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# **The value and feasibility of a national survey of drug use among adults in the United Kingdom**

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# Contents

|   |           |
|---|-----------|
| <b>Summary</b>  | <b>5</b>  |
| <b>Part 1 Value and feasibility</b>                                       | <b>7</b>  |
| 1    Introduction   | 7         |
| 2    The international picture  | 7         |
| 3    Survey data currently available from UK sources                      | 8         |
| 3.1    The British Crime Survey   | 9         |
| 3.1.1    Methodology  | 9         |
| 3.1.2    Recent developments  | 9         |
| 3.1.3    Evaluation of the BCS as a source of data on drug use            | 9         |
| 3.2    Two other recent general population surveys with a drugs component | 11        |
| 3.2.1    Youth Lifestyle Survey   | 11        |
| 3.2.2    Surveys of psychiatric morbidity among adults                    | 12        |
| 4    Data requirements not met by existing surveys                        | 12        |
| 4.1    The information needs of the Drugs Strategy                        | 13        |
| 4.2    More general information needs                                     | 13        |
| 5    Potential for building on existing surveys                           | 14        |
| 6    Potential limitations of a new survey                                | 15        |
| 6.1    Exclusion of those not living in private households                | 15        |
| 6.2    Response rates   | 16        |
| 6.3    Respondent under-reporting of drug use                             | 17        |
| 7    Encouraging response and minimising under-reporting                  | 18        |
| 8    Conclusion   | 18        |
| <b>Part 2 Survey design</b>   | <b>21</b> |
| 9    Topics that should be included                                       | 21        |
| 10    Target population   | 22        |
| 10.1    The age range   | 22        |
| 10.2    Differential sampling probabilities according to age              | 24        |
| 10.3    Sampling ethnic minorities  | 27        |
| 11    Regional and local data   | 27        |
| 12    Sampling young people in communal establishments                    | 30        |
| 13    Re-interviewing BCS respondents                                     | 30        |
| 14    Alternative sample sizes  | 30        |
| 15    Next steps  | 31        |

|  |           |
|--|-----------|
| <b>Part 3 Wales, Scotland and Northern Ireland</b>           | <b>33</b> |
| 16    Wales, Scotland and Northern Ireland                   | 33        |
| 17    Information currently available                        | 33        |
| 17.1    Wales  | 33        |
| 17.2    Scotland   | 33        |
| 17.3    Northern Ireland                                     | 34        |
| 18    Participation in a new UK drugs survey                 | 34        |
| <b>References and bibliography</b>                           | <b>35</b> |
| <b>List of organisations and individuals consulted</b>       | <b>37</b> |
| <b>Reports in the National Statistics Methodology Series</b> | <b>38</b> |

## **Summary**

This report considers the feasibility of undertaking a major survey of drug use among adults in the United Kingdom, and the extent to which such a survey could meet information needs not satisfied by current data sources. In assessing these matters it was assumed that the achieved sample would be of the order of 20,000.

Information about the prevalence of drug use among the adult general population in the United Kingdom is currently provided by the British Crime Survey (BCS) in England and Wales and similar surveys in Scotland and Northern Ireland. The main limitation of these surveys has been sample size (although this has largely been overcome in England by the recent substantial increases in the BCS sample) and the restricted set of questions that can be included in a survey whose main focus is a different topic.

The key issues in relation to feasibility are the acceptability to the general public of a survey of drug use, the extent to which they will co-operate with it, and the extent to which they will try to be honest. The BCS has shown that questions about drug use are acceptable, particularly with the use of CASI (Computer Assisted Self-Interviewing) and it is not thought that under-reporting is at an unacceptable level.

Views about the value of a new survey of drug use were sought from and discussed with government departments, organisations and individuals with an interest in drugs and drug research. There was a general consensus that, as well as better estimates of the prevalence of drug use, more information was needed in a number of areas. This would both support the development of policy in relation to the Drugs Strategy, and provide information which would improve the level of public debate on drug-related issues. Some of the perceived gaps in current information can be summarised as follows:

In relation to the Drugs Strategy:

- the availability and supply of drugs;
- pathways into drug use, and drug-taking careers;
- the extent to which crimes are committed in support of a drug habit; and
- local information for Police Force areas and Drug Action Team areas.

More generally:

- how drugs are obtained and how much they cost;
- pattern of drug use and circumstances of use;
- recreational vs problem use and what distinguishes them;
- the relationship between drug use and lifestyle;
- consequences of drug use for the user and others; and
- attitudes to drugs and to risk-taking.

The paper considers the potential limitations of a new survey – exclusion of those not living in private households, possible difficulties with response rates and respondent under-reporting of drug use, but concludes that they are not sufficient reason for not doing a survey, given the value of the additional information that would be provided.

A wide-ranging survey is therefore proposed with the following features.

- The target population would be people aged 16 to 59 living in private households. Those aged 16 to 29 would be over-sampled by a factor of 2. This would not only give more drug users for analysis, but would improve the precision of national prevalence estimates.

- It would be designed so that data on prevalence of drug use could be combined with data from the BCS to give more precise estimates at national level than can be provided by the BCS alone.
- The sample design proposed is similar to that for the BCS in that a minimum sample size would be set for Police Force Areas, so that in combination, the two surveys would enable some basic analysis at that level, probably enhanced by small area estimation. There is, however, no realistic prospect of data at Drug Action Team (DAT) area level, which would require a total sample of about 125,000 people aged 16 to 59 from the BCS and the drugs survey combined.
- The cost of the proposed survey could be offset to some degree if a separately funded survey on another topic were carried out simultaneously among those aged 60 and over.

The questionnaire would cover all illegal drugs, and illicit use of substances obtained legally. As well as extensive information from current and past drug users about their drug use, all respondents would be asked about their physical and mental health, smoking, drinking, psychological attributes, criminal activities, social and economic circumstances, and about their attitudes to various matters related to drug use.

Wales, Scotland and Northern Ireland were broadly of the view that a wide-ranging survey of substance use (including tobacco and alcohol) would be of value, and would supplement existing data sources, and perhaps allow for some rationalisation of data collection. However, in none of the three countries would a proportional sample be sufficiently large to permit the type of analysis likely to be required. It is likely, therefore, that for data to be useful as anything other than part of a UK figure, sample sizes in those countries would need to be increased substantially.

# **Part 1 Value and feasibility**

## **1 Introduction**

This study was commissioned by the Home Office to assess the feasibility and value for money of a large-scale survey of drug use among adults in the United Kingdom (UK).

An earlier feasibility study was carried out in 1986 (Goddard, 1987), and concluded then that a survey probably was possible (although further work was needed to establish this for certain). It was decided not to proceed at that time, partly because of cost, but also because considerable investment had already been made in local prevalence studies.

Developments in the decade that followed that first feasibility study were reviewed by Ramsay and Percy (1997). They concluded that although the UK lagged behind the USA in setting up a national drug use survey, progress had been made in that drug use had been included as an ancillary topic on a number of surveys primarily about other subjects.

The government's ten-year strategy for tackling drug misuse, *Tackling drugs to build a better Britain* was published in April 1998 (UKACD, 1998) following the setting up of the UK Anti-Drugs Co-ordination Unit. The Drugs Strategy has a number of performance targets and indicators related to its four main elements: young people, communities, treatment and availability. The Drugs Strategy defines 'young people' as those under the age of 25, and information about the prevalence of drug use is currently provided by two sources: for young adults aged 16 to 24, data are provided by the British Crime Survey (see Section 3.1) and for those under age 16 (who are not of direct concern to this report) by surveys of secondary school children (Goddard & Higgins, 2000). One important consideration – although it is not the only one – in evaluating the need for a drugs survey is the extent to which the specific data needs of the Drugs Strategy are met by existing data sources. This is discussed in Section 4.1.

Clearly, the value of a new survey would depend in large part on the sample size. It is not known at present what the budget for a new survey might be, should it be commissioned, so it is important to consider what is the sample size threshold below which the survey might not represent good value. However, this report would be over-complex if it attempted to discuss value in relation to, say, three or four different sample size options throughout. To aid clarity, therefore, discussion in the first part assumes that an achieved sample of 20,000 interviews would be attainable. Section 14 considers the impact of different sample sizes on the conclusions reached about the value of a new survey.

This paper relates to a survey of the four countries that comprise the UK. Rather than try and interweave issues of specific relevance to Wales, Scotland and Northern Ireland throughout the paper, they are dealt with separately in Part 3 of this report. The bulk of this report therefore addresses general issues of concern across the UK, but concentrates on the current availability of data in England.

## **2 The international picture**

The review of drugs surveys in other countries carried out for this study has been restricted to what could be found out in the main publications in the literature and the internet, and is limited to those where reports are published in English. It was not in any case intended to be exhaustive – the purpose was primarily to establish the extent to which other countries have judged drugs surveys to be both feasible and of value. This is relevant to a consideration of the UK situation, because although levels of drug use vary from country to country, drug use is everywhere seen as a problem, and the difficulties of obtaining information by survey are

similar whatever the country. The main surveys considered here are those in the United States, Australia and the Netherlands. In this section, their key characteristics are summarised; specific features are discussed elsewhere.

