

Drug-related deaths in Scotland in 2019



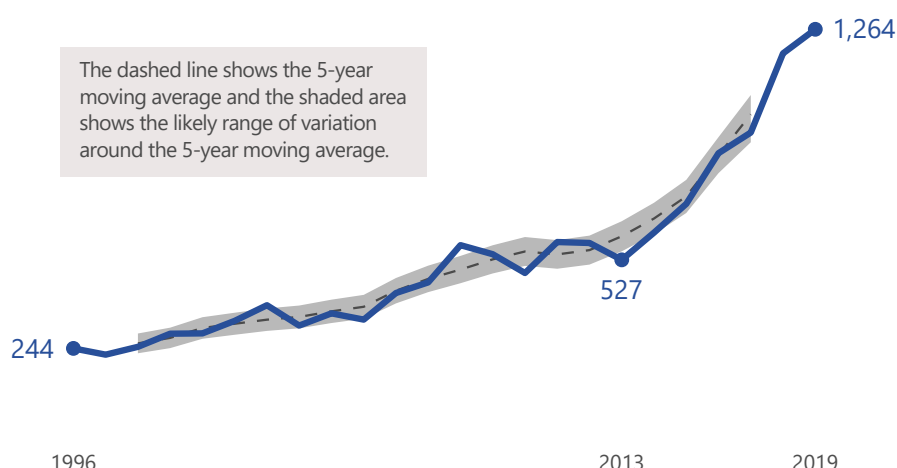
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Statistics of drug-related deaths in 2019 and earlier years, broken down by age, sex, selected drugs reported, underlying cause of death and NHS Board and Council areas.

Drug-related deaths continue to increase

The number of drug-related deaths has increased almost every year. In 2019 there were 1,264, which is the largest number ever recorded and more than double the number recorded a decade ago.

Drug-related deaths, 1996 to 2019



Largest increase was in 35-54 year olds

Most of the increase in drug related death rates* has occurred in the 35-44 year old and 45-54 year old age groups.

Drug-related death rates by age group, 2000 to 2019

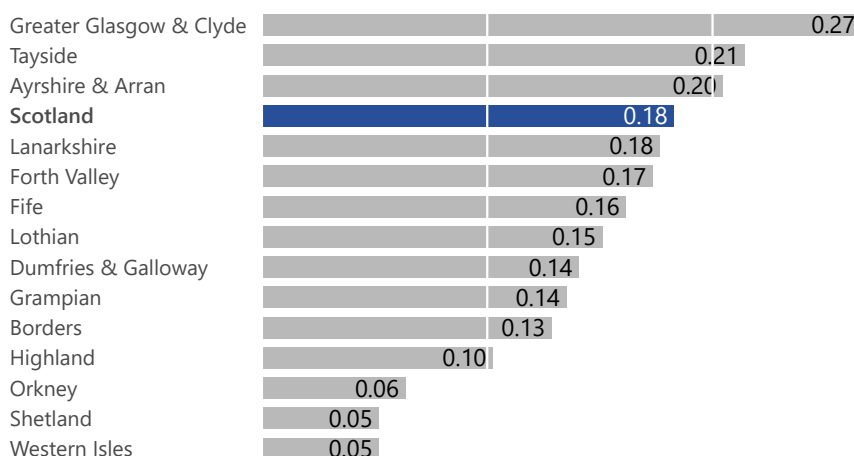


* Deaths per 1,000 people

Death rates vary geographically

Greater Glasgow & Clyde had the highest rate* at 0.27 per 1,000 population, followed by Tayside and Ayrshire & Arran with rates of 0.21 and 0.20 per 1,000 population respectively.

Drug-related death rates by health board, 2015 to 2019



* Rates are based on 5-year averages to reduce year-to-year fluctuations.

Key Points

- 1,264 drug-related deaths were registered in Scotland in 2019, 6% (77) more than in 2018. This was the largest number ever recorded, and more than double that of ten years earlier (545 in 2009).
- Males accounted for 69% of the drug-related deaths in 2019, a similar proportion to recent years.
- The median age of drug-related deaths has increased from 28 to 42 over the last 20 years.
- In 2019, over two-thirds (68%) of all drug-related deaths were of people aged between 35 and 54: there were 856 such deaths, 69 more than in 2018. There was also an increase in 15-24 year old drug-related deaths, from 64 in 2018 to 76 in 2019.
- Three-quarters of all drug-related deaths were in the following five Health Board areas: Greater Glasgow & Clyde (404), Lanarkshire (163), Lothian (155), Tayside (118) and Ayrshire & Arran (108). Together, they accounted for a slightly higher proportion of the total than in most of the previous ten years.
- The Health Board areas with the largest increases over the last decade (using a five year average) were Greater Glasgow & Clyde (up by 152), Lothian (up 67), Lanarkshire (up 66), Tayside (up 52) and Ayrshire & Arran (up 45).
- Scotland's drug-death rate was higher than those reported for all the EU countries, and was approximately 3½ times that of the UK as a whole.
- Of the 1,264 drug-related deaths in 2019, these substances were implicated in, or potentially contributed to the cause of, the following numbers of deaths:
 - heroin and/or morphine 645 deaths, more than in any previous year and 51% of the total;
 - methadone 560 deaths, the same as in 2018 (44%);
 - one or more opiates or opioids (including heroin/morphine and methadone) 1,092 deaths, more than in any previous year (86%);
 - 'street' benzodiazepines (such as etizolam) 814 deaths, more than in any previous year (64%)
 - 'prescribable' benzodiazepines (such as diazepam) 195 deaths, fewer than in 2017 and 2018 (15%)
 - gabapentin and/or pregabalin 438 deaths, more than in any previous year (35%);
 - cocaine 365 deaths, more than in any previous year (29%).
- 94% of all drug-related deaths were of people who took more than one substance.

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Summary.

Based on the definition used for these statistics, 1,264 drug-related deaths were registered in Scotland in 2019, 6% (77) more than in 2018. This was the largest number ever recorded, and more than double that of ten years earlier (545 in 2009). ([paragraph 3.1.1](#))

Males accounted for 69% of the drug-related deaths in 2019, a similar proportion to recent years. ([paragraph 3.4.1](#))

The median age of drug-related deaths has increased from 28 to 42 over the last 20 years. ([paragraph 3.4.3](#))

In 2019, over two-thirds (68%) of all drug-related deaths were of people aged between 35 and 54: there were 856 such deaths, 69 more than in 2018. There was also an increase in 15-24 year old drug-related deaths, from 64 in 2018 to 76 in 2019. However, there was little change in the numbers in the 25-34 age group (215 in 2019) and aged 55 and over (117 in 2019). ([paragraph 3.4.2](#))

Three-quarters of all drug-related deaths were in the following five Health Board areas: Greater Glasgow & Clyde (404), Lanarkshire (163), Lothian (155), Tayside (118) and Ayrshire & Arran (108). Together, they accounted for a slightly higher proportion of the total than in most of the previous ten years. ([paragraph 4.1](#))

The normal basis for the figures for individual drugs for 2008 and subsequent years is 'drugs which were implicated in, or which potentially contributed to, the cause of death'. Of the 1,264 drug-related deaths in 2019, these substances were implicated in, or potentially contributed to the cause of, the following numbers of deaths:

- heroin and/or morphine 645 deaths, more than in any previous year and 51% of the total;
- methadone 560 deaths, the same as in 2018 (44%);
- one or more opiates or opioids (including heroin/morphine and methadone) 1,092 deaths, more than in any previous year (86%);
- 'street' benzodiazepines (such as etizolam) 814 deaths, more than in any previous year (64%);
- 'prescribable' benzodiazepines (such as diazepam) 195 deaths, fewer than in 2017 and 2018 (15%);
- one or more benzodiazepines (of any type) 888 deaths, more than in any previous year (70%);
- gabapentin and/or pregabalin 438 deaths, more than in any previous year (35%);
- cocaine 365 deaths, more than in any previous year (29%);
- ecstasy-type drugs 25 deaths, fewer than in the three previous years (2%);
- amphetamines 51 deaths, more than in any previous year (4%); and
- alcohol 137 deaths, fewer than in 2018 but more than in each year from 2010 to 2017 (11%).

The percentages add up to more than 100 because more than one drug was implicated in, or contributed to, most deaths. 94% of all drug-related deaths were of people who took more than one substance. ([paragraph 3.3.3](#) [paragraph 3.3.4](#) and [paragraph 3.3.9](#))

Using the annual average for 2015-2019, to reduce the effect on the figures of year-to-year fluctuations:

- for Scotland as a whole, the average of 992 drug-related deaths per year represented a death rate of 0.18 per 1,000 population;
- the NHS Board area with the highest rate was Greater Glasgow & Clyde (0.27); and
- the next highest rates were for Tayside (0.21) and Ayrshire & Arran (0.20) ([paragraph 4.3](#)).

However, there is a narrower (in percentage terms) range of values when death rates are calculated using the estimated numbers of problem drug users ([paragraph 4.9](#)).

Comparing the annual average for 2015-2019 with that for 2005-2009, to reduce the effect on the figures of year-to-year fluctuations:

- the percentage increase in the number of drug-related deaths was greater for females (218%: more than tripling, from an annual average of 94 to one of 299) than for males (86%: the annual average rose from 372 to 693) ([paragraph 3.4.1](#));
- the largest increases in numbers were for 35-44 year olds (the annual average rose from 153 to 368) and for people aged 45-54 (up from 57 to 281). There was a fall in the number of drug-related deaths of people aged 15-24 (the annual average declined from 74 to 50, although there were rises in 2018 and 2019) ([paragraph 3.4.2](#)); and
- the Health Board areas with the largest increases over the period were Greater Glasgow & Clyde (up by 152), Lothian (up 67), Lanarkshire (up 66), Tayside (up 52) and Ayrshire & Arran (up 45). ([paragraph 4.2](#))

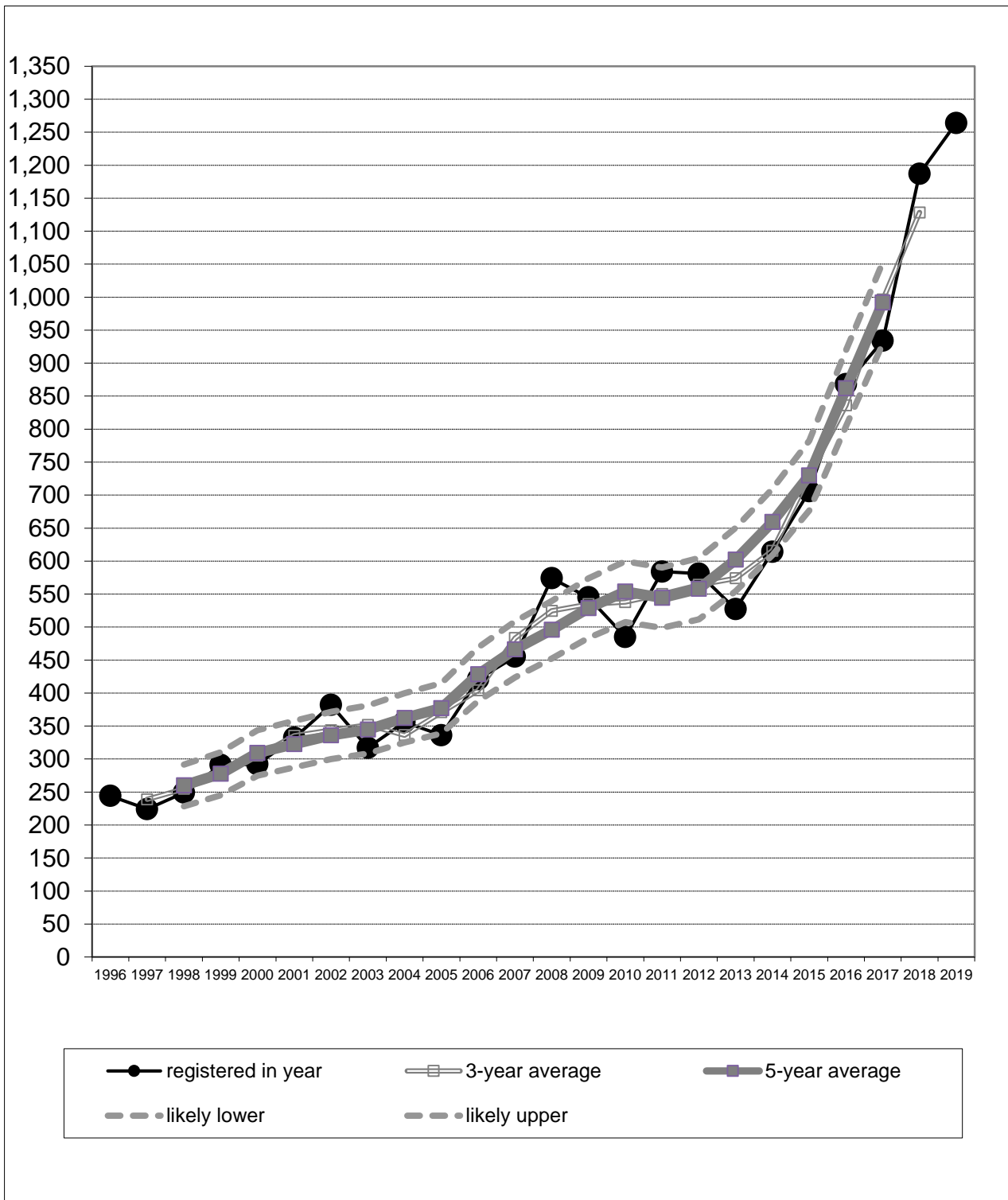
Most drug-related deaths are of people who took more than one substance. Of the 1,264 drug-related deaths in 2019, there were just 75 (6% of the total) for which only one drug (and, perhaps, alcohol) was found to be present in the body. There were 183 cases (14% of the total) where only one drug (and, perhaps, alcohol) was believed to have been implicated in, or potentially contributed to, the cause of the death. The latter figure covers both the 'only one drug found' deaths and cases where one drug was implicated and the other drugs present were not considered to have had any direct contribution to the death ([paragraphs 3.3.9 to 3.3.11](#))

[Annex E](#) of this publication provides information about deaths which involved so-called 'New Psychoactive Substances' (NPSs). The definition used for the purpose of those figures is set out in the first half of that Annex. On that basis, in 2019:

- there were 783 deaths for which NPSs were implicated in, or potentially contributed to the cause of death. In 777 cases, the only NPSs present were benzodiazepines (usually etizolam, but sometimes – for example - diclazepam or phenazepam); in three cases another type of NPS was present; there were also three deaths for which both benzodiazepine NPSs and other types of NPS were present. Almost all of these deaths (777 out of 783) fall within the definition of 'drug-related deaths' that is used to produce the main statistics in this report – that is, they are included in the 1,264 drug-related deaths. In only a small proportion (9 out of the 783 deaths) were NPSs the only substances implicated in the death. ([paragraph E9](#))
- there were 19 deaths for which NPSs were present but were not considered to have contributed to the death. In all cases, the only NPSs present were benzodiazepines; all 19 deaths are included in the 1,264 drug-related deaths ([paragraph E11](#)).

Scotland's drug-death rate was higher than those reported for all the EU countries, and was approximately 3½ times that of the UK as a whole. The comparison with EU countries uses figures, relative to the number of people aged 15 to 64, on a basis defined by the European Monitoring Centre for Drugs and Drug Addiction (which has noted that there are issues of coding, coverage and under-reporting in some countries). The comparison with the UK as a whole uses the overall drug-death rate per head of population. ([Annex G](#)).

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



1. Introduction

- 1.1 This annual publication provides statistics of drug-related deaths which were registered in Scotland over the period from 1996. 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. These statistics are used in the development of policy by the Scottish Government and by a number of other interested parties such as the Drug Deaths Taskforce, NHS Boards and local Alcohol and Drug Partnerships.
- 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 NHS Board areas, and [Section 5](#) refers to the figures for council areas and the potential problems that may affect the figures for these and smaller areas. [Annex A](#) sets out the standard (Drugs Strategy 'baseline') definition of drug-related deaths used here, [Annex B](#) refers to some other definitions of drug-related deaths, and gives figures for them and for deaths from some other causes that may be associated with present or past drug misuse. [Annex C](#) provides some References and [Annex D](#) contains the questionnaire used to collect further information about drug-related deaths with effect from 2014. [Annex E](#) covers so-called New Psychoactive Substances, [Annex F](#) explains the basis of the consistent series of drug-related death numbers, [Annex G](#) provides some information about how Scotland's figures compare with those of various other European countries, and [Annex H](#) describes which benzodiazepines are classified as 'prescribable' drugs and which as 'street' drugs. The tables and charts can be grouped as follows:

- Tables 1 to 9, Figure 1 - statistics for Scotland;
- Tables HB1 to HB5, Figure 2 - statistics for NHS Board areas;
- Tables C1 to C5, Figure 3 - statistics for council areas; and
- Tables X to Z, NPS1 to NPS3, CS1 and CS2, EMCDDA, Figure 4 - statistics which are not on the standard basis.

In the tables, '..' indicates 'not available' or 'not applicable'. There may be slight discrepancies between some of the figures in different tables for some of the years from 2000 to 2006, due to the use of a new database (as explained at the end of [Annex A](#)).

- 1.3 The following improvements have been made for this edition:

- Table Y has been expanded to provide figures for fentanyl, flualprazolam, quetiapine and venlafaxine;
- Table CS1 has been expanded to show etizolam, gabapentin and pregabalin, all of which became controlled substances in recent years, and so contributed to the consistent series having 'extra' deaths in some previous years;
- Table EMCDDA has been expanded to provide figures for Scotland for three years: the same as the UK figure (2017); the same as most of the other countries' figures (2018); and the latest for which a Scottish figure can be produced (2019), which is more up-to-date than the data in the EMCDDA's table;
- Annex G has been expanded to compare the Scottish and UK drug-death rates for the latest two years for which figures for the UK are available (or can be estimated with very little percentage error).

- 1.4 Users of the statistics are reminded that, with effect from the 2009 edition of this publication, the normal basis of the figures for individual drugs for 2008 and subsequent years is 'drugs which were implicated in, or which potentially contributed to, the cause of death'. Section 2 of the 2009 edition included an explanation of why there was a change from the basis which was used before then ('all drugs which were [reported as having been] found present in the body'), which did not actually cover all drugs in all cases. Some information about this is given in paragraphs [2.3 to 2.5](#) of this edition.
- 1.5 [Table 6](#) allows users of the statistics to compare the figures for the latest year on the two bases, and also shows how the latest year's numbers on the two bases break down by sex and by age-group. In addition, alternative versions of Tables HB3 and C3 are available on this web site (via links from the pages which give access to the editions for 2008 onwards), providing figures for NHS Boards and councils on the following bases:
- for 2008 on the normal basis ('drugs which were implicated in, or which potentially contributed to, the cause of death'); and
 - for 2009 onwards on the basis which was used in the editions of the publication for 2008 and earlier years ('all drugs which were [reported as having been] found present in the body').
- 1.6 More detailed statistical information about the nature and circumstances of people whose deaths were drug-related is available in the reports from the NHS's National Drug Related Deaths Database, which are described briefly in paragraph B9 of [Annex B](#).
- 1.7 This publication is normally published in July. However, this edition did not appear until December 2020 because it was not until early in October 2020 that NRS could add to its database final information about the causes of some of the deaths which were registered in the later months of 2019. This was because of delays in the production of the results of toxicology tests. At the time, more on this was available from the [NRS website](#).
- 1.8 The publication for 2019 has been thoroughly quality assured and NRS are confident that the figures at both a national and local level are robust, and an accurate reflection of the trends in drug-related deaths in Scotland. However, at the time of publication, NRS were made aware of a potential issue with data provided for the Highland area. There is provisional local evidence that suggests the number of drug-related deaths may be higher in this area (by up to 15 deaths – around 1% of the Scotland total). NRS had yet to receive the necessary information in these cases that confirmed the substances involved, and therefore whether or not they would be included under the official drug-related death statistics definition. NRS are investigating this issue working closely with colleagues in Highland. Assuming NRS receive the necessary information to classify any additional cases within the standard definition of drug-related deaths in Scotland, the 2019 figures will be revised (where appropriate) in a future release.

2. Data sources

- 2.1 The National Records of Scotland (NRS) 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). NRS usually closes its statistical database for a calendar year about four months after the end of the calendar year, but the statistics for 2019 are based upon the information which NRS had obtained by 9 October 2020. NRS classifies the underlying cause of each death using International Statistical Classification of Diseases and Related Health Problems (ICD) codes, based on what appears in the medical certificate of the cause of death together with any additional information which is provided subsequently by (for example) certifying doctors, pathologists and 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 and lists the drugs and solvents that were found. NRS requests this information for all deaths involving drugs or persons known, or suspected, to be drug-dependent. Additionally, NRS 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. This enhancement to the data collection system was described in a paper published by NRS in June 1995 (which is referred to in [Annex C](#)). A copy of the questionnaire that was used from 2008 to 2013 appears in those years' editions of this publication. A new version of the questionnaire was introduced at the start of 2014, a copy of which is in [Annex D](#). The new questionnaire did not change greatly what was collected in respect of each death, but covers a wider range of deaths than before. This does not alter the definition of drug-related deaths used for these statistics, but will allow NRS to produce information about a wider range of deaths than that covered by the standard definition. (The form was revised slightly in July 2017, to include a bit more guidance on how a few questions should be answered, but this did not change the kinds of information provided.) It should be noted that, in the case of deaths which involved drugs which are available on prescription, NRS does not know whether those drugs had been prescribed to the deceased: such information is not collected by the death registration process nor by the pathologists' questionnaires. Therefore, NRS does not know how many of the deaths which involved (say) methadone were of people who had been prescribed the drug (some information about this is available from the NHS reports referred to in paragraph B9 of [Annex B](#)).

2.3 The questionnaire was revised for 2008, in order to collect more complete information about the substances present in the body. This caused a break in the series of figures for 'drugs reported' because:

- pre-2008, the form asked about the 'principal drug or solvent found in a fatal dose' and about 'any other drugs or solvents involved in this death' - so some pathologists reported only the substances which, they believed, contributed directly to each death; and
- the form now asks about the drugs or solvents 'implicated in, or which potentially contributed to, the cause of death' and about 'any other[s] which were present, but which were not considered to have had any direct contribution to this death'- so some pathologists now report substances which they would not have mentioned previously.

2.4 NRS's data from the questionnaires for 2008 onwards distinguish between (a) drugs which were implicated in, or which potentially contributed to, the cause of death and (b) any other drugs which were present, but which were not considered to have had any direct contribution to the death. As a result, NRS can produce figures for 2008 onwards:

- on the 'drugs which were implicated in, or which potentially contributed to, the cause of death' basis – that is, counting only drugs which were reported under (a); and
- on the 'all drugs which were found to be present in the body' basis – that is, covering drugs which were reported under either (a) or (b).

Following consultation with the National Forum on Drug-related Deaths, 'drugs which were implicated in, or which potentially contributed to, the cause of death' became the normal basis for the figures for 2008 onwards that NRS produces for individual drugs, with effect from the 2009 edition.

2.5 It should be noted that, although the old questionnaire referred to the 'principal drug ...' and 'other drugs ... involved', the figures for 2007 and earlier years are not directly comparable to the figures for 2008 onwards on the new normal basis. This is

because, in 2007 and earlier years, some pathologists reported, in the old questionnaire, all the drugs that they found (that is, not just the drugs that they believed were implicated in, or contributed to, the cause of death) - so they provided information on the 'all drugs which were found to be present in the body' basis (that is, not on the new normal basis). More information about the change (including why NRS cannot produce figures on the normal basis for 2007 or earlier years) is available in the 2009 edition.

- 2.6 At the start of 2011, NRS implemented a number of World Health Organisation (WHO) updates to the ICD rules for identifying the underlying cause of death. This caused a break in the series of figures for the underlying cause of death. 'Drug abuse' deaths from 'acute intoxication', which would previously have been counted under 'mental and behavioural disorders due to psychoactive substance use', are now counted under the appropriate 'poisoning' category. Examples are the deaths of known or suspected habitual drug abusers, for whom the cause of death was certified as 'adverse effects of heroin', 'methadone toxicity' or 'morphine intoxication'. Under the old coding rules, the underlying cause of those deaths would have been 'mental and behavioural disorders due to use of opioids' (unless NRS had been informed that the deaths were due to intentional self-harm, or assault, in which case the underlying cause would have been 'intentional self-poisoning ...' or 'assault by drugs ...', whichever was appropriate).
- 2.7 Under the new coding rules, the underlying cause of such deaths is the appropriate type of poisoning. For example, if NRS is informed that the overdose is believed to have been accidental, the underlying cause will be coded as 'accidental poisoning by and exposure to narcotics and psychodysleptics (hallucinogens)'. A note on the changes to the way in which NRS has coded the underlying cause of death with effect from the start of 2011 is available within the [Death Certificates and Coding Cause of Death](#) section of its website. NRS has estimated what the figures for 2011 onwards would have been, had the data been coded using the old rules. This makes it possible to see the changes between 2010 and 2011, and the longer-term trends, without a break in the series. NRS hopes to continue to estimate the breakdown by underlying cause of death on the basis of the old coding rules for at least a few more years.
- 2.8 The overall total number of drug-related deaths has not been affected by the changes to (i) the basis of the figures for individual drugs and (ii) how the underlying cause of death is coded. The first change has just reduced the number of drugs that are counted, for the purpose of the normal figures, for some deaths; the second has just altered the categories for the underlying cause of death against which many deaths are counted.
- 2.9 However, the total number of drug-related deaths has been affected by changes in the list of drugs which are controlled under the Misuse of Drugs Act. [Annex F](#) explains that the 'coverage' of NRS's standard (Drugs Strategy 'baseline') definition 'widens' every time another drug is added to the list of controlled substances, because all subsequent deaths from poisoning by that drug will be counted as drug-related. In practice, changes in the classification of drugs that occurred in the years up to and including 2013 had little effect on the figures (refer to paragraph F4 of Annex F), but the change in the classification of tramadol and zopiclone in 2014 could have caused a noticeable break in the continuity of NRS's figures (as explained in paragraph F5 of Annex F). Therefore, in order to give more accurate indications of changes and trends, NRS developed a 'consistent series' of numbers of drug-related deaths in previous years, which is based on the classification of each substance at the end of the latest year covered by the publication. In this edition, the consistent series shows that gabapentin and pregabalin becoming controlled under the Misuse of Drugs Act with effect from 1 April 2019 had very little effect on the continuity of the drug-death statistics.

2.10 The statistics of drug-related deaths may be affected by other differences, between years and/or between areas, in the way in which the information was produced. For example:

- technical advances may enable the detection of small quantities of substances that could not have been found in the post-mortems that were performed several years ago;
- the range of substances for which tests are conducted may change – for example for a number of years, a laboratory did not routinely test for the presence of cannabis (because the view was that, in general, it did not contribute to causing deaths), but now does so more often, because Procurators Fiscal are now more likely to want to know whether the deceased had been using it. More generally, advice is that there is a demand to obtain more complete and thorough toxicology on all cases tested for drugs, which includes fuller examinations for, and hence a greater possibility of finding, more drugs;
- if pathologists in one area report any findings of benzodiazepines by referring to that group of drugs unless they are sure that only one particular benzodiazepine (for example diazepam) was used, the areas which they serve will appear to have low proportions of deaths for which diazepam is mentioned (compared to areas where diazepam is more likely to be named specifically, and where there are proportionately fewer reports of benzodiazepines as a group);
- pathologists may decide not to describe a drug as being ‘implicated in, or potentially contributing to, the cause of death’ if it is found at what they would regard as within the levels that one might expect for the therapeutic use of a drug, and may change what they regard as the minimum level for reporting a substance. For example, in one part of Scotland, diazepam used to be reported if its level was at least 0.4 mg/litre, but the ‘cut-off’ was raised to about 1 mg/litre. All else being equal, the area would then have fewer deaths in which diazepam was implicated, because cases with levels of between 0.4 and 1 mg/litre would no longer be counted; and
- there may be cases where different pathologists could have different views on whether a particular drug should be described as ‘implicated in, or potentially contributing to, a death’ - for example, because they have different views on what would have been a fatal dose of the drug for the person concerned, or (if the person had also taken other substances) on the level of harm that would be caused by the combination of the drug and one or more of the other substances taken.

3. Drug-related deaths: trends, causes of death, drugs reported, sex and age

3.1 Overall numbers

- 3.1.1 Based on the definition used for these statistics, there were 1,264 drug-related deaths in 2019, 77 (6%) more than in 2018. This was the highest number recorded since the series of figures began in 1996, and was 719 (132%) more than in 2009, when there were 545 such deaths. The ‘underlying’ increase since 2009 is only slightly smaller when account is taken of the effect on the statistics of changes in the classification of drugs – refer to paragraphs 3.1.6 to 3.1.8.
- 3.1.2 The figures on the left-hand side of [Table 1](#) show that the past ten years have had seven rises and three falls in the number of drug-related deaths. The rises have tended to be greater than the falls, and the trend in the number of drug-related deaths has been upwards. When the statistics show some marked year to year fluctuations, moving annual averages are likely to provide a better guide to the long-term trend than the change between any two individual years. [Figure 1](#) illustrates this:

- the black dots show the figures for each year;
- the continuous grey lines show two moving annual averages - a 3-year average (thin hollow grey line) and a 5-year average (thick solid grey line). The latter should provide a better indication of the overall long-term trend; and
- the broken grey lines show the likely range of random statistical variation around the 5-year moving average. Statistical theory suggests that, if the number of deaths can be represented as the result of a Poisson process, for which the underlying rate at which the events (deaths) occur is given by the 5-year moving average, then random year to year variation would result in only about one year in 20 having a figure outwith this range (which is a '95% confidence interval', calculated thus: the underlying rate of occurrence plus or minus 1.96 times its standard deviation; for a Poisson process, the standard deviation is the square root of the underlying rate of occurrence).

3.1.3 Looking at the chart, it is clear that:

- up to (and including) 2007, the individual years' figures tended to fluctuate around a long-term upward trend, and were generally within the likely range for random statistical year to year variation about the trend;
- from 2008 (when 574 deaths were registered) to 2013 (527 deaths), there was not much overall change in the numbers: the individual years' figures tended to fluctuate from year to year, remaining between 485 (in 2010) and 584 (in 2011). The figure for 2008 appeared unusually high (being above the upper end of the likely range of random statistical variation around the 5-year moving average, which may represent the underlying rate for that time), and the figures for 2010 and 2013 appeared unusually low (both being below the lower end of the likely range of random statistical variation). The figures for the other three years in that period (2009, 2011 and 2012) were all close to the 5-year moving average value, and so were broadly in line with what appeared to be the underlying rate for that time;
- for 2014 onwards, each year's figure is much more than in the previous year. With 614 deaths in 2014, 706 in 2015, 868 in 2016, 934 in 2017, 1,187 in 2018 and 1,264 in 2019, the apparent long-term trend is one of rapid increases. The numbers for 2014 to 2017 are all within 7% of the value of the 5-year moving average that is centred on those years, and so are all broadly in line with the apparent long-term trend. The figures for 2018 and 2019 are roughly in line with what one might expect the 5-year moving average to be, if one were to extrapolate the apparent trend suggested by its most recent three values.

