1–4		Q5 = 1	Q5 = 1	Q5 = 1
8888	Q5 = 9999			
9999		Q6 = 8888	Q6 = 8888	Q6 = 8888

IF (Q5 = 1) Q4 = 1
IF ((Q4 > 1) and (Q5 > 1)) Q5 = 8888
IF ((Q4 = 1) and (Q5 = 8888)) Q5 = 9999

Q5 LMP_CAN	**Q4 LYP_CAN**			
	1	*2*	*8888*	*9999*
1		Q4 = 1	Q4 = 1	Q4 = 1
2		Q5 = 8888	Q5 = 8888	Q5 = 8888
8888	Q5 = 9999			
9999		Q5 = 8888	Q5 = 8888	Q5 = 8888

IF (Q3 = 1) Q2 = 1
IF ((Q2 > 1) and (Q3 > 100)) Q3 = 8888
IF ((Q2 = 1) and (Q3 = 8888)) Q3 = 9999

Q3 AGE_CAN	**Q2 LTP_CAN**			
	1	*2*	*8888*	*9999*
Nn		Q2 = 1	Q2 = 1	Q2 = 1
8888	Q3 = 9999			
9999		Q3 = 8888	Q3 = 8888	Q3 = 8888

IF (Q4 = 1) Q2 = 1
IF ((Q2 > 1) and (Q4 > 1)) Q4 = 8888
IF ((Q2 = 1) and (Q4 = 8888)) Q4 = 9999

Q4 LYP_CAN	**Q2 LTP_CAN**			
	1	*2*	*8888*	*9999*
1		Q2 = 1	Q2 = 1	Q2 = 1
2		Q4 = 8888	Q4 = 8888	Q4 = 8888
8888	Q4 = 9999			
9999		Q4 = 8888	Q4 = 8888	Q4 = 8888

All modes

KNO_CAN = Q1
LTP_CAN = Q2
AGE_CAN = Q3
LYP_CAN = Q4
LMP_CAN = Q5
LMF_CAN = Q6

ALTERNATIVES

Splitting Q6 into separate questions for each answer category
As Q6 requires that the respondent knows all the answer categories before responding, survey agencies will often prefer to split these questions into separate ones for each of the answer categories, to be asked in sequence. The implications have been discussed above. Again, different results can be expected because the respondent, not knowing the alternatives, might answer too promptly or wait too long.

Alternative answer categories for Q6
Instead of general last month frequency on an ordinal scale, some agencies prefer to continue using traditional interval measures based on an exact number of days of taking cannabis. As in the case of alcohol, data can be made comparable by using the recode scheme applied in the Joint Analysis.

20 + days = daily or almost daily
10–19 days = several times a week
4–9 days = at least once a week
< 4 days = less than once a week

See Appendix (Page 62).

Again, it should be noted that asking for the *number of times* would not produce comparable results, as taking cannabis several times a day can result in a different classification of the respondent.

ECSTASY

CORE VARIABLES

KNO_XTC

Label: Personally knowing people who take ecstasy

Categories:
1 knows people who take ecstasy
2 does not know people who take ecstasy
9999 missing

LTP_XTC

Label: Lifetime prevalence of taking ecstasy

Categories:
1 has ever taken ecstasy
2 has never taken ecstasy
9999 missing

Variable included in 2002. See Appendix (page 62).

AGE_XTC

Label: Age of onset of taking ecstasy

Categories:
nn age in years
8888 skipped
9999 missing

LYP_XTC

Label: Last year prevalence of taking ecstasy

Categories:
1 did take ecstasy during last 12 months
2 did not take ecstasy during last 12 months
8888 skipped
9999 missing

LMP_XTC

Label Last month prevalence of taking ecstasy

Categories
1 did take ecstasy during last 30 days
2 did not take ecstasy during last 30 days
8888 skipped
9999 missing

LMF_XTC

Label Last month frequency of taking ecstasy

Categories
1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
8888 skipped
9999 missing

Categories revised in 2002. See Appendix (Page 62)

Categories Number of days having taken ecstasy in the last 30 days

OR

1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
8888 skipped
9999 missing

MODEL QUESTIONS

Q1 Do you personally know people who take ecstasy?
1 yes
2 no
9999 else

Q2 Have you ever taken ecstasy yourself?
1 yes
2 no ► skip Q3, Q4, Q5
999 else ► skip Q3, Q4, Q5

Added in 2002. See Appendix (page 62).

Q3 *At what age did you take ecstasy for the first time?*

nn (age)
9999 else

Q4 During the last 12 months, have you taken ecstasy?
1 yes
2 no ► skip Q4, Q5
9999 else ► skip Q4, Q5

Q5 During the last 30 days, have you taken ecstasy?

1 yes
2 no ► skip Q5
9999 else ► skip Q5

Q6 During the last 30 days, on how many days did you take ecstasy?

1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
9999 else

Categories revised in 2002. See Appendix (page 62).

On _____ days
OR
1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
9999 else

MODE IMPLICATIONS

Q6 requires mode-dependent instructions

Self-completion: Q6: Respondents should be instructed to choose the pre-coded answer that best applies to them.

Interviewer completion: Q6: Interviewers should be instructed to read the answer categories one by one in sequence and mark the first one that applies.

DATA MANIPULATION

Pen-and-paper modes require consistency corrections.
Core variables can be computed from questionnaire items

Pen-and-paper modes

Consistency correction equal those listed for cannabis

All modes

KNO_XTC = Q1
LTP_XTC = Q2
AGE_CAN = Q3
LYP_XTC = Q4
LMP_XTC = Q5
LMF_XTC = Q6

ALTERNATIVES

See alternatives for Q6 under Cannabis.

AMPHETAMINES

CORE VARIABLES

KNO_AMP

Label: Personally knowing people who take amphetamines

Categories:
1 knows people who take amphetamines
2 does not know people who take amphetamines
9999 missing

LTP_AMP

Label: Lifetime prevalence of taking amphetamines

Categories:
1 has ever taken amphetamines
2 has never taken amphetamines
9999 missing

Variable included in 2002. See Appendix (page 62).

AGE_AMP

Label: Age of onset of taking amphetamines

Categories:
nn age in years
8888 skipped
9999 missing

LYP_AMP

Label: Last year prevalence of taking amphetamines

Categories:
1 did take amphetamines during last 12 months
2 did not take amphetamines during last 12 months
8888 skipped
9999 missing

LMP_AMP

Label: Last month prevalence of taking amphetamines

Categories:
1 did take amphetamines during last 30 days
2 did not take amphetamines during last 30 days
8888 skipped
9999 missing

LMF_AMP

Label: Last month frequency of taking amphetamines

Categories:
1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
8888 skipped
9999 missing

Categories revised in 2002. See Appendix (page 62).

Categories — Number of days having taken amphetamines in the last 30 days

OR

1	20 days or more
2	10-19 days
3	4-9 days
4	1-3 days
8888	skipped
9999	missing

MODEL QUESTIONS

The word 'amphetamines' in the questions can be changed into 'amphetamines or speed or pep pills'

Q1 *Do you personally know people who take amphetamines?*

1	yes
2	no
9999	else

Q2 *Have you ever taken amphetamines yourself?*

1	yes	
2	no	► skip Q3, Q4, Q5
9999	else	► skip Q3, Q4, Q5

Added in 2002. See Appendix (page 62).

Q3 *At what age did you take amphetamines for the first time?*

nn	(age)
9999	else

Q4 *During the last 12 months, have you taken amphetamines?*

1	yes	
2	no	► skip Q4, Q5
9999	else	► skip Q4, Q5

Q5 *During the last 30 days, have you taken amphetamines?*

1	yes	
2	no	► skip Q5
9999	else	► skip Q5

Q6 *During the last 30 days, on how many days did you take amphetamines?*

1	daily or almost daily
2	several times a week
3	at least once a week
4	less than once a week
9999	else

Categories revised in 2002. See Appendix (page 62).

On _____ days
OR

1	20 days or more
2	10-19 days
3	4-9 days
4	1-3 days
9999	else

MODE IMPLICATIONS

Q6 requires mode-dependent instructions

Self-completion: Q6: Respondents should be instructed to choose the pre-coded answer that best applies to them.

Interviewer completion: Q6: Interviewers should be instructed to read the answer categories one by one in sequence and mark the first one that applies.

DATA MANIPULATION

Pen-and-paper modes require consistency corrections.
Core variables can be computed from questionnaire items

Pen-and-paper modes

Consistency corrections equal those listed for cannabis

All modes

KNO_AMP = Q1
LTP_AMP = Q2
AGE_AMP = Q3
LYP_AMP = Q4
LMP_AMP = Q5
LMF_AMP = Q6

ALTERNATIVES

See alternatives for Q6 under Cannabis

HEROIN

CORE VARIABLES

KNO_HER

Label: Personally knowing people who take heroin

Categories:

1	knows people who take heroin
2	does not know people who take heroin
9999	missing

LTP_HER

Label: Lifetime prevalence of taking heroin

Categories:

1	has ever taken heroin
2	has never taken heroin
9999	missing

Variable included in 2002. See Appendix (page 62).

AGE_HER

Label: Age of onset of taking heroin

Categories:
- nn age in years
- 8888 skipped
- 9999 missing

LYP_HER

Label: Last year prevalence of taking heroin

Categories:
- 1 did take heroin during last 12 months
- 2 did not take heroin during last 12 months
- 8888 skipped
- 9999 missing

LMP_HER

Label: Last month prevalence of taking heroin

Categories:
- 1 did take heroin during last 30 days
- 2 did not take heroin during last 30 days
- 8888 skipped
- 9999 missing

LMF_HER

Label: Last month frequency of taking heroin

Categories:
- 1 daily or almost daily
- 2 several times a week
- 3 at least once a week
- 4 less than once a week
- 8888 skipped
- 9999 missing

Categories revised in 2002. See Appendix (page 62).

Categories: Number of days having taken heroin in the last 30 days

OR

- 1 20 days or more
- 2 10-19 days
- 3 4-9 days
- 4 1-3 days
- 8888 skipped
- 9999 missing

MODEL QUESTIONS

Q1 Do you personally know people who take heroin?
- *1 yes*
- *2 no*
- *9999 else*

Q2 Have you ever taken heroin yourself?
- *1 yes*

2 *no* ► *skip Q3, Q4, Q5*
9999 *else* ► *skip Q3, Q4, Q5*

Added in 2002. See Appendix (page 62).

Q3 *At what age did you take heroin for the first time?*

nn (age)
9999 else

Q4 *During the last 12 months, have you taken heroin?*

1 yes
2 no ► skip Q4, Q5
9999 else ► skip Q4, Q5

Q5 *During the last 30 days, have you taken heroin?*

1 yes
2 no ► skip Q5
9999 else ► skip Q5

Q6 *During the last 30 days, on how many days did you take heroin?*

1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
9999 else

Categories revised in 2002. See Appendix (page 62).

On _____ days
OR
1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
9999 else

MODE IMPLICATIONS

Q6 requires mode-dependent instructions

Self-completion: Q6: Respondents should be instructed to choose the pre-coded answer that best applies to them.

Interviewer completion: Q6: Interviewers should be instructed to read the answer categories one by one in sequence and mark the first one that applies.

DATA MANIPULATION

Pen-and-paper modes require consistency corrections.
Core variables can be computed from questionnaire items

Pen-and-paper modes

Consistency corrections equal those listed for cannabis

All modes
KNO_HER = Q1
LTP_HER = Q2
AGE_HER = Q3
LYP_HER = Q4
LMP_HER = Q5
LMF_HER = Q6

ALTERNATIVES

See alternatives for Q6 under Cannabis

COCAINE

CORE VARIABLES

KNO_COC

Label: Personally knowing people who take cocaine

Categories:
1 knows people who take cocaine
2 does not know people who take cocaine
9999 missing

LTP_COC

Label: Lifetime prevalence of taking cocaine

Categories:
1 has ever taken cocaine
2 has never taken cocaine
9999 missing

Variable included in 2002. See Appendix (page 62).

AGE_COC

Label: Age of onset of taking cocaine

Categories:
nn age in years
8888 skipped
9999 missing

LYP_COC

Label: Last year prevalence of taking cocaine

Categories:
1 did take cocaine during last 12 months
2 did not take cocaine during last 12 months
8888 skipped
9999 missing

LMP_COC

Label: Last month prevalence of taking cocaine

Categories:
1 did take cocaine during last 30 days

2 did not take cocaine during last 30 days
8888 skipped
9999 missing

LMF_COC

Label Last month frequency of taking cocaine

Categories
1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
8888 skipped
9999 missing

Categories revised in 2002. See Appendix (page 62).

Categories Number of days having taken cocaine in the last 30 days

OR

1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
8888 skipped
9999 missing

MODEL QUESTIONS

Q1 *Do you personally know people who take cocaine?*

1 yes
2 no
9999 else

Q2 *Have you ever taken cocaine yourself?*

1 yes
2 no ► skip Q3, Q4, Q5
9999 else ► skip Q3, Q4, Q5

Added in 2002. See Appendix (page 62).

Q3 *At what age did you take cocaine for the first time?*

nn (age)
9999 else

Q4 *During the last 12 months, have you taken cocaine?*

1 yes
2 no ► skip Q4, Q5
9999 else ► skip Q4, Q5

Q5 *During the last 30 days, have you taken cocaine?*

1 yes
2 no ► skip Q5
9999 else ► skip Q5

Q6 *During the last 30 days, on how many days did you take cocaine?*

1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
9999 else

Categories revised in 2002. See Appendix (page 62).

On _____ days
OR
1 20 day or more
2 10-19 days
3 4-9 days
4 1-3 days
9999 else

MODE IMPLICATIONS	Q6 requires mode-dependent instructions
Self-completion	Q6: Respondents should be instructed to choose the pre-coded answer that best applies to them.
Interviewer completion	Q6: Interviewers should be instructed to read the answer categories one by one in sequence and mark the first one that applies.

DATA MANIPULATION	Pen-and-paper modes require consistency corrections. Core variables can be computed from questionnaire items

Pen-and-paper modes

Consistency corrections equal those listed for cannabis

All modes

KNO_COC = Q1
LTP_COC = Q2
AGE_COC = Q3
LYP_COC = Q4
LMP_COC = Q5
LMF_COC = Q6

ALTERNATIVES

See alternatives for Q6 under Cannabis

RELEVIN

--------- RELEVIN QUESTIONS ARE NOT MANDATORY --------

CORE VARIABLES

KNO_REL

Label: Personally knowing people who take relevin

Categories:
1 knows people who take relevin
2 does not know people who take relevin
9999 missing

LTP_REL

Label: Lifetime prevalence of taking relevin

Categories:
1 has ever taken relevin
2 has never taken relevin
9999 missing

Variable included in 2002. See Appendix (page 62).

AGE_REL

Label: Age of onset of taking relevin

Categories:
nn age in years
8888 skipped
9999 missing

LYP_REL

Label: Last year prevalence of taking relevin

Categories:
1 did take relevin during last 12 months
2 did not take relevin during last 12 months
8888 skipped
9999 missing

LMP_REL

Label: Last month prevalence of taking relevin

Categories:
1 did take relevin during last 30 days
2 did not take relevin during last 30 days
8888 skipped
9999 missing

LMF_REL

Label: Last month frequency of taking relevin

Categories:
1 daily or almost daily
2 several times a week
3 at least once a week

4 less than once a week
8888 skipped
9999 missing

Categories revised in 2002. See Appendix (page 62).

Categories Number of days having taken relevin in the last 30 days

OR

1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
8888 skipped
9999 missing

MODEL QUESTIONS

Another name instead of 'relevin' can be chosen for the dummy drug

Q1 *Do you personally know people who take relevin?*

1 yes
2 no
9999 else

Q2 *Have you ever taken relevin yourself?*

1 yes
2 no ► skip Q3, Q4, Q5
9999 else ► skip Q3, Q4, Q5

Added in 2002. See Appendix (page 62).

Q3 *At what age did you take relevin for the first time?*

nn (age)
9999 else

Q4 *During the last 12 months, have you taken relevin?*

1 yes
2 no ► skip Q4, Q5
9999 else ► skip Q4, Q5

Q5 *During the last 30 days, have you taken relevin?*

1 yes
2 no ► skip Q5
9999 else ► skip Q5

Q6 *During the last 30 days, on how many days did you take relevin?*

1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
9999 else

Categories revised in 2002. See Appendix (page 62).

On _____ days

OR

1	20 day or more
2	10-19 days
3	4-9 days
4	1-3 days
9999	else

MODE IMPLICATIONS

Q6 requires mode-dependent instructions

Self-completion	Q6: Respondents should be instructed to choose the pre-coded answer that best applies to them.
Interviewer completion	Q6: Interviewers should be instructed to read the answer categories one by one in sequence and mark the first one that applies.

DATA MANIPULATION

Pen-and-paper modes require consistency corrections.
Core variables can be computed from questionnaire items

Pen-and-paper modes

Consistency corrections equal those listed for cannabis

All modes

KNO_REL = Q1
LTP_REL = Q2
AGE_REL = Q3
LYP_REL = Q4
LMP_REL = Q5
LMF_REL = Q6

ALTERNATIVES

See alternatives for Q6 under Cannabis

LSD

CORE VARIABLES

KNO_LSD

Label	Personally knowing people who take LSD	
Categories	1	knows people who take LSD
	2	does not know people who take LSD
	9999	missing

LTP_LSD

Label	Lifetime prevalence of taking LSD

Categories
1 has ever taken LSD
2 has never taken LSD
9999 missing

Variable included in 2002. See Appendix (page 62).

AGE_LSD

Label: Age of onset of LSD ecstasy

Categories
nn age in years
8888 skipped
9999 missing

LYP_LSD

Label: Last year prevalence of taking LSD

Categories
1 did take LSD during last 12 months
2 did not take LSD during last 12 months
8888 skipped
9999 missing

LMP_LSD

Label: Last month prevalence of taking LSD

Categories
1 did take LSD during last 30 days
2 did not take LSD during last 30 days
8888 skipped
9999 missing

LMF_LSD

Label: Last month frequency of taking LSD

Categories
1 daily or almost daily
2 several times a week
3 at least once a week
4 less than once a week
8888 skipped
9999 missing

Categories revised in 2002. See Appendix (page 62).

Categories: Number of days having taken LSD in the last 30 days

OR

1 20 days or more
2 10-19 days
3 4-9 days
4 1-3 days
8888 skipped
9999 missing

MODEL QUESTIONS

The word 'LSD' in the questions can be changed into 'LSD or acid or trips' (but *not* 'LSD or other hallucinogens')

Q1 *Do you personally know people who take LSD?*

1	yes	
2	no	
9999	else	

Q2 *Have you ever taken LSD yourself?*

1	yes	
2	no	► skip Q3, Q4, Q5
9999	else	► skip Q3, Q4, Q5

Added in 2002. See Appendix (page 62).

Q3 *At what age did you take LSD for the first time?*

nn	(age)
9999	else

Q3 *During the last 12 months, have you taken LSD?*

1	yes	
2	no	► skip Q4, Q5
9999	else	► skip Q4, Q5

Q4 *During the last 30 days, have you taken LSD?*

1	yes	
2	no	► skip Q5
9999	else	► skip Q5

Q5 *During the last 30 days, on how many days did you take LSD?*

1	daily or almost daily
2	several times a week
3	at least once a week
4	less than once a week
9999	else

Categories revised in 2002. See Appendix (page 62).

On _____ days

OR

1	20 day or more
2	10-19 days
3	4-9 days
4	1-3 days
9999	else

MODE IMPLICATIONS	Q6 requires mode-dependent instructions
Self-completion	Q6: Respondents should be instructed to choose the pre-coded answer that best applies to them.
Interviewer completion	Q6: Interviewers should be instructed to read the answer categories one by one in sequence and mark the first one that applies.

DATA MANIPULATION	Pen-and-paper modes require consistency corrections. Core variables can be computed from questionnaire items

Pen-and-paper modes

Consistency corrections equal those listed for cannabis

All modes

KNO_LSD = Q1
LTP_LSD = Q2
AGE_LSD = Q3
LYP_LSD = Q4
LMP_LSD = Q5
LMF_LSD = Q6

ALTERNATIVES

See alternatives for Q6 under Cannabis

5. OPINIONS

DISCUSSION

The expert group had many discussions about whether to incorporate questions about attitudes and opinions in the model prevalence questionnaire. Consensus about the proposals below was not reached without difficulties. At first some experts argued for excluding all attitude and opinion questions, considering them both too complex and ideologically charged for a European model questionnaire and irrelevant to prevalence surveys on drug use. However, others regarded such questions as a vital part of a model questionnaire, as they could amass information that allows a better understanding of cross-cultural differences in drug-use patterns.

The main problem with regard to including questions on attitudes and opinions proved to be that it is not yet clear exactly what, why and how we should measure them. In a general sense, questions about attitudes and opinions in surveys will not result in individual variables, but will be combined in scales to measure some relevant attribute of the respondent.

Although several drug prevalence surveys of the past have included sets of questions which *a priori* or *a posteriori* allow the construction of scales, research on the subject is still rather limited and such scales often have not yet been validated.

The discussion about this issue was also complicated by the initial approach of the project, which focused on model questions rather than 'model' concepts. Obviously, the wording of this type of question, so that it can be read and understood in the same way in different languages and

countries, can be quite problematic. This is particularly true in a survey context, as it is important to use colloquial language rather than intricate academic formulations.

Despite these difficulties, the expert group reached a consensus on the questions listed below, though it should be noted that we do not feel that these discussions are closed. In fact, we explored the topic in more detail in the Joint Analysis, but within the planning of our project the results could not be used by the expert group for a reconsideration of the present recommendations.

At this stage we cannot recommend on *core variables* with regard to this item. Even if a single question could have a meaningful result, at present we have no evidence about this. Moreover, it is likely that only particular sets of questions combined in a scale will yield such core variables. This should still be a subject for further research.

Most of the model questions have been selected from the European School Survey questionnaire (ESPAD), which already represents a European standard. It must be acknowledged, however, that the questions concerned belong to more cohesive sets of questions and that their selection by the expert group was based on a face-value consensus, not on an analysis of the most relevant ones.

The model questions relate to three different sub-items:

- opinions about drug addicts
- opinions about drug policies
- opinions about other people's behaviour
- perceptions about the risks of some behaviours

The questions below are grouped accordingly. Any mode implications are mentioned. The questions do not require specific data manipulation.

It should also be noted that the phrasing of all questions is very mode dependent. This aspect has not been thoroughly discussed in the expert group meetings. In particular, the original ESPAD phrasing caused problems in the pre-tests. The classroom self-completion format of the ESPAD questionnaire did not always prove to be suitable in other survey modes.

OPINIONS ABOUT DRUG ADDICTS

----- **THIS QUESTION (Q1) IS NOT MANDATORY -----**

Q1 *Do you perceive a drug addict more as a criminal or as a patient?*

1	more as a criminal
2	more as a patient
3	neither a criminal nor a patient
4	both a criminal and a patient
5	don't know / cannot decide
9999	else

MODE IMPLICATIONS

Q1 requires mode-dependent instructions

Self-completion	Q1: Respondents should be instructed to choose the pre-coded answer that represents their opinion.
Face-to-face interviews	Q1: Interviewers should present a show card displaying the answer categories, so the respondent can choose between the alternatives.
CATI	Q1: The interviewer should be instructed to read the acceptable answer categories. However, many interviewers will not always do this, but instead score the respondent's answer according to what the interviewer believes the respondent means to say. This may result in an overestimate of 'don't knows', as respondents may not always be clear whether they actually hold opinion 3 or 4.

OPINIONS ABOUT DRUG POLICIES

---- THESE QUESTIONS (Q2 and Q3) ARE NOT MANDATORY -----

Q2 *To what extent do you agree or disagree with the following statement: 'People should be permitted to take hashish or marijuana'?*

1 fully agree
2 largely agree
3 neither agree nor disagree
4 largely disagree
5 fully disagree
9999 else

Q3 *To what extent do you agree or disagree with the following statement: 'People should be permitted to take heroin'?*

1 fully agree
2 largely agree
3 neither agree nor disagree
4 largely disagree
5 fully disagree
9999 else

MODE IMPLICATIONS	Q2 and Q3 require mode-dependent instructions
Self-completion	Q2, Q3: Respondents should be instructed to choose the pre-coded answer that represents their opinion.
Face-to-face interviews	Q2, Q3: Interviewers should present a show card displaying the answer categories, so that the respondent can choose between the alternatives.
CATI	Q2, Q3: the interviewer should be instructed to read the acceptable answer categories. However, many interviewers will not always do this, but instead score the respondent's answer according to what the interviewer believes the respondent means to say. This may result in an overestimate of 'don't knows', as respondents might not always be clear whether they actually hold opinion 3 or 4

OPINIONS ABOUT BEHAVIOUR

INTRO: *Individuals differ according to whether or not they disapprove of people doing certain things. I will mention a few things which some people may do. Can you tell me if you would not disapprove, disapprove or strongly disapprove when people do any of these things?*

Q4 *Trying ecstasy once or twice*

1 do not disapprove
2 disapprove

3 strongly disapprove
4 don't know
9999 else

Q5 *Trying heroin once or twice*

1 do not disapprove
2 disapprove
3 strongly disapprove
4 don't know
9999 else

Q6 *Smoking 10 or more cigarettes a day*

1 do not disapprove
2 disapprove
3 strongly disapprove
4 don't know
9999 else

Q7 *Having one or two drinks several times a week*

1 do not disapprove
2 disapprove
3 strongly disapprove
4 don't know
9999 else

Q8 *Smoking hashish or marijuana occasionally*

1 do not disapprove
2 disapprove
3 strongly disapprove
4 don't know
9999 else

MODE IMPLICATIONS

Q4–Q8 require mode-dependent instructions

Self-completion	Q4–Q8: The intro should be adapted when the respondent reads this himself. Respondents should also be instructed to choose the pre-coded answer that represents their opinion.
Face-to-face interviews	Q4–Q8: Although the interviewer will read the mandatory intro, he should also show a card displaying the answer categories, so that the respondent can choose between the alternatives.
CATI	Q4–Q8: Although the interviewer mentions the acceptable answers in the intro, he should be instructed that he may have to repeat this for consecutive questions. However, many interviewers will not always do this but instead score the respondent's answer according to what the interviewer believes the respondent means to say. This may result in imprecise answers, as both respondents and interviewers can easily get confused about the difference between the double negative 'do not disapprove' and 'disapprove'.

Although the expert group decided to use the ESPAD categories of questions Q4–Q8, these categories are not really suitable for CATI. In the pre-tests the wording caused a lot of confusion. When the respondent cannot read for himself the option 'do not disapprove', he may interpret this as 'approve' or even as 'disapprove'. This will result in inaccurate information.

PERCEPTION OF RISK

INTRO: *Now I would like to know how much you think that people risk harming themselves, physically or in other ways, if they do certain things. I will again mention a few things, which some people may do. Please tell me if you consider it to be no risk, a slight risk, a moderate risk or a great risk, if people do any of these things?*

Q9 *Smoke one or more packs of cigarettes a day*

1 no risk
2 slight risk
3 moderate risk
4 great risk
9999 else

Q10 *Having five or more drinks each weekend*

1 no risk
2 slight risk
3 moderate risk
4 great risk
9999 else

Q11 *Smoke hashish or marijuana regularly*

1 no risk
2 slight risk
3 moderate risk
4 great risk
9999 else

Q12 *Try ecstasy once or twice*

1 no risk
2 slight risk
3 moderate risk
4 great risk
9999 else

Q13 *Try cocaine or crack once or twice*

no risk
slight risk
moderate risk
great risk
9999 else

MODE IMPLICATIONS

Q9–Q13 require mode-dependent instructions

Self-completion	Q9–Q13: The intro should be adapted for the respondent to read himself. Respondents should also be instructed to choose the pre-coded answer that represents their opinion.
Face-to-face interviews	Q9–Q13: Although the interviewer reads the mandatory intro, he should also show a card displaying the answer categories, so the respondent can choose between the alternatives.
CATI	Q9–Q13: Although the interviewer mentions the acceptable answers in the intro, he should be instructed that he might have to repeat this for consecutive questions. Although we have to realise that many interviewers will not always do this, the pre-tests indicate that respondents have no problems in differentiating between no, slight, moderate and great risks.

ALTERNATIVES

At this stage no alternatives to the questions about opinions will be presented.

6. RESPONDENT ATTRIBUTES

DISCUSSION

In the earlier stages of the project the expert group discussed many attributes that were considered to be relevant as background variables for prevalence patterns.

Existing national surveys often include a great variety of respondent characteristics. Some of these characteristics appear one way or the other in all surveys, and many are restricted to only a few countries. A lot of these variables do not show up in the research reports based on these surveys, which makes it difficult to assess their relevance in the context of drug prevalence surveys. One reason might be that the available details about respondents usually only refer to the present situation and therefore can only be related to current or recent patterns of drug use. In most countries, however, the number of current (last year) or recent (last month) users of most drugs in a survey is too small to allow in-depth analysis based on attributes. At present, question formats also differ considerably between countries. In the construction of the Eurofile for the Joint Analysis, we often could not obtain perfect matches.

The expert group decided to include in the standard model only those attributes which were found to be present in all or most of the national surveys that had been investigated in earlier stages of the project. It was also decided to specify only a few basic categories for these attributes. This practical solution does not imply, however, that the selected attributes and categories are thought to be more relevant than those included in comparable prevalence surveys among the general population.