The most comprehensive and longstanding survey of drug use is the US National Household Survey of Drug Abuse (NHSDA), which has been carried out since 1971 (SAMHSA, 2000). There were two major changes to the survey in 1999: it transferred from paper and pencil to computer assisted interviewing (CAI), and the sample was increased from 20,000 to 70,000 and redesigned to provide state-level as well as national data. The survey is considered successful and valuable: as well as prevalence, it provides estimates of trends in the initiation of drug use, and the extent of drug dependence and drug treatment. The survey has a good response rate for this topic – 69 per cent – and, perhaps surprisingly, response is higher than average among the youngest respondents (71 per cent among those aged 18 to 25), which is the opposite to what would be expected from general UK survey experience.

Six Australian surveys of drug use have been carried out since 1985. The latest, carried out in 1998, had a sample of around 10,000 adults, and collected data mainly by self-completion booklets which were left with the respondent and either posted back or collected later (AIHW, 2000). Response was relatively low, at 57 per cent, and because of the weighted sample design, it was not possible to estimate response rates for different age groups. The survey covered a wide range of drug-related topics.

Most European countries collect some information about drug use by social survey, but the range and frequency is variable (EMCDDA, 2000). The most comprehensive European survey appears to be the one carried out in 1997 in the Netherlands, which followed the methodology of a survey carried out in Amsterdam at intervals since 1987 (Abraham *et al*, 1999). The overall response rate was 53 per cent (based on all aged 12 and over) but was much the highest, at 70 per cent, among those aged 16 to 19. This is a similar pattern to that shown by the US survey described above.

### **3 Survey data currently available from UK sources**

Existing UK surveys which include drug use among adults fall into one of two groups: surveys of the general population, and surveys of special populations, such as prisoners, or people in treatment for drug use. It is mainly the first type that are of concern for the assessment of the added value of a new drugs survey, although it is important to acknowledge the ways in which the two types of survey may complement each other.

Ramsay and Percy (1997) described surveys with a drugs component carried out up to the mid 1990s, so this section concentrates on more recent developments and the current position.

Monitoring the prevalence of drug use requires surveys carried out at regular intervals using the same methodology (without this it is not possible to attribute any differences between surveys to real changes occurring in the population). For England and Wales, this is currently done using the British Crime Survey (BCS), which is carried out for the Home Office. In Scotland and Northern Ireland, similar crime surveys are used to provide information about drug use, although there are some differences in methodology between them and the BCS (see Section 18).

The key question for this evaluation is whether these surveys provide adequate data on the prevalence of drug use. If they do not, could a survey concentrating solely on drug use do any better? If they do provide adequate data on prevalence, then what would be the added value of a new survey?

### **3.1 The British Crime Survey**

#### ***3.1.1 Methodology***

The BCS is a survey of adults aged 16 and over living in private households in England and Wales, the main purpose of which is to collect information about their experiences of being victims of crime. A drugs self-completion module was first included in the BCS in 1992. Since then, it has been repeated biennially, each time aiming for an achieved sample of about 15,000 adults, until 2000, when the sample size was increased to 20,000. The short self-completion section of questions about drug use is addressed to respondents aged 16 to 59: these cover 'lifetime', 'last year' and 'last month' use of a list of illegal and illicit drugs.

The BCS collects data relating to the household as well as to the individual, and the sampling method, where one person is randomly selected for interview in each sampled household, reflects this (data for individuals are, of course, re-weighted to compensate for the consequent differing probabilities of selection).

The 1992 BCS was carried out using paper questionnaires, but the survey was transferred to Computer Assisted Interviewing (CAI) using laptop computers in 1994. For the questions about drug use, which are potentially sensitive, the respondent is given the laptop computer and answers questions as prompted on the screen (this variant of CAI is referred to as CASI – Computer Assisted Self-Interviewing). The answers are electronically scrambled, so they are not visible to the interviewer once the section has been completed, either at the time of interview or later.

#### ***3.1.2 Recent developments***

Following a review carried out in 1999, it was decided that from 2001, the BCS should be carried out every year, and continuously throughout each year. At the same time, the annual achieved sample size was increased to 40,000 (including an ethnic minority boost sample of 3,000) and coverage of drugs has been extended to include age of first use and ease of access to drugs for those aged 16 to 24.

A further enhancement is that the survey will boost the sample of young people by interviewing more than one person aged 16 to 24 per household. This is being introduced halfway through the 2001 survey, and is expected to provide an additional 3,000 interviews with this age group in a full year.

#### ***3.1.3 Evaluation of the BCS as a source of data on drug use***

There are two key issues which bear on the value of the BCS as a provider of data on the prevalence of drug use. The first is the extent to which the data truly represent the prevalence of drug use in the general population: this is determined both by the extent to which drug users may be less likely than non-users to respond, and by the extent of under-reporting by those who do take part. The second key issue is the adequacy of the sample size in allowing sufficiently robust estimates of drug use.

##### ***BCS response rates***

All surveys seek to achieve high response rates, because this reduces the risk of bias in the results. BCS response rates have fluctuated to some degree, but the overall response rate has been good, although it fell from 79 per cent in 1998 to 74 per cent in 2000, in line with a general tendency to declining response rates on many surveys. Nonetheless, it is likely that the main subject matter of the BCS encourages response because crime as experienced by ordinary people is seen as being of relevance and importance to those asked to take part.

As far as drug use is concerned, response rates among young people are of particular concern. Most surveys find that young people are particularly difficult to contact, because they are out a lot. Calculation of BCS response rates for different age groups is difficult, because of the weighted sample design, but the estimated response rate<sup>1</sup> among those aged 16 to 24 was about 68 per cent in 1998 and 63 per cent in 2000 – lower than the overall figure, but still respectable. Having said that, the 1998 figure was enhanced by relatively high response among young women aged 20 to 24 – it was much lower among 16- to 19-year-olds of both sexes, and among young men aged 20 to 24. Response rates by age and sex were not available from BCS 2000 at the time of this report.

#### *Quality of information on drug use*

It is reasonable to assume that any survey is likely to underestimate the prevalence of the use of drugs, for two broad types of reason, as already noted:

- those with problems as a result of drug use may not be living in private households, and if they are, they may be less likely than non-users to agree to take part in a survey; and
- those who do take part are likely to understate their use of drugs.

However, if it is felt that the level of understatement is unlikely to be so great as to invalidate the results, then a survey may still be worthwhile. Furthermore, if the level of under-reporting is likely to be constant, and it is trend data that are of key interest, then it may not be of overriding importance. Over the short term the assumption of constant under-reporting is probably reasonable, but over the longer term, it is worth bearing in mind that greater acceptability of drug use may lead to increased willingness to be truthful. The consequence of this would be that surveys would show greater increases in drug use over time than had actually occurred.

The main problem about under-reporting is that it cannot be estimated unless there is good information about total national consumption of whatever is being measured, which is certainly not the case in relation to drugs. There is some indication (see the discussion of the Youth Lifestyle Survey in the next section) that the context of the BCS – victimisation – is less likely than that of the YLS – offending behaviour – to encourage young people to be honest about drug use. However, although an accurate assessment of the level of under-reporting on the BCS cannot be made, it has not been seen as so serious as to call into question the value of the data.

Thirty-five qualitative follow-up interviews were carried out with BCS respondents in 1996 (White & Lewis, 1998). The main focus of the interview was the accuracy with which respondents had reported criminal victimisation, but in the context of exploring the effect of the use of the laptop computer for obtaining sensitive information, it was clear that some respondents felt that they, or other people, might have under-reported drug use. Factors which respondents thought might influence the accuracy in reporting drug use were:

- concern about reporting drug use in the presence of an older interviewer;
- perceptions about drug use as a criminal activity;
- perceptions of the harmfulness of different drugs; and
- recency of use – those interviewed felt that people might more readily admit to behaviour which had occurred some time ago.

The key factors which had encouraged respondents to be honest in their answers were the development of a good rapport with the interviewer, and belief in the assurances of confidentiality they were given.

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<sup>1</sup> Based on the table on page 22 of the 1998 BCS Technical Report, and the equivalent table in the forthcoming 2000 BCS Technical Report.

### *Adequacy of the sample size*

A severe limitation of the BCS data on drug use up to and including 2000 has been the sample size. Current drug use has until now been most prevalent among people under age 25, and the 1998 BCS obtained information from only about 1300 young people aged 16 to 24. Although this is sufficient to give basic estimates of prevalence, the small sample means that they are not very precise (confidence intervals are wide). From 2001, the core sample of 16- to 24-year-olds will increase to about 3,000, which means that estimates will be considerably more precise – and this is before the additional booster sample, which may add another 3,000 in a full year.

A key target of the Drugs Strategy is to reduce the proportion of this age group who have used heroin and cocaine in the last month by one quarter by 2005 and by one half by 2008. Current prevalence is about 1 per cent, and samples of 3,000 are large enough to detect as statistically significant a fall to 0.5 per cent, but not a fall to 0.75 per cent. A survey such as the BCS is certainly not large enough to monitor changes in prevalence of the use of hard drugs by young people at anything other than a national level.