3.1.4 From its first value (for 1996-2000, the period centred on 1998), the 5-year moving average rose for many years, suggesting that there was a clear long-term upward trend, and that the figure for 2010 was unusually low relative to that long-term trend. When the figure for 2013 was obtained, the 5-year moving average fell slightly, from 554 for 2008-2012 (the period centred on 2010) to 544 for for 2009-2013 (the period centred on 2011), because there were fewer deaths in the year which had entered the calculation (2013, with 527 deaths) than in the year which had dropped out of the calculation (2008, with 574 deaths). However, with the number of deaths rising to 614 in 2014, and then (with a further increase in each subsequent year) to 1,264 in 2019, the 5-year moving average rose again, to 558 (for 2010-2014); thereafter, it increased further, to its latest value of 992 (for 2015-2019).

3.1.5 The pattern of rises and falls between 2007 and 2014 meant that there was not much change in the 3-year moving average for several years: its values were 525 (for 2007-2009), 535, 538, 550, 564 and 574 (for 2012-2014), suggesting at most only a slight upward trend (compared to much more rapid growth in earlier years). Therefore, there was a possibility that the large year-to-year increases and

decreases in the period from 2010 to 2014 were fluctuations around the general level of the much more stable 3-year moving average. However, the large rises to 706 deaths in 2015, and over the next few years to 1,264 deaths in 2019, increased the 3-year moving average to 616 (for 2013-2015), after which it rose to 1,128 (for 2017-2019), so the trend is clearly upwards.

- 3.1.6 As mentioned in paragraph 2.9 (and explained in detail in [Annex F](#)) the 'coverage' of NRS's standard (Drugs Strategy 'baseline') definition of a drug-related death 'widens' every time another drug is added to the list of substances which are controlled under the Misuse of Drugs Act, because all subsequent deaths from poisoning by that drug will be counted as drug-related. Therefore, in order to give more accurate indications of changes and trends, NRS has developed a 'consistent series' which is based on the classification of drugs at the end of the latest year covered by the publication. The rightmost three columns of Table 1 show the consistent series' number of drug-related deaths, and the 'extra' deaths (number and percentage) that would be counted as drug-related on that basis.
- 3.1.7 As will be seen from Table 1, the consistent series' figures have never been much more than 6% above the number of drug-related deaths on the standard (Drugs Strategy 'baseline') definition (they were 5.6% higher in 2010, and 6.1% more in 2013). It follows that the changes in the classification of drugs have not had a great effect on the overall total number of drug-related deaths. The year-to-year variation in the number of 'extra' deaths has not been large, so the consistent series' patterns (of rises and falls, and of 'peaks' and 'troughs') are similar to those of the numbers produced by the standard definition.
- 3.1.8 The most noticeable break in the continuity of the number of drug-related deaths was caused by tramadol and zopiclone becoming controlled under the Misuse of Drugs Act with effect from 10 June 2014. The numbers for 2014 and changes from 2013 are as follows:
- standard definition: 614 deaths in 2014, compared with 527 in 2013 – implying a rise of 87 or 17%; and
 - consistent series: 624 deaths in 2014, compared with 559 in 2013 – implying a rise of 65 or 12%

Using the consistent series, between 2009 and 2019, the number of drug-related deaths increased from 570 to 1,266 – i.e. a rise of 696, or 122%. That is not much less than the standard definition's increase from 545 to 1,264 – i.e. a rise of 719 or 132%.

- 3.1.9 It should be noted that the consistent series' figures for 2013 and 2014 (and all the other years) also include deaths which involved other substances that subsequently became controlled under the Misuse of Drugs Act (such as gabapentin and pregabalin, which have been controlled with effect from 1 April 2019). So the figures given above do not show the precise scale of the break in the continuity of the number of drug-related deaths that was caused by tramadol and zopiclone becoming controlled. [Table CS1](#) provides figures for each of a number of substances, from which it can be seen that gabapentin and pregabalin becoming controlled had little effect on the continuity of the figures.

3.2 Underlying causes of death

- 3.2.1 As explained in [paragraph 2.6](#), National Records of Scotland (NRS) implemented WHO updates to the coding rules at the start of 2011. This changed the classification of the underlying cause of many drug-related deaths. However, NRS has estimated what the figures for 2011 onwards would have been, had the data been coded using the old rules.

- 3.2.2 [Table 2](#) shows the number of drug-related deaths categorised by the underlying cause, defined in terms of groupings of the ICD codes. The penultimate row gives the figures for 2019 that were produced by applying the new coding rules: the majority of drug-related deaths (1,130, or 89%) were coded to 'accidental poisoning'. This covers the relevant categories within the ICD's section for 'Accidental poisoning by and exposure to noxious substances' (for example, it includes ICD-10 code X42 which is defined as 'Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens] not elsewhere classified').
- 3.2.3 [Table 2](#) also provides NRS's estimates of the figures that would have been produced for 2011 onwards, had the old coding rules been used. On that basis, the underlying cause for the majority of 2019's drug-related deaths (969, or 77%) would have been 'drug abuse', which covers the relevant categories within the ICD's section for 'Mental and behavioural disorders due to psychoactive substance use'.
- 3.2.4 Because some of the figures can fluctuate markedly from year-to-year, a better indication of the longer-term changes should be obtained from a comparison of the averages for 5-year periods. These show large percentage increases in deaths for which the underlying cause (on the basis of the old coding rules) was 'drug abuse' (from an average of 307 per year in 2005-2009 to an average of 770 per year in 2015-2019) and 'accidental poisoning' (from an average of 48 to an average of 140). There was not as much change in deaths caused by intentional self-poisoning (averages of 36 per year in 2005-2009 and 51 per year in 2015-2019) and there was a fall in 'undetermined intent' drug-related deaths (from an average of 76 to an average of 31).

3.3 Selected drugs reported

- 3.3.1 The NRS database records a wide range of drug combinations (for example in 2006, diazepam was mentioned in almost a fifth of the deaths for which heroin or morphine were reported; and heroin, morphine or methadone were mentioned in over half of the deaths for which cocaine was reported). A complete list of all the substances which were reported to NRS for every death from poisoning (including deaths which are not counted as 'drug-related' for the purpose of these statistics) can be found in [Table 6.12](#) of the annual [Vital Events Reference Tables](#), which are available on the NRS website. 'Unspecified drug(s)' is recorded in only a small proportion of drug-related deaths (on average, only a couple of per cent per year). [Table 3](#), [Table 6](#) and [Table 7](#) give information on the frequency of reporting of selected drugs, whether alone or in combination with other substances. The drugs listed in these tables are reported in the majority of drug-related deaths (for example, not counting alcohol, at least one of them was reported in 96% of the drug-related deaths in 2000, and in 98% of cases in 2019). The tables show 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. [Annex H](#) explains which benzodiazepines are categorised as 'prescribable' drugs, and which as 'street' drugs.
- 3.3.2 Since these tables record individual mentions of particular drugs, there will be multiple-counting of some deaths (for example if both heroin and diazepam were implicated in, or potentially contributed to, the cause of a death in the latest year, that death will be counted in six of the 'drug' columns of [Table 3](#): 'heroin/morphine', 'heroin/morphine, methadone or buprenorphine', 'any opiate or opioid', 'any benzodiazepine', 'any 'prescribable' benzodiazepine' and 'diazepam'). Therefore, these tables do not give the numbers of deaths that are attributable to each of the drugs mentioned. When more than one drug was reported for a particular death, it

may not be possible to deduce, from the information held in the NRS database, which (if any) of them was thought to be the (main) cause of the death, except to the extent that, for 2008 onwards, the database distinguishes between (a) drugs which were implicated in, or which potentially contributed to, the cause of death and (b) any other drugs which were present, but which were not considered to have had any direct contribution to the death. NRS's database has no information about the amounts of each drug that were found, or the possible consequences of taking particular combinations of drugs.

3.3.3 For 2008 onwards, the normal basis for figures for individual drugs is 'drugs which were implicated in, or which potentially contributed to, the cause of death' (further information about this is given in [Section 2](#)). [Table 3](#) shows that heroin/morphine was implicated in, or potentially contributed to, the cause of 645 (51%) of the 1,264 drug-related deaths in 2019; methadone was implicated in, or potentially contributed to, 560 drug-related deaths (44%); codeine, or a compound containing it, was implicated in 55 drug-related deaths (4%); dihydrocodeine, or a compound of it, was implicated in 116 drug-related deaths (9%); one or more opiates or opioids (including heroin/morphine, methadone, codeine and dihydrocodeine) were implicated in 1,092 drug-related deaths (86%); and benzodiazepines were implicated in 888 drug-related deaths (70%), with 'street' benzodiazepines (such as etizolam) being implicated in most of those deaths (814, or 64% of the total of 1,264). 'Prescribable' benzodiazepines (such as diazepam) were implicated in 195 drug-related deaths (15% of the total; some deaths involved both 'prescribable' and 'street' benzodiazepines). Paragraph 3.3.4 includes information about individual benzodiazepines. One or both of gabapentin and pregabalin were implicated in 438 drug-related deaths (35% of the total of 1,264). As gabapentin and pregabalin did not become controlled substances (under the Misuse of Drugs Act) until 1 April 2019, that figure does not include any deaths, before then, that were caused by gabapentin and/or pregabalin but for which no substances that were controlled at the time of death were present. Cocaine was implicated in, or potentially contributed to, 365 drug-related deaths (29%). Ecstasy-type drugs and amphetamines were implicated in 25 drug-related deaths (2%) and 51 drug-related deaths (4%), respectively. Alcohol was implicated in, or potentially contributed to, the cause of 137 (11%) of the 1,264 drug-related deaths in 2019.

3.3.4 From [Table 3](#), one can also see that many of the drugs shown have larger figures in 2019 than in any previous year for which the numbers can be compared (there are some exceptions: methadone was implicated in, or potentially contributed to, the cause of as many drug-related deaths in 2019 as in 2018: 560, which was more than its previous highest figure; ecstasy-type drugs in fewer drug-related deaths than in the previous three years, but more than in any year before that; and alcohol in fewer drug-related deaths than in 2018, but more than in each year from 2010 to 2017). Examples are these numbers of drug-related deaths for which the specified drugs were implicated in, or potentially contributed to, the cause in 2019:

- 645 for heroin/morphine - 108 more than its previous peak of 537 in 2018;
- 1,092 for any opiate or opioid - 71 more than its previous largest number (1,021 in 2018);
- 888 for any benzodiazepine - 96 more than its previous highest figure (792 in 2018);
- 814 for any 'street' benzodiazepine (e.g. etizolam) - 139 more than its previous peak of 675 in 2018;
- 438 for gabapentin and/or pregabalin - 71 more than their previous largest number of 367 in 2018;

- 365 for cocaine - 92 more than its previous highest figure (273 in 2018);
- 51 for amphetamines, 5 more than their previous maximum (46 in 2018).

Recent years' figures for benzodiazepines (426 in 2016, 552 in 2017, 792 in 2018 and 888 in 2019) were all well above the level seen from 2008 to 2015 (under 200 per year). However, the number of drug-related deaths for which 'prescribable' benzodiazepines (such as diazepam) were implicated in, or potentially contributed to, the cause of death has not increased as greatly, and actually fell to 195 in 2019: fewer drug-related deaths than in both 2017 (when there were 234) and 2018 (238). Diazepam used to be the benzodiazepine that was most often implicated in drug-related deaths. Its numbers were 154 in 2016, 205 in 2017, 211 in 2018 and 179 in 2019, having fluctuated between 84 and 160 in the period from 2008 to 2015. Most of the rise in the figure for benzodiazepines was due to 'street' ones (such as etizolam). 'Street' benzodiazepines were implicated in 303 drug-related deaths in 2016, 423 in 2017, 675 in 2018 and 814 in 2019: far more than in any previous year (there were between 40 and 60 per year from 2013 to 2015, and even fewer before then). Etizolam is the 'street' benzodiazepine that is most often implicated in drug-related deaths. Its numbers were 223 in 2016, 299 in 2017, 548 in 2018 and 752 in 2019, having been much smaller in previous years (0 up to 2011, and 1 in 2012, which was the first year in which it was implicated in a drug-related death which was registered in Scotland). Of course, some deaths involve more than one benzodiazepine, or a mixture of 'prescribable' and 'street' benzodiazepines. Etizolam and some of the other 'street' benzodiazepines (such as diclazepam) were not controlled under the Misuse of Drugs Act until 31 May 2017, but were subject to the Psychoactive Substances Act when it came into force on 26 May 2016. Each was implicated in only single-figure numbers of deaths (if any) before 2014 (etizolam) and 2015 (diclazepam, or a metabolite thereof), as can be seen from the slightly larger figures (on the ONS/'wide' basis) for those two drugs given in [Table Y](#). Three other 'street' benzodiazepines (alprazolam, flualprazolam and phenazepam) appear in Table Y; others have smaller numbers and so are shown only in the extra Table SUB1 (which is available via the link near the start of the List of Extra Tables). The latter uses information from NRS's database (which does not appear in this publication) to provide the number of drug-related deaths for which each of the substances which has been reported to NRS (including each of the 'prescribable' and 'street' benzodiazepines) was implicated in, or potentially contributed to, the cause. It shows that alprazolam was implicated in 65 of the 1,264 drug-related deaths registered in 2019, diclazepam in 12, flualprazolam in 21 and phenazepam in 24. It also gives the numbers of drug-related deaths for which metabolites of diclazepam were said to be implicated in the cause of death (those figures should not be added together because both diclazepam and one or more of its metabolites may have been reported for a particular death).

- 3.3.5 It is not possible to make a direct comparison with the figures for 2007 and earlier years because there is a break in the series between 2007 and 2008, due to the revision of the questionnaire which collects information about the drugs found in the body (as explained in paragraphs 2.3 to 2.5). The statistics may also be affected by other differences, between years or between areas, in the reporting of drugs found in the body (examples of which are given in paragraph 2.8). Therefore, apparent changes in the numbers of deaths for which particular drugs were reported must be interpreted with caution, and with the knowledge that there is a clear break in the figures between 2007 and 2008. The change in the method of data collection may have contributed to the apparent large percentage increases, between 2007 and 2008, in the figures for methadone, benzodiazepines generally and diazepam specifically.
- 3.3.6 Because some of the figures can fluctuate markedly from year to year, the main changes before 2008 are best identified by comparing the averages for

1996-2000 and 2003-2007 (the latter being the final 5-year period before the break in the series). These show that there were marked increases in the numbers of deaths for which there were reports of:

- 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; and
- alcohol - from an average of 91 to an average of 129.

There was not much change in the numbers of deaths for which there were reports of:

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

It may also be noted that Table 3 in the editions of this publication for 2013 and some earlier years showed that there was a marked fall in the number of deaths for which temazepam was reported (from an average of 47 per year in 1996-2000 to an average of 12 in 2003-2007).

3.3.7 However, while comparing 5-year averages should reduce the effect of year-to-year fluctuations, it will not necessarily give the full picture. In this case, it does not reveal some marked changes during the period:

- the number of deaths for which diazepam was reported 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; and
- the number of deaths for which methadone was reported appeared to fall in the late 1990s, was only 55 in 2000, but then rose to 114 in 2007 - above the level recorded in 1996 (100).

3.3.8 As mentioned in [Section 2](#), NRS can also produce, for 2008 onwards, figures on the basis of 'all drugs which were found to be present in the body', including any other drugs which were present, but which were not considered to have had any direct contribution to the death. The lower half of [Table 6](#) shows figures for 2019 on this basis. There are large percentage differences between the two halves of the table in the figures for 'prescribable' benzodiazepines (and diazepam in particular): 'prescribable' benzodiazepines were found to be present in the body in the case of 412 of the drug-related deaths in 2019, but had been implicated in, or potentially contributed to, only 195 of those deaths (for diazepam, the equivalent figures are 377 and 179). There are also notable percentage differences between the figures in the two halves of the table for codeine (or a codeine-containing compound), which was found in 107 deaths but was believed to have been implicated in, or to have contributed to, only 55 of them; for dihydrocodeine (or a compound containing it) for which the corresponding numbers are 169 and 116 respectively, for gabapentin or pregabalin (for which the numbers are 600 and 438, respectively) and for alcohol (459 and 137). The figures for heroin/morphine and methadone do not differ much (in percentage terms) between the two halves of the table: these drugs were believed to be implicated in, or to have contributed to, the death in almost every case in which they were found; the same was also the case for 'street' benzodiazepines (and etizolam in particular).

3.3.9 Most drug-related deaths are of people who took more than one drug. In such cases, it may not be possible to say which particular drug caused the death. [Table 7](#) shows the numbers of drug-related deaths for which only one drug was reported, which are the minimum numbers of deaths which may be wholly attributable to the

specified drugs. The top half of the table shows that there were 75 deaths for which only one drug (and, perhaps, alcohol) was found to be present in the body (representing 6% of the total for the year - so 94% of deaths were of people who had taken more than one drug). With a few possible exceptions (the footnote to the table gives further details), these deaths will be wholly attributable to the specified drug (or, perhaps, to that drug in combination with alcohol). These numbers are all small, when compared to the total number of drug-related deaths: there were 12 drug-related deaths for which the only drug reported was heroin/morphine; five for which only methadone was mentioned; two drug-related deaths with only codeine reported; five involving only dihydrocodeine; six drug-related deaths for which only a benzodiazepine was reported (in all cases, it was etizolam); three involving gabapentin or pregabalin; seven drug-related deaths for which only cocaine was reported; four involving an ecstasy-type drug; and five drug-related deaths for which only amphetamines were reported. Based on information from NRS's database (which does not appear in any of the tables), 14 of the remaining 'only one drug (and, perhaps, alcohol)' drug-related deaths were due to 'unspecified drug', two were due to oxycodone, two were due to tramadol and two were due to zopiclone; three other drugs were each responsible for a single death. In total, there were 29 drug-related deaths for which alcohol was mentioned along with only one drug.

3.3.10 The lower half of [Table 7](#) shows drug-related deaths for which only one drug (and, perhaps, alcohol) was implicated in, or potentially contributed to, the death. The numbers here are larger, because this part of the table includes deaths for which other drugs were mentioned as being present but were not considered to have had any direct contribution to the death. So, for example, the figures for methadone are the numbers of drug-related deaths for which only methadone (and, perhaps, alcohol) was implicated in, or potentially contributed to, the death - any other drugs (such as diazepam) which were found to be present in the body were not considered to have had any direct contribution to the death. There were 38 drug-related deaths for which heroin/morphine was the only drug which was believed to have been implicated in, or to have contributed to, the death; 13 for which methadone was the only such drug; two due to codeine (or a compound thereof); 13 drug-related deaths caused by dihydrocodeine (or a compound thereof); and 14 from another opiate or opioid. There were also eight drug-related deaths due to benzodiazepines (of which seven were caused by etizolam); six due to gabapentin or pregabalin, 37 for which cocaine was the only such drug; nine drug-related deaths due to ecstasy-type drugs, 14 caused by amphetamines and 29 drug-related deaths from 'any other drug'. In 36 cases, alcohol was implicated in, or potentially contributed to, the cause of death, along with one drug.

3.3.11 Information from NRS's database (which does not appear in any of the tables) shows that oxycodone caused six of the 14 'another opiate/opioid' deaths, tramadol was responsible for four, three were caused by fentanyl and one was due to buprenorphine. NRS data also show that the 29 deaths which were caused by another drug which is not shown in the table included two cases where that drug was pentobarbitone, two cases where it was venlafaxine, two cases where it was zopiclone, and 17 cases where it was 'unspecified drug' (alcohol was also implicated in some of these deaths). There were also a number of substances that were each responsible for only one death. In total, 183 deaths are counted in the lower half of [Table 7](#). Therefore, in 2019, there were 183 deaths (14% of all drug-related deaths) for which only one drug (plus, perhaps, alcohol) was believed to have been implicated in, or potentially contributed to, the cause of death.

3.4 Sex and age

3.4.1 [Table 4](#) shows that males accounted for the majority (877, or 69%) of the drug-related deaths in 2019. This was the case throughout the past two decades,

although the precise balance between the sexes has varied from year to year. For example, between 2008 and 2013, the number of male drug-related deaths dropped (from 461 to 393, having been as low as 363 in 2010) whereas the number of female deaths rose (from 113 to 134, having fallen back slightly from 165 in 2012), and so the male percentage fell from 80% to 75%. In each of the most recent five years (2015 to 2019), males accounted for between about 68% and around 72% of drug-related deaths, and the male percentage was lower than in almost all the previous years for which figures are available. Comparing the averages for 2005-2009 and 2015-2019, to reduce the effects of year-to-year fluctuations on the figures, the percentage increase in the number of drug-related deaths was greater for females (218% - the annual average more than tripled, from 94 to 299) than for males (86%: the annual average rose from 372 to 693).

3.4.2 From 2003 to 2014, of the age-groups shown, the largest number of drug-related deaths were among 25-34 and 35-44 year olds, with the numbers tending to be higher for the 25-34 age-group in the earlier years, and for people aged 35-44 in the later years (with some year-to-year variation). However, recent years have seen large percentage increases in drug-related deaths in the 45-54 age-group, which had more deaths than the 25-34 age-group in each year from 2015. In 2019, there were 462 drug-related deaths of people aged 35-44 (representing 37% of that year's total number of drug-related deaths), 394 of 45-54 year olds (31%) and 215 in the 25-34 age-group (17% of the total). In addition, 76 people aged 15 to 24 died (6%), as did 97 in the 55 to 64 age-group (8%) and 20 people who were 65 or over (2%). There are very few drug-related deaths aged 14 and under. The table shows that the number of deaths in a particular age-group can fluctuate markedly over the years (for example, the number of 15 to 24 year olds who died was 100 in 2002, 47 in 2005, 94 in 2007, 65 in 2010, 32 in 2013, 46 in 2014 and 30 in 2015). However, some clear trends can be seen. Comparing the averages for 2005-2009 and 2015-2019 (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 153 per year in 2005-2009 to an average of 368 in 2015-2019) and of people aged 45-54 (from an average of 57 to an average of 281); the number of deaths of 25-34 year olds rose less markedly (from an average of 159 to an average of 196). Deaths of people aged 55 to 64 rose (from an average of 15 to an average of 76), and there was a fall in the number of people aged 15-24 who died (from an average of 74 to an average of 50, although there were rises in 2018 and 2019).

3.4.3 Changes in the ages of drug-related deaths can also be seen from the values of the lower quartile age at death (a quarter of drug-related deaths were of people of this age or under), the median age at death (half the deaths were of people of this age or under) and the upper quartile age at death (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, and 23 years in 1999, to 35 years in 2019;
- the median age at death increased from 28 years in 1996, and also 28 years in 1999, to 42 years in 2019; and
- the upper quartile age at death rose from 34 years in 1996, and 35 years in 1999, to 48 years in 2019 (and was 49 years in 2015 and 2018).

The median is used (rather than the average) because it should be affected less by any unusually high (or low) values.

3.4.4 The lower part of [Table 5](#) shows that, when the underlying cause of death is determined using the old coding rules, 707 (81%) of the 877 male deaths in 2019 were of known or suspected drug abusers compared to 262 (68%) of the 387 female deaths. Of the 117 deaths aged 55 and over, only 65 (56%) were of people

who were known, or suspected, to be drug-dependent. The table also provides a more detailed breakdown of the numbers by age-group for each sex.

3.4.5 [Table 6](#) provides information about the ages and sexes of people who died having taken various drugs (perhaps more than one of the substances listed in the table, and maybe other drugs as well). The top half of the table provides figures on the normal basis: 'drugs which were implicated in, or potentially contributed to, the cause of death'. As mentioned earlier, men accounted for 69% of all drug-related deaths in 2019. For deaths for which the drugs listed below were implicated in, or potentially contributed to, the cause of death, men accounted for the following percentages (though it must be noted that such percentages may vary markedly from year to year, in the case of drugs which were involved in relatively small numbers of deaths):

- ecstasy-type drugs – 92% (23 out of 25);
- cocaine - 76% (277 out of 365);
- heroin/morphine - 74% (478 out of 645);
- diazepam - 74% (132 out of 179);
- 'prescribable' benzodiazepines - 73% (142 out of 195);
- 'street' benzodiazepines - 72% (589 out of 814);
- etizolam - 72% (541 out of 752);
- gabapentin or pregabalin - 68% (297 out of 438);
- methadone - 68% (380 out of 560);
- alcohol - 66% (91 out of 137);
- codeine (or a codeine-containing compound) - 62% (34 out of 55); and
- amphetamines – 57% (29 out of 51);
- dihydrocodeine (or a dihydrocodeine-containing compound) - 56% (65 out of 116).

There were some differences between the distributions by age of people for whom the drugs listed in [Table 6](#) were implicated in, or potentially contributed to, the cause of their deaths. For example, the under 25s accounted for 40% of the (relatively small number of) deaths in which an ecstasy-type drug was implicated, or to which it potentially contributed, compared with only 6% of all drug-related deaths. In addition, 27% of the 365 'cocaine' deaths were of people who were aged 25-34, compared with 17% of all drug-related deaths. About 52% of the 116 'dihydrocodeine' deaths were of people aged 45 and over, compared with 40% of all drug-related deaths.

3.4.6 The lower part of [Table 6](#) provides figures for all drugs which were found present in the body, including those which were not considered to have had any direct contribution to the death. Women accounted for 31% of all drug-related deaths in 2019, but for 39% of the 107 deaths for which codeine (or a compound thereof) was found, for 41% of the 169 deaths for which dihydrocodeine (or a compound) was found, 42% of the 60 deaths for which amphetamines was found, and just 8% of the 25 deaths for which an ecstasy-type drug was found.

3.4.7 The top half of [Table 7](#) gives the numbers of drug-related deaths for which only one drug (and, perhaps, alcohol) was found to be present in the body. The numbers are all relatively small, so there is little that can be said about the ages and sexes of the people involved. The bottom half of the table shows drug-related deaths for which only one drug (and, perhaps, alcohol) was implicated in, or potentially contributed to, the death. [Paragraph 3.3.10](#) explained why these numbers are larger. However,

in only a few cases are the figures for a particular drug large enough for analysis of the ages and sexes of the people involved. The main point to note is that females accounted for 38% of all drug-related deaths in 2019 for which only one drug (and, perhaps, alcohol) was implicated in, or potentially contributed to, the cause of death, and for between about a quarter and a half of deaths for most of the substances which are shown in the table (the only exceptions being a few drugs, each of which caused relatively few such deaths).

3.4.8 **Table 8** provides drug-related death rates per 1,000 population for a number of age-groups, and shows how these have changed, from 2000 to 2019. For much of that period, the drug-related death rate per 1,000 population was highest for people aged 25-34: it was 0.29 in 2019 and averaged 0.27 over the latest five years (from 2015 to 2019). However, the rate for 35-44 year olds was higher in 2011 and every year since, was 0.69 per 1,000 population in 2019, and its latest 5-year average was 0.55. In recent years, there has been a large percentage increase in the rate for 45-54 year olds: it was 0.52 in 2019 and had a latest 5-year average of 0.36. For the 15-24 age-group, the rate per 1,000 population has latterly been much lower than the rates for people aged 25-34, 35-44 and 45-54: it was 0.12 in 2019 and averaged 0.08 over the latest five years. The rate for 55-64 year olds has been tending to rise, and reached 0.13 per 1,000 population in 2019 (and an average of 0.11 over the latest five years). Since 2000, there have been large increases in the rates for all the age-groups apart from 15-24 year olds, whose rate in 2019 was the same as in 2000, and had tended to be lower in most of the intervening years (with some fluctuations).

3.5 Death rates for problem drug users

3.5.1 The drug-related death rates per 1,000 population (shown in **Table 8**) are based on the size of the whole population of each age-group, the vast majority of whom do not use drugs. Therefore, those figures do not indicate the likely death rate for people who use drugs. Drug-related death rates for the part of the population whose put their lives at risk by using drugs can be calculated using the numbers of problem drug users (age 15-64) that were estimated by the Information Services Division (ISD) of NHS National Services Scotland, which is now part of Public Health Scotland (PHS). The latest such estimates, for the 2015/16 financial year, are [available from the ISD web-site](#). For the purpose of these estimates, 'problem drug use' is defined as the problematic use of opiates (including illicit and prescribed methadone use) and/or the illicit use of benzodiazepines, and implies routine and prolonged use (as opposed to recreational and occasional use). It follows that the ISD (now PHS) estimates will be smaller than the total number of people who used illicit drugs at some time during the year. In June 2020, PHS published larger estimates of the number of problem drug users, which had been produced using a wider definition, and so would give lower death rates per 1,000 problem drug user. The tables in this publication do not use those estimates because PHS described them as 'experimental' statistics, and has concluded that population prevalence estimates for the additional drug types are less reliable than using the same methods and data sources for the long-standing definition.

3.5.2 **Table 9** shows the ISD (now PHS) estimates of the number of problem drug users in 2015/16 along with the annual average number of drug-related deaths for 2013-2017 (rather than the annual averages for 2015-2019, which are 'centred' around 1 July 2017, as they would be less comparable to the estimates for 2015/16, which are 'centred' around 1 October 2015). The first two figures on the first row show that Scotland had 730 drug-related deaths (of all ages) per year (on average) between 2013 and 2017, and an estimated 57,300 problem drug users (aged 15-64) in 2015/16. Combining those figures gives an annual average of 12.7 drug-related deaths per 1,000 problem drug users. The difference between the coverage of the

two figures ('all ages' for deaths; '15-64' for problem drug users) should not matter much, as Table 4 showed that there are relatively few drug-related deaths of people aged 0-14 or 65+.

- 3.5.3 The ISD (now PHS) publication explains that the estimates are produced by combining data from a number of sources, and provides '95% confidence intervals' to indicate the likely margins of error in some of the figures. For the estimated total number of problem drug users for 2015/16, the 95% confidence interval is from 55,800 to 58,900 (or roughly +/- 3%). The values of the lower and upper ends of the confidence intervals can be used to calculate a likely range for the drug-related death rate. Dividing the annual average of 730 drug-related deaths by the value at the upper end (58,900 problem drug users) gives a minimum for the drug-death rate of 12.4 per 1,000 problem drug users; dividing by the value at the lower end (55,800 problem drug users) gives a maximum for the drug-death rate of 13.1 per 1,000 problem drug users.
- 3.5.4 Using the ISD (now PHS) estimates of the numbers of problem drug users by age and by sex in the same way, it appears that the annual average drug-death rate (per 1,000 problem drug users) might be very slightly higher for females (12.9) than for males (12.6) – but the difference is not significant statistically (both figures are within the overall estimate's likely range of 12.4 to 13.1 per 1,000). However, it is clear that the death rate rises with age: 6.3 per 1,000 for problem drug users who are aged 15-24; 11.3 for 25-34 year olds; and 13.9 for those aged 35-64.
- 3.5.5 ISD did not publish 95% confidence intervals for its estimates of problem drug users broken down by age and sex, but one would expect them to be wider (in percentage terms) for the smaller sub-groups of the population (that is generally the case for the 95% confidence intervals for NHS Board and council areas in Tables HB5 and C5).

