# reducing drug related deaths

A Report by The Advisory Council on the Misuse of Drugs

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### **PREFACE**

- 1. The Advisory Council on the Misuse of Drugs (ACMD) is a body constituted under the Misuse of Drugs Act 1971. As preface to this ACMD report, we offer a brief note on the why and how of its being written.
- 2. As to the question of why, the report is written in discharge of ACMD's statutory responsibility to advise ministers. Although that, strictly, is the totality of ACMD's target responsibility, it has also traditionally sought to address the extraordinarily wide range of people at many different front lines who between them make any intended policies into working realities.
- 3. Over its 28 years of existence ACMD has previously produced reports of that kind which have both advised ministers and made recommendations which have sought to be useful to the wider field.
- 4. In selecting any particular topic as focus for attention, ACMD will pick on questions which it not only deems to be important and topical, but where in its judgement a review is likely to result in a set of down-to-earth and achievable recommendations on how some facet of drug use can be dealt with better. That is exactly the perspective within which ACMD decided in November 1997 that it was appropriate to direct its resources to a report on prevention of drug-related deaths. In 1999, reducing drug-related deaths became a target within the National Drugs Strategy.
- 5. Regarding the <u>how</u> of the exercise which then followed in support of that aim, ACMD deputed the preparation of this report to its Prevention Working Group (PWG). PWG is a multi-disciplinary group made up of ACMD members and of people who have been co-opted for the duration of a particular task. Government officials attend and the work is facilitated by a secretariat. The production of the report involved PWG members in 17 full day meetings, the hearing of 14 invited witnesses, review of 5 specially commissioned background papers, examination of a good deal of published research, and the commissioning of a piece of research of its own. A draft report was presented to a full meeting of the Council in November 1999, and the finalised text was sent to Ministers in December 1999.
- 6. It is that text which is now published. In our judgement, the prevention of drugrelated deaths is not just topical but a matter of pressing urgency. The number of such deaths should, can and must be substantially reduced, and we believe that the advice given in this report should help achieve that goal.

### SUMMARY AND RECOMMENDATIONS

### Chapter 1 Purpose and scope of the report

- 1.1 In England and Wales something between 1076 and 2997 deaths of drug misusers occurred in 1998 as a result of overdose. Some of those deaths were suicides but most were accidents. That we give such wide margins is unsatisfactory but reflects the current problems with the database. The trend is in any case upwards.
- 1.2 Rates of drug-related deaths appear to be no less in Scotland. In Northern Ireland the numbers remain low.
- 1.3–1.4 These figures take no account of deaths due to virus infections, to motor vehicle accidents, or to incidental violence. Under these headings also, the data are far from complete. Within the foreseeable future deaths due to virus diseases transmitted by drug injection may exceed those from overdose and other immediate effects of drug misuse.
- 1.5–1.6 A caring society must be expected to expend effort in preventing premature deaths from all and any causes. Within that perspective, preventing deaths from drug misuse warrants due attention. Such deaths are today a cause for concern in Britain, in several other European countries, in North America and in Australia.
- 1.7–1.8 Reduction of drug-related deaths is identified as a performance indicator within the National Plan of the United Kingdom's Anti-Drugs Coordinator. It should be feasible to reduce significantly the death rate among drug users while continuing to work by every means possible to prevent misuse itself. There is no contradiction between these two intentions.
- 1.9 A blind eye has over recent years too often been turned to the fact that drug misuse is a life-threatening condition. Changed attitudes are therefore needed as well as multiple actions.
- 1.10–1.11 A major focus of this report will be on preventing deaths from the misuse of controlled drugs. We will also deal with volatile substance abuse (VSA). Drug interactions are important and we will at times be looking at the interactions between illicit drugs and alcohol.
- 1.12 In our view it would be remiss not to acknowledge that smoking kills about 120,000 people each year, and between 28,000 and 33,000 people die annually as a result of alcohol.
- 1.13–1.14 In this report we will distinguish between immediate deaths, due largely to overdose, and delayed deaths which may occur as a result of complications

- resulting from HIV, hepatitis B (HBV) or hepatitis C (HCV), possibly many years after the initial virus infection.
- 1.15 The structure of the report is outlined and a brief synopsis given of each chapter.
- 1.16 ACMD has a primary responsibility to advise Ministers. The report is also intended to be useful to people who deal with drug problems at many different front lines.
- 1.17 The report seeks to offer an analysis of a complex problem and has within it an element of review. The aim, however, is not to conduct analysis for any abstract sake, but to provide a statement which can serve as a catalyst for strong and multiple actions. We are calling for a new, integrated, and determined initiative on the prevention of deaths due to drug misuse. We want to see in place a planned and coherent national effort. Small fragmented efforts cannot meet the need.

# Chapter 2 Pathology and Toxicology of immediate deaths related to drug misuse.

- 2.1–2.2 This is a review chapter. It identifies the mechanisms involved in causation of immediate or near-immediate deaths from illicit drugs, or from interactions between those drugs and alcohol.
- Among the factors determining whether an individual succumbs to the toxicity of a particular substance, the actual properties of the substance, together with the amount used, rank very highly.
- 2.4–2.6 We start by looking at the problem in terms of what body systems can be affected, and by describing the effect of drugs on breathing. The commonest way in which drugs cause immediate deaths is through their effect on respiration.
- 2.7–2.8 The next system to be considered is the heart and circulation. Reduction of the heart's output can result from a number of different effects of drugs.
- 2.9–2.10 The misuse of certain drugs can result in stroke.
- 2.11–2.12 The liver is another organ which can in some instances be affected, and kidney failure also can follow drug misuse.
- 2.13 Injected drug misuse can result in septicaemia and infection of the heart valves, besides transmission of the virus infections which are the focus of Chapter 9.

