

# General Register Office for SCOTLAND

information about Scotland's people

# Drug-related deaths in Scotland in 2007

Statistics of drug-related deaths in 2007 and earlier years, broken down by cause of death, selected drugs involved, age and sex.

Includes three tables of figures for Health Board areas, and three for Council areas

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## **Main Points**

The key points in this publication are:

- On the basis of the definition used for these statistics, there were 455 drug-related deaths in 2007, 34 (8 per cent) more than in 2006 and 231 (103 per cent) more than in 1997. The number of drug-related deaths has risen in eight of the past ten years: the long-term trend appears to be steadily upwards.
- Of the 455 drug-related deaths in 2007:
  - o heroin and/or morphine were involved in 289 (64 per cent);
  - o methadone was involved in 114 (25 per cent);
  - o diazepam was involved in 79 (17 per cent);
  - o cocaine and ecstasy were involved in 47 and 11 deaths respectively; and
  - o the presence of alcohol was mentioned in 157 cases.
- Males accounted for 86 per cent of the drug-related deaths in 2007.
- In 2007, the numbers of 25-34 and 35-44 year olds whose deaths were drug-related were the same: 149 in each age-group (in each case, representing 33 per cent of all drug-related deaths). In addition, 94 people aged under 25 died (21 per cent), as did 63 people aged 45 and over (14 per cent).
- The Health Board areas which accounted for the majority of the 455 drug-related deaths in 2007 were:
  - o Greater Glasgow & Clyde 157 (35 per cent);
  - o Lothian 54 (12 per cent);
  - o Lanarkshire 48 (11 per cent); and
  - o Grampian 45 (10 per cent).
- Comparing the annual average for 2003-2007 with the annual average for 1996-2000, to reduce the effect on the figures of year-to-year fluctuations:
  - there have been marked increases in the numbers of deaths involving, heroin and/or morphine, cocaine and alcohol; not much change in the numbers of deaths involving methadone, diazepam and ecstasy; and a marked fall in the number involving temazepam;
  - the percentage increase in the number of drug-related deaths was greater for males than for females;
  - the percentage increases for 35-44 year olds and people aged 45 and over were larger than for 25-34 year olds, and there was a fall in the number of drug-related deaths of people aged under 25; and
  - the Health Board areas with the largest increases in the numbers of drugrelated deaths were Greater Glasgow & Clyde, Lanarkshire, Forth Valley and Ayrshire & Arran.

## 1. Introduction

- 1.1 This is the latest edition of an annual paper which provides statistics of drug-related deaths which were registered in Scotland over the period from 1996 to 2007. The figures were produced using a definition of "drug-related deaths" which was introduced in 2001 for the "baseline" figures for the UK Drugs Strategy. This definition was agreed by a working party set up following the publication, by the Advisory Council on the Misuse of Drugs, of a report on "Reducing drug related deaths". The Office for National Statistics has also prepared data on drug-related deaths in England and Wales using this definition. This paper's statistics of drug-related deaths are used in the development of policy by the Scottish Government, to inform the discussions and recommendations of its National Forum on Drug-related Deaths, and by a number of other interested parties.
- 1.2 **Section 2** gives some background on the collection of information on drug-related deaths in Scotland. **Section 3** describes the figures for Scotland, **Section 4** covers the statistics for Health Board areas and **Section 5** refers to the figures for Council areas. **Annex A** sets out the definition of drug-related deaths used in this paper; **Annex B** refers to some other definitions of drug-related deaths; **Annex C** provides some References; and **Annex D** contains the questionnaire that was used to collect further information about some drug-related deaths which occurred in 2007.
- 1.3 The main improvements that have been made for this edition are as follows:
- six new tables have been added:
  - 3- and 5-year moving averages, and the likely range of values around the 5year moving average;
  - o time-series of the numbers by sex and age-group, and of the median and quartile ages;
  - three tables of figures for individual Council areas (time-series, and numbers by cause of death and by selected drugs involved);
  - o numbers on the basis of three different definitions of drug-related deaths;
- two charts have been added, to illustrate the numbers from two of the new tables;
- most of the other tables have been expanded for example, some tables now include figures for 5-year averages, as these may provide a better guide to the numbers in a particular geographical area than the figures for any one year alone;
- a new annex describes some other definitions of "drug-related" deaths.

### 2. Data sources

- 2.1 The General Register Office for Scotland (GROS) holds details of all deaths which are registered in Scotland. By convention, deaths are counted on the basis of the calendar year in which they are registered rather than the year of occurrence (as the latter might not be known). GROS closes its database for a calendar year around the end of the following June, so the statistics for 2007 are based upon the information which GROS had obtained by June 2008. GROS classifies the underlying cause of each death using International Classification of Diseases (ICD) codes, based on the information which is collected on the medical certificate of cause of death together with any additional information which is provided subsequently by (e.g.) certifying doctors, the Crown Office, pathologists or Procurators Fiscal.
- 2.2 Drug-related deaths are identified using details from the death registrations supplemented by information from a specially-designed questionnaire, which is completed by forensic pathologists. GROS requests this information for all deaths involving drugs or persons known, or suspected, to be drug-dependent. Additionally, GROS follows up all

cases of deaths of people where the information on the death certificate is vague or suggests that there might be a background of drug abuse. A copy of the questionnaire used in 2007 is included as an Annex. This enhancement to the data collection system was described in a paper published by GROS in June 1995 (see the References). It should be noted that there is a possibility that more complete information has been reported in recent years. For example, technical advances may enable pathologists to detect small quantities of substances that could not have been found in the post-mortems that were performed several years ago.

# 3 Drug-related deaths: trends, causes of death, drugs involved, sex and age

### 3.1 Overall numbers

- 3.1.1 On the basis of the definition used for these statistics, there were 455 drug-related deaths in 2007, 34 (8 per cent) more than in 2006 and 231 (103 per cent) more than in 1997. The figures in **Table 1** show that the number of drug-related deaths has risen in eight of the past ten years: the long-term trend appears to be steadily upwards.
- 3.1.2 However, the statistics also show some year to year fluctuations. For this reason, moving annual averages are likely to provide a better guide to the long-term trend than the change between one year and the next. **Figure 1** illustrates this:
- the black blobs show the figures for each year;
- the continuous grey lines show two moving annual averages a 3-year average (thin grey line) and a 5-year average (thick grey line). The latter should provide a better indication of the overall long-term trend;
- the broken grey lines show the likely range of variation around the 5-year moving average (*if* the latter represents the underlying rate at which drug-related deaths occur, statistical theory suggests that random year to year variation would result in only about one year in 20 having a figure outwith that range).