4. NHS Board areas: trends, causes, drugs reported, and death rates by age-group and relative to the estimated number of problem drug users

- 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). In this publication, the statistics for each NHS Board's area are based on the boundaries which apply with effect from 1 April 2014. The figures for earlier years show what the numbers would have been, had the new boundaries applied in those years. [Table HB1](#) shows the numbers of drug-related deaths for each NHS Board area. Of the 1,264 deaths in 2019, 404 (32%) were in the Greater Glasgow & Clyde NHS Board area. Lanarkshire, with 163 (13%), had the next highest total followed by Lothian (155 or 12%), Tayside (118 or 9%), Ayrshire & Arran (108 or 9%), Grampian (82 or 6%), Fife (81 or 6%) and Forth Valley (75 or 6%). The first five of those areas (Greater Glasgow & Clyde, Lanarkshire, Lothian, Tayside and Ayrshire & Arran) together accounted for three-quarters (948, or 75%) of all drug-related deaths in 2019, representing a slightly higher proportion of the total than in most of the previous ten years.
- 4.2 Because of the generally small numbers involved, particularly for some NHS Board areas, great care should be taken when assessing any apparent trends shown in the table. Year-to-year variation in the figures could result in apparently large percentage changes. This is more likely for the areas with smaller populations, but can also be seen sometimes in the figures for the more populous areas (for the purpose of this publication, 'more populous' areas have populations of at least 300,000). For example some previous editions of this publication showed that Greater Glasgow & Clyde had 147 deaths in 2004, 109 in 2005 and 156 in 2006. Therefore, using 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 2005-2009 and 2015-2019 were Greater Glasgow & Clyde (up by 152, from 159 to 311), Lothian (up by 67, from 67 to 134), Lanarkshire (up by 66, from 50 to 116), Tayside (up by 52, from 37 to 89), Ayrshire & Arran (up by 45, from 31 to 76), Grampian (up by 37, from 42 to 79), Fife (up by 33, from 27 to 60), and Forth Valley (up by 33, from 20 to 53).

- 4.3 The table also shows the population of each NHS Board area, and what its average number of drug-related deaths per year (for 2015-2019) represented per 1,000 population (using the population in the middle of the 5-year period as a proxy for the average population over the whole period). For Scotland as a whole, the average of 992 drug-related deaths per year represented a rate of 0.18 per 1,000 population. The area with the highest rate was Greater Glasgow & Clyde (0.27); next highest were Tayside, with a rate of 0.21 per 1,000 population, Ayrshire & Arran (0.20) and Lanarkshire (0.18); all the other areas' rates were below the overall figure for Scotland as a whole. Finally, the lower part of the table shows the number of 'extra' deaths that would be counted, for each area, in the consistent series (refer to paragraph 2.9 and Annex F). As all the figures are relatively small, it is clear that the use of the consistent series would not change markedly the level of, or the trend in, the number of drug-related deaths for any area.
- 4.4 [Table HB2](#) gives a breakdown by cause of death for each NHS Board area for 2018. [Table HB3](#) shows some geographical differences in the reporting of certain drugs: figures which should be used with particular care, in the light of the points mentioned in [sections 2](#) and [3.3](#), the effects of which could be proportionately greater on the figures of some of the areas with lower populations. Note also that the figures given in [Table HB3](#) are on the standard basis (drugs implicated in, or which potentially contributed to, the cause of death), and so are not comparable to figures (in the editions for 2008 and earlier years) on the basis of 'all drugs which were [reported as having been] found to be present in the body'. As mentioned earlier, this website has versions of [Table HB3](#) which give (i) figures for 2008 on the normal basis and (ii) figures for 2009 onwards on the 'all drugs which were found to be present in the body' basis.
- 4.5 [Table HB3](#) shows the drugs reported for NHS Board areas. The comments that follow (about the percentages of drug-related deaths which involved particular drugs) relate only to the more populous areas (for the purpose of this paragraph, those with at least 50 drug-related deaths in 2019), because unusual percentages could arise, purely by chance, for areas with relatively small numbers. Overall, heroin/morphine was believed to have been implicated in, or to have potentially contributed to, 51% of the total number of drug-related deaths in 2019, and the more populous areas' figures were not too far from this level: between about 40% and 60%, broadly speaking (the only possible exceptions being 61% for Forth Valley [46 out of 75] and 62% for Tayside [73 out of 118]). Methadone was implicated in, or potentially contributed to, 44% of drug-related deaths overall, and the more populous areas' figures were all within 10%-points of that value. The table also shows that 'prescribable' benzodiazepines were implicated in, or potentially contributed to, 15% of drug-related deaths in Scotland as a whole, with the percentage being highest in Grampian (44%: 36 out of 82), Lothian (39%: 60 out of 155), Fife (27%: 22 out of 81) and Forth Valley (27%: 20 out of 75), and lowest in Greater Glasgow & Clyde (3%: 11 out of 404), Ayrshire & Arran (4%: 4 out of 108), and Lanarkshire (4%: 7 out of 163) - although this comparison might be affected by the differences in reporting practices which are mentioned in [section 2](#). In general, the corresponding figures for diazepam (the most commonly reported 'prescription' benzodiazepine) are similar. 'Street' benzodiazepines were implicated in, or potentially contributed to, 64% of drug-related deaths in Scotland as a whole, with the percentage being highest in Forth Valley (77%: 58 out of 75), Tayside (77%: 91 out of 118) and Greater Glasgow & Clyde (75%: 305 out of 404) and lowest in Grampian (17%: 14 out of 82). Etizolam, the most commonly reported 'street' benzodiazepine, was implicated in, or potentially contributed to, 59% of drug-related deaths in Scotland as a whole, the

percentage varying from 4% in Grampian (3 out of 82) to 74% in Greater Glasgow & Clyde (300 out of 404). Gabapentin and/or pregabalin were implicated in, or potentially contributed to, 35% of drug-related deaths in Scotland, with particularly high figures for Fife (52%: 42 out of 81) and Forth Valley (52%: 39 out of 75); for cocaine, the corresponding figures were 29% for Scotland overall, ranging from 19% for Fife (15 out of 81) to 55% for Grampian (45 out of 82).

- 4.6 [Table HB4](#) provides, for each NHS Board area, for a number of age-groups, the drug-related death rate per 1,000 population. As with the overall rates in [Table HB1](#), the figures were calculated using the average number of drug-related deaths per year (for 2015-2019), by taking the population in the middle of the 5-year period as a proxy for the average population over the whole period. Even though the figures are five-year averages, they must still be used with caution for the less populated areas (for example when the annual averages for 2007 to 2011 were calculated, just three 15-24 year old drug-related deaths in Shetland caused it to have a rate for that age-group which was double that of Scotland as a whole). Of the more populous areas, Greater Glasgow & Clyde had the highest drug-related death rates per 1,000 population for the two oldest of the five age-groups for which figures are provided: 0.64 for the 45-54 age-group, and 0.19 for the 55-64 age-group; both well above the overall average rates for Scotland as a whole for the same 5-year period (0.35 and 0.11 respectively). No other area had rates for those age-groups that are worthy of comment. For 35-44 year olds, Ayrshire & Arran had the highest rate (0.82 per 1,000 population), followed by Greater Glasgow & Clyde (0.77) and Tayside (0.72); other areas' rates did not stand out much from the overall Scottish figure (0.55). In the case of 25-34 year olds, Ayrshire & Arran, Tayside and Forth Valley had rates which were clearly above-average (0.39, 0.38 and 0.37, respectively, compared with 0.27 for Scotland as a whole); no area had a rate for 15-24 year olds which differed greatly from the overall value of 0.08 for Scotland as a whole.
- 4.7 As mentioned in [Section 3.5](#), Information Services Division (ISD – now part of Public Health Scotland [PHS]) has estimated the numbers of problem drug users (aged 15-64), in 2015/16, for parts of Scotland. [Table HB5](#) provides those figures for NHS Board areas, with their '95% confidence intervals', each area's estimated drug-related death rate per 1,000 problem drug users (using the 2013-2017 annual average number of drug-related deaths for consistency), and the likely range of values for that figure; [Figure 2](#) shows the rates and their confidence intervals, and [Section 3.5](#) gives more information about the basis of the figures. For Scotland as a whole, it is estimated that (between 2013 and 2017) there were, on average, 12.7 drug-related deaths (of all ages) per year per 1,000 problem drug users (aged 15-64) in 2015/16.
- 4.8 Among the more populous areas, this rate was lowest in Lanarkshire (11.3), Forth Valley (11.5) and Greater Glasgow & Clyde (11.6) and highest in Fife (17.1), Grampian (16.2) and Highland (14.6). The table shows wide (in percentage terms) confidence intervals for some areas, particularly for the ones with relatively small populations. As a result, some areas have wide likely ranges of values for their death rates, including some of the more populous areas (for example, for Fife, the likely range of values for the drug-related death rate is from 15.5 to 19.2 per 1,000 problem drug users).
- 4.9 There is a narrower (in percentage terms) range of values for the 'mainland' NHS Board areas when drug-related death rates are calculated on this basis (which takes account of the number of people who put their lives at risk) than when they are calculated per 1,000 population. For example, [Table HB5](#) shows that the lowest 'mainland' drug-related death rate per 1,000 problem drug users was 11.3 (Lanarkshire), and the highest was 21.6 (Borders), so the highest figure was nearly double the lowest one. In contrast, in [Table HB4](#), the lowest 'mainland' drug-related death rate per 1,000 population was 0.10 (for Highland), and the highest was 0.27 (Greater Glasgow & Clyde), so the highest figure was more than 2½ times the lowest one. (The 'island' areas are excluded from

such comparisons because their relatively small numbers may lead to large percentage fluctuations in their rates.)

5. Council areas (trends, causes, drugs reported and death rates by age-group) and areas with smaller populations

- 5.1 [Tables C1 to C5](#) provide figures for individual council areas, and [Figure 3](#) shows their death rate per 1,000 problem drug users. Again, because of the relatively small numbers involved, particularly for some areas, great care should be taken when using these figures. Even the numbers for the most populous areas may be subject to large percentage year-to-year fluctuations (for example Glasgow's figures from 2004 to 2008 were as follows: 106, 75, 113, 90, 121; Edinburgh's from 2003 to 2009 were: 26, 17, 41, 30, 43, 66, 45). Again, the points mentioned in [sections 2 and 3.3](#) may have a proportionately greater effect on the numbers for some of the areas with smaller populations. Again, the figures given in [Table C3](#) are on the normal basis (drugs implicated in, or which potentially contributed to, the cause of death), and so are not comparable to figures (in the editions for 2008 and earlier years) on the basis of 'all drugs which were [reported as having been] found to be present in the body'. As mentioned earlier, the web site has versions of [Table C3](#) which give (i) figures for 2008 on the normal basis and (ii) figures for 2009 onwards on the 'all drugs which were found to be present in the body' basis.
- 5.2 As the numbers of drug-related deaths for areas with smaller populations will be lower, and may be subject to proportionately larger year-to-year fluctuations, it is unlikely that much useful information could be obtained from looking at the figures for small areas for a single year, or for a few years taken together. There could also be concerns about the sensitivity of data relating to small areas, as it might be possible, in some circumstances, to infer something about identifiable individuals from such data. Therefore, one should only look at such figures for several years taken together. Even then, the smaller the areas are, the more (in percentage terms) their figures may be influenced by how NRS allocates deaths to areas, based upon the details that are collected by the registration process. Information about the basis of NRS's statistics about deaths, and examples of the fluctuations in and possible unreliability of figures for small areas, are available from the [Vital Events – General Background Information](#) and the [Deaths – Background Information](#) pages within the vital events section of the NRS website.
- 5.3 An example of the scale of the numbers for small areas is given by an analysis for the National Forum on Drug-related Deaths, which used data for postal districts for the eight years from 2000 to 2007 (inclusive). This was done in response to a request, at a Forum meeting in September 2008, to 'identify any geographical concentrations of drug-related deaths'. Postal districts are not normally used for statistical analysis, but in this case they provided a convenient way to describe the extent to which the numbers of drug-related deaths were concentrated in certain parts of Scotland, by using a geography that would be more meaningful to Forum members than, say, the data zones or intermediate zones that were used in Scottish Neighbourhood Statistics. The database had records for 2,893 drug-related deaths (on the basis of the standard definition) in Scotland in the specified eight years (paragraph A4 of [Annex A](#) explains why there is a slight difference from the total of the published figures for those years). Of the postal districts, 'G21' had the largest number (67 - an average of 8.4 per year). Four other postal districts had totals of 50 or more drug-related deaths for that period: 'G33' (54); 'G20' (53); 'G32' (51); and 'AB24' (50). Figures were not provided for every individual postal district, because of the numbers involved. There were 25 postal districts which each had 29 or more drug-related deaths over the eight years: each of them accounted for more than 1% of the total for Scotland for that period. Taken together, these 25 postal districts accounted for about a third of all drug-related deaths in Scotland between 2000 and 2007. The remaining two-thirds of drug-related deaths in that period were deaths of

residents of postal districts which had, at most, 28 such deaths over the eight years – this is areas which had, on average, at most three and a half drug-related deaths per year (many averaged fewer than one drug-related death per year). It follows that, while some postal districts have markedly more drug-related deaths than others, the problem is clearly a very widespread one, with most deaths being of people living in areas which had relatively few drug-related deaths.

Annex A: The definition of drug-related deaths used for these statistics (the National Records of Scotland (NRS) implementation of the 'baseline' definition for the UK Drugs Strategy)

A1. Background

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 (ONS) publication 'Population Trends' and in the journal 'Drugs and Alcohol Today' (please go to References in [Annex C](#)). A report by the Advisory Council on the Misuse of Drugs (ACMD), which is mentioned in the References, considered (what were, at that time) the 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'. A predecessor of National Records of Scotland (NRS), the then General Register Office for Scotland (GROS), was represented on this group, and this publication presents information on drug-related deaths using the approach that was agreed, on the basis of the definition as it was implemented by GROS and, now, NRS.

A2. The definition

The 'baseline' definition for the UK Drugs Strategy covers the following cause of death categories (the relevant codes from the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision [ICD10], are given in brackets):

- a) deaths where the underlying cause of death has been coded to the following sub-categories 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 and where a drug listed under the Misuse of Drugs Act (1971) was known to be present in the body at the time of death (even if the pathologist did not consider the drug to have had any direct contribution to the 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. Deaths which are excluded from the NRS implementation of the definition

The NRS implementation of the definition excludes a small proportion of the deaths which were coded to one of the ICD10 codes listed in Section A2, specifically:

- deaths coded to drug abuse where the direct cause of death was secondary infections or later complications of drug use. The statistics therefore exclude deaths from:
 - secondary infections such as clostridium or anthrax infection resulting from the injection of contaminated drugs:

- conditions which could be regarded as later complications of drug use, such as bronchopneumonia, lobar pneumonia, bilateral pneumonia, septicaemia or organ failure where drug misuse was not specified as the direct and immediate cause of death (even though it may have damaged greatly the person's health over the years).
- deaths where a drug listed under the Misuse of Drugs Act was likely to be present only as part of a compound analgesic or cold remedy. For this purpose, NRS identified the following compound analgesics and cold remedies when producing its statistics:
 - for 2018 and earlier years:
 - Co-codamol (paracetamol and codeine sulphate);
 - Co-dydramol (paracetamol and dihydrocodeine);
 - Co-proxamol (paracetamol and dextropropoxyphene); and
 - Dextropropoxyphene alone (as explained below).
 - for 2019 onwards:
 - Codeine and aspirin (co-codaprin);
 - Codeine and brompheniramine maleate;
 - Codeine and dextropropoxyphene;
 - Codeine and diphenhydramine hydrochloride;
 - Codeine and ibuprofen;
 - Codeine and paracetamol (co-codamol, as before);
 - Dextropropoxyphene and paracetamol (co-proxamol, as before);
 - Dextropropoxyphene alone (as before, as explained below);
 - Dihydrocodeine and aspirin;
 - Dihydrocodeine and dextropropoxyphene;
 - Dihydrocodeine and paracetamol (co-dydramol, as before);
 - Pholcodine;
 - Tramadol and paracetamol;

Three points should be noted on these matters:

- Such deaths are excluded because compound analgesics and cold remedies contain relatively small quantities of drugs that are listed under the Misuse of Drugs Act. It would not be appropriate to count as 'drug-related' a death for which a controlled substance was present only because the deceased had taken a compound analgesic or cold remedy.
- The list of compound analgesics and cold remedies was expanded for the production of the statistics for 2019 after a Public Health Scotland (PHS) National Drug-Related Deaths Database local data co-ordinator queried NRS counting as 'drug-related' a death, in 2018, from an overdose of aspirin and codeine. NRS sought advice from PHS and the Office of National Statistics (ONS, which later consulted Public Health England and Public Health Wales). It was agreed that NRS and ONS should both use the above longer list of compound analgesics and cold remedies when producing their statistics for 2019 onwards. NRS's historical data included at most a dozen deaths, in almost 20 years, which might have been counted differently had NRS been using that longer list: far too few to warrant revising previous years' numbers. ONS also had only a small number of such cases in its historical data, and agreed that the cost of updating the back series would outweigh the benefits. Therefore, the introduction of the longer list has increased only slightly the accuracy of the statistics for 2019 onwards, and caused only a slight break, between 2018 and 2019, in the time-series.
- As it is believed that dextropropoxyphene has rarely, if ever, been available other than as a constituent of a paracetamol compound, deaths caused by dextropropoxyphene have been excluded even if there is no mention of a compound analgesic or paracetamol. However, deaths for which other controlled substances (such as codeine or dihydrocodeine) were reported

without any mention of (e.g.) aspirin or paracetamol have been included, as these drugs are available on their own and are known to be abused in that form.

A4. Exclusions do not apply to the immediate or short-term effects of drugs (provided that the drugs are ones that are counted for these statistics)

The exclusions described in the first paragraph of Section A3 do not apply in the case of conditions which could be regarded as the immediate or short-term effects of drugs (provided that the drugs are ones that are counted for these statistics – that is, they are listed under the Misuse of Drugs Act and are not likely to be present only as part of a compound analgesic or cold remedy) and where terms such as ‘intoxication’, ‘poisoning’, ‘toxicity’, ‘overdose’, ‘acute drug misuse’, ‘adverse effects of’, ‘possible intoxication’ or ‘suspected drug overdose’ appear. For example, deaths for which the cause was given as

- complications of acute and chronic drug misuse or
- bronchopneumonia [due to] heroin intoxication or
- hypoxic brain injury [due to] morphine and methadone intoxication or
- multi-organ failure [due to] cardiac arrest [due to] multi-drug intoxication

would be included in these statistics. It would be assumed either that the death was due to the effects of the drugs (rather than the medical condition) or that the medical condition was an immediate consequence of the drug-taking.

In cases where there is a reference to (for example) drug intoxication, deaths caused by the inhalation of gastric contents, aspiration pneumonia or choking on food are counted in these figures, as they are regarded as immediate consequences of drug intoxication. Similarly, hypothermia may be an immediate consequence of drug intoxication. The statistics also include deaths for which the cause was given as ‘cocaine-related cardiac arrhythmia’ and ‘acute intracerebral haemorrhage [due to] amphetamine use’, unless it is clear that the drugs were not used recently.

A5. Some other points on the definition

Under the ICD10 rules, if a death was reported as being due to the joint effects of two (or more) conditions, the first-mentioned condition should be selected as the underlying cause of the death for the purpose of mortality statistics. Therefore, deaths for which the cause was given as, for example:

- Adverse effects of methadone, etizolam, gabapentin and benzodiazepines and chronic bronchitis and emphysema
- Amphetamine toxicity and coronary artery atheroma
- Cocaine intoxication and cardiac enlargement
- Cocaine toxicity and chronic obstructive pulmonary disease
- Cocaine toxicity and left ventricular hypertrophy
- Combined drug intoxication (morphine, etizolam and pregabalin) and ketoacidosis
- Etizolam and codeine intoxication with fatty change of the liver
- Heroin, cocaine and alcohol intoxication and hypertensive heart disease
- Methadone and etizolam intoxication and bicuspid aortic valve stenosis
- Methadone, etizolam and pregabalin intoxication and cirrhosis of the liver
- Methadone intoxication and acute myocardial infarction
- Morphine and tramadol intoxication, pulmonary adenocarcinoma and ischaemic heart disease
- Morphine (heroin) intoxication with severe pulmonary emphysema
- Multi-drug toxicity and ischaemic heart disease
- Tramadol toxicity with atherosclerotic cardiovascular disease

are included in these statistics, because (in each case) it is the toxic effect of the drugs that is selected as the underlying cause of death (for the purpose of mortality statistics), as it was mentioned first, rather than the medical condition.

However, deaths for which the cause was given as, for example:

- Coronary artery thrombosis and morphine, etizolam and diclazepam intoxication
- Ischaemic heart disease and methadone and etizolam intoxication
- Probable hypoglycaemia (insulin dependent diabetes mellitus and suspected insulin overdose) and etizolam intoxication

are not included in these statistics, because (in each case) it is the medical condition that is selected as the underlying cause of death (for the purpose of mortality statistics), as it was mentioned first, rather than the toxic effect of the drugs.

If a drug's legal status changes, NRS aims to count it on the basis of its classification on the day the person died (as NRS does not know when the drug was taken). For example, mephedrone was banned under the Misuse of Drugs Act with effect from 00.01 on 16 April 2010. Therefore, if mephedrone was the only drug found to be present in the body, a death coded to one of the categories listed under (b) in Section A2 would not be counted in NRS's implementation of the Drugs Strategy 'baseline' definition if it occurred before 16 April 2010.

Examples of deaths which were not counted because they were due to a secondary infections are deaths caused by clostridium novyi infection: Annex A of 'Drug-related Deaths in Scotland in 2000' explained that 22 such cases had been identified when the 2000 deaths data file was closed in May 2001, adding that it was not clear whether additional deaths had subsequently been identified. Similarly, these figures exclude the 13 deaths which were caused by the outbreak of anthrax that was associated with contaminated heroin and started in December 2009.

A number of categories of what some might think should be counted as 'drug-related' deaths do not come within the scope of the definition because the underlying cause of death was not coded to one of the ICD10 codes listed above. Examples of deaths which are not counted for this reason are:

- deaths coded to mental and behavioural disorders due to the use of volatile substances;
- deaths from AIDS where the risk factor was believed to be the sharing of needles;
- deaths from drowning, falls, road traffic and other accidents which occurred under the influence of drugs; and
- deaths due to assault by a person who was under the influence of drugs, or as a result of being involved in drug-related criminal activities.

A6. Identifying deaths which are drug-related, and why there are slight discrepancies in the figures for a few years between 2000 and 2006

There are a few minor discrepancies between the figures for 2006 and earlier years that were published at the time and those which were produced more recently. This is due to a change in the way in which 'drug-related' deaths are identified using the data held by NRS. This process has two stages:

- first, extract all the records of deaths which satisfy the ONS 'wide' definition ([Annex B](#)). The method used for this stage has not been changed; and
- second, scrutinise the extracted records and set a 'flag' to identify the ones which should be counted under NRS's implementation of the Drugs Strategy 'baseline' definition. The method used for this stage was changed with effect from June 2008.

Previously, the data were examined by the former 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 Drugs Strategy 'baseline' definition. This method clearly relied greatly on the Statistician's personal expertise. He retired in Spring 2008.

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 University of Hertfordshire and, prior to that, the Programme Manager of the National Programme on Substance Abuse Deaths supplied most of the content of the look-up table). However, manual scrutiny is still required to identify deaths which should be excluded for the kinds of reasons that are described in Section A3. The work involved is reduced by using computer programs to produce separate lists of deaths which may be drug-related and which have certain details in common that are relevant to decisions on whether to count them. An example is cases where paracetamol was present, as they would be excluded if it appeared that controlled substances were present only as part of compound analgesics or cold remedies. An NRS Statistician and NRS's Medical Adviser (who is a public health consultant in Public Health Scotland) look through those lists and decide which deaths to exclude for the reasons given in Section A3 (and taking account of the points set out in the other sections).

The database starts with data for 2000 because that was the first year for which NRS used ICD10. NRS used the classification's previous version (ICD9) for 1979 to 1999. Because the data are coded differently for the years up to 1999 and the years from 2000, NRS's current database starts with the data for 2000. It contains one record for every death which is counted by the ONS 'wide' definition. The database is not limited only to records for deaths which are counted by the standard (Drugs Strategy 'baseline') definition: NRS produces figures on the latter basis by selecting the records which have been 'flagged' appropriately.

The new 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. However, to avoid confusing users of these statistics with minor changes to the figures, the tables which appeared in the editions of this publication which were produced before the method was changed 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, new analyses of the data for 2000 onwards now 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. It then discusses how some deaths from certain other causes might be counted as well, to obtain a wider view of mortality arising from drug misuse.

Office for National Statistics (ONS) 'wide' definition, and European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) 'general mortality register' definition

- 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 Statistical Classification of Diseases and Related Health Problems, Tenth Revision [ICD10], are given in brackets):
- a) deaths where the underlying cause of death has been coded to the following sub-categories of 'mental and behavioural disorders due to psychoactive substance use':
 - opioids (F11);
 - cannabinoids (F12);
 - sedatives or hypnotics (F13);
 - cocaine (F14);
 - other stimulants, including caffeine (F15);
 - hallucinogens (F16);
 - volatile solvents (F18); and
 - multiple drug use and use of other psychoactive substances (F19).
 - b) deaths coded to the following categories:
 - accidental poisoning (X40 – X44);
 - intentional self-poisoning by drugs, medicaments and biological substances (X60 – X64);
 - assault by drugs, medicaments and biological substances (X85); and
 - event of undetermined intent, poisoning (Y10 – Y14).

The main differences between this 'wide' definition and the one used to produce the statistics given in this publication (the 'baseline' definition for the UK Drugs Strategy) are:

- the first part also includes deaths coded to 'volatile substances' (F18); and
- the second part 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.

Therefore, the 'wide' definition's figures are markedly higher.

- 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 standard (Drugs Strategy 'baseline') 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 standard (Drugs Strategy 'baseline') definition, and vice versa. In the '... in 2015' edition, the EMCDDA figures for some of the years from 2000 to 2014 were revised slightly from those published previously, following advice, from UK Focal Point on Drugs (which co-ordinates the provision of figures for the UK to the EMCDDA) that deaths satisfying some other criteria should be counted in the EMCDDA definition.

- B4. Because National Records of Scotland (NRS) 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 standard (Drugs Strategy 'baseline') definition. These are given in [Table X](#). As the table and [Figure 4](#) 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. Figures based on the ONS 'wide' definition have been provided for 1979 onwards, but numbers based on the other two definitions are only available for 1996 and later years. A separate note, '[Figures for drug-related deaths for Scotland for 1995 and earlier years](#)' is available on the NRS website, explains why NRS cannot produce figures for drug-related deaths for 1995 and earlier years on the basis of the standard (Drugs Strategy 'baseline') definition, comments on the potential reliability of the numbers on the basis of the ONS 'wide' definition for 1979 to 1999, and explains why it is not possible to produce reliable figures for drug-related deaths on that basis for 1978 or earlier years.
- B5. As explained above, the ONS 'wide' definition includes all deaths coded to accidental poisoning, and to intentional self-poisoning by drugs, medicaments and biological substances, whether or not a drug listed under the Misuse of Drugs Act was present in the body. [Table Y](#) shows the numbers of deaths (on this basis) in each year for the latest year, and over the previous ten years, for which a range of drugs (including anti-depressants, anti-psychotics, paracetamol or a compound, and tramadol) were reported, including recent years' rises in the numbers of deaths involving certain drugs, such as diclazepam, etizolam, gabapentin and pregabalin.

Examples of definitions which have been used by the Police

- B6. The former Scottish Crime and Drug Enforcement Agency (SCDEA) used a different definition. In Autumn 2007, the then General Register Office for Scotland (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:
 - 14 deaths occurring in December 2005 which were not registered until 2006;
 - 28 definite suicides;
 - 19 probable suicides (classified as 'events of undetermined intent');
 - 8 cases coded to 'accidental overdose'; and
 - 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;
 - 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.

B7. Because the numbers involved are smaller, and because there may be differences in the way in which cases are counted against geographical areas, there may be larger (in percentage terms) differences between NRS and other bodies in their figures for parts of Scotland. For example, in September 2010, the then Grampian Police investigated the difference between its figure of 43 and the then GROS's figure of 52 for the number of drug-deaths in the Grampian area in 2009. The Police's results may be summarised as follows:

- 39 deaths were counted by both the then GROS and the Police;
- 13 deaths were counted by the then GROS but not by the Police. These comprised of:
 - nine cases of suicide, or suspected suicide (the Police did not include suicides which involve drugs in their figures for 'drug-related' deaths);
 - two deaths which had been registered in 2009 but had actually occurred in 2008 (and so were not in the Police figures for 2009). As mentioned in [paragraph 2.1](#), NRS counts events on the basis of the date of registration, since the date of occurrence may not be known;
 - the death of someone from Grampian who had been living elsewhere in Scotland for 3 months. As explained in the information about the geographical basis of the Vital Events statistics (available via the vital events [general background information](#) section of the NRS website), NRS normally counts someone who had been living at an address for less than a year on the basis of the previous address. The Grampian Police had not known about this death, so could not have counted it; and
 - a death from an overdose of prescribed medication. The Police had not counted this death as 'drug-related' because the controlled substances which caused the death had been obtained legitimately, being medication which had been prescribed to the deceased.
- 4 deaths were counted by the Police but not by NRS (formerly GROS). These comprised of:
 - two deaths which occurred in December 2009 but which had not been registered until 2010 (and so were not in the GROS figures for 2009);
 - a death caused by a medical condition upon which the consumption of controlled drugs had a bearing (GROS had counted this death as being due to the medical condition rather than as being drug-related); and
 - the death in Grampian of someone who had been living elsewhere. (GROS counted this in its statistics for the other part of Scotland, because NRS's figures are based on its understanding of the area of residence of the deceased, if that was within Scotland).

Grampian Police also looked at the statistics for individual local authority areas, and found further differences between its figures and those of the then GROS. These were due to different practices for counting deaths against geographical areas. For example, the Police figures for Aberdeen City included deaths, which had occurred in Aberdeen, of people who had lived in Aberdeenshire or Moray. GROS counted such cases on the basis of its understanding of the area of residence of the deceased.