- 2.14–2.15 Going on from the impact of drugs on body systems, we discuss the relationship between drug use and deaths due to accident or violence. Suicide is commonly associated with drug misuse.
- 2.16–2.17 We turn then to consideration of some factors which may influence the degree of risk associated with any particular type or occasion of drug use. Injection of drugs carries particularly high risks of many kinds.
- 2.18–2.19 Another risk factor can be the purity of the drug. The contaminants with which drugs have been diluted or cut, may on occasion have contributed to risk but this factor has tended to be exaggerated.
- 2.20–2.23 Marked tolerance to brain effects can occur with heroin use or with other opioids. Withdrawal, with its associated loss of tolerance, can put the opioid drug user at very considerable risk if they then again take a drug, without awareness that their previous tolerance has been reduced.
- 2.24–2.25 We then consider the risks of overdose which may attach to particular drugs, starting with heroin. We outline the possible mechanisms for heroin-related deaths.
- 2.26–2.27 Methadone is another opioid which today, in the UK, is a frequent cause of drug-related deaths but we postpone detailed discussion of this issue until Chapter 7. We identify some other opioids which from time to time become available on the illicit drug scene. We note the dangers which may be associated with injection of ground-up tablets of Diconal, or the injection of other opioid drugs which are available in tablet form.
- 2.28 There are no reports of acute death directly related to toxicity from cannabis. There is increasing evidence that cannabis may be associated with road traffic accidents. The extent to which the association speaks to causation, is undetermined.
- 2.29–2.32 Cocaine can cause sudden death through a variety of mechanisms. Chronic cocaine use can increase the likelihood of a person sustaining a bleed from a pre-existing brain aneurysm. A cocaine overdose can result in greatly elevated body temperature and can cause an agitated delirium which may have fatal consequences.
- 2.33–2.34 Ecstasy (MDMA) and similar drugs are now popular in the UK as "dance drugs". A few deaths occur each year due to disorders of the heart rhythm, overheating, liver damage, or bleeds into the brain. A further complication which may occur occasionally with Ecstasy, is death due to water intoxication. This can result from mistaken interpretation of messages urging Ecstasy users to drink fluids so as to avoid dehydration when dancing in a hot environment.

- 2.35–2.36 Benzodiazepines are much safer drugs than the barbiturates which they largely replaced in medical practice. The dependence potential of benzodiazepines should not, however, be ignored. In the UK benzodiazepines have today become widespread drugs of misuse. They contribute to drug-related deaths through fatal respiratory depression, particularly so when these drugs are taken together with opioids or alcohol.
- 2.37–2.38 In our listing of specific drugs we also consider alcohol. Alcohol can kill young people in a number of different ways and these are detailed. It is a mistake to think that, either among young or older people, alcohol only causes death by chronic disease.
- 2.39 We give briefer attention to some other drugs. Amphetamine sulphate has potential to cause toxicity of kinds similar to cocaine, but at present in the UK is making only a small contribution to the count of drug-related deaths.
- 2.40 LSD does not cause toxic deaths but there are anecdotal reports of it causing death by accident when the user is intoxicated, and does something unguarded in a deluded or hallucinated state.
- 2.41 We make brief mention in this chapter of volatile substances (a topic on which ACMD reported previously in 1995). Deaths fell from a peak of 151 in 1990 to 58 in 1996 but are now showing a slight upward trend.
- 2.42–2.45 Having looked at the dangers of different drugs separately, we enter a strong reminder that many drug-related deaths are caused by interaction between several different drugs taken at, or around, the same time. Every drug combination that occurs in the course of drug misuse adds to the dangers, is unpredictable in its consequences, and may all too easily lead to tragedy. And we again stress that alcohol often makes a contribution to these interactions.
- We believe that the science we have laid out in this chapter can provide valuable insights which will inform the needed prevention strategies which we outline later. Beyond the direct and practical implications of this science for those kinds of actions, we would also suggest that a reading end to end of the facts given here, may serve as corrective to any idea that drugs are no more than symbols, fun or recreational substances. Drugs can kill suddenly and unexpectedly. They can do so in many different and interacting ways which can overwhelm many different body systems.

Chapter 3 Social, situational and personal factors which may contribute to risk of death associated with drug misuse

- 3.1 The previous chapter dealt with the dangers of drugs within a toxicological perspective. The present chapter analyses drug use as an individual behaviour which occurs in a social context. Social, situational and personal risk factors may exacerbate the risk of drug-related death.
- 3.2–3.5 The history of social science research on this topic is briefly traced. Promising work is underway but there is still a shortage of relevant studies.
- 3.6–3.7 The first factor which we examine is that of gender. Considerably more men than women die from drug misuse. However, if correction is made for the actual numbers of males and females who are injecting and rates calculated against these base numbers, that conclusion may at times be weakened or even reversed.
- 3.8–3.9 Age is another factor which we consider. Different studies give somewhat different results but the median age for death among injecting drug users is generally in the late twenties or early thirties. With increasing duration of use all sorts of adverse life experiences may impinge on the user and increase the risk of drug-related death. It is not only naïve users who are at risk.
- 3.10–3.11 Drug deaths tend to be more common amongst unemployed and unskilled workers. There is strong evidence of a relationship between social deprivation and risk of drug-related death. But the relationships between social disadvantage and drug misuse do not run only one way. Drug misuse is itself likely to exert a negative influence on social adjustment.
- 3.12–3.13 Poor mental health and particularly depression, are likely to add to the risk of suicide among drug users. HIV and AIDS may also exacerbate such risk.
- 3.14–3.15 Most drug-related deaths occur in some kind of residence. The injection of drugs in public places may be a risk factor because the drug is likely to be injected quickly and without caution.
- 3.16 The availability of any drug may be expected to bear on the prevalence of its use, and the risk of death. One aspect of availability is price.
- 3.17–3.19 The drug injector's life is permeated by risk of many kinds, but they frequently underestimate the risk they are taking. Behaviours which to the observer appear "risky" may be viewed in a different light by drug users themselves.
- 3.20–3.21 Many drug deaths occur in the company of other users but frequently there is delay between overdose, and seeking help. Some research has

recently been focusing on those strategies which drug users may use on their own initiative, so as to decrease risk of overdose.