Clearly, individual years' figures tend to fluctuate around a long-term upward trend, and are generally within the likely range for random year to year variation about the trend.

## 3.2 Underlying causes of death

- 3.2.1 **Table 2** shows the number of drug-related deaths categorised by the underlying cause, using groupings of the ICD codes. The majority (299 or 66 per cent in 2007) were coded to "drug abuse" (which is described within the ICD classification as "mental and behavioural disorders due to psychoactive substance use").
- 3.2.2 As some of the figures can fluctuate markedly from year-to-year, a better indication of the main changes over the years shown in the table should be obtained from a comparison of the averages for the 5-year periods at the start and end. These show that there have been increases in the numbers of deaths for which the underlying cause is "drug abuse" (from an average of 189 per year in 1996-2000 to an average of 246 in 2003-2007), "accidental poisoning" (from an average of 13 to an average of 34), and "undetermined intent" (from an average of 25 to an average of 61). There was little change in the number of deaths caused by intentional self-poisoning (averages of 34 per year in 1996-2000, and 36 in 2003-2007).

# 3.3 Selected drugs involved

- 3.3.1 A wide range of drug combinations is recorded in the GROS database (for example, in 2006, diazepam was also mentioned in almost a fifth of the deaths involving heroin or morphine; and over half of the deaths involving cocaine also involved heroin, morphine or methadone). **Table 3** gives information on the involvement of selected drugs, whether alone or in combination with other substances. The drugs listed in the table are involved in the majority of drug-related deaths (for example, they were involved in over five-sixths of the drug-related deaths in 2006). The table shows a combined figure for 'heroin/morphine' because it is believed that, in the overwhelming majority of cases where morphine has been identified in post-mortem toxicological tests, its presence is a result of heroin use.
- 3.3.2 Since the table records individual mentions of particular drugs, it will involve multiple-counting of some deaths (e.g. a death involving both heroin and alcohol would be counted in two columns). This means that the table does **not** give the numbers of deaths that are attributable to each of the drugs mentioned. The GROS database has **no** information about which (if any) of the drugs mentioned were thought to have caused each death, the amounts of the different drugs that were found, or the possible consequences of taking particular combinations of drugs.
- 3.3.3 Heroin/morphine was involved in 289 (64 per cent) of the deaths in 2007; methadone was involved in 114 (25 per cent) of the deaths; and diazepam was involved in 79 (17 per cent) of the deaths. Cocaine and ecstasy were involved in 47 and 11 cases respectively. The presence of alcohol was mentioned for 157 of the 455 drug-related deaths in 2007.
- 3.3.4 As some of the figures can fluctuate markedly from year-to-year, the main changes over the years shown in the table should be found by comparing the averages for the 5-year periods at the start and end. These show that there have been **marked increases** in the numbers of deaths involving:
- heroin and/or morphine from an average of 128 per year in 1996-2000 to an average of 229 in 2003-2007;
- cocaine from an average of 6 to an average of 38;
- alcohol from an average of 91 to an average of 129;

that there has been **not much change** in the numbers of deaths involving:

- methadone (averages of 74 and 90);
- diazepam (averages of 116 and 103);
- ecstasy (averages of 7 and 13);

and a **marked fall** in the number of deaths involving temazepam (from an average of 47 per year in 1996-2000 to an average of 12 in 2003-2007).

- 3.3.5 However, while comparing the 5-year averages at the start and end of the period should reduce the effect of year-to-year fluctuations, it may not show all the main trends. In this case, it does not reveal some marked changes during the period:
- the number of deaths involving diazepam rose from under 100 in 1996 and 1997 to over 200 in 2002 and then fell back to under 100 in 2005, 2006 and 2007;
- the number of deaths involving methadone appeared to fall in the late 1990s, but has since risen to exceed the level recorded in 1996 (100).

# 3.4 Sex and age

- 3.4.1 **Table 4** shows that males accounted for the vast majority (393, or 86 per cent) of the drug-related deaths in 2007. This was the case throughout the past decade, although the precise balance between the sexes varied from year to year. Comparing the averages for 1996-2000 and 2003-2007, to reduce the effects of year-to-year fluctuations on the figures, the increase in the number of drug-related deaths was greater for males (48 per cent) than for females (34 per cent).
- 3.4.2 In recent years, of the age-groups shown, the largest number of drug-related deaths has tended to be among 25-34 year olds: using the averages for 2003-3007, 134 out of 377 deaths (36 per cent) were of 25-34 year olds. However, in 2007, the numbers of 25-34 and 35-44 year olds who died were the same: 149 in each age-group (in each case. representing 33 per cent of the total of 455 deaths). In addition, 94 people aged under 25 died (21 per cent), as did 63 people aged 45 and over (14 per cent). The table shows that the number of deaths in a particular age-group can fluctuate markedly over the years (for example, the number of under 25s who died was 100 in 2002, 48 in 2005, and 94 in 2007). However, some clear trends can be seen. Comparing the averages for 1996-2000 and 2003-2007 (to reduce the effects of year-to-year fluctuations on the figures), there have been large percentage increases in the number of deaths of 35-44 year olds (from an average of 46 per year in 1996-2000 to an average of 115 in 2003-2007) and people aged 45 and over (from an average of 23 to an average of 54); the number of deaths of 25-34 year olds rose less rapidly (from an average of 108 to an average of 134) and there was a fall in the number of people aged under 25 who died (from an average of 83 to an average of 74).
- 3.4.3 Changes in the ages of drug-related deaths can also be seen from the values of the lower quartile (a quarter of drug-related deaths were of people of this age or under), median (half the deaths were of people of this age or under) and upper quartile (a quarter of the deaths were of people of this age or older), which appear in the table:
- the lower quartile age at death rose from 22 years in 1996 to 26 years in 2007;
- the median age at death increased from 28 years in 1996 to 34 years in 2007:
- the upper quartile age at death rose from 34 years in 1996 to 41 years in 2007. The median is used (rather than the average) because it should be affected less by any unusually high (or low) values.
- 3.4.4 **Table 5** shows that, in 2007, 269 (68 per cent) of the male deaths were of known or suspected drug abusers compared to 30 (48 per cent) of the female deaths. Of the 63 cases aged 45 and over, only 27 (43 per cent) were known, or suspected, to be drugdependent. The table also provides a more detailed breakdown of the numbers by agegroup for each sex.