Other bodies' definitions: discussion

B8. It follows that there will inevitably be differences between NRS's figures and those of other bodies, because different organisations may use different definitions, perhaps because

their reasons for compiling their figures differ because they need to use them for different purposes. For example, the Police did not include suicides in their drug-related death figures because their need for such figures was to monitor the numbers of cases where people have died accidentally after taking controlled drugs, as they have a duty to investigate any potential criminal activity involved in the supply of controlled drugs to the deceased. The Police investigate suicides in a different way (for which it does not matter what method was used, such as legal or illegal drugs, hanging, or falling from a height), and therefore did not include suicides involving drugs in their drug-related death figures. In addition, NRS and other bodies may hold different information in some cases (for example when registering a young person's death, a parent may say that the person's usual place of residence was the family's home address, whereas the Police records may hold a different address). This may sometimes lead to differences in the direction of the year-to-year change shown by NRS's and another body's statistics (for example one set of data might suggest a slight rise, the other a slight fall). However, such differences between NRS's and other bodies' figures should not be a cause for concern, because they can be explained by the kinds of reasons given above. In addition, as mentioned in sections 4 and 5, the figures for any given part of Scotland may be subject to year-to-year fluctuations: using 5-year moving averages should provide a better indication of the level and any long-term trend than looking only at (say) the figure for the latest year and the change from the previous year.

- B9. Other organisations may interpret the term 'drug-related deaths' in other ways. For example, drug-related deaths which were known to be suicides were excluded from the National Drug-Related Deaths Database (Scotland) Report 2009, which was prepared by the Information Services Division (ISD) of NHS National Services Scotland, which is now part of Public Health Scotland (PHS). That report is available (along with the corresponding reports for 2010 and later years) on the [ISD \(now PHS\) website](#). However, that definition of drug-related deaths was changed to include confirmed suicides for the first time in the ISD database for 2012. ISD's database was established to collect detailed information, from a range of local data sources, on the nature and circumstances of people who had died a drug-related death - for example, including data on the person's social circumstances, medical and drug use history, and previous contact with health and criminal justice services. The ISD publication for 2009 included sections on Sociodemographics, Drug Use History, Medical and Psychiatric History and Adverse Life Events, the Death, Toxicology and Substance Prescribing, and Contact With Services. It also had an appendix on the reasons for differences between ISD's figures and those given here, which include some differences in coverage and definitions (such as the exclusion of confirmed suicides for the years before 2012) and the fact that ISD's local contacts did not provide data for some drug-related deaths.

Deaths counted in the 'wide' definition but not in the NRS implementation of the 'baseline' definition; some other causes of death that may be associated with drug misuse; and the numbers of volatile substance abuse deaths

- B10. Among the recommendations made by the National Forum on Drug-related Deaths in its annual report for 2009/10 was one which relates to this publication:

'In recognition of the expanding range of causes of drug related deaths, and in keeping with the aims of the Advisory Committee on Misuse of Drugs report on Drug Related Deaths (published in 2000) to include a wider view of mortality caused by drug misuse, the forum recommends:

- that GROS include a table within their annual drug related deaths report that reflects deaths from 'some causes which may be associated with present or past drug misuse';
- that in the coming year, this includes detail on deaths caused by Hepatitis C and HIV; and

- that the forum and GROS explore the possibility of including violence, trauma and road traffic accidents in future reports.’

As a result, [Table Z](#) was added to a previous edition of this publication.

B11. The top part of [Table Z](#) gives the numbers of deaths counted as ‘drug-related’ on the basis of the ‘wide’ definition, with separate figures for:

- the basis used for the statistics in this publication (this is the Drug Strategy ‘baseline’ definition, as implemented by GROS/NRS);
- deaths which are within the ‘baseline’ definition but are excluded from the figures produced by GROS/NRS for reasons which are given in paragraph A3 of [Annex A](#);
- all other deaths which are counted as ‘drug-related’ in terms of the ‘wide’ definition.

B12. The next part of [Table Z](#) gives some information which was requested by members of the National Forum, starting with the numbers of deaths from some causes which may be associated with present or past drug misuse. At present, this shows only the following two causes of death:

- Hepatitis C - the virus can be transmitted through sharing needles when injecting drugs. Health Protection Scotland (HPS), which is now part of Public Health Scotland (PHS), estimated that, in 2017-18, 57% of people who injected drugs were Hepatitis C antibody positive. From data on all the people who had been diagnosed as Hepatitis C antibody positive in Scotland by the end of 2017, HPS found that 91% of those with a known risk factor were people with a history of injecting drug use. In only a small proportion of cases was the infection known to have been transmitted in another way (such as through sexual contact, a tattoo or body piercing with equipment that had not been properly sterilised, a bite, blood spillage, blood transfusion, using medical equipment that was not adequately sterilised, or perinatal risk). Accordingly, most deaths caused by Hepatitis C occur in people with a history of injecting drug use.
- HIV - using a needle or syringe that has already been used by someone who is infected is one of the two main ways to become infected, the other being unprotected sexual intercourse with an infected person. Therefore, only a proportion of deaths caused by HIV will be due to drug misuse.

B13. The final part of [Table Z](#) shows the number of volatile substance abuse deaths in Scotland. Two sets of figures are provided, the first of which has not been updated for many years. It used to be produced and published by the International Centre for Drug Policy (ICDP) at St George’s, University of London. A few deaths per year could be counted as both ‘drug-related’ and ‘volatile substance abuse’ (for example if the cause was ‘combined toxic effects of methadone and butane’). ICDP produced its figures for Scotland using information from NRS, the Crown Office and Procurator Fiscal Service, and other sources. More details of the figures that ICDP used to produce are given in its Volatile Substance Abuse Mortality Report, available via the [news and publication](#) section of the St George’s website.

B14. The second set of statistics of volatile substance abuse deaths was produced by NRS, on the basis which was used for an ONS publication which had figures for the whole of Great Britain. Again, some deaths may be counted as both ‘drug-related’ and ‘volatile substance abuse’. More information about these figures is given in material which is part of the [Deaths section of the NRS website](#).

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 E: So-called 'New Psychoactive Substances'

- E1 The term 'New Psychoactive Substances' (NPSs) is meant to cover the kinds of substances that people have, in recent years, begun to use for intoxicating purposes. In general, when an NPS first became available, it would not have been a controlled substance under the Misuse of Drugs Act 1971. Some NPSs may still not be controlled under that Act: if so, they will be covered by the Psychoactive Substances Act, which came into force on 26 May 2016. The definition of NPSs therefore includes substances which some people have described as 'legal highs' (by which is meant substances which were legally available at the time of the death, whether or not they have since become controlled under the Misuse of Drugs Act or become subject to the Psychoactive Substances Act).
- E2 [Tables NPS1](#) to [NPS3](#) show the numbers of deaths involving NPSs. The main points from those figures are set out in paragraph E8 onwards, but first we must say something about the kinds of statistics that are available and which drugs are counted as NPSs. The tables distinguish between deaths for which NPSs:
- were implicated in, or potentially contributed to the death; and
 - were present but not considered to have contributed to the death.

In each case, the figures are sub-divided into:

- deaths which fall within the definition of 'drug-related deaths' that is used to produce the statistics that are given in the main body of this report (whether because the NPS was controlled at the time, or because the person had also used a controlled substance, like heroin or methadone); and
- deaths not counted in the statistics in the main body of this report (for example cases where the deceased person appears to have used only an NPS that was not controlled at that time).

In addition, the figures under (a) are further sub-divided, in order to show the extent to which deaths appear to have been due to the use of one (or more) NPSs alone or due to the use of combination of them and other types of substance.

- E3 Deaths involving a particular substance may be counted in different ways at different times, because the classification of that substance may have changed. For example, mephedrone is an NPS. It was a 'legal high' until 15 April 2010, because it was not a controlled substance until it became a Class B drug with effect from 00.01 hours on 16 April 2010. Therefore, a death which was due solely to mephedrone, with no other substance found to be present in the body, would be counted as follows:
- if it occurred up to 15 April 2010, it would not be included in this publication's statistics of drug-related deaths, because the death did not involve any substance that was controlled at the time of the death. However, it would be counted in the figures for deaths involving NPSs (for example, in the first line of part (a) (ii) of [Table NPS2](#)).
 - if it occurred after 15 April 2010, it would be included in this publication's statistics of drug-related deaths, because the death involved a substance that was controlled at the time of death. It would also be counted in the figures for deaths involving NPSs (for example, in the first line of part (a) (i) of [Table NPS2](#)).

Note: National Records of Scotland (NRS) uses the date of death to determine how to count a drug because the information that NRS has does not include when the person used the drug.

- E4. The next three paragraphs list the NPSs which are counted for the purpose of statistics of deaths registered in Scotland up to the end of 2019, distinguishing between:

- NPSs which were already controlled substances at the start of 2009 (as that was the first year in which deaths involving NPSs were registered in Scotland);
- NPSs which became controlled substances between the start of 2009 and the end of 2019 (that is, ones whose classification changed during the period covered by these figures for deaths involving NPSs); and
- NPSs which were not controlled substances at the end of 2019 (some of which may have since become controlled substances).

Please note two points.

- First, these are not comprehensive lists of NPSs: they cover only the NPSs which were involved in deaths which were registered in Scotland by the end of 2019. (They do not include a few other NPSs whose names are in the look-up table that NRS uses to identify the types of substance that are involved in drug-related deaths.)
- Second, these lists may contain an occasional error. Sometimes, a Home Office circular about substances which will become controlled from a particular date describes them in chemical terms (e.g. "... replacement of the indole ring with indane, indene, indazole, pyrrole, pyrazole ...") rather than giving specific substance names. In such cases, it is unfortunately very easy for someone who does not know about chemical structures to fail to realise that a particular substance has become controlled. NRS seeks expert advice on these matters, but unfortunately that does not guarantee absolute accuracy. For example, in the "... in 2018" edition, paragraph E7 wrongly described AB-FUBINACA and 5F-MDMB-PINACA as not having become controlled by the end of 2018. Fortunately, the effect of such errors on the figures is likely to be very slight, for two reasons: first, such substances are involved in few deaths; second, those deaths may well still be counted correctly as "drug-related", if other controlled substances were also involved.

E5 The following NPSs were already controlled substances at the start of 2009:

- acetyl fentanyl
- PMA / paramethoxyamphetamine
- PMMA / paramethoxymethamphetamine

A death due solely to one of these drugs would be counted in this publication's statistics of drug-related deaths. It would also be counted in the figures for deaths involving NPSs.

E6 The following NPSs became controlled substances between the start of 2009 and the end of 2019 (note: 'TCDO' means Temporary Class Drug Order).

Substance	Controlled with effect from:
BZP / Benzylpiperazine	23 December 2009
CPP / Chlorophenylpiperazine	23 December 2009
TFMPP / Trifluoromethylphenylpiperazine	23 December 2009
Chloromethcathinone	16 April 2010
MDPV / Methylenedioxypropylvalerone	16 April 2010
Mephedrone / 4-Methylmethcathinone	16 April 2010
4-MEC / Methylethcathinone	16 April 2010
Methylone	16 April 2010
PVP	16 April 2010
Naphyrone	23 July 2010
Phenazepam	13 June 2012
3-Methoxyphencyclidine	12 February 2013
APB / 2-aminopropyl-benzofuran/ 5 APB / 6 APB	10 June 2013 (TCDO); 10 June 2014 (Class B drug)
API / 5-API / 5-IT / 5-(2-aminopropyl)indole - APB	10 June 2013 (TCDO); 10 June 2014 (Class B drug)
AMT / Alphamethyltryptamine	7 January 2015
5-MEO-DALT	7 January 2015
4-4'DMAR	11 March 2015

Ethylphenidate	10 April 2015 (TCDO); 31 May 2017 (Class B drug)
MPA / Methylthienylpropamine / Methiopropamine	27 November 2015 (TCDO) 27 November 2017 (Class B)
AB-FUBINACA	14 December 2016
AKB48	14 December 2016
MDMB-CHMICA	14 December 2016
4F-MDMB-BINACA	14 December 2016
5F-MDMB-PINACA	14 December 2016
5F-PB-22	14 December 2016
Diclazepam	31 May 2017
Etizolam	31 May 2017
Flubromazepam	31 May 2017
Flubromazolam	31 May 2017
Pyrazolam	31 May 2017
4F-EPH / 4-Fluoroethylphenidate	31 May 2017

A death due solely to one of these drugs would not be counted in this publication's statistics of drug-related deaths if it occurred before the relevant date, because it would not have involved a drug that was controlled at the time. However, it would be counted in the figures for deaths involving NPSs.

A death due solely to one of these drugs would be counted in this publication's statistics of drug-related deaths if the person died on or after the specified date. It would also be counted in the figures for deaths involving NPSs.

E7 The following are among the NPSs that had not become controlled substances by the end of 2019:

- Camfetamine
- Diphenidine
- Flualprazolam (but see "NB" below)
- Kratom
- Mexedrone
- Mitragynine
- MXP

A death involving only these substances would not be counted in this publication's statistics of drug-related deaths because it would not have involved a drug that was controlled at the time. However, it would be counted in the figures for deaths involving NPSs.

NB: on 8 September 2020, it was announced that flualprazolam, flunitrazolam and norfludiazepam will become controlled as Class C drugs under the Misuse of Drugs Act 1971. However, that does not affect how deaths involving flualprazolam are counted for the purpose of the statistics in this ("in 2019") edition of this publication.

E8 [Table NPS1](#) provides the numbers of deaths involving NPSs which were registered in Scotland in 2019. The figures are broken down as described in paragraph E2, and also by the type(s) of NPS that were involved, distinguishing between cases where:

- benzodiazepine-type NPSs were present, with no other types of NPS present;
- other types of NPS were present, with no benzodiazepine-type NPS present; and
- both benzodiazepine-type NPSs and other types of NPS were present.

The figures in Table NPS1 may be understood better by looking also at Table NPS3, which lists all the substances that were reported to NRS for every death, registered in Scotland in 2019, which involved NPSs (Note: because of its size, this table is not included here. It is available in the publication's Excel spreadsheet of Tables and Figures, which can be found via its [home page](#) on the NRS website.). From Table NPS3, one can find out which NPSs were found in the body in each case, whether the person had taken more than one NPS, and whether other substances (such as heroin, methadone and/or other 'traditional' drugs) were also present.

- E9. The top half of part (i) of [Table NPS1](#) shows that there were 783 deaths in 2019 for which one or more NPSs were implicated in, or potentially contributed to, the cause of death. In 777 cases, the only NPSs present were benzodiazepines (usually etizolam, but sometimes another, such as diclazepam or phenazepam); in three cases, another type of NPS was present; there were three deaths for which both benzodiazepine NPSs and other types of NPS were present. Almost all of these deaths (777 out of 783) fall within the definition of ‘drug-related deaths’ that is used to produce the statistics given in the main body of this report – that is, 777 out of 783 are included in the 1,264 drug-related deaths that were registered in 2019. In only a small proportion of cases (9 out of 783) were NPSs the only substances that were implicated in the death. This can be seen from part (i) of [Table NPS3](#): its lists of the substances which were reported for each death show that, in most cases, ‘traditional’ drugs (such as heroin, morphine and methadone) were also implicated in these deaths.
- E10. The lower half of part (i) of [Table NPS1](#) provides a breakdown of the 783 deaths (in which one or more NPSs were implicated in, or potentially contributed to, the cause of death) by the deceased’s person’s age (for example, there were 129 aged 25-34, 310 in the 35-44 age-group, and 253 who were 45-54) and sex (565 were men).
- E11. Part (ii) of [Table NPS1](#) shows that there were 19 deaths in 2019 for which NPSs were present but were not considered to have contributed to the death. In all cases the only NPSs present were benzodiazepines; and all of the deaths were counted in the statistics in the main body of this report – that is, all 19 are included in the 1,264 drug-related deaths that were registered in 2019. The table shows that most of these deaths were of people who were aged 35-44 (seven) or 45-54 (seven), and most were men (12). In [Table NPS3](#), part (ii) lists the substances which were reported for such deaths: it shows that ‘traditional’ drugs (such as heroin, morphine and methadone) were usually implicated in these deaths.
- E12. [Table NPS2](#) provides a summary of the numbers of deaths which have involved NPSs in recent years. As far as NRS knows, the first Scottish deaths involving NPSs were registered in 2009. Of course, it is possible that NPSs were involved in some deaths in Scotland in earlier years, but their presence was not identified (for example, perhaps because other drugs were found, and it appeared to the investigators that those other drugs had caused the deaths) - but all the data can tell us is that none of the deaths that were registered in Scotland in 2008 or earlier years were reported to involve NPSs.
- E13. The number of deaths involving NPSs at first increased rapidly, from 4 in 2009 to 113 in 2013, was almost unchanged in 2014 and 2015, then more than trebled to 345 in 2016, rose slightly to 363 in 2017, increased markedly to 588 in 2018 and reached 802 in 2019. The sub-totals at the foot of [Table NPS2](#) show that this report's statistics of drug-related deaths for each year include almost all the deaths which involved NPSs (for example, 3 out of 4 such deaths in 2009, 45 out of 47 in 2012, 108 out of 112 in 2015, 585 out of 588 in 2018, and 796 out of 802 in 2019).
- E14. [Table NPS2](#) also shows that deaths for which NPSs were the only substances implicated in, or potentially contributing to, the death, generally represented only a small proportion of deaths which involved NPSs. Examples of the relevant numbers are 0 out of 4 in 2009, 5 out of 47 in 2012, 3 out of 112 in 2015, 9 out of 588 in 2018, and 9 out of 802 in 2019. There was a large proportion in only one year, 2010, when it was 7 out of 11 (for several of those deaths, mephedrone was the only substance that was implicated in the death).

Annex F: A consistent series of drug-related death numbers, based on the classification at the end of the latest year covered by the publication

- F1. The standard (Drugs Strategy 'baseline') definition of a drug-related death that National Records of Scotland (NRS) uses for its statistics is set out in Section A2 of Annex A. Simplifying slightly, NRS counts a death as 'drug-related' if:
- either (a) the underlying cause of death was coded to one of certain specified categories of mental and behavioural disorders due to psychoactive substance use
 - or (b) the underlying cause was coded to one of certain specified categories of poisoning (or self-poisoning) and a drug listed under the Misuse of Drugs Act (1971) was known to be present in the body at the time of death.
- F2. Following the definition, a note in Section A5 adds that:
- If a drug's legal status changes, NRS aims to count it on the basis of its classification on the day the person died ... For example, mephedrone was banned under the Misuse of Drugs Act with effect from 00.01 on 16 April 2010. Therefore, if mephedrone was the only drug found to be present in the body, a death coded to one of the categories listed under (b) would not be counted in NRS's implementation of the Drugs Strategy 'baseline' definition if it occurred before 16 April 2010. (Other notes explain why a few deaths in the specified categories are excluded.)
- F3. As the 'mephedrone' example indicates, the requirement that a drug listed under the Misuse of Drugs Act must be present for a death to be counted as drug-related (under part [b] of the standard definition) means that whether NRS will count as drug-related a death from poisoning by a drug which is now controlled depends on when the death occurred: pre- or post-control. So the 'coverage' of NRS's standard definition 'widens' every time another drug is added to the list of controlled substances, because all subsequent deaths from poisoning by that drug will be counted as drug-related. In theory, this could cause a break in the continuity of NRS's figures for drug-related deaths (using the standard [Drugs Strategy 'baseline'] definition) every time that another drug becomes controlled.
- F4. In practice, changes in the classification of drugs that occurred in the years up to and including 2013 had little effect on the figures: in that period, almost all the deaths which involved substances that were uncontrolled then, but are now controlled, also involved drugs that were already controlled, and so were counted as drug-related (in terms of the standard [Drugs Strategy 'baseline'] definition). For example, the foot of Table NPS2 (in the '... in 2013' edition of this publication) showed that almost all the deaths which involved New Psychoactive Substances (as defined for the purposes of that publication) were included in NRS's standard figures for drug-related deaths (in total, over the five years from 2009 to 2013, only 11 'NPS' deaths were not included in the standard figures). This is because (for example) there were few 'mephedrone only' deaths before it was controlled; any deaths from (say) 'mephedrone and diazepam intoxication' were counted as drug-related because (say) diazepam was present.
- F5. However, changes in the classification of drugs that occurred in 2014 could have caused a noticeable break in the continuity of NRS's figures (based on the standard definition). Tramadol became a controlled substance with effect from 10 June 2014, along with some other substances. In 2013, there were over two dozen 'poisoning' deaths which involved only tramadol, or only tramadol and one or more other substances which were not controlled at that time. Using NRS's standard (Drugs Strategy 'baseline') definition, such deaths (and those like them in the first part of 2014) are not counted as drug-related, but their equivalents from 10 June 2014 are counted as drug-related. So tramadol being controlled with effect from 10 June 2014 could have increased the number of deaths in 2014 counted as drug-related by a few percent (compared to what would have happened

without that change), and there could, in due course, have been a similar effect on the figure for 2015 (because that was the first year for which tramadol was controlled throughout). It follows that NRS's standard figures could give a misleading impression of changes and any trends in drug-related deaths between 2013 and 2014, and between 2014 and 2015.

- F6. Therefore, in order to give more accurate indications of changes and trends, NRS developed a 'consistent series' of numbers of drug-related deaths in previous years, which is based upon the classification of each substance at the end of the latest year covered by the publication. This 'consistent series' includes all the deaths involving tramadol, mephedrone and the other substances which have become controlled in recent years, regardless of their status at the time of death. It should show changes and trends which would be unaffected by the reclassification of substances. The consistent series goes back to 2000, as that is the first year of NRS's current drug-related deaths database.
- F7. For simplicity, the consistent series is based on the classification of drugs at the end of the latest year covered by the publication (rather than, say, at the time the publication was prepared), so it does not take account of any reclassifications after the final year for which the publication gives figures. The basis of the consistent series was therefore 'as at 31 December 2014' for the 'in 2014' edition, 'as at 31 December 2015' for the 'in 2015' edition, 'as at 31 December 2016' for the 'in 2016' edition, and so on. In consequence, the consistent series' figures for previous years may be revised retrospectively every year, following more substances becoming controlled, if those substances had been involved in deaths (registered in earlier years) which had not been counted in the consistent series before because none of the substances involved were controlled at the end of the previous year.
- F8. The consistent series appears in Table 1 in order to show the underlying trends for Scotland (comments on those figures can be found in Section 3.1). In addition, Tables CS1 and CS2 provide the consistent series' numbers of 'extra' deaths in each year (i.e. the deaths which have been added retrospectively to the numbers that were originally produced using the standard [Drugs Strategy 'baseline'] definition), broken down by the names of the relevant drugs (i.e. the drugs for which the change in classification has caused deaths which were not counted as drug-related at the time to be included in the consistent series) and by sex and age-group. Finally, the numbers of 'extra' deaths counted in the consistent series for NHS Board areas appear in Table HB1, in order to show their scale (comments on those figures can be found in Section 4). The consistent series and the numbers of 'extra' deaths do not appear in any other tables, because a proliferation of additional figures could cause confusion – especially as the consistent series figures may, in theory, be revised every year (for the reason given in the previous paragraph).
- F9. [Table CS1](#) shows how the number of 'extra' deaths, based on the classification of drugs at the end of the latest year covered by this edition, varied from year to year. It should be noted that the total number of 'extra' deaths could be less than the sum of the figures for the individual drugs, due to deaths which involved more than one of the drugs. For example, a death in (say) 2013 for which the cause was given as 'tramadol and zopiclone intoxication' would be counted in the figures for both of those drugs, but only once in the total number of 'extra' deaths.
- F10. The number of 'extra' deaths for 2014 (10) is not on the same basis as the figure for 2013 (32), because the figure for 2014 includes (e.g.) 'tramadol only' deaths only for the period up to 9 June 2014 whereas the figure for 2013 includes such deaths for the whole of the year. 'Tramadol only' deaths in the rest of 2014 are included in the standard (Drugs Strategy 'baseline') definition (and are therefore not counted as 'extra' deaths) because tramadol became a controlled substance with effect from 10 June 2014.

- F11. The fact that the consistent series has only 10 'extra' deaths for 2014 indicates that the drug classification changes in 2014 (and later years) had slightly less effect on the figures than one would have expected from the previous years' numbers of (e.g.) 'tramadol only' deaths. With between 25 and 32 'extra' deaths (involving any of the substances) in each of the previous five years, one would have expected a dozen or so between 1 January and 9 June 2014 (assuming that, say, 'tramadol only' deaths continued at the same rate, a dozen or so would be the 'pro rata' number for the part of 2014 for which they would not be counted in the standard definition). However, as it turned out, 1 January to 9 June 2014 had few (e.g.) 'tramadol only' deaths, so the consistent series has only 10 'extra' deaths for 2014. (It will be seen from [Table Y](#) that tramadol was implicated in, or potentially contributed to, the cause of 38 deaths in 2014: markedly fewer than the 64 in 2013. Note: these figures cover both 'tramadol only' deaths and those for which tramadol and one or more other drugs were implicated in, or potentially contributed to, the cause of death.)
- F12. The table shows that, for most of the years from 2000 to 2014, most of the 'extra' deaths involved tramadol. There were also several involving zopiclone (which has also been controlled from 10 June 2014) or gabapentin or pregabalin. The latter two drugs, which became controlled under the Misuse of Drugs Act with effect from 1 April 2019, were involved in most of the 'extra' deaths for the years from 2015 to 2019. The table also shows that a few of the 'extra' deaths for some years involved other substances, not controlled at the time, which were controlled by the end of the period covered by this edition, for example: mephedrone (with none after 2010, because it has been controlled from 16 April 2010); phenazepam (controlled from 13 June 2012); and etizolam (controlled from 31 May 2017). Some other drugs were involved in 'extra' deaths, but they do not appear individually in the table because each had very few 'extra' deaths.
- F13. It can be seen, from [Table CS2](#) that women tend to account for a higher proportion of the 'extra' deaths than females do of the deaths which are counted in the standard (Drugs Strategy 'baseline') definition: in some years, there were more 'extra' deaths of women than of men. The table also shows the number of 'extra' deaths in each of five age-groups: in some of the years, this has tended to be highest for the '55 and over' age-group (in contrast to the standard figures for drug-related deaths, which are much higher for '25-34', '35-44' and '45-54' than for '55 and over' – see Table 4).
- F14. The "in 2018" edition of this publication reported that NRS data for the years 2000 to 2013 combined (which do not appear in a table) showed that the vast majority of the 'extra' deaths which involved tramadol were of people who were aged 35 and over, and that, of all the age-groups, 55+ was the one which had the largest number (around a third) of the 'extra' deaths which involved tramadol. This was the case for both males and females. The position was broadly similar for the 'extra' deaths which involved zopiclone. At that time, the numbers of extra deaths involving other substances were too small for such analysis. Little more can be said, following gabapentin and pregabalin becoming controlled under the Misuse of Drugs Act with effect from 1 April 2019. They were involved in totals of 27 (gabapentin) and 15 (pregabalin) 'extra' deaths for the years from 2000 to 2019: numbers which are too small for detailed analysis (in comparison, zopiclone was involved in 46 'extra' deaths, and tramadol in 170, over the same period).

Annex G: Drug-related Deaths – comparison with other countries

- G1. This Annex uses figures for the latest year (at the time of writing) for which other countries' statistics were available from a European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) report. It explains that Scotland's drug-related death figures imply a drug-death rate (relative to the number of people aged 15 to 64, inclusive) which is higher than those that have been reported by all the EU countries (although the EMCDDA warns that caution is required when comparing different countries' drug-death figures due to issues of coding, coverage and under-reporting in some countries). This Annex concludes by using more up-to-date data to show that the normally-published figures for Scotland imply a drug-death rate (relative to the size of the population of all ages) approximately 3½ times that of the UK as a whole.
- G2. When using the EMCDDA's figures for other countries, it must be remembered that the EMCDDA stated that
difference in the national practices of coding the causes of deaths implies that direct comparisons between countries in the numbers or rates of DRDs should be made with caution
(in the 'Limitations' section of its note on the ['Methods and Definitions'](#) used for the Statistical Bulletin which it published on 6 June 2019, which is available on the EMCDDA's website).
- G3. That note gives some examples of differences between countries, such as (Note: the points in square brackets have been added by NRS):
- ... differences in which codes are applied. In particular, in some countries 'T' codes [which, for deaths from poisoning, identify the types of substances that were involved] are never or rarely used, whereas in others they are more frequently used. Where 'T' codes are not applied, the number of drug-induced deaths [refer to paragraph G5] would be an underestimate;
 - ... differences between countries in procedures for recording cases, and in the frequency of post-mortem toxicological investigations; and
 - information exchange between General Mortality Registers [GMRs, such as NRS] and Special Registers (forensic or police) is insufficient or lacking in some countries, which may compromise the completeness of the information.
- G4. It has been suggested that better identification and recording of such deaths may be a reason for the drug-death rate appearing to be higher in the UK (and, hence, Scotland) than in several other countries. For example:
- NRS normally allocates a 'T' code for every substance that was reported as being present in the deceased's body - so there should be very little (if any) under-estimation in the figures for Scotland. NRS understands that the UK's other GMRs also make good use of 'T' codes, so the UK's figures should not be underestimates;
 - Scotland has a good exchange of information, as forensic pathologists provide NRS with details of many drug-deaths (using the form which is shown in Annex D) - so the data for Scotland should be more-or-less complete. NRS understands that the UK's other GMRs are usually told, by coroners, which drugs caused each death, so (again) the UK's figures should not be underestimates.
- G5. Table EMCDDA gives the number of 'drug-induced' deaths aged 15 to 64 inclusive, and the resulting rate per million population of that age, for various countries. These numbers were copied from Table A6 of the latest ['European Drug Report'](#), available on the EMCDDA website. 'Drug-induced deaths' is the EMCDDA's term for deaths directly caused by illegal drugs, which it defines in terms of particular codes for the underlying causes of death, in some cases in combination with certain codes for the types of substance involved. The EU countries are listed in order of the native language versions of their names - for example, Germany appears between Denmark and Estonia; and

Austria is between Netherlands and Poland. The table indicates that 2018 is the latest year for which drug-death statistics are available, but some countries' data are for earlier years, and UK Focal Point on Drugs (which supplies the EMCDDA with the statistics for the UK) has confirmed that the UK's figure in the EMCDDA's Table A6 is (broadly speaking) the number of such deaths which occurred in 2017. (The Scottish component of the UK figure is the number of such deaths that were registered in Scotland in that year. Because deaths in Scotland are normally registered within a few days, the number that were registered in Scotland in any given year will be similar to the number that occurred in Scotland in that year.) On this occasion, the EMCDDA's table has a footnote saying that, for the UK, "drug-induced deaths data do not include Northern Ireland". UK Focal Point on Drugs has confirmed that that is the case: on this occasion, the UK figures cover only Great Britain rather than the UK as a whole.

G6. The corresponding figures for Scotland for 2017 have been added at the foot of the table. They were produced as follows:

- 813 drug-induced deaths (using the EMCDDA definition) aged 15 to 64 inclusive were registered in that year – extracted from NRS's drug-related deaths database. This is slightly fewer than the 828 deaths on the basis of the EMCDDA 'general mortality register' definition (shown in Table X), because the latter figure includes deaths at ages 0-14 and 65+;
- the drug-induced death rate (aged 15-64) per million population was then calculated by dividing the 813 drug-induced deaths aged 15-64 by the corresponding mid-year population estimate, of 3,548,079.