3.22–3.23 We conclude that further and better understanding of matters which we have discussed in this chapter is likely to be of considerable help to prevention. Although drugs are a prime cause of drug-related deaths, the totality of the personal and social context needs to be taken into the reckoning. Prevention of drug-related deaths must deal with the drugs. But it must also be sensitive to other and wider issues which may bear on, and diminish or exacerbate, the inherent riskiness of the drug.

### Chapter 4 The present system for collecting data on drug-related deaths.

- 4.1 This and the following two chapters are closely related. Here we describe the data system operating in different countries within the UK, and identify the problems within it. Chapter 5 makes suggestions for improvement in this system. Chapter 6 presents some key outputs from the presently available sources.
- 4.2 To have in place a system which can provide trustworthy data on drug-related deaths is of fundamental importance to the national drugs strategy, and to the initiative on prevention of drug-related deaths which we are proposing in this report.
- 4.3 We do not, however, believe that these deaths can provide a surrogate indicator for drug-misuse prevalence. It is possible to envisage drug-related deaths going up while the problems of drug misuse went down within the general population in particular, and *vice versa*.
- 4.4 As an essential first step we have attempted to develop detailed understanding of how the present system works.
- 4.5 The intention of the system should be to capture all deaths where the stated substances are in some degree implicated in the individual's death, while at the same time excluding all deaths which are not relevant.
- As mentioned at the outset, the major focus of this report is on illicit drugs but we would expect volatile substance abuse (VSA) deaths also to be captured. Alcohol is not our primary concern but its interactions with illicit drugs are of such importance that there is a case for trying to get alcohol-related deaths within the same general reporting frame as we will be proposing.
- 4.7 We identify the major underlying types of "relatedness" in substancerelated deaths as :deaths due to acute poisoning or acute illness; due to

- chronic illness; due to road traffic accidents; due to a poisoning by some other party.
- 4.8 We then turn to a detailed description of the current system in England and Wales. In Table 4.1 a summary is given of the problems we see as lying within this sector.
- 4.9–4.11 The first step in compiling these statistical data is when doctors notify the coroner. A surprising problem is that there are coroners working in high drug prevalence areas who will never certify death as related to drug misuse.
- 4.12–4.13 The coroner generally orders a post mortem to be carried out by a pathologist, and the coroner or coroner's officer may collect additional information on the deceased.
- Following the post mortem, the coroner may hold an inquest. In the case of a drug-related death there is a choice of six mutually exclusive verdicts:

  Dependence on drugs; Non-dependent abuse of drugs; Accident/misadventure; Suicide; Open; Homicide.
- 4.15 We do not think a coroner can be expected to differentiate between those first two categories. Furthermore, these two categories are not mutually exclusive as against the other categories. That framework is, in our view, inadequate for purposes of systematic data collection.
- 4.16–4.17 Following the inquest, the coroner certifies the death in Form 99 which we have reproduced as Appendix 1. The headings of that form are described.
- Where more than one substance is recorded by the coroner, there is generally no indication which substance was most responsible for the death. There is no indication given as to route of drug administration, nor of whether a toxicological examination was carried out.
- 4.19 It is in our view unsatisfactory that the recording of important matters is, in effect, being left here to a voluntary and unstructured annotation on a report form, rather than being collected in a formal, systematic manner.
- 4.20 The coroner may or may not require a toxicological examination to be undertaken, and we could not discover the criteria on which this decision is made.
- When the coroner has reached a verdict and completed the certificate, the next step is for that certificate to be sent to the Registrar of Births and Deaths. The Registrar does not receive the reports made by the pathologist, nor those made by the police.

- 4.22 ONS (Office for National Statistics) appears at present to have no routine way of checking back with the coroner's office, if information is incomplete.
- 4.23–4.24 On the information supplied, the relevant officer at ONS codes up causes of death within terms of the ninth revision of ICD (International Classification of Diseases). There are five available codes reflecting the structure outlined in 4.14. We see the current ONS coding structure as logically unsatisfactory for much the same reasons as pertain to the framework employed by the coroner (4.15).
- 4.25–4.27 Further complications arise from the way in which the five main three-digit ICD9 codes are sub-divided into more specific four-digit codes. The four-digit codes cover a range of legal and illegal substances including such entries as "arsenic and its compounds". The current ONS approach is therefore likely to be considerably over-inclusive. We thus have a system here which is likely to be both over- and under- inclusive, with a very uncertain balance of outcome.
- 4.28–4.29 The current approach cannot reveal whether a stated drug was primarily responsible for a death. Tabulations by specific drugs are thus of uncertain interpretability.
- 4.30 ICD10 will be adopted by the various national statistical officers at different dates in 2000 or 2001.
- 4.31 We turn next to the system which is operating in Scotland. There, all suspicious deaths must be referred to the procurator fiscal instead of to a coroner, and the cause of death is determined by a pathologist.
- 4.32–4.34 In 1994 the General Register Office (GRO) in Scotland put in place new arrangements for collecting information on drug-related deaths. Among other things, the role of forensic pathologists was clarified. These arrangements have led to improved data quality.
- 4.35 A brief note is given on the data collection system operating in Northern Ireland. It is similar to that in England and Wales.
- 4.36 We express concern about the variation in procedures operating across the constituent parts of the UK. For problems of very common cross-country public health concern, it seems to us disadvantageous if data collection systems are allowed to vary in their definitions.
- 4.37 Having examined the various central national systems we look at certain other sources of information on drug-related deaths.
- 4.38–4.40 The Department of Addictive Behaviour at St. George's Hospital Medical School, London has a project which invites coroners and procurators fiscal,