# 4 Drug-related deaths in Health Board areas: trends, causes, and drugs involved

4.1 Deaths are normally classified by geographical area on the basis of the usual place of residence of the deceased (or, if that is not known, or is outwith Scotland, on the basis of the location of the place of death). **Table HB1** shows the numbers of drug-related deaths for each Health Board area. Of the 455 deaths in 2007, 157 (35 per cent) were in the Greater Glasgow & Clyde NHS Board area. Lothian, with 54 (12 per cent), had the next highest total followed by Lanarkshire (48 or 11 per cent) and Grampian (45 or 10 per cent).

- 4.2 Because of the generally small numbers involved, particularly for some Health Board areas, great care should be taken when assessing any apparent trends shown in the table. As year-to-year variation in the figures could result in apparently large percentage changes (particularly for the smaller areas), the use of 5-year moving annual averages should "smooth out" the effects of any fluctuations, and so provide a better indication of the longer-term trends. The areas with the largest increases between their annual averages for 1996-2000 and 2003-2007 were Greater Glasgow & Clyde (up by 29, from 113 to 142), Lanarkshire (up by 18, from 19 to 37), Forth Valley (up by 14, from 4 to 18) and Ayrshire & Arran (up by 13, from 10 to 23).
- 4.3 The table also shows the population of each Health Board area, and what its average number of drug-related deaths per year (for 2003-2007) represented per 1,000 population. For Scotland as a whole, the average of 377 drug-related deaths per year represented about 0.07 per 1,000 population. Only one area had a value higher than this: Greater Glasgow & Clyde (about 0.12 per 1,000 population).
- **Table HB2** gives a breakdown by cause of death for each Health Board area, and **Table HB3** shows some geographical differences in the reported involvement of certain drugs. The latter statistics should be used with care: they are subject to the points mentioned in paragraphs 3.3.1 and 3.3.2, the effects of which could be proportionately greater on the figures of some of the smaller areas. For most NHS Board areas, heroin/morphine was involved in a majority of the deaths e.g. 109 out of 157 in Greater Glasgow & Clyde, 34 out of 45 in Grampian, and 16 out of 29 in Tayside. However, a lower proportion was observed in Lothian (20 out of 54). Greater Glasgow & Clyde had a relatively high proportion involving methadone (47 out of 157) as did Lothian (22 out of 54). This contrasts with the lower proportions recorded in Grampian (8 out of 45) and Lanarkshire (11 out of 48). The table also shows that diazepam was involved in over two-fifths of the deaths in Lothian (25 out of 54) but in only a small proportion (14 out of 157) in Greater Glasgow & Clyde.

# 5 Drug-related deaths in Council areas: trends, causes and drugs involved

5.1 Tables **C1**, **C2** and **C3** provide the corresponding figures for individual Council areas. Again, because of the relatively small numbers involved, particularly for some Council areas, great care should be taken when using these figures; again, the points mentioned in paragraphs 3.3.1 and 3.3.2 may have a proportionately greater effect on the numbers for some of the smaller areas.

# Annex A The definition of drug-related deaths used for these statistics (the GROS implementation of the "baseline" definition for the UK Drugs Strategy)

- A1. The definition of a 'drug-related death' is not straightforward. Useful discussions on definitional problems may be found in articles in the Office for National Statistics publication "Population Trends" and in the journal "Drugs and Alcohol Today" (see the References). A report by the Advisory Council on the Misuse of Drugs (ACMD see the References) considered current systems used in the United Kingdom to collect and analyse data on drug related deaths. In its report, the ACMD recommended 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'. GROS was represented on this group, and this paper presents information on drug-related deaths using the approach that was agreed, on the basis of the definition as it was implemented by GROS.
- A2. The "baseline" definition for the UK Drugs Strategy covers the following cause of death categories (the relevant codes from the International Classification of Diseases, Tenth Revision [ICD10], are given in brackets):
  - a) deaths where the underlying cause of death has been coded to the following subcategories of 'mental and behavioural disorders due to psychoactive substance use':
    - (i) opioids (F11);
    - (ii) cannabinoids (F12);
    - (iii) sedatives or hypnotics (F13);
    - (iv) cocaine (F14);
    - (v) other stimulants, including caffeine (F15);
    - (vi) hallucinogens (F16); and
    - (vii) multiple drug use and use of other psychoactive substances (F19).
  - b) deaths coded to the following categories <u>and</u> where a drug listed under the Misuse of Drugs Act (1971) was known to be present in the body at the time of death:
    - (i) accidental poisoning (X40 X44);
    - (ii) intentional self-poisoning by drugs, medicaments and biological substances (X60 X64);
    - (iii) assault by drugs, medicaments and biological substances (X85); and
    - (iv) event of undetermined intent, poisoning (Y10 Y14).
- A3. A number of categories of what may be regarded as "drug-related" deaths are excluded from the definition. In most cases, this is because the underlying cause of death was *not* coded to one of the ICD10 codes which are listed above (e.g. someone who was killed by a person who was under the influence of drugs would not be coded in ICD10 as a "drug-related" death). However, in its implementation of the definition, GROS also excluded a small proportion of the deaths which were coded to one of the ICD10 codes listed above (such as those described under "b", below). The following are examples of the kinds of deaths which are excluded from the definition, or from the GROS implementation of the definition:
  - a) deaths coded to mental and behavioural disorders due to the use of alcohol (F10), tobacco (F17) and volatile substances (F18);
  - b) deaths coded to drug abuse which were caused by secondary infections and related complications (for example the 20 or so deaths in 2000 caused by clostridium novyi infection):
  - c) deaths from AIDS where the risk factor was believed to be the sharing of needles;

- d) deaths from road traffic and other accidents which occurred under the influence of drugs; and
- e) deaths where a drug listed under the Misuse of Drugs Act was present because it was part of a compound analgesic or cold remedy: specific examples are:
  - co-proxamol: paracetamol, dextropropoxyphene
  - co-dydramol: paracetamol, dihydrocodeine
  - co-codamol: paracetamol, codeine sulphate

All three of these compound analgesics, but particularly co-proxamol, have commonly been used in suicidal overdoses. NB: As it is believed that dextropropoxyphene has rarely if ever been available other than as a constituent of a paracetamol compound, it has been ignored on all occasions (even if there is no mention of a compound analgesic or paracetamol). However, deaths involving codeine or dihydrocodeine without mention of paracetamol have been included in the baseline as these drugs are routinely available on their own and known to be abused in this form.