The resulting drug-induced death rate (aged 15-64) for Scotland is 229 per million population. This appears to be higher than for any of the countries shown in the EMCDDA table. The next highest rate is for Sweden (81 per million). Scotland's drug-induced death rate is much higher than the "UK" one (76 per million) – so, for 2017, the Scottish figure was about three times that of the UK as a whole. (However, it should be noted that the Scottish drug-death rate is approximately 3½ times that of the UK as a whole, when calculated from more up-to-date data which are on a different basis [the numbers of drug-related / 'drug misuse' deaths, of all ages, that were registered in 2018 and 2019], as is shown in paragraphs G9 and G10, below.)

G7. The same approach has been used to produce the equivalent figures for Scotland for two further years, which also appear in the table:

- 2018, the year for which there are figures for most of the other countries that are shown in the EMCDDA's table; and
- 2019, the most recent year for which figures for Scotland can be produced (which are more up-to-date than the EMCDDA's data for any country).

G8. It must be remembered that the figures for some countries may not be truly comparable with those for Scotland (or the UK as a whole), for reasons like those given in paragraphs G2 to G4. Page 79 of the EMCDDA's report includes the following statement:

Overdose data ... must be interpreted with caution. Among the reasons for this are systematic under-reporting in some countries, differences in the ways toxicological examinations are conducted and registration processes that can result in reporting delays.

Because some countries' figures may be affected by (say) under-reporting, one cannot say that Scotland has a drug-induced death rate (aged 15-64) which is definitely 'X' times the level for the EU as a whole, or higher than that of exactly 'Y' EU countries. However, it appears certain that Scotland's rate is well above the level of most (if not all) of the EU countries.

G9. Scotland's drug-related death rate is also seen to be much higher than that of the UK as a whole when the comparison uses the kind of drug-death figures that are normally published for Scotland, England and Wales, and Northern Ireland. As an example, in

terms of the definition that is used for most of the statistics in this report (that introduced in 2001 for the 'baseline' figures for the UK Drugs Strategy), the following numbers of drug-related deaths (of all ages – not just of 15-64 year olds) were registered in 2018 (at the time of writing, the latest year for which figures have been published for all of the UK):

- 1,187 in Scotland – the 'standard definition' figure in Table 1;
- 2,917 in England and Wales – 'drug misuse' deaths (that being ONS's term for the number of deaths based on the 'Drug Strategy' definition) – more information can be found via the [deaths related to drug poisoning in England and Wales statistical bulletins](#) page of the ONS website; and
- 161 in Northern Ireland – also referred to as 'drug misuse' deaths – more information can be found in the [Drug Related and Drug Misuse Deaths 2008-2018](#) section of the NISRA website.

So, the UK had a total of 4,265 drug-related/'misuse' deaths (of all ages) registered in 2018. Scotland's drug-death rate (per head of population) was 3.4 times that of the UK as a whole. The calculations (using those figures for all ages) are:

- Scotland:
 - 1,187 drug-related deaths registered in 2018;
 - population of 5,438,100 at mid-2018;
 - hence 218 drug-related deaths per million population in 2018 (or, to two decimal places, 218.27 per million);
- UK as a whole:
 - 4,265 drug-related/'misuse' deaths registered in 2018;
 - population of 66,435,600 at mid-2018;
 - hence 64 drug-related/'misuse' deaths per million population in 2018 (or, to two decimal places, 64.20 per million);
- so the Scottish figure of 218 per million is 3.4 times the figure for the UK as a whole of 64 per million (as 218.27 is 3.40 times 64.20).

G10. A similar calculation can be performed for 2019. As figures for Northern Ireland for 2019 had not been published at the time of writing, NRS assumed that they will be the same as in 2018 in order to estimate the number and rate for the UK as a whole for 2019. Such estimates should have, at worst, only very small percentage margins of error, because Northern Ireland accounted for only 3-4% of drug-deaths in the UK in 2016, 2017 and 2018. The numbers of drug-related deaths (of all ages) were as follows:

- 1,264 in Scotland – the 'standard definition' figure in Table 1;
- 2,883 in England and Wales – 'drug misuse' deaths (as explained above); and
- NRS assumes 161 in Northern Ireland (as explained above).

So, the UK had a total of about 4,308 drug-related/'misuse' deaths (of all ages) registered in 2019. Scotland's drug-death rate (per head of population) was almost 3.6 times that of the UK as a whole. The calculations (using those figures for all ages) are:

- Scotland:
 - 1,264 drug-related deaths registered in 2019;
 - population of 5,463,300 at mid-2019;
 - hence 231 drug-related deaths per million population (231.36 to two decimal places);
- UK as a whole:
 - 4,308 drug-related/'misuse' deaths registered in 2019;
 - population of 66,796,807 at mid-2019;
 - hence 64 drug-related/'misuse' deaths per million population (64.49 to two decimal places);

so the Scottish figure of 231 per million is almost 3.6 times the figure for the UK as a whole of 64 per million (as 231.36 is 3.59 times 64.49).

G11. It should be noted that how information about drug-related/'misuse' deaths is collected differs between Scotland and other parts of the UK. In particular:

- in England and Wales, almost all drug-related deaths are certified by a coroner following an inquest, and cannot be registered until that is completed. As a result, about half of their drug-related deaths registered in (say) 2015 occurred in a previous year – more information can be found in the sections of the ONS publications on the effect of registration delays on the statistics. Very crudely, the England and Wales figures for (say) 2015 can be thought of as representing the deaths which occurred between (say) mid-2014 and mid-2015, so are less ‘up to date’ than Scottish figures for 2015, which can be thought of as representing the deaths which occurred in the whole of that year (as almost all Scottish deaths are registered within a few days of occurring);
- there is no English equivalent of the form (shown in Annex D) which is used by forensic pathologists in Scotland to provide details of deaths to NRS.
 - The UK’s other GMRs are usually told, by coroners, which drugs caused each death, but not about all the substances that were found in the body. It follows that some deaths could (in theory) be counted differently in, say, Scotland and England. For example, a death from intentional self-poisoning by an uncontrolled substance would be counted in Scotland (but not in England) if a controlled substance was present in the body but was not believed to have contributed to the death (because the presence of the controlled substance would not be recorded in the data for England)
 - NRS is more likely than ONS to be told which drugs caused a death. In Spring 2017, ONS said that:
 - in around 1 in 8 cases, it receives only a very generic description of the death, such as ‘drug overdose’ or ‘drug-related death’. In contrast, Scotland had only about 8 drug-deaths per year (on average, from 2008 to 2015) for which NRS was not told which drugs caused them.
 - in around 10% of opiate deaths, ONS is not told which opiate was involved. In contrast, Scotland had an average of only about 4 drug-deaths per year caused by opiates (possibly in combination with other substances) for which NRS was not told which particular opiates were involved.

Such differences may affect the comparability of drug-death rates for Scotland and the UK as a whole, but are unlikely to account for the majority of the difference between those rates. For example:

- if the numbers of drug-related deaths were rising at 10% per year, their being registered (on average) six months earlier in Scotland than in England would increase the Scottish drug-death rate by only 5% (relative to the English one), all else being equal (because one would be comparing the Scottish number of deaths which occurred, broadly speaking, in [say] 2015 with the English number of deaths which occurred, broadly speaking, between [say] mid-2014 and mid-2015 – a period when drug-death rates were lower).
- on average, Scotland had only around 3 deaths per year from intentional self-poisoning by an uncontrolled substance for which a controlled substance was present in the body but was not believed to have contributed to the death. Such deaths are included in the drug-related death figures for Scotland, but not England – but are too few to have much effect on the comparability of drug-death rates.
- ‘drug overdose’ and ‘opiate’ deaths in England are counted as drug-related/‘misuse’ deaths, so the lack of information about which drugs were involved does not affect the comparability of the overall drug-death rates. (However, it could have a noticeable effect on any comparison of figures for deaths which were caused by particular drugs, of course.)

It follows that the Scottish rate could well be at least three times that of the UK as a whole even if there were no methodological differences.

Annex H: ‘Prescribable’ and ‘street’ benzodiazepines

- H1. In 2019, when preparing statistics for the Chief Medical Officer’s Annual Report, the Information Services Division (ISD) of NHS National Services Scotland, which is now part of Public Health Scotland (PHS), proposed a distinction between ‘prescribable’ and ‘street’ benzodiazepines. The two categories are defined as follows:
- ‘Prescribable benzodiazepines’ are benzodiazepines (or metabolites thereof) which are licensed for prescription in the UK and widely prescribed in Scotland (but which may not actually have been prescribed to the person who died after taking them); and
 - ‘Street benzodiazepines’ are benzodiazepines (or metabolites thereof) which are:
 - a) not licensed for prescription in the UK; or
 - b) thought to have originated from an illicit source (due to their having very low overall levels of prescribing in Scotland).
- H2. In this publication, the distinction between ‘prescribable’ and ‘street’ benzodiazepines is as specified annually by PHS, taking into account expert advice from pharmacists and toxicologists. National Records of Scotland (NRS) and PHS have agreed that, for the purposes of NRS’s statistics of drug-related deaths, NRS will count each benzodiazepine on the basis of how PHS would categorise it for the purpose of statistics for the latest year. So a drug’s categorisation could change: it might be counted as ‘street’ in the figures that NRS produces in one year, and as ‘prescribable’ in another year. To avoid confusion, specific drugs will not be counted in one category up to a certain date, and in another category thereafter. Any substances which have been recategorised will be identified in future editions of this publication, and users of the statistics will be able to see the effect of any such recategorisations by comparing the original figures for the earlier years and the revised figures for those years that are published later.
- H3. ISD (now PHS) was happy to classify most benzodiazepines as ‘prescribable’ or ‘street’ on the basis of information from its Prescribing Information System database. However, lorazepam was an exception. It is both a prescription drug and a metabolite of diclazepam (that is, lorazepam may be produced by the body metabolising diclazepam). Delorazepam and lormetazepam are also metabolites of diclazepam. Therefore, NRS was advised that:
- if none of diclazepam, delorazepam or lormetazepam was present in the body, NRS should assume that the lorazepam had been taken as a drug in its own right (or had been administered as an emergency treatment for an MDMA overdose) - so it should be counted as ‘prescribable’; and
 - if one or more of diclazepam, delorazepam and lormetazepam was also present in the body, NRS should assume that the lorazepam had been produced by the body metabolising diclazepam (rather than being taken as a drug in its own right) - so it should be counted as ‘street’.
- H4. The following points should be noted about the lists which appear below:
- they cover only the benzodiazepines (and metabolites thereof) which were reported as being present in the body for deaths which were registered in Scotland up to the end of the latest year for which figures appear in this publication;
 - the lists do not include brand names (such as valium), as pathologists should use generic names (such as diazepam) when reporting which substances were found in the body;
 - a few of the substances which are listed under ‘street’ benzodiazepines (for example, alprazolam) are available on private prescription (or to relatively few people on NHS prescription) – PHS has counted such substances as ‘street’ benzodiazepines because it seems likely that the people who died after taking them would have obtained them illicitly;
 - if pathologists report that benzodiazepines were present (without giving the names of any specific substances, such as diazepam or etizolam), NRS assumes that ‘prescribable’ benzodiazepines were present;

- lorazepam does not appear in the lists because it is counted as 'prescribable' if it is assumed to have been taken (or administered) as a drug in its own right, and as 'street' if it is assumed to have been produced by the body metabolising diclazepam.

H5. 'Prescribable' benzodiazepines (and metabolites): as classified by PHS in Autumn 2020

Chlordiazepoxide
Clobazam
Clonazepam
Desmethyldiazepam
Diazepam
Loprazolam
Midazolam
Nitrazepam
Nordiazepam
Oxazepam
Temazepam
7-aminoclonazepam

H6. 'Street' benzodiazepines (and metabolites): as classified by PHS in Autumn 2020

Alprazolam
Bromazepam
Cloxazolam
Delorazepam
Diclazepam
Etizolam
Flualprazolam
Flubromazepam
Flubromazolam
Flunitrazepam
Lormetazepam
Phenazepam
Pyrazolam

Table 1: Drug-related deaths in Scotland, 1996 – 2019

Year	Drug-related deaths registered in year	Annual moving averages		Likely range of values around 5-year average ¹		Drug-related deaths: consistent series ²	Extra' deaths counted in consistent series ³	
		3-year average	5-year average	likely lower	likely upper		number	percent ⁴
1996	244							
1997	224	239						
1998	249	255	260	228	292			
1999	291	277	278	245	310			
2000	292	305	309	275	344	293	1	0.3%
2001	332	335	323	288	358	339	7	2.1%
2002	382	344	336	300	372	388	6	1.6%
2003	317	352	345	308	381	330	13	4.1%
2004	356	336	362	325	400	365	9	2.5%
2005	336	371	377	339	415	346	10	3.0%
2006	421	404	428	388	469	430	9	2.1%
2007	455	483	466	424	509	474	19	4.2%
2008	574	525	496	452	540	591	17	3.0%
2009	545	535	529	484	574	570	25	4.6%
2010	485	538	554	508	600	512	27	5.6%
2011	584	550	544	499	590	609	25	4.3%
2012	581	564	558	512	605	606	25	4.3%
2013	527	574	602	554	651	559	32	6.1%
2014	614	616	659	609	710	624	10	1.6%
2015	706	729	730	677	783	710	4	0.6%
2016	868	836	862	804	919	873	5	0.6%
2017	934	996	992	930	1054	937	3	0.3%
2018	1,187	1128				1,196	9	0.8%
2019	1,264					1,266	2	0.2%

Footnotes

- 1) More information can be found in paragraph 3.1.2 of the commentary.
- 2) Broadly speaking, counting deaths on the basis of the classification of the drugs at the end of the latest year which is covered by the publication (rather than on the standard definition basis of the classification at the time of the death). Refer to Annex F for the full definition. The year 2000 is the first for which a 'consistent series' figure is available, because that is the first year in National Records of Scotland's (NRS) current drug-related deaths database.
- 3) This includes deaths which are counted in the consistent series but are not counted in the standard definition.
- 4) Percentage of the total number of drug-related deaths on the basis of the standard definition.

Table 2: Drug-related deaths by underlying cause of death¹, Scotland, 1996 – 2019

Year	All causes of death	Underlying cause of death (ICD10 codes)				
		Drug abuse (F11-F16, F19)	Accidental poisoning (X40-X44)	Intentional self-poisoning (X60-X64)	Assault by drugs, etc. (X85)	Undetermined intent (Y10-Y14)
annual averages:						
1996-2000	260	189	13	34	0	25
2005-2009	466	307	48	36	0	76
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
2008	574	370	59	34	0	111
2009	545	380	60	34	0	71
2010	485	312	67	28	0	78
old rules - 2011	584	417	56	36	0	75
old rules - 2012	581	381	72	65	0	63
old rules - 2013	527	359	74	50	1	43
old rules - 2014	614	429	109	45	0	31
old rules - 2015	706	495	123	54	0	34
old rules - 2016	868	663	130	48	0	27
old rules - 2017	934	746	111	54	0	23
old rules - 2018	1,187	976	116	59	0	36
old rules - 2019	1,264	969	222	40	0	33
2015-2019 average (old coding rules)	992	770	140	51	0	31
new coding rules						
2011	584	12	346	36	0	190
2012	581	26	365	65	0	125
2013	527	22	366	50	1	88
2014	614	32	471	45	0	66
2015	706	49	553	54	0	50
2016	868	32	730	48	0	58
2017	934	34	807	54	0	39
2018	1,187	45	1,017	59	0	66
2019	1,264	47	1,130	40	0	47
2015-2019 average (new coding rules)	992	41	847	51	0	52

Footnote

1) The coding rules were changed with effect from the start of 2011, as explained in paragraph 2.6 of the commentary. Briefly, 'drug abuse' deaths from 'acute intoxication' were previously counted under 'mental and behavioural disorders due to psychoactive substance use' (unless they were known to be due to intentional self-harm or assault). They are now counted under the appropriate 'poisoning' category. For example, if the cause of death of a known drug abuser was given as 'adverse effects of heroin' (and it was not intentional self-harm or assault), the underlying cause of death would be coded as follows:

(a) up to 2010 - as 'F11 - mental and behavioural disorders due to use of opioids'.

(b) from 2011 - the appropriate 'poisoning' category, such as 'X42 - accidental poisoning by and exposure to narcotics and psychodysleptics (hallucinogens) not elsewhere classified'.

National Records of Scotland has estimated what the figures for 2011 onwards would have been, had the data been coded using the old rules.

Table 3: Drug-related deaths by selected drugs reported¹, Scotland, 1996 – 2019

Year	All drug-related deaths	Heroin / morphine ²	Methadone	Heroin / morphine, Methadone or Buprenorphine	Codeine or a codeine-containing compound	Dihydro-codeine or a d.h.c.-containing compound	Any opiate or opioid	Benzodiazepines				Gabapentin and/or Pregabalin	Cocaine	Ecstasy-type	Amphetamines	Alcohol	
								any benzo-diazepine	of which: "Prescribable" benzo-diazepine ³	of which: Diazepam	of which: any "Street" benzo-diazepine ³						of which: Etizolam
annual averages:																	
1996-2000	260	128	74	..	..	..	..	..	..	116	..	..	..	6	7	..	91
2003-2007	377	229	90	292	19	47	334	128	128	103	0	0	0	38	13	11	129
1996	244	84	100	..	..	..	..	..	..	84	..	..	..	3	9	..	87
1997	224	74	86	..	..	..	..	..	..	93	..	..	..	5	2	..	70
1998	249	121	64	..	..	..	..	..	..	113	..	..	..	4	3	..	86
1999	291	167	63	..	..	..	..	..	..	142	..	..	..	12	8	..	89
2000	292	196	55	232	17	32	263	164	164	146	0	0	0	4	11	3	123
2001	332	216	69	253	9	51	301	182	182	156	0	0	0	19	20	5	140
2002	382	248	98	309	11	55	339	245	245	214	0	0	0	31	20	13	156
2003	317	175	87	239	18	51	285	186	186	153	0	0	0	29	14	10	128
2004	356	225	80	275	25	41	324	140	140	113	0	0	0	38	17	10	116
2005	336	194	72	246	12	49	288	110	110	90	0	0	0	44	10	11	114
2006	421	260	97	328	25	42	366	94	94	78	0	0	0	33	13	11	131
2007	455	289	114	370	15	50	409	109	109	79	0	0	0	47	11	11	157
2008	574	324	169	445	24	67	507	149	148	115	1	0	2	36	5	11	167
2009	545	322	173	432	33	64	498	154	154	116	1	0	2	32	2	6	165
2010	485	254	174	395	11	58	442	122	122	93	0	0	3	33	0	3	127
2011	584	206	275	430	32	85	524	185	172	123	14	0	8	36	8	24	129
2012	581	221	237	399	33	84	499	196	179	160	20	1	25	31	9	18	111
2013	527	221	216	383	33	81	461	149	126	106	40	8	56	45	17	27	103
2014	614	309	214	449	38	69	536	121	92	84	41	34	86	45	14	22	106
2015	706	345	251	493	31	94	606	191	143	121	58	43	131	93	15	17	107
2016	868	473	362	650	43	114	766	426	173	154	303	223	208	123	28	25	112
2017	934	470	439	709	27	97	815	552	234	205	423	299	242	176	27	32	90
2018	1,187	537	560	896	57	133	1,021	792	238	211	675	548	367	273	35	46	156
2019	1,264	645	560	959	55	116	1,092	888	195	179	814	752	438	365	25	51	137
annual averages:																	
2003-2007	377	229	90	292	19	47	334	128	128	103	0	0	0	38	13	11	129
2008-2012	554	265	206	420	27	72	494	161	155	121	7	0	8	34	5	12	140
2015-2019	992	494	434	741	43	111	860	570	197	174	455	373	277	206	26	34	120

Footnotes

1) More than one drug may be reported per death. These are mentions of each drug, and should not be added to give total deaths. Up to 2007, some pathologists reported only those drugs which they thought caused, or contributed to, the death. From 2008, they report separately:

(a) drugs which were implicated in, or which potentially contributed to the cause of death; and

(b) other drugs which were present but which were not considered to have had any direct contribution to the death.

The figures for 2008 onwards are on the first basis - i.e. basis (a) - which became the normal basis for figures for individual drugs with effect from "Drug-related Deaths in Scotland in 2009".

There may be other differences between years and/or areas in the way in which the information was produced - more information can be found in Section 2 of the commentary.

2) More information can be found in paragraph 3.3.1 of the commentary.

3) The distinction between "prescribable" and "street" benzodiazepines is as specified by the Information Services Division (ISD) of NHS National Services Scotland (which is now part of Public Health Scotland) - see Annex H.

Table 4: Drug-related deaths by sex and age, Scotland, 1996 – 2019

Year	Drug-related deaths	Sex		Age-group ¹							Age		
		Male	Female	14 and under	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 and over	Lower quartile	Median	Upper quartile
annual averages:													
1996-2000	260	207	53	83		108	46	12	10		..	..	..
2005-2009	466	372	94	1	74	159	153	57	15	7	..	..	..
1996	244	185	59	86		103	32	13	10		22	28	34
1997	224	179	45	76		89	31	14	14		23	29	35
1998	249	194	55	88		103	37	9	12		23	27	34
1999	291	237	54	94		118	62	10	7		23	28	35
2000	292	239	53	0	73	126	69	16	3	5	25	30	36
2001	332	267	65	1	79	140	70	31	8	4	25	31	38
2002	382	321	61	0	100	153	92	27	7	3	24	30	37
2003	317	256	61	0	78	123	81	20	11	6	25	31	37
2004	356	289	67	0	81	138	92	35	2	8	25	31	38
2005	336	259	77	1	47	104	126	37	11	10	28	36	41
2006	421	334	87	0	69	154	127	54	15	1	27	34	40
2007	455	393	62	0	94	149	149	45	11	7	26	34	41
2008	574	461	113	0	92	211	174	71	17	9	27	34	41
2009	545	413	132	2	69	178	189	78	20	9	28	35	43
2010	485	363	122	0	65	161	158	76	20	5	28	35	43
2011	584	429	155	0	58	184	212	94	26	10	30	37	43
2012	581	416	165	0	46	171	199	115	34	16	31	38	46
2013	527	393	134	0	32	138	184	125	39	9	32	40	47
2014	614	453	161	1	46	157	213	148	37	12	32	40	47
2015	706	484	222	0	30	163	249	183	61	20	34	41	49
2016	868	593	275	0	42	199	327	214	66	20	34	41	47
2017	934	652	282	3	36	185	360	268	64	18	35	41	48
2018	1,187	860	327	1	64	217	442	345	90	28	35	42	49
2019	1,264	877	387	0	76	215	462	394	97	20	35	42	48
2015-2019 average	992	693	299	1	50	196	368	281	76	21	..	..	..

	Males						Females					
	All ages	24 and under	25 - 34	35 - 44	45 - 54	55 and over	All ages	24 and under	25 - 34	35 - 44	45 - 54	55 and over
2005-2009 average	372	59	133	122	43	14	94	15	26	31	14	8
2000	239	58	104	60	12	5	53	15	22	9	4	3
2001	267	65	115	58	24	5	66	15	25	12	7	7
2002	321	85	131	78	21	6	61	15	22	14	6	4
2003	256	65	106	64	11	11	61	13	17	17	9	6
2004	289	72	114	75	24	4	67	9	24	17	11	6
2005	259	36	89	98	26	10	77	12	15	28	11	11
2006	334	61	123	97	40	12	87	8	31	30	14	4
2007	393	80	138	125	39	11	62	14	11	24	6	7
2008	461	68	178	145	56	14	113	24	33	29	15	12
2009	413	52	136	146	56	23	132	19	42	43	22	6
2010	363	49	124	126	50	14	122	16	37	32	26	11
2011	429	47	144	160	59	19	155	11	40	52	35	17
2012	416	33	136	148	72	27	165	13	35	51	43	23
2013	393	28	107	141	87	30	134	4	31	43	38	18
2014	453	37	117	161	110	28	161	10	40	52	38	21
2015	484	24	118	170	122	50	222	6	45	79	61	31
2016	593	25	151	237	132	48	275	17	48	90	82	38
2017	652	31	148	234	192	47	282	8	37	126	76	35
2018	860	57	164	309	256	74	327	8	53	133	89	44
2019	877	58	150	316	282	71	387	18	65	146	112	46
2015-2019 average	693	39	146	253	197	58	299	11	50	115	84	39

Footnote

1) For 2001, 2003 and 2006, there are differences of one or two between the overall total for the year and the sum of the figures for the individual age-groups. This is due to the use of a new database - further information can be found at the end of Annex A.

Table 5: Drug-related deaths by sex, age and underlying cause of death¹, Scotland, 2019

	All causes of death	Underlying cause of death (ICD10 codes)				
		Drug abuse (F11-F16, F19)	Accidental poisoning (X40-X44)	Intentional self-poisoning (X60-X64)	Assault by drugs, etc. (X85)	Undetermined intent (Y10-Y14)
(i) New coding rules						
All deaths	1,264	47	1,130	40	0	47
Males	877	30	799	20	0	28
Females	387	17	331	20	0	19
Under 25	76	6	64	2	0	4
25-34	215	4	199	5	0	7
35-44	462	21	429	6	0	6
45-54	394	15	344	13	0	22
55 and over	117	1	94	14	0	8
Males						
Under 25	58	4	50	2	0	2
25-34	150	3	137	4	0	6
35-44	316	12	299	3	0	2
45-54	282	10	252	6	0	14
55 and over	71	1	61	5	0	4
Females						
Under 25	18	2	14	0	0	2
25-34	65	1	62	1	0	1
35-44	146	9	130	3	0	4
45-54	112	5	92	7	0	8
55 and over	46	0	33	9	0	4
(ii) Old coding rules						
All deaths	1,264	969	222	40	0	33
Males	877	707	134	20	0	16
Females	387	262	88	20	0	17
Under 25	76	59	15	2	0	0
25-34	215	162	44	5	0	4
35-44	462	379	71	6	0	6
45-54	394	304	61	13	0	16
55 and over	117	65	31	14	0	7
Males						
Under 25	58	44	12	2	0	0
25-34	150	114	29	4	0	3
35-44	316	266	45	3	0	2
45-54	282	233	35	6	0	8
55 and over	71	50	13	5	0	3
Females						
Under 25	18	15	3	0	0	0
25-34	65	48	15	1	0	1
35-44	146	113	26	3	0	4
45-54	112	71	26	7	0	8
55 and over	46	15	18	9	0	4

Footnote

1) The coding rules were changed with effect from the start of 2011, as explained in paragraph 2.6 of the commentary. Briefly, 'drug abuse' deaths from 'acute intoxication' were previously counted under 'mental and behavioural disorders due to psychoactive substance use' (unless they were known to be due to intentional self-harm or assault). They are now counted under the appropriate 'poisoning' category. For example, if the cause of death of a known drug abuser was given as 'adverse effects of heroin' (and it was not intentional self-harm or assault), the underlying cause of death would be coded as follows:

(a) up to 2010 - as 'F11 - mental and behavioural disorders due to use of opioids'.

(b) from 2011 - the appropriate 'poisoning' category, such as 'X42 - accidental poisoning by and exposure to narcotics and psychodysleptics (hallucinogens) not elsewhere classified'.

National Records of Scotland has estimated what the figures for the year would have been, had the data been coded using the old rules.

Table 6: Drug-related deaths by sex, age and selected drugs reported¹, Scotland, 2019

All drug-related deaths	Heroin / morphine ²	Methadone	Heroin / morphine, Methadone or Buprenorphine	Codeine or a codeine-containing compound	Dihydro-codeine or a d.h.c.-containing compound	Any opiate or opioid	Benzodiazepines					Gabapentin and/or Pregabalin	Cocaine	Ecstasy-type	Amphetamines	Alcohol	
							any benzodiazepine	of which: any "Prescribable" benzodiazepine ³	of which: Diazepam	of which: any "Street" benzodiazepine ³	of which: Etizolam						
(i) drugs which were implicated in, or which potentially contributed to, the cause of death																	
All deaths	1,264	645	560	959	55	116	1,092	888	195	179	814	752	438	365	25	51	137
Males	877	478	380	690	34	65	767	641	142	132	589	541	297	277	23	29	91
Females	387	167	180	269	21	51	325	247	53	47	225	211	141	88	2	22	46
Under 25	76	29	19	44	1	4	50	46	9	8	42	38	16	29	10	3	8
25-34	215	120	68	163	13	23	186	150	35	32	132	122	65	100	6	11	30
35-44	462	254	237	374	16	29	410	353	80	74	326	299	179	124	5	13	37
45-54	394	198	199	311	15	42	347	280	56	52	262	244	147	98	3	19	43
55 and over	117	44	37	67	10	18	99	59	15	13	52	49	31	14	1	5	19
Males																	
Under 25	58	23	16	36	1	2	40	37	8	7	33	30	12	23	8	0	6
25-34	150	83	39	112	9	14	130	109	27	25	95	87	43	70	6	7	22
35-44	316	189	157	263	11	15	284	247	54	50	231	210	119	89	5	7	25
45-54	282	151	142	231	9	26	253	205	41	39	193	179	106	84	3	10	28
55 and over	71	32	26	48	4	8	60	43	12	11	37	35	17	11	1	5	10
Females																	
Under 25	18	6	3	8	0	2	10	9	1	1	9	8	4	6	2	3	2
25-34	65	37	29	51	4	9	56	41	8	7	37	35	22	30	0	4	8
35-44	146	65	80	111	5	14	126	106	26	24	95	89	60	35	0	6	12
45-54	112	47	57	80	6	16	94	75	15	13	69	65	41	14	0	9	15
55 and over	46	12	11	19	6	10	39	16	3	2	15	14	14	3	0	0	9
(ii) all drugs which were found to be present in the body																	
All deaths	1,264	672	578	984	107	169	1,134	1,008	412	377	842	771	600	418	25	60	459
Males	877	499	393	705	65	99	790	716	286	265	608	553	403	314	23	35	324
Females	387	173	185	279	42	70	344	292	126	112	234	218	197	104	2	25	135
Under 25	76	32	20	47	2	5	54	55	19	18	47	41	23	37	10	3	28
25-34	215	124	68	167	24	29	191	168	67	60	136	124	84	113	6	12	78
35-44	462	266	247	383	32	55	426	390	157	146	338	306	252	147	5	17	156
45-54	394	202	206	318	32	53	359	318	123	113	269	251	194	105	3	22	156
55 and over	117	48	37	69	17	27	104	77	46	40	52	49	47	16	1	6	41
Males																	
Under 25	58	25	16	37	2	3	42	43	15	14	37	32	18	30	8	0	22
25-34	150	86	39	115	16	18	134	123	51	46	98	88	56	79	6	7	55
35-44	316	199	165	269	22	30	293	268	103	96	239	215	167	106	5	11	112
45-54	282	154	147	235	21	34	259	231	87	83	197	183	136	88	3	12	110
55 and over	71	35	26	49	4	14	62	51	30	26	37	35	26	11	1	5	25
Females																	
Under 25	18	7	4	10	0	2	12	12	4	4	10	9	5	7	2	3	6
25-34	65	38	29	52	8	11	57	45	16	14	38	36	28	34	0	5	23
35-44	146	67	82	114	10	25	133	122	54	50	99	91	85	41	0	6	44
45-54	112	48	59	83	11	19	100	87	36	30	72	68	58	17	0	10	46
55 and over	46	13	11	20	13	13	42	26	16	14	15	14	21	5	0	1	16

Footnotes

1) More than one drug may be reported per death. These are mentions of each drug, and should not be added to give total deaths.