Even this restriction to a selection of common attributes will not be without complications. Apart from the obvious age and gender, basic attributes about household, employment, education and area of residence are difficult to standardise on a European level in terms of the questions needed to assess the categories of the attributes in an unambiguous manner. Also, many countries already apply national standards for attributes like household composition, educational level or employment status. Demands for consistency with previous and other surveys will limit the possibility of introducing new standards.

With regard to the model presented here, therefore, we only present a minimum set of defined variables and categories. For the sake of completeness, we suggest some possible questions related to them. However, these questions cannot be considered to be part of the model and therefore are not included in the overview model questionnaire of Chapter 2.

In principle, individual countries should make their own decisions about which questions best suit their circumstances in order to obtain the required information. In most cases, this will involve country-specific data manipulation.

In further development of the model, it would be advisable to take into account the results of efforts in other fields of research to harmonise cross-country question formats. In particular, ongoing projects by Eurostat should be considered.

CORE VARIABLES

SEX

Label	Gender of the respondent	
Categories	1	male
	2	female

9999 missing

AGE

Label Age of the respondent

Categories
nn (age)
9999 missing

HOUSEHOLD

Label Indication of the type of household to which the respondent belongs

Categories
1 one person living alone
2 two partners without children at home
3 two partners with children at home
4 one adult with children at home
5 other situation
9999 missing

NOTE At first the expert group decided to have three categories only, 'living alone', 'living with some kind of family' and 'other'. In the Joint Analysis we found that the second category, 'living with some kind of family', cannot be reconstructed from the usual question formats applied by individual countries. The classification above, however, comes closest to the type of differentiation intended, but even this differs from the traditional formats of most countries and might be difficult to reconstruct.
The definition of the variable might have to be reconsidered in the future, preferably based on research results that indicate the relevance of the variable in the context of drug prevalence studies.

ACTIVITY

Label Indication of the main activity status of the respondent in terms of the categories listed below and according to country-specific definitions of these categories

Categories
1 employed or self-employed
full-time student
unemployed
other
9999 missing

NOTE Each category should be defined according to the common standards of the country concerned. For instance, some countries will restrict 'employed' to people who have a regular job of 12 or more hours a week, whereas others may include any paid work. Some will define 'unemployed' to those registered at job agencies, whereas others will define them as those looking for a paid job of a minimum number of hours per week.
In cross-country comparisons we can therefore only compare on status as perceived in the individual countries, not on the basis of a general concept.

EDUCAT

Label Level of highest education completed by the respondent

Categories
1 primary education or less
2 lower secondary education
3 higher secondary education
4 higher education
5 cannot be classified
9999 missing

NOTE	We recommend using the ISCED coding scheme to assess the categories, as follows: Primary or less = ISCED 1 lower secondary = ISCED 2 higher secondary = ISCED 3 higher education = ISCED 5,6,7 The ISCED coding was also used in the Joint Analysis, but it should be noted that no perfect match could be achieved for most countries. The main reason for this is that the ISCED implies a more detailed specification of types of education than most countries can realistically include in a general population survey. The ISCED coding scheme is presented in Annex 2 of this report.

URBANISATION

Label: Level of urbanisation of the area of residence of the respondent

Categories:

1 metropolitan
urban
rural
cannot be classified
9999 missing

NOTE	The expert group did not define the categories of this variable. Countries may therefore use any national classification which results in the three categories listed. For the time being, a cross-country comparison can only compare on the basis of country perceptions of the concepts 'metropolitan', 'urban' and 'rural'.

MODEL QUESTIONS	These questions are only examples

Q1 *Please indicate if you are a male or a female*

1 male
2 female
9999 else

Q2 *What is your age?*

nn (age)
9999 else

Q3 *Which of the following describes the composition of the household to which you belong?*

1 one person living alone
2 two partners without children at home
3 two partners with children at home
4 one adult with children at home
5 other situation
9999 else

Q4 *Which of the following best applies to you?*

1 you are employed or self-employed
2 you are a full-time student
3 you are unemployed
4 none of the above applies
9999 else

Q5 *What is the highest level of education that you have completed?*

nn (code corresponding to type of education)
9999 else

Q6 *What is the <identification code> of your home address?*

nn (address identification code)
9999 else

MODE IMPLICATIONS	Formulation of questions Q1–Q5 is mode-dependent
Self-completion	Q1, Q3–Q5: Respondents should be instructed to choose the pre-coded answer that applies. As the list of pre-coded answers cannot be made too long, Q5 will need the option of a free-format answer. For Q6 the respondent should specify either part of an area (e.g. postal) code or the name of his municipality or community.
Face-to-face	Q3, Q4: Interviewers should be instructed to show a card displaying the answer categories or read them one by one in sequence and mark the first one that applies. For Q5 the interviewer should show a card displaying the answer categories for the respondent to choose from but should also allow a free-format answer. Q6 should be coded by the interviewer from the address he is visiting or, in cases of site interviews, the respondent should be asked to specify part of his area code or the name of his municipality.
CATI	Q3, Q4: Interviewers should be instructed to read the answer categories one by one in sequence and mark the first one that applies. For Q5 only an open-format answer will be feasible. Q6: The programme should record an area code from the telephone number or the interviewer should ask the respondent to specify part of his area code or the name of his municipality.

DATA MANIPULATION	Q4 and Q5 will need coding and further data manipulation after data entry to obtain the required variables

ALTERNATIVES	As the questions about attributes are not considered to be part of the model, we do not discuss alternatives

APPENDIX

'Proposals for new of modified core items'

These proposals were adopted at the annual meeting of the EMCDDA expert group on the key indicator 'Extent and patterns of drug use among the general population'. The meeting took place in Lisbon the 23-24 May 2002.

In this meeting minor modifications were introduced in the EMQ.

- 'Age of first use' was adopted for all illegal substances.
- Wording of 'Last month frequency of consumption' was slightly modified

New item for some substances

AGE_… Age of first use of any drug for which prevalence measures are assessed

At present the item is only included for Cannabis: AGE_CAN

Arguments for inclusion

- Allows assessment of initiation of drug use (incidence). Early detection of drug trends and value for prevention formulation.
- Inclusion is already common practice in most current surveys

Modified item

LMF_… Last month frequency of use of any drug for which prevalence measures are assessed (including alcohol and sedatives/tranquillisers)

New categories: Number of days having taken <drug> in the last 30 days
OR
1. **20 days or more**
2. **10-19 days**
3. **4-9 days**
4. **1-3 days**

At present this item is included with the following model categories:

1. daily or almost daily	approximately new (1)
2. several times a week	approximately new (2)
3. at least once a week	approximately new (3)
4. less than once a week	approximately new (4)

Arguments

- Modification corresponds with common practice in most current surveys
- Improving comparability
- Facilitating harmonisation of survey data

2
EXAMPLE OF A EUROPEAN DEMONSTRATION QUESTIONNAIRE

Below we present a summary overview of the questions recommended in the previous chapter. French, German, Dutch, Finnish, Swedish and Greek translations of this questionnaire are available on request from the EMCDDA.
Questions are listed in the recommended order. Please note that the recurrent answer categories corresponding to 'don't know', 'don't want to answer', etc., are not listed. Also, the questionnaire format below does not indicate the internal referral systems.

TOBACCO

1. Do you smoke tobacco, such as cigarettes, cigars or a pipe?

1☐	yes
2☐	no

2. Have you ever smoked in the past?

1☐	yes
2☐	no

ALCOHOL

3. During the last 12 months, have you drunk any alcohol?

1☐	yes
2☐	no

4. How often do you drink alcohol?

1☐	4 times a week or more
2☐	2–3 times a week
3☐	2–4 times a month
4☐	once a month or less

5. How often do you drink six glasses or more of an alcoholic drink on the same occasion?

1☐	daily or almost daily
2☐	every week
3☐	every month
4☐	less than once a month
5☐	never

6. During the last 30 days, have you drunk any alcohol?

1☐	yes
2☐	no

7. During the last 30 days, on how many days did you drink any alcohol?

(NEW CATEGORIES 2002)	
On ..... days	
OR	
1☐	20 days or more

2☐	10-19 days
3☐	4-9 days
4☐	1-3 days

PHARMACEUTICALS

8. During the last 12 months, have you taken any sedatives or tranquillisers?

1☐	yes
2☐	no

9. How often do you take sedatives or tranquillisers?

1☐	4 times a week or more
2☐	2-3 times a week
3☐	2-4 times a month
4☐	once a month or less

10. During the last 30 days, have you taken any sedatives or tranquillisers?

1☐	yes
2☐	no

11. During the last 30 days, on how many days did you take sedatives or tranquillisers?

(NEW CATEGORIES 2002)	
On ..... days	
OR	
1☐	20 days or more
2☐	10-19 days
3☐	4-9 days
4☐	1-3 days

12. The last occasion you took sedatives or tranquillisers, how had you obtained them?

1☐	I bought or them or had them prescribed for me by a doctor
2☐	I got them from somebody else I know
3☐	I bought them without a prescription in a pharmacy or drugstore
4☐	none of the above applies

ILLICIT DRUGS

CANNABIS

13. Do you personally know people who take hashish or marijuana?

1☐	yes
2☐	no

14. Have you ever taken hashish or marijuana yourself?

1☐	yes
2☐	no

15. At what age did you take hashish or marijuana for the first time?

.....

16. During the last 12 months, have you taken hashish or marijuana?

1☐ yes
2☐ no

17. During the last 30 days, have you taken hashish or marijuana?

1☐ yes
2☐ no

18. During the last 30 days, on how many days did you take hashish or marijuana?

(NEW CATEGORIES 2002)
On ..... days
OR
1☐ 20 days or more
2☐ 10-19 days
3☐ 4-9 days
4☐ 1-3 days

ECSTASY

19. Do you personally know people who take ecstasy?

1☐ yes
2☐ no

20. Have you ever taken ecstasy yourself?

1☐ yes
2☐ no

21. During the last 12 months, have you taken ecstasy?

1☐ yes
2☐ no

22. (NEW QUESTION 2002) At what age did you take ecstqsy for the first time?

.....

23. During the last 30 days, have you taken ecstasy?

1☐ yes
2☐ no

24. During the last 30 days, on how many days did you take ecstasy?

(NEW CATEGORIES 2002)
On ..... days
OR
1☐ 20 days or more
2☐ 10-19 days
3☐ 4-9 days
4☐ 1-3 days

AMPHETAMINES

25. Do you personally know people who take amphetamines?

1☐ yes
2☐ no

26. Have you ever taken amphetamines yourself?

1☐ yes
2☐ no

27. During the last 12 months, have you taken amphetamines?

1☐ yes
2☐ no

28. (NEW QUESTION 2002) At what age did you take amphetamines for the first time?

.....

29. During the last 30 days, have you taken amphetamines?

1☐ yes
2☐ no

30. During the last 30 days, on how many days did you take amphetamines?

(NEW CATEGORIES 2002)
On ..... days
OR
1☐ 20 days or more
2☐ 10-19 days
3☐ 4-9 days
4☐ 1-3 days

COCAINE

31. Do you personally know people who take cocaine?

1☐ yes
2☐ no

32. Have you ever taken cocaine yourself?

1☐ yes
2☐ no

33. (NEW QUESTION 2002) At what age did you take cocaine for the first time?

.....

34. During the last 12 months, have you taken cocaine?

1☐ yes
2☐ no

35. During the last 30 days, have you taken cocaine?

1☐ yes
2☐ no

36. During the last 30 days, on how many days did you take cocaine?

(NEW CATEGORIES 2002)
On ..... days
OR
1☐ 20 days or more

2☐ 10-19 days
3☐ 4-9 days
4☐ 1-3 days

HEROIN

37. Do you personally know people who take heroin?

1☐ yes
2☐ no

38. Have you ever taken heroin yourself?

1☐ yes
2☐ no

39. (NEW QUESTION 2002) At what age did you take heroin for the first time?

.....

40. During the last 12 months, have you taken heroin?

1☐ yes
2☐ no

41. During the last 30 days, have you taken heroin?

1☐ yes
2☐ no

42. During the last 30 days, on how many days did you take heroin?

(NEW CATEGORIES 2002)
On ..... days
OR
1☐ 20 days or more
2☐ 10-19 days
3☐ 4-9 days
4☐ 1-3 days

RELEVIN (NOT MANDATORY)

43. Do you personally know people who take relevin?

1☐ yes
2☐ no

44. Have you ever taken relevin yourself?

1☐ yes
2☐ no

45. (NEW QUESTION 2002) At what age did you take relevin for the first time?

.....

46. During the last 12 months, have you taken relevin?

1☐ yes
2☐ no

47. During the last 30 days, have you taken relevin?

1☐ yes

2☐ no

48. During the last 30 days, on how many days did you take relevin?

(NEW CATEGORIES 2002)
On ..... days
OR
1☐ 20 days or more
2☐ 10-19 days
3☐ 4-9 days
4☐ 1-3 days

LSD

49. Do you personally know people who take LSD?

1☐ yes
2☐ no

50. Have you ever taken LSD yourself?

1☐ yes
2☐ no

51. (NEW QUESTION 2002) At what age did you take LSD for the first time?

.....

52. During the last 12 months, have you taken LSD?

1☐ yes
2☐ no

53. During the last 30 days, have you taken LSD?

1☐ yes
2☐ no

54. During the last 30 days, on how many days did you take LSD?

(NEW CATEGORIES 2002)
On ..... days
OR
1☐ 20 days or more
2☐ 10-19 days
3☐ 4-9 days
4☐ 1-3 days

OPINIONS

55. (NOT MANDATORY) Do you perceive a drug addict more as a criminal or as a patient?

1☐	more as a criminal
2☐	more as a patient
3☐	neither a criminal nor a patient
4☐	both a criminal and a patient
5☐	don't know, cannot decide

56. (NOT MANDATORY) To what extent do you agree or disagree with the following statement: 'People should be permitted to take hashish or marijuana'?

1☐	fully agree
2☐	largely agree
3☐	neither agree nor disagree
4☐	largely disagree
5☐	fully disagree

57. (NOT MANDATORY) To what extent do you agree or disagree with the following statement: 'People should be permitted to take heroin'?

1☐	fully agree
2☐	largely agree
3☐	neither agree nor disagree
4☐	largely disagree
5☐	fully disagree

Instruction: *Individuals differ according to whether or not they disapprove of people doing certain things. I will mention a few things which some people may do. Can you tell me if you would not disapprove, disapprove or strongly disapprove when people do any of these things?*

58. Trying ecstasy once or twice

1☐	do not disapprove
2☐	disapprove
3☐	strongly disapprove
4☐	don't know

59. Trying heroin once or twice

1☐	do not disapprove
2☐	disapprove
3☐	strongly disapprove
4☐	don't know

60. Smoking 10 or more cigarettes a day

1☐	do not disapprove
2☐	disapprove
3☐	strongly disapprove
4☐	don't know

61. Having one or two drinks several times a week

1☐	do not disapprove

2☐	disapprove
3☐	strongly disapprove
4☐	don't know

62. Smoking marijuana or hashish occasionally

1☐	do not disapprove
2☐	disapprove
3☐	strongly disapprove
4☐	don't know

Instruction: *Now I would like to know how much do <u>you</u> think that people risk harming themselves, physically or in other ways, if they do certain things. I will again mention a few things which some people may do. Please tell me if you consider it to be no risk, a slight risk, a moderate risk or a great risk if people do such things.*

63. Smoke one or more packs of cigarettes a day

1☐	no risk
2☐	slight risk
3☐	moderate risk
4☐	great risk

64. Have five or more drinks each weekend

1☐	no risk
2☐	slight risk
3☐	moderate risk
4☐	great risk

65. Smoke marijuana or hashish regularly

1☐	no risk
2☐	slight risk
3☐	moderate risk
4☐	great risk

66. Try ecstasy once or twice

1☐	no risk
2☐	slight risk
3☐	moderate risk
4☐	great risk

67. Try cocaine or crack once or twice

1☐	no risk
2☐	slight risk
3☐	moderate risk
4☐	great risk

3
REPORT FORMATS OF THE KEY INDICATOR OF DRUGS PREVALENCE AMONG THE GENERAL POPULATION

Harmonisation of core items, variables and questions is a prerequisite to obtain comparable data across countries about drug prevalence, but we cannot obtain comparable data if they are not presented in the same manner.

Parallel to the harmonisation efforts on common core items, variables and questions, the EMCDDA needed to develop standard formats to report results from general population surveys with the REITOX National Reports. These standard formats are presented below. They include the standard prevalence measures discussed above (Lifetime prevalence, Last 12 months prevalence and Last 30 days prevalence) by gender and selected age groups. With regard to the drugs to be specified, they include the standard recommended drugs (cannabis, heroin, cocaine, ecstasy, amphetamines and LSD) but they also acknowledge that many countries use more extended lists of drugs or aggregate classes of drug types in their national surveys.

Here we present the Standard Epidemiological Table used at present to report population survey data with the REITOX National Reports (Guidelines for 2002 National Reports).

STANDARD TABLE 01: BASIC RESULTS AND METHODOLOGY OF **NATIONAL POPULATION SURVEYS** ON DRUG USE

NOTES: Include information on national (or very relevant regional) surveys on drug use conducted during the last five years
Age groups presented aim to maintain consistency with other EMCDDA indicators

COUNTRY	All adults			Young adults			Broad age groups														
DRUGS	LIFETIME PREVALENCE (%)																				
(important: see "drug definitions"	15-64			15-34			15-24			25-34			35-44			45-54			55-64		
in the Methodology box)	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1. any illegal drugs																					
2. cannabis																					
3. opiates (total)																					
4. heroin																					
5. other opiates (specify)																					
5. cocaine (total, including crack)																					
8. amphetamines																					
9. ecstasy																					
10. hallucinogens (total)																					
11. LSD																					
12. other hallucinogens (specify)																					
13. hypnotics and sedatives (total)																					
14. benzodiacepines																					
15. other medic. (specify)																					
16. solvents																					
17. steroids																					
18. other (specify)																					

M = Male / F = Female / T= Total

COUNTRY	All adults			Young adults			Broad age groups														
DRUGS	LAST 12 MONTHS PREVALENCE (%)																				
(important: see "drug definitions"	15-64			15-34			15-24			25-34			35-44			45-54			55-64		
in the Methodology box)	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1. any illegal drugs																					
2. cannabis																					
3. opiates (total)																					
4. heroin																					
5. other opiates (specify)																					
5. cocaine (total, including crack)																					
8. amphetamines																					
9. ecstasy																					
10. hallucinogens (total)																					
11. LSD																					
12. other hallucinogens (specify)																					
13. hypnotics and sedatives (total)																					
14. benzodiacepines																					
15. other medic. (specify)																					
16. solvents																					
17. steroids																					
18. other (specify)																					

M = Male / F = Female / T= Total

COUNTRY	All adults			Young adults			Broad age groups														
DRUGS	LAST 30 DAYS PREVALENCE (%)																				
(important: see "drug definitions"	15-64			15-34			15-24			25-34			35-44			45-54			55-64		
in the Methodology box)	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1. any illegal drugs																					
2. cannabis																					
3. opiates (total)																					
4. heroin																					
5. other opiates (specify)																					
5. cocaine (total, including crack)																					
8. amphetamines																					
9. ecstasy																					
10. hallucinogens (total)																					
11. LSD																					
12. other hallucinogens (specify)																					
13. hypnotics and sedatives (total)																					
14. benzodiacepines																					
15. other medic. (specify)																					
16. solvents																					
17. steroids																					
18. other (specify)																					

M = Male / F = Female / T= Total

METHODOLOGY

REFERENCE:	
year	
single/repeated study	
contex (health/crime/drugs only…)	
area covered	
age range	
data collection procedure	
sample size	
sampling frame	
sampling procedures	
oversampled groups	
weighting procedures	
response rate 15-64 (M,F,T) 15-34 (M,F,T)	
Remarks	

DRUGS DEFINITIONS	Provide a detailed description of what is included in each drug category
1. any illegal drugs	
2. cannabis	
3. opiates (total)	
4. heroin	
5. other opiates (specify)	
5. cocaine (total, including crack)	
8. amphetamines	
9. ecstasy	
10. hallucinogens (total)	
11. LSD	
12. other hallucinogens (specify)	
13. hypnotics and sedatives (total)	
14. benzodiacepines	
15. other medic. (specify)	
16. sovents	
17. steroids	
18. other (specify)	

4
GOOD PRACTICE IN SURVEY METHODOLOGY

In the process of developing core items, core variables and core questions, the expert group also discussed at length a variety of other issues related to general population surveys. As already indicated in Chapter 1, the wording of questions may depend on the survey mode, the items and variables to be included in a survey depend on survey aims and, in general, many aspects of survey design are interrelated. More importantly, some of these aspects, such as the sampling and survey mode, may have a greater impact on the comparability of survey results than just using the same questions.

Discussions and considerations about these issues have been presented in the final reports of the previous projects on harmonisation of prevalence surveys. In this chapter, we present a summary overview of the recommendations for good practice on the following topics:

1. **Survey design**
2. **Survey aims, objectives and context**
3. **Target population**
4. **Interview modes of data collection:** Characteristics of interview modes; Choosing a survey mode; Response rates; Reliability of answers
5. **Questionnaire design**
   - *Designing questions and answers*: Semantics; Syntax; Response formats; Questions and answers contexts
   - *Designing the overall questionnaire*: Structure and sequence; Layout of questionnaire
   - *Introducing the questionnaire to respondents*: Survey aims; Survey commission; Anonymity; Pilot testing of the questionnaire
6. **Fieldwork:** Quotation; Implementation and administration; Pilot-testing; Instruction of interviewers
7. **Sampling design:** Sample frames; Sample size; Sampling methods
8. **Data management:** Weighting; Handling of missing values
9. **Data accountability (data documentation requirements):** Data collection; Response and non-response; Technical report requirements

1. Survey design

Conducting a national prevalence survey of high quality and sufficient scope, with the aim of providing an accurate picture of drug use among the general population, is no easy task. The potential for doing so is quite considerable, but so is the potential for a significant amount of distortion, given the complexities of survey practice and in view of the gap between textbook requirements and the unruliness of the real world. However, given the fact that we have to live with an imperfect reality, we can either do so in a good or a less appropriate manner.

In this chapter we discuss a number of ideas about survey design and provide practical guidelines for the design and implementation of future prevalence surveys. We hope that these guidelines will be useful to anyone intending to investigate the use of drugs among the general population by gathering data through the medium of a survey/questionnaire. The text is designed to be easily understood, even for someone with a limited background in general population

surveys. These guidelines are presented in a flow chart resembling a process of consecutive decisions in which the questionnaire is embedded (see the 'Schematic representation' below).

The accompanying text is divided into different sections. In these sections we will chronologically describe the different steps to be taken. In principle and as far as is applicable, on each topic we will present alternatives, with pros and cons and a recommended choice between alternatives or a recommended procedure for making such a choice. In appropriate cases examples of good and bad practice will be presented to illustrate the line of discussion, thereby indicating which elements have to be considered on each topic in order to achieve 'good practice'. In some cases, however, it is not possible to do this.

For example, it could be argued that a representative sample should be selected, but but it is not always possible to decide from which frame such a sample can be drawn. It should also be taken into account that, although the guidelines are broken down into seven steps and a chronological order is evident, this has been done for heuristic purposes.

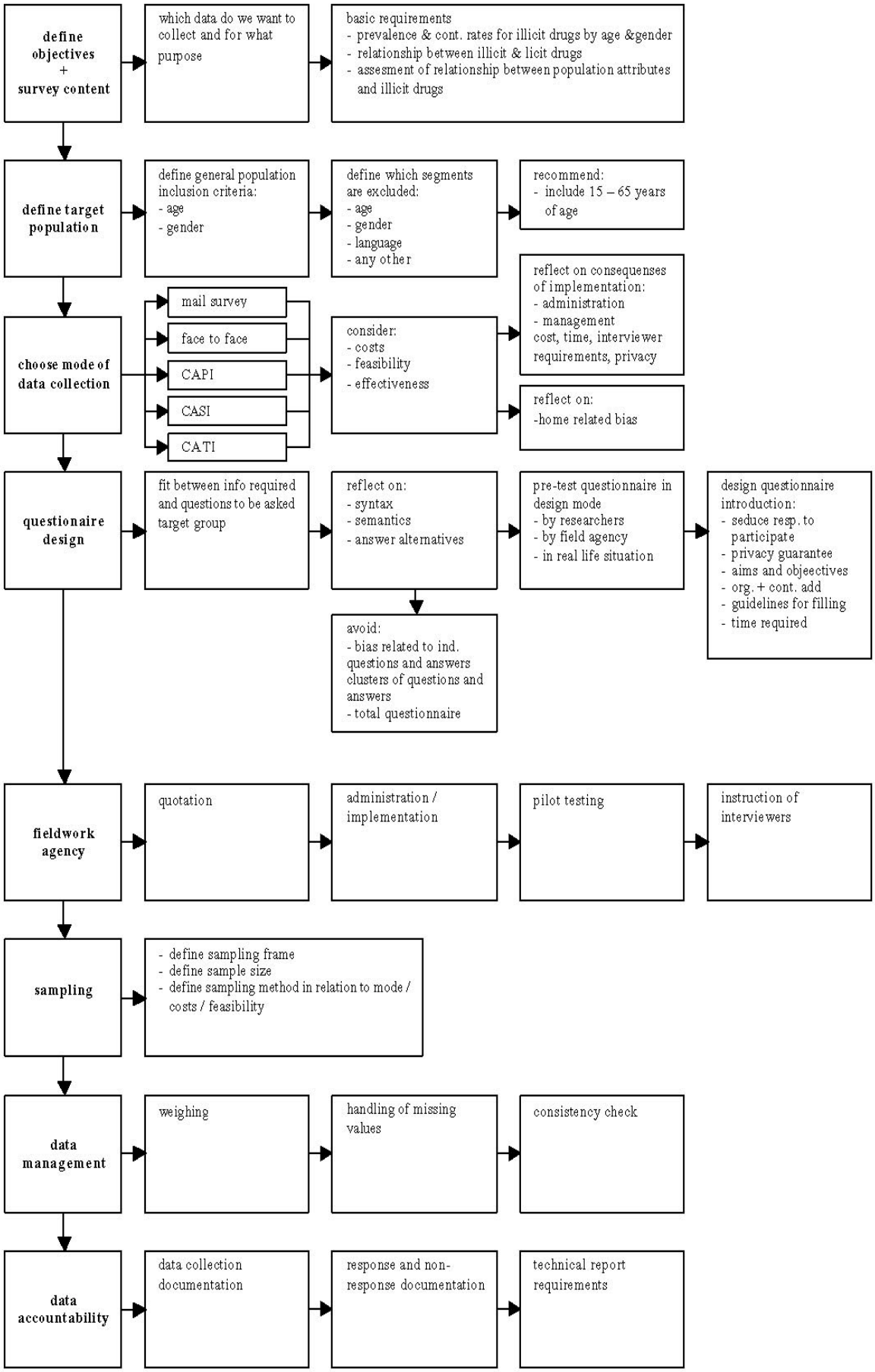
Many of the steps are in fact multi-dimensional, in some cases crossing category boundaries, and thereby illustrate the complexity of the issue and steps to be taken. Because the steps in survey design are closely interrelated, we recommend that those with little or no experience of general prevalence surveys to work through these guidelines before beginning the process.

Despite the recommendations in the previous chapter about uniform core variables, we do not advocate a uniform survey method across countries. The various cultural and social practices across countries (including prevalence surveys already conducted and financial budgets) do not allow for such uniformity. We will, however, address a number of country-specific implications and constraints with regard to some aspects, such as availability of sampling frames.

In section 2 we identify survey aims and objectives. This is followed by a section that looks at which part of the population is to be targeted. In the next step we will pay considerable attention to the implications of the survey mode to be applied, as this plays a pivotal role in the survey design process. We will then discuss some technical elements of the questionnaire design process, including the importance of pre-testing and its presentation to the public.

As general practice often involves using a fieldwork agency to actually conduct the survey, in section 6 we will focus on some of the main issues to consider in choosing and working with an external field agency. In particular, we will address a number of issues related to data management, including the requirements to be imposed on field agencies concerning the format of data delivery and survey accountability. In this way we outline a model for survey presentation, presented as a kind of checklist of topics which should form the basis for a good technical report, which is necessary with any survey.

Schematic representation of survey decision process



2. Survey aims, objectives and survey context

Not surprisingly, any survey should start with a clear specification of the *aims and objectives* that the organisers want to pursue by means of the data collection. The aims and objectives help define the data we need to collect and we can then decide on data collection modes and instruments. Another important element in the process of deciding on the aims and objectives of the survey is an examination of the relevant use and interpretation of the data to be collected. We have already discussed issues related to the content and execution of the main aims and objectives of general prevalence surveys of illicit drug use. In reports, these most often include the following:

- standardised prevalence and continuation rates of the most common illicit drugs in the general population by gender and age groups
- standardised data about the use of licit drugs, particularly tobacco and alcohol
- the relationship between general patterns of use of illicit and licit drugs
- assessment of the relationship between particular population attributes and the use of illicit drugs

If possible, the following should also be included:

- provision of the data described above in a way which allows for cross-country comparison according to the formats specified by the EMCDDA (see scheme above).

The above might seem pretty obvious, but in reality the process often works the other way around, with the design of the questionnaire being based on a general notion of the survey topic. The choice of a data collection method follows and, it is only after the data have been collected that one starts thinking about how to report and what to analyse. The risk then is that the data that have been collected are reported even if they do not fully respond to the requirements. This was revealed by an analysis of the questionnaires of national prevalence surveys which were carried out in the last decade. Many data had been collected, which had not been reported or analysed, while many data had not been collected which in retrospect would seem necessary or relevant for reporting or analysis.