- to provide on a voluntary basis more detailed data than are given on routine forms. We commend this initiative but do not think that it can substitute for formal revision in the official processes.
- 4.41–4.43 The Department of the Environment, Transport and the Regions (DETR), has recently conducted a project which gives information on the presence of drugs in road traffic accident casualties. The results showed a considerable increase in the proportion of fatalities with the presence of a drug compared with a similar study in 1985–87, although the most common drug found, cannabis, can remain in the body long after any effect.
- 4.44—4.47 The Communicable Disease Surveillance Centre (CDSC) has some data on virus diseases where drug infection is likely to be making a contribution to transmission, but other than in relation to HIV the picture is very incomplete.
- 4.48–4.49 Initiatives have been mounted to determine comparative rates of drugrelated deaths in different European countries. Variations between countries in their data collection systems at present make interpretation difficult.
- 4.50 We conclude that the current system for collecting and reporting on drugrelated deaths in the UK stands in need of considerable amendment and strengthening. There is valuable experience on which to build, but the fact remains that at present the system for generating data on drug-related deaths in Britain cannot provide information of the quality needed.

### Chapter 5 Improving the data base

- 5.1–5.2 What is apparent from Chapter 4 is the lack of reliability in the available data on drug-related deaths. For informed and effective policy formulation in this area, better underpinning with good quality data is a mandatory requirement.
- 5.3–5.5 We go on to identify point by point what we see as needing to be done. It seems to us better to build on the present system rather than sweep it away and start again.
- 5.6 Any improvements in the data system are likely in the short term to distort the interpretation of trends.
- 5.7-5.9 Improvements in data on deaths due to virus illnesses are an important part of the requirement. We recommend that a national reporting and surveillance system similar to that currently focusing on HIV deaths, should be put in place for HBV (hepatitis B virus) and HCV (hepatitis C virus). We also recommend that repeat national sample surveys on the virus status of clients attending drug treatment agencies be conducted on a two-yearly basis.

- 5.10 We then turn to recommendations bearing on the future responsibilities of coroners. We strongly recommend that the Coroners' Society of England and Wales should be consulted on the feasibility and acceptability of any proposals which will impact on their work.
- 5.11 We are worried about the inconsistent way in which post mortem toxicological examination is being used by coroners in England and Wales although we suspect that the situation is better in Scotland.
- 5.12–5.13 The very large number of cases being considered by coroners each year does however deserve to be noted, and any future proposals on toxicology should be made with awareness of this fact. Mandatory toxicological testing might slow the work requirements of this office in an unwelcome way.
- 5.14 However, we strongly recommend that toxicological screening should always be ordered by the coroner in England and Wales where he or she has reason to believe that controlled drugs are implicated, and we suggest some criteria which might determine this decision.
- 5.15–5.16 We make a strong recommendation that the choice of verdicts available to the coroner in relation to the sort of case with which we are concerned should in future be limited to four rather than six categories. The two overtly drug-related categories should be eliminated leaving as choices: accident/misadventure; suicide; open; homicide. Questions relating to drugs would then be treated separately. We therefore suggest revision in part 5 of the coroner's certificate, with a series of specific questions on the possible involvement of drugs in any death. These questions should in future be given answers in every relevant instance.
- 5.17 The primary role of coroners is of course simply that of determining cause of death, and that should be acknowledged. But we do not believe an objection that collection of the kind of data we now propose is outside the coroner's remit, can carry conviction. In certain instances coroners already collect data of a kind which takes them beyond their strictly defined responsibilities, so there is precedent for what we are now asking.
- 5.18-5.19 We would not want to see the coroner's at present unstructured recordings squeezed out by the proposed new structured enquiries outlined in 5.15-5.16. We do not believe that our suggestions will have large resource implications but we recommend that any extra support needed by coroners should be met.
- We see the Coroners' Society as having a vital role in providing further training on the role of its members in relation to the recording of the type of information on the involvement of drugs information which we are proposing, and we recommend that resources should be found to support a training initiative.

- 5.21 We recommend that the same revisions in recording format be applied by procurators fiscal in Scotland and coroners in Northern Ireland.
- 5.22 The proposals we make in relation to the role of the coroner and procurator fiscal will allow ONS to collect more detailed and reliable date on drug-related deaths, and are of fundamental importance to improvement in the data system.
- 5.23 The questions which arise around how the ICD coding frame is best to be revised are complex. We recommend that a short life technical working group should be brought together to reach agreement on a consistent coding framework to be used in future across England, Wales, Scotland, and Northern Ireland.
- 5.24 We recommend that ONS should establish a formal way of checking back, when needed, with the coroners office.
- 5.25 We would like to encourage further research on the relationship between drug misuse and road traffic accident fatalities.
- 5.26 Work on international comparisons of drug-related mortality rates deserves further support.
- 5.27 We conclude that there are a number of evident and feasible separate ways in which data collection on drug-related deaths can be improved. We would however again stress that the aim must be to get a total system working better. We strongly recommend that the necessary consultations to help set up a new overall system for collection of high quality data on drug-related deaths are quickly got under way, with the needed resources to support the establishment of the system then duly found. The country's response to the problem set by deaths due to drug misuse will be grossly handicapped until the recommendations made here are met.