- A4. From time to time, there may be minor discrepancies between the figures that were published previously and those which are produced henceforth. This is due to a change in the way in which "drug-related" deaths are identified using the data held by GROS. This process has two stages:
- first, extract all the records of deaths which satisfy the "wide" definition (see the next Annex). The method used for this stage has not been changed.
- second, scrutinise the extracted records and identify the ones which should be counted under GROS's implementation of the "baseline" definition. The method used for this stage has been changed:
  - o previously, the data were examined by the GROS Vital Events Statistician, who had considerable knowledge and experience of dealing with information about drug-related deaths. He used Excel's facilities to set a number of indicators, and so identified the cases which should be counted under GROS's implementation of the "baseline" definition. This method clearly relied greatly on the Statistician's personal expertise. He retired in Spring 2008.
  - o now, most of this work is done by SAS computer programs, using a look-up table to identify particular types of drugs (John Corkery of the National Programme on Substance Abuse Deaths supplied most of the content of the look-up table). This method was tested by using it to prepare figures for each year for 2000 to 2006, inclusive. The results were the same as, or within just 1-2 of, the figures which had been published previously. After examining the cases which were being counted differently by the old and the new methods, it was concluded that any flaws in the new method were not significant, and that it should be used henceforth.

To avoid confusing users of these statistics, the tables in this publication give figures for 2006 and earlier years which were extracted from the database produced by the old method, and so are as published previously. However, any subsequent new analyses of the data for 2000 onwards are likely to use the database produced by the new method, and so may include some totals or sub-totals (for the years from 2000 to 2006, inclusive) that differ slightly from the figures which were published previously, because the new method was used to produce the database of relevant cases for those years.

# Annex B Some other definitions of drug-related deaths

- B1. Other bodies may use other definitions for other purposes: this annex gives some examples.
- B2 First, there is a "wide" definition which is used by the Office for National Statistics (ONS) to provide figures for deaths from drug poisoning. It covers the following cause of death categories (the relevant codes from the International Classification of Diseases, Tenth Revision [ICD10], are given in brackets):
- deaths where the underlying cause of death has been coded to the following subcategories of 'mental and behavioural disorders due to psychoactive substance use':
  - o opioids (F11);
  - o cannabinoids (F12);
  - sedatives or hypnotics (F13);
  - o cocaine (F14);
  - o other stimulants, including caffeine (F15);
  - o hallucinogens (F16);
  - o volatile solvents (F18); and
  - o multiple drug use and use of other psychoactive substances (F19).
- deaths coded to the following categories:
  - o accidental poisoning (X40 − X44);
  - intentional self-poisoning by drugs, medicaments and biological substances (X60 – X64):
  - o assault by drugs, medicaments and biological substances (X85); and
  - o event of undetermined intent, poisoning (Y10 Y14).

The main differences between this "wide" definition and the one which was used to produce the statistics given in this paper (which is the "baseline" definition for the UK Drugs Strategy) are:

- the first part of the "wide" definition also includes deaths coded to "volatile substances" (F18);
- the second part of the "wide" definition is not restricted to cases where a drug listed under the Misuse of Drugs Act (1971) was known to be present in the body at the time of death.

As a result, the "wide" definition produces figures which are markedly higher than those of the UK Drug Strategy definition.

- B3. Second, there is the definition used by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) for its "general mortality register". The rules for this definition refer to particular codes for the underlying causes and the types of substance involved, and (in some cases) specify the combinations that must occur for a death to be counted under this definition. It produces figures which are broadly similar to those of the UK Drug Strategy definition, but which cover deaths which involved the use of a different (albeit overlapping) range of drugs: so some deaths which are counted under the EMCDDA definition are not counted under the UK Drug Strategy definition, and vice versa.
- B4. Because GROS has details of all the deaths which were registered in Scotland, it can produce figures using the ONS "wide" definition and the EMCDDA "general mortality register" definition, as well as using the definition of the "baseline" for the UK Drug Strategy. These are given in **Table X**. As the table and **Figure 2** show, the numbers produced using the three definitions tend to rise and fall in broadly similar ways, and so **all three definitions give similar impressions of the long-term trend**, although they differ regarding the numbers of deaths in each year.

- B5. The Scottish Crime and Drug Enforcement Agency (SCDEA) uses a different definition. In Autumn 2007, GROS compared some of the details of the drug-related deaths (in terms of the "baseline" UK Drug Strategy definition) in 2006 that were held by GROS and the deaths that were recorded in an SCDEA database of drug-related deaths. The results may be summarised as follows:
- 321 deaths were counted by both GROS and SCDEA;
- 100 deaths were counted by GROS but not by SCDEA. These included:
  - o 14 deaths occurring in December 2005 which were not registered until 2006;
  - o 28 definite suicides:
  - o 19 probable suicides (classified as "events of undetermined intent");
  - 8 cases coded to "accidental overdose";
  - o 29 cases coded to "drug abuse".
- 53 cases were counted by SCDEA but not by GROS. These comprised:
  - 13 deaths occurring in December 2006 which were not registered until 2007 most (if not all) of which will be included in the GROS figures for 2007;
  - 21 deaths for which drugs (whether named or unspecified) were recorded in the GROS database - but *either* the drugs mentioned were not covered by the "baseline" definition *or* the deaths were coded to causes other than drug abuse or drug overdose;
  - o 19 deaths which had no mention of drugs in the GROS database (13 were coded to "unascertained" cause of death). Returns from Procurators Fiscal were still outstanding for several of these when the GROS database for 2006 was closed at the end of June 2007. SCDEA recorded the involvement of heroin or methadone in 15 deaths, so it is likely that some of them would have been counted in GROS's figures for drug-related deaths had all the relevant information been available before its database for 2006 closed.
- B6. Other organisations may interpret the term "drug-related deaths" in other ways.