Another important issue to reflect upon relates to the *survey context.* In many countries, assessment of the prevalence of illicit drug use is included in a survey which focuses (also) on other items. This 'context' not only influences responses but can also have an effect on the demand for data on illicit drugs and the questions needed to collect this information. People might, for example, respond differently, depending on whether the survey deals mainly with illicit drugs, with the use of all kinds of licit and illicit substances, with health risks and health problems in general or with criminality**.**

If the survey pursues other aims as well, there might be a need for other or more detailed data about illicit drugs due to analytical designs that aim to answer different types of research questions.

- *report standardised prevalence rates of the most common illicit drugs by gender and age groups*
- *report standardised data about the use illicit drugs, at least tobacco and alcohol*
- *report the relationships between general patterns of use of illicit and illicit drugs*
- *assess the relationships between particular population attributes and the use of illicit drugs*

3. Target population

In theory, a general national population survey will have the whole population of a country as its target population. In reality, however, some sections of the population will be excluded.

Most professional survey agencies follow national or international codes of conduct that prohibits the interviewing of 15-year-olds and sometimes 16/17-year-olds. They can be interviewed when their parents do not object, but this is a rather complicated procedure in a survey process, as well as bias to the results. For this reason the under 16- or 18-year-olds are often excluded from a general population survey. Nevertheless, youngsters of 15–17 years are an interesting group for prevalence surveys, as the first use of illicit drugs often starts at this age. Although this age group will be partly covered by the European School Surveys (ESPAD), this excludes those young people who have already left school, which can be a sizeable group in some countries. Also, those who have already left school at this age may be a particular risk group with regard to drug use. Although we recognise the practical problems of including young people in general population surveys, we still recommend that young people aged 15 and over be included if possible. If young people are included, the survey report should mention if parental approval had to be obtained.

Including elderly people in a survey could produce an increased number of inaccurate answers or missing values. Measuring prevalence depends on memory recall, which can be a problem for older people. At present we do not know much about the extent of such memory effects and, as a consequence, upper age limits in surveys are usually defined on the basis of common sense or practical considerations.

As most drug use in Europe only started in the 1960s among young people, we would not expect to find much (lifetime) prevalence among people over 65. The argument that older people should be included because they are increasingly likely to use medical drugs does not apply as long as we focus on illicit drugs.

Taking all the above into consideration, for the time being we recommend setting the target population for general population prevalence surveys as all those aged between 15 and 64 years, in accordance with the present report formats of the EMCDDA. However, as time goes by, it may be argued that the upper limit should be raised, as the 65-year-olds of today are the over 70s of tomorrow. Ultimately, any upper age limit should be based on better insights into memory effects with increasing age.

Another population group that could be excluded from general prevalence surveys is people who do not speak the native language of the country. In general, the increased costs involved will not justify doing otherwise. These costs include not only translations and interviewers who speak the languages concerned, but also an increase in organisational costs, as it is usually only discovered that an intended respondent does not speak the native language when they are actually encountered. However, excluding non-native speakers can bias the survey results, particularly in areas with significant concentrations of ethnic minorities. It seems obvious that these should be included in survey reports.

- *set target population for general population surveys at 15-64 years of age*
- *list if parental approval for certain ages had to be obtained*
- *list if non-native speakers of identified ethnic minorities have been excluded*

4. Interview modes of data collection

Choosing which mode of data collection to use is a crucial decision when designing a survey and should ideally pre-date the design of the questionnaire. Each interviewing mode has advantages and disadvantages. Each can also generate several biases which influence the response rates and reliability of the answers obtained.

The type of mode chosen thus has implications for the quality and quantity of the results obtained. Many factors govern the choice of a mode of interviewing, and these factors relate to either content, quality or practicalities of the survey design process:

content

- topic of investigation
- target population
- types of questions to be asked

quality

- the response rates required
- reliability of answers
- role of the interviewer

practicalities

- sampling opportunities
- estimated costs and the budget available
- number of staff required
- the facilities available, and the time period within which the results are needed
- the fieldwork agencies available

In this section we will review the characteristics of several different modes of interviewing, followed by a discussion of their relative advantages and potential biases in relation to the representativeness of the results, such as response rates and prevalence estimations ([7]).

Characteristics of interviewing modes

In general population research on illicit drug use, the different modes of interviewing can be divided into three categories: mail, face-to-face and telephone. Over the last decade, each of these modes has been considerably altered by the use of computers and telecommunications.

Mail Surveys

For years the mail interviewing mode was the best known. Standard pen-and-paper questionnaires are distributed by post (the mail-out/mail-back approach). The responses are subsequently entered manually into a database before analysis. In the course of the past decade, various automated techniques, such as advanced optical reading, have been introduced to speed up data entry. Another type of mail interviewing mode is the 'household drop-off' survey, whereby the questionnaire is delivered by hand to the respondent's home. The respondent is either asked to mail it back or the sealed envelope is collected later.

Face-to-Face Surveys

A face-to-face survey is based on personal encounters between interviewers and respondents. In general population surveys, the interviews are structured by means of a standardised questionnaire. The interviewer asks the questions and fills in the pre-coded answers. When sensitive issues are involved, respondents may complete parts of the questionnaire themselves and hand it to the interviewer in a closed envelope or post it back later. Interviews may take place in different settings; however, in the case of general population surveys this is usually the respondent's home. Part of the reason for this is the required sampling method and response rate, as well as practical considerations.

Since the early 1990s, this type of face-to-face interview is increasingly being administered with the aid of notebook computers or laptops. Desktop surveys are not yet being used in general population surveys, since they still normally require respondents to report to a specified place. The introduction of this type of electronic data collection has revolutionised survey practice ([8]).

([7]) For a more detailed overview of mode effects, see project C.T.97.EP.02, contracted by CEDRO, Amsterdam (Dr. Peter Cohen).

([8]) A whole variety of new interviewing modes has developed in the last decade. As yet these are not being used for general population surveys, but it is important to keep an eye on their potential and how they cross-fertilise one another. Examples are disk-by-mail, e-mail, Internet and video-by-mail surveys. Use of the Internet is still largely confined to a small high-tech elite, so Internet surveys cannot mirror the population as

This form of interviewing is generally referred to as computer-assisted personal interviewing (CAPI), when the interviewer enters the data into the computer. The concept of the computer-aided self-completed interview (CASI) is used for interviews where respondents enter the data into the computer themselves. A combination of both is also possible. These two are both based on self-administered standardised computerised questionnaires. The development of user-friendly interfaces has proceeded rapidly, with techniques now available such as touch screens, colour graphic images, sound and recordings of respondents' answers to open-ended questions. These are increasingly 'technology transparent', so that respondents need not be experienced computer users to operate them. CASI is especially useful when sensitive topics are involved. Recent research has shown that respondents are more likely to confide sensitive answers to a computer screen than to an interviewer or a sheet of paper. CAPI and CASI interviews differ in a number of ways from face-to-face interviews with pen-and-paper questionnaires. They can be administered in a shorter time; the role of the interviewer is more strictly controlled, yielding higher-quality data; and data is recorded and analysed faster, thus cutting costs. Although at first the use of computers in face-to-face interviews was perceived mainly as a support tool, it is now more often regarded as a distinct interviewing mode. However, the debate still continues about what effects this mode might have on survey outcomes compared to modes such as simple face-to-face interviews.

Telephone Surveys

Telephone surveys have attained enormous popularity in the last ten years. Large-scale telephone surveys are mostly conducted by specialised fieldwork agencies. Telephone surveys can be carried out either from a centralised facility or from dispersed locations, as when interviewers work at home. At present, virtually all large-scale telephone surveys in the European Union are conducted from centralised facilities with computer-assisted telephone interviewing systems (CATI). One other mode of telephone interviewing is the completely automated telephone survey (CATS), but as far as we know this is not yet being employed for drug use surveys among the general population (although it is gaining popularity in market research)([9]).

CATI interviewing is similar to regular telephone polling, but the interviewer uses a self-administered questionnaire on a computer screen instead of a pen-and-paper questionnaire. The interviewer enters the data (either pre-coded or verbatim) directly into the computer, bypassing the former data entry process.

There are several reasons for the popularity of telephone interviewing, and in particular the CATI mode, such as the speed at which information can be gathered from large or dispersed samples. Another reason is that it enables some form of personal contact between interviewers and respondents, a factor thought to have a positive influence on respondents' willingness to take part. Computerised telephone interviewing has also made quantitative interviews more efficient and cost-effective, facilitating sample management, call-back and quota control, the navigating of skip patterns, data entry and analysis, report generation and the supervision of interviewers ([10]). Some of these advantages also hold for CAPI/CASI, as described above.

Choosing an interviewing mode

There are no simple rules for choosing the 'best' interviewing mode. In practice, one will always choose a 'best fit'. If an unsuitable mode is used, however, a survey may be doomed to failure before it gets started. In drug research there has always been a lot of interest in mode-related bias in survey results. One reason for this is that it is a sensitive topic – illicit drug use – and people may only be willing to reveal such information about themselves when they feel confident about anonymity. Another reason is that we can control the bias to some extent by selecting the most appropriate mode. However, it is not always possible to influence other factors that may affect survey bias, such as media interest in the survey subject at the time of the interviews. For

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a whole. At this stage we do not recommend using the Internet for surveys, unless Internet users themselves are your target population. Such modes will gain in importance as computer use increases.

([9]) In the case of CATS, the complete survey is programmed and presented to the respondent automatically without an interviewer's mediation.

([10]) Large-scale surveys conducted in more than one country often lose some of the potential advantages of CATI, because different fieldwork organisations are likely to use different operating systems. This problem has now been partially overcome by the implementation of international centralised CATI facilities (such as the IPSOS in London).

example, context bias can be triggered by temporary fluctuations in public mood. If people are asked their opinion about drug policies at a time when police have just confiscated large quantities of drugs, more people will favour repressive drug policies than would otherwise be the case.

Even if one has chosen a 'best fit' mode, bias will still not have disappeared completely. For example, there is potential bias in the interaction between interviewer and respondent. It should also be taken into account that the strengths and weaknesses of interviewing modes may change over time, due to influences such as attractiveness to respondents or a mode becoming 'flavour of the month'. More and more surveys are being conducted each year, both among general populations and among specific target groups, and this could produce a sense of 'overkill' that would undermine the reliability and validity of the results. There are also influences such as consumerism ('time is money', 'life should be fun') and, in the case of face-to-face interviews, fear ('beware of strangers'). People increasingly want to benefit in some way from taking part an interview.

Traditional face-to-face interviews, as well as CAPI and CASI, are less feasible in cases where the population is widely dispersed geographically. Due to considerations of time and privacy, gaining access to respondents also requires a lot of effort in face-to-face interviews. This is less true for telephone interviews, while mail surveys are the least difficult in this respect. However, the problem with mail surveys is not knowing whether the questionnaire has reached the intended person or whether that person has actually answered the questions. This is especially the case if the sample frame is inaccurate or there is high mobility within the population.

The costs of general population surveys using face-to-face modes are relatively expensive. They can cost up to five times the costs of telephone surveys and up to twenty times those of mail surveys. However, the facilities available also play an important part. A telephone survey may be the preferred mode when the results need to be obtained very quickly. However, if no high-tech telephone facility is available, it may be better to opt for another mode.

Mode and response rate

The strengths and weaknesses of survey modes must thus be assessed in part in the overall cultural and social context in which a survey takes place. This is also true for the impact of the mode used on the potential *response rate*. The response rate is one factor that influences the reliability of a survey sample. It is dependent on factors such as the nature of the phenomenon under investigation, the interviewing mode and the design of the questionnaire. Since these, in turn, are functions of the cultural context in which the survey is conducted, a response rate is also a culturally dependent factor.

Whilst it is generally known, for instance, that mail surveys tend to produce lower response rates than face-to-face or telephone surveys, the average response rate can vary markedly between countries. In a comparison of general population surveys on HIV-related knowledge, attitudes and behaviour, far higher response rates have been noted in Norway and Sweden (around 60%) than in the UK and Germany (around 30%). This has been attributed to a greater degree of social obedience in the former countries.

It is not only cultural factors but also more mundane ones that can influence the success of an interviewing mode on the response rate. Telephone surveys in the USA, with a phone density approaching 100%, could theoretically be very effective, but this is less the case in Greece, which has a density of just 65% (IFAK, 1997). Comparing response rates between different countries, even when the same mode is applied, can thus produce misleading outcomes.

The reliability of a survey sample can also be affected by partial non-response (when respondents do not answer all the questions). The item 'non-response' can be monitored more effectively in face-to-face (especially CAPI or CASI) and telephone interviews, but little evaluation is possible in mail surveys.

Mail surveys require that the respondent is able to read. Illiterate people either will not respond or will give unreliable answers. In addition, most countries are home to groups of people who speak a language other than the predominant one. In some cases this can be overcome by preparing questionnaires in various languages. However, in a mail survey it is not generally known beforehand which language(s) a respondent is able to read. In computer-directed interviews, the language can be adapted more easily, but most of the other causes of non-response still apply.

Mode and non-response

	Face-to-Face	CAPI	CASI	CATI	Mail
identifying total non-response	good/easy	good/easy	good/easy	satisfactory	difficult
dealing with the non-response item	good	good?	good?	satisfactory	none
dealing with refusal bias	good	good	good	satisfactory	none

Reliability of answers

Even if the response rate is high, that does not automatically mean that the results are reliable. It is, after all, not only quantity that counts (the response rate) but also the reliability of the respondents' answers. In general population surveys on drug use, it is obviously very important to investigate whether given modes yield lower or higher *prevalence rates* on (illicit) drug use.

For example, in the 1994 Amsterdam study, small but significant differences were detected between face-to-face pen-and-paper and computer-assisted interviews administered face-to-face. These differences were difficult to explain, however, and certainly could not be attributed to the greater privacy of computer-assisted self-completion as compared to interviewer completion. At the same time, in the USA (Harrison, 1996) and the UK (White and Lewis, 1997), privacy issues do seem to figure when it comes to disclosing drug use. Higher prevalence rates have been found in those countries when questionnaires are self-completed. Herbst et al. (1995 and 1996) found a similar discrepancy in Germany when they compared prevalence rates from a 1994 telephone survey with those from a 1995 mail survey. The telephone inquiry yielded lower prevalence rates. In the survey conducted in the four Nordic countries (Hakkarainen et al., 1996), it was similarly concluded that mail surveys provide more reliable measures than face-to-face interviews when illegal drug use is the issue.

Again, each interviewing mode has its pros and cons on the issue of response quality. It hardly need be pointed out that respondents are not passive sources of information but active, responsive human beings (fortunately, one might say). Unconsciously, or even consciously, they can give answers that conflict with their true behaviour, attitudes or knowledge. This is especially the case when sensitive issues are involved, such as drug use.

Many factors can affect the quality of respondents' answers. One of the best-known is the role of the *interviewer*. Interviewer impact on outcomes such as drug use prevalence rates still needs further investigation, but a well-known influence is *social desirability*, the desire to make a good impression on the person or organisation asking the questions or to give what can be perceived as a socially or politically correct answer. Obviously the chance of this happening is greatest when an interviewer is either visually or verbally present, especially when the questionnaires are completed by the interviewer. Gender, race, class, accent and many other characteristics of the interviewer can all influence outcome.

The presence of other people during an interview can also affect the reliability of answers. Others are most likely to be present for mail surveys, but face-to-face interviews are also prone to this. Although other people could also be present during telephone interviews, they are less likely to influence the answers, since they do not see nor hear what questions are asked. If consulting with others is an intended part of the survey, mail surveys furnish the most room for doing so, as there is no pressure to answer on the spot (although one cannot verify whether the consultation has actually occurred).

The reliability of answers is also influenced by the point in time at which the questions are asked. Mail surveys are the most comfortable to respondents in this respect, since they allow them to answer at a time convenient to them. Telephone interviewers have the greatest difficulty guessing what time might be appropriate. Although face-to-face interviews are the most intrusive, when they are administered in respondents' homes they are usually prearranged at a time convenient to the respondents. Reliability of answering can also be affected when someone other than the intended person completes the questionnaire. Face-to-face interviews provide the greatest (albeit not absolute) certainty here, since some basic characteristics such as gender and

age can be verified by the interviewer. Mail surveys afford no control over who actually answers the questions; telephone interviews afford slightly more, but some level of uncertainty remains, as one can never be sure that people are who they say they are. Because the interviewer is present, face-to-face interviews provide the best context for stimulating respondents to answer. However, since this type of interview tends to last longer than those by telephone or mail survey, respondents can also get tired or bored, which can bias the answers as the interview proceeds.

Mode and representativeness

	Face-to-Face	**CAPI**	**CASI**	**CATI**	**MAIL**
groups excluded due to mode characteristics	those not able to speak the language	those not able to speak the language	illiterates + those not able to read the language	those not able to speak the language	illiterates + those who do not read the language
expected response rates	↑ but ↓	↑?	↑?	↑ but ↓	☹
potential social desirability	high	high	low	satisfactory	very low
control of influence of other people on respondent	satisfactory	good	good	good	poor
completion control (person)	good	good	good	good	poor

As indicated above, the advantages and disadvantages of interviewing modes with regard to different aspects related to representativeness may also change over time. The future will tell, for example, whether telephone surveys will continue to be as effective as they appear to be at present. As with face-to-face home interviews, there are signs in some countries that their popularity may be diminishing, influencing both response rates and other issues related to reliability and validity of the information acquired. Despite the telephone saturation in the USA, about half the telephone owners there now often use answering machines to screen incoming calls, and that has had an adverse impact on response rates. In Europe, too, there are signs that the novelty of being interviewed by telephone is fading and that more effort is needed to persuade respondents to take part in such interviews. The impact of the increasing use of (only) mobile phones has not been investigated, but it poses yet another challenge for CAPI.

The pressure this brings for continual innovation may threaten the consistency of survey demands over time, especially in tracking surveys. Converting from one mode to another thus requires extreme caution: previously collected data could become useless if it is not able to be adapted. This is also true for comparing survey results between countries when a different mode of interviewing has been used.

5. Questionnaire design

Whatever mode of interviewing is chosen, questionnaires are the chief survey instrument used in general population surveys on drug use prevalence. The most important task in questionnaire design is to achieve the highest possible fit between the types of information required and the types of questions asked to obtain it.

Designing a questionnaire is, however, a rather complex process, comprised of different elements such as question content, types of question, response formats and sequence of questions. For each of these elements in the questionnaire design process, it is essential to have a thorough understanding of both the actual target population – in this case the general population – and the topic of investigation – in this case illicit drug use and various related aspects. As already indicated, the questionnaire must also be compatible with the mode of interviewing, therefore ideally it should be developed after the selection of a survey mode. In practice, most researchers will copy questions from other questionnaires or use model questions such as those presented in Chapter

2. When this is the case, it is important to take special care in adapting the questions and to test the full design in the selected mode before starting the survey fieldwork.

Each one of the various modes has certain consequences for the design of a questionnaire. Also, each of these modes can – consciously or unconsciously – introduce bias. This is also true for the various steps in the questionnaire design process, thereby undermining the quality of the responses obtained. All of this may sound trivial, but in practice it is easy to go wrong here. Too many questions, the wrong types of question (e.g. an attitude question when one wants to measure behaviour) or biased questions may be asked, all of which can make for unreliable survey results.

In this section we will examine the various elements of the questionnaire design process. In particular, we will concentrate on the relationship between the survey mode and the consequences for the questionnaire that is to be designed, including the potential biases which may occur. A total elimination of questionnaire bias is not yet possible. However, some can be avoided, thereby improving the reliability and validity of questionnaires and the results obtained.

We will start with a reflection on the design of *individual questions and answer categories.* This will be followed by a look at issues of importance to the design of the overall questionnaire, including how to introducce it to the general public. We will end this section by highlighting the crucial element of pilot testing the questionnaire before its actual implementation.

- *strive for the best fit between information required and questions asked*
- *ideally the questionnaire should be designed after the mode has been chosen*
- *if using questions deriving from other questionnaires, test them in accordance with your overall questionnaire design and chosen mode*
- *questionnaire bias cannot be totally eliminated but some can be avoided*

Designing questions and answers

Semantics

Semantics refers to the meanings of words and sentences: in this case, the meanings of questions and of answer alternatives. Language in written or spoken form is one of the most basic of human features. It enables cooperation and coordination, because of the high degree of shared meaning that people attach to words and sentences. However, these meanings can also differ. Individuals or groups of people can interpret words or sentences differently depending on their own frame of reference. In the design of questionnaires, it is therefore of the utmost importance to find a common plane of understanding between designers, interviewers and respondents concerning the questions asked. This makes it crucial to subject questionnaires to pilot testing, which enables the researchers to identify differences in meanings attached to questions and to the answer alternatives.

Thus, the actual choice of words for formulating questions is not as easy as it may seem at first glance. Though it may sound bizarre, Dillman (1978: 95) had a point when he observed: 'Writing questions would be a lot easier if we did not have to use words.'

Semantic bias can result in misunderstanding, misinterpretation or multi-interpretation, which in turn may produce response bias. There are many guidelines in existence for wording questions and avoiding semantic bias, from Payne's *The Art of Asking Questions* (1951) to more recent works such as Schuman and Presser's *Questions and Answers in Attitude Surveys* (1996). One should always bear in mind, however, that these are no more than guidelines, and that their implementation requires a lot of creativity. Uncritical application may generate more problems than it solves. For example, the use of simple wording is usually recommended, but if it is too simple respondents may feel as if they are being patronised. Moreover, sometimes the guidelines for avoiding bias need to be turned upside down; for example, as when one purposely asks leading questions in order to probe for certain attitudes.

Stated very generally, one should avoid incorporating, consciously or unconsciously, any meanings that would steer respondents towards answering in a way that does not reflect their real behaviour or attitudes. Thus, *loaded* questions such as 'Do you favour heroin on prescription, even if this leads to a huge increase in the number of heroin addicts?' should be avoided. This can apply to *leading*

questions, too, as these may encourage respondents to report socially desirable behaviour. However, they can also be used deliberately to increase the chances that *undesirable* behaviour will be reported. The use of a particular substance can be asked about with the suggestion that 'many people do it', but it can also be implied that it is deviant behaviour by phrasing it as ‘Cannabis is a forbidden drug. Did you ever take it?'.

Questions can also be misleading, for instance when opinions are solicited about the health hazards of illicit drugs in general, whereas in fact scientifically established differences exist between the different substance categories. Biased answers can also result from the inclusion of a *prestige* element in a question, for example 'Even President Clinton tried marijuana as a student. Do you think that young people should be able to experiment with marijuana?'.

Questions formulated in ways that could lead the overwhelming majority to respond in the same way (low variation questions) should be avoided, since they do not produce very rich or useful information. Based on this insight, it may be justifiable that, in a general prevalence survey based on a relatively small sample size, only the use of major illicit drugs is asked about. This is because, given the small sample size, only very few people will have had experience with less common illegal drugs. This does not imply that asking about such drugs is not important, but that, given the survey design, it is neither effective nor efficient to ask about them. If you are interested in the use of less common drugs, you should target another population and research design. This is also the case for attitude questions in general prevalence surveys. If we look carefully at the question 'Do you agree or disagree that taking heroin more than 6 times a day can cause health problems?’, it will come as no surprise that most respondents agree with the statement.

Some words in a questionnaire can also be *offensive* or *degrading* to all or some respondents. For instance, speaking of drug use solely in terms of abuse or misuse can be insulting to users themselves, especially those who have only taken drugs infrequently or for recreational purposes. Respondents should also not be asked questions that are difficult to answer because the respondents *lack a frame of reference,* as in 'Do you agree with government policy?', nor should questions be *too direct* (‘What is your exact income after taxes?’), as this can cause item refusal, total refusal or unreliable answers.

Wording can also be too complex or unclear, as when academic language, jargon or street slang is employed in a general population survey. However, it may sometimes be advisable to include slang words in a general questionnaire (to supplement the more general wording) in order to make particular questions more understandable to the respondents to whom they apply. Finally, questions should not include *unequal comparisons* (‘Who is responsible for the increase in drug use, drug cartels or the junkie in the street?’). Clearly, a good questionnaire will avoid all such potential for bias as much as possible.

These considerations about the wording of questions and of answer alternatives, and about the meanings attached to them, need even more attention when a *cross-national* model questionnaire is at issue. Attitude questions in particular require very sensitive wording.

Syntax

Syntax refers to the way in which words are structured into sentences so that questions and the answer alternatives are correctly formulated. Ambiguities or errors in syntax should therefore be avoided, as these can cause bias as well. As with semantics, there are many ways of avoiding such bias and we will discuss some of them here.

Double-barrelled questions (when more than one question is asked at once) should be avoided. A question like 'How do you feel about hard and soft drugs?' is ambiguous, since it assumes that respondents perceive these two categories as a single one. *Negatively phrased questions* should also be avoided as much as possible, since they inject unnecessary complexity into the question. 'Marijuana use should remain illegal' is a better formulation than 'Marijuana should not be decriminalised'. This is even more true of questions containing double negatives. A statement like 'I'm not convinced hashish is without risks' can easily be replaced by a far more simple one such as 'I think hashish may carry risks' or 'I believe hashish is risky' or, better still, by a neutral question like 'Do you think hashish is risky?’. It goes without saying that such a rephrasing of the question also requires a restructuring of the answer categories.

A high level of *complexity* in sentence construction can also generate question bias. For example, in a study of heavy alcohol use in relation to illegal drug use, a question phrased as 'The last 30 days,

on how many occasions outside your home did you drink more than 6 glasses of alcohol of any kind other than beer?' would be difficult to understand and respondents could get confused or bored, resulting in unreliable answers. Simple language and short questions are therefore strongly recommended, especially in general population surveys. *Ambiguous* questions are those which, for example, raise certain expectations which are not borne out in a careful reading. If a question first asks whether the respondent agrees that the government should take stronger action, respondents are likely to expect a tough follow-up such as 'in the fight against drugs'. If the question then turns out to read 'in easing the criminalisation of drug use', respondents may, not surprisingly, feel confused.

It is also advisable that *subject matter be put before answer alternatives,* thus directing the attention to the issue at hand, placing the answer alternatives in a context, and thus helping the respondents to remember them. For example, a question like 'In your opinion, which of the following cannabis, heroin, cocaine or LSD causes the most social problems?' would be better rephrased as 'In your opinion, which of the following causes the most social problems: cannabis, heroin, cocaine or LSD?'

Sometimes the wording and phrasing of questions might be acceptable in situations where the questions are read by the respondent, but can be totally inappropriate when used verbally by an interviewer. In general, a question to be asked verbally should be phrased in a short, colloquial sentence, whereas a question that is to be read can be more complex and formal.

Response formats

The potential biases of semantics and syntax can also arise in the formulation of answer alternatives. There are additional considerations to be taken into account when designing a response format.
The *response format* is the way answer options are designed. One of the more common distinctions made is between structured (multiple choice, numeric open-end) and unstructured (text open-end, verbatim) formats. This distinction is generally expressed as closed-format versus open-format questions. Questionnaires in general surveys on drug use prevalence usually contain a variety of structured response formats. In contrast to the diversity of structured response formats, unstructured formats offer few options, namely texts or transcripts.

When structured response formats are applied, they should be suited to *all* respondents; that is, all possible answers should be covered by the alternatives provided. If this is not the case, respondents will create answers artificially. Consider the question, *'In your opinion, who is primarily responsible for solving the drug problem?'*, accompanied by the following answer options:

a) police
b) physicians
c) social workers
d) family

This question forces respondents to choose between the four options, even if they do not know the answer or feel that some other person or organisation is responsible. A 'don't know' and/or 'not applicable' category should always be provided, unless respondents are expected to have a very clear-cut answer (e.g. 'Are you male or female?'). This will produce more reliable answers (albeit less exciting ones for researchers), and respondents will not feel they are being coerced into answering in certain directions (a frequent cause of partial or even total non-response).

The survey mode also has implications for the answer categories for each question. Reading from paper (questionnaire or show card) or screen will cause no problems, but when the interviewer has to list the possibilities verbally the options will be limited. If there are too many categories, the respondent could forget some of them. Without listing the categories, the interviewer could interpret the spontaneous responses incorrectly or be forced to type the full answer, which can cause as many problems, as interviewers are usually not selected for their typing skills. In particular, CATI limits the number of optional categories. The usual solution of creating dichotomous questions for each category will not always yield the same results as the *a priori* presentation of all options.

The *sequence of answer alternatives* also requires specific attention, as it can influence a respondent's answers in such a way that they no longer reflect their actual behaviour or thinking. The phenomenon of *central tendency*, for example, whereby answers tend to group around a neutral

point, is very well known. Another problem is that respondents are more likely to pick the first-mentioned alternatives. A well-known solution that partially overcomes this problem is to rank the answer categories in random order. Obviously, this option only works with CAPI or CASI. However, in some cases it is advisable to employ the order that might be logical from the viewpoint of the respondent in order to avoid unnecessary confusion. For example, if respondents are asked if they have ever used drugs and when they did so for the last time, it is logical to put the answer categories into a chronological time frame (e.g. ever, last 12 months, last month, last week).

Scaling questions (e.g. rating or agreement scales) or ranking formats are other types of formats that are prone to bias. The issue of scaling and which scales to apply is a topic of intense academic debate which we will not expand on here. However, if scales are applied, the general rule is to avoid providing too many alternatives. What is the most effective total number of scaling items is related in part to the educational level of the respondent. Since we are dealing here with general population surveys, the scale should be applicable in a very heterogeneous population.