### *Conclusion*

Insofar as prevalence data at a national level are concerned, the enhanced BCS will provide adequate data on prevalence of lifetime, last year and last month use of most drugs. With the boosted sample of young people aged 16 to 24 from 2001, the sample will be large enough to enable monitoring of change in the use of the class A drugs, which is of particular concern to the Drugs Strategy.

Thus, following the recent enhancements to the BCS, it has two main limitations as a source of information about drug use.

1. Only a small number of questions about drug use can be accommodated. Because the competing demands on the survey are unlikely to reduce, there is little scope for any further increase in the number of questions on drugs over and above those added in 2001. It is, however, fairly certain that the existing volume of questions will be maintained in the foreseeable future.
2. It is hoped that from 2001 some data may be available for Police Force Areas (PFAs), using a combination of data from those areas and small area estimation (see Section 11). However, the minimum achieved sample of 650 adults per PFA is not large, so data at a sub-national level is likely to be limited.

## **3.2 Two other recent general population surveys with a drugs component**

As with the BCS, although these surveys have included questions about drugs, this was not the main focus of the survey, and neither has been carried out often enough to monitor drug use adequately.

### **3.2.1 Youth Lifestyle Survey (YLS)**

The main purpose of the YLS is to measure self-reported offending by young people, and to analyse this in relation to other aspects of their lifestyle, such as smoking, drinking, drug use, and various anti-social behaviours.

The survey has been carried out only twice, in 1992/93 and 1998/99. In the second survey, the target population was young people aged 12 to 30, and the interviews were carried out using

CAI (CASI was used for the potentially sensitive sections, including the one on drug use). Three quarters of the sample of about 4,600 were in households where someone was interviewed on the 1998 BCS, and the remainder were obtained by focused enumeration of the house next door. The response rate on the YLS was 71 per cent for the BCS sample, and 64 per cent for the new sample – but the former takes no account of response at the original BCS interview, which would probably bring the overall response rate down to just over 50 per cent. It is interesting that response on the YLS was higher among those aged 12 to 19 than among those aged 20 to 30 (Stratford & Roth, 1999).

The YLS gives higher prevalence estimates for 16- to 29-year-olds than does the BCS, and a Home Office paper (Goulden & Sondhi, forthcoming) explores the possible reasons for this. It concludes that several factors may have contributed, but that the main one was probably the different context of the two surveys: young people were more likely to admit to drug use in a survey of offending behaviour than in one of victimisation.

In spite of this, however, the YLS gave a lower estimate of the prevalence of drug use for children aged 12 to 15 than did the 1998 ONS survey of smoking, drinking and drug use among secondary school children (Goddard & Higgins, 1999). The YLS estimate of the proportion of 14- to 15-year-olds who had used an illicit drug in the last year was 18 per cent, compared with the ONS estimate of 23 per cent. The relatively low YLS figures are almost certainly due to the YLS respondents being interviewed at home, rather than at school, even though efforts were made to ensure privacy. It is also worth noting that this difference between the surveys occurred despite the fact that the YLS is more likely than the school survey to pick up children who truant, among whom the prevalence of drug use is probably relatively high.

One consideration for a new national drugs survey is whether it should be designed in such a way as to provide the information on drug use currently obtained from the YLS.

### **3.2.2 *Surveys of psychiatric morbidity among adults***

The first survey in this series was carried out in 1993, and a second in 2000. Both samples were substantial, at about 10,000 adults aged 16 to 64, and 9,000 adults aged 16 to 74, respectively. As indicated by their title, these surveys focused primarily on mental health and well being. Their aim insofar as drug use is concerned was to assess drug dependence rather than just prevalence, and they have a similar limitation to the BCS in that only a small section of questions on drugs can be included. Experience gained from these surveys would, however, be valuable in designing questions for a new drugs survey, both because the surveys cover dependence, and because there are well-tested sets of questions designed to identify people with psychiatric health problems.

## **4 Data requirements not met by existing surveys**

There are two broad types of reason for government wanting information on a particular subject. The first is to meet a policy need, or to provide information to inform the development of specific policies. The second is to provide general background material which will improve the quality of public debate by providing evidence in place of conjecture. Discussions with colleagues in government departments and elsewhere<sup>2</sup> suggest that there is quite a widespread feeling of ignorance about many aspects of drug use – some specifically related to the Drugs Strategy and other aspects of policy, others much more general.

The following are some of the areas identified where information would be of benefit. It is not an exhaustive list, but it gives an idea of the kinds of areas that a survey could explore.

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<sup>2</sup> A list of those consulted is given at the end of this report.

## **4.1 The information needs of the Drugs Strategy**

As noted earlier, data for monitoring the prevalence of drug use among young adults at the national level are to a large extent met by the BCS, bearing in mind the proviso that data on Class A drugs are not really precise enough. There is also, however, a perceived need for some prevalence data at local level – preferably for DAT areas. Realistically, this will not be met by the BCS, even with a 40,000 sample (the average sample size per DAT would be only about 270 adults aged 16 and over) but some information will be available for Police Force areas. Ways of providing regional and local data are discussed in Section 11.

An important gap at present is the absence of reliable data on the availability – or supply – of drugs, the extent to which this changes over time, and the effect that changes in supply have on what drugs are used, and on levels of consumption. HM Customs and Excise are obviously aware of changes in the volume of drugs seized, but do not know if an increase in seizures means that fewer drugs are getting to the end users – the increased seizures may just represent the same percentage of an increased volume of drugs coming into the country. A survey could not measure changes in supply directly, but if repeated regularly over a period, it should be possible to link known events and changes in supply at the macro level with changes over time in what drugs people use, and in what quantities, and at what price. It could also measure availability as perceived by the drug user – ease of access to particular drugs – and changes over time in that.

A second area which is closely related to the Drugs Strategy's objective of reducing drug use, and in particular the use of Class A drugs, is people's pathways into drugs, and their drug taking careers. How do people get drawn into using drugs, and at what age? What is most people's first experience of drugs like – we know that only about one in five children who smoke regularly say they enjoyed their first cigarette – is it similar for drugs, and why do people persevere with something they find unpleasant? Do they try cannabis first and then progress to other drugs – what proportion of cannabis users never try anything else? How do changes in drug use relate to stages in the life cycle? We know, for example, that most problems due to heavy drinking occur among 18- to 24-year-old men, and decrease when they get married, and even more when they have children – are problems due to drug use similarly self-limiting to some degree?

Another question which although not a direct concern of the Drugs Strategy is of current (and likely future) interest is the proportion of crime that is accounted for by drug users committing offences to support their habit. The NEW-ADAM programme, in which arrestees are drug-tested and interviewed about their drug use and their offending, is able to make a statistical link between drug use and higher offending rates, but does not link the two at the individual level: arrestees are not asked, for example, if particular offences were committed to support a drug habit. Also, of course, no information is available for offenders who avoid arrest. The YLS does obtain information about offending and drug use in the general population, but, as with NEW-ADAM, not in such a way as to enable the two to be linked. A new survey could throw some additional light on this if, as well as collecting information about drug use, it also covered offending behaviour, and attempted to assess reasons for offending in some detail.

## **4.2 More general information needs**

The areas of information included here would supplement those in the previous section and would provide a wealth of information which would increase understanding of many aspects of drug use.

1. What kinds of user are covered by the current prevalence measures of use in the last year and use in the last month? What proportion of those who have used in the last year but not

in the last month consider themselves still to be current users, what proportion think they have stopped for good, and what proportion think they will use drugs in the future?

2. Is drug use regular or opportunistic – do users actively seek out a regular supply of drugs, or do they just buy them when they are offered them? What types of drug do users take singly and in combination? To what extent do they stick to one type of drug? In what circumstances do they switch to something else? What about people who try drugs once or twice but do not go on to be regular users – in what ways are they different from those who become regular users and from those who never try at all? What are the circumstances in which people use drugs. Where are they, who are they with, what are they doing?
3. How much recreational drug use is there which appears to have only minor consequences? What is it that distinguishes these drug users from problem users? At what point do people start to see themselves as problem users – does this accord with ‘expert’ opinion as to what a problem user is? Are users ashamed of their drug use, or are they matter-of-fact about it?
4. How much do drugs cost, who do they get them from, how much do they get for what they pay, and how do they pay for them? What do they do if they can’t get their usual drug from the usual source (this might range from doing without, to desperately trying to get anything they can get their hands on)? How much in total do they spend on drugs over a period? Does this get them into financial difficulties? To what extent do users commit crime to finance their drug use? What proportion of crime is drug-related?
5. The relationship between drug use, drinking and smoking is of interest in several ways. First, because cannabis is usually smoked, is smoking a pathway into drug use? About a third of children who used cannabis in the last month were not regular smokers – is it the same for adults? Or is this an association of anti-social behaviours (is drug use associated with problem drinking, for example)? More widely, how does drug use relate to lifestyle, both generally (are drug users more sociable, or more likely to be risk takers, for example?) or temporally – do people use drugs when they are out socialising and drinking? To what extent do people drive when under the influence of drugs?
6. Do users think their drug use has consequences for other parts of their lives – relationships, work, standard of living, physical health, mental health? Does it really, based on what they tell us about those things, and how do these aspects of their lives compare with those of non-users?
7. What are users’ and non-users’ attitudes towards drugs and to risk-taking in general? How do people rate the harm caused by various drugs in compared with tobacco and alcohol? What do parents think about their children using drugs? What do users think of non-users, and vice versa? What do people think about legalisation, and what do they think about the medicinal use of cannabis?