# Chapter 6 Drug-related deaths: Some key outputs from the presently available data sources.

- 6.1 We outline the three different available approaches to categorisation of drug-related deaths. The EMCDDA (European Monitoring Centre for Drugs and Drug Addiction), is most restrictive. What we refer to as "ONS restricted" is intermediate in this regard, while the standard ONS approach is least restrictive and the one most likely to be over-inclusive.
- 6.2–6.3 In Figure 6.1 and Table 6.1, we present data derived using the EMCDDA definition on drug-related deaths in England and Wales, 1979–1998, for males and females separately. Within this approach the number of deaths in 1998 came to 1076. The restricted ONS approach gives a total of 2250

while the standard ONS approach puts the figure at 2922. But there can be no doubt that in England and Wales from about 1980 onwards, deaths related to drugs misuse have increased very significantly for men, and significantly but less steeply for women.

- 6.4 Using that ONS restricted approach, we present in Figure 6.2 data for England and Wales on male drug-related deaths, 1979-1997, broken down by age group. For the greater part of the period it was the age group 20-29 which was most at risk.
- 6.5–6.6 Using the restricted approach, ONS calculates that for the year 1995 drugrelated deaths accounted for 5% of total male years of life lost, a figure approaching that due to road traffic accidents. We caution that the classificatory approach employed here probably inflates the number of drug-related deaths although other factors may at the same time be causing some underestimates.
- 6.7 Techniques are now available to ONS which should allow pinpointing of death rates to particular residential areas, down to the level of different housing estates.
- 6.8–6.9 There is a strong positive relationship in England and Wales between social deprivation and rates of drug-related mortality, so much so that for men aged 15-44 deaths among the most deprived group are six times the rate observed among the least deprived. There is a similar relationship between deprivation and drug-related deaths for women although here the relationship is not so strong.
- 6.10 The involvement of different drugs in reported fatalities is examined, and year on year it is heroin misuse which is making the largest contribution.
- 6.11–6.13 The statistics suggest that in Scotland the previous upward trend in drugrelated deaths has at least for the time being, somewhat levelled out. Heroin is again the drug of predominant importance. Mentions of methadone have decreased over the last four years, while benzodiazepines are of increasing importance.
- 6.14–6.16 We conclude that the data which we are able to present in this chapter fall far short of constituting the kind of reliable and comprehensive picture of trends and situations which is needed. It is not a happy state of affairs that on such a core statistic as annual number of deaths due to drug misuse, estimates vary threefold according to the approach used. Despite these difficulties some reasonably confident conclusions can be drawn from the data presently available and these conclusions are summarised. The existing data can provide a limited characterisation of certain aspects of the present situation. More persuasively they point to trends.

### Chapter 7 Methadone

- 7.1 In England and Wales there were in 1995 estimated to be about 30,000 people receiving methadone maintenance treatment for their opioid dependence. Deaths in which methadone is mentioned have increased over recent years, and have become a cause for concern. We question whether, even now, that concern has become sharp enough.
- 7.2 This chapter provides advice on how the prescription of methadone to drug users should be handled in ways which will increase benefit, and decrease associated risks. Within an overall initiative to reduce drug-related deaths, we recommend that action to prevent methadone-related deaths must be a priority component.
- 7.3 The problems of methadone-related deaths has also become a worrying problem in some other countries.
- 7.4–7.5 We outline the therapeutic uses to which methadone can be put in the treatment of opioid dependency. There is strong and multiple evidence in the research literature to support the contention that methadone, when given in adequate dosage and with adequate supervision, is likely to produce tangible benefit of several kinds. One of these benefits is reduced risk of death.
- 7.6 At present in the UK any medical practitioner can prescribe methadone for treatment of opioid dependence and there is minimal central regulation.

  Training and supervision in this kind of treatment need to be strengthened.
- 7.7 Wide variation can exist between individuals in the way in which the drug is accumulated or cleared within the body. Methadone has a fairly narrow window of clinical safety.
- 7.8–7.12 We review factors which may influence the prevalence of methadone-related deaths. Such factors include the background fact of a recent increased prevalence of methadone prescribing. The risks of interactions between methadone and alcohol and other drugs, are stressed. Deaths occasionally occur due to accidental poisoning of a child who has had access to prescribed drugs, and we recommend that when methadone is dispensed clear warnings should be given on the bottle.
- 7.13 The question which needs to be addressed is how to maximise the benefits while decreasing the risks of methadone-related deaths.
- 7.14 If too restrictive and inflexible controls were put in place on the therapeutic use of methadone, the untoward consequence might be that more individuals would continue longer with their highly dangerous intravenous use of illicit drugs.

- 7.15 With that point conceded, we believe that over recent years the agency approach to prescribing and dispensing of methadone has often been too lax. Diversion of methadone is a serious problem, and most deaths from this drug involve overdoses occurring in people who have got hold of diverted supplies. Methadone prescribing should in future be conducted in a way which puts more emphasis on preventing diversion and commensurate measures should be instituted.
- 7.16 We fully support the recommendations on methadone prescribing made in the recently revised Department of Health guidelines, and we make some compatible suggestions. The remedies will involve new training, new commitment and new institutional safeguards, and repeat review. In particular we recommend that the normal practice for methadone should be for methadone to be taken under daily supervision for at least six months and often longer.
- 7.17 There are inalienable responsibilities which lie with the individual prescribing doctor to give all medicines responsibly. Health authorities should monitor the quality and adequacy of prescribing of methadone in their geographical areas.
- 7.18 With due safeguards in place, the further extension of methadone availability is likely to save lives and is a development we recommend.
- 7.19 We wish to emphasise that in our view the current national level of methadone- related deaths is entirely unacceptable. We recommend that deaths from methadone should be monitored locally by DATs. National monitoring by ONS should allow feedback to the local level. Nationally we recommend that reduction by an agreed percentage in these deaths should be a performance indicator, but we are aware that improved data collection may for the time being distort the picture.
- 7.20 We present data on recent Scottish experience with methadone which demonstrate persuasively that when proper safeguards are in place, including a high level of supervised consumption, increased prescribing of methadone can be accompanied by decrease rather than increase in methadone-related deaths. We see the Scottish experience as strongly supporting our contention that the safety of methadone maintenance treatment, for the individual and the community, will be determined by the care with which the treatment is delivered.
- 7.21 We recommend that as a matter of urgency that Department of Health plan trials on alternative therapeutic agents to methodone in the treatment of opioid addiction.