Part (i) counts only drugs which, the pathologist believed, were implicated in, or potentially contributed to, the cause of death.

Part (ii) counts all the drugs which the pathologist found to be present in the body, including those which the pathologist did not consider to have had any direct contribution to the death.

2) More information can be found in paragraph 3.3.1 of the commentary.

3) The distinction between "prescribable" and "street" benzodiazepines is as specified by the Information Services Division (ISD) of NHS National Services Scotland (which is now part of Public Health Scotland) - see Annex H.

Table 7: Drug-related deaths involving only one drug by sex, age and selected drugs reported¹, Scotland, 2019

	Any drug: all such deaths	Heroin / morphine ²	Methadone	Heroin / morphine, Methadone or Buprenorphine	Codeine or a codeine-containing compound	Dihydro-codeine or a d.h.c.-containing compound	Any opiate or opioid	Benzodiazepines			Gabapentin and/or Pregabalin	Cocaine	Ecstasy-type	Amphetamines	Any other drug ³	Alcohol (with only one drug - see the examples given in footnote 1)		
								Any benzo-diazepine	"Prescribable" benzo-diazepine	"Street" benzo-diazepine								
(i) only one drug (and, perhaps, alcohol) was found to be present in the body																		
All such deaths	75	12	5	18	2	5	29	6	0	0	6	6	3	7	4	5	21	29
Males	52	8	4	13	1	1	17	4	0	0	4	4	3	7	3	4	14	21
Females	23	4	1	5	1	4	12	2	0	0	2	2	0	0	1	1	7	8
Under 25	10	0	0	0	0	0	0	1	0	0	1	1	1	1	4	0	3	3
25-34	11	1	0	1	0	0	3	1	0	0	1	1	0	2	0	1	4	2
35-44	20	5	1	6	0	2	8	2	0	0	2	2	0	2	0	0	8	9
45-54	26	5	4	10	1	1	14	2	0	0	2	2	2	2	0	1	5	11
55 and over	8	1	0	1	1	2	4	0	0	0	0	0	0	0	0	3	1	4
Males																		
Under 25	7	0	0	0	0	0	0	0	0	0	0	0	1	1	3	0	2	2
25-34	10	0	0	0	0	0	2	1	0	0	1	1	0	2	0	1	4	2
35-44	13	4	1	5	0	0	5	2	0	0	2	2	0	2	0	0	4	8
45-54	17	3	3	7	1	0	8	1	0	0	1	1	2	2	0	0	4	8
55 and over	5	1	0	1	0	1	2	0	0	0	0	0	0	0	0	3	0	1
Females																		
Under 25	3	0	0	0	0	0	0	1	0	0	1	1	0	0	1	0	1	1
25-34	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
35-44	7	1	0	1	0	2	3	0	0	0	0	0	0	0	0	0	4	1
45-54	9	2	1	3	0	1	6	1	0	0	1	1	0	0	0	1	1	3
55 and over	3	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	3
(ii) only one drug (and, perhaps, alcohol) was implicated in, or potentially contributed to, the cause of death (other drugs may have been reported as being present, but were not considered to have had any direct contribution to the death)																		
All such deaths	183	38	13	52	2	13	80	8	0	0	8	7	6	37	9	14	29	36
Males	114	26	10	37	1	5	50	5	0	0	5	4	3	26	7	6	17	21
Females	69	12	3	15	1	8	30	3	0	0	3	3	3	11	2	8	12	15
Under 25	22	2	1	3	0	2	6	1	0	0	1	1	0	5	6	0	4	1
25-34	29	9	2	11	0	0	13	1	0	0	1	1	0	7	1	2	5	6
35-44	50	13	1	14	0	2	19	3	0	0	3	3	2	13	1	4	8	6
45-54	60	11	9	21	1	4	31	3	0	0	3	2	3	10	0	5	8	16
55 and over	22	3	0	3	1	5	11	0	0	0	0	0	1	2	1	3	4	7
Males																		
Under 25	14	1	1	2	0	1	4	0	0	0	0	0	0	3	4	0	3	0
25-34	20	5	2	7	0	0	9	1	0	0	1	1	0	4	1	1	4	4
35-44	31	10	1	11	0	0	12	2	0	0	2	2	1	9	1	2	4	6
45-54	38	7	6	14	1	3	20	2	0	0	2	1	2	9	0	0	5	10
55 and over	11	3	0	3	0	1	5	0	0	0	0	0	0	1	1	3	1	1
Females																		
Under 25	8	1	0	1	0	1	2	1	0	0	1	1	0	2	2	0	1	1
25-34	9	4	0	4	0	0	4	0	0	0	0	0	0	3	0	1	1	2
35-44	19	3	0	3	0	2	7	1	0	0	1	1	1	4	0	2	4	0
45-54	22	4	3	7	0	1	11	1	0	0	1	1	1	1	0	5	3	6
55 and over	11	0	0	0	1	4	6	0	0	0	0	0	1	1	0	0	3	6

Footnotes

1) Part (i) of this table gives the number of deaths for which each of the specified drugs was as the only drug which was found to be present in the body. For example, a death for which:

(a) both cocaine and alcohol were implicated would be counted twice: once under 'cocaine' and once under 'alcohol'.

(b) both cocaine and alcohol were implicated, and methadone was found to be present in the body but was not considered to have had any direct contribution to the death, would not be counted at all in the upper part of the table.

The final column of part (i) gives the number of drug-related deaths for which alcohol was as found to be present in the body together with only one drug.

Part (ii) of this table gives the number of deaths for which each of the specified drugs was as the only drug which was considered to have been implicated in, or potentially contributed to, the cause of death. The pathologist may have reported that other drugs were present in the body - but, if so, the pathologist did not consider that they had any direct contribution to the death.

The final column of part (ii) gives the number of drug-related deaths for which alcohol was as thought, by the pathologist, to be implicated in the cause of death together with only one drug. For example, a death for which:

(a) both cocaine and alcohol were implicated would be counted twice: once under 'cocaine' and once under 'alcohol'.

(b) both cocaine and alcohol were implicated, and methadone was found to be present in the body but was not considered to have had any direct contribution to the death, would also be counted under 'cocaine' and 'alcohol' (but it would not be counted under 'methadone').

(c) cocaine, methadone and alcohol were all implicated would not be counted at all in this table.

Note:

Almost all the deaths which are counted in part (i) of the table are also counted in part (ii) of the table.

However, there may be a few exceptions:

a drug-related death for which National Records of Scotland (NRS) was told that only one drug (and, perhaps, alcohol) was found to be present, and for which NRS was not told that it was considered to have been implicated in (or potentially contributed to) the cause of the death, will be counted in part (i) of the table but not in part (ii).

As a result, an occasional figure in part (i) of the table may be larger than the corresponding figure in part (ii) of the table.

2) More information can be found in paragraph 3.3.1 of the commentary.

3) This is any kind of drug other than an opiate or opioid, a benzodiazepine, gabapentin, pregabalin, cocaine, an ecstasy-type drug or an amphetamine.

Table 8: Drug-related deaths per 1,000 population, Scotland, 2000 to 2019

	Age-group					Ages 15 - 64	All ages ³
	15 - 24 ¹	25 - 34	35 - 44	45 - 54	55 - 64 ²		
average of rates for 2000 to 2004	0.13	0.20	0.10	0.04	0.01	0.10	0.07
average of rates for 2005 to 2009	0.11	0.25	0.20	0.08	0.02	0.13	0.09
2000	0.12	0.18	0.09	0.02	0.01	0.09	0.06
2001	0.12	0.20	0.09	0.04	0.01	0.10	0.07
2002	0.16	0.23	0.12	0.04	0.01	0.11	0.08
2003	0.12	0.19	0.10	0.03	0.02	0.09	0.06
2004	0.12	0.22	0.12	0.05	0.00	0.10	0.07
2005	0.07	0.16	0.16	0.05	0.02	0.10	0.07
2006	0.10	0.24	0.16	0.08	0.02	0.12	0.08
2007	0.14	0.23	0.19	0.06	0.02	0.13	0.09
2008	0.14	0.33	0.22	0.09	0.03	0.16	0.11
2009	0.10	0.27	0.25	0.10	0.03	0.15	0.10
2010	0.09	0.24	0.21	0.10	0.03	0.14	0.09
2011	0.08	0.27	0.29	0.12	0.04	0.16	0.11
2012	0.07	0.25	0.28	0.14	0.05	0.16	0.11
2013	0.05	0.20	0.27	0.16	0.06	0.15	0.10
2014	0.07	0.22	0.32	0.18	0.06	0.17	0.11
2015	0.04	0.23	0.37	0.23	0.09	0.19	0.13
2016	0.06	0.27	0.49	0.27	0.10	0.24	0.16
2017	0.06	0.25	0.54	0.34	0.09	0.26	0.17
2018	0.10	0.29	0.66	0.44	0.12	0.33	0.22
2019	0.12	0.29	0.69	0.52	0.13	0.35	0.23
average of rates for 2015 to 2019	0.08	0.27	0.55	0.36	0.11	0.27	0.18

Footnotes

1) Some other tables which provide figures by age-group give the number of drug-related deaths of people who were aged under 25. However, this column's figures are for ages 15-24, inclusive, as there are very few drug-related deaths of people aged 0-14.

2) Some other tables which provide figures by age-group give the number of drug-related deaths of people who were aged 55 and over. However, this column's figures are for ages 55-64, inclusive, as there are relatively few drug-related deaths of people aged 65 and over.

3) Including ages 0-14 and 65+.

Table 9: Drug-related deaths by sex and age-group: average for 2013 to 2017, and relative to the estimated number of problem drug users in 2015/16

	2013-2017 average number of drug-related deaths per year	<u>Problem drug users (aged 15-64) in 2015/16 ¹</u>				<u>Annual average drug-deaths: 2013-2017 per 1,000 problem drug users in 2015/16 ⁴</u>		
		<u>95% Confidence Interval ²</u>				<u>Likely range of values</u>		
		Estimate	Lower end	Upper end	+ / - ³	Estimate	from ⁵	to ⁵
All	730	57,300	55,800	58,900	3%	12.7	12.4	13.1
Males	515	40,800	..	..	..	12.6	..	..
Females	215	16,600	..	..	..	12.9	..	..
15 to 24	37	5,900	..	..	..	6.3	..	..
25 to 34	168	14,900	..	..	..	11.3	..	..
35 to 64	508	36,500	..	..	..	13.9	..	..
Males								
15 to 24	29	4,800	..	..	..	6.0	..	..
25 to 34	128	9,700	..	..	..	13.2	..	..
35 to 64	348	26,200	..	..	..	13.3	..	..
Females								
15 to 24	9	1,100	..	..	..	7.8	..	..
25 to 34	40	5,200	..	..	..	7.7	..	..
35 to 64	160	10,300	..	..	..	15.5	..	..

Footnotes

- 1) Estimates of problem drug users aged 15 to 64, as published by the Information Services Division (ISD) of NHS National Services Scotland. When this edition of the publication was produced, the latest estimates available were those for 2015/16 that were published by ISD on 5 March 2019.
- 2) The 95% Confidence Intervals are the range within which it is expected that the true value will lie. On the basis of statistical theory, there is only a 5% chance that a 95% Confidence Interval will not include the (unknown) true value of the quantity which is being estimated - so, on average, one would expect that 19 out of 20 of all 95% Confidence Intervals will include the (unknown) true values. ISD did not publish confidence intervals for the numbers for each sex or for each age-group.
- 3) The average of the percentage differences between (a) the estimate and the lower end of the 95% Confidence Interval and (b) the estimate and the upper end of the 95% Confidence Interval. It is calculated using the rounded values of the estimate and the two ends.
- 4) These death rates are broad indications only, as (e.g.) the estimated numbers of problem drug users may be subject to wide confidence intervals. The rates for 'All', 'Males' and 'Females' may be slightly over-estimated, because their numerators are the numbers of deaths of all ages (including the small proportions aged 0-14 and 65+) whereas their denominators are the estimated numbers of problem drug users aged 15-64.
- 5) The 'from' value in the range for the rate is calculated using the upper end of the 95% Confidence Interval for the estimated number of problem drug users, and the 'to' value in the range for the rate is calculated using the lower end of the 95% Confidence Interval for the estimated number of problem drug users.

Table HB1: Drug-related deaths by NHS Board area, 2009 - 2019 (with averages for 2005-2009 and 2015-2019)

NHS Board area ²												Annual averages		Population in 2017	2015-2019 average deaths per 1,000 population ¹	Males		Females	
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2005 to 2009	2015 to 2019			2009	2019	2009	2019
(a) Drug-related deaths - standard defin																			
Scotland	545	485	584	581	527	614	706	868	934	1,187	1,264	466	992	5,424,800	0.18	413	877	132	387
Ayrshire & Arran	39	31	47	43	36	43	43	85	61	82	108	31	76	370,410	0.20	28	72	11	36
Borders	5	9	8	7	8	11	13	10	13	22	16	5	15	115,020	0.13	4	8	1	8
Dumfries & Galloway	8	6	12	6	9	14	11	17	22	20	35	8	21	149,200	0.14	8	26	0	9
Fife	32	35	34	38	39	46	44	45	66	64	81	27	60	371,410	0.16	22	52	10	29
Forth Valley	14	18	26	31	24	25	31	51	36	72	75	20	53	305,580	0.17	10	54	4	21
Grampian	52	44	58	31	50	36	69	68	85	92	82	42	79	586,380	0.14	42	55	10	27
Greater Glasgow & Clyde ³	193	158	183	187	138	189	221	257	280	394	404	159	311	1,169,110	0.27	143	279	50	125
Highland ³	21	10	33	22	18	25	35	29	32	45	24	17	33	321,990	0.10	19	17	2	7
Lanarkshire	54	62	61	67	75	67	73	113	102	130	163	50	116	658,130	0.18	44	122	10	41
Lothian	81	73	73	90	90	105	100	128	137	152	155	67	134	889,450	0.15	60	109	21	46
Orkney	0	2	0	1	1	0	1	1	1	3	1	0	1	22,000	0.06	0	0	0	1
Shetland	0	2	3	2	0	4	1	1	2	0	2	1	1	23,080	0.05	0	2	0	0
Tayside	44	34	45	55	37	48	63	62	94	109	118	37	89	416,090	0.21	32	81	12	37
Western Isles	2	1	1	1	2	1	1	1	3	2	0	1	1	26,950	0.05	1	0	1	0
(b) extra deaths counted in the consistent series ⁴																			
Scotland	25	27	25	25	32	10	4	5	3	9	2								
Ayrshire & Arran	1	2	3	2	1	2	1	0	1	2	0								
Borders	0	0	2	0	0	0	0	0	0	0	0								
Dumfries & Galloway	1	0	1	0	1	0	0	0	0	1	0								
Fife	2	3	2	3	1	0	0	0	0	0	0								
Forth Valley	1	0	0	1	0	0	0	0	1	1	0								
Grampian	5	3	1	1	3	1	0	0	0	1	0								
Greater Glasgow & Clyde ³	4	7	7	8	7	2	1	2	1	2	0								
Highland ³	1	3	4	2	1	1	1	0	0	0	0								
Lanarkshire	5	3	2	6	5	1	0	1	0	1	0								
Lothian	3	2	0	2	6	2	0	1	0	1	1								
Orkney	0	0	1	0	0	0	0	0	0	0	0								
Shetland	0	0	0	0	0	0	0	0	0	0	0								
Tayside	2	4	2	0	6	1	1	1	0	0	1								
Western Isles	0	0	0	0	1	0	0	0	0	0	0								

Footnotes

- 1) Using the population in the middle of the 5-year period as a proxy for the average population over the whole period.
- 2) The statistics for each area are based on the boundaries that apply with effect from 1 April 2014. Earlier years' figures show what the numbers would have been had the new boundaries applied in those years. For 2001, 2003 and 2006, there are differences of one or two between the overall total for the year and the sum of the figures for the individual areas. This is due to the use of a new database - further information can be found at the end of Annex A.
- 3) Including the relevant parts of the former Argyll & Clyde Board area.
- 4) Broadly speaking, the additional deaths which would be counted on the basis of the classification of the drugs at the end of the latest year which is covered by the publication (rather than on the standard definition basis of the classification at the time of the death). Refer to Annex F for the full definition.

Table HB2: Drug-related deaths by underlying cause of death¹ and NHS Board area, 2019

NHS Board area	All causes of death	Underlying cause of death (ICD10 codes)				
		Drug abuse (F11-F16, F19)	Accidental poisoning (X40-X44)	Intentional self-poisoning (X60-X64)	Assault by drugs, etc. (X85)	Undetermined intent (Y10-Y14)
(i) New coding rules						
Scotland	1,264	47	1,130	40	0	47
Ayrshire & Arran	108	5	101	2	0	0
Borders	16	1	11	2	0	2
Dumfries & Galloway	35	3	31	0	0	1
Fife	81	2	70	4	0	5
Forth Valley	75	2	68	1	0	4
Grampian	82	1	76	3	0	2
Greater Glasgow & Clyde	404	18	371	7	0	8
Highland	24	0	20	1	0	3
Lanarkshire	163	6	146	6	0	5
Lothian	155	6	130	6	0	13
Orkney	1	0	0	1	0	0
Shetland	2	0	1	0	0	1
Tayside	118	3	105	7	0	3
Western Isles	0	0	0	0	0	0
(ii) Old coding rules						
Scotland	1,264	969	222	40	0	33
Ayrshire & Arran	108	94	12	2	0	0
Borders	16	9	3	2	0	2
Dumfries & Galloway	35	27	7	0	0	1
Fife	81	64	10	4	0	3
Forth Valley	75	68	3	1	0	3
Grampian	82	59	19	3	0	1
Greater Glasgow & Clyde	404	344	46	7	0	7
Highland	24	13	10	1	0	0
Lanarkshire	163	121	31	6	0	5
Lothian	155	129	12	6	0	8
Orkney	1	0	0	1	0	0
Shetland	2	2	0	0	0	0
Tayside	118	39	69	7	0	3
Western Isles	0	0	0	0	0	0

Footnote

1) The coding rules were changed with effect from the start of 2011, as explained in paragraph 2.6 of the commentary.

Briefly, 'drug abuse' deaths from 'acute intoxication' were previously counted under 'mental and behavioural disorders due to psychoactive substance use' (unless they were known to be due to intentional self-harm or assault). They are now counted under the appropriate 'poisoning' category.

For example, if the cause of death of a known drug abuser was given as 'adverse effects of heroin' (and it was not intentional self-harm or assault), the underlying cause of death would be coded as follows:

(a) up to 2010 - as 'F11 - mental and behavioural disorders due to use of opioids'.

(b) from 2011 - the appropriate 'poisoning' category, such as 'X42 - accidental poisoning by and exposure to narcotics and psychodysleptics (hallucinogens) not elsewhere classified'.

National Records of Scotland has estimated what the figures for the year would have been, had the data been coded using the old rules.

Table HB3: Drug-related deaths by selected drugs reported¹ and NHS Board area, 2019

NHS Board area	All drug-related deaths	Heroin / morphine ²	Methadone	Heroin / morphine, Methadone or Buprenorphine	Codeine or a codeine-containing compound	Dihydro-codeine or a d.h.c.-containing compound	Any opiate or opioid	Benzodiazepines					Gabapentin and/or Pregabalin	Cocaine	Ecstasy-type	Amphetamines	Alcohol
								Any benzodiazepine	of which:		of which:						
									"Prescribable" benzodiazepine ³	Diazepam	"Street" benzodiazepine ³	Etizolam					
Scotland	1,264	645	560	959	55	116	1,092	888	195	179	814	752	438	365	25	51	137
Ayrshire & Arran	108	58	50	85	1	8	98	78	4	2	76	70	40	24	0	4	5
Borders	16	4	3	7	0	3	10	10	5	5	8	7	6	1	2	2	3
Dumfries & Galloway	35	16	10	21	3	2	27	16	2	2	16	14	9	9	2	1	1
Fife	81	38	40	61	11	6	71	54	22	20	47	40	42	15	4	9	9
Forth Valley	75	46	40	61	5	2	67	63	20	20	58	52	39	20	0	5	7
Grampian	82	46	32	58	4	14	68	40	36	36	14	3	25	45	2	2	17
Greater Glasgow & Clyde	404	198	191	315	5	39	349	306	11	5	305	300	111	107	6	11	39
Highland	24	13	10	18	1	2	23	9	3	3	9	7	7	4	0	0	2
Lanarkshire	163	83	64	122	8	8	137	106	7	3	104	101	41	48	6	2	13
Lothian	155	69	72	110	11	18	126	109	60	59	85	72	73	62	3	11	22
Orkney	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0
Shetland	2	1	1	2	0	0	2	1	0	0	1	1	0	0	0	0	0
Tayside	118	73	47	99	6	13	113	96	25	24	91	85	44	30	0	4	19
Western Isles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Footnotes

1) More than one drug may be reported per death. These are mentions of each drug, and should not be added to give total deaths. Up to 2007, some pathologists reported only those drugs which they thought caused, or contributed to, the death. With effect from 2008, pathologists report separately (a) drugs which were implicated in, or which potentially contributed to, the cause of death and (b) other drugs which were present but which were not considered to have had any direct contribution to the death. The figures in this table are on the first basis - i.e. basis (a) - which has been the normal basis for figures for individual drugs with effect from 'Drug-related Deaths in Scotland in 2009'. There may be other differences between years and/or areas in the way in which the information was produced - more information can be found in Section 2 of the commentary.

2) More information can be found in paragraph 3.3.1 of the commentary.

3) The distinction between "prescribable" and "street" benzodiazepines is as specified by the Information Services Division (ISD) of NHS National Services Scotland (now part of Public Health Scotland) - see Annex H.

Table HB4: Drug-related deaths per 1,000 population, NHS Board areas, annual averages for 2015 to 2019 ¹

	Age-group						All ages ⁴
	15 - 24 ²	25 - 34	35 - 44	45 - 54	55 - 64 ³	Ages 15 - 64	
Scotland ⁵	0.08	0.27	0.55	0.35	0.11	0.27	0.18
Ayrshire & Arran	0.07	0.39	0.82	0.35	0.08	0.32	0.20
Borders	0.12	0.27	0.38	0.26	0.06	0.21	0.13
Dumfries & Galloway	0.07	0.38	0.62	0.17	0.05	0.23	0.14
Fife	0.08	0.30	0.56	0.26	0.08	0.25	0.16
Forth Valley	0.07	0.37	0.53	0.30	0.06	0.26	0.17
Grampian	0.05	0.19	0.37	0.27	0.08	0.20	0.14
Greater Glasgow & Clyde	0.08	0.25	0.77	0.64	0.19	0.38	0.27
Highland	0.08	0.25	0.25	0.17	0.08	0.16	0.10
Lanarkshire	0.11	0.34	0.50	0.28	0.09	0.26	0.18
Lothian	0.07	0.18	0.43	0.27	0.10	0.21	0.15
Orkney	0.09	0.25	0.00	0.00	0.12	0.09	0.06
Shetland	0.00	0.22	0.00	0.00	0.19	0.08	0.05
Tayside	0.07	0.38	0.72	0.40	0.12	0.33	0.21
Western Isles	0.08	0.00	0.20	0.15	0.00	0.09	0.05

Footnotes

1) Calculated by dividing the average number of drug-related deaths per year over the specified 5-year period by the estimated population in the middle of the 5-year period (which is a proxy for the average population over the whole of the period).

2) Some other tables which provide figures by age-group give the number of drug-related deaths of people who were aged under 25. However, this column's figures are for ages 15-24, inclusive, as there are very few drug-related deaths of people aged 0-14.

3) Some other tables which provide figures by age-group give the number of drug-related deaths of people who were aged 55 and over. However, this column's figures are for ages 55-64, inclusive, as there are relatively few drug-related deaths of people aged 65 and over.

4) Including ages 0-14 and 65+.

5) An occasional figure for Scotland may differ slightly from the corresponding 5-year average in Table 8, because the latter was calculated simply by taking the average of the figures for Scotland for each of the five individual years (rather than by applying the method described in footnote 1 to the figures for Scotland).

Note

The figures for each area are based on the Board boundaries that apply with effect from 1 April 2014.

The figures that have been used for earlier years are the numbers that would have been seen had the new boundaries applied in those years.

Table HB5: Drug-related deaths by NHS Board area: average for 2013 to 2017, and relative to the estimated number of problem drug users in 2015/16

	2013-2017 annual average drug-deaths (all ages)	<u>Problem drug users (aged 15-64) in 2015/16</u> ¹				<u>Annual average drug-deaths: 2013-2017 per 1,000 problem drug users in 2015/16</u> ⁴		
		<u>95% Confidence Interval</u> ²				<u>Likely range of values</u>		
		Estimate	Lower end	Upper end	+ / - ³	Estimate	from ⁵	to ⁵
Scotland	730	57,300	55,800	58,900	3%	12.7	12.4	13.1
Ayrshire & Arran	54	4,200	3,900	4,400	6%	12.8	12.2	13.7
Borders	11	510	450	600	15%	21.6	18.3	24.4
Dumfries & Galloway	15	1,100	940	1,300	16%	13.3	11.2	15.5
Fife	48	2,800	2,500	3,100	11%	17.1	15.5	19.2
Forth Valley	33	2,900	2,600	3,200	10%	11.5	10.4	12.8
Grampian	62	3,800	3,600	4,100	7%	16.2	15.0	17.1
Greater Glasgow & Clyde	217	18,700	17,700	19,800	6%	11.6	11.0	12.3
Highland	28	1,900	1,700	2,100	11%	14.6	13.2	16.4
Lanarkshire	86	7,600	6,900	8,300	9%	11.3	10.4	12.5
Lothian	112	9,000	8,500	9,500	6%	12.4	11.8	13.2
Orkney	1	30	20	50	50%	26.7	16.0	40.0
Shetland	2	170	120	260	41%	9.4	6.2	13.3
Tayside	61	4,600	4,300	4,900	7%	13.2	12.4	14.1
Western Isles	2	50	40	70	30%	32.0	22.9	40.0

Footnotes

1) Estimates of problem drug users aged 15 to 64, as published by the Information Services Division (ISD) of NHS National Services Scotland. These estimates for 2015/16 were the latest estimates available when this publication was produced. Some of the estimates are subject to potentially large percentage margins of error, as indicated by the 95% Confidence Intervals.

2) The 95% Confidence Intervals are the range within which it is expected that the true value will lie. On the basis of statistical theory, there is only a 5% chance that a 95% Confidence Interval will not include the (unknown) true value of the quantity which is being estimated - so, on average, one would expect that 19 out of 20 of all 95% Confidence Intervals will include the (unknown) true values.

3) The average of the percentage differences between (a) the estimate and the lower end of the 95% Confidence Interval and (b) the estimate and the upper end of the 95% Confidence Interval. It is calculated using the rounded values of the estimate and the two ends.

4) These death rates are broad indications only, as (e.g.) the estimated numbers of problem drug users may be subject to wide confidence intervals. The rates may also tend to be slightly over-estimated, because their numerators are the numbers of deaths of all ages (including the small proportions aged 0-14 and 65+) whereas their denominators are the estimated numbers of problem drug users aged 15-64.

5) The 'from' value in the range for the rate is calculated using the upper end of the 95% Confidence Interval for the estimated number of problem drug users, and the 'to' value in the range for the rate is calculated using the lower end of the 95% Confidence Interval for the estimated number of problem drug users,

Note

The numbers of drug-related deaths for each area are based on the Board boundaries that apply with effect from 1 April 2014.

The figures that have been used for earlier years are the numbers that would have been seen had the new boundaries applied in those years.

The estimated numbers of problem drug users are also based on the Board boundaries that applied with effect from April 2014

Figure 2: Drug-related deaths per 1,000 problem drug users - NHS Board areas

Note

These figures were calculated using the annual average number of drug-deaths for 2013-2017 and the estimated numbers of problem drug users for 2015/16. The 'error bars' indicate the likely ranges of values - refer to the text.