## **5 Potential for building on existing surveys**

The main drawback of a new dedicated survey of drug use among adults is the large initial sample needed to obtain a modest number of current drug users. It has been suggested that one alternative might be to re-interview those identified as drug users on the BCS, so that they could be asked in detail about their drug use. In theory, this would be possible, but in practice there are difficulties and drawbacks.

- Two levels of non-response (at the BCS and again at the follow-up stage) would almost certainly make the final sample unrepresentative, and would certainly expose it to criticism. (It was noted above that the overall response rate for those YLS respondents

who were followed up from the BCS was probably only just over 50 per cent.) To some degree, though, the additional bias this would introduce could be assessed and adjusted for, because there would be information obtained from the BCS interview for those who dropped out at the follow-up.

- The sample would be scattered and hence expensive to interview unless the second interview took place soon after the BCS one, and was carried out by the same interviewer. Although in theory a follow-up interview could be done by telephone, in practice the type of questions that could be asked would be too limited to make it worthwhile.
- Drug users are likely to be young and mobile, so the chances of finding them unless the follow-up was done quickly would be slim. But if the follow-up was done too soon after the BCS, the likelihood of them agreeing to take part in another survey would probably be reduced.

Although these limitations make a follow-up of BCS respondents an unattractive substitute for a new survey, there might be some advantages in doing so as an adjunct to an ad hoc survey. This is discussed further in Section 13.

## 6 Potential limitations of a new survey

Given that there is a need for information that could be provided by a survey, there are three factors which might mean that the information collected was not sufficiently valuable to justify the cost – these were mentioned briefly in the section about the BCS, but merit more detailed discussion here:

- the target population being limited to those living in private households;
- bias introduced by drug users being less likely than non-users to take part in the survey, either because they refused or were unable to be contacted; and
- under-reporting of drug use by those who are interviewed.

The second and third of these factors are really just different manifestations of the same problem for surveys – that drug use is for some people a sensitive topic.

### 6.1 Exclusion of those not living in private households

Those consulted during the preparation of this paper expressed some concern that the sample would inevitably be deficient in drug users with the worst problems, because those not living in private households would be excluded. It is true that some of those not living in private households, such as prisoners and rough sleepers, are known to include high proportions of drug users, but in absolute terms their numbers are small (the prison population in England and Wales was 65,000 in 1998, which is fewer than 1 in 500 adults). Their exclusion would have little effect on the overall results of the survey, although it would have more impact on estimates of, say, the prevalence of heroin use: in 1997, one in five sentenced prisoners had used heroin in the year before going to prison (Singleton *et al*, 1998). However, the uniqueness of their circumstances suggests that information about them would more sensibly be obtained through separate research – as is being done, for example, through the NEW-ADAM programme.

Of more concern, perhaps, is the exclusion of young people living at addresses that are not covered by surveys of the private household population. There are almost seven million

young people aged 16 to 24 in the UK. In 1991, 5 per cent (about 350,000) of them were living in communal establishments, about two thirds of them in educational establishments. This may or may not have increased in the last decade – on the one hand, more young people go on to tertiary education, but on the other, more of them remain living in the parental home. This is a much larger group numerically than prisoners, and if their drug use was markedly different from that of young people of the same age living in private households, then prevalence estimates could be affected.

It is possible to identify many of these young people through their parental home: the Labour Force Survey routinely record students living in halls of residence through their home address. Similarly, a drugs survey could ask at all sampled households whether there is a young person living away from home, and establish whether that person is at an address that would have had a chance of selection in the sample. Those not living in such addresses would be contacted and an interview sought. It is likely that the overwhelming majority of this group would have email addresses, and if interviewing via a secure internet site proves feasible, this might be a cost-effective way of including them in the sample. It would, of course, need careful piloting. ONS is currently investigating the use of CASI over the internet for complex social surveys.

## 6.2 Response rates

A key issue is the likely level of response that might be expected, because the lower it is, the more the validity of the results of the survey will be questioned, and the greater the likelihood of biased response.

It is very difficult to predict what the likely response rate might be on a survey of drug use. To some extent it would depend on how the survey was ‘sold’ to potential respondents. It is current practice to write to sampled addresses before the interviewer calls, explaining what the survey is about, and why it is important that they take part. Clearly, a survey focusing on drug use would have to be explained very carefully – both in the letter and when the interviewer called. In particular, consideration would need to be given to how explicit the explanation should be. On the one hand, a completely open and honest approach would be easiest to justify, but might deter people from agreeing to take part – either because they were not drug users and therefore did not think it relevant, or because they did use drugs but did not want to talk about it. On the other hand, glossing over the real subject might lead those who agreed to take part to feel they had been misled when they found out what the survey was really about. The range of options for ‘selling’ the survey would depend greatly on the breadth of topics covered – a fairly substantial section about attitudes might help, particularly for non-users. If a survey goes ahead, qualitative work would be essential to explore further how best to put it across to potential respondents.

It was noted earlier that response on the BCS was 74 per cent in 2000, but it is likely that response on a drugs survey would be lower than this. It would be more difficult to persuade people to take part, particularly if they did not think it was relevant to themselves: everyone thinks crime is relevant, whether or not they have been a victim.

It is also important to consider the extent to which drug users might be under-represented in the achieved sample, and what might be done to minimise this bias. This may occur directly, if drug users are less likely to take part in the survey, and indirectly, if response is low among young people, who have the highest prevalence of drug use.

There are two main types of non-response – the person either refuses to take part, or cannot be contacted for an interview to be arranged (in some cases this may be a hidden refusal). Most surveys of the general population find that response is relatively low among young people – this may be partly because they don’t feel that the subject matter of the survey is relevant to them, but it is more often the case that they are particularly difficult to contact, because they

are not often at home. The General Household Survey, for example is unable to gain personal interviews with about one-fifth of young people aged 16 to 24 who live in co-operating households where interviews have been obtained with other household members. This may be to some extent peculiar to the GHS, because of its wide range of topics, and no particularly strong selling point, but the same pattern is observable on other surveys.

There are positive pointers, however, from the fact that in both the US and the Netherlands drugs surveys, response rates were highest among young people – presumably because they were more likely than older people to see the subject as relevant.

It would be essential to gather appropriate information so that response by age could be monitored, and as much information as possible should be collected for those who refuse to take part or cannot be contacted.

### **6.3 Respondent under-reporting of drug use**

At the time of the first feasibility study, in the mid 1980s, drug use was such a sensitive topic that a prime concern was that asking people directly about it would lead to such under-reporting that the survey would be of little value. Drug use is almost certainly more common now than it was in the mid 1980s, and because of increased public awareness of drugs, and particularly of recreational drugs, people are less likely to be shocked or offended if asked questions about their own drug use. Nonetheless, the question will always be asked ‘Do people tell the truth when asked about their drug use?’

There is bound to be some level of understatement, but there is no real way of estimating it. There is some evidence to suggest that young adults interviewed at home are more likely to under-report drug use than are children from whom the information is obtained at school, well away from the parental setting: as noted earlier, the YLS shows much lower prevalence of drug use than do the surveys carried out among secondary school children. And this occurs, of course, even though the sensitive information was obtained from the children interviewed at home using computer assisted self-interviewing (CASI). Similar differences have occurred between other surveys, and it seems that, if young people are interviewed at home, the potential effect of parental disapproval is very strong, whatever the steps taken to protect their privacy and confidentiality.

In theory, one way of determining the level of under-reporting would be the use of a biological marker, but this is unlikely to be practical. Although assay of saliva samples is being developed, current testing for drug use (such as in the NEW-ADAM programme) is done by urinalysis. There seem to be mixed views about the value of this type of test: one reason is that it only picks up drug use in the last few days, and other substances can be found in urine which confuse the results. Consideration also needs to be given to the false-positive rate, because unless it is very low indeed, it is not helpful for use with the general population, the overwhelming majority of whom are non-users (if there is a prevalence rate of 1 per cent and a false-positive rate of 5 per cent, the urinalysis will indicate much higher prevalence than is actually the case).

That aside, there are two further, very strong, practical reasons for not pursuing this approach. The first is that ethical approval would need to be obtained for the collection of urine specimens. This is time-consuming and expensive, and would need to be justified by very clear benefits. The second is that respondents would have to be willing to provide urine specimens: it would be obvious that this was only being done to test their truthfulness, and it would therefore be likely to have a bad effect on response.