Patients as well as doctors, pharmacists and agency workers, need to be more aware of the dangers which can result from methadone and there is a need for much keener awareness at institutional levels. We recommend that active steps are taken to ensure such awareness, and see DATs as taking a leading role.

### Chapter 8 Reducing deaths from the immediate effects of taking drugs.

- 8.1–8.2 We distinguish between deaths which occur as immediate or near immediate consequences of drug misuse (the focus of this chapter), and deaths due to chronic disease resulting from virus infections transmitted by injecting (Chapter 9). Some of the recommendations made in the present chapter will also bear on the concerns of the following chapter.
- 8.3 Preventing drug misuse must in the long term be the best way to prevent drug-related deaths, but ahead of that achievement much can be done to reduce the level of premature death among drug misusers.
- 8.4–8.7 We identify the drugs which are currently of most major concern as causes of immediate drug-related deaths. Heroin and methadone deaths constitute the prime but not the exclusive problem. We put up a warning signal about cocaine, see benzodiazepines as making a contribution to the problem, and note that VSA continues to kill young people in significant numbers.
- 8.8 Loss of tolerance is a factor frequently implicated in fatalities. We recommend that prisoners on release from gaol and clients who have been detoxified or who are completing residential care, are given warning against this danger.
- 8.9 Injection of a drug constitutes an especially dangerous route of use. We recommend that drug treatment services should review their policies to ensure that clients who are not injecting are encouraged never so to do, while those who are injecting are encouraged to cease the practice. We believe that the calmly, rationally but repeatedly stated message 'Don't inject, injecting is too dangerous' should become part of treatment agency culture. We recommend that DATs should make sure that staff training is available on treatment methods which will help avoidance and cessation of injecting.
- 8.10 Account has, however, to be taken of the fact that many drug users are not in current contact with a treatment agency, and the "injecting is too dangerous" message must be carried to this wider population. We recommend that the HEA, in England, the corresponding body in Wales, and HEBS (Scotland) should conduct public information campaigns to carry the needed message widely and ensure that it is sustained.

- 8.11–8.13 It is unacceptable that a small number of doctors through poor prescribing practice are contributing causally to addict deaths, and we commend a licensing scheme for doctors which ties in with their level of expertise. Prescribing to addicts of controlled drugs in tablet form or in ampoules is in general highly inadvisable. We recommend that persistent irresponsible prescribing to drug misusers should not be tolerated, and means to prevent such behaviour should be strictly enforced. We would recommend that such cases be referred to the GMC.
- 8.14–8.15 We turn then to the problem set by the prescribing of benzodiazepines to drug misusers and stress that these drugs are both dangerous and easily diverted. We recommend that every prescribing agency should have a policy which will so far as possible avoid prescribing these drugs to new patients and which will assist current patients to come off them, GPs also should tighten their practice.
- 8.16 Special attention should be paid to the dangers which can arise from combined use of opioids, benzodiazepines, and alcohol. We recommend that agencies should warn against such behaviour, and this message should also be given as part of public health advice.
- 8.17–8.18 We give a brief note on prevention of VSA deaths, a topic which was the focus of a recent ACMD report. We recommend that continued attention to this problem is needed.
- 8.19–8.20 A brief note is also given on prevention of Ecstasy deaths, another topic on which ACMD has recently given advice.
- 8.21-8.22 We then examine, sequentially, the role of some particular agencies in prevention of immediate drug-related deaths, starting with the crucial role of specialist drug agencies. We recommend that every such agency should develop and put in place explicit policies for the prevention of immediate drug-related deaths (and also of course for deaths from blood borne virus diseases, as will be discussed in the following chapter). DATs should assist and monitor the implementation of these policies.
- 8.23-8.27 Within those policies we recommend that with the support of DATs procedures for risk assessment should be developed, and a person-specific action plan implemented to reduce the risk of drug-related death. We make suggestions on the possible contents of these approaches. We recommend that the training implications should be met. Agencies must avoid entering into a complicit relationship with clients which inhibits everyone concerned from trying to reduce the risk of premature death.

- 8.28 On occasion, overdose may occur on the premises of a drug agency. We recommend that staff should be trained in resuscitation techniques and naloxone kept on site.
- 8.29 Drug agencies should be aware of their responsibility to prevent diversion, and we recommend that training should support this ethic. We recommend that staff should also encourage their clients to take responsibility to avoid behaving in a way which may increase risks to their own lives, or to those of other people.
- 8.30–8.34 Still focussing on the responsibility of specialist services, we turn to mental health needs and suicide prevention. We recommend that drug agencies and mental health services should strengthen their abilities to deal with misusers who are experiencing mental health problems. In our view this has up to now been a sector of service need which has not received sufficient attention. We recommend the development of closer liaison between the different providers, and enhanced training.
- 8.35–8.38 Within our review of the specific responsibilities of different parts of the care system, we focus next on the highly important issue of the role of primary care in the prevention of drug-related deaths. We identify specific interventions available to the GP and other primary care workers. Action continues to be needed to increase the competence in this type of work among all those concerned. We recommend that DATs should support and monitor the capacity of primary care workers to assist in the prevention of drug-related deaths.
- 8.39–8.41 Here we look at the important role of A and E departments in preventing immediate deaths from drug misuse. We recommend that information should be handed out to all presenting drug misusers, giving relevant health advice. DATs should help establish such practice. Hospitals should satisfy themselves that arrangements for resuscitation of people who have overdosed are satisfactory.
- 8.42 We then consider the situation which may develop around the immediate event of overdose, what may be done by the person who witnesses an overdose, and the role of the emergency services which may be called. We recommend that a call to a person who has overdosed should be viewed as a medical emergency, confidentiality should be maintained, and DATs should help formalise\_these expectations locally.
- 8.43 Relatives and friends who are likely to be witnesses to an overdose should be given guidance on what to do. This is something we would expect agencies which are in contact with drug users to accomplish.
- 8.44–8.45 We believe that ambulance staff should satisfy themselves that arrangements for dealing with this kind of emergency are satisfactory. We

recommend that naloxone should be made available to paramedics and that they are trained in its use.