## Annex C References

Arrundale J and Cole S K. "Collection of information on drug-related deaths by the General Register Office for Scotland". General Register Office for Scotland, 1995.

Christophersen O, Rooney C and Kelly S. "Drug-related mortality: methods and trends". "Population Trends" 93, Office for National Statistics, 1998.

Corkery, J. "**UK drug-related mortality - issues in definition and classification**". "Drugs and Alcohol Today" volume 8 issue 2, Pavilion Journals, 2008.

The Advisory Council on the Misuse of Drugs. "Reducing drug related deaths". Home Office, 2000.

# Annex D The questionnaire used to obtain further information about some of the drug-related deaths which occurred in 2007

NB: following consultation with members of the Pathologists sub-group of the National Forum on Drug-related Deaths, a revised version was introduced for use in connection with deaths which occurred in 2008.

	eneral Register Office for Scotla own Office	and
	Confidential form to be comple	eted in all deaths involving drugs, solvents or poisons
	s information is essential for the correct coding ou have any queries about the form or its com	g and monitoring of drug-related deaths. upletion, please contact Graham Jackson, telephone 0131 314 4229.
Plea	ase complete the form and return it, in the pre- Vital Events & NHS Branch General Register Office for S Ladywell House Ladywell Road Edinburgh EH12 7TF	
Nan	me of deceased	
	e of birth ce of death	Date of death Usual residence
Que	estions	(please tick)
1	Was alcohol involved in this death?  If "Yes" what was the blood/alcohol le	Yes □ No□ Not known□ evel in mg/100ml?
2	If any other drugs or solvents were involve dose:-	ed in this death, please specify the <b>principal</b> drug or solvent found in a fatal <b>IF NONE GO TO QUESTION 9</b>
3	Please specify any other drugs or solvent	ts involved in this death.
4	Was the deceased a known or suspected	habitual drug or solvent abuser? Yes □ No□ Not known □ IF YES GO TO QUESTION 7
5	Was the deceased a novice or experiment	nting drug or solvent abuser? Yes □ No□ Not known□ IF YES GO TO QUESTION 7
6	Was there any evidence from the police i	report or autopsy of a long-standing drug or solvent-abusing history?  Yes □ No□ Not Known□ N/A□
7	Do you <u>believe</u> this overdose to have been	
8	Were the drugs prescribed to the decease	ed? Yes □ No□ Not Known□ N/A□
9	Any other comments or information which	ch may help in coding this death?

Table 1 Drug-related deaths in Scotland, 1996 - 2007

	Drug-	Annual mov	Likely range of values around 5-year average					
Year	related deaths	3-year average	5-year average	likely lower	likely upper			
1996	244							
1997	224	239						
1998	249	255	260	228	292			
1999	291	277	278	245	310			
2000	292	305	309	275	344			
2001	332	335	323	288	358			
2002	382	344	336	300	372			
2003	317	352	345	308	381			
2004	356	336	362	325	400			
2005	336	371	377	339	415			
2006	421	404						
2007	455							

Figure 1 Drug-related deaths in Scotland, 3- and 5-year moving averages, and likely range of values around 5-year moving average

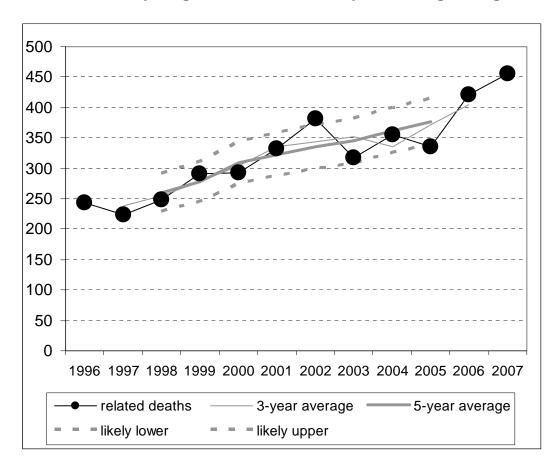


Table 2 Drug-related deaths by cause of death, Scotland, 1996 - 2007

			Cause of de	eath category (IC	CD10 codes)	
Year	All categories	Drug abuse	Accidental	Intentional	Assault by	Undetermined
			poisoning	self-poisoning	drugs, etc.	intent
		(F11-F16, F19)	(X40-X44)	(X60-X64)	(X85)	(Y10-Y14)
1996-2000						
average	260	189	13	34	0	25
1996	244	175	10	41	0	18
1997	224	142	14	42	0	26
1998	249	179	16	32	0	22
1999	291	227	12	19	1	32
2000	292	220	11	34	0	27
2001	332	227	19	34	0	52
2002	382	280	17	30	0	55
2003	317	216	15	40	0	46
2004	356	232	32	32	0	60
2005	336	204	31	43	0	58
2006	421	280	51	40	0	50
2007	455	299	39	27	0	90
2003-2007						
average	377	246	34	36	0	61

Table 3 Drug-related deaths by selected drugs involved, Scotland, 1996 - 2007

Year	Heroin/ morphine <sup>2</sup>		Diazepam	Cocaine	Ecstasy	Temazepam	Alcohol
1996-2000							
average	128	74	116	6	7	47	91
1996	84	100	84	3	9	48	87
1997	74	86	93	5	2	33	70
1998	121	64	113	4	3	58	86
1999	167	63	142	12	8	56	89
2000	196	55	146	4	11	39	123
2001	216	69	156	19	20	20	140
2002	248	98	214	31	20	16	156
2003	175	87	153	29	14	35	128
2004	225	80	113	38	17	5	116
2005	194	72	90	44	10	7	114
2006	260	97	78	33	13	10	131
2007	289	114	79	47	11	4	157
2003-2007							
average	229	90	103	38	13	12	129

<sup>1.</sup> Individual deaths often involved more than one of these drugs. The numbers given are mentions of each drug, and should not be added to give total deaths.