When value alternatives are provided, they should represent a balanced scale. For example, the question 'Do you think the number of soft-drugs coffeeshops in Amsterdam should be a) increased, b) kept the same, c) decreased slightly, d) decreased moderately, or e) decreased greatly?' is out of balance, because the negative alternatives outnumber the positive ones.

Answer alternatives should also be mutually exclusive, since respondents are otherwise forced to choose between alternatives each of which are equally correct for themselves and which can therefore bias the result. Take, for example, the question ‘What is your age?’, with choices of 18–25, 25–35 or 35–45 years of age. The alternatives here are not mutually exclusive. (This mistake is by no means uncommon.)

Telephone surveys are entirely verbal, so they can make no use of visual representations. By contrast, mail surveys and face-to-face interviews, especially those employing CAPI, can use highly sophisticated images to clarify or illustrate questions.

Questions and answers contexts

One should also be aware of the context of the questions asked and the threat of potential bias. This may arise when respondents do not have the necessary knowledge or information to answer a question. Consider the question, ‘Do you agree or disagree with the following statement: MDMA is becoming a mainstream drug for youngsters?’ If respondents do not know that MDMA is the pharmaceutical name for ecstasy, they have no clue as to what is being asked. Context bias can also arise when the question contains incorrect information that can be recognised as such by respondents (for example, ‘Ecstasy is a so-called soft drug’). Incorrect information in one question may cause a respondent to doubt the reliability of the whole questionnaire. If the questions on drug use are part of a multi-purpose survey, the content of other, non-drug-related, items presents a potential bias to the answers respondents provide about drug use. This is patently the case, for example, when the main topic of the survey is criminal behaviour.

Types of questionnaire biases

Semantics	Syntax	Answer alternatives
• loaded	• double-barrelled	• imbalance between positive and negative alternatives
• ambiguous	• double negative	• double options in one alternative
• prestige	• complexity	• answer categories not mutually exclusive
• offensive	• ambiguous	• ranking format too long or too short
• multi-interpretable	• subject matter follows alternatives	• too many or too few answer alternatives
• lack of reference context	• not in accordance with mode (audible or visual)	• arrangement of alternatives
• slang/jargon/abbreviations		• artificially created answers
• too direct		• lack of variation in answer format and sequence of answer alternatives
• low variation		
• unlike comparisons		

Question Context Bias

• incorrect information contained in question
• incorrect assessment of respondent's knowledge
• questions asked in an inappropriate context
• absence of time frame
• lack of sensitivity to respondent's frame of reference
• temporary public mood

A further type of bias occurs when a time frame is not provided in inquiries about specific behaviour. The question 'Do or did you use drugs in the past year?' lacks an appropriate time frame, as it is not clear if the question refers to the previous year or to the 12 months pre-dating the moment of interviewing. The same applies to other frames of reference. People may be asked about their drug use behaviour in a questionnaire that includes other, seemingly unrelated, questions about whether they have seen certain soap operas or whether they like dogs. These may well not be out of context for the researchers, but this should be explained to the respondents. Failure to do so could endanger the credibility of the entire questionnaire.

Designing the overall questionnaire

Up to now we have been examining the design of individual questions and their answer categories. However, questionnaires are not just collections of individual questions; as we know, the whole is greater than the sum of its parts. In this section we will discuss some issues relating to clustering of questions and the design of the overall questionnaire. We distinguish here a) the structure and sequence of questions, b) the layout and c) how the questionnaire is introduced to the general public.

The ordering of questions can have a positive or negative influence on the answers obtained. Experience has produced some useful rules of thumb here. Most researchers agree that *opening questions* are very important, setting the tone for the rest of the interview. Opening questions should be easy and non-threatening, but not boring either. The most important questions, such as those about illicit drug use, should not be saved for the end of the questionnaire. By that time, respondents may be bored, tired or running out of time, resulting in insufficient attention being given to the most crucial questions. Questions that could be threatening to respondents should be carefully thought out. Often an introductory text can be helpful in moving from one cluster of questions to another. Any sensitive questions should fit into the overall questionnaire in a way that is logical to the respondent (that is, they should not seem irrelevant).

There is a growing consensus that *attribute* questions (addressing respondents' characteristics) should be put at the end of a questionnaire, rather than as a warm-up at the beginning. If they are all asked at the beginning, the respondent may lose track of their importance and the aims of the questionnaire, and that could negatively influence their willingness to respond. However, if such questions are used as *filter* questions (also called contingency or skip questions), such as questions about age which are intended to find out whether a respondent qualifies to answer certain questions, they may be used early in the questionnaire. If questions are to be asked about cannabis, for example, check first whether a respondent knows what it is or has ever used it. If not, there will be no point in asking further questions. At the same time, the use of too many filter questions (too many jumps) at one go should be avoided, as this can cause confusion or loss of interest among respondents, or more questions could be skipped than was intended.

Given the heterogeneity of the population, not all questions in general population surveys are relevant to all respondents. This necessitates the use of skipping patterns and filter questions. Most instructions about the completion of the questionnaire, either for the respondent or the interviewer, are by nature mode dependent. The use of skipping patterns and filter questions is least practical in mail and other pen-and-paper surveys, where respondents have no personal or technical support in navigating through them. When such a mode is chosen, the referrals have to be as simple as possible. Computer-directed interviews, either by telephone or face-to-face (self-completed or not), are especially suitable here, because the software automatically guides the interviewer or respondent through the questionnaire.

We have already touched on the tendency for answers to group around a neutral point. The ordering of questions can also evoke similar tendencies, for example an *acquiescence response set*, in which respondents answer all questions affirmatively, irrespective of the nature of the question. This can be provoked, for example, when all questions are posed in a positive or negative form, or when answer alternatives or formats are all identical, thereby causing boredom, loss of concentration or over-familiarity. If this seems likely, or if it comes to light in pilot testing, it is a good idea to consider introducing some variation into the question formats or groupings. Acquiescence response sets can also result from other factors, such as when a respondent feels uncomfortable because of social differences between him/herself and the interviewer.

General population surveys deal with a cross-section of the general public. A rule of thumb is that the more specialised the target population is or the more relevant the topic, the longer the questionnaire can be (De Vaus, 1993). Since the general population is unspecialised, only the most relevant questions should be asked. The *length* of a questionnaire (its total number of questions) can thus also be a source of bias. The rule of thumb here is the shorter the better. This works as a double-edged sword, increasing the likelihood of getting reliable answers while curbing unnecessary costs. Many questions asked in surveys are ultimately not analysed or reported, having proved unimportant or irrelevant in retrospect. Researchers (and often those commissioning surveys and steering committees as well) often seem to think that, as they are conducting a survey anyway, they may as well ask whatever seems interesting, then figure out later which questions to analyse and how.

The sequence of questions and the clustering of groups of questions are also important, because answers to specific questions can be influenced by questions asked previously, sometimes leading respondents to answer in ways they would not otherwise have done.

The total number of questions also varies according to the *interviewing mode* applied. The general view is that the number of questions should be most curtailed in mail surveys. More questions can be asked in face-to-face and telephone surveys, because the interviewer can try to keep the respondent’s interest from flagging. The length of the questionnaire can influence both the response rate and the quality of the answers.

Structure questionnaire bias

• poor start (questions that are boring or too threatening)
• too repetitive
• too many questions
• sloppy layout
• illogical clustering of questions and haphazard questioning
• confusing skip patterns
• inadequate introduction

The *sequence* in which people respond to questions can affect their answer reliability, especially when attitudes and opinions are being solicited. Mail surveys provide no form of sequence control, but each of the other modes has its own mechanism for controlling the sequence in which questions are answered. Pen-and-paper self-completion modes imply that the respondent can view all the questions before starting to complete the questionnaire. This can affect his or her willingness to respond or the response pattern, admittedly in both a positive or negative way. With interviewer completion, the respondent does not know in advance what will be asked, which can be an advantage or a disadvantage.

In computer-aided interviews, there is usually no possibility to have second thoughts about previous answers, as one cannot usually skip back or skipping back is limited to one or two questions. In fact, computer-aided surveys, in particular CATI, generally call for spontaneous answers. This may be what is actually required, for instance with regard to opinions. However, sometimes a degree of reflection would be preferable, but this is not possible because of the speed of the process. One should be aware of this, especially in memory recall questions.

Questionnaire design and survey mode

	Face-to-face	**CAPI**	**CASI**	**CATI**	**Mail**
Number of questions	high	very high	very high	restricted	restricted
Sensitive questions *Attitudes* *Use*	constrained	constrained	high	modest	high
Complexity and length of response alternatives	high	high	high	limited	high
Filter questions/skip patterns	easy	very easy	very easy	very easy	satisfactory
Question sequence control	good	good	good	good	poor
Open-ended questions	good	poor	poor	good	poor
Use of multiple materials/visual presentations	high	high	high	none	limited

Adapted from Dillman (1978) and De Vaus (1993)

Telephone interviews and, to a lesser degree, face-to-face interviews without self-completion differ from mail and self-completed computer-directed interviews by relying solely on verbal communication. Questions must not only read well for the interviewer, but they should also sound well to the respondent. A heavy reliance on the respondents' retention of what they hear at a pace set by someone else can be problematic in some cases. Face-to-face interviews offer the best opportunity to ask complex questions, because the interviewer can explain and give information on the spot. However, this is prone to bias as well, due to non-standardised interviewer intervention.

Layout of questionnaire

The layout of a questionnaire is very important, as an unsuitable layout can lead to response bias and low response rates. This applies especially to self-completed questionnaires and, above all, to mail surveys, but it is also true for those that are partially self-completed for reasons of sensitivity or privacy. Different modes of interviewing impose different quality constraints on questionnaire layout. A pen-and-paper questionnaire needs different features than one on a computer screen. Requirements also vary depending on who will be reading the questionnaire, the interviewer, the respondents or both (as well as the person who enters the data). In telephone surveys and non-self-completed face-to-face interviews, the layout is designed primarily to support the interviewer, whereas with self-completed forms the focus is on the respondent. Thus, different quality criteria need to be considered and these can sometimes clash, so this requires careful and balanced assessment. From the respondents' point of view, a questionnaire first of all needs to be user-friendly, inviting them to take part in the survey. It should, furthermore, support them as they make their way through the questions. Some rules of thumb, which vary according to the mode of questioning, follow:

- each page should be numbered (pen-and-paper)
- there should be no separation of question and answer categories across two pages where the questions only are printed on the front side of the page (pen-and-paper)
- font size should be large enough to read comfortably (pen-and-paper and computer-assisted interviewing)
- a return address should be given on the questionnaire (mail)
- in closed question format questionnaires, leave respondents some writing space in case they want to make comments or suggestions (all self-completed questionnaires)
- skipping patterns should be clearly delineated, preferably with graphic symbols (pen and paper)
- user-friendly computer interfaces should be used (CAPI and CATI)

- *focus your layout on whoever is most dependent on it, the respondent or the interviewer*
- *whatever the focus of the layout, it needs to invite respondents to take part (or continue to take part) in the survey*

Introducing the questionnaire to respondents

The introduction that solicits the respondent's participation in the survey is very important indeed. Both general response and item response or refusal can be influenced by the way the survey is presented to the general public. It is not possible to provide a standard model for the introduction of a drug prevalence survey, as the presentation and introduction depends on the mode chosen for the survey and the context in which the drug prevalence questions are created. For example, mail surveys are truly their own advocates. The sticking point in mail surveys is that respondents may not finish completing the questionnaire, while in telephone interviews it is in getting them to agree to participate in the first place (once started, they will usually not stop before the interview has finished). Many kinds of incentives and inducement strategies have been proposed over the years aimed at increasing survey participation. Computer-directed interviews are presently in vogue, as they are still quite novel and thus attractive to many people. We can, however, formulate some general principles for introducing the questionnaire.

Survey aims

It is important to explain the *general aim* of the survey. Obviously this needs to be pretty concise and understandable, even if it is outlined in a letter preceding the interview. There is no need to go into too much detail, although the information should be accurate and honest. Some 'window-dressing' is admissible to prevent the respondents being scared off at the outset.

Introducing the survey as an assessment of illicit drug use or addictive behaviour is not likely to be conducive to gaining respondents' cooperation, so it is better to word this as an assessment of the use of all sorts of substances, lifestyles, health risks, etc. However, such window-dressing should then be carried through by the questionnaire, which may mean including questions which are not relevant to the real survey aims.

Ideally, the survey aims should be formulated in such a way that the respondents can feel that their opinions and factual contributions are important in a matter of public concern.

Survey commission

In most cases, the actual survey will be conducted by a fieldwork agency, so clear arrangements should be made about issues related to the *survey commission*. Fieldwork agencies will not usually mention the name of their client for a survey, unless the client's name can be expected to enhance the willingness to respond. If a government body or non-governmental organisation commissions a survey, mentioning the client might improve the response, as it indicates a public concern. However, it could also have an adverse effect if the name of the organisation points to an area that alarms the respondent. For example, a study about illicit drug use commissioned by the Narcotic Control Board is not likely to invite co-operation, and the same is true if the name of the commissioning organisation contains a reference to addiction and drugs (e.g. the Centre for Alcohol and Drug Addiction).

Nevertheless, if a respondent asks for this information, the interviewer has to give an answer, so careful consideration should be given to what will be answered. For instance, if a survey is commissioned by a drug agency that ultimately acts on behalf of a government body, it is preferable to mention the government body instead of the drug agency. The same considerations need to be taken into account when a contact address or telephone number is provided in a mail survey.

It is generally considered to be good practice to mention in the introduction the name of the interviewer and the survey agency and to inform the respondent about the length of time the interview is expected to take.

Anonymity

The respondent must be assured that his responses will remain confidential. It is not enough simply to say this, but it should also be obvious from the setting of the interview or the traceable procedures of the handling of completed questionnaires. A classic example is the printing of identification numbers on postal questionnaires. Many people will, rightly or wrongly, interpret this as a link to their name and will therefore not respond.

- *explain the general aims of the survey*
- *think about the pros and cons of mentioning the survey commissioner*
- *if a fieldwork agency conducts the survey, make it clear what should and should not be mentioned in the introduction*
- *guarantee the respondent's privacy and anonymity and act upon this accordingly*

Pilot testing of the questionnaire

We have already highlighted the importance of pilot testing or pre-testing the questionnaire. Pilot testing allows for assessment of the reliability and validity of individual questions and the questionnaire as a whole before the actual survey is begun. The concepts of validity and reliability are discussed in this section in relation to questionnaire design. They also apply, of course, to the overall survey results. Questions are *valid* if they measure what they are intended to measure. For example, if we use lifestyle to predict drug use, the issue is not whether we have measured lifestyle precisely but whether it is a suitable measure for predicting drug use.

Questionnaire *reliability* (repeatability) refers to whether the questions produce consistent answers from respondents on repeated occasions. Pilot testing can detect the presence of potential questionnaire biases, as described above in this chapter, and, ideally, can help researchers to overcome them. Another advantage of pilot testing is that the time required for completing the questionnaire can be measured, and respondents can then be informed accordingly. Time is also an important factor in budgeting, particularly in telephone and face-to-face interviews (due to interviewer costs).

De Vaus (1993: 99–100) recommends a three-stage pilot testing process (see also Converse and Presser, 1986). The first is the *question development* stage, when questions are still under construction and different forms and wordings are explored and evaluated with a small number of respondents. This applies both to newly developed questions and to questions adapted from surveys which have already been carried out (and which, preferably, had already been tested then). Questions that perform well in one survey are not automatically suitable for another (due, for example, to differences in target populations, time or scope). This stage may also be called a *declared* or *participating pilot test,* since respondents are informed about the developmental nature of the questionnaire and are asked to give constructive feedback.

The second stage is known as the *questionnaire development* process. This stage is *undeclared*, as respondents are not informed that the questionnaire is still in a transitional version. Respondents complete the entire questionnaire. For our purposes in this book, this pilot sample should resemble the general population as closely as possible on the principal specified characteristics (age, gender, geographical location, etc.). Theoretically, the questionnaire should be tested on as many respondents as possible; however, considerations of time, cost and population make this unrealistic. Although De Vaus (1993) suggests testing the survey on between 75 and 100 respondents, we recommend that pilot testing should proceed with a smaller number if such figures are not feasible.

For some of the questions used in general population surveys on drug use, pilot testing requires a more sophisticated approach. Some drugs, such as heroin, have relatively small numbers of users among the general population and this makes pilot testing difficult. The solution is to test these types of questions on pre-selected target groups rather than on random samples. Needless to say, the results of such pilot tests should not be combined with the final survey results.

The respondents' answers and interviewers' feedback are then analysed in order to further adjust the final questionnaire. This final stage is described as the *polishing pilot test* stage, which implements the results of stages 1 and 2. This may entail decreasing the total number of questions (in cases of redundancy, for example, when questions have been found to be measuring more or less the same thing), reordering the questions, deleting questions due to an expectedly high rate of non-response, finalising skipping patterns and designing the final layout.

Pilot testing can help minimise the risk of asking unreliable and non-valid questions. These can be caused by the various types of bias explored in this chapter and also by other factors, such as the interviewers. There are various methods for testing the reliability of questions, such as the test-retest method. However, the methods for evaluating the reliability of *scales* (sets of questions measuring single concepts) appear to be more suitable than those for assessing single-item questions (De Vaus, 1993).

We can distinguish three methods for assessing validity. *Construct validity* evaluates the extent to which a given measure corresponds to the theoretical concepts or constructs (Last, 1995) that underlie the topic under investigation. It may, for instance, be assumed on general theoretical grounds that women take less illicit drugs and more licit drugs than men. If new questions about illicit and licit drug use are then posed to men and women and the gender differences show up in the analysis, then these questions have construct validity. *Content validity* assesses the degree to which questions measure the phenomenon under study. For example, questions about lifestyle should incorporate different activities related to leisure and entertainment patterns (pubs, theatres, sports, etc.). *Criterion validity* compares the answers to new questions with answers to existing, well-established questions. For example, if you decide to work with a new question, replacing the question 'How much do you smoke?' by 'Are you a smoker?', then in your next survey you should include one or more questions from surveys undertaken previously (e.g. 'How much did you smoke in the last 30 days?'). This helps identify more precisely just what the new question is measuring, and it also enables trends over time to be followed.

The methods for assessing the reliability and validity of questionnaires are not a foolproof guarantee of obtaining non-biased results. This can even be true for simple questions such as questions about age or gender. One study showed that, for questions on respondents' gender and birthplace, between 1 and 14% replied differently when they answered the same questions on two different occasions (after a two-year interval). Questions about the size of the place they grew up in, their educational attainment and their father's occupation yielded even higher levels of unreliability.

- *pilot testing enables assessment of the reliability and validity of a questionnaire and thereby avoids bias*
- *questions are valid if they measure what they are intended to measure*
- *questions are reliable if they produce consistent answers from respondents on repeated occasions*
- *pilot testing involves both the testing of individual questions and of the total questionnaire*

6. Fieldwork

In the previous sections we have already referred to the current practice of employing a fieldwork agency to conduct the actual survey fieldwork. Ideally, such an agency is selected early on in the survey design process (i.e. after the initial decisions about the survey mode). In most cases, a commercial market research company will be contracted (but it can also be the research organisation responsible for the survey). In general, further elaboration and fine-tuning of the survey design and questionnaire will be collaborated on by the researchers and the fieldwork agent. In particular with regard to all sorts of bias control, it makes little sense to refine the whole process in an academic research setting without accounting for the practical constraints of a particular fieldwork company or the contract that can and will be concluded.

The choice of and the arrangements with a fieldwork agency are crucial factors in terms of reliability of survey outcomes and their potential. A perfect survey design can be ruined if it is not matched by the practical realities of the fieldwork.

Listed below are some important aspects to consider in the process of selecting a fieldwork company and making arrangements for the execution of the fieldwork and its deliverables. It is important to select only certified companies that adhere to an ISO or market research quality standard.

Quotation

The price of the fieldwork will be one of the main criteria to consider when selecting an agency. Research companies should have some general ideas about price before they even start to design a survey, otherwise they risk finding that their choice of mode, length of questionnaire and intended net response will not be manageable within the budget available.

A price quotation should at least specify the desired mode, the length of the questionnaire and the required net response. It is not advisable to accept a quote just because it fits into the budget. Having no margin to cope with last-minute changes, unexpected problems or adaptation will inevitably result in compromises that affect the results. It is often not practical to specify every aspect of a survey in detail in advance, but adding in later on will be constrained by the budget. Fieldwork is a business and nothing comes free.

It makes sense to test the expected interview time of the questionnaire in advance. Most agencies calculate this on the number of questions and a net interview time per hour. Open-ended questions are usually calculated separately, both for interview time and data entry/re-coding.

Usually 30–40 questions can be asked in about 10 minutes, but when there are many filter questions the number of questions covered in the same time can be much higher. In the pre-tests of the model questionnaire, which had – including the 61 questions listed in Chapter 2 – 83 questions in total, the average interview time was less than 10 minutes in all modes.

The effective interview time per hour depends on mode but can also differ considerably between agencies. In a CATI unit with many extensions, net interview time can be as much as 50 minutes per hour, whereas in less well-equipped units this may be much lower.

Implementation/administration

Not surprisingly, the different interviewing modes also have consequences for the implementation (administration and management) of a survey. Face-to-face interviews, whether computer-supported or not, require the most sophisticated implementation procedures. They are usually the most expensive, due to the time each interview takes, the travel requirements, the need to engage highly skilled interviewers and the security requirements both for interviewers and for respondents' privacy. Telephone interviews are less demanding in this respect. The training and supervision of face-to-face interviewers also require more time and staff than centralised telephone interviews. Mail surveys are the least demanding in terms of staffing, equipment and other costs. Their costs are also the least affected by relative increases in sample sizes or by the geographical dispersion of samples.

Implementation/administration by mode

	Face to Face	**CAPI**	**CASI**	**CATI**	**MAIL**
time required per interview	high	high	high	quick	satisfactory
costs	high	high	high	middle	cheap
data entry (time)	slow	quick	quick	quick	slow

Although pre-tests may have been done by the researchers, it is advisable to have a pre-test done by the selected fieldwork agency as well. For a major survey, pre-tests should be carried out in a real-life situation, mimicking the actual survey process, and not just among the interviewers themselves. Ideally, the commissioning researchers should be able to observe the pre-tests.

Instruction of the interviewers

Interviewers and, if applicable, data entry will most often be controlled by a fieldwork company. Obviously the interviewers will need to be instructed and this is the job of the company.

Interviewers are active, responsive human beings, so they can influence the reliability of answers in positive and negative ways, both consciously or unconsciously. They form a key element in face-to-face and telephone modes. Controlling interviewer bias is most difficult in face-to-face interviews which do not use self-completion or computers. Mail surveys are unaffected by interviewer bias, and in centralised telephone surveys there is considerable potential for control by supervisors.

Interviewer and mode

	FACE to FACE	**CAPI**	**CASI**	**CATI**	**MAIL**
ability to avoid interviewer bias due to character and personal attitude	low	moderate	high	satisfactory	n.a.
training of interviewer required	high	moderate	moderate	moderate	n.a.
control/supervision of interviewer	low	moderate	moderate	high	n.a.

Face-to-face interviews, however, are exceptionally susceptible to interviewer bias. Interviewers can explain questions or stimulate respondents to answer, but they can also bias the answers by asking the same question in different ways or by letting their own attitudes or prejudices influence how they ask a question or enter responses. Interviewers also may not feel comfortable with asking certain questions, or they may not like the answers provided and may show this, even in very subtle ways. Although highly experienced interviewers are unlikely to do this, potential bias is always a possibility.

Computer-assisted personal interviewing can reduce this type of bias, because questions are asked every time in the same manner. Skip patterns, sequence formats and error-checking routines are often built into the software, so interviewers can just concentrate on the interview. Moreover, the programs generally have built-in checks on the logical consistency of answers.

Questions that are read by the respondent from a screen or paper will be the same for all respondents, but a question that is asked by interviewers will always change to some degree in the course of the survey process. If the question is long or has to be phrased in a rigid way, most interviewers will not be able to stick to the same wording every time. Even if the questions are quite simple and short but have a repetitive character within the questionnaire as a whole, as is the case for most prevalence questions, the wording may change during the interview.

In addition, many interviews will not evolve as a simple question–answer interaction. Respondents will often interject with remarks which the interviewer cannot always ignore, and which can affect the way the next question is asked. CAPI and face-to-face interviews are more likely to be affected than CATI, as the telephone setting creates more distance and anonymity between interviewer and respondent.

As mentioned before, interviewers and, if applicable, data entry will usually be controlled by a fieldwork company. However, the researchers who are responsible for the survey should be able to observe the proceedings. The main reason for this is not to control the agency, but to understand the problems involved in the questionnaire and facilitate any decisions about changes and adaptations or conclusions about inevitable biases in the design.

7. Sampling design

As in other domains of social science, general population surveys on drug use are always executed among a sample of the entire target population, since it is neither practicable nor cost- and time-effective to interview every single individual in the population. Nevertheless, the main purpose is to arrive at conclusions about attributes or behaviours of the whole target population. Sampling is a critical factor in any survey design, determining to what extent the survey results allow reliable inferences to be made within acceptable margins of error to the population.

A sample design should deal with both the selection of individuals to be included in the sample and the process of estimating population values from the sample values. Selection and estimating are interlinked, as selection rules affect the methods of estimating population values and the precision required for population estimates influence the selection rules. The precision needed depends on the general survey aims, and selection depends on the possibility or feasibility of identifying and approaching the members of the target population, which, in turn, depends on the survey mode and the survey budget in particular. In principle, therefore, survey design and sampling design should go hand in hand.

Sampling

The assessment of population estimates from sample data requires that the sample is ‘representative’ of the total population. Careful selection can make a sample more or less representative. This is best achieved by *probabilistic sampling,* whereby each individual of the population has a known non-zero probability of being selected, allowing inferences about population values by means of statistics computed from the sample data without having to make assumptions about the distribution of the survey variables in the population. In prevalence studies, as in social studies in general, it is usually not possible to make such assumptions and, as a consequence, probability sampling should almost be considered mandatory.

The basic selection method in probability sampling would be simple random sampling in the target population. However, this may not always be possible or practical, for a number of reasons: the sampling process may be imperfect because of inaccurate information about the target population; operational aspects of survey execution can distort a theoretical good sample; budget constraints may compel the implementation of alternative strategies; survey aims may call for various levels of precision in making estimates for different sections of the population.

In many cases, therefore, simple random selection will be, or has to be, replaced by other methods or combinations of methods. Common among these are the following:

- simple random sampling, in which each individual of the population has an equal probability of being selected
- varying probability sampling, in which the probability of being selected varies according to the magnitude of another variable (e.g. household size, city size)
- stratification, which is an *a priori* selection of subpopulations from which samples are drawn
- multi-stage sampling, in which groups of individuals (e.g. people in a certain area, city blocks, households) are sampled first and then individuals are selected in the final stage within a group
- multi-phase sampling, in which a final sample is taken from a previous sample, thus providing information to improve the final selection

The methods applied dictate the way in which the statistics are computed to estimate the population values and the statistical errors or precision of the estimates. The various methods are explained in any textbook on survey sampling, so the techniques involved do not require further discussion here.

Although we may be able, in the context of improving European comparability of prevalence surveys, to harmonise survey aims and to set criteria for precision of population estimates, it will be difficult to create uniform conditions for sampling that are applicable to all countries. This implies that, for the time being, we cannot identify a particular method as a European standard of sampling for general population surveys on drug prevalence, other than the requirement that probability sampling should be applied.

Nevertheless, we can present some general considerations about three aspects of sampling that could help future survey organisers in elaborating their sampling designs: sample size, sampling frames and implementation of sampling rules.

Sample size

The size of the sample is a critical factor with regard to the precision of population estimates resulting from survey data. It is also a critical factor in survey costs.

Sample size should be determined before starting any survey. In probabilistic samples that are small compared to the target population, this can be calculated from the following general formula:

$$SE(p) = 1.96*\sqrt{P*Q/n'}$$

Where SE(p) is the error margin (in percentages) of the population estimate, the factor 1.96 is taken from a table of the normal distribution at the usual 95% confidence interval, P is the expected population percentage (e.g. prevalence measure), Q = (1-P) and n' is the estimated sample size. For a large target population, which is normally the case in national surveys, n' equals n, the real sample size. The sample size n can then be calculated if we decide on an acceptable margin of error and have some notion about expected prevalence rates. In Table 1 we calculated n for different levels of precision and different expected prevalence rates.

It should be noted that the formula above is relevant to simple random sampling and needs modification in other sample designs; calculation formulas can be found in standard textbooks on survey sampling.

Acceptable levels of precision depend on survey aims and on expected prevalence levels. If we expect prevalence levels of 1% or less, we may find a margin of error of 2% (i.e. a population estimate of 1% $\pm$ 2%) not acceptable, whereas, if we expect a rate of 40%, even a margin of 5% may be acceptable to some. In general, it is not accept if the ratio of the error margin to the population estimate is more than 0.5 or even less. So 40% $\pm$ 5% is acceptable (ratio = 0.125), but 1% $\pm$ 2% with a ratio = 2.0 is not. In Table 1, sample sizes where the margin of error relative to the expected prevalence rate equals 0.5 or more have been shaded and these sample sizes will

not result in prevalence estimates with an acceptable margin of error; the minimum sample sizes at different levels are printed in red.

Drug use is still a relatively rare phenomenon, in particular if we talk about last 30 days prevalence (LMP), and for most drugs expected LMP rates will be very low. Tracing such low rates within acceptable margins requires large sample sizes, particularly if we also consider survey aims that call for prevalence rates for subgroups.