- 8.46–8.49 We also recommend that the proposal that drug users or their relatives are issued with naloxone is subject to a carefully designed pilot project.
- 8.50 We discuss the role of forensic medical examiners(police surgeons)and suggest that their contact with an arrestee should where appropriate be encouraged.
- A high proportion of people who are arrested by the police are drug takers. We recommend that police surgeons should, where appropriate, speak to the arrestee about referral to help, and information should be available in the police station. We commend the development of the Drug Arrest Referral Scheme. Arrestees have sometimes died in police custody following cocaine induced delirium. We recommend that police forces are given guidance on how to identify and deal with this problem.
- 8.52–8.55 ACMD has previously issued a number of reports on the care of drug users who are imprisoned and on their after care. We see prisons as potentially having a positive role in preventing drug-related deaths. We commend the recently established CARAT scheme, but are disappointed by the disorganisation which up to now seems too often to have affected the penal response to drug misusers. In our view it is crucial to prevention of drug-related deaths that the after-care of drug using prisoners should be identified, community liaisons established, and individualised care plans put in place. There should be opportunity for methadone maintenance to be continued while a drug user is in prison.
- 8.56 We are concerned about the lack of current information on the role of drug use in contributing to road traffic deaths. We recommend that drug agencies should be more active in bringing to the attention of their clients the risk which may attach to drugged driving.
- 8.57 Drugs may in some instances contribute to disinhibited and dangerous behaviour. Agencies should be aware of these risks.
- 8.58 We thus conclude that across and between agencies there is a wide spectrum of measures which are feasible, and which should be put in place so as to reduce fatalities among drug users which are caused by the immediate effects of drugs. An intensive, broad and sustained initiative of the kind we propose would, in our view, be likely to save a very considerable number of lives.

### Chapter 9 Reducing deaths from chronic illness

- 9.1-9.2 Awareness of the threat posed to injecting drug users by illnesses resulting from hepatitis infections is at present far too poorly developed. At the outset of this chapter we state fairly and squarely our belief that hepatitis among drug misusers should now be seen as cause for intense public concern, and for major attention within the overall initiative on prevention of drug-related deaths which this report proposes. HIV deserves continuing attention. But the prevention of hepatitis must no longer be seen as a minor side-show to action on HIV. The sense of energy and concern which earlier characterised the response to HIV needs to be captured in a new and broader initiative on prevention of injection-transmitted virus diseases.
- 9.3 It is regrettable that the country is encountering an immensely threatening public health problem without the data with which to monitor population trends and the effectiveness of policies.
- 9.4–9.7 We describe characteristics of the different types of virus which may be transmitted by injecting. Only 5% of adults infected with hepatitis B will develop long term viral infection, but as many as 80% of those exposed to hepatitis C may carry the virus long-term.
- 9.8 The only data currently available on deaths from virus related causes due to earlier drug injecting, are for HIV. By the end of 1998 there had in Scotland been 279 deaths of injecting drug users due to AIDS. We believe that Britain has over recent years achieved very considerable success with prevention of HIV, but the fact that at first drug agency contact even a few clients are still found to be HIV positive suggests that there is no room for unguardedness.
- 9.9–9.12 We consider, in turn, the prevention policies which are required in relation to different virus infections. We start by briefly revisiting HIV, the subject of three previous reports by Council. This country has over recent years achieved an important measure of success in curtailing the rates of HIV occurring among injecting drug users. Policies to reduce the spread of HIV are bound to have some impact on other relevant virus diseases, and vice versa. An important development since Council last reported on AIDS is the availability of more effective drug treatments. There must, however, be concern over development of strains of the virus resistant to treatment.
- 9.13–9.18 In England and Wales, among long term injectors a recent study found that 62% were HCV positive and 52% HCB positive. In the UK, estimates for the number of former and present injectors infected with HCV range between 152,000 and 228,000. Recent data from the USA suggest that

1.8% of the general population have hepatitis C infection, with injecting drug use the main agent of dissemination.

As regards policies needed for prevention of hepatitis C, of central importance is the highly infectious nature of this virus as transmitted by blood-to- blood contact. In Chapter 8, we have already said that it is essential that non-injectors are encouraged never to inject. Given the infectivity of hepatitis C this message is of the very greatest relevance if transmission of HCV is to be curtailed. In line with advice given in Chapter 8, we wish here again to emphasise the need to get addicts who are already injecting help to move them away from their injecting.