Although there will inevitably be some under-reporting of drug use, this would not of itself render a survey worthless. There are similar limitations with surveys of drinking, which have nevertheless been carried out since the early 1970s. Although drinking is not illegal, surveys

which attempt to estimate alcohol consumption are subject to the same difficulties as would be a drugs survey: they also tend to miss very heavy drinkers, who are difficult to contact, and, for a number of reasons, there is a general tendency for those who do respond to underestimate how much they drink. Surveys are generally thought to pick up only about 60 per cent of alcohol consumed (Goddard, 2001), but they have nonetheless provided valuable information about people's drinking habits, and changes in those habits over time.

## 7 Encouraging response and minimising under-reporting

It is clearly of the utmost importance to be able to convince respondents of the confidentiality of their answers, and to demonstrate this as far as possible by protecting their privacy while they are interviewed. Until fairly recently, in interviews that were otherwise conducted using laptop computers, sensitive topics were dealt with by giving the respondent a self-completion questionnaire to fill in. Now, however, because of dramatic improvements in computer literacy, it is feasible for the interviewer to hand the laptop to the respondent, for the equivalent of self-completion of particularly sensitive topic areas. The respondent, rather than the interviewer, reads the questions on the laptop screen and enters the answers. Thus neither the interviewer nor anyone else within earshot knows what questions are being asked or what answers given. If the respondent has difficulty reading, the questions can be asked using headphones.

Compared with self-completion by the respondent of a paper questionnaire, use of the laptop makes it more difficult for other members of the household to see what the respondent is doing (laptop screens can only be seen from a limited range of angles). Furthermore, the structure of the questions can be more complex, as the respondent doesn't have to follow the routing: the laptop program does it automatically.

It is also possible to scramble the answers, so that they are not visible to the interviewer, either at the time of interview or later. The point of this is of course to reassure respondents about the confidentiality of their responses. This is done routinely on the BCS, and for most respondents it is probably effective, but the small qualitative study referred to in Section 3.1.3 suggested that the most computer literate and technically minded respondents viewed the assurances they were given with some scepticism (White & Lewis, 1998).

A further development which should be explored is the possibility of giving respondents the option of answering the questions via a secure internet site: this might appeal to some of those who might otherwise be difficult to interview in person.

It is worth just noting in passing that although telephone interviewing is relatively cheap, it is not an option for this type of survey. The questions would have to be asked and answered aloud, and the only way of keeping the content of the interview private from others in the respondent's household would be to restrict the questions to the type that could be answered 'yes' or 'no'. This would put unacceptable limits on the scope of the survey and the breadth of information that could be obtained.

## 8 Conclusion

The author's view, and that of nearly all those consulted, is that a national survey of drug use providing the additional type of material discussed in Section 4 is feasible, and would, in principle, be of value. Part 2 of this report considers which survey design options would provide best value for money.

As well as providing a wide range of information about drug use and drug users which has not been collected up to now, the new survey would provide additional prevalence data which

could be combined with data from the BCS. This would give better estimates at national level, and would allow some sub-national estimates (see Section 11). It is envisaged that the new survey could replace the drugs component of the YLS for those aged 16 and over.

The new survey would not need to be done very frequently – every five years might be often enough – because the kinds of topics that would be the main purpose of the survey would be unlikely to change rapidly enough to warrant more frequent investigation. In any case, a second survey should not be commissioned until the results of the first have been digested and evaluated.

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## **Part 2 Survey design**

### **9 Topics that should be included**

Section 4 described some types of information and analysis not currently available that a new survey could provide. This section lists the topics that the survey would need to include to enable such analyses to be carried out.

The range of drugs covered will need to include all illegal drugs, and illicit use of substances obtained legally, such as tranquillisers or solvents. Drugs prescribed by a doctor or supplied by a pharmacist for medical use, would be excluded.

This is not an exhaustive list, but is intended to suggest the range of topics that could be included.

#### ***From drug users and non-users***

- prevalence of use of individual drugs, and of any drug use: lifetime, last year and current (probably last month);
- attitudes to different drugs relative to each other;
- attitudes to users of different types of drug;
- attitudes to legalisation;
- awareness of, and access to information about drugs;
- personality and psychological attributes;
- health – chronic sickness and psychiatric morbidity;
- smoking and drinking (particularly problem drinking);
- social and economic circumstances of the informant and his/her family; and
- criminal activity.

#### ***From current and past users***

- age of first use, and the circumstances of first use;
- history of drug use;
- pattern of use;
- reasons for taking drugs;
- mode of use (route, combinations);
- cost of drugs and means of paying for them;
- problems associated with drug use – medical, social, financial;
- attempts to stop using drugs; and
- dependence on drugs.

The disadvantage of a survey concentrating solely on illicit drug use is that a great deal of information will be sought from a relatively small proportion of the sample – two-thirds of 16- to 59-year-olds have never used an illicit drug (BCS 1998 table 2.1). Even among 16- to 24-year-olds, a key target group for the Drugs Strategy, almost half have never used an illicit drug.

Although all respondents, including those who have never used drugs, would be asked the attitude questions, and questions on other topics such as health, smoking and drinking, and their general circumstances, the interview for non-users would be relatively short. It is worth considering, therefore, whether additional topics might be included, to improve the balance of the interview.

Two possible topics of interest to the Home Office, which are included in the list above, but which could be expanded, are problem drinking, and offending behaviour. These topics would

sit quite well alongside drug use, but unfortunately they would worsen the balance rather than improve it, because those likely to be involved are predominantly from the same age groups as drug users.

An alternative companion topic might be the use of prescribed and non-prescribed medication. This would fit well, in that older people, who are less likely to use drugs, are more likely to use medication, so it would even out interview length to some degree. This may be rather broad, but could be limited to asking about, for example, problem use of prescribed tranquillisers. This topic would potentially be of interest to the Department of Health, but this has not yet been explored with them.

## 10 Target population

Consideration needs to be given to the age range that the survey should cover, and whether the sample should be weighted in favour of particular age groups.

### 10.1 The age range

The age range to which the drugs questions on the BCS are addressed is those aged 16 to 59. The argument for excluding those aged 60 and over is that there are very few in this age group for whom the questions would be relevant, and the same consideration applies to an ad hoc survey. In fact, it could be argued that the age range for a new drugs survey should concentrate even more on the younger age groups who are most likely to use drugs.

To determine which topics and questions were relevant (such as cost of drugs and where and how they were obtained), respondents would need to be categorised as to whether or not they were current users. Although usual frequency of use would also be taken into account, the BCS proportion of respondents who had used drugs in the last month is a reasonable proxy indicator to use in estimating the number of current users the survey would identify, and the likely age distribution.

**Table 1 Prevalence of drug use by age, 1998**

| Age       | % who had ever used | % who had used last year | % who had used last month | Bases=100% |
|-----------|---------------------|--------------------------|---------------------------|------------|
| 16-19     | 49                  | 31                       | 22                        | 502        |
| 20-24     | 55                  | 28                       | 17                        | 794        |
| 25-29     | 45                  | 19                       | 11                        | 1,244      |
| 30-34     | 38                  | 10                       | 5                         | 1,575      |
| 35-39     | 31                  | 7                        | 4                         | 1,440      |
| 40-44     | 25                  | 4                        | 2                         | 1,241      |
| 45-59     | 18                  | 3                        | 1                         | 3,192      |
| All 16-59 | 32                  | 11                       | 6                         | 9,988      |

*Source: BCS 1998*

**Table 2 Drug use by those aged 16 to 29**

|                 | Class of drug | % who had ever used | % who had used last year | % who had used last month |
|-----------------|---------------|---------------------|--------------------------|---------------------------|
| Cannabis        | B             | 42                  | 23                       | 14                        |
| Amphetamines    | A/B*          | 20                  | 8                        | 4                         |
| LSD             | A             | 11                  | 2                        | 0                         |
| Magic mushrooms | A             | 10                  | 2                        | 0                         |
| Ecstasy         | A             | 10                  | 4                        | 1                         |
| Poppers         | †             | 16                  | 4                        | 1                         |
| Cocaine         | A             | 6                   | 3                        | 1                         |
| Crack           | A             | 1                   | 0                        | 0                         |
| Methadone       | A             | 1                   | 0                        | 0                         |
| Heroin          | A             | 1                   | 0                        | 0                         |
| Any drug        |               | 49                  | 25                       | 16                        |
| Base (=100%)**  |               | 2,540               | 2,540                    | 2,540                     |

\* Class A if injected, otherwise Class B.

† It is an offence to supply poppers if it is likely that they are intended for abuse.

\*\* Unweighted sample.

Table 1 shows the proportion of each age group who had used drugs ever, in the last year, and in the last month, and Table 2 shows the same information for individual drugs for those aged 16 to 29. There is a sharp decline in drug use with age: 22 per cent of 16- to 19-year-olds had used drugs in the last month, but only 1 per cent of 45- to 59-year-olds had done so. Thus, from the point of view of getting information about current drug use, there is little to be gained in including people aged 45 and over, who account for only 5 per cent of recent users. Arguably, those aged 40 to 44 could also be excluded. Since the survey data would be combined with that from the BCS to give prevalence estimates, the absence of the older users from the ad hoc survey would not matter.

However, current users are not the only group that would be of interest. Those aged 45 to 59 are almost one-fifth of lifetime users, and it would be valuable to compare their experiences with those of current users. Furthermore, many older respondents will be parents of drug users – another topic suggested for inclusion above was parents' attitudes towards their children taking drugs.