<sup>2.</sup> See paragraph 3.3.1 of commentary.

Table 4 Drug-related deaths by sex and age, Scotland, 1996 - 2007

	Drug-	Sex		Age-	group				Age	
Year	related	Male	Fem-	under	25 -	35 -	45 &	Lower	Median	Upper
	deaths		ale	25	34	44	over	quartile		quartile
1996-2000										
average	260	207	53	83	108	46	23			
1996	244	185	59	86	103	32	23	22	28	34
1997	224	179	45	76	89	31	28	23	29	35
1998	249	194	55	88	103	37	21	23	27	34
1999	291	237	54	94	118	62	17	23	28	35
2000	292	239	53	73	126	69	24	25	30	36
2001	332	267	65	80	140	69	43	25	31	38
2002	382	321	61	100	153	92	37	24	30	37
2003	317	256	61	78	123	80	36	25	31	37
2004	356	289	67	81	138	92	45	25	31	38
2005	336	259	77	48	104	126	58	28	36	41
2006	421	334	87	69	154	128	70	27	34	40
2007	455	393	62	94	149	149	63	26	34	41
2003-2007										
average	377	306	71	74	134	115	54			

Table 5 Drug-related deaths by sex, age and cause of death, Scotland, 2007

			Cause of de	eath category (IC	CD10 codes)	1
	All categories	Drug abuse	Accidental	Intentional	Assault by	Undetermined
			poisoning	self-poisoning	drugs, etc.	intent
		(F11-F16, F19)	(X40-X44)	(X60-X64)	(X85)	(Y10-Y14)
All deaths	455	299	39	27	0	90
Males	393	269	36	16	0	72
Females	62	30	3	11	0	18
Under 25	94	62	11	3	0	18
25-34	149	107	17	4	0	21
35-44	149	103	8	12	0	26
45 and over	63	27	3	8	0	25
<u>Males</u>						
Under 25	80	52	9	3	0	16
25-34	138	100	17	3	0	18
35-44	125	92	7	5	0	21
45 and over	50	25	3	5	0	17
<u>Females</u>						
Under 25	14	10	2	0	0	2
25-34	11	7	0	1	0	3
35-44	24	11	1	7	0	5
45 and over	13	2	0	3	0	8

Table HB1 Drug-related deaths by NHS Board area, 1996 - 2007

NHS Board area	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Annua 1996 to 2000	2003 to 2007		2003-2007 average deaths per 1,000 pop'n
Scotland	244	224	249	291	292	332	382	317	356	336	421	455	260	377	5,094,800	0.07
Ayrshire & Arran	3	6	4	15	20	35	33	19	20	15	25	36	10	23	367,010	0.06
Borders	2	1	1	0	1	1	0	2	2	7	2	4	1	3	109,730	0.03
Dumfries & Galloway	4	7	4	7	7	8	9	9	7	7	5	10	6	8	148,340	0.05
Fife	3	8	13	9	12	11	12	12	17	21	19	28	9	19	356,664	
Forth Valley	0	4	2	8	4	9	24	12	16	14	24	26	4	18	284,379	
Grampian	29	22	26	38	31	46	47	37	39	23	47	45	29	38	525,930	0.07
Greater Glasgow & Clyde 1	107	83	115	129	132	117	152	131	151	111	162	157	113	142	1,190,939	0.12
Highland <sup>1</sup>	3	3	2	8	4	6	13	10	12	13	12	16	4	13	304,460	0.04
Lanarkshire	11	12	21	23	29	24	37	25	33	40	40	48	19	37	557,088	
Lothian	58	48	37	39	37	54	39	40	36	57	46	54	44	47	792,593	
Orkney	0	0	0	0	0	0	0	0	0	0	1	0	0	0	19,590	0.01
Shetland	0	0	1	0	1	1	1	0	0	1	2	2	0	1	22,000	0.05
Tayside	24	30	23	14	14	19	14	19	23	26	35	29	21	26	389,707	0.07
Western Isles	0	0	0	1	0	1	1	1	0	1	1	0	0	1	26,370	0.02
Argyll & Clyde <sup>2</sup>	18	16	23	30	31	22	31	27	35	29	36					
Greater Glasgow & Clyde pt.	17	16	22	29	28	21	26	24	31	26	35				••	
Highland pt.	1	0	1	1	3	1	5	3	4	3	1					
Greater Glasgow <sup>2</sup>	90	67	93	100	104	96	126	107	120	85	127					
Highland <sup>2</sup>	2	3	1	7	1	5	8	7	8	10	11					

New NHS Board areas including parts of former Argyll & Clyde
 Former NHS Board areas (before dissolution of Argyll & Clyde on 1 April 2006).

Table HB2 Drug-related deaths by cause of death and NHS Board area, 2007

			Cause of de	eath category (IC	CD10 codes)	
NHS Board	All categories	Drug abuse	Accidental	Intentional	Assault by	Undetermined
area			poisoning	self-poisoning	drugs, etc.	intent
		(F11-F16, F19)	(X40-X44)	(X60-X64)	(X85)	(Y10-Y14)
Scotland	455	299	39	27	0	90
Ayrshire & Arran	36	22	4	4	0	6
Borders	4	2	1	0	0	1
Dumfries & Galloway	10	6	1	0	0	3
Fife	28	16	8	0	0	4
Forth Valley	26	18	6	0	0	2
Grampian	45	35	1	0	0	9
Greater Glasgow & Clyde	157	102	1	12	0	42
Highland	16	12	2	0	0	2
Lanarkshire	48	32	2	3	0	11
Lothian	54	38	5	4	0	7
Orkney	0	0	0	0	0	0
Shetland	2	2	0	0	0	0
Tayside	29	14	8	4	0	3
Western Isles	0	0	0	0	0	0

Table HB3 Drug-related deaths by selected drugs involved and NHS Board area, 2007

NHS Board area	Heroin/ morphine <sup>2</sup>	Methadone	Diazepam <sup>3</sup>	Cocaine	Ecstasy	Temazepam <sup>3</sup>	Alcohol
Scotland	289	114	79	47	11	4	157
Ayrshire & Arran	20	12	9	3	2	1	12
Borders	1	0	3	0	1	0	1
Dumfries & Galloway	6	2	2	0	0	0	5
Fife	19	2	7	0	2	0	5
Forth Valley	18	4	6	0	0	0	12
Grampian	34	8	5	11	1	1	22
Greater Glasgow & Clyde	109	47	14	24	2	2	46
Highland	12	4	1	2	2	0	8
Lanarkshire	32	11	3	3	0	0	18
Lothian	20	22	25	3	0	0	19
Orkney	0	0	0	0	0	0	0
Shetland	2	0	0	0	0	0	1
Tayside	16	2	4	1	1	0	8
Western Isles	0	0	0	0	0	0	0

<sup>1.</sup> Individual deaths often involved more than one of these drugs. The numbers given are mentions of each drug, and should not be added to give total deaths.