According to the EMCDDA, a general survey aim should be to obtain population estimates corresponding to the report format of the key indicator on prevalence rates from general population surveys; in other words, estimates for the drugs included in the indicator and for males and females of each 10-year group between 15 and 64. Theoretically, this means that a minimum sample size should apply for each of the ten age–gender groups. According to Table 1, a sample size of over 1 500 is needed to assess a population rate of 1% ± 0.5%, which might be considered just acceptable. If this is applied to each age–gender group, the minimum sample size rises to at least 15 000. In a simple random sample, this figure will be higher, as we have to ensure *a priori* that we get a minimum of 1 500 for the smallest age–gender group in the population. This further increase of sample size can be avoided by stratification, but this is only possible if we have a sample frame that allows stratification by age and gender (see below).

Large sample sizes also increase survey costs. In practice, therefore, it is necessary to compromise on the above precision requirements, in particular in cases of low prevalence rates and eventually also for subgroups. It should also be noted that figures which, as a once-off prevalence estimate, will not result in acceptable margins can still be used for trend and multivariate analysis. For example, rates of 0.8% ± 2% in one year increasing to 1.1% ± 2% in later years may not constitute, in each individual year, an acceptable population estimate but may nevertheless reveal a significant statistical trend.

Table 1. Sample sizes for different levels of expected population prevalence rates and accepted margins of error

Margin of error (%)	**Expected prevalence rates (%)**					
	50	**25**	**10**	**5**	**1**	**0.5**
0.5	38 416	28 812	13 830	7 299	**1 521**	764
1	9 604	7 203	3 457	1 825	380	191
2	2 401	1 801	864	**456**	95	48
3	1 067	800	384	203	42	21
4	600	450	216	114	24	12
5	384	288	**138**	73	15	8
10	96	**72**	35	18	4	2
15	43	32	15	8	2	1
20	24	18	9	5	1	0
25	**15**	12	6	3	1	0
30	11	8	4	2	0	0

Note. Shaded cells indicate sample sizes where the ratio of expected prevalence and error margin is > 0.5 (50%). Red figures indicate minimum sample size at the given combination of expected prevalence rate and margin of error.

Another factor to consider when defining the required sample size is the expected level of non-response. At the end of the day, population estimates are calculated for survey variables, for which values can only be assessed for the level of response. Levels of non-response vary between countries and survey modes, and what we call minimum sample sizes should actually be read as minimum sizes of the response. In this context, it is important to be aware of a possible confusion about terminology, as studies often report net response as the sample size.

In reality, sample sizes are often decided upon by means of a mixture of more or less explicit arguments, and budget considerations usually play a major role. However, if we follow the EMCDDA's report format and accept a precision of at least 50% for prevalence rates of 5% (i.e. 5% ± 2.5%) as a minimum requirement, the minimum response size will be at least 10 * 456 = 4

560 and, calculated on an optimistic response level of 60–80%, this minimum sample size will be between 5 700 and 7 600. Even with such substantial samples, it is not possible to get population estimates with an acceptable margin of error when they fall below 5% (cf. Table 1), which applies for most drugs, in particular with regard to recent or current use.

Sampling frames

For probability sampling it is necessary to have a complete list of the target population from which a sample can be drawn. Without such a sample frame, it is not possible to select individuals at random.

It may seem obvious that a sample frame should be selected that provides the best possible coverage of the target population. However, the best possible frame may be different in each EU Member State. Moreover, the optimal choice may depend on the survey mode and budget constraints.

In theory, for national population surveys, the optimal frame would be a list of all the residents of a country that belong to the target group. Not all countries have such lists, however, and, even if they do, they may not be complete, accurate, up-to-date or accessible for survey purposes. Examples of such lists are population registers and election registers, though the latter will be limited to people eligible for voting, which excludes the lower age group of 15- to 18-year-olds, which are part of the recommended target population of prevalence surveys.

A complicating factor is that these registers often are not centralised but can only be accessed at the level of many administrative units, which for practical reasons may require two-stage sampling (first on administrative units, then on individuals).

Telephone registers are also widely used, particularly since CATI has developed into a fast and low-cost survey mode. Apart from complications due to the CATI mode itself and the often unknown coverage of the population by telephone lists accessible to researchers, using telephone registers always implies a two-stage sampling process. In the first stage random phone numbers are selected, but, as these relate to households, a second stage is needed to select an individual within the household. This final selection, however, is left to the person who answers the telephone (albeit with a randomisation instruction provided by the interviewer) and may create an uncontrollable bias towards a random sample.

If registers are not available or cannot be used, a generally accepted alternative is to create a sample frame. A common example is so-called random route sampling, which consists of a multi-stage combination of methods. For example, a random selection of area units, with or without proportionality to (population) size, is followed by random selection of starting points and routes for random walks within units, systematic selection of dwellings along the routes and systematic selection of individuals among the inhabitants of the dwellings. There are many variations on this model and the selection processes and rules can become quite complicated, sometimes involving the construction of auxiliary enumeration lists (e.g. dwellings within blocks, inhabitants of dwellings).

It should be mentioned that the common practice of selecting only one person in each household (as in the case of CATI surveys) results in an underrepresentation of people in large households. In many cases this cannot be corrected in subsequent weighting procedures, as information about household size in the population is often not available. A feasible solution is to ask about household size in the survey and include inversely proportional weights in the assessment of population estimates.

The important issue here is that no sample frame is perfect and perfect probability sampling does not exist. Any sample frame will have imperfections which need to be addressed. Sometimes this can remedied by introducing mechanisms for overcoming or reducing imperfections, such as making additional samples based on other frames in order to select individuals which may not be represented in the original frame. Acknowledgement of imperfections in sample frames always implies assumptions about the effects on population estimates. In any case, imperfections, remedies and their likely effects need to be accounted for in the sampling design and should be reported in the technical survey report. In this context, it is useful to distinguish between frame bias and frame errors.

Frame bias relates to technical or theoretical imperfections regarding the accurate coverage of the target population; for instance, the fact that some people by definition are not included in the frame or by experience or general assumption are missing or underrepresented in the frame. Examples of this could be the exclusion of foreigners from electoral registers or homeless, prisoners and soldiers from population registers (it may be that they are registered but may not be found at their registered address).

Frame errors refers to imperfections encountered in the field, such as non-existent addresses or people no longer residing at their registered address.

Implementation of sampling

The appropriate choice of sampling frame and sampling method does not necessarily result in an accurate probability sample. The actual implementation of operational sampling procedures and rules in the field can play a major role as well.

Fieldwork is human work and therefore prone to error, so a perfect sample on paper could be less than perfect in the execution of the fieldwork. Sometimes practical circumstances can necessitate deviations in sampling rules (e.g. deviation from pre-assigned random routes due to blocked roads), interviewers in the field can make mistakes (e.g. an address not found or a wrong address selected) or some stages in the sampling may be left to the potential non-controllable bias of others. For the latter, see the example in 'Telephone surveys' above, but the same can apply when the sampling rules include enumerations of dwellings in housing blocks taken from key informants.

An important and often neglected deviation from the theoretical sample design may be brought about by the economics of fieldwork. Fieldwork contracts are usually based on the completion of a set number of interviews. Interviewers are usually paid for completed interviews and, for practical reasons, they receive multiple sample addresses at the same time. As there will be many addresses where, at first call, nobody can be accessed, the initial waves of the survey will result in responses from people who are more likely to be at home than others. If these initial approaches result in the contracted number of completed interviews, the effect will be a bias towards those people who are more likely to be often at home. Common remedies are to instruct interviewers to visit addresses at different times and to hand out only limited numbers of addresses at the same time. However, most agencies will stop the fieldwork when they assume that the completed interviews are representative of the target population on the basis of some criterion variables (usually gender, age and/or locality). The net effect is that quotas creep into a nice probability sample, leaving the bias of the 'not-at-home' characteristics of the sampled population.

This type of deviation is difficult to avoid. Remedies can be costly and field agencies are not always willing or able to reveal the details of the actual implementation of the fieldwork. It is not in the interest of agencies or interviewers to state that they have mainly approached the 'easy' addresses (i.e. those directly resulting in completed interviews) and the client is usually happy if the response is proportional to known distributions (age, gender, etc.) in the target population. Asking for statistics about date and time of interviews and whether interviews were accomplished at first, second or later attempts can indicate the probable degree of such bias and should therefore be standard practice.

To summarise, a perfect probability sample on paper is not always a perfect probability sample in real life. Even if we accept that imperfections due to implementation cannot be fully avoided, their possible effects need to be addressed in the sampling design and accounted for in the technical report.

8. Data management

As already described in section 6, it is usually fieldwork agencies that implement a survey and deliver the data obtained from it. The researchers should think beforehand about the format of the data and how they want these to be delivered by the fieldwork agency. It is advisable to make quite specific arrangements about the data that the fieldwork company is to deliver, as they will not automatically deliver the file in the format that the researcher would like to have it in. For example, variable names and codes can differ from those on the questionnaire (designed by the

researchers). Response codes may also each be delivered as a separate variable, particularly with CATI and depending on the program used. More important are the specifications for missing values and the procedures used to clean the data. When no clear arrangements are made, the initial data handling can take a lot of valuable research time.

Below we briefly discuss two issues of relevance regarding data management: weighting and handling missing values.

Weighting

Surveys are carried out to obtain values of the variables in the total target population. As surveys are based on a sample of the total population, survey results are only estimators of population values and we need to account for sampling and response biases. This process is called 'weighting' and should not be omitted when presenting survey results.

As described above for probability sampling, weighting is based on statistical computations that do not require assumptions about the distribution of the population. However, as sampling is usually not perfectly random, in many cases it is still necessary to consider assumptions about the effects of possible sampling errors and biases.

A description of the type of weighting methods applied and to which sample characteristics they were applied should be considered mandatory in any survey report.

Missing values

Respondents do not always answer questions in the way the survey designer expects. This can be because the respondents may not want to answer particular questions, may not understand a question, may skip a question accidentally or may assume that the question does not apply to them. As a result, survey data will include missing values or inconsistent values.

The number of missing values and inconsistencies can be reduced by choosing an appropriate mode and questionnaire design, but they cannot always be avoided. This is particularly true for postal surveys, where there is no possibility of intervention by an interviewer or of a computer program guiding the respondent through the questionnaire thus avoiding unwanted skipping of questions or drawing attention to inconsistencies in previous answers.

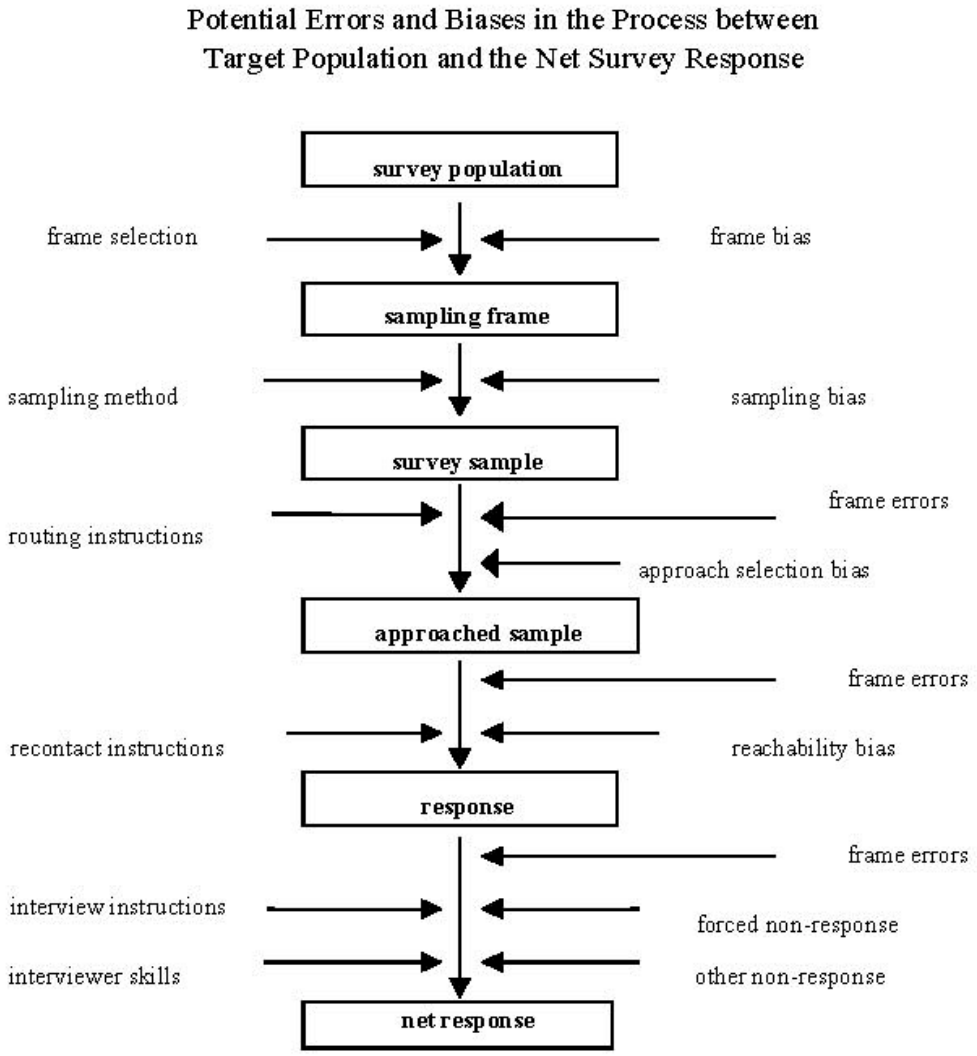
Both field agencies and researchers will try to reduce the number of missing values by correcting the survey data to some extent, either by recoding a skipped question to a 'don't know' category or a category consistent with a previous answer (for example, if 'no' is answered for lifetime prevalence and the questions on last 12 months and last 30 days are left unanswered, they may be recoded to 'no' as well; see Chapter 1).

There are no uniform solutions for handling these problems and some researchers may even decide to delete records with such missing or inconsistent answers. Whatever happens, the method of handling missing values should be accounted for, both when corrections are made to the original data and when cases are deleted from the original data file.

9. Data accountability (data documentation requirements)

The overall procedures used in the implementation of the survey and subsequent data management need to be clearly written down by the fieldwork company (if applicable). Such an account should contain both a process as well as a response account. Ideally, this should be represented as part of a full technical report, which describes the problems encountered during the implementation of the survey, the way in which these problems have been solved and, last but not least, a full account of the response. Again, such a report is not always automatically presented and consequently many aspects of survey bias cannot be evaluated properly.

The scheme presented below can be used as a guideline for the reporting of both process and response accounts.



Data collection

Survey control also includes specific rules about how to handle unexpected problems that may arise during the survey process and in particular whether or not the commissioning researchers will be involved in the decisions made to solve the problems. It can be very frustrating if you only find out afterwards that some aspects of the survey have not been executed as originally agreed. We recommend, therefore, that the commissioning researchers at least ask the fieldwork agency to clearly indicate the following characteristics of the data collection process:

- the frame used
- description of potential frame bias
- sampling method (including definitions of terminology)
- description of potential sampling bias
- routing of interviews
- recontact procedures
- replacement procedures

Response and non-response

As minimum standards, we recommend that the following parameters should be specified:

- (estimate of) size of target population
- initial size of survey sample (total and per stratum/cluster if applicable)
- final sample size (initial size plus added samples or replacements)
- number of frame errors encountered
- size of sample actually contacted
- non-response by type of non-response
- net response

In addition, the following issues should be discussed in the survey's technical report. In some cases elaboration of these issues will enable the computation and clarification of some of the parameters listed above (sample size, non-response…).

- Sampling design, including sampling frame(s) and sampling methods (including the number of selection stages and clusters and the selection method applied at each stage). Specific mention of any groups oversampled. Information about selection methods applied for any booster samples (since this often differs from that in the main sample).
- Mention of total sample size (N), net response –number of interviews- (n), and number of cases (persons and/or households) in the sample at various stages of selection.
- Indication of the representativeness of the sample and the key criteria applied.
- Information on how the sample design has been implemented and on any problems experienced during the fieldwork (for example, multi-stage sampling may have been attempted and quota sampling may have resulted).
- Specification of response/non-response distribution. The reporting of response rates is often ambiguous, unclear or imprecise, thus causing problems of comparability. Reported rates may not be based on the initial sample and may therefore be higher than the original rates. This problem can be partly overcome by clearly indicating how the response rate has been calculated and what follow-up procedures, if any, have been applied. Response rates can be harmonised according to the following formula:

  response rate = number of interviews x 100 / N –frame errors

  'N –frame errors' equals the total sample actually approached, including addresses where no contact could be made due to absence of the respondent.

  There are different methods of response calculation. We recommend always calculating the rate as net response divided by total sample size (N) minus frame errors. This will mean that non-contacts will be included in the denominator as well as refusals, etc.

  In non-postal surveys, this will yield lower rates than calculating response rates on the sample of actual contacts, which only excludes refusals, people not able to respond, etc.
- Provide any estimates of sampling errors that have been calculated, particularly for the prevalence measures, and specify the calculation method applied.
- Describe the steps taken to minimise non-sampling errors (i.e. in drug use prevalence estimates).
- Analysis of non-response is important, as non-response can cause systematic underestimation of drug use. It is advisable to analyse whether total non-responders and item non-responders differ from the responders, whether the non-response is randomly dispersed, and whether it has caused bias in the sample. If methods have been used to deal with non-response, these methods and the criteria applied (e.g. age, gender) should be stated.

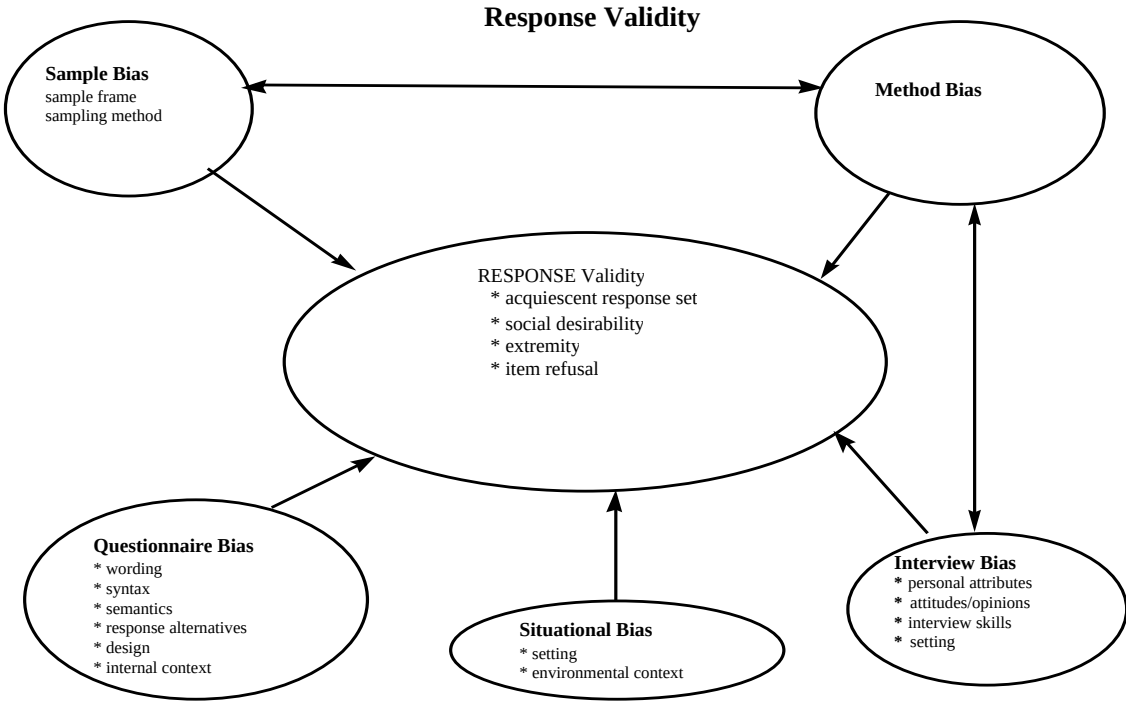
In practice, every survey will encounter non-response, even when all the quality criteria of the survey process have been satisfied. It is always important to investigate the characteristics of people who fail to respond, since it is generally assumed that non-responders differ from responders. If the former would have scored especially high or low on key dependent variables, their non-response is a source of bias for the sample, and hence for the survey results. It is

generally easier to get information about non-responders in face-to-face interviews and telephone surveys than in mail surveys, since, in the latter case, the only reliable conclusion is that they failed to take part. Non-response can occur when targeted respondents do not belong to the target group, have no time or willingness to participate, cannot be contacted or are too ill or otherwise unable to participate. Some knowledge is already available about which groups are less likely to take part; namely, those at the lowest and highest socio-economic levels of society. This can be partially overcome by oversampling or other corrective measures.

Technical report requirements

A description of the study design is always very important, but this is often forgotten or inadequately formulated. It is advisable to include the following information:

- the organisation commissioning the survey, the contractor and the fieldwork organisation(s)
- the objectives of the survey
- a definition of the target group (and age range), and specific mention of which people have been excluded and why
- an estimate of the size of the target population (as an indication of the appropriateness of the sample size)
- the context in which the questions on drug use were posed (i.e. within a single-, multi- or general-purpose survey)
- how frequently surveys are conducted (i.e. ad hoc, periodically or tracking)
- the geographical areas covered
- total duration of the study
- mode(s) of interviewing and period of data collection
- in periodic or tracking surveys, specific mention of any methodological changes and of any adjustments made to the data to accommodate them
- interviewer information (characteristics, training, supervision)



For references related to this section, please see page 118.

5
ANALYSIS OF PREVALENCE SURVEY DATA

ANALYSIS OF PREVALENCE SURVEY DATA

An increasing number of researchers have many years of experience in the field of general population surveys on drug use, both regarding methods of data collection and statistical analysis. Their knowledge has grown over the years and they now have a better 'Fingerspitzengefühl' for the nuts and bolds of this research field and of proper presentation of findings than at the start of their professional career. This is particularly true for researchers from countries with a relatively long history of illicit drug use and a tradition in general population surveys on this subject. There are also 'newcomers' in this field, countries with a relatively short history of illicit drug use and no tradition yet in general population surveys on this subject, as well as new and often young researchers. Ideally, these newcomers should not begin from the bottom, but should avoid the mistakes made by other researchers and in other countries in earlier years.

This chapter intends to address both audiences. Four levels of analysis will be discussed: (1) proper reporting, (2) advanced techniques, (3) relationships and (4) theory-driven analysis.

It should be underlined that population surveys have very broad analytical possibilities, which depend in part on the objectives of each survey. In turn, the survey's objectives will determine the amount and scope of information collected from each participant through the questionnaire. This chapter cannot be exhaustive in presenting all analytical possibilities, but just it gives some examples for each level of analysis identified above.

1. Proper reporting

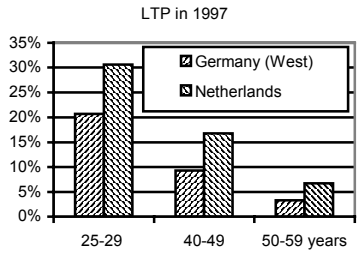
Proper reporting predominantly refers to descriptive analysis, the focus of which is on problems regarding comparability of survey findings, both over time (within a country, region or city) and cross-nationally. Using standardised concepts is a prerequisite for comparability. As has been concluded in Chapter 2, standardised prevalence rates should include lifetime prevalence (LTP), last year prevalence (LYP) and last month prevalence (LMP). These concepts can be phrased differently in order to improve the readability of reports.

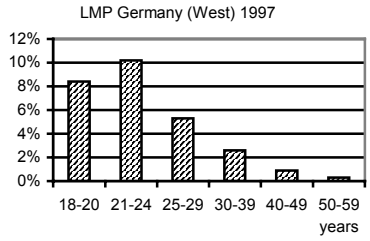
- **Abstainers**: respondents who have never used a certain substance (100%-LTP)
- **Recent users**: respondents who have used a certain substance during the last 12 months (LYP)
- **Current users**: respondents who have used a certain substance during the last month (LMP)

Proper reporting should take into account that prevalence rates may vary with age and gender. In addition to prevalence, concepts like continuation and discontinuation can be helpful in describing the dynamics of drug use within a population. Moreover, the problem of item non-response should not be avoided when reporting on the prevalence of drug use among the general population.

Standardised prevalence rates: age and gender

Illicit drug use is strongly related to age. A major pitfall for cross-national comparisons is that they





do not take into account that prevalence rates refer to different age groups. Therefore, *a standardised age range is a prerequisite for accurate comparisons*.

For example, LTP (lifetime prevalence) for cannabis in Germany (West) in 1997 was 13.4% (Kraus and Bauernfeind, 1998), which is quite close to the Dutch rate (15.6%) for the same year (Abraham et al., 1999). However, in the German survey the target population consisted of respondents aged 18–59 year, while the Dutch survey targeted a population of 12 years and older. Thus, the Dutch survey included age categories that generally have low LTP (seniors/elderly in particular), but these were excluded from the German survey. The differences between the German and Dutch figures for similar age categories appear to be larger than is suggested by the overall LTP rates.
What is the most appropriate age range? We have concluded that illicit drug use is strongly related to age and this is particularly true for current use. According to the 1997 data for Germany (West), LMP (last month prevalence) for the total population (18–59 years) is 3.0%. However, the distribution does not show a bell curve – in fact, it is rather skewed. LMP is relatively high among adolescents and young adults and very low among older adults. This means that the overall LMP is a fairly artificial figure.

By 'spreading' prevalence rates – concentrating on a relatively small age range – over a relatively wide age range, differences between countries or over time within a country could largely disappear (possibly leading to non-significance or low significance).

Prevalence rates for illicit drugs are usually higher for males than for females. Therefore, *prevalence rates should be reported separately for males and females*.

Lifetime prevalence of some illicit drugs in England and Wales in 1998 (age 16–59, by gender)

Drug	Male	Female	All
Cannabis	31%	20%	25%
Amphetamines	13%	8%	10%
LSD	7%	3%	5%
Ecstasy	5%	3%	4%
Cocaine	4%	3%	3%
Any drug	38%	27%	32%

Source: Ramsay and Partridge, 1999

Continuation rates

In addition to prevalence rates and associated concepts (abstainers, recent users and current users), the following concepts can be helpful in describing drug use within a population. They have in common that they give more insight into the dynamics of drug use.

- **Quitters**: respondents who have ever used a certain substance, but not in the past year (LTP–LYP).
- **Recent continuation rate**: the proportion of users ever of a particular substance (LTP) that did so during the last 12 months (LYP); in formula: (LYP/LTP) * 100%.

- **Current continuation rate**: the proportion of users ever of a particular substance (LTP) that did so during the last month (LMP); in formula: (LMP/LTP) * 100%.
- **Recent discontinuation rate**: the proportion of users ever of a particular substance (LTP) that did not use that substance during the last 12 months (LYP); in formula: {(LTP-LYP)/LTP} * 100%. 'Recent continuation rate' thus calculates the proportion of quitters among the users ever.
- **Current discontinuation rate**: the proportion of users ever of a particular substance (LTP) that did not use that substance during the last month (LMP); in formula: {(LTP-LMP)/LTP} * 100%.

Note: the value of continuation and discontinuation rates is between 0% and 100%. The sum of continuation rate + discontinuation rate = 100%. Since both rates are proportionate to LTP, they can be higher than the LTP rate. In the example below, the recent continuation rate for Drug B is 40.0%, while LTP is 25.0%.

Example
The table below gives hypothetical information on three drugs.

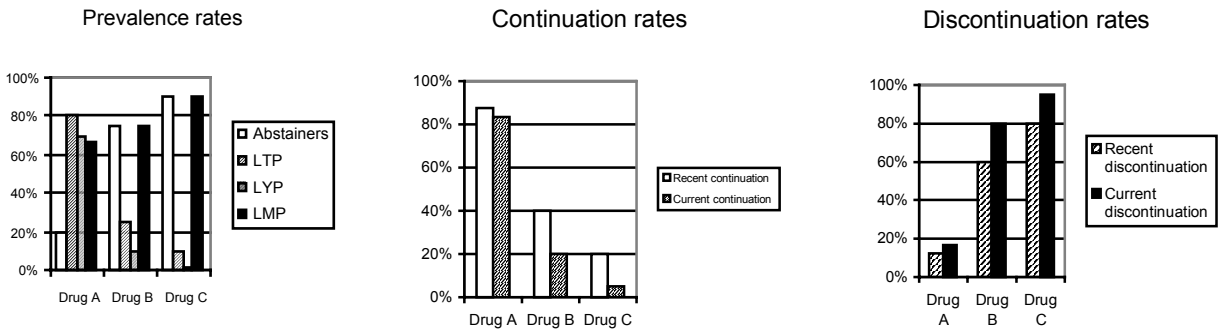
Many respondents report having ever used Drug A, somewhat less do so for the last year, and a slightly lower percentage report last month use. Both recent and current continuation rates are high. Drug A is typically a substance that is widely used and many people go on using this substance once they have started.

Far less respondents report having ever used Drug B, substantially less do so for the last year, and an even lower percentage report last month use. The recent continuation rate is moderate and current continuation rate is relatively low. Drug B is typically a substance that is not widely used and many people do not go on using this substance once they have started.

A minority of the respondents report having ever used Drug C, substantially less do so for the last year, and a very small percentage report last month use. The recent continuation rate is low and current continuation rate is even lower. Drug C is typically a substance which most people do not try, while those who try this substance often quit using it.