On balance, the first ad hoc survey should probably err on the side of being inclusive, and cover those aged 16 to 59: the sample design of future surveys could be modified in the light of findings from the first one. The exclusion of a significant part of the adult age range, although efficient from the perspective of drug use, does make the survey relatively expensive, because not all households will contain the eligible population, but they have to be visited in order to establish that. Analysis of the GHS shows that more than one-quarter of all private households contain no adults under the age of 60. It would make financial sense, therefore, if some of the cost of contacting these 'unproductive' households could be recouped. Many government departments have a policy interest in older people, and the possibility of getting them to buy in to a parallel survey of this population could be explored.

At the other end of the age spectrum, it is worth considering whether young people under the age of 16 should be included. Strictly speaking, this is not necessary, because they are covered by the surveys of secondary school children. The only argument for including, say, those aged 14 and 15, would be a methodological one. They could be compared with children of the same age interviewed in the schools surveys, to give some idea of under-reporting among young people more generally when interviewed in the parental home.

This can be done already by comparing the 1998 YLS with the children's surveys – the latter show significantly higher prevalence of drug use – but if the new ad hoc survey incorporates the drugs component of the YLS it would be useful to repeat at some point, as levels of under-reporting may alter over time. It would also throw light on the rate at which young people start trying drugs over the transition from childhood to young adulthood – it is difficult to do this using data obtained in different settings (the home and the school). Inclusion of this age group would not be entirely straightforward, however, as parental permission would have to be sought for the interview, and might be difficult to obtain, given the subject matter of the survey.

## 10.2 Differential sampling probabilities according to age

The most efficient sample design is one in which probabilities of selection are proportional to the standard error of the estimate for a particular group – the principle being that a larger sample is needed to represent adequately a more variable population. Table 3 shows two alternative sets of weights according to age. The first set is based on a close approximation

**Table 3 Effect of weighting on precision**

| Age                            | % of<br>1999<br>pop <sup>n</sup> | Proportion-<br>al sample | % used<br>drugs last<br>month | Unit<br>variance | Standard<br>error | Weights model 1 |                    | Weights model 2* |                    |
|--------------------------------|----------------------------------|--------------------------|-------------------------------|------------------|-------------------|-----------------|--------------------|------------------|--------------------|
|                                |                                  |                          |                               |                  |                   | Rel<br>wts      | Weighted<br>sample | Rel<br>wts       | Weighted<br>sample |
| 16-19                          | 8.3                              | 1,665                    | 22                            | 1,716            | 41.4              | 4               | 3,234              | 2                | 2,555              |
| 20-24                          | 9.9                              | 1,979                    | 17                            | 1,411            | 37.6              | 4               | 3,845              | 2                | 3,037              |
| 25-29                          | 12.1                             | 2,421                    | 11                            | 979              | 31.3              | 3               | 3,527              | 2                | 3,715              |
| 30-34                          | 13.7                             | 2,733                    | 5                             | 475              | 21.8              | 2               | 2,654              | 1                | 2,097              |
| 35-39                          | 13.4                             | 2,676                    | 4                             | 384              | 19.6              | 2               | 2,599              | 1                | 2,053              |
| 40-44                          | 11.4                             | 2,286                    | 2                             | 196              | 14.0              | 1               | 1,110              | 1                | 1,754              |
| 45-59                          | 31.2                             | 6,241                    | 1                             | 99               | 9.9               | 1               | 3,031              | 1                | 4,789              |
| All 16-59                      | 100                              | 20,000                   | 6                             | 564              |                   |                 | 20,000             |                  | 20,000             |
| Variance of overall prevalence |                                  |                          |                               | 0.0282           |                   |                 | 0.0228             |                  | 0.0241             |
| Standard error                 |                                  |                          |                               | 0.1679           |                   |                 | 0.1510             |                  | 0.1553             |
| Relative standard error        |                                  |                          |                               | 2.8%             |                   |                 | 2.5%               |                  | 2.6%               |
| Effective total sample         |                                  |                          |                               | 20,000           |                   |                 | 24,727             |                  | 23,390             |

\* Recommended option.

to the relative standard error of the estimate of the prevalence of drug use for each age group. This gives the greatest increase in precision – equivalent to a simple random sample of 24,700, rather than 20,000. In practice, this would be difficult to implement, but the table also shows that the loss of precision from a simplified weighting structure would be minimal: if those aged under 30 were over-weighted in the sample by a factor of 2 compared with older people, the effective sample size would be 23,400. This is a wider age band than the 16 to 24

one of particular concern to the Drugs Strategy, but it is probably advisable not to tie the survey design too closely to that, in case priorities change. Weighting up young people in this way not only improves the precision of the overall prevalence estimate, but will provide a greater number of drug users for further analysis, and hence better information about what drug users actually do. It is therefore not worth considering an unweighted sample as an option.

Thus the sample design proposed is one in which a sample of households is selected, and interviews are sought with all those aged 16 to 29 and half of those aged 30 to 59. This means that no interview would be sought in the 28 per cent of households that contain only adults aged 60 and over, and in half of the households containing nobody aged 16 to 29 and only one person aged 30 to 59. It would also mean interviewing more than one person aged 30 to 59 in a few households containing three or more people in that age group.

An alternative way of selecting people aged 30 to 59 for interview would be to interview one per household. This method is used on the BCS, which obtains information about victimisation at the household as well as the individual level. This is not recommended for a drugs survey, however, because all data would be analysed at the individual level. Furthermore, it would result in proportionately more interviews with people aged 30 to 59, which is undesirable, given that the sample is deliberately being designed to oversample younger respondents.

**Table 4      Sample breakdown**

|  | %   | Number |
|--|-----|--------|
| Initial sample of addresses                    | 100 | 36,500 |
| Ineligible addresses (10%)                     | 10  | 3,650  |
| Eligible households                            | 90  | 32,850 |
| Adults aged 16-59 in eligible households       |     | 44,000 |
| Eligible households                            | 100 | 32,850 |
| Households with no-one aged 16-59              | 28  | 9,198  |
| Households with at least one person aged 16-59 | 72  | 23,652 |
| Interviews required                            |     |        |
| None   | 10  | 3,285  |
| One  | 43  | 14,126 |
| Two  | 15  | 4,928  |
| Three or more                                  | 4   | 1,314  |

Analysis of the 1998 General Household Survey household composition data indicates that to achieve a sample of 20,000 interviews with the design described above, an initial sample of about 36,500 addresses would be needed. This assumes a response rate of 70 per cent, and would give interviews with about 9,000 young people aged 16 to 29 and 11,000 persons aged 30 to 59 (see Tables 4 and 5). These figures assume uniform response rates across all age groups, which would almost certainly not be the case, but is a reasonable assumption in the absence of other reliable information. As noted elsewhere in this report, the evidence is not clear: the BCS has a lower response rate among young people, but the YLS does not – and neither does the equivalent survey in the United States.

**Table 5 Distribution of achieved sample by age\***

| Age            | Percent-age of population | Adults in eligible households | Adults sampled | Responding adults (70%) |
|----------------|---------------------------|-------------------------------|----------------|-------------------------|
| 16-19          | 8.3                       | 3,662                         | 3,662          | 2,563                   |
| 20-24          | 9.9                       | 4,354                         | 4,354          | 3,048                   |
| 25-29          | 12.1                      | 5,326                         | 5,326          | 3,728                   |
| 30-34          | 13.7                      | 6,012                         | 3,006          | 2,104                   |
| 35-39          | 13.4                      | 5,886                         | 2,943          | 2,060                   |
| 40-44          | 11.4                      | 5,028                         | 2,514          | 1,760                   |
| 45-59          | 31.2                      | 13,731                        | 6,866          | 4,806                   |
| All aged 16-59 | 100.0                     | 44,000                        | 28,671         | 20,070                  |
| All aged 16-29 | 30.3                      | 13,342                        | 13,342         | 9,340                   |
| All aged 30-59 | 69.7                      | 30,658                        | 15,329         | 10,730                  |

\* Based on GHS 1998.

Table 6 shows the number of drug users the survey might be expected to identify. A sample of this size would give about 1,500 respondents aged 16 to 29 (1,000 aged 16 to 24) who had used drugs in the last month, which would be sufficient to allow quite detailed analysis of their behaviour.

**Table 6 Distribution of achieved sample by age and drug use**

| Age            | Responding adults (70%) | Ever used drugs |        | Used drugs in the last year |        | Used drugs in the last month |        |
|----------------|-------------------------|-----------------|--------|-----------------------------|--------|------------------------------|--------|
|                |                         | %               | number | %                           | number | %                            | number |
| 16-19          | 2,563                   | 49              | 1,256  | 31                          | 795    | 22                           | 564    |
| 20-24          | 3,048                   | 55              | 1,676  | 28                          | 853    | 17                           | 518    |
| 25-29          | 3,728                   | 45              | 1,678  | 19                          | 708    | 11                           | 410    |
| 30-34          | 2,104                   | 38              | 800    | 10                          | 210    | 5                            | 105    |
| 35-39          | 2,060                   | 31              | 639    | 7                           | 144    | 4                            | 82     |
| 40-44          | 1,760                   | 25              | 440    | 4                           | 70     | 2                            | 35     |
| 45-59          | 4,806                   | 18              | 865    | 3                           | 144    | 1                            | 48     |
| All aged 16-59 |                         | 32              |        | 11                          |        | 6                            |        |
| All aged 16-29 | 9,340                   | 49              | 4,610  | 25                          | 2,356  | 16                           | 1,492  |
| All aged 30-59 | 10,730                  | 26              | 2,743  | 5                           | 569    | 3                            | 271    |

\* Effective sample after re-weighting.