<sup>2.</sup> See paragraph 3.3.1 of commentary.

<sup>3.</sup> Each year there are also a small number of mentions of unspecified benzodiazepines.

Table C1 Drug-related deaths by Council area, 1996 - 2007

Council area	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Annual 1996 to 2000	average 2003 to 2007	s Population in 2005	2003-2007 average deaths per 1,000 pop'n
Scotland	244	224	249	291	292	332	382	317	356	336	421	455	260	377	5,094,800	0.07
Aberdeen City	24	13	20	22	22	32	34	21	27	11	26	23	20	22	205,910	
Aberdeenshire	4	7	6	11	6	14	9	13	8	10	16	17	7	13	233,430	0.05
Angus	0	2	4	2	3	1	4	5	8	8	11	3	2	7	108,790	0.06
Argyll & Bute	1	0	1	1	3	1	5	3	4	3	1	9	1	4	90,870	0.04
Clackmannanshire	0	1	2	0	0	0	7	2	5	3	7	5	1	4	48,630	0.09
Dumfries & Galloway	4	7	4	7	7	8	9	9	7	7	5	10	6	8	148,340	0.05
Dundee City	18	22	12	12	7	13	6	9	11	11	16	23	14	14	142,360	
East Ayrshire	0	1	2	6	3	10	12	3	4	4	9	13	2	7	119,400	0.06
East Dunbartonshire	2	3	5	2	4	3	1	6	5	1	2	7	3	4	105,960	0.04
East Lothian	4	4	1	2	1	2	6	4	2	5	3	4	2	4	91,800	
East Renfrewshire	1	0	3	3	4	3	5	3	5	1	3	3	2	3	89,600	
Edinburgh, City of	44	33	29	25	28	39	27	26	17	41	30	43	32	31	457,830	
Eilean Siar	0	0	0	1	0	1	1	1	0	1	1	0	0	1	26,370	
Falkirk	0	2	0	5	1	7	8	6	7	8	10	15	2	9	149,150	
Fife	3	8	13	9	12	11	12	12	17	21	19	28	9	19	356,740	
Glasgow City	83	59	83	91	96	84	111	93	106	75	113	90	82	95	578,790	
Highland	2	3	1	7	1	5	8	7	8	10	11	7	3	9	213,590	
Inverclyde	8	5	9	12	11	12	8	7	9	7	9	10	9	8	82,130	
Midlothian	2	4	4	4	3	5	2	3	5	5	6	1	3	4	79,190	
Moray	1	2	0	5	3	0	4	3	4	2	5	5	2	4	86,590	
North Ayrshire	2	2	2	5	11	15	14	9	13	6	11	18	4	11	135,830	
North Lanarkshire	6	7	12	11	18	12	28	22	20	25	24	27	11	24	323,420	
Orkney Islands	0	0	0	0	0	0	0	0	0	0	1	0	0	0	19,590	
Perth & Kinross	6	6	7	Ō	4	5	4	5	4	7	8	3	5	5	138,590	
Renfrewshire	6	6	10	11	11	5	9	11	14	10	17	21	9	15	170,000	
Scottish Borders	2	1	1	0	1	1	0	2	2	7	2	4	1	3	109,730	
Shetland Islands	0	0	1	0	1	1	1	0	0	1	2	2	0	1	22,000	
South Ayrshire	1	3	0	4	6	10	7	7	3	5	5	5	3	5	111,780	
South Lanarkshire	7	7	11	17	12	16	14	8	17	16	22	31	11	19	306,280	
Stirling	0	1	0	3	3	2	9	4	4	3	7	6	1	5	86,930	
West Dunbartonshire	5	8	3	5	5	6	13	6	8	15	12	16	5	11	91,400	
West Lothian	8	7	3	8	5	8	4	7	12	7	7	6	6	8	163,780	

Table C2 Drug-related deaths by cause of death and Council area, 2007

Cause of death category (ICD10 codes)  Council All categories Drug abuse Accidental Intentional Assault by Undeterm											
Council	All categories	Drug abuse									
area				self-poisoning	drugs, etc.	intent					
		(F11-F16, F19)	(X40-X44)	(X60-X64)	(X85)	(Y10-Y14)					
Scotland	455	299	39	27	0	90					
Aberdeen City	23	18	0	0	0	5					
Aberdeenshire	17	13	1	0	0	3					
Angus	3	2	1	0	0	0					
Argyll & Bute	9	7	1	0	0	1					
Clackmannanshire	5	5	0	0	0	0					
Dumfries & Galloway	10	6	1	0	0	3					
Dundee City	23	10	6	4	0	3					
East Ayrshire	13	9	0	1	0	3					
East Dunbartonshire	7	4	1	0	0	2					
East Lothian	4	3	1	0	0	0					
East Renfrewshire	3	2	0	1	0	0					
Edinburgh, City of	43	30	3	4	0	6					
Eilean Siar	0	0	0	0	0	0					
Falkirk	15	9	4	0	0	2					
Fife	28	16	8	0	0	4					
Glasgow City	90	58	0	7	0	25					
Highland	7	5	1	0	0	1					
Inverclyde	10	7	0	0	0	3					
Midlothian	1	1	0	0	0	0					
Moray	5	4	0	0	0	1					
North Ayrshire	18	9	4	2	0	3					
North Lanarkshire	27	21	0	2	0	4					
Orkney Islands	0	0	0	0	0	0					
Perth & Kinross	3	2	1	0	0	0					
Renfrewshire	21	12	0	3	0	6					
Scottish Borders	4	2	1	0	0	1					
Shetland Islands	2	2	0	0	0	0					
South Ayrshire	5	4	0	1	0	0					
South Lanarkshire	31	19	2	2	0	8					
Stirling	6	4	2	0	0	0					
West Dunbartonshire	16	11	0	0	Ō	5					
West Lothian	6	4	1	0	0	1					