Prevalence, continuation and discontinuation rates for three drugs (hypothetical case)

	Drug A	Drug B	Drug C
LTP or ever use	**80.0%**	25.0%	10.0%
LYP or recent use	**70.0%**	10.0%	2.0%
LMP or current use	**66.7%**	5.0%	0.5%
Abstainers	**20.0%**	75.0%	90.0%
Recent continuation rate	**87.5%**	40.0%	20.0%
Recent discontinuation rate (or: quitters)	**12.5%**	60.0%	80.0%
Current continuation rate	**83.4%**	20.0%	5.0%
Current discontinuation rate	**16.6%**	80.0%	95.0%



Item non-response

It is quite common for respondents not to answer all the questions in a questionnaire (Witt et al., 1992). Item non-response on drug questions is often regarded as problematic, as it might conceal actual drug use. Most surveys do not include a category 'don't want to answer' for individual questions. Missing values might be considered suspect for underreports of drug use.

To some extent this problem can be solved, for example by using more sophisticated interview modes and by recalculating missing answers. A consistent differentiation between logically skipped questions (due to the internal referral system of questionnaires) and 'normal' missing values immediately reduces the initial item non-response considerably.

A general conclusion drawn from analysing reports of general population surveys on drug use is that, even after correctional data manipulation, for some substances a relatively large number of missing values still might remain. This is particularly true for substances which generally have low prevalence rates, such as heroin and LSD. Sometimes respondents that do not answer such a question outnumber respondents that respond that they have used the substance.

Example
In a preliminary analysis we conducted on a data file that included over 40 000 respondents from various European countries, 255 reported LTP of heroin, while 482 did not answer the question. In this case, excluding the missing values from the analysis has hardly any impact on the LTP rate. However, it could theoretically be argued that missing values reflect the social undesirability of heroin use and consequently that 'no answer' actually stands for 'yes'. Under this assumption, the total number of users ever of heroin would be 737 (255 + 482). Consequently, the LTP of heroin use would triple (from 0.6% to 1.8%).

There appears to be no conclusive solution for the item non-response problem. However, several steps can be taken to refine the process of reporting on the prevalence of drug use. Each step can help to improve the understanding – and ideally also the validity – of self-reported prevalence rates.

The first step would be to compare item non-response rates cross-nationally. If item non-response rates are similar across countries, we did not solve the problem of validity of national prevalence rates, but we do have better reasons for cross-national comparison of self-reported prevalence. The same is true for trends in use over time within a country. If national item non-response rates are fairly stable over the years, we have better reasons for longitudinal comparison of self-reported prevalence.

The second step would be to profile the respondents concerned. One hypothesis could be that item non-response is not restricted to drug use, but is a more general feature that also applies to non-threatening items. In this case, it would appear appropriate to exclude respondents with a high score on item non-response from the data file. Another hypothesis could be that item non-response to drug use questions is predominantly a feature of non-users (Hauge, 1987), for example the elderly. They may simply skip questions that do not apply to them. In this case, item non-response would be similar to non-use. Doing such analysis could also provide a better justification for the general procedures for handling inconsistent answers as presented in the main report of the previous project.

The third step would be to do an analysis based on the general hypothesis that the validity of self-report increases with the social acceptance of the substance (Harrison, 1992). This hypothesis can be explored by comparing item non-response for different substances (from a highly accepted substance such as alcohol to a socially unacceptable substance like cocaine) as well as for different countries.

2. Advanced techniques

We have discussed how continuation and discontinuation rates can easily contribute to a more sophisticated picture of patterns of use. However, continuation may be confused with first use (incidence) and then represent 'false' continuation rates. In this section we present a statistical

procedure that makes it possible to test for such a confusion. In addition, we discuss how survival analysis can be helpful in testing if apparent trends in drug use are real trends.

Continuation and incidence

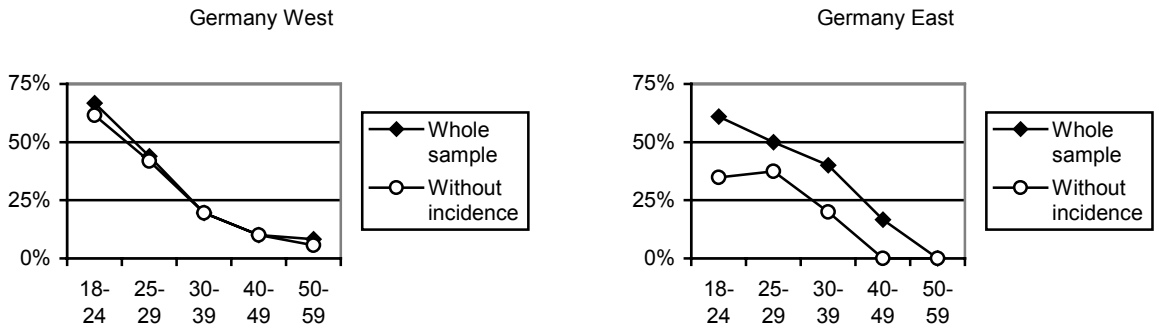
There may be differences between countries, and changes over time within a country can vary with regard to the level of people who try illicit drugs and people who continue to use them. In general, continuation rates differ with respect to age. First use of illicit drugs usually takes place during adolescence and early adulthood. The common pattern is that the majority of 'ever' cannabis users do not continue using hashish or marijuana or stop using it when they are in their late twenties or early thirties. Bachmann et al. (1997) point out that getting older and identifying with adult roles (e.g. becoming parents or getting married) can be incompatible with cannabis use.

A complication is that continuation includes two elements: (1) 'real' continuation: respondents who started some time ago and are still using; and (2) 'false' continuation: respondents who have just started and automatically also report LYP (and LMP of they started last month). Obviously (2) refers to incidence. Testing such a muddle presumes that data on age of onset is available, by comparing continuation rates for the whole sample and for the sample without incidence cases (for example, calculated from age of initiation and current age). This can be done for different age categories.

The procedure for correcting inconsistencies for recent continuation could be as follows. Data with age of onset equal to current age are excluded from the analysis. For 'real' continuation the sample includes all ever users and all past year users. For 'false' continuation the selection of individuals can be done differently. Incidence cases can generally be excluded or can be excluded from the calculation of last year prevalence. If all incidental users were generally excluded from the calculation, the sample size of both methods would differ and the continuation without any confusion of incidence could not be directly compared as a means of estimating the influence of incidence on the concept. Secondly, we already know that the incidental cases do contribute to the rate of prevalence, we just do not know whether they will continue consuming or not. For the above reasons, the incidental users should be included in the sample of ever users but excluded from the sample of last year users.

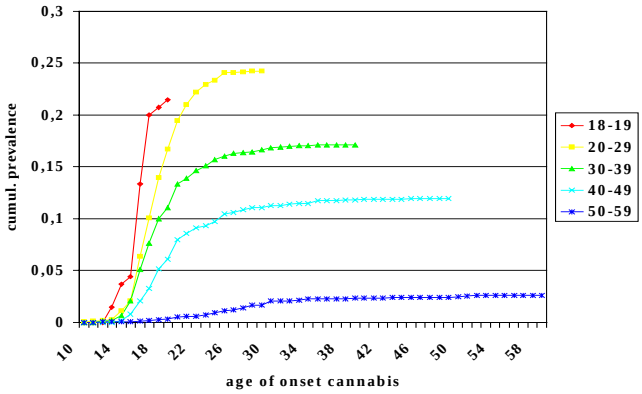
Example
Ludwig Kraus applied this procedure to unweighted data on cannabis for different age categories in Germany (West and East), by comparing recent continuation rates for the whole sample and for the sample without incidence cases (calculated from age of initiation and current age). The graphs below show the recent continuation rates for both calculation methods. With regard to Western Germany, hardly any difference between the two methods can be seen. However, correction for incidence shows rather lower recent continuation rates for Eastern Germany.

Continuation rates for cannabis in Germany, by age (unweighted data)



Age of onset: Survival analysis

Changes in lifetime prevalence rates over time might be due to an increase in experimenting with drugs among adolescents and/or among adults. Such developments can be visualised by curves displaying the cumulative lifetime prevalence of cannabis use (Y) by age of onset (X) for consequent survey years. These curves complement the survival function, which gives the probability that a person will survive longer than some specified age without using a particular drug. The survival function gives the conditional probability (hazard rate) of beginning to use a particular drug at each year of life, given that the person has never used that drug until this age.



Age-specific survival functions allow testing of a hypothesis such as: Are today's young people more involved in cannabis use than before? Kraus et al. (1998) showed that, for Western Germany, the age of onset had not changed but the number of people getting involved with drugs increased at a proportional rate in all age groups.

3. Relationships

Two important questions in the analysis of general population survey data are: Are patterns in drug use consistent over time? Are trends and patterns country specific or are they culturally independent and more similar than different between European countries? Questions like these can be explored from different perspectives. We will discuss four of them: the drug pyramid, multi-drug use, the gender gap, and distribution of drug use.

The focus here is on relationships between variables, either within or across countries. For example, gender differences may be country specific or similar in most countries. Exploration of relationships predominantly refers to bivariate and multivariate analysis. This level of analysis generally leads to ad hoc explanations, though it can also generate hypotheses and evolve into theory-driven analysis.

Before we present the four perspectives, it is important to mention a general methodological problem regarding relationships between drug use and other variables. In general population surveys, most illicit drug use reported refers to the past, LTP in particular. It is not uncommon to relate LTP to characteristics of today. This might produce fallacies, such as 'experimenting with cannabis predicts upward social mobility'. To conclude, current drug use should generally be analysed in relation to other current characteristics.

The drug pyramid

All over Europe, alcohol and tobacco are much more widely used than illicit drugs. However, using illicit drugs is not totally separate from using licit drugs: people who take illicit substances also take licit ones. In general, people do not just randomly experiment with drugs. Many studies have shown that people who use illicit drugs have also taken licit drugs. Moreover, the use of certain licit drugs, alcohol and tobacco in particular, often precedes the first use of illicit drugs. The sequence of experimenting with drugs can be visualised in the shape of a pyramid. There are two ways to construct such a pyramid.

A relatively simple approach is to develop a *general pyramid*, based on the ranking order of the LTP of individual drugs. The lowest and widest layer of the pyramid covers the substance with the highest LTP rate, while the highest and smallest layer of the pyramid covers the substance with the lowest LTP rate. When licit drugs are included, alcohol will commonly make up the

lowest and widest layer, followed by tobacco as the second lowest layer. When the pyramid is restricted to illicit drugs, cannabis will commonly make up the widest layer at the bottom, while heroin will be found in the smallest layer at the top.

A more advanced approach is to construct a '*sequential pyramid*'. Unlike the general pyramid, which is based on aggregate data, the sequential pyramid is constructed of individual scores. In order to be included in the next layer of the sequence, the respondents must also have used the substance at the layer below. Often, the structure of the sequential pyramid will be identical to the general pyramid, in the sense that cannabis is at the bottom and heroin at the top.

Both general and sequential pyramids can also be constructed for LYP or LMP. However, prevalence rates for illicit drugs other than cannabis are often relatively small. This will generate substantial problems, particularly when the sample is small. Slightly different numbers could change the structure of the general pyramid.

Example
An LMP rate of 1% for drugs other than cannabis is relatively high in a general population survey. In the case of a sample of 1 000 respondents, with 9 respondents reporting the use of ecstasy in the last month and 11 the use of cocaine, the latter would constitute a higher layer in the general pyramid than ecstasy. However, if 11 respondents report having used ecstasy in the last month and 9 do so for cocaine, ecstasy would constitute a higher layer in the general pyramid than cocaine.

Hypothetical example of general pyramid

In general, the top of the pyramid will be quite small relative to the bottom. Moreover, the second lowest layer of the pyramid will generally be much smaller than the lowest. In the general population, the majority of ever cannabis users have not tried other illicit drugs and only a small proportion of cannabis users has also consumed the second illicit drug.

The structure and shape of both the general and sequential pyramids may show changes over time within a country and may vary considerably between countries for both sorts of pyramids. For example, ecstasy may be the second illicit drug in one country while in another country it is cocaine, or in a particular country cocaine may have been the second illicit drug in the 1980s while ecstasy is in the 1990s.

Example
When the general pyramid is restricted to illicit drugs, the shape can be calculated by dividing the number of users of the other substances by the number of cannabis users (which is not the same as calculating the proportion of cannabis users who have also used the other substances).
Choosing the pyramid approach is a relatively simple way to illustrate the importance of general population survey data for policymakers.

Example
The sequential pyramid can illustrate which proportion of cannabis users has tried ecstasy, cocaine, heroin, etc. When the majority of cannabis users has tried heroin as well, this indicates

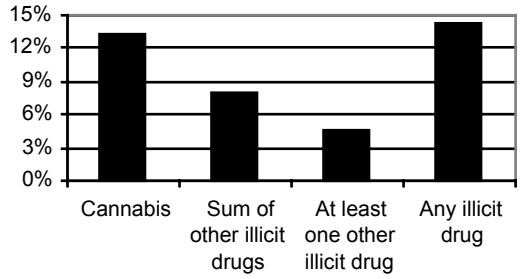
an overlap between both drug markets. However, when only a very small minority of those who have ever used cannabis has tried heroin as well, this suggests that the cannabis market is relatively independent of the heroin market.
Using the pyramid model can also generate new research questions. Cannabis is generally believed to be taken by means of smoking. However, a preliminary analysis of survey data from various EU Member States by François Beck revealed that not all current cannabis users are currently smoking tobacco. This was particularly true for England and Wales, where about one quarter of current cannabis users reported that they were not a current smoker. This raises questions on both the validity of self-reported smoking behaviour and the route of administration of cannabis (Is it smoked without tobacco? Is it taken orally? Do routes of administration of cannabis show cross-cultural differences within Europe?). Moreover, among current cannabis users the tobacco abstainers and quitters generally appeared to use less other illicit substances. This suggests a distinct type of cannabis user.

Multi-drug use

Using drugs often implies the use of more than one substance (alcohol and tobacco, tobacco and cannabis, etc.). Since multi-drug use is not uncommon, we cannot simply add together the prevalence rates of individual substances.

For example, in the 1997 survey of Germany (West), the LTP for cannabis was 13.4%. The sum of LTP rates for other illicit drugs was 8.0%, but in total 4.5% reported LTP of at least one of the other illicit drugs. Moreover, most of the latter respondents also reported LTP of cannabis. The total LTP of any illicit drug was 14.2%, which is only slightly higher than the LTP of cannabis (Kraus and Bauernfeind, 1998).

Lifetime prevalence in Germany (West), 1997



Source: Kraus and Bauernfeind (1998)

Multi-drug use can be serial (first one substance, later another) or simultaneous (on one occasion). The best option is to analyse data on simultaneous use of different substances, but such data are often not available. Often the most appropriate alternative will be to focus on current use (LMP). A practical problem here is that LMP rates for illicit drugs other than cannabis are generally rather low, and low numbers set a limit to statistical procedures. One alternative could be to construct a variable 'LMP of illicit drugs other than cannabis'. Another alternative is to compare multi-drug use for adolescents and young adults, since current drug use is largely concentrated in the younger age categories. Factorial analysis is a potential method. An interesting example can be found in the report on a Spanish survey, which resulted in four distinct 'use patterns'. Doing this factor analysis in consecutive years and including age categories in the rotations might reveal shifting patterns by age and over time.

The gender gap

As has been mentioned before, prevalence rates for illicit drugs are usually higher among males than among females. Explanations for this gender difference are often ad hoc and rarely theory driven. With regard to the issue of prevalence among females, a not uncommon 'theory' is that

emancipation has brought about converging use patterns. We believe that, at this stage in the social epidemiology of drug use, a more in-depth exploration of the gender issue is more appropriate than a theory-driven approach.

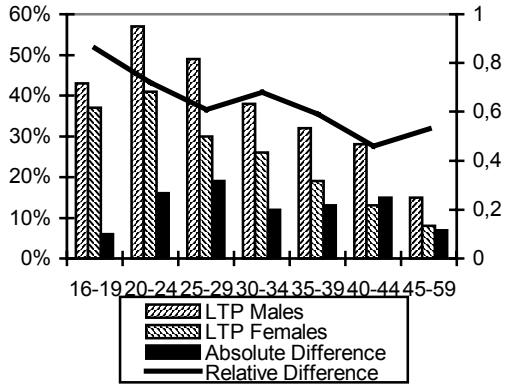
In the context of the relationship between gender and drug use, three issues seem to be significant:

- substance specificity
- similarities and differences across countries
- changes over time

Gender differences can be substance specific (e.g. females use less illicit drugs than males, women are similar to men regarding tobacco use and women use more tranquillisers than men). Gender differences in drug use may be similar across countries or country specific. Also, gender-specific differences may change over time. With regard to the latter, a not uncommon 'theory' is that emancipation has brought about converging use patterns. Consequently, one could investigate if the gap is narrowing over time, in general or in specific groups or only in some countries. In order to do this, the concept of 'gender gap' has to be defined (as an absolute or relative figure?).

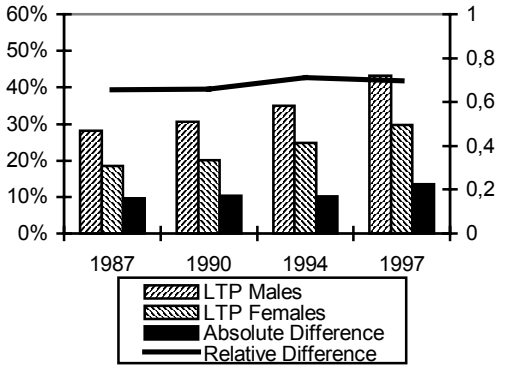
The graph below shows the LTP of cannabis for males and females in England and Wales in 1998, by age. The absolute difference varies between 6% and 19%, males always reporting higher LTP than females. No clear age-related trend can be observed. However, the relative difference indicates a converging age-related trend. The ratio of males to females reporting LTP of cannabis shows an increase from about 1:0.5 among respondents of 40 years and older to about 1:0.8 among respondents aged 16–19. Consequently, the gender difference in the LTP of cannabis in England in Wales is relatively smaller among adolescent girls and boys than between middle-aged men and women.

Cannabis and gender in England and Wales, by age



Source: Ramsay and Partridge, 1999

Cannabis and gender in Amsterdam, 1987–1997 (12+ years)



Source: Abraham et al., 1999

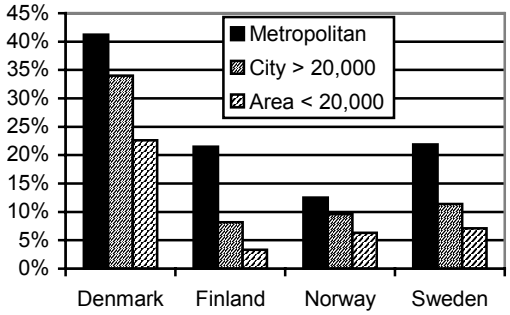
In the example for England and Wales, we took the age of respondents as an indicator of time. A more appropriate alternative is to analyse the development of the 'gender gap' by comparing data from a time series. For example, in Amsterdam, four household surveys have been conducted among the general population of 12 years and older. Again, prevalence rates for males are always higher than for females. The absolute gender difference indicates a diverging trend over time in Amsterdam, from 9.7% to 13.5%. However, the relative difference remained fairly stable over time (roughly 1:0.7).

It is important to note that, in the graphs above, we applied two values at the Y-axis. On the left side we used percentages (ranging from 0% to 60%), and on the right side we used a ratio (ranging from 0 to 1). In order to improve comparability, we applied the same ranges for both graphs.

Distribution of drug use

Several countries have reported higher prevalence rates for illicit drugs in urban than in rural areas (i.e. Hakkarainen et al., 1996).

LTP of cannabis use in four Nordic countries, by urbanisation (1993–1995)



Source: Hakkarainen et al. (1996)

To some extent, this finding may be an artefact of differential urban–rural age distributions, e.g. a relatively high proportion of students live in urban areas, and they move to rural areas when they have finished their studies. Consequently, changes over time in self-reported drug use within a country could be explained by changes in urbanisation. Also, differences in prevalence rates between countries may be an artefact of different levels of urbanisation. Moreover, it would seem to be plausible that highly urbanised countries have relatively high prevalence rates for illicit drugs.

The first analytical step to take in analysing this is to explore the relationship between urbanisation and prevalence over time. If urbanisation appears to be an important factor, this may explain longitudinal differences in prevalence rates within a country. From a cross-national perspective, it appears somewhat challenging to attempt to analyse to what extent differences between national prevalence rates reflect differences in urbanisation. This could imply a sort of weighting at a European level to produce standardised prevalence rates. Clearly, this approach assumes that the data files include an urbanisation (population density) variable. Since such a variable will often be country specific, we may have to apply a ranking order. Another approach would be to compare countries by correlating general indicators of urbanisation and prevalence rates at an aggregate level.

A second approach is to explore spatial diffusion as a developmental process. Assuming that drug use starts as an urban phenomenon, an increase over time in diffusion into rural areas can be expected. Because of the mobility of people, we can assume that LTP is not an appropriate indicator ([11]). LYP and LMP might be better indicators.

Thirdly, if drug use follows a central–peripheral pattern within a country, a similar process might apply internationally: from 'central' countries to 'peripheral' countries. In this case, national prevalence rates would reflect different temporal epidemiological stages. Again, because of the mobility of people, we assume that LTP is not an appropriate indicator ([12]) and that here LYP and LMP might well be better indicators.

([11]) If we compare LTP rates for consecutive years, the urban sprawl could be an intervening variable. In general it implies that upwardly mobile adults move to the countryside, taking their LTP – acquired during their younger city-based age (as students for instance) – with them. If so, the diffusion of drug use may only partially reflect this urban sprawl.

([12]) On an international scale, it could also be argued that increasing LTP in some countries just reflects increasing youth tourism to Amsterdam or Copenhagen. We are not aware of any surveys that ask for the (spatial) environment of early drug use.

4. Theory-driven analysis

Ideally, the analysis of general population survey data on drug use is theory driven, based on hypotheses deduced from a theory or model. The statistical analysis may range from rather simple bivariate to advanced multivariate methods. Within the framework of this Handbook it is not possible to discuss a wide variety of theoretical approaches to drug use. Therefore we will limit ourselves to two promising approaches: continuation rates from the perspective of drug, set and setting, and social bonding theory.

Continuation rates: drug, set and setting

Earlier in this chapter we discussed how continuation and discontinuation rates can be helpful in revealing patterns of use. From the toxicological literature we can learn that drugs have different levels of addictive potential. However, much of that literature is based on animal studies. For various reasons, findings from animal studies do not automatically apply to humans. From a social science perspective, drug use can only be understood when three major factors are taken into account: drug, set and setting (Zinberg, 1984).

Let us start by focusing on the 'drug' factor. If, from a toxicological perspective, drugs carry different levels of addiction potential, drugs with relatively low addiction potential would have low continuation rates, while drugs with a relatively high addiction potential would have high continuation rates. If 'drug' is the most dominant factor, continuation rates should be independent from set and setting. In fact, continuation rates should be fairly universal (consistent over time and no difference between countries). Consequently, there should be a kind of standard continuation rate – which may vary according to substance. The main hypothesis then is that an increase in LTP runs parallel – linearly or non-linearly – with an increase in LYP or LMP (similar to the Ledermann formula for alcohol: more drinkers mean more alcoholics).

However, when set and/or setting are more important factors, continuation rates may vary between groups as well as between countries. Labelling theory has a strong tradition in stressing the importance of social factors when explaining drug use, problem drug use in particular. The main focus of labelling theorists is on how the environment reacts to people's behaviour. According to Becker (1963), drug use – like rule breaking behaviour in general – is the outcome of a three-stage process: (1) making rules whose infraction constitutes deviance; (2) applying those rules to particular people; and (3) labelling them outsiders. Labelling people as deviant results in more deviance. This 'deviance amplification' may result in an individual accepting the label (secondary deviance; Lemert, 1967) and eventually lead to a deviant career. With regard to continuation rates, labelling theory can be the framework for a second kind of analysis. The main hypothesis would be that the more that illicit drug use is socially accepted, the lower the continuation rates will be. This hypothesis could be tested by analysing the development of continuation rates over time, within a country or across countries.

A third approach builds on the labelling theory, but emphasises availability. From an analysis of prevalence of cannabis use in Amsterdam in relationship to changes in Dutch cannabis policy, Korf (1995) has hypothesised that increased availability of 'non-stigmatising' leads to more experimentation with cannabis at an older age and higher continuation rates among respectable adults. This hypothesis could be tested by analysing longitudinal data within countries with (de facto) decriminalising policies as well as by cross-nationally comparing prevalence data from countries with contrasting policies.

Social bonding theory

One of the most influential theories in criminology is Hirschi's social control or bonding theory, which focuses on the question why so many people are not criminals. Whether individuals are law-abiding or deviant depends largely on four factors: attachment, commitment, involvement and belief (Hirschi, 1969). On several occasions, this theory – and its modern versions (i.e. Akers, 1998; Gottfredson and Hirschi, 1990) – has successfully been tested with regard to illicit drug use, both in the US and Europe.

Example
American researchers have examined the protective value of social bonds on the use of 'hard drugs' and tested whether certain social bonds have greater importance for some ethnic groups. Mexican-American students were more affected by family factors then were other groups. Asian-American students were affected by school failure. Use of hard drugs was lowest among African-American students, most probably because of their greater involvement with religion (Ellickson et al., 1999).

Drug use is associated with position in society. General population survey data could be used to reconstruct drug careers in relation to social careers or increased social bonding. For example, prolonged education – i.e. delayed involvement in work – could correlate with higher prevalence rates, while early marriage or late leaving of the parental home (i.e. commitment to and involvement in family) could go hand in hand with lower prevalence rates.

Differences in prevalence rates over time within a country or differences in prevalence rates between countries may, therefore, relate more to differences in social bonding combined with (young) age than to 'real' differences in prevalence. Or, using a more common concept in drug research, in some countries the process of 'maturing out' is slower than elsewhere and hence produces differences in prevalence rates.

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ANNEX 1

OVERVIEW OF SOME EXISTING GENERAL POPULATION PREVALENCE SURVEYS

This chapter gives an overview of general population surveys on drug use in Europe and the USA, focusing on the most recent surveys. In practice, this means predominantly surveys conducted in the 1990s. The information in this chapter is presented in table format to provide a convenient overview. For some surveys, some of the relevant information was unavailable; this is indicated by *n.a.* (not available) in the cell. In all the tables, 'year' is defined as the year in which the survey was conducted. A brief description of the categories is provided under each table.

Countries and surveys involved

'Country' is defined as the country surveyed. For surveys not covering the entire country, the region or city is specified in italics (Greece, The Netherlands and the United Kingdom). In general, we have not included any local or regional studies. We are aware that some national surveys may have been omitted, in particular those that have only been published in native languages and/or that have not been made public.

Most surveys deal with drugs (and/or alcohol) prevalence only ('single'), but sometimes measuring drug use prevalence is part of a survey with a wider scope or is embedded in a multipurpose survey. Regarding frequency, some surveys have been conducted uniquely on an ad hoc basis, but mostly they are part of a continuous series ('tracking'). The level of analysis varies from descriptive through causal inference to explanatory (Table 2.1).

In most cases, general population surveys on drug use are commissioned by national governments, ministries of health in particular (Table 2.2).

The interview mode is often face-to-face, and to a lesser extent mail or telephone. Although pen-and-paper methods are still common, there appears to be an increase in computer-assisted methods (CATI, CAPI), but computer-assisted self-completion (CASI) is still rare. Questionnaires are either completed by the interviewer or the respondent and rarely partly by the interviewer and partly by the respondent (Table 2.3).

Target populations vary with regard to age, with the minimum age between 12 and 19 years, and the maximum age from 59 years onwards. Sometimes certain categories are over-sampled, in particular regarding age (Table 2.4). In surveys of general populations on drug use, different sampling frames and sampling methods are applied.

Weighting of survey data is a fairly common procedure. In most cases this refers to age and gender. Less common weighting variables are: geographical characteristics (state, region or address density), kind of dwelling, household size, marital status and ethnicity (Table 2.5).

Sample size and net response vary considerably, often corresponding with the size of the target population. Response rates also vary considerably between countries, but differences in rates may be due to different concepts rather than real differences in response (Table 2.6).

Items and questions

The previous section summarised recently conducted surveys in Europe and the United States. This section provides an overview of the *questionnaires* applied. Not all questionnaires used in recent European general population surveys on drug use have been included here, as we were primarily dependent on questionnaires available in English. We have also included the French, German and Dutch questionnaires, since these languages were familiar to the project team. Despite this limitation, the selected questionnaires provided clear insights into the current practices of questionnaire design in Europe and the USA. Not surprisingly, the questionnaires differed both in the total number of questions included and in the items covered. For surveys in which the questions on drugs were part of a multipurpose questionnaire, such as the French and the British survey, we have analysed only those questions pertaining to drug use prevalence and related topics. We have grouped the questions around the following ten themes.

Prevalence of drug use
All the questionnaires reviewed include questions about cannabis use. Also, the vast majority include questions about ecstasy, cocaine, heroin, amphetamines and LSD. In general, questions about other illicit drugs are also included in the questionnaire. In addition, almost all the questionnaires reviewed include questions on alcohol and, to a lesser extent, on tobacco and pharmaceutical drugs.

Prevalence measures
In the case of illicit drugs, questions are generally asked regarding lifetime prevalence (LTP), last year prevalence (LYP) and last month prevalence (LMP). With regard to alcohol, prevalence measures are sometimes restricted to LTP only, or to LYP and/or LMP. The same is true for tobacco and pharmaceuticals – if questions on these substances are included in the questionnaire.