According to the 1998 BCS, the proportion of those aged 16 to 29 who had used heroin in the last month was less than 0.5 per cent. A total sample of 5,000 young people aged 16 to 24 is just about large enough to detect a change in prevalence from 0.5 per cent to 0.25 per cent as statistically significant, in line with the targets set in the Drugs Strategy. Combined with the

data from the BCS, however, prevalence data would be available from a total of about 8,000 people aged 16 to 24, and estimates would be even more precise (see Table 7).

**Table 7 Precision of estimates at national level**

| National sample   | Drugs survey alone             | Drugs survey combined with BCS* |
|-------------------|--------------------------------|---------------------------------|
| Sample aged 16-59 | 20,000                         | 47,500                          |
| Estimate          | <i>95% confidence interval</i> |                                 |
| 0.5 %             | ± 0.10 %                       | ± 0.06 %                        |
| 1 %               | ± 0.14 %                       | ± 0.09 %                        |
| 5 %               | ± 0.30 %                       | ± 0.20 %                        |
| 10 %              | ± 0.42 %                       | ± 0.27 %                        |
| 30 %              | ± 0.64 %                       | ± 0.41 %                        |
| 50 %              | ± 0.69 %                       | ± 0.45 %                        |
| Sample aged 16-24 | 5,000                          | 8,000                           |
| Estimate          | <i>95% confidence interval</i> |                                 |
| 0.5 %             | ± 0.20 %                       | ± 0.15 %                        |
| 1 %               | ± 0.28 %                       | ± 0.22 %                        |
| 5 %               | ± 0.60 %                       | ± 0.48 %                        |
| 10 %              | ± 0.83 %                       | ± 0.66 %                        |
| 30 %              | ± 1.27 %                       | ± 1.00 %                        |
| 50 %              | ± 1.39 %                       | ± 1.10 %                        |

\* There will be about 27,500 persons aged 16-59 in the total BCS core sample of 37,000.

### 10.3 Sampling ethnic minorities

Many current surveys consider over-sampling or in some other way boosting the number of ethnic minority respondents included in the sample. The reason for doing so is usually because they are known or suspected to be relatively disadvantaged. For example, the 2001 BCS includes an ethnic minority boost sample of 3,000 in addition to the core sample of 37,000: one of several reasons for doing so is to improve estimates of racially motivated crime.

Evidence from the 1996 BCS (confirmed by the as yet unpublished data from the 2000 BCS) is that drug use is not more prevalent among ethnic minorities than among the rest of the population – indeed for some groups, such as the Asian/Asian British, it is considerably lower. At present, therefore, there is no apparent justification for oversampling ethnic minorities for a drugs survey.

## 11 Regional and local data

There is no doubt that the perceived value of a new survey would be greatly enhanced if it could provide even basic information at sub-national level, and this would be feasible to a

limited extent at Police Force level, if data from the drugs survey and the BCS were combined.

The NHSDA in the United States is interesting on this point. It was noted earlier that the sample size was increased from 20,000 to 70,000 in 1999, to enable estimates of prevalence to be made at state level. Even with this large sample, however, this is not straightforward. The sample from each state is broadly in proportion to its population. There are eight states whose sample is considered large enough (ranging from 2,700 to 4,700) to provide estimates directly from the survey data. In all other states, where sample sizes range from 750 to 1,300, a combination of survey data and small area estimation is used.

There are 39 Police Force areas (PFAs) in England. For survey purposes, the very small City of London PFA would be combined with the Metropolitan Police area (which covers all other London Boroughs). The average PFA population is about 1.3 million, but there is a very wide range, from about half a million in Cumbria to more than seven million in the Metropolitan Police area.

Unfortunately, there is a conflict between sample designs which maximise the efficiency of national estimates and ones which do so for sub-national ones. This is because, other things being equal, the precision of estimates is based on the sample size, so if PFAs were to need equally precise data, the sample size should be the same in each. However, for a given total sample, the need for re-weighting to compensate for different probabilities of selection reduces the precision of the estimates at national level. The notion of effective sample size is a helpful one – a reduction of precision can be viewed also as a reduction in the effective sample size – the notional sample on which sampling errors are calculated. For example, a sample in which each PFA had an equal sample size would almost halve the effective overall sample size for national estimates.

The BCS 2001 sample design, aiming to achieve a total of 37,000 interviews with adults aged 16 and over in the core sample, is designed with the aim of achieving a minimum sample of 650 interviews in each PAF area. This improves the precision of estimates for the smallest PFAs, but has very little effect on the precision of the national estimates – it reduces it by only 3 per cent, to an effective sample size of 35,800.

Since prevalence data from the two surveys would be combined, the sample design for the drugs survey needs to be integrated with that for the BCS, to maximise the precision of estimates and the value of both surveys. It is therefore proposed that the same ‘minimum sample’ approach be adopted, setting the minimum at about 400 achieved interviews per PFA, which reduces the effective national sample size from 20,000 to 18,700. If the minimum were set higher, at 450, for example, the effective national sample would reduce further, to 17,400 (see Table 8).

About 475 of the 650 minimum BCS sample would be expected to be adults in the 16 to 59 age group. If the drugs survey uses a similar design, then the minimum combined sample of people aged 16 to 59 would be 850–900. It can be seen from Table 9, however, that even with the combined data, differences between PFAs or changes over time would have to be great to show as statistically significant.

There is no realistic possibility of providing survey data directly at DAT level. As noted earlier, the precision of local estimates depends on the local sample size, so the sample size

**Table 8 Effect of different minimum PFA sample sizes**

|                        | Sample in<br>smallest PFA | Sample in<br>largest PFA | Effective<br>national sample |
|------------------------|---------------------------|--------------------------|------------------------------|
| Proportional<br>sample | 198                       | 2,928                    | 20,000                       |
| Minimum<br>sample size |                           |                          |                              |
| 300                    | 300                       | 2,733                    | 19,804                       |
| 350                    | 350                       | 2,491                    | 19,421                       |
| 400                    | 400                       | 2,143                    | 18,744                       |
| 450                    | 450                       | 1,625                    | 17,439                       |
| 500                    | 500                       | 952                      | 14,681                       |

**Table 9 Precision of estimates at PFA level**

| PFA sample             | Drugs survey<br>alone          | Drugs survey<br>combined with<br>BCS |
|------------------------|--------------------------------|--------------------------------------|
| Minimum<br>sample aged |                                |                                      |
| 16-59                  | 400                            | 875                                  |
| Estimate               | <i>95% confidence interval</i> |                                      |
| 0.5 %                  | ± 0.7 %                        | ± 0.5 %                              |
| 1 %                    | ± 1.0 %                        | ± 0.7 %                              |
| 5 %                    | ± 2.1 %                        | ± 1.4 %                              |
| 10 %                   | ± 2.9 %                        | ± 2.0 %                              |
| 30 %                   | ± 4.5 %                        | ± 3.0 %                              |
| 50 %                   | ± 4.9 %                        | ± 3.3 %                              |

in each DAT would need to be what is being considered here for PFAs – a minimum of 850–900 – giving a total national sample of 125,000. It might, however, be possible to produce prevalence estimates for DATs by small area estimation techniques, which could also be used to enhance data at PFA level.

Small area estimation techniques are at a relatively early stage of development. They use sophisticated modelling to maximise the value of data obtained from samples which are not large enough on their own to provide sufficient precision. Their development is currently being considered in relation to crime data from the BCS, and it is likely that the same methodology would also be appropriate for drugs data, although this will need to be investigated further. Detailed exploration of this issue was beyond the scope of this report.

## **12 Sampling young people in communal establishments**

It was noted in Section 6.1 that about 4 per cent of young people aged 16 to 24 are away from home living in communal establishments which do not appear on the Postcode Address File which is used for sampling addresses. A survey which achieves interviews with 5,000 people aged 16 to 24 living in private households would therefore expect to identify about 200 in this age group living in halls of residence at educational establishments. Although the sample would be scattered, it would be largely concentrated in towns and cities, since that is where most such establishments are located.

It was noted earlier that one way of contacting and interviewing this group (and other hard-to-contact young people) might be through the internet. Even if that were not possible, attempting interviews with this group would not add greatly to the cost of the survey, but neither would it provide many extra cases for analysis. The behaviour of this group would have to be very different from that of other young people for their inclusion to have any impact on the survey results.

## **13 Re-interviewing BCS respondents**

It was noted in Section 5 that while a follow-up survey of BCS respondents who had used drugs would not be an attractive alternative to a new survey, there might be something to be gained from carrying out such an exercise as an adjunct to a new ad hoc survey.