- 9.19 The hepatitis C virus is more robust than the HIV virus, and we give advice on decontamination of injecting equipment.
- 9.20 Transmission of hepatitis C between sexual partners is uncommon. The use of condoms should however be encouraged as a sensible preventive measure if one partner is HCV positive.
- 9.21–9.23 A combination of Interferon and Ribavirin in the long term will result in the loss of the hepatitis C virus from the blood in 40% to 50% of those treated. In that earlier treatment will give better results, we recommend enhancement of opportunities for voluntary testing for HCV.
- 9.24–9.25 About 15% 20% of injectors who become hepatitis B carriers will be at risk of later developing cirrhosis or liver cancer. Early testing of virus status is again of great importance. Partners of injecting drug users will also need to be tested, in that HBV is rather easily transmitted sexually.
- 9.26–9.27 Unlike with hepatitis C, a vaccine to protect against hepatitis B is available, and at low cost.. We recommend that vaccination against this virus should become part of the childhood vaccination programme in the general population. Meanwhile and until that policy is in place, we recommend that it is good practice to offer immunisation to all injecting drug misusers.
- 9.28 Hepatitis D only occurs in people infected with hepatitis B, so vaccination against HBV will protect against hepatitis D also.
- 9.29 Specialist advice on the treatment of hepatitis B and hepatitis C infected users should be sought from a hepatologist, and this should be routine agency practice.
- 9.30 Drug injectors are at risk of developing septicaemia and helping agencies should be aware of the need to liaise with physical medicine.
- 9.31–9.33 Having discussed prevention in relation to different viruses as considered individually, we go on to look at cross cutting elements needed to strengthen the response of helping agencies as a whole. We identify a need for enhanced staff training if the problem set by blood borne viruses is to be

more effectively tackled. More use of routine testing for HCV with associated counselling, strong and consistent health messages to drug users on the dangers of injecting and sharing, and the continued provision of clean injecting equipment to all injectors must all be on the agenda. Strengthened liaison with specialist medical services is needed. We are aware that the provision of sterile water has cost implications, but in the face of the HCV epidemic we must now strongly recommend this step provided it is only made available in single dose ampoules so as to avoid the danger of cross infection. Besides these specifics we call for a broad change in agency awareness so as to make prevention of chronic virus related illnesses and associated deaths an ongoing priority part of such agencies' work. The energy which was previously directed at curtailing HIV must now be broadened into action directed at the totality of the relevant blood borne virus diseases. We do not go so far as to make recommendations on all possible items of paraphernalia but believe that this issue needs to be kept under review.

- 9.34-9.38 We consider the role of prisons in the prevention of virus infections among drug users. We recommend continually updated education programmes to inform staff and prisoners on the relevant risks. We recommend initiatives which will make decontaminants widely available, coupled with instructions on their use. We recommend that hepatitis B vaccination should be made available to all people entering prisons, with uptake of this advice duly monitored.
- 9.39 At worst there is a worrying symmetry between the injectors' belief that virus infections "can't happen to me" and with their dealing with the injecting habit postponed until too late, and public belief that preventing the public health problem set by drug-related virus transmission can be postponed. Action across the whole range of injection transmitted virus diseases is now urgently required, and should not be postponed.

### Chapter 10 Priorities for a policy framework

- 10.1–10.4 In this chapter we make suggestions as to how the diverse actions which are needed for the prevention of drug-related deaths and which are identified in this report can be given cohesion within an overall policy framework which will support the initiative for which we are calling. We set out a total of 16 explicit elements which will contribute to the building of that framework.
- 10.5 Firstly, improvement is urgently needed in the data system and its operational use at national and local level. An effective policy initiative cannot operate blind to the facts.

- 10.6–10.7 An essential element which will contribute to the building of a strong and integrated policy response must be a better informed public awareness of the problems set by drug-related deaths. The public need to know how important this issue has become for the nation's health both in terms of overdose fatalities and the danger of viral transmission. We highlight the role of the media.
- 10.8–10.10 We call for a heightened level of knowledge and commitment, and an attitudinal shift across all relevant agencies. Multiple improvement is needed in the relevant practices across agencies, and with audit of all relevant performance. We emphasise the importance of agency practices being aimed strongly and persistently at reduction in injected drug use, as a vital element within the initiative which this report is proposing. Never inject, injection is too dangerous.
- We call for an end to lax and irresponsible prescribing and a radical curtailment of methadone-related deaths. Deaths due to methadone have become a cause for national reproach. It is deeply unsatisfactory that energy and resources are aimed in one sector of activity at reduction in drug-related deaths, while practices are allowed to continue elsewhere which flagrantly risk increase in deaths.
- 10.12 A considerably strengthened response to drug misuse by the Prison Service is required, and we hope that previous inertia will now be overcome.
- 10.13 We make a recommendation for enhanced investment in many relevant aspects of professional training. An educational and training initiative must be intrinsic to the success of the overall policy initiative.
- The need for better liaison between different types of agency has become apparent as several points in this report, and we see this as a strong general theme within an overall initiative.
- 10.15 There is a need for continued and strengthened action directed at the amelioration of social deprivation. Deprivation can breed social conditions which encourage the more dangerous forms of drug misuse, and which thus enhance the risks of drug-related death.
- Attempts are needed to involve drug users themselves in responsibility for reducing drug-related deaths. We recommend that a message should be given that drug users have a personal responsibility to avoid overdose and virus infection, and that they should not risk the lives of their partners or friends. Users themselves need to be brought into partnership with the policy effort, rather than their being treated only as 'the problem', and as having no hand in the solution.
- 10.17 A more determined attempt is needed to reach drug users who are outside agency contact. To concentrate only on the role of drug agencies in the prevention of drug-related deaths while many people who are outside agency contact are at risk of overdose or of contracting a virus infection, is truly ostrich-like.

- 10.18 Responses to the needs of the families of drug users should in several ways be strengthened. We believe that families can contribute to prevention of drug-related deaths and they may need help when a tragedy has occurred.
- 10.19 We define the role of DATs as crucial to the successful implementation of everything we are proposing.
- 10.20 The final, and sixteenth factor which we see as necessary to the successful implementation of the overall initiative which we propose, is investment in the kind of research which can help prevent drug-related deaths. This area can provide a test-bed for how the research and policy connection in the broader drugs arena can be better handled.
- 10.21–10.22 In conclusion, we want to express a view based on objective consideration of the problems, identification of the many opportunities which are susceptible to action, and our sense of the strengths of what is now a very experienced field. That unequivocal view is that the incidence of drug-related deaths in this country can, will and must, in the near future be substantially reduced.