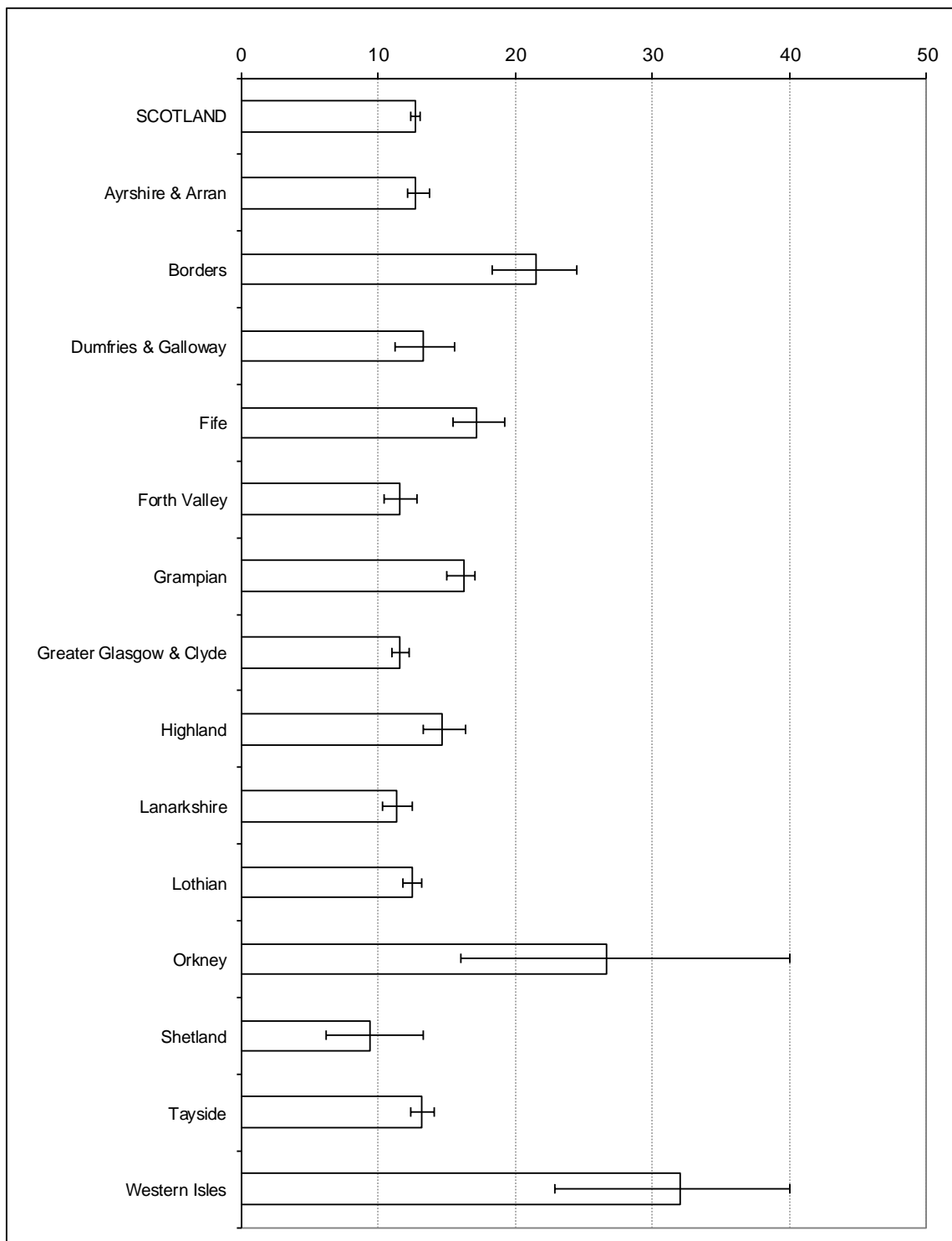


Table C1: Drug-related deaths by council area, 2009 - 2019 (with averages for 2005-2009 and 2015-2019)

Council area ¹												Annual averages		Population in 2017	2015-2019 average deaths per 1,000 population	Males		Females	
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2005 to 2009	2015 to 2019			2009	2019	2009	2019
Scotland	545	485	584	581	527	614	706	868	934	1,187	1,264	466	992	5,424,800	0.18	413	877	132	387
Aberdeen City	27	31	29	16	24	26	45	46	54	52	44	23	48	228,800	0.21	21	31	6	13
Aberdeenshire	18	10	19	9	21	8	14	12	24	23	26	14	20	261,800	0.08	15	16	3	10
Angus	9	9	8	8	10	8	17	13	18	13	21	8	16	116,280	0.14	7	15	2	6
Argyll & Bute	7	4	12	7	5	8	11	10	8	9	13	5	10	86,810	0.12	7	10	0	3
City of Edinburgh	45	47	48	57	64	71	69	90	84	95	96	45	87	513,210	0.17	31	67	14	29
Clackmannanshire	3	1	6	11	7	6	7	12	5	10	15	4	10	51,450	0.19	1	6	2	9
Dumfries & Galloway	8	6	12	6	9	14	11	17	22	20	35	8	21	149,200	0.14	8	26	0	9
Dundee City	30	22	32	39	24	31	36	38	57	66	72	22	54	148,710	0.36	21	46	9	26
East Ayrshire	12	11	17	15	12	17	14	29	24	29	41	10	27	121,940	0.22	8	22	4	19
East Dunbartonshire	5	6	2	4	1	4	9	7	8	9	7	4	8	108,130	0.07	4	6	1	1
East Lothian	6	7	8	6	8	11	10	11	12	18	18	5	14	104,840	0.13	4	11	2	7
East Renfrewshire	7	4	3	4	3	5	8	5	4	11	8	4	7	94,760	0.08	7	6	0	2
Falkirk	5	10	11	14	11	9	14	30	16	43	41	10	29	160,130	0.18	4	34	1	7
Fife	32	35	34	38	39	46	44	45	66	64	81	27	60	371,410	0.16	22	52	10	29
Glasgow City	135	94	117	121	103	114	157	170	192	280	279	107	216	621,020	0.35	98	191	37	88
Highland	14	6	21	15	13	17	24	19	24	36	11	12	23	235,180	0.10	12	7	2	4
Inverclyde	7	17	20	13	10	17	16	20	23	24	33	8	23	78,760	0.29	6	26	1	7
Midlothian	9	7	4	8	8	7	6	8	19	14	18	5	13	90,090	0.14	9	13	0	5
Moray	7	3	10	6	5	2	10	10	7	17	12	4	11	95,780	0.12	6	8	1	4
Na h-Eileanan Siar	2	1	1	1	2	1	1	1	3	2	0	1	1	26,950	0.05	1	0	1	0
North Ayrshire	19	12	16	19	11	15	15	32	25	38	41	14	30	135,790	0.22	15	30	4	11
North Lanarkshire	35	36	27	38	38	33	42	49	53	72	95	28	62	339,960	0.18	26	71	9	24
Orkney Islands	0	2	0	1	1	0	1	1	1	3	1	0	1	22,000	0.06	0	0	0	1
Perth & Kinross	5	3	5	8	3	9	10	11	19	30	25	8	19	151,100	0.13	4	20	1	5
Renfrewshire	26	19	24	26	13	30	19	42	38	50	45	20	39	176,830	0.22	20	30	6	15
Scottish Borders	5	9	8	7	8	11	13	10	13	22	16	5	15	115,020	0.13	4	8	1	8
Shetland Islands	0	2	3	2	0	4	1	1	2	0	2	1	1	23,080	0.05	0	2	0	0
South Ayrshire	8	8	14	9	13	11	14	24	12	15	26	7	18	112,680	0.16	5	20	3	6
South Lanarkshire	19	26	34	29	37	34	31	64	49	58	68	22	54	318,170	0.17	18	51	1	17
Stirling	6	7	9	6	6	10	10	9	15	19	19	6	14	94,000	0.15	5	14	1	5
West Dunbartonshire	13	18	17	19	8	19	12	13	15	20	32	16	18	89,610	0.21	8	20	5	12
West Lothian	21	12	13	19	10	16	15	19	22	25	23	11	21	181,310	0.11	16	18	5	5

Footnote

1) With effect from the "... in 2016" edition of this publication, the alphabetical order of the councils changed due to the adoption of the preferred forms of reference for the Edinburgh and Western Isles areas. Previous versions of this table used the forms 'Edinburgh, City of' and 'Eilean Siar'.

Table C2: Drug-related deaths by underlying cause¹ and council area, 2019

Council area ²	All causes of death	Underlying cause of death (ICD10 codes)				
		Drug abuse (F11-F16, F19)	Accidental poisoning (X40-X44)	Intentional self-poisoning (X60-X64)	Assault by drugs, etc. (X85)	Undetermined intent (Y10-Y14)
(i) New coding rules						
Scotland	1,264	47	1,130	40	0	47
Aberdeen City	44	1	41	2	0	0
Aberdeenshire	26	0	26	0	0	0
Angus	21	1	19	1	0	0
Argyll & Bute	13	0	13	0	0	0
City of Edinburgh	96	5	82	3	0	6
Clackmannanshire	15	2	12	0	0	1
Dumfries & Galloway	35	3	31	0	0	1
Dundee City	72	1	63	5	0	3
East Ayrshire	41	3	37	1	0	0
East Dunbartonshire	7	0	7	0	0	0
East Lothian	18	0	14	2	0	2
East Renfrewshire	8	0	8	0	0	0
Falkirk	41	0	39	0	0	2
Fife	81	2	70	4	0	5
Glasgow City	279	13	257	4	0	5
Highland	11	0	7	1	0	3
Inverclyde	33	1	30	1	0	1
Midlothian	18	1	16	0	0	1
Moray	12	0	9	1	0	2
Na h-Eileanan Siar	0	0	0	0	0	0
North Ayrshire	41	1	40	0	0	0
North Lanarkshire	95	4	86	2	0	3
Orkney Islands	1	0	0	1	0	0
Perth & Kinross	25	1	23	1	0	0
Renfrewshire	45	0	45	0	0	0
Scottish Borders	16	1	11	2	0	2
Shetland Islands	2	0	1	0	0	1
South Ayrshire	26	1	24	1	0	0
South Lanarkshire	68	2	60	4	0	2
Stirling	19	0	17	1	0	1
West Dunbartonshire	32	4	24	2	0	2
West Lothian	23	0	18	1	0	4
(ii) Old coding rules						
Scotland	1,264	969	222	40	0	33
Aberdeen City	44	32	10	2	0	0
Aberdeenshire	26	19	7	0	0	0
Angus	21	9	11	1	0	0
Argyll & Bute	13	10	3	0	0	0
City of Edinburgh	96	83	6	3	0	4
Clackmannanshire	15	13	1	0	0	1
Dumfries & Galloway	35	27	7	0	0	1
Dundee City	72	19	45	5	0	3
East Ayrshire	41	37	3	1	0	0
East Dunbartonshire	7	6	1	0	0	0
East Lothian	18	14	1	2	0	1
East Renfrewshire	8	6	2	0	0	0
Falkirk	41	39	0	0	0	2
Fife	81	64	10	4	0	3
Glasgow City	279	246	25	4	0	4
Highland	11	3	7	1	0	0
Inverclyde	33	26	5	1	0	1
Midlothian	18	15	3	0	0	0
Moray	12	8	2	1	0	1
Na h-Eileanan Siar	0	0	0	0	0	0
North Ayrshire	41	36	5	0	0	0
North Lanarkshire	95	73	17	2	0	3
Orkney Islands	1	0	0	1	0	0
Perth & Kinross	25	11	13	1	0	0
Renfrewshire	45	38	7	0	0	0
Scottish Borders	16	9	3	2	0	2
Shetland Islands	2	2	0	0	0	0
South Ayrshire	26	21	4	1	0	0
South Lanarkshire	68	48	14	4	0	2
Stirling	19	16	2	1	0	0
West Dunbartonshire	32	22	6	2	0	2
West Lothian	23	17	2	1	0	3

Footnotes

1) The coding rules were changed with effect from the start of 2011, as explained in paragraph 2.6 of the commentary.

Briefly, 'drug abuse' deaths from 'acute intoxication' were previously counted under 'mental and behavioural disorders due to psychoactive substance use' (unless they were known to be due to intentional self-harm or assault). They are now counted under the appropriate 'poisoning' category.

For example, if the cause of death of a known drug abuser was given as 'adverse effects of heroin' (and it was not intentional self-harm or assault), the underlying cause of death would be coded as follows:

(a) up to 2010 - as 'F11 - mental and behavioural disorders due to use of opioids'

(b) from 2011 - the appropriate 'poisoning' category, such as 'X42 - accidental poisoning by and exposure to narcotics and psychodysleptics (hallucinogens) not elsewhere classified'

National Records of Scotland has estimated what the figures for the year would have been, had the data been coded using the old rules.

2) With effect from the "... in 2016" edition of this publication, the alphabetical order of the councils changed due to the adoption of the preferred forms of reference for the Edinburgh and Western Isles areas. Previous versions of this table used the forms 'Edinburgh, City of' and 'Eilean Siar'.

Table C3: Drug-related deaths by selected drugs reported¹ and council area, 2019

Council area ³	All drug-related deaths	Heroin / morphine ²	Methadone	Heroin / morphine, Methadone or Buprenorphine	Codeine or a codeine-containing compound	Dihydro-codeine or a d.h.c.-containing compound	Any opiate or opioid	Benzodiazepines					Gabapentin and/or Pregabalin	Cocaine	Ecstasy-type	Amphetamines	Alcohol
								Any benzodiazepine	of which:		of which:						
									any "Prescribable" benzodiazepine	Diazepam	any "Street" benzodiazepine	Etizolam					
Scotland	1,264	645	560	959	55	116	1,092	888	195	179	814	752	438	365	25	51	137
Aberdeen City	44	24	20	32	4	7	38	27	24	24	10	1	17	28	0	0	10
Aberdeenshire	26	15	9	19	0	4	21	9	8	8	2	1	4	13	1	1	6
Angus	21	13	11	19	1	1	19	19	8	7	18	14	8	4	0	0	4
Argyll & Bute	13	9	7	11	0	1	13	8	2	2	8	7	7	4	0	0	0
City of Edinburgh	96	41	48	68	7	10	78	66	39	38	54	46	46	45	1	4	15
Clackmannanshire	15	7	10	12	0	0	13	11	4	4	9	9	8	3	0	1	2
Dumfries & Galloway	35	16	10	21	3	2	27	16	2	2	16	14	9	9	2	1	1
Dundee City	72	43	25	58	3	10	70	58	10	10	56	56	28	18	0	4	8
East Ayrshire	41	20	21	31	1	2	37	31	2	2	30	28	15	9	0	3	2
East Dunbartonshire	7	5	5	6	0	4	7	4	0	0	4	4	4	1	0	0	1
East Lothian	18	10	9	14	2	3	15	15	13	13	7	6	7	3	0	3	4
East Renfrewshire	8	3	3	4	0	1	6	3	0	0	3	3	0	2	0	0	2
Falkirk	41	26	21	33	2	2	37	35	13	13	33	27	25	12	0	3	4
Fife	81	38	40	61	11	6	71	54	22	20	47	40	42	15	4	9	9
Glasgow City	279	148	136	225	4	23	245	218	6	3	217	214	72	74	1	7	24
Highland	11	4	3	7	1	1	10	1	1	1	1	0	0	0	0	0	2
Inverclyde	33	13	16	26	0	3	29	24	2	1	24	23	12	11	0	1	5
Midlothian	18	7	8	14	2	0	16	13	2	2	12	10	10	5	0	1	1
Moray	12	7	3	7	0	3	9	4	4	4	2	1	4	4	1	1	1
Na h-Eileanan Siar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Ayrshire	41	22	21	37	0	4	39	31	0	0	31	30	15	10	0	1	1
North Lanarkshire	95	48	36	71	3	6	78	62	4	1	61	59	26	27	2	0	8
Orkney Islands	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0
Perth & Kinross	25	17	11	22	2	2	24	19	7	7	17	15	8	8	0	0	7
Renfrewshire	45	21	20	37	1	5	41	38	2	1	38	38	13	16	4	1	3
Scottish Borders	16	4	3	7	0	3	10	10	5	5	8	7	6	1	2	2	3
Shetland Islands	2	1	1	2	0	0	2	1	0	0	1	1	0	0	0	0	0
South Ayrshire	26	16	8	17	0	2	22	16	2	0	15	12	10	5	0	0	2
South Lanarkshire	68	35	28	51	5	2	59	44	3	2	43	42	15	21	4	2	5
Stirling	19	13	9	16	3	0	17	17	3	3	16	16	6	5	0	1	1
West Dunbartonshire	32	8	11	17	0	3	21	19	1	0	19	18	10	3	1	2	4
West Lothian	23	11	7	14	0	5	17	15	6	6	12	10	10	9	2	3	2

Footnotes
 1) More than one drug may be reported per death. These are mentions of each drug, and should not be added to give total deaths. Up to 2007, some pathologists reported only those drugs which they thought caused, or contributed to, the death. With effect from 2008, pathologists report separately (a) drugs which were implicated in, or which potentially contributed to, the cause of death and (b) other drugs which were present but which were not considered to have had any direct contribution to the death. The figures in this table are on the first basis - i.e. basis (a) which has been the normal basis for the figures for individual drugs with effect from "Drug-related Deaths in Scotland in 2009"
 There may be other differences between years and/or areas in the way in which the information was produced - more information can be found in Section 2 of the commentary.
 2) More information can be found in paragraph 3.3.1 of the commentary.
 3) With effect from the "... in 2016" edition of this publication, the alphabetical order of the councils changed due to the adoption of the preferred forms of reference for the Edinburgh and Western Isles areas. Previous versions of this table used the forms 'Edinburgh, City of' and 'Eilean Siar'.

Table C4: Drug-related deaths per 1,000 population, council areas, annual averages for 2015 to 2019 ¹

Council area ⁶	Age-group						Ages 15 - 64	All ages ⁴
	15 - 24 ²	25 - 34	35 - 44	45 - 54	55 - 64 ³			
Scotland ⁵	0.08	0.27	0.55	0.35	0.11	0.27	0.18	
Aberdeen City	0.04	0.17	0.63	0.54	0.11	0.29	0.21	
Aberdeenshire	0.06	0.17	0.18	0.12	0.05	0.12	0.08	
Angus	0.10	0.33	0.41	0.27	0.07	0.23	0.14	
Argyll + Bute	0.08	0.27	0.31	0.22	0.09	0.19	0.12	
City of Edinburgh	0.06	0.15	0.45	0.38	0.12	0.23	0.17	
Clackmannanshire	0.03	0.49	0.68	0.27	0.03	0.29	0.19	
Dumfries + Galloway	0.07	0.38	0.62	0.17	0.05	0.23	0.14	
Dundee City	0.06	0.50	1.35	0.74	0.19	0.53	0.36	
East Ayrshire	0.09	0.39	0.88	0.35	0.10	0.35	0.22	
East Dunbartonshire	0.07	0.15	0.30	0.06	0.05	0.12	0.07	
East Lothian	0.05	0.25	0.47	0.20	0.07	0.21	0.13	
East Renfrewshire	0.04	0.23	0.17	0.13	0.06	0.12	0.08	
Falkirk	0.06	0.40	0.48	0.32	0.08	0.27	0.18	
Fife	0.08	0.30	0.56	0.26	0.08	0.25	0.16	
Glasgow City	0.06	0.23	0.94	0.97	0.29	0.48	0.35	
Highland	0.07	0.24	0.23	0.15	0.08	0.15	0.10	
Inverclyde	0.11	0.42	0.94	0.59	0.24	0.46	0.29	
Midlothian	0.14	0.11	0.63	0.12	0.10	0.22	0.14	
Moray	0.06	0.34	0.27	0.17	0.09	0.18	0.12	
Na h-Eileanan Siar	0.08	0.00	0.20	0.15	0.00	0.09	0.05	
North Ayrshire	0.03	0.33	0.88	0.49	0.07	0.35	0.22	
North Lanarkshire	0.12	0.37	0.48	0.28	0.09	0.27	0.18	
Orkney Islands	0.09	0.25	0.00	0.00	0.12	0.09	0.06	
Perth + Kinross	0.07	0.24	0.36	0.23	0.10	0.20	0.13	
Renfrewshire	0.15	0.31	0.68	0.42	0.10	0.33	0.22	
Scottish Borders	0.12	0.27	0.38	0.26	0.06	0.21	0.13	
Shetland Islands	0.00	0.22	0.00	0.00	0.19	0.08	0.05	
South Ayrshire	0.10	0.45	0.67	0.17	0.06	0.26	0.16	
South Lanarkshire	0.10	0.31	0.53	0.28	0.08	0.26	0.17	
Stirling	0.10	0.25	0.53	0.28	0.05	0.23	0.15	
West Dunbartonshire	0.18	0.24	0.73	0.39	0.05	0.31	0.21	
West Lothian	0.07	0.28	0.24	0.16	0.06	0.17	0.11	

Footnotes

- 1) Calculated by dividing the average number of drug-related deaths per year over the specified 5-year period by the estimated population in the middle of the 5-year period (which is a proxy for the average population over the whole of the period).
- 2) Some other tables which provide figures by age-group give the number of drug-related deaths of people who were aged under 25. However, this column's figures are for ages 15-24, inclusive, as there are very few drug-related deaths of people aged 0-14.
- 3) Some other tables which provide figures by age-group give the number of drug-related deaths of people who were aged 55 and over. However, this column's figures are for ages 55-64, inclusive, as there are relatively few drug-related deaths of people aged 65 and over.
- 4) Including ages 0-14 and 65+.
- 5) An occasional figure for Scotland may differ slightly from the corresponding 5-year average in Table 8, because the latter was calculated simply by taking the average of the figures for Scotland for each of the five individual years (rather than by applying the method described in footnote 1 to the figures for Scotland).
- 6) With effect from the "... in 2016" edition of this publication, the alphabetical order of the councils changed due to the adoption of the preferred forms of reference for the Edinburgh and Western Isles areas. Previous versions of this table used the forms 'Edinburgh, City of' and 'Eilean Siar'.

Table C5: Drug-related deaths by council area: average for 2013 to 2017, and relative to estimated problem drug user numbers in 2015/16

Council area ⁶	2013-2017 average drug- deaths per year (all ages)	Problem drug users (aged 15-64) in 2015/16 ¹				Annual average drug-deaths: 2013-2017 per 1,000 problem drug users in 2015/16 ⁴		
		Estimate	95% Confidence Interval ²		+ / - ³	Estimate	Likely range of values from ⁵ to ⁵	
			Lower end	Upper end				
Scotland	730	57,300	55,800	58,900	3%	12.7	12.4	13.1
Aberdeen City	39	2,400	2,200	2,600	8%	16.3	15.0	17.7
Aberdeenshire	16	1,200	1,100	1,400	13%	13.2	11.3	14.4
Angus	13	800	700	940	15%	16.5	14.0	18.9
Argyll & Bute	8	560	460	740	25%	15.0	11.4	18.3
City of Edinburgh	76	6,000	5,600	6,500	8%	12.6	11.6	13.5
Clackmannanshire	7	610	410	790	31%	12.1	9.4	18.0
Dumfries & Galloway	15	1,100	940	1,300	16%	13.3	11.2	15.5
Dundee City	37	2,300	2,200	2,400	4%	16.2	15.5	16.9
East Ayrshire	19	1,600	1,500	1,800	9%	12.0	10.7	12.8
East Dunbartonshire	6	710	480	760	20%	8.2	7.6	12.1
East Lothian	10	920	790	1,100	17%	11.3	9.5	13.2
East Renfrewshire	5	800	610	1,200	37%	6.3	4.2	8.2
Falkirk	16	1,200	1,100	1,400	13%	13.3	11.4	14.5
Fife	48	2,800	2,500	3,100	11%	17.1	15.5	19.2
Glasgow City	147	11,900	11,100	12,800	7%	12.4	11.5	13.3
Highland	19	1,400	1,200	1,500	11%	13.9	12.9	16.2
Inverclyde	17	1,500	1,300	1,700	13%	11.5	10.1	13.2
Midlothian	10	760	650	970	21%	12.6	9.9	14.8
Moray	7	270	210	350	26%	25.2	19.4	32.4
Na h-Eileanan Siar	2	50	40	70	30%	32.0	22.9	40.0
North Ayrshire	20	1,600	1,500	1,800	9%	12.3	10.9	13.1
North Lanarkshire	43	3,600	3,300	4,100	11%	11.9	10.5	13.0
Orkney Islands	1	30	20	50	50%	26.7	16.0	40.0
Perth & Kinross	10	1,500	1,300	1,800	17%	6.9	5.8	8.0
Renfrewshire	28	2,700	2,400	3,200	15%	10.5	8.9	11.8
Scottish Borders	11	510	450	600	15%	21.6	18.3	24.4
Shetland Islands	2	170	120	260	41%	9.4	6.2	13.3
South Ayrshire	15	940	850	1,100	13%	15.7	13.5	17.4
South Lanarkshire	43	4,000	3,600	4,700	14%	10.8	9.1	11.9
Stirling	10	1,000	840	1,300	23%	10.0	7.7	11.9
West Dunbartonshire	13	1,100	940	1,400	21%	12.2	9.6	14.3
West Lothian	16	1,300	1,100	1,400	12%	12.6	11.7	14.9

Footnotes

1) to 5) refer to the corresponding footnotes to Table HB5.

6) With effect from the "... in 2016" edition of this publication, the alphabetical order of the councils changed due to the adoption of the preferred forms of reference for the Edinburgh and Western Isles areas. Previous versions of this table used the forms 'Edinburgh, City of' and 'Eilean Siar'.

Figure 3: Drug-related deaths per 1,000 problem drug users - council areas

Note

These figures were calculated using the annual average number of drug-deaths for 2013-2017 and the estimated numbers of problem drug users for 2015/16. The 'error bars' indicate the likely ranges of values - refer to the text.

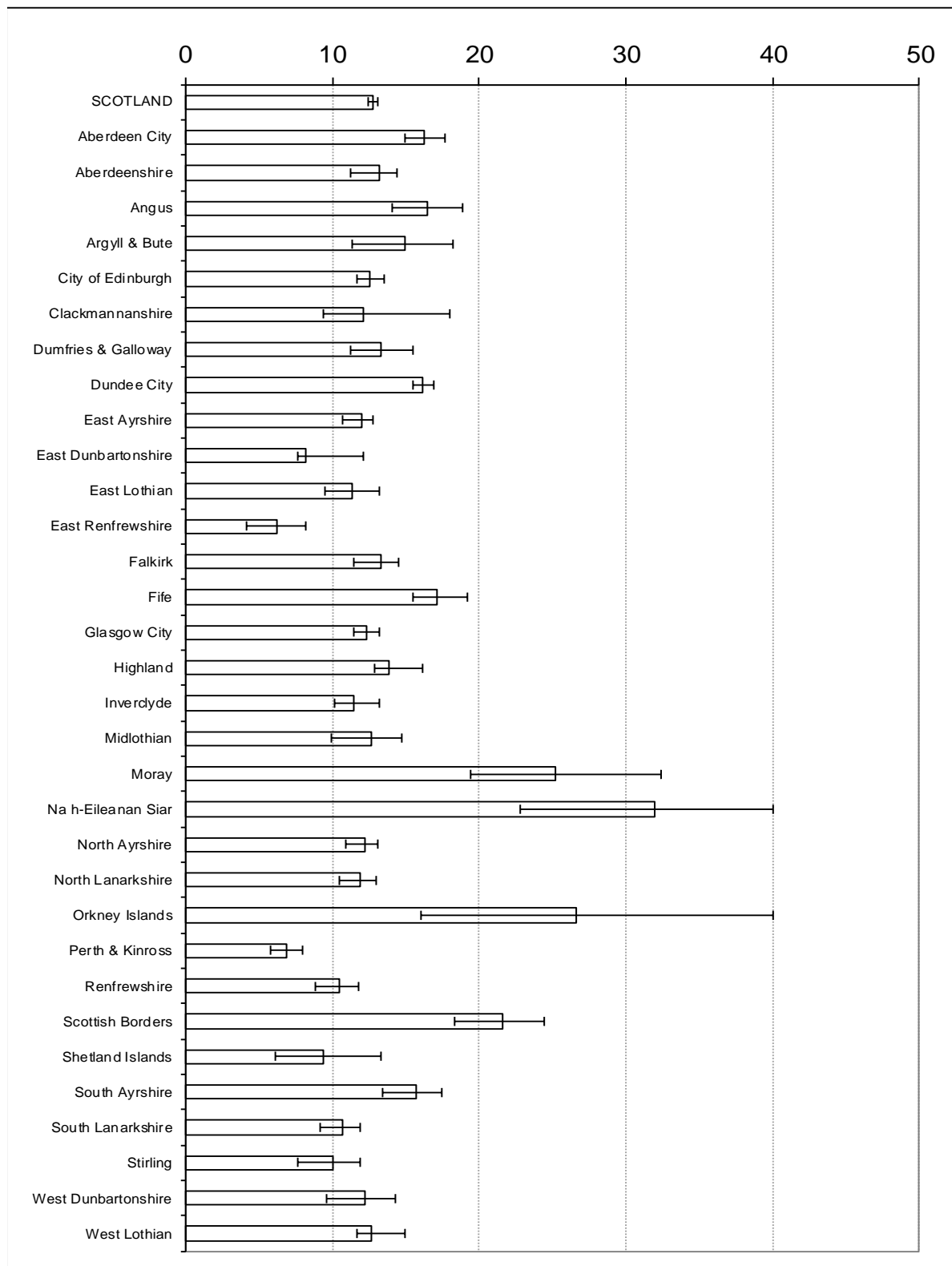


Table X: Drug-related deaths in Scotland - different definitions¹, 1979 – 2019

Year	Number of drug-related deaths, on the basis of:			Population	Drug-deaths per million population		
	this paper (based on UK Drug Strategy 'baseline' definition)	Office for National Statistics 'wide' definition	European Monitoring Centre for Drugs and Drug Addiction 'general mortality register' definition ²		this paper (based on UK Drug Strategy 'baseline' definition)	Office for National Statistics 'wide' definition	European Monitoring Centre for Drugs and Drug Addiction 'general mortality register' definition ²
1979		339		5,203,600		65.1	
1980		306		5,193,900		58.9	
1981		307		5,180,200		59.3	
1982		265		5,164,540		51.3	
1983		212		5,148,120		41.2	
1984		201		5,138,880		39.1	
1985		242		5,127,890		47.2	
1986		223		5,111,760		43.6	
1987		250		5,099,020		49.0	
1988		238		5,077,440		46.9	
1989		264		5,078,190		52.0	
1990		275		5,081,270		54.1	
1991		275		5,083,330		54.1	
1992		311		5,085,620		61.2	
1993		372		5,092,460		73.0	
1994		422		5,102,210		82.7	
1995		426		5,103,690		83.5	
1996	244	460	208	5,092,190	47.9	90.3	40.8
1997	224	447	188	5,083,340	44.1	87.9	37.0
1998	249	449	230	5,077,070	49.0	88.4	45.3
1999	291	492	272	5,071,950	57.4	97.0	53.6
2000	292	495	320	5,062,940	57.7	97.8	63.2
2001	332	551	378	5,064,200	65.6	108.8	74.6
2002	382	566	417	5,066,000	75.4	111.7	82.3
2003	317	493	331	5,068,500	62.5	97.3	65.3
2004	356	546	387	5,084,300	70.0	107.4	76.1
2005	336	480	352	5,110,200	65.8	93.9	68.9
2006	421	577	415	5,133,000	82.0	112.4	80.8
2007	455	630	450	5,170,000	88.0	121.9	87.0
2008	574	737	559	5,202,900	110.3	141.7	107.4
2009	545	716	534	5,231,900	104.2	136.9	102.1
2010	485	692	482	5,262,200	92.2	131.5	91.6
2011	584	749	558	5,299,900	110.2	141.3	105.3
2012	581	734	549	5,313,600	109.3	138.1	103.3
2013	527	685	516	5,327,700	98.9	128.6	96.9
2014	614	743	574	5,347,600	114.8	138.9	107.3
2015	706	813	637	5,373,000	131.4	151.3	118.6
2016	868	997	772	5,404,700	160.6	184.5	142.8
2017	934	1,045	828	5,424,800	172.2	192.6	152.6
2018	1,187	1,313	1,064	5,438,100	218.3	241.4	195.7
2019	1,264	1,406	1,137	5,463,300	231.4	257.4	208.1

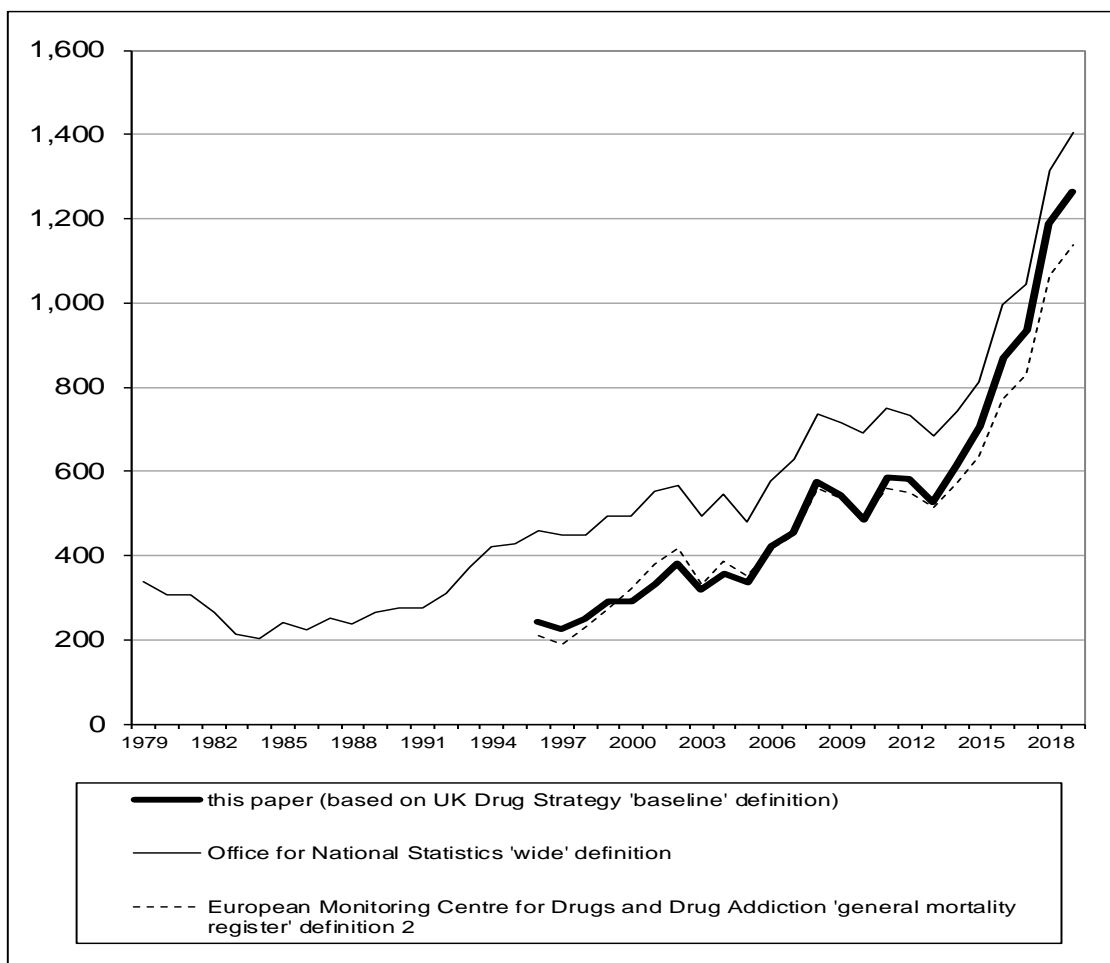
Footnotes

1) Refer to Annex B for information about the other definitions.