In a full year of the enhanced sample, the BCS will expect to identify around 2,000 current drug users (defined in this case as those who have used drugs in the last month).

If a new national drugs survey goes ahead, the BCS would be an ideal source of a sample of drug users with whom the questionnaire could be piloted: because the prevalence of drug use is low, it would be costly to obtain such a sample of drug users in the general population by any other means.

## **14 Alternative sample sizes**

So far, all discussions in this paper have assumed an achieved sample of the order of 20,000. Clearly, if a larger sample were feasible, that could only improve the precision of estimates and give larger samples of drug users for detailed analysis. It would also improve analysis and modelling by small area estimation at both PFA and DAT levels.

If the sample size were reduced, however, there would come a point where the added value of the new survey was insufficient to justify the cost. This would be the case if too few current drug users were sampled to allow worthwhile analysis of their habits and characteristics to give the type of information proposed in Section 4. A smaller sample would also, of course, reduce the precision of estimates of the prevalence of drug use, although the effect of this would be mitigated by combining the drugs survey with the BCS for this purpose.

Three alternative sample size options are shown in Table 10. A reduction to, say, 15,000 would not have too serious an effect on the precision of national prevalence estimates, but would considerably reduce the number of drug users aged 16 to 24, from almost 1,100 to 800. It would also limit the possibilities for analysis at PFA level if the minimum sample size were reduced from, say, 400 to 300.

**Table 10 Effect of alternative sample sizes**

| Total achieved sample aged 16-59 |         |         |                |         |
|----------------------------------|---------|---------|----------------|---------|
|                                  | 10,000  | 15,000  | <b>20,000</b>  | 25,000  |
| Achieved sample                  |         |         |                |         |
| aged 16-24                       | 2,806   | 4,208   | <b>5,611</b>   | 7,014   |
| aged 16-29                       | 4,670   | 7,005   | <b>9,340</b>   | 11,675  |
| Current drug users               |         |         |                |         |
| aged 16-24                       | 541     | 812     | <b>1,082</b>   | 1,353   |
| aged 16-29                       | 746     | 1,119   | <b>1,492</b>   | 1,865   |
| 95% confidence intervals         |         |         |                |         |
| aged 16-24                       |         |         |                |         |
| 0.5 %                            | ± 0.3 % | ± 0.2 % | <b>± 0.2 %</b> | ± 0.2 % |
| 1 %                              | ± 0.4 % | ± 0.3 % | <b>± 0.3 %</b> | ± 0.2 % |
| 5 %                              | ± 0.8 % | ± 0.7 % | <b>± 0.6 %</b> | ± 0.5 % |
| aged 16-29                       |         |         |                |         |
| 0.5 %                            | ± 0.2 % | ± 0.2 % | <b>± 0.1 %</b> | ± 0.1 % |
| 1 %                              | ± 0.3 % | ± 0.2 % | <b>± 0.2 %</b> | ± 0.2 % |
| 5 %                              | ± 0.6 % | ± 0.5 % | <b>± 0.4 %</b> | ± 0.4 % |

## 15 Next steps

Some further methodological work is advisable before a survey should go ahead. None of the items listed are likely to throw doubt on the feasibility of a survey, nor of the value of the data that would be provided at a national level. However, as far as the need for local level data is concerned, the evaluation of the viability of small area estimation is important.

- Work needs to be done on integrating the sample design with that of the BCS to maximise the value of being able to combine the prevalence data from the two surveys.
- Some qualitative testing is needed of the best way of gaining people's co-operation – and particularly that of young people.
- The possibility of interviewing using a secure internet site should be explored.
- The questionnaire content needs further development and piloting.
- Ways of enhancing local level data using small area estimation need to be explored and developed.

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## **Part 3 Wales, Scotland and Northern Ireland**

### **16 Wales, Scotland and Northern Ireland**

Naturally, Wales, Scotland and Northern Ireland cannot express a firm interest in participating in a new survey until they see exactly what is proposed, and what the funding arrangements are. Their main concerns relate to sample size, and these are discussed below. They are, however, broadly of the view that a wide-ranging survey of substance use (including tobacco and alcohol) would be of value, and would supplement existing data sources, and perhaps allow for some rationalisation of data collection.

### **17 Information currently available**

#### **17.1 Wales**

Information about illicit drug use in Wales is currently provided primarily by the Welsh share of the BCS, which gave Wales a sample of about 1,000 in 2000, doubling to 2,000 in 2001. This is being supplemented in 2001 by an ad hoc survey of adult substance misuse. The initial specification for the survey required 700 Interviews with 16- to 59-year-olds in each of the five health authority areas in Wales, but in the event, for financial reasons, this was reduced to 320 per health authority area. This therefore will give a further 1,600 interviews (although the effective number will be reduced by the reweighting necessary to compensate for differing probabilities of selection) and prevalence estimates for 2001 will be based on the BCS and the ad hoc survey combined. The ad hoc survey will, of course, also provide additional information not available from the BCS.

Thus the current approach in Wales is very similar to that being proposed in this report, and provided that there was some flexibility of content so that topics of particular interest to the Welsh Assembly could be accommodated, a new UK survey with an enhanced sample in Wales could replace repeats of the 2001 ad hoc survey. Wales would be keen for young people to be oversampled, as proposed here, and support the coverage of the survey including the use of alcohol and tobacco as well as illicit substances.

#### **17.2 Scotland**

In Scotland, the main source of information about drug use is currently the Scottish Crime Survey (SCS) which parallels the BCS in England and Wales, and provides data for monitoring progress on the Scottish Drugs Strategy. To date, it has been carried out intermittently – in the last decade or so, surveys were done in 1993, 1996 and 2000. In 1996, interviews were achieved with 3,175 adults aged 16 to 59, with a response rate of 77 per cent. In 2000, the sample size was increased to about 5,000. The drugs component is self-completion paper and pencil, rather than CASI, and so the data are not directly comparable with the BCS. Aside from that, the SCS has the same limitations as the BCS, in that there is little scope for extending the existing drugs questions to cover a broader range of related topics, and there would be some interest in Scotland in doing this. As with Wales, there would need to be flexibility over content, so that the special interests of the Scottish Executive could be accommodated.

Provided that the two surveys were carried out at more or less the same time, data from a UK survey of drug use which covered Scotland could be merged with data from the SCS to give more precise estimates of the prevalence of drug use. Whether these could be made at a sub-national level would depend on the sample sizes of the two surveys in Scotland.

### **17.3 Northern Ireland**

Northern Ireland also carries out its own Crime Survey (NICS) from time to time, broadly modelled on the BCS. The questions on drugs are the same as those used on the BCS, and they are addressed to the same population, those aged 16 to 59. As with the BCS and the SCS, the survey can only carry a limited number of questions on drugs. Latest published data are for 1998, when the achieved sample of 16- to 59-year-olds for the drugs questions was 2,277. A further survey is taking place in 2001, modelled on BCS 2000, but it is likely that the module of questions on drugs will be replaced by one on domestic violence. The only other source of data on adults and drugs at present is the NISRA Omnibus Survey which from time to time includes a module on drugs addressed to those aged 16 to 25. The drugs module is a self-completion questionnaire which the respondent is asked to post back: this has resulted in a very low response rate of 35 per cent.

## **18 Participation in a new UK drugs survey**

The issue for Wales, Scotland and Northern Ireland is (assuming they wish to participate in the survey) whether they are sampled in proportion to their share of the UK population, or whether the sample in each of these countries is boosted to enable more accurate estimates to be made.

Table 11 shows the approximate achieved sample size, given a total sample of 20,000, that would result from a proportionate distribution between the four countries. It can be seen that the sample in none of the three countries would be sufficiently large to permit the type of analysis likely to be required.

**Table 11 Proportional distribution by country**

|           | Mid 1999 pop<br>(all ages) | Achieved sample<br>aged 16-29 | Achieved sample<br>aged 30-59 | Total achieved<br>sample aged 16-59 |
|-----------|----------------------------|-------------------------------|-------------------------------|-------------------------------------|
| England   | 49,752,900                 | 7,397                         | 9,325                         | 16,722                              |
| Wales     | 2,937,000                  | 437                           | 550                           | 987                                 |
| Scotland  | 5,119,200                  | 761                           | 959                           | 1,721                               |
| N Ireland | 1,691,800                  | 252                           | 317                           | 569                                 |
| UK        | 59,500,900                 | 8,846                         | 11,152                        | 19,998                              |

As noted above in relation to sampling in England at Police Force Area level, the precision of estimates is based, other things being equal, on the sample size, irrespective of the size of the population from which it is drawn.

It is likely, therefore, that for data collected in Wales, Scotland and Northern Ireland to be useful as anything other than part of a UK figure, sample sizes in those countries would need to be increased substantially.

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**Customs and Excise** (John McManus, Mike Forster, Harry Potts, Diane Robinson)

**Health Development Agency** (Antony Morgan)

**NCIS** (Charles Drake)

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Martin Plant (Alcohol & Health Research Group, Edinburgh)  
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