Frequency of illicit drug use
Questions asking about frequency of illicit drug use vary from country to country and may differ from year to year. In some countries, questions are asked on total frequency, frequency of use during the past year and frequency of use during the past month. In other countries, such questions are restricted to lifetime and last month.

Frequency of licit drug use
Asking questions about frequency of licit drug use is not uncommon but far from uniform. In the case of alcohol, it is unusual to ask questions about total frequency, frequency of use during the past year and frequency of use during the past month. Questions refer to number of times or number of days, average frequency of alcohol consumption or number of days in the last week.

Asking questions about frequency of tobacco use is less common and these tend to focus on frequency of smoking during the last month.

Questions about frequency of use of pharmaceuticals are not common. Sometimes they refer to the number of times in a lifetime, in other cases to the number of times last year and/or last month.

Quantity of drug use
It is unusual to include a measure on the quantity of illicit drugs in the questionnaires reviewed. The same is for pharmaceuticals and, to a lesser extent, for tobacco. Inclusion of a measure for the quantity of alcohol used is relatively common. Given cross-national differences in drinking (small versus large glasses, wine versus beer, ‘weak’ versus ‘strong’ beer), it is no surprise that questions vary considerably between countries.

Other items related to illicit drug use
Several of the questionnaires reviewed include questions on the age of onset, sometimes for all individual illicit drugs included in the questionnaires, sometimes for the first use of any illicit drug. Apparently it is not common practice to ask questions on multiple drug use (the use of more than one licit and/or illicit drug during a certain period, either on different occasions or simultaneously on the same occasion), on injecting, availability or the health effects of substance use.

Attributes
Regarding socio-demographic characteristics of respondents, all the questionnaires reviewed include questions on age and gender. In addition, they usually include questions on type of household. Questions on ethnic background are less common.

With regard to the socio-economic characteristics of respondents, all the questionnaires reviewed include questions on level of education and income. Questions on employment status are also very common.

Environment
Most of the questionnaires reviewed cover residential characteristics, such as number of inhabitants, typology of places or of residential area, duration of residence, and/or plans to move. Also it is not uncommon to ask questions about knowing drug users personally (such as parents, siblings, children). It is rare for questions on seeing drug users in the neighbourhood to be included.

Attitudes and opinions
In some countries, a number of questions are asked about attitudes and opinions, such as risk perception and opinions on drug addicts and drug policy, while in other countries such questions are not included in the questionnaires.

Lifestyle
In some countries, questionnaires include questions about 'going out' (entertainment) and/or social contacts (e.g. number of friends, visiting relatives).

OVERVIEW OF TABLES: Explanation of column headings

Table 2.1 General characteristics

context	'single' = survey dealt with drugs (and/or alcohol) prevalence only 'multi' = measuring drugs prevalence was part of a survey with a wider scope 'general' = prevalence questions were embedded in a multipurpose survey (e.g. omnibus)
frequency	'ad hoc' = a unique survey 'tracking' = survey was part of a continuous series aimed at identifying trends 'regular' = same survey had been done before, but not as part of a continuous series
level of analysis	'descriptive' = the analysis of results primarily described current situations or trends 'causal inference' = attempts were made to assess links between drug use and respondent's characteristics 'explanatory' = analysis was oriented towards systematic explanation of the phenomenon of drug prevalence (We have assessed the level of analysis on the basis of each survey report as published; this does not necessarily coincide with the intended aim of the survey.)

Table 2.2 Agencies and authors of published report

commissioner	authority or institute that initiated and commissioned the survey
contractor	institute or organisation responsible for the organisation and analysis of the survey
authors	authors of the report containing the survey results studied in the project

Table 2.3 Survey methods applied

survey mode	survey method used (sometimes different methods were used in the same survey)
mode details	indicates whether interview completion was by pen and paper (P & P) or by computer: either computer-assisted telephone interviews (CATI) or computer-assisted personal interviews (CAPI) (sometimes different methods were used in the same survey)
questionnaire completion	indicates whether the interviewer or respondent recorded the answers to the survey; where both interviewer and respondent completed parts of a questionnaire, it may be assumed that the respondent completed the more sensitive questions about drug use

Table 2.4 Target population characteristics

target population	population to be approached in survey, usually defined in terms of age groups
oversampling	indicates whether specific target groups were oversampled for some specific reason

Table 2.5 Sampling characteristics

sampling frame	frame(s) used to sample the target population
sampling method	method(s) applied to sample within the sampling frame(s)
weighting	indicates whether survey results were weighted to correct for sampling and response biases (if 'no', that could mean either that the response was considered representative of the target population, or that the results may not accurately reflect that population; if 'yes', survey results were representative of the target population)

Table 2.6 Sample characteristics

estimated size of target population	figures are presented in millions of people; in many cases the exact size of the target population was unknown or was not assessed
sample size	sample size as indicated in the survey reports (survey reports are not always clear on this subject; size may refer to the sample drawn from the frame, the sample actually questioned in the fieldwork or the sample that was approached, and in all cases it may either include or exclude known frame errors)
net response	number of people that responded to the survey questionnaire
response rate	percentage of sample size that responded to the survey questionnaire (differences in rates between countries may be due to different concepts of sample size rather than real differences in response)

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Table 2.1: General characteristics

Country	Year	Context	Frequency	Level of analysis
Belgium: *Flanders*	1995	Single	Ad hoc	Descriptive
Finland	1992 1996 1998	Single Single Single	Tracking Tracking Tracking	Causal inference Causal inference Causal inference
Nordic Countries: *Denmark, Finland, Norway, Sweden*	1993–95	Single	Ad hoc	Causal inference
France	1995 1999	multi-health survey multi-health survey	Tracking Tracking	Descriptive + causal inference Descriptive + causal inference
Germany	1995 1997 2000	Single Single Single	Regular Regular Regular	Descriptive + causal inference Descriptive + causal inference Descriptive + causal inference
Greece *Greater Athens*	1984 1998 1993	Single Single Single	Ad hoc Regular Ad hoc	Descriptive + explanatory Descriptive + explanatory Descriptive + explanatory
Ireland	1998 1999	general omnibus survey general omnibus survey	Ad hoc Regular	Descriptive Descriptive
Netherlands *Amsterdam* *Amsterdam* *Rotterdam*	1997–98 2000 1994 1997 1994	Single Single Single Single Single	Tracking Tracking Tracking Tracking Ad hoc	Descriptive + causal inference + explanatory Descriptive + causal inference + explanatory Causal inference + explanatory Descriptive + causal inference + explanatory Causal inference + explanatory
Sweden	1996 1998 2000	general omnibus survey general omnibus survey general omnibus survey	Tracking Tracking Tracking	Descriptive Descriptive Descriptive
United Kingdom: *England & Wales*	1996 1998	multi-crime survey multi-crime survey	Tracking Tracking	Causal inference + explanatory Causal inference + explanatory
United States	1994 1999	Single Single	Tracking Tracking	Descriptive + causal inference Descriptive + causal inference
Spain	1995 1997 1999	Single Single Single	Tracking Tracking Tracking	Descriptive + causal inference Descriptive + causal inference Descriptive + causal inference

Table 2.2: Agencies and authors of main survey report

Country	Year	Commissioned by	Responsible agent	Authors of published report
Belgium: *Flanders*	1995	Ministry of Health of the Flemish Community	Instituut Hygiëne en Epidemiologie (IHE) / Vereniging voor Alcohol en Drugproblemen (VAD)	Quataert, van Oyen (1995) Noels, Wydoodt (1996)
Finland	1992 1996 1998	Ministry for Social Affairs and Health Ministry for Social Affairs and Health Research & Development Centre for Welfare and Health (STAKES)	Department of Public Health, University of Helsinki Department of Public Health, University of Helsinki STAKES	Kontula (1995) Konula (1997) Partanen, Metso (1999)
4 Nordic Countries: *Denmark, Norway Finland, Sweden*	1993–95	Nordic Council of Ministers	Nordic Council for Alcohol and Drug Research (NAD)	Hakkarainen et al. (1996)
France	1995 1999	Ministry of Social Affairs and Health Ministry of Social Affairs and Health	Comité Français d'Education pour la Santé (CFES) CFES + Observatoire Français des Drogues et Toxicomanies (OFDT)	Baudier, Arènes (1997) Gulibert et al. (2001)
Germany	1995 1997 2000	Ministry for Health Ministry for Health Ministry for Health	Institut für Therapieforschung (IFT) IFT IFT	Herbst et al. (1996) Kraus, Bauernfeind (1998) published in 2001
Greece *Greater Athens*	1984 1998 1993	Ministry of Youth OKANA (Organisation against Drugs) European Comm., DG V	Department of Psychiatry, University of Athens University Mental Health Research Institute (U.M.H.R.I.) U.M.H.R.I.	Madianos et al. (1994) Kokkevi et al. (2000) Kokkevi, Stefanis (1994)
Ireland	1998 1999	Health Research Board Health Research Board	Health Research Board Health Research Board	Published in 2000 Published in 2001
Netherlands *Amsterdam* *Rotterdam*	2000 1997–98 1997 1994 1994	Ministry of Health Ministry of Health Ministry of Health Ministery of Health Instituut voor Verslavings-onderzoek (IVO)	Centre for Drug Research (CEDRO) CEDRO CEDRO University of Amsterdam IVO	 Abraham et al. (1999) Abraham et al. (1998) Sandwijk et al. (1995) Van de Goor et al. (1995)
Sweden	1996 1998 2000	Swedish Council for Information on Alcohol and other Drugs (CAN) National Institute of Public Health (NIPH) Swedish Alcohol Retailing Monopoly (SARM)	CAN and NIPH CAN and NIPH CAN and NIPH	CAN / NIPH (1997) CAN / NIPH (1999) Not yet published
Spain	1995 1997 1999	Plan Nacional de Drogas Plan Nacional de Drogas Plan Nacional de Drogas	EDIS / PND Sigma Dos / PND Sigma Dos / PND	PND (1996) PND (1998) PND (2000)

Table 2.2: Agencies and authors of main survey report (continued)

Country	Year	Commissioned by	Responsible agent	Authors of published report
United Kingdom: *England & Wales*	1996	Home Office	Home Office, Research and Statistics Directorate	Ramsay and Spiller (1997) Hales and Stratford (1997)
	1998	Home Office	Home Office, Research and Statistics Directorate	Ramsay and Partridge (1999)
United States	1994	US Department of Health and Human Services	Substance Abuse and Mental Health Service Administration (SAMHSA)	SAMHSA (1996b)
	1999	US Department of Health and Human Services	SAMHSA	SAMHSA (2000)

Table 2.3: Survey methods applied

Country	Year	Mode of Interviewing	Survey Methods Specifications	Questionnaire Completion	
				INTERVIEWER	RESPONDENT
Belgium: *Flanders*	1995	Telephone	CATI	Yes	No
Finland	1992	Mail	P & P	No	Yes
	1996	Mail	P & P	No	Yes
	1998	Mail + Telephone	P & P	Yes	Yes
4 Nordic Countries: *Denmark, Finland, Norway, Sweden*	1993–95	Mail	P & P	No	Yes
France	1995	Telephone	CATI	Yes	No
	1999	Telephone	CATI	Yes	No
Germany	1995	Self-administered	P & P	No	Yes
	1997	Self-administered	P & P	No	Yes
	2000	Self-administered	P & P	No	Yes
Greece	1984	Face-to-face	P & P	Yes	No
	1998	Face-to-face	P & P	Yes	No
Greater Athens	1993	Face-to-face	P & P	Yes	No
Ireland	1998	Face-to-face	P & P	Yes	No
	1999	Face-to-face	P & P	Yes	No
Netherlands	1997–8	Face-to-face	CAPI	Yes	No
Amsterdam	1994	Face-to-face	P & P[a], CAPI[a]	Yes, yes	No, Yes
	1997	Face-to-face	CAPI	Yes	No
Rotterdam	1994	Mail[a], Face-to-face[a]	P & P, P & P	No, yes	Yes, No
Spain	1995	Face-to-face	P & P	Yes[b]	Yes[b]
	1997	Face-to-face	P & P	Yes[b]	Yes[b]
	1999	Face-to-face	P & P	Yes[b]	Yes[b]
Sweden	1996	Face-to-face	P & P	Yes	No
	1998	Face-to-face	P & P	Yes	No
	2000	Face-to-face	P & P	Yes	No
United Kingdom:	1996	Face-to-face	CASI[b]	No[b]	Yes[b]
England & Wales	1998	Face-to-face	CASI[b]	No[b]	Yes[b]
United States	1994[c]	Face-to-face	P & P	No[b]	Yes[b]
	1999	Face-to-face	Audio-CASI (main sample, continuing) and P & P (supplementary for trending, to be discontinued)	Yes	Yes

[a] = same questionnaire
[b] = for drug section only; other sections completed by interviewer
[c] = sample 1994-B questionnaire (new methodology)

Table 2.4: Target population characteristics

COUNTRY	YEAR	TARGET POPULATION	OVERSAMPLING
Belgium: *Flanders*	1995	18–65 years; Flemish Region, Flemish-speaking	No
Finland	1992	18–74 years	No
	1996	16–74 years	No
	1998	15–69 years	No
4 Nordic Countries:			No
Denmark	1995	19–70 years	
Finland	1993	18–69 years	
Norway	1993	19–70 years	
Sweden	1994	18–69 years	
France	1995	18–75 years	No
	1999	12–75 years	No
Germany	1995	18–59 years; German-speaking	No
	1997	18–59 years; German-speaking	No
	2000	18–59 years; German-speaking	No
Greece	1984	12–64 years. Aegean and Ionian Islands excluded (4.5% of total Greek population)	Yes: age group 12–24 years
	1998	12–64 years. Aegean and Ionian Islands excluded	Yes: age group 12–24 years
Greater Athens	1993	12–64 years	Yes: age group 12–24 years
Ireland	1998	18+ years	No
	1999	18+ years	No
Netherlands	1997–8	12+ years	Yes: age group 12–18 years + 4 largest cities
Amsterdam	1994	12+ years	No
	1997	12+ years	Yes: age group 12–18 years
Rotterdam	1994	16–69 years, Dutch nationality	No
Spain	1995	15+ years	Yes: age group 15–39 years
	1997	15–65	Yes: some regions
	1999	15–65	Yes: some regions
Sweden	1996	15–75	No
	1998	15–75	No
	200	15–75	No
United Kingdom: *England & Wales*	1996	16-59 years (for drug section)	Yes: inner-city areas; Ethnic booster (n = 1995)
	1998	16-59 years (for drug section)	Yes: inner-city areas
UNITED STATES	1994	12+ years US civilian, non-institutionalised population	Yes: people under 35 years; Blacks and Hispanics; people from rural areas; current cigarette smokers aged 18–34 years
	1999	12+ years US civilian, non-institutionalised population	Yes; Main sample oversampled in selected states to allow direct state estimates and oversampled people under 35 years old. Supplemetary sample oversampled blacks and Hispanics.

Table 2.5: Sampling characteristics

COUNTRY	YEAR	SAMPLING FRAME	SAMPLING METHOD(S)	WEIGHTING
Belgium: *Flanders*	1995	Randomised dial	Simple random; within household: birthday	No
Finland	1992 1996 1998	Central population register	Simple random	No
4 Nordic Countries: *Denmark, Finland, Norway, Sweden*	1993–95	Central population registers	Simple random	No
France	1995 1999	Randomised dial Randomised dial	Simple random; within household: birthday Simple random; within household: birthday	Yes: age, gender, geographical region, kind of dwelling Yes: age, gender, geographical region, kind of dwelling
Germany	1995 1997 2000	Household randomly selected via random route; questionnaires dropped off/picked up Household randomly selected via random route; questionnaires dropped off/picked up Household randomly selected via population registry; questionnaires sent and returned by mail	Multistage probability sample (1 313 sampling points); stratified by region; household person with the most recent birthday Multistage probability sample (1313 sampling points) stratified by region; household person with the most recent birthday Multistage probability sample stratified by region	Yes: age, gender, federal state, household size Yes: age, gender, federal state, household size Yes: age, gender, federal state, household size
Greece 1998 *Greater Athens*	1984 1993	Household addresses Household addresses	Face-to-face: town, block, dwelling unit within household: random, using Kish selection grid Face-to-face: town, block, dwelling unit within household: random, using Kish selection grid Four-stage systematic	Yes: age Yes: age Yes*: age
Ireland	1998 1999	Electoral register Electoral register	Two-stage proportionate to size random Sampling design (both)	No No
Netherlands *Amsterdam* *Rotterdam*	1997–8 1994 1997 1994	Municipal population registry Municipal population registry Municipal population registry Municipal population registry	2-stage stratified sample Simple random Simple random 12–18 years and simple random 19+ years Simple random	Yes: age, gender, marital status, address density No Yes: age, gender, marital status Yes: age, gender
Spain	1995 1997 1999	Household addresses Household addresses Household addresses	(All surveys) multistage: electoral districts within autonomous communities Quotas and random walks	(all surveys) Yes: age, gender, region

Table 2.5: Sampling characteristics (continued)

COUNTRY	YEAR	SAMPLING FRAME	SAMPLING METHOD(S)	WEIGHTING
Sweden	1996	Population register (DAFA/SPAR)	Simple random	Yes
	1998	Population register (DAFA/SPAR)	Simple random	Yes
	2000	Population register (DAFA/SPAR)	Simple random	Yes
United Kingdom: *England & Wales*	1996	Postcode address file (PAF)	Stratified face-to-face Within households: simple random	Yes: inner city, dwelling unit, individual, ethnic minority I
	1998	Postcode address file (PAF)	Stratified face-to-face Within households: simple random	Ethnic minority II (ethnic booster) Yes: inner-city areas; individuals living in households of different sizes
United States	1994	Dwelling units/household addresses	Multistage: geographical areas Within households: simple random	Yes: dwelling unit non-response, person weight trimming adjustment, person non-response/ roster adjustment, post-stratification 1990 census
	1999	Households/units within group quarters	Multistage: each state had sample allocation, 8 had large samples (n = 2 669 to 4 381); geographical areas within states census blocks within geographical areas; adresses within blocks; within households: simple random	Yes: dwelling unit and person selection probabilities; person weight trimming adjustment, person non-response/ roster adjustment, post-stratification 1990 census

* This applies only to comparisons of the 1987 survey with surveys after 1987.

Table 2.6: Sample characteristics

COUNTRY	Year	ESTIMATED SIZE OF TARGET POPULATION (MILLIONS)	SAMPLE SIZE (N) ORIGINAL (MINUS FRAME ERRORS)	NET RESPONSE	RESPONSE RATE (%)
Belgium: *Flanders*	1995	4.0	n.a.	2259	n.a.
Finland	1992	3.5	4892	3458	70.7%
	1996	3.5	4429	3009	67.9%
	1998	3.5	Mail 3250 + Phone 550	2143 + 425	Mail 65.9%; Phone 77.2%
4 Nordic Countries:					
Denmark	1995	3.5	2000 (2000)	1390	69.5%
Finland	1993	3.5	2000 (1954)	1275	65.3%
Norway	1993	3.0	3000 (2957)	1618	54.7%
Sweden	1994	6.0	3000 (2969)	1912	64.4%
France	1995	40.0	4116 (3484)	1993	75.5%
	1999	45.0	28162 (21803)	13685	70.8%
Germany	1995	48.9	12052	7833	65.0%
	1997	48.5	12358	8020	64.9%
	2000	*	*	*	*
Greece	1984	9.1	4410	4297	96.5%
	1998	7.5	4960 (4682)	3752	80.1%; 22.2% substituted
Greater Athens	1993	2.4	2500 (2263)	2110	93.3% (refusals 6.2%, invalid 0.5%) 20.4% substituted
Ireland	1998	2.6	1550	1000	64.5%
	1999	2.6	1484	1000	67.4%
Netherlands	1997–8	13.2	41766 (36684)	21959	59.9%
Amsterdam	1994	0.6	10000 (8686)	4364	50.2%
	1997	0.6	8450 (7423)	3798	51.2%
Rotterdam	1994	0.4	8000	3537	44.2%
Spain	1995	31.0	10000	9984	80% of people selected 20% after substitution
	1997		9000	12515	?
	1999		12455	12488	?
Sweden	1996	6.4		1500	~ 70%
	1998	6.5		1500	~ 70%
	2000	6.5		2000	~ 70%
United Kingdom: *England & Wales*	1996	35.0	Core sample: 19808	16348	82.5%
			Drug section: 11244	10940	97.3%
	1998	35.0	Core sample: 18983	14947	78.7%
			Drug section: 10293	9988	97.0%
United States	1994 [a]	209.0	22785	17809	78.2%
	1999	221.1	Main (A-CASI) 89883	66706	68.6%
			Supplement (P & P) 18986	13809	66.6%

[a] = Sample 1994-B questionnaire (new methodology)
* Results will be available in May 2001

Table 3.1: Prevalence of drug use

		ILLICIT DRUGS							LICIT DRUGS		
Country	**Year**	**Cannabis**	**Ecstasy**	**Cocaine**	**Heroin**	**Amphet-amines**	**LSD**	**Other Illicit**	**Alcohol**	**Tobacco**	**Pharma-ceuticals**
Finland	1992	Yes	No	Yes	No [c]	Yes	Yes	Yes	Yes	Yes	Yes
	1996	Yes	Yes	Yes	No [c]	Yes	Yes	Yes	Yes	Yes	Yes
	1998	Yes	Yes	Yes	No [c]	Yes	Yes	Yes	Yes	Yes	Yes
4 Nordic Countries	1993/ 1994	Yes	No	No	No	No	No	Yes [d]	Yes	No	No
France	1995	Yes	no [a]	Yes	Yes	Yes [a]	Yes [b]	Yes	Yes	Yes	Yes
	1999	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Germany	1995	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	1997	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	2000	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Greece	1998	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Ireland	1998	Yes	No	No	No	No	No	No	No	No	No
	1999	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Netherlands	1997	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Amsterdam	–8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	1994	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	1997										
United Kingdom:	1996	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes [e]
England and Wales	1998	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
United States	1997	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Spain	1995	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	1997	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	1999	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

[a] = one category for both amphetamines and ecstasy
[b] = one category for hallucinogens, including LSD, psychedelic mushrooms
[c] = one category for both heroin and morphine
[d] = one category for heroin, amphetamine, cocaine or other hard drugs
[e] = only for tranquillisers and methadone (not prescribed by a doctor)

ILLICIT DRUGS

cannabis	whether prevalence of cannabis use was included as a separate question ([13])
ecstasy	whether prevalence of ecstasy use was included as a separate question
cocaine	whether prevalence of cocaine use was included as a separate question
heroin	whether prevalence of heroin use was included as a separate question
amphetamines	whether prevalence of amphetamine use was included as a separate question
LSD	whether prevalence of LSD use was included as a separate question
other illicit	whether prevalence of any other illicit drug (e.g. 'magic mushrooms' or 'crack cocaine') or a group of several illicit drugs (e.g. 'heroin or cocaine', 'hallucinogens', 'some drug') was included as a separate question

LICIT DRUGS

ALCOHOL	whether prevalence of alcohol use was recorded, using either one term (e.g. 'alcohol', 'alcoholic beverages') or several exclusive categories (e.g. 'beer', 'wine', 'spirits')
TOBACCO	whether prevalence of tobacco use was recorded, using either one term (e.g. 'tobacco', 'smoking') or several exclusive categories (e.g. 'cigarettes', 'cigars', 'pipe')
PHARMACEUTICALS	whether prevalence of the use of pharmaceuticals was recorded, using either one term (e.g. 'pharmaceuticals', 'medicines') or several exclusive categories (e.g. 'sedatives', 'hypnotics'). For practical reasons we have made no distinction between pharmaceuticals prescribed by a doctor and those not prescribed, nor between pharmaceuticals used for medicinal purposes and those used for recreational or other purposes.

([13]) Most questionnaires speak of 'hashish' and/or 'marijuana'.

Table 3.2: Prevalence measures

		Prevalence measures											
		ILLICIT DRUGS			ALCOHOL			TOBACCO			PHARMACEUTICALS		
Country	Year	LTP	LYP	LMP	LTP	LYP	LMP	LTP	LYP	LMP	LTP	LYP	LMP
Finland	1992	All	All	All	Yes	No	Yes	Yes	No	No[c]	Some	All	All
	1996	All	All	All	Yes	No	Yes	Yes	No	No[c]	Some	All	All
	1998	All	All	All	Yes	No	Yes	Yes	No	No[c]	Some	All	All
4 Nordic Countries	1993	All	no[a]	No	Yes	No	No	No	No	No	No	No	No
France	1995	All	All	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No
	1999	All	All	All	Yes	Yes	No	Yes	No	No	No	Yes	No
Germany	1995	All	All	All	Yes	Yes	Yes	Yes	Yes	Yes	No	All	All
	1997	All	All	All	Yes	Yes	Yes	Yes	Yes	Yes	No	All	All
	2000	All	All	All	Yes	Yes	Yes	Yes	Yes	Yes	No	All	All
Greece	1998	All	All	All	Yes	Yes	Yes	Yes	No	Yes	All	All	All
Ireland	1998	Cann	No	No	No	No	No	No	No	No	No	No	No
	1999	-abis	All	All	No	Yes	Yes	No	No	Yes	No	No	No
		All											
Netherlands	1997–8	All	All	All	Yes	Yes	Yes	Yes	Yes	Yes	All	All	All
Amsterdam	1994	All	All	All	Yes	Yes	Yes	Yes	Yes	Yes	All	All	All
Amsterdam	1997	All	All	All	Yes	Yes	Yes	Yes	Yes	Yes	All	All	All
United Kingdom:	1996	All	All	All	No[b]	No	No	No	No	No[c]	All[d]	All[d]	All[d]
England &		All	All	All	No	No	No	No	No	No	All[d]	All[d]	All[d]
Wales													
United States	1997	All	All[e]	All	Yes	Yes[e]	Yes	Yes	Yes[e]	Yes	All	All[e]	All
Spain	1995												
	1997	All	All	All	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
	1999												

Note: 'All' and 'Some' refer to number of drugs recorded (see also Table 3.1).
[a] = past 6 months prevalence for cannabis only
[b] = only 'how often usually take alcohol drinks?', including answer category 'never'
[c] = only current smoking ('smoking nowadays' or 'at present'); this will be close to LMP, but lower than LMP (LMP also includes 'occasional' smokers)
[d] = only for tranquillisers and methadone (not prescribed by a doctor)
[e] = 'more than 30 days ago but within the past 12 months'

ILLICIT DRUGS

LTP — whether lifetime prevalence (e.g. 'use at some time in your life') was recorded for some or all specified illicit drug(s)
LYP — whether last-year prevalence (e.g. 'use in the past twelve months') was recorded for some or all specified illicit drug(s)
LMP — whether last-month prevalence (e.g. 'use in the past four weeks' or 'past 30 days') was recorded for some or all specified illicit drug(s)

ALCOHOL

LTP — whether lifetime prevalence (e.g. 'use at some time in your life') was recorded for alcohol
LYP — whether last-year prevalence (e.g. 'use in the past twelve months') was recorded for alcohol
LMP — whether last-month prevalence (e.g. 'use in the past four weeks' or 'past 30 days') was recorded for alcohol

TOBACCO

LTP — whether lifetime prevalence (e.g. 'use at some time in your life') was recorded for tobacco
LYP — whether last-year prevalence (e.g. 'use in the past twelve months') was recorded for tobacco
LMP — whether last-month prevalence (e.g. 'use in the past four weeks' or 'past 30 days') was recorded for tobacco

PHARMACEUTICALS

LTP — whether lifetime prevalence (e.g. 'use at some time in your life') was recorded for some or all specified pharmaceuticals
LYP — whether last-year prevalence (e.g. 'last twelve months') was recorded for some or all specified pharmaceuticals
LMP — whether last-month prevalence (e.g. 'use in the past four weeks' or 'last 30 days') was recorded for some or all specified pharmaceuticals

Table 3.3: Frequency of illicit drug use

		FREQUENCY OF ILLICIT DRUG USE		
Country	Year	Lifetime	Last Year	Last Month
Finland	1992 1996 1998	All[a] All[a] All[a]	All[a] All[a] All[a]	All[a] All[a] All[a]
4 Nordic Countries	1993	No	No	No
France	1995 1999	No Yes	No Yes	No Yes
Germany	1995 1997 2000	All[a] All[a] All[a]	All[a] All[a] All[a]	All[b] All[b] All[b]
Greece	1998	All	All	All
Ireland	1998 1999	No No	No No	No No
Netherlands *Amsterdam* *Amsterdam*	1997–8 1994 1997	All[c] All[c] All[c]	No No No	All[b] All[b] All[b]
United Kingdom: *England & Wales*	1996 1998	No No	No No	No No
United States	1997	All[b]	All[b]	All[b]
Spain	1995 1997 1999	No	Yes	Some

[a] = number of times
[b] = number of days
[c] = less or more than 25 times

lifetime frequency whether some measure of frequency of use during respondent's 'lifetime was recorded for some or all specified illicit drug(s). The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

last-year frequency whether some measure of frequency of use during the past year was recorded for some or all specified illicit drug(s). The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

last-month frequency whether some measure of frequency of use during the past month was recorded for some or all specified illicit drug(s). The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

Table 3.4: Frequency of licit drug use

	Frequency of licit drug use											
	Alcohol				Tobacco				Pharmaceuticals			
Country/ Year	Life time	Last Year	Last Month	Other	Life time	Last Year	Last Month	Other	Life time	Last Year	Last Month	Other
4 Nordic Countries (1993)	No	No	No	Yes [g]	No	No	No	No	No	No	No	No
Finland (1992)	No	No	Yes [a]	No	No	No	No	No [e]	Yes [a]	No	No	No
Finland (1996)	No	No	Yes [a]	No	No	No	No	No [e]	Yes [a]	No	No	No
Finland (1998)	No	No	Yes [a]	No	No	No	No	No [e]	Yes [a]	No	No	No
France (1995)	No	No	No	Yes [h]	No	No	No	No	No	No	No	Yes [h]
France (1999)	No	Yes	No	Yes [h]	Yes	Yes	Yes	Per day	No	No	Yes	No
Germany (1995)	No	Yes [a]	Yes [c]	Yes [d]	No	No	Yes [b]	No [e]	No	Yes [d]	Yes [d]	No
Germany (1997)	No	Yes [a]	Yes [c]	Yes [d]	No	No	Yes [b]	No [e]	No	Yes [d]	Yes [d]	No
Germany (2000)	No	Yes [a]	Yes [c]	Yes [d]	No	No	Yes [b]	No [e]	No	Yes [d]	Yes [d]	No
Greece (1998)	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	No
Ireland (1998 & 1999)	No	No	No	No	No	No	No	No	No	No	No	No
Netherlands (1997–8)	Yes [f]	No	Yes [b]	No	Yes [f]	No	No	No	Yes [f]	No	No	No
Amsterdam (1994)	Yes [f]	No	Yes [b]	No	Yes [f]	No	No	No	Yes [f]	No	No	No
Amsterdam (1997)	Yes [f]	No	Yes [b]	No	Yes [f]	No	No	No	Yes [f]	No	No	No
United Kingdom: *England & Wales* (1993)	No	No	No	Yes [d]	No	No	No	No	No	No	No	No
England & Wales (1998)	No	No	No	No	No	No	No	No	No	No	No	No
United States (1997)	No	Yes [b]	Yes [b]	No	Yes [b]	No	Yes [b]	No	Yes [b]	Yes [b]	Yes [b]	No
Spain (1995, 1997, 1999)	No	Yes	Yes	No	No	No	Yes	No	No	No	No	No

[a] = number of times
[b] = number of days
[c] = both number of times and number of days
[d] = average frequency, sometimes referring to a certain period (different operationalisations)
[e] = 'regular smoker/occasional smoker/non-smoker' (not operationalised)
[f] = less or more than 25 times
[g] = average frequency of beer consumption
[h] = number of days last week

ALCOHOL

lifetime frequency — whether some measure of frequency of alcohol use during respondents' lifetime was included. The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

last-year frequency — whether some measure of frequency of alcohol use during the past year was included. The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

last-month frequency — whether some measure of frequency of alcohol use during the past month was included. The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

TOBACCO

lifetime frequency — whether some measure of frequency of tobacco use during respondents' lifetime was included. The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

last-year frequency — whether some measure of frequency of tobacco use during the past year was included. The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

last-month frequency — whether some measure of frequency of tobacco use during the past month was included. The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

PHARMACEUTICALS

lifetime frequency — whether some measure of frequency of use during respondents' lifetime was included for some or all specified pharmaceuticals. The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

last-year frequency — whether some measure of frequency of use during the past year was included for some or all specified pharmaceuticals. The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times')

last-month frequency — whether some measure of frequency of use during the past month was included for some or all specified pharmaceuticals. The operationalisation of frequency varies enormously (e.g. an exact 'number of times' or a range, an exact 'number of days' or a range, 'more than 25 times', etc.).