Table C3 Drug-related deaths by selected drugs involved and Council area, 2007

Council area	Heroin/ morphine <sup>2</sup>		Diazepam <sup>3</sup>	Cocaine	Ecstasy	Temazepam <sup>3</sup>	Alcohol
Scotland	289	114	79	47	11	4	157
Aberdeen City	16	4	2	4	1	0	12
Aberdeenshire	15	2	3	7	0	0	7
Angus	2	0	1	0	0	0	0
Argyll & Bute	6	3	0	1	1	0	4
Clackmannanshire	5	0	0	0	0	0	3
Dumfries & Galloway	6	2	2	0	0	0	5
Dundee City	12	2	3	1	0	0	6
East Ayrshire	9	4	3	2	0	0	5
East Dunbartonshire	6	1	0	2	0	0	2
East Lothian	0	2	1	0	0	0	0
East Renfrewshire	2	1	1	0	0	0	1
Edinburgh, City of	17	18	21	2	0	0	14
Eilean Siar	0	0	0	0	0	0	0
Falkirk	8	2	3	0	0	0	6
Fife	19	2	7	0	2	0	5
Glasgow City	59	34	8	14	1	1	30
Highland	6	1	1	1	1	0	4
Inverclyde	8	0	0	1	0	1	2
Midlothian	1	0	1	0	0	0	0
Moray	3	2	0	0	0	1	3
North Ayrshire	8	6	4	1	2	1	4
North Lanarkshire	20	5	2	2	0	0	13
Orkney Islands	0	0	0	0	0	0	0
Perth & Kinross	2	0	0	Ō	1	0	2
Renfrewshire	15	5	3	4	1	0	5
Scottish Borders	1	0	3	0	1	0	1
Shetland Islands	2	Ö	Ö	Ö	0	Ö	1
South Ayrshire	3	2	2	0	Ö	0	3
South Lanarkshire	19	9	2	3	0	Ö	7
Stirling	5	2	3	0	0	Õ	3
West Dunbartonshire	12	3	1	1	Ő	Õ	4
West Lothian	2	2	2	1	0	0	5

<sup>1.</sup> Individual deaths often involved more than one of these drugs. The numbers given are mentions of each drug, and should not be added to give total deaths.

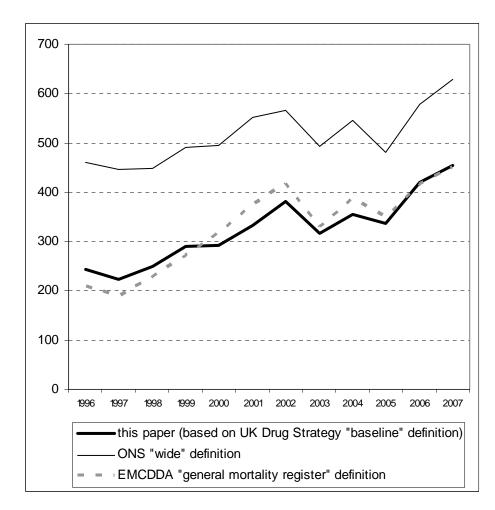
<sup>2.</sup> See paragraph 3.3.1 of commentary.

 $<sup>{\</sup>it 3. Each year there are also a small number of mentions of unspecified benzodiazepines.}\\$ 

Table X Drug-related deaths in Scotland - different definitions, 1996 - 2007

Year	this paper (based on UK Drug Strategy "baseline" definition)	ONS "wide" definition	EMCDDA "general mortality register" definition
1996	244	460	208
1997	224	447	188
1998	249	449	230
1999	291	492	272
2000	292	495	318
2001	332	551	376
2002	382	566	417
2003	317	493	331
2004	356	546	387
2005	336	480	352
2006	421	578	416
2007	455	630	450

Figure 2 Drug-related deaths in Scotland - different definitions



#### **Notes on Statistical Publications**

**ENQUIRIES ABOUT THIS PUBLICATION** Enquiries should be addressed to: Statistics Customer Services, General Register Office for Scotland, Ladywell House, Edinburgh, EH12 7TF Telephone: (0131) 314 4299, Fax: (0131) 314 4696, E-mail: <a href="mailto:customer@gro-scotland.gsi.gov.uk">customer@gro-scotland.gsi.gov.uk</a>.

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**OTHER GROS STATISTICS** Further detailed statistics produced by GROS are available from the statistics pages of the GROS website (<a href="www.gro-scotland.gov.uk/statistics/index.html">www.gro-scotland.gov.uk/statistics/index.html</a>). Statistics from the 2001 Census are on the Scotland's Census Results On-Line website (<a href="www.scrol.gov.uk">www.scrol.gov.uk</a>) and on the Census section of the main website (<a href="www.gro-scotland.gov.uk/census/index.html">www.gro-scotland.gov.uk/census/index.html</a>).

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The OFFICE FOR NATIONAL STATISTICS (ONS) is responsible for producing a wide range of economic and social statistics. It also, for England and Wales, registers life events and holds the Census of Population.	Customer Contact Centre, Room 1.015, Office for National Statistics, Cardiff Road, Newport, NP10 8XG Telephone: 0845 601 3034 Minicom: 01633 812399 Fax: 01633 652747 E-mail: info@statistics.gsi.gov.uk Website: www.ons.gov.uk
The NORTHERN IRELAND STATISTICS AND RESEARCH AGENCY (NISRA) is Northern Ireland's official statistics organisation. The Agency also has responsibility, in Northern Ireland, for the registration of births, marriages, adoptions and deaths and the Census of Population.	Northern Ireland Statistics and Research Agency, McAuley House, 2-14 Castle Street, Belfast, BT1 1SA Telephone 028 9034 8100 Fax 028 9034 8106 Website: www.nisra.gov.uk

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