2) In 2016, the figures for some of the years from 2000 to 2014 were revised slightly from those that were published in 'Drug-related Deaths in Scotland in 2014'.

Figure 4: Drug-related deaths in Scotland - different definitions

numbers



per million population

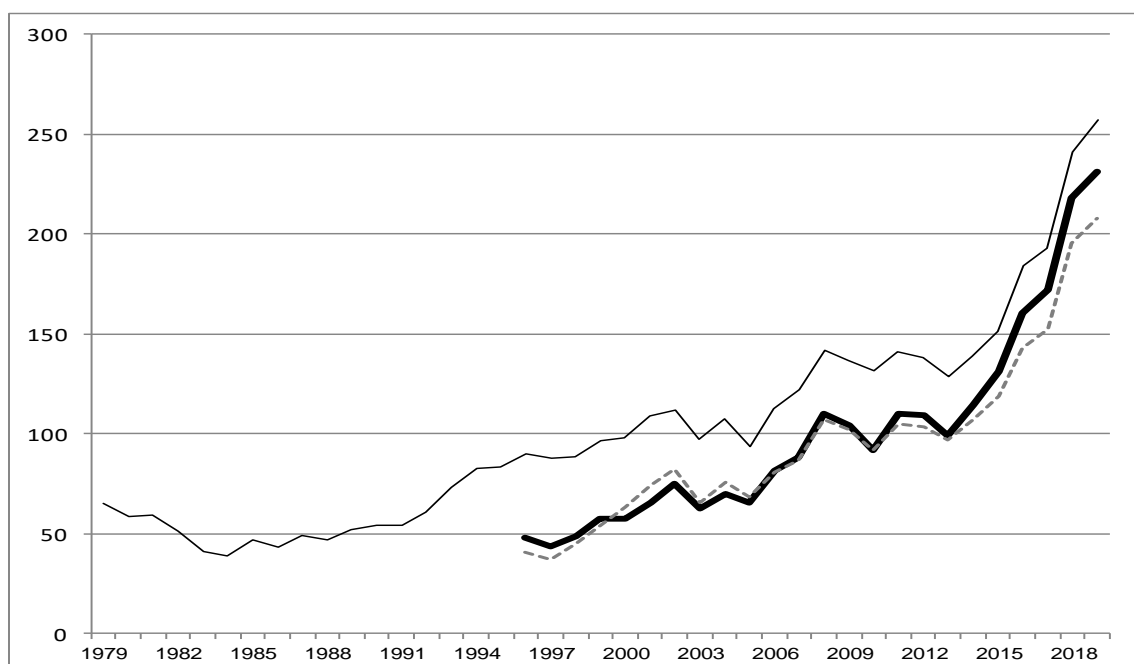


Table Y: Drug-related deaths, on the basis of the Office for National Statistics (ONS) 'wide' definition, by selected drugs reported, 2009 – 2019

Drugs ^{1, 2}	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All drug-related deaths (on the 'wide' definition)	716	692	749	734	685	743	813	997	1,045	1,313	1,406
Alprazolam	1	-	1	-	-	-	2	24	99	137	65
Amitriptyline	32	41	37	44	60	41	47	54	42	58	41
Amphetamines	7	3	24	18	27	22	17	26	33	46	52
Anti-depressants ³	97	123	116	121	120	103	132	130	148	169	110
Anti-psychotics ⁴	19	21	32	35	29	23	30	29	30	30	30
Benzodiazepines ⁵	158	124	187	198	149	125	192	431	555	797	894
"Prescribable" benzodiazepines ⁶	158	124	173	180	126	94	144	175	234	239	196
"Street" benzodiazepines ⁶	1	-	15	21	40	44	59	307	426	679	819
Buprenorphine	2	4	10	8	11	29	25	40	36	90	82
Cannabis and cannabinoids (incl. synthetic ones)	-	-	-	-	-	2	7	5	2	3	4
Citalopram	20	26	22	18	13	11	18	11	9	7	10
Cocaine	33	34	36	31	45	45	94	123	176	278	368
Codeine or a compound thereof ⁷	46	20	48	41	46	45	40	45	40	65	66
Diazepam	120	94	124	161	106	85	122	154	205	212	179
Diclazepam or a metabolite thereof ⁸	-	-	-	-	1	6	10	94	38	60	23
Dihydrocodeine or a compound thereof ⁹	65	65	87	86	81	72	95	115	101	134	116
Ecstasy-type (usually MDMA)	2	-	9	9	17	14	15	29	27	36	26
Etizolam	-	-	-	1	8	37	43	225	300	551	756
Fentanyl	1	1	5	7	4	5	3	7	15	12	25
Flualprazolam	-	-	-	-	-	-	-	-	-	-	22
Fluoxetine	7	16	11	13	9	10	11	16	16	16	11
Gabapentin	2	4	10	24	51	67	102	154	144	200	195
Gabapentin or Pregabalin	2	5	11	29	62	91	135	212	245	377	441
Heroin/diamorphine or Morphine ¹⁰	326	256	207	222	221	312	349	477	475	542	647
Heroin / morphine, Methadone or Buprenorphine ¹¹	440	400	431	403	383	454	497	656	716	904	965
Methadone	177	177	275	241	216	216	252	366	443	564	566
Mirtazepine	14	9	18	24	26	20	39	35	65	59	34
Olanzapine	6	7	9	14	8	5	11	11	11	15	11
Opiate or opioid ¹²	540	480	558	531	499	553	619	776	840	1,039	1,112
Oxycodone	6	3	12	11	9	7	12	17	20	19	36
Paracetamol or a compound ¹³	43	48	45	37	38	43	36	41	54	55	49
Phenazepam	-	-	14	20	34	6	6	6	30	27	24
Pregabalin	-	1	1	5	12	26	42	71	121	216	280
Propranolol	9	5	11	15	18	17	13	15	20	29	18
Quetiapine	5	5	16	11	8	10	13	9	12	8	11
Sertraline	2	6	3	6	7	11	13	16	16	19	9
Tramadol	40	40	34	48	64	38	53	64	60	57	56
Venlafaxine	11	13	12	11	7	7	12	9	14	19	15
Zopiclone	9	12	14	16	16	9	20	22	29	24	18
Alcohol	187	151	148	136	129	116	123	135	107	172	157

Footnotes

1) More than one drug may be reported per death. These are mentions of each drug, so do not add up to the overall total. Up to 2007, some pathologists reported only those drugs which they thought caused, or contributed to, the death. With effect from 2008, pathologists report separately:

- (a) drugs which were implicated in, or which potentially contributed to, the cause of death; and
- (b) other drugs which were present but which were not considered to have had any direct contribution to the death.

The figures for 2008 onwards are on the first basis - i.e. basis (a) - which has been the standard basis for figures for individual drugs with effect from the "... in 2009" edition. There may be other differences between years and/or areas in the way in which the information was produced - more information can be found in Section 2 of the commentary.

2) The figures for some of the 'controlled' drugs may differ slightly from those given in earlier tables for two reasons. First, they were produced from what was then the General Register Office for Scotland's new database, rather than the old database (more information can be found in paragraph A4). Second, a small proportion of the deaths which involved controlled drugs were excluded from the figures which appear in the earlier tables, for reasons such as those given in paragraph A3.

3) For example; amitriptyline, citalopram, dothiepin, fluoxetine, prothaiden.

4) For example; chlorpromazine, clozapine, olanzapine.

5) For example; diazepam and temazepam.

6) The distinction between "prescribable" and "street" benzodiazepines is as specified by the Information Services Division (ISD) of NHS National Services Scotland, which is now part of Public Health Scotland - see Annex H.

7) For example; co-codamol.

8) Diclazepam or one of its metabolites (lorazepam, delorazepam or lormetazepam), apart from cases where lorazepam but none of the other three was found in the body

9) For example; co-dydramol.

10) More information can be found in paragraph 3.3.1 of the commentary.

11) This is one or more of heroin/diamorphine, morphine, methadone and buprenorphine.

12) Any opiate or opioid, including (e.g.) co-codamol, codeine, dihydrocodeine, heroin, methadone, morphine, oxycodone and tramadol.

13) For example; co-codamol or co-proxamol, or mention of dextropropoxyphene or propoxyphene (even if there is no mention of paracetamol or a compound) analgesic).

Table Z: Drug-related deaths, on the basis of the Office for National Statistics (ONS) 'wide' definition, how they relate to the Drug Strategy 'baseline' definition, deaths from some causes which may be associated with present or past drug misuse, and volatile substance abuse deaths, 2009 – 2019

Cause of death	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All drug-related deaths (on the 'wide' definition)	716	692	749	734	685	743	813	997	1,045	1,313	1,406
of which:											
on the basis used for this report's statistics (i.e. the Drug Strategy 'baseline' definition, as implemented by National Records of Scotland (NRS))	545	485	584	581	527	614	706	868	934	1,187	1,264
deaths within the Drug Strategy 'baseline' definition, but excluded from this report's statistics because: ¹											
(a) cause of death was a secondary infection or a related complication ²	22	33	16	14	22	22	23	27	21	23	23
(b) controlled substance was present only as part of a compound analgesic or a cold remedy	3	5	4	1	4	5	4	3	10	5	7
other deaths counted as 'drug-related' by the 'wide' definition - but not on the basis used for this report ³	146	169	145	138	132	102	80	99	80	98	112
Deaths from some causes which may be associated with present or past drug misuse ⁴											
Underlying cause of death, with its ICD10 ⁵ code(s):											
Hepatitis C (B18.2)	21	19	25	22	23	18	45	25	21	13	15
HIV (B20-24)	17	21	16	18	14	14	12	24	6	13	12
Total all deaths from the specified causes	38	40	41	40	37	32	57	49	27	26	27
Volatile Substance Abuse deaths											
International Centre for Drugs Policy (ICDP) figures for Scotland ⁶	4	17	..	..	..	..	..	..	..	..	..
Figures produced by NRS using the definition specified for an ONS publication ⁷	16	10	25	18	12	14	9	13	8	14	7

Footnotes

- 1) Paragraph A3 in Annex A explains why these kinds of deaths are excluded from the standard definition of 'drug-related death' figures produced by National Records of Scotland (NRS.)
- 2) Including, for example, deaths caused by infections that resulted from the use of heroin which was contaminated by, say, anthrax.
- 3) Including, for example, accidental deaths which were caused by the use of drugs which were not controlled at the time, such as those before 16 April 2010 which resulted from using mephedrone (assuming that no controlled drugs were found in the body).
- 4) Only a proportion of deaths from these causes can be attributed to drug misuse - more information can be found in paragraph B8 of Annex B.
- 5) 'ICD10' is the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision.
- 6) More information can be found in paragraph B13 of Annex B about the statistics that the ICDP produced. A few deaths per year may be counted both in the 'ICDP' figures and in the standard drug-related death statistics produced by NRS.
- 7) More information can be found in paragraph B14 of Annex B. Again, some deaths are counted both in these figures and in the standard drug-related death statistics.

Table NPS1: Drug-related deaths, on the basis of the Office for National Statistics (ONS) 'wide' definition, which involved New Psychoactive Substances, 2019

(i) Deaths for which one or more NPSs was implicated in, or potentially contributed to, the death

	Type(s) of NPS that were present			All type(s) of NPS
	Benzodiazepine-type NPS present; no other types of NPS	Other types of NPS present; no Benzodiazepine-type NPS	Both benzodiazepine-type NPS and other types of NPS	
Included in this report's statistics ²				
NPS the only substance(s)* implicated in the death	8	1	0	9
Other substance(s)** implicated in the death	764	1	3	768
All	772	2	3	777
NOT included in this report's statistics				
NPS the only substance(s)* implicated in the death	0	0	0	0
Other substance(s)** implicated in the death	5	1	0	6
All	5	1	0	6
All deaths for which one or more NPSs was implicated in, or potentially contributed to, the death				
NPS the only substance(s)* implicated in the death	8	1	0	9
Other substance(s)** implicated in the death	769	2	3	774
All	777	3	3	783

	Age at Death					All	Sex	
	under 25	25 to 34	35 to 44	45 to 54	55 & over		Male	Female
Included in this report's statistics ²								
Benzodiazepine-type NPS present; no other types of NPS	41	127	305	250	49	772	554	218
Other types of NPS present; no Benzodiazepine-type NPS	0	2	0	0	0	2	2	0
Both Benzodiazepine-type NPS and other types of NPS present	0	0	3	0	0	3	3	0
All	41	129	308	250	49	777	559	218
NOT included in this report's statistics								
Benzodiazepine-type NPS present; no other types of NPS	0	0	2	3	0	5	5	0
Other types of NPS present; no Benzodiazepine-type NPS	1	0	0	0	0	1	1	0
Both Benzodiazepine-type NPS and other types of NPS present	0	0	0	0	0	0	0	0
All	1	0	2	3	0	6	6	0
All deaths for which one or more NPSs was implicated in, or potentially contributed to, the death								
Benzodiazepine-type NPS present; no other types of NPS	41	127	307	253	49	777	559	218
Other types of NPS present; no Benzodiazepine-type NPS	1	2	0	0	0	3	3	0
Both Benzodiazepine-type NPS and other types of NPS present	0	0	3	0	0	3	3	0
All	42	129	310	253	49	783	565	218

(ii) Deaths for which NPSs were present but were NOT considered to have contributed to the death

	Age at Death					All	Sex	
	under 25	25 to 34	35 to 44	45 to 54	55 & over		Male	Female
Included in this report's statistics ²								
Benzodiazepine-type NPS present; no other types of NPS	3	2	7	7	0	19	12	7
Other types of NPS present; no Benzodiazepine-type NPS	0	0	0	0	0	0	0	0
Both Benzodiazepine-type NPS and other types of NPS present	0	0	0	0	0	0	0	0
All	3	2	7	7	0	19	12	7
NOT included in this report's statistics								
Benzodiazepine-type NPS present; no other types of NPS	0	0	0	0	0	0	0	0
Other types of NPS present; no Benzodiazepine-type NPS	0	0	0	0	0	0	0	0
Both Benzodiazepine-type NPS and other types of NPS present	0	0	0	0	0	0	0	0
All	0	0	0	0	0	0	0	0
All deaths for which NPSs were present but were not considered to have contributed to the death								
Benzodiazepine-type NPS present; no other types of NPS	3	2	7	7	0	19	12	7
Other types of NPS present; no Benzodiazepine-type NPS	0	0	0	0	0	0	0	0
Both Benzodiazepine-type NPS and other types of NPS present	0	0	0	0	0	0	0	0
All	3	2	7	7	0	19	12	7

Footnotes

1) The substances which are counted (for the purpose of these figures) as New Psychoactive Substances are described in Annex E.

2) This is within the Drug Strategy 'baseline' definition, as implemented by National Records of Scotland

* apart, perhaps, from alcohol. For example, a death for which mephedrone and alcohol were the only substances that were implicated in the death would be counted under 'NPS the only substance(s) implicated in the death'.

** apart, perhaps, from alcohol.

Table NPS2: Drug-related deaths, on the basis of the Office for National Statistics (ONS) 'wide' definition, which involved New Psychoactive Substances, 2009 to 2019

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All drug-related deaths (on the 'wide' definition)	716	692	749	734	685	743	813	997	1,045	1,313	1,406
Deaths which involved 'New Psychoactive Substances' ¹	4	11	47	47	113	114	112	345	363	588	802
<i>of which:</i>											
(a) deaths for which one (or more) New Psychoactive Substances was implicated in, or potentially contributed, to the death	3	9	28	32	60	62	74	286	337	575	783
(i) included in this report's statistics (i.e. in the Drug Strategy 'baseline' definition, as implemented by NRS)	2	6	26	30	58	56	72	281	335	572	777
<i>of which:</i>											
NPS the only substance(s)* implicated in the death ²	0	4	0	3	4	3	2	2	4	8	9
Other substance(s)** also implicated in the death ³	2	2	26	27	54	53	70	279	331	564	768
(ii) <u>not</u> included in this report's statistics	1	3	2	2	2	6	2	5	2	3	6
<i>of which:</i>											
NPS the only substance(s)* implicated in the death ⁴	0	3	1	2	2	4	1	2	1	1	0
Other substance(s)** also implicated in the death ⁵	1	0	1	0	0	2	1	3	1	2	6
(iii) total of (i) + (ii):											
NPS the only substance(s)* implicated in the death	0	7	1	5	6	7	3	4	5	9	9
Other substance(s)** also implicated in the death	3	2	27	27	54	55	71	282	332	566	774
(b) deaths for which one (or more) New Psychoactive Substances was present but <u>not</u> considered to have contributed to the death	1	2	19	15	53	52	38	59	26	13	19
<i>of which:</i>											
(i) included in this report's statistics ⁶	1	2	19	15	52	51	36	58	25	13	19
(ii) <u>not</u> included in this report's statistics ⁷	0	0	0	0	1	1	2	1	1	0	0
Total: all deaths which involved New Psychoactive Substances	4	11	47	47	113	114	112	345	363	588	802
<i>of which:</i>											
(i) included in this report's statistics	3	8	45	45	110	107	108	339	360	585	796
(ii) <u>not</u> included in this report's statistics	1	3	2	2	3	7	4	6	3	3	6

Footnotes

- 1) The substances which are counted (for the purpose of these figures) as 'New Psychoactive Substances' are described in Annex E.
 - 2) For example, the death was after 15 April 2010, the cause of death was certified as 'mephedrone intoxication', and no other substance was said to have been found.
 - 3) For example, the cause of death was certified as 'adverse effects of methadone and mephedrone'.
Note that the date of death is not a factor, because methadone has 'always' been controlled.
 - 4) For example, the death occurred up to 15 April 2010, the cause of death was certified as 'mephedrone intoxication', and no other substance was said to have been found.
 - 5) For example, the death occurred up to 15 April 2010, and both mephedrone and an uncontrolled volatile substance were said to be implicated in, or potentially contributed, to the death.
 - 6) For example, the cause of death was given as 'heroin, alcohol and diazepam toxicity', and BZP and TMPP were also present.
 - 7) An artificial example would be a death which occurred up to 15 April 2010, co-codamol was said to be implicated in, or potentially contributed, to the death; mephedrone was said to be present but did not contribute to the death.
- * apart, perhaps, from alcohol.
** apart, perhaps, from alcohol.

Table NPS3: Drug-related deaths, on the basis of the Office for National Statistics (ONS) 'wide' definition, which involved New Psychoactive Substances, 2019

Note: because of its size, this table is not included here. It is available in the workbook which contains spreadsheet versions of all the publication's Tables and Figures, which can be found via its [home page](#) on the NRS website.

Table CS1: Consistent series of drug-related deaths – ‘extra’ deaths and which of the drugs that were present for each of the ‘extra’ deaths meant that they were counted in the consistent series: 2000 to 2019

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Drug-related deaths: consistent series ¹	293	339	388	330	365	346	430	474	591	570	512	609	606	559	624	710	873	937	1,196	1,266
Drug-related deaths: standard definition ²	292	332	382	317	356	336	421	455	574	545	485	584	581	527	614	706	868	934	1,187	1,264
'Extra' deaths counted in the consistent series ³	1	7	6	13	9	10	9	19	17	25	27	25	25	32	10	4	5	3	9	2
<i>of which:</i>																				
Mephedrone ⁴ present	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Phenazepam ⁵ present	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Tramadol ⁶ present	0	5	2	12	8	9	9	16	14	19	17	12	17	27	3	0	0	0	0	0
Zopiclone ⁶ present	1	2	4	1	1	1	0	4	2	6	7	9	7	1	0	0	0	0	0	0
Etizolam ⁷ present	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	1	0	0
Gabapentin present ⁸	0	0	0	0	0	0	0	0	1	0	2	3	5	4	2	2	1	2	5	0
Pregabalin present ⁸	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	1	2	0	5	2
None of the above, but one or more other substances which are now controlled were present ⁹	0	0	0	0	0	0	0	0	0	1	0	0	1	2	1	1	1	0	0	0

Footnotes

- 1) Broadly speaking, counting deaths on the basis of the classification of the drugs at the end of the latest year which is covered by the publication. Refer to Annex F for the full definition.
- 2) Broadly speaking, counting deaths on the basis of the classification of the drugs at the time of death. Refer to Annex A for the full definition.
- 3) These are deaths which are counted in the consistent series but are not counted in the standard definition.
- 4) Mephedrone has been a controlled substance with effect from 16 April 2010, so subsequent deaths involving it are counted in the 'standard definition' figures (and not 'extra' deaths).
- 5) Phenazepam has been a controlled substance with effect from 13 June 2012, so subsequent deaths involving it are counted in the 'standard definition' figures (and not 'extra' deaths).
- 6) Tramadol and zopiclone have been controlled substances with effect from 10 June 2014, so subsequent deaths involving either (or both) of them are counted in the 'standard definition' figures (and not 'extra' deaths).
- 7) Etizolam has been a controlled substances with effect from 31 May 2017, so subsequent deaths involving it are counted in the 'standard definition' figures (and not 'extra' deaths).
- 8) Gabapentin and pregabalin have been controlled substances with effect from 1 April 2019, so subsequent deaths involving either (or both) of them are counted in the 'standard definition' figures (and not 'extra' deaths).
- 9) For example one or more of APB, API and BZP were present.

Table CS2: Consistent series of drug-related deaths – ‘extra’ deaths by sex and age: 2000 to 2019

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Drug-related deaths: consistent series ¹	293	339	388	330	365	346	430	474	591	570	512	609	606	559	624	710	873	937	1,196	1,266
Drug-related deaths: standard definition ²	292	332	382	317	356	336	421	455	574	545	485	584	581	527	614	706	868	934	1,187	1,264
'Extra' deaths counted in the consistent series ³	1	7	6	13	9	10	9	19	17	25	27	25	25	32	10	4	5	3	9	2
<i>of which:</i>																				
Male	0	3	3	6	2	6	7	6	11	13	16	13	15	20	6	1	3	1	4	0
Female	1	4	3	7	7	4	2	13	6	12	11	12	10	12	4	3	2	2	5	2
under 25	0	0	0	2	0	0	2	0	2	1	3	0	0	3	1	0	0	0	0	0
25 to 34	0	0	1	2	2	1	2	0	2	2	0	3	3	4	1	0	3	0	1	0
35 to 44	0	3	2	3	2	2	2	4	4	7	8	6	2	9	3	3	0	2	1	0
45 to 54	1	3	1	0	2	4	3	6	2	6	7	11	8	4	3	1	1	1	4	2
55 and over	0	1	2	6	3	3	0	9	7	9	9	5	12	12	2	0	1	0	3	0
Males																				
under 25	0	0	0	0	0	0	2	0	2	1	3	0	0	1	0	0	0	0	0	0
25 to 34	0	0	0	1	1	0	1	0	1	2	0	1	2	3	1	0	2	0	1	0
35 to 44	0	2	0	2	0	2	1	1	3	3	4	6	2	6	3	0	0	1	1	0
45 to 54	0	1	1	0	0	1	3	2	2	2	4	4	4	4	1	1	1	0	2	0
55 and over	0	0	2	3	1	3	0	3	3	5	5	2	7	6	1	0	0	0	0	0
Females																				
under 25	0	0	0	2	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0
25 to 34	0	0	1	1	1	1	1	0	1	0	0	2	1	1	0	0	1	0	0	0
35 to 44	0	1	2	1	2	0	1	3	1	4	4	0	0	3	0	3	0	1	0	0
45 to 54	1	2	0	0	2	3	0	4	0	4	3	7	4	0	2	0	0	1	2	2
55 and over	0	1	0	3	2	0	0	6	4	4	4	3	5	6	1	0	1	0	3	0

Footnotes

- 1) Broadly speaking, counting deaths on the basis of the classification of the drugs at the end of the latest year which is covered by the publication. Refer to Annex F for the full definition.
- 2) Broadly speaking, counting deaths on the basis of the classification of the drugs at the time of death. Refer to Annex A for the full definition.
- 3) These are deaths which are counted in the consistent series but are not counted in the standard definition.

Table EMCDDA: ‘Drug-induced’ deaths aged 15-64: reported number and rate per million population, latest year’s figures

	'Drug-induced' deaths ¹ aged 15-64	
	Number reported for latest year ²	per million population ²
Belgium	60	8
Bulgaria	21	5
Czech Republic	36	5
Denmark	191	52
Germany	1,120	21
Estonia	36	43
Ireland	227	72
Greece	..	..
Spain	437	14
France	391	9
Croatia	80	30
Italy	332	9
Cyprus	12	20
Latvia	20	16
Lithuania	59	32
Luxembourg	4	10
Hungary	28	4
Malta	5	16
Netherlands	206	18
Austria	184	31
Poland	168	7
Portugal	43	6
Romania	26	2
Slovenia	55	41
Slovakia	30	8
Finland	248	72
Sweden	515	81
United Kingdom ³	3,126	76
European Union	7,660	24
Turkey	637	12
Norway	229	66
EU, Turkey and Norway	8,526	22
Scotland ³		
2017: the year of the "UK" figures ⁴	813	229
2018: the year of most other countries' figures ⁵	1,046	295
2019: more up-to-date than all the EMCDDA's figures ⁶	1,121	315

Footnotes

1) As defined by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA).

2) For all countries apart from Scotland, the figures are taken from Table A6 on page 80 of the EMCDDA's 'European Drug Report 2020', which was published on 22 September 2020 and is available via this link:

<http://www.emcdda.europa.eu/edr2020>

Most countries' figures are for 2018, but some are for 2017 or earlier years.

Page 65 of the EMCDDA's "2020" report includes the following statement:

Overdose data ... must be interpreted with caution ... systematic under-reporting in some countries, differences in the way toxicological examinations are conducted, and registration processes that can result in reporting delays ...

3) The EMCDDA's table indicates that the UK's figures are for 2017, and (in this edition) a footnote says that "drug-induced deaths data do not include Northern Ireland". UK Focal Point on Drugs has confirmed that that is the case: the "UK" figures are for 2017 and (on this occasion) cover only Great Britain rather than the UK as a whole.

4) These figures for Scotland are for the same year as the "UK" figures in the EMCDDA's table

5) These figures for Scotland are for the same year as the figures for most of the other countries that are shown in the EMCDDA's table

6) These figures for Scotland are for the most recent year, and so are more up-to-date than the figures for all the other countries that are shown in the EMCDDA's table

6. Notes on statistical publications

National Statistics

The United Kingdom Statistics Authority (UKSA) has designated these statistics as National Statistics, in line with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics (available on the [UKSA](#) website).

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Official Statistics. They are awarded National Statistics status following an assessment by the Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is National Records of Scotland's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

Information on background and source data

Further details on data source(s), timeframe of data and timeliness, continuity of data, accuracy, etc. can be found in the metadata that is published alongside this publication on the NRS website.

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Please get in touch if you need any further information, or have any suggestions for improvement.

E-mail: statisticscustomerservices@nrscotland.gov.uk

Lead Statistician: Frank Dixon

7. Related organisations

Organisation	Contact
<p>The Scottish Government (SG) forms the bulk of the devolved Scottish Administration. The aim of the statistical service in the SG is to provide relevant and reliable statistical information, analysis and advice that meets the needs of government, business and the people of Scotland.</p>	<p>Office of the Chief Statistician and Strategic Analysis Scottish Government 2W, St Andrews House Edinburgh EH1 3DG</p> <p>Phone: 0131 244 0442</p> <p>Email: statistics.enquiries@gov.scot</p> <p>Website: http://www.gov.scot/Topics/Statistics</p>
<p>The Office for National Statistics (ONS) is responsible for producing a wide range of economic and social statistics. It also carries out the Census of Population for England and Wales</p>	<p>Customer Contact Centre Office for National Statistics Room 1.101 Government Buildings Cardiff Road Newport NP10 8XG</p> <p>Phone: 0845 601 3034 Minicom: 01633 815044</p> <p>Email: info@statistics.gsi.gov.uk</p> <p>Website: www.ons.gov.uk/</p>
<p>The Northern Ireland Statistics and Research Agency (NISRA) is Northern Ireland's official statistics organisation. The agency is also responsible for registering births, marriages, adoptions and deaths in Northern Ireland, and the Census of Population.</p>	<p>Northern Ireland Statistics and Research Agency McAuley House 2-14 Castle Street Belfast BT1 1SA</p> <p>Phone: 028 9034 8100</p> <p>Email: info.nisra@dfpni.gov.uk</p> <p>Website: www.nisra.gov.uk</p>

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