Table 3.5: Quantity of drug use

	Quantity of drug use last month										
Country	Year	Cannabis	Ecstasy	Cocaine	Heroin	Amphet-amines	LSD	Other illicit	Alcohol	Tobacco-	Pharma-ceuticals
4 Nordic Countries	1993	No	No	No	No	No	No	No	No	No	No
Finland	1992 1996 1998	No `No No	No No No	No No No	No No No	No No No	No No No	No No No	No [a] No [a] No [a]	No No No	No No No
France	1995 1999	No Yes	No Yes	No Yes	No Yes	No Yes	No Yes	No Yes	Yes [l] Yes [i]	Yes [f] Yes [i]	No Yes
Germany	1995 1997 2000	No No No	No No No	No No No	No No No	No No No	No No No	No \No No	Yes [b] Yes [b] Yes [b]	Yes [c] Yes [c] Yes [c]	No No No
Greece	1998	No	No	No	No	No	No	No	Yes	Yes	No
Ireland	1998 1999	No No	No No	No No	No No	No No	No No	No No	No No	No No	No No
Netherlands *Amsterdam*	1997–8 1994 1997	No No No	No No No	No No No	No No No	No No No	No No No	No No No	Yes [d] Yes [d] Yes [d]	No No No	No No No
United Kingdom: *England & Wales*	1996 1998	No No	No No	No No	No No	No No	No No	No No	No [g] No	No No	No No
United States	1997	No [h]	No [h]	No [h]	No [h]	No [h]	No [h]	No [h]	Yes [e h]	Yes [f h]	No [h]
Spain	1995 1997 1999	No	No	No	No	No	No	No	Yes	Yes	No

[a] = number of times of being drunk on average
[b] = average number of drinks on the days you drank alcohol last month
[c] = average number of cigarettes per day last month
[d] = 6 or more alcoholic drinks in one day during the last 6 months; number of times 6 or more alcoholic drinks in one day last 6 months; average number of glasses of alcohol per day recently only
[e] = number of alcoholic drinks on days you drank last month; number of days having 5 or more alcoholic drinks on the same occasion last month
[f] = average number of cigarettes per day
[g] = only average number of drinks on the days you drink alcohol
[h] = used more often or in large amounts (yes, no)
[i] = number of glasses yesterday

ILLICIT DRUGS whether some measure of quantity of use during the past month was included for some or all specified illicit drug(s)

LICIT DRUGS

alcohol whether some measure of quantity of alcohol use during the past month was included. The operationalisation of quantity varies (e.g. an exact 'number of glasses' or a range, 'seven days', 'on average' , 'number of days you drank 6 or more alcoholic drinks in the past month', etc.).

tobacco whether some measure of quantity of tobacco use during the past month was included. The operationalisation of quantity varies (e.g. an exact 'number of cigarettes' or a range, 'usually', etc.).

pharmaceuticals whether some measure of quantity of pharmaceuticals use during the past month was included

Table 3.6: Other items related to illicit drug use

Country	Year	Age of onset	Multiple drug use	Injecting	Availability	Health effects of use
4 Nordic Countries	1993	No	No	No	No	No
Finland	1992	Some [a]	No [b]	Yes [c]	Yes	Yes
	1996	Some [a]	No [b]	Yes [c]	Yes	Yes
	1998	Some [a]	No [b]	No	Yes	Yes
France	1995	No	No	No	Yes [k]	No
	1999	Yes	Yes	Yes	Yes [k]	Yes
Germany	1995	All	No	Yes [d]	Yes	Yes
	1997	All	No	Yes [d]	Yes	Yes
	2000	All	No	Yes [d]	Yes	Yes
Greece	1998	Yes	Yes	Yes	Yes	Yes
Ireland	1998	No	No	No	No	No
	1999	Some	No	No	No	No
Netherlands	1997–8	All	Yes [e]	Yes [f]	No	No
Amsterdam	1994	All	Yes [e]	Yes [f]	No	N o
	1997	All	Yes [e]	Yes [f]	No	No
United Kingdom:	1996	No	No	Yes [g]	No	No
England & Wales	1998	No	No	No	No	No
United States	1997	All	No	Yes [h]	Yes [i]	Yes [j]
Spain	1995					
	1997	Some	No	Yes	Yes	No
	1999					

[a] = 'some drug' (both first time and regularly)
[b] = only medicine use in relation to alcohol use
[c] = sometimes used drug intravenously and injecting for each substance
[d] = heroin and cocaine (lifetime and last month)
[e] = multiple *simultaneous* drug use, specified for each substances
[f] = all illicit drugs and pharmaceuticals except for cannabis, cocaine, inhalants
[g] = any drug not prescribed by a doctor (not specified)
[h] = any drug not prescribed by a doctor, cocaine, heroin, (any) stimulant
[i] = for marijuana, LSD, cocaine, crack, heroin
[j] = for each substance
[k] = only 'have you been offered a drug?', 'what kind of drug?'

age of onset	whether the age of first use of some or all specified licit and illicit drugs was included
multiple drug use	whether the use of more than one licit and/or illicit drug (some or all) during a certain period was included as one or more separate questions, either as multiple drug use on different occasions or on the same occasion (multiple simultaneous use)
injecting	whether the injecting of some or all specified illicit drug(s) during a certain period was recorded
availability	whether the availability of illicit drugs was recorded in some way
health effects of use	whether the effects of illicit drug use on respondents' health were recorded in some way

Table 3.7: Attributes

	Sociodemographic				Socioeconomic		
Country/ Year	Age	Gender	Household type	Ethnicity	Level of education	Employment status	Income
4 Nordic Countries (1993)	Yes [a]	Yes	No	No	Yes [c]	No	Yes [e]
Finland (1992)	Yes	Yes	Yes	No	Yes	Yes	Yes [e]
Finland (1996)	Yes	Yes	Yes	No	Yes	Yes	Yes [e]
Finland (1998)	Yes	Yes	Yes	No	Yes	Yes	No
France (1995)	Yes [a]	Yes	Yes	No [b]	Yes	Yes	Yes [d]
France (1999)	Yes [a]	Yes	Yes	Yes	Yes	Yes	Yes [d]
Germany (1995)	Yes [a]	Yes	Yes	No [b]	Yes	Yes	Yes [d]
Germany (1997)	Yes [a]	Yes	Yes	No [b]	Yes	Yes	Yes [d]
Germany (2000)	Yes [a]	Yes	Yes	No [b]	Yes	Yes	Yes [d]
Greece (1998)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ireland (1998, 1999)	Yes	Yes	No	No	Yes	Yes	Yes
Netherlands (1997–8)	Yes [a]	Yes	Yes	Yes	Yes	Yes	Yes [f]
Amsterdam (1994)	Yes [a]	Yes	Yes	Yes	Yes	Yes	Yes [f]
Amsterdam (1997)	Yes [a]	Yes	Yes	Yes	Yes	Yes	Yes [f]
United Kingdom (1996)	Yes	Yes	Yes	Yes	Yes	Yes	Yes [d]
England & Wales	Yes	Yes	Yes	Yes	Yes	Yes	Yes [d]
United States (1997)	Yes [a]	Yes	Yes	Yes	Yes	Yes	Yes [f]
Spain (1995, 1997, 1999)	Yes	Yes	Yes	No	Yes	Yes	No

[a] = year/date of birth
[b] = only nationality
[c] = total number of school/study years and completion of secondary-level or academic degree
[d] = household/family income
[e] = personal income
[f] = both household/family income and personal income

SOCIODEMOGRAPHIC ITEMS

age	whether age was recorded, either in years or as date of birth
gender	whether gender was recorded, either as a question or as ascertained by the interviewer
household type	whether household composition was recorded in some way (at least the position of all household members within the household*)*
ethnicity	whether ethnic origin was somehow included as a question (other than nationality only)

SOCIOECONOMIC ITEMS

level of education	whether the highest level of education completed by the respondent was recorded in some way
employment status	whether the employment status of the respondent was recorded in some way
income	whether personal income and/or household/family income was recorded in some way

Table 3.8: Environment

		Confrontation	
Country/ year	**Residential characteristics**	**Personal** 'knowing drug users'	**Neighbourhood** 'seeing drug users'
Finland (1992)	number of inhabitants typology of places	Yes	Yes [b]
Finland (1996)	number of inhabitants typology of places	Yes	Yes [b]
Finland (1998)	number of inhabitants typology of places	No	No
4 Nordic Countries (1993)	number of inhabitants typology of places	Yes	No
France (1995)	number of inhabitants	No	No
France (1999)	number of inhabitants	No	No
Germany (1995)	number of inhabitants typology of residential area	Yes	No
Germany (1997)	number of inhabitants typology of residential area	Yes	No
Germany (2000)	number of inhabitants typology of residential area	Yes	No
Greece (1998)	typology of residential area	Yes	No
Ireland (1998 , 1999)	No	Yes	No
Netherlands (1997–8)	duration of residence	Yes [a]	No
Amsterdam (1994)	duration of residence plans to move	Yes [a]	No
Amsterdam (1997)	duration of residence	Yes [a]	No
United Kingdom:			
England and Wales (1996)	duration of residence	No	Yes
England & Wales (1998)	duration of residence ACORN classification	No	No
United States (1997)	plans to move	Yes	No
Spain (1995, 1997, 1999)	No	No	No

[a] = one of the parents, siblings, children ever used cannabis
[b] = several problems related to drugs in one's own residential area

RESIDENTIAL CHARACTERISTICS whether residential characteristics were recorded in some way

CONFRONTATION

personal ('knowing drug users') whether personal acquaintance with users of an illicit drug (e.g. family, friends, colleagues) was recorded

neighbourhood ('seeing drug users') whether the seeing or observing of users of an illicit drug in one's own neighbourhood was recorded in some way

Table 3.9: Attitudes and opinions

		ATTITUDES and OPINIONS				
		Risk perception		Opinion	Opinion on drug policy	
Country	Year	Health	Social	Drug addicts	Legal status	Interventions
4 Nordic Countries	1993	Yes	Yes	Yes	Yes	Yes
Finland	1992	Yes	Yes	Yes	Yes	Yes
	1996	Yes	Yes	Yes	Yes	Yes
	1998	Yes	Yes	Yes	Yes	Yes
France	1995	Yes	No	Yes	Yes	Yes
	1999	Yes	No	No	Yes	No
Germany	1995	Yes	Yes	No	Yes	Yes
	1997	Yes	Yes	No	Yes	Yes
	2000	Yes	Yes	No	Yes	Yes
Greece	1998	Yes	Yes	Yes	Yes	No
Ireland	1998	No	No	Yes	Yes	Yes
	1999	Yes	No	Yes	Yes	No
Netherlands	1997–8	No	No	No	No	No
Amsterdam	1994	No	No	No	No	No
Amsterdam	1997	No	No	No	No	No
United Kingdom:	1996	No	No	No	No	No
England & Wales	1998	No	No	No	No	No
United States	1997	Yes	No	No	No	No
Spain	1995					
	1997	Yes	No	No	No	Yes
	1999					

RISK PERCEPTION

health — whether perception of general physical and/or mental health risks of the use of one or more illicit drugs was recorded in some way (e.g. 'harm caused by illicit drugs', 'addictiveness of illicit drugs')

social — whether perception of general social risks from the use of one or more illicit drugs was recorded in some way (e.g. for home life, social network, employment)

OPINION ABOUT DRUG USERS

drug addicts — whether respondents' general opinions or attitudes about drug addicts were recorded (e.g. 'do you regard drug addicts as criminals or victims?')

OPINION ON DRUG POLICY

legal status — whether respondents' opinions were recorded about drug policy as it pertains to the legal status of drugs (e.g. opinions on criminalisation vs decriminalisation, punishments, legalisation)

interventions — whether respondents' opinions were recorded about drug policy as it pertains to interventions (e.g. opinion on care and treatment policies for drug addicts, prevention and education policies aimed at drug use)

Table 3.10: Lifestyle

		Lifestyle	
Country	Year	Entertainment	Social Contacts
Finland	1992 1996 1998	Yes Yes Yes	Yes Yes Yes
4 Nordic Countries	1993	No	No
France	1995 1999	Yes Yes	Yes Yes
Germany	1995 1997 2000	No No No	No No No
Greece	1998	No	No
Ireland	1998 1999	No No	No No
Netherlands *Amsterdam*	1997–8 1994 1997	Yes Yes Yes	Yes Yes Yes
United Kingdom: *England & Wales*	1996 1998	Yes No	No No
United States	1997	No	No
Spain	1995–9	No	No

LIFESTYLE

entertainment — whether frequency of evening entertainment outside the home was recorded, either specifically or generally (e.g. 'number of evenings you visited a dance club last month', 'number of evenings usually spent at home')

social contacts — whether frequency of social contact was recorded in some way (e.g. 'number of friends', 'number of times you saw relatives outside your home last month')

ANNEX 2

INTERNATIONAL STANDARD CLASSIFICATION OF EDUCATION (ISCED)

Levels of Education According to the International Standard Classification of Education (ISCED) in the 15 countries of the European Union.

COUNTRY	ISCED 1 PRIMARY LEVEL OF EDUCATION	ISCED 2 LOWER SECONDARY LEVEL OF EDUCATION	ISCED 3 UPPER SECONDARY LEVEL OF EDUCATION	ISCED 5, 6, AND 7 HIGHER EDUCATION
BELGIUM: **FLEMISH COMMUNITY**	**Lager onderwijs** **Buitengewoon onderwijs**	**1ste graad:** **A, B** (year 2: Beroepsvoorbereidend) **Buitengewoon onderwijs**	**2de graad:** Algemeen, Kunst, Technisch, Beroeps **3de graad:** Algemeen, Kunst, Technisch, Beroeps **Deeltijds** **Buitengewoon onderwijs**	Hoger onderwijs buiten de universiteit: **Korte type, Lange type** **Universiteit**
FRENCH COMMUNITY	**Enseignement primaire** **Eseignement spécial**	**Enseignement secondaire:** **Type II: Cycle inférieur** *year 1-2*: Professionel, Technique, Général **Type I: Cycle d'observation** (year 2: Professionel) **Eseignement spécial**	**Enseignement secondaire:** **Type II: Cycle inférieur** *year 3-5:* Professionel, Technique, Général; **Cycle supérieur**: Professionel, Technique, Général, Année préparatoire **Type I: Cycle d'orientation**: Général, Technique de transition, Technique de qualification, Professionel; **Cycle de détermination**: Général, Technique de transition, Technique de qualification, Professionel, Année préparatoire **Eseignement à horaire réduit** **Eseignement spécial**	Enseignement supérieur non universitaire: **Type court**, **Type long** **Université**
DENMARK	**Grundskole** *year 1-6* **Special education**	**Grundskole** *year 7-9 or year 7-10* (including year 8-10 Efterskole) **Special education** (**Voksenuddanelse** (part-time))	**Individuelle uddannelser:** EGU, FUU **Erhvervsfaglige uddannelser:** Erhvervsududdannelser, social- og sundhedsuddannelser, landbrugs søfartsuddannelser, CCC **Gymnasiale uddannelser** (**Voksenuddanelse** (part-time)	**Korte videregående uddannelser** **Mellemlange videregående uddannelser** **Bacheloruddannelser, Kandidatuddannelser** (**Voksenuddanelse** (part-time))

COUNTRY	ISCED 1 PRIMARY LEVEL OF EDUCATION	ISCED 2 LOWER SECONDARY LEVEL OF EDUCATION	ISCED 3 UPPER SECONDARY LEVEL OF EDUCATION	ISCED 5, 6, AND 7 HIGHER EDUCATION
GERMANY	**Grundschulen** **Sonderschulen**	**Hauptschulen** **Integrierte klassen** **Realschulen** **Gesamtschulen** **Gymnasien** *year 1-6* (all: including year 1-2: Orientierungsstufe) **Sonderschulen**	**Berufsscholen (Duales System)** **Bedrufsaufbauschulen** **Fachgymnasien** **Fachoberschulen** **Berufsfachschulen** **Gesamtschulen** **Gymnasien** *year 7-9*	**Fachschulen** **Schulen des Gesundheitswesen** **Fachhochschulen** **Universitäten** **Weiterbildung**
GREECE	**Dimotiko (primary school)**	**Gymnasion**	**TES: Technical and vocational school** **TEL: Technical and vocational lykeion** **EPL: Integrated lykeion** **GEL: General lykeion** **IEK: Institute of vocational training (1 year)** **EPL: Vocational training (1 year)**	**Technological education establishments:** 14 institutions **Universities:** 18 institutions: Technical universities, Medicine school, Dentistry schools, Agriculture schools, Other universitary schools **Post-graduate studies**
SPAIN	**Colegios de educación general bàsica (EGB)** *year 1-5*	**Colegios de educación general bàsica (EGB)** *year 6-8*	**Institutos de formacion profesional (VTI):** Formacion profesional de primer grado Formacion profesional de secundo grado **Institutos de bachillerato unificado y polivalente (BUP)** **Curso de orientación universitaria (COU):** pruebas de acceso a la universidad	**Universidades:** Escuelas Universitarias Esculas Técnicas Superiores Facultades
FRANCE	**Écoles élémentaires**	**Colléges:** 3e générale, 3e d'insertion, 3e technologique, lycées professionels	**Écoles spécialisées** **Lycées:** BAC général, BAC technologique, BT **Lycées professionels:** BEP ou CAP, BAC professionel	**Grandes écoles** **Écoles spécialisées** **Universités:** UFR-Santé, UFR-Lettres-Arts-Sciences humaines-Sciences-droit-Sciences economiques **IUT, IUP, BTS**

COUNTRY	ISCED 1 PRIMARY LEVEL OF EDUCATION	ISCED 2 LOWER SECONDARY LEVEL OF EDUCATION	ISCED 3 UPPER SECONDARY LEVEL OF EDUCATION	ISCED 5, 6, AND 7 HIGHER EDUCATION
IRELAND	**First Level:** National schools, Non aided private schools, Special schools	**Junior cycle (Junior certificate):** Vocational schools, Community & comprehensive schools, Voluntary secondary schools, Private schools, Special schools *all: year 1-3*	**Junior Cycle (Leaving certificate):** Vocational schools, Community & comprehensive schools,Voluntary secondary schools, Private schools *all: year 4-6* (including year 4: tranistion year) Special schools *year 4-5* **Apprenticeship training:** FAS, CERT, TEAGASC **Post-leaving certificate** **Private business schools**	**Regional Technical Colleges** (and Dublin Institute of Technology) **Universities** (including teacher training) **Private third level**
ITALY	**Scuolo elememtari** **Educazione speciale**	**Scuolo medie** **Educazione speciale**	**Scuolo magistrali** **Instituti magistrali** **Licei artistici** **Instituti d'arte** **Instituti professionali** **Instituti techici** **Licei classici, scientifici, linguistici**	**Academie** **Università ed instituti universitari:** Corsi di laurea, corsi di diploma universitario, scuolo dirette a fini speciali
LUXEMBOURG	**Enseignement primaire**	(Lower secondary schools general:) **Lycée général** (Lower secondary vocational:) **Lycée tenchnique**	(Upper secondary schools general:) **Lycée général** (Upper secondary vocational:) **Régiem technique** **Régiem de technicien** **Régiem professionnel**	(Higher non-university:) **BTS** **IST/SERP/IEES** (Higher university:) **Supérieur universitaire:** including Continuation of studies abroad
NETHERLANDS	**Basisonderwijs:** *year 3-8* **Speciaal onderwijs:** *year 3-8*	**Voortgezet onderwijs:** VBO, MAVO, HAVO *year 1-3*, VWO *year 1-3 (all: year 1*: Gemeenschappelijk brugjaar) **VSO** *year 1-3*	**Voortgezet onderwijs:** LLW, MBO, HAVO *year 4-5*, VWO *year 4-6* **VSO** *year 4-6*	**Hoger onderwijs:** HBO, WO **Post-doctoraal**: Tweede fase, Post-doctoraal, AIO
AUSTRIA	**Volksschule** **Sonderschule** *year 1-4*	**Hauptschule Allgemeinbildende höhere Schulen Unterstufe** **Sonderschule** *year 5-9*	**Polytechnischer Lehrgang, Bedrufsschule und Lehre Berufsbildende und Lehrerbildende mittlere Schulen Berufsbildende und Lehrerbildende höhere Schulen Allgemeinbildende höhere Schulen - Oberstufe, Oberstufenrealgymnasium**	**Sonstiger nichtuniversitärer Sektor Fachhochschulen Kunsthochschulen Universitäten**

COUNTRY	ISCED 1 PRIMARY LEVEL OF EDUCATION	ISCED 2 LOWER SECONDARY LEVEL OF EDUCATION	ISCED 3 UPPER SECONDARY LEVEL OF EDUCATION	ISCED 5, 6, AND 7 HIGHER EDUCATION
PORTUGAL	**Compulsory basic school: general school: 1st cycle** year 1-4**, 2nd cycle** year 5-6 **Educ o especial**	**Compulsory basic school: general school: 3rd cycle** (Certificate of degree) year 7-9 **Educ o especial**	**Vocational school courses** **Secondary courses: general and technological courses** **Educ o especial**	**Polytechnic higher education** (Licenciatura, Bacharelato) **University higher education** (Licenciatura, Master's degree, Doutoramento)
FINLAND	**Primary: Peruskoulun ala-aste (**comprehensive schools, lower stage) *year 1-6*	**Lower secondary: Peruskoulun yläaste** (comprehensive schools, upper stage) *year 7-9*	**Upper secondary: Ammatilliset opplilaitokset** (vocational and professional education)**, Lukio** (upper secondary schools)	**Lower tertairy:** Ammattikorkeakoulut (AMK) (polytechnics) **Ylopistot** (universities): Alempi Korkeakoulututkinto (bachelor's), Ylempi Korkeakoulututkinto (master's), Lisensiaatti (licentiate), Tochtorin tutkinto (doctorate)
SWEDEN	**Grundskola** *year 1-6* **Utlands, Sär- och Specialskola** (Swedish schools aboad, special schools) **Vuxenutbildning och folkbildning** (adult education)	**Grundskola** *year 7-9* **Utlands, Sär- och Specialskola** **Vuxenutbildning och folkbildning**	**Gymnasieskola:** Nationelle program, Specialkurser **Utlands, Sär- och Specialskola** **Vuxenutbildning och folkbildning**	**Grundläggande högskoleutbildning**: Program, Fristående kurser **Forskarutbildning**: Licenciat, Doktor
UNITED KINGDOM: ENGLAND AND WALES	**Primary schools (including special education)** (key stage 1 and key stage 2): First schools, Middle schools *year 1-2* **Private education**	**Comprehensive schools (including special education)** *years 1-3* (key stage 3) (including Middle schools *year 3-4*) **Grammar and secondary schools** *years 1-3* (key stage 3) **Private education**	**Comprehensive schools (including special education)** *years 4-5* (key stage 4): GCSE/ Foundation or intermediate GNVQs/ NVQ 1 or 2 **Grammar and secondary schools** *years 4-5* (key stage 4) **Further education (FE) sector colleges** *years 1-2* **School sixth forms** **Adult education centres** all: GCE A level/ advanced GNVQ/ NVQ3 **Private education**	**Further education (FE) sector colleges** *years 3-4*: Sub-degree HND/ HNC/ NVQ4 **Higher education (HE) institutions (universities and colleges)**: Sub-degree HND/ HNC/ NVQ4, First Degree, Master's, Doctorate **Private education**
NORTHERN IRELAND	**Primary schools**	(Lower secondary schools general:) **Grammar schools** **Secondary schools**	(Upper secondary schools general:) **Secondary schools** **Further education college** **Grammar schools**	**Sub-degree higher education** **First degree/post-graduate higher education**

COUNTRY	ISCED 1 PRIMARY LEVEL OF EDUCATION	ISCED 2 LOWER SECONDARY LEVEL OF EDUCATION	ISCED 3 UPPER SECONDARY LEVEL OF EDUCATION	ISCED 5, 6, AND 7 HIGHER EDUCATION
SCOTLAND	**Primary schools**	(Lower secondary schools general:) **Secondary schools**	(Upper secondary schools general:) **Secondary schools** **Further education college**	**Further education** **Higher education**

Sources: OECD (1996), European Commission (1996).

Remarks:

- ISCED 0 = Early childhood education not included
- ISCED 5 = Non-universitary tertiary level of education
- ISCED 6 = Universitary tertiary level of education: first stage
- ISCED 7 = Universitary tertiary level of education: second stage, post-graduate
- For Luxembourg, Northern Ireland (UK) and Scotland (UK) only less detailed information is available due to the use of another source, i.e. European Commission (1996), and not OESD (1997) as for the other EU-countries. No clear references are made to the ISCED levels of education, so here only 'estimates' are presented.
- *1-3 years* = theoretical year(s) of study *within* the type of educational programme or institution (not the theoretical duration of total study career, e.g. from year 1 primary education to year 17 university)
- Information about private education and special education is not available for each country

ANNEX 3

Participants in previous EMCDDA projects that contributed to the development of first key indicator guidelines

Projects

- 'Improving the comparability of general population surveys on drug use in the European Union' (CT.96.EP.08)

- 'Coordination of an expert working group to develop instruments and guidelines to improve quality and comparability of general population surveys on drugs in the EU. Follow up of EMCDDA project CT.96.EP.08" (CT.97.EP.08)

Participants

EMCDDA

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Sweden: Ola Arvidsson, Björn Hibell
The Netherlands: Peter Cohen*, Imarieke Langemijer*, Igne Spruit, Marielle de Winter*. (EMCDDA project CT.97.EP.02) ([14]),
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([14]) 'Project to coordinate a methodological study to compare the effect of different methods of data collection on the prevalence of self-reported drug use in general population surveys' (CT.97.EP.02)

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ANNEX 4

EMCDDA expert meeting on key indicator, 23-24 May 2002
List of participants

Annual meeting of the EMCDDA expert group on the key indicator ‚Extent and patterns of drug use among the general population (Population surveys)'
Lisbon, 23-24 May 2002

Austria	Martin Busch
Belgium	Francis Sartor
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Finland	Pekka Hakkarainen
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