

Deaths related to drug poisoning in England and Wales QMI

Contact:
mortality@ons.gov.uk


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1 . Methodology background

National Statistic	
Frequency	Annual
How compiled	Administrative data
Geographic coverage	England and Wales
Last revised	9 March 2018

2 . Important points about deaths related to drug poisoning data

- The main figures presented are based on registration year rather than occurrence year; this means that the years reflect the date a death was certified by a coroner as opposed to when the death happened.
- Many deaths involve more than one type of drug and/or alcohol and it is not possible to tell which substance was primarily responsible for the death.
- The figures include accidents and suicides involving drug poisonings, as well as deaths from drug abuse and drug dependence; they do not include other adverse effects of drugs (for example, anaphylactic shock), or other types of accidents (for example, a car crash) where the driver was under the influence of drugs.
- Causes of death are coded using the International Statistical Classification of Diseases and Related Health Problems; due to changes in this (and the software used for coding) over time, the deaths by underlying cause data is not a consistent time series.

3 . Overview of the output

The [deaths related to drug poisoning in England and Wales](#) statistical bulletin contains main findings and commentary on the latest years of data, with a time series of figures from 1993. Annual figures are broken down by cause of death, sex, age, place of usual residence of the deceased and the substance(s) involved in the death.

The output is compiled using a drug-related deaths database that Office for National Statistics (ONS) developed to facilitate research into deaths related to drug poisoning. The drug-related deaths database is extracted from the national mortality database for England and Wales. Deaths are included if the underlying cause of death is regarded as drug-related, according to the National Statistics definition (see Concepts and definitions section).

ONS mortality data (including data on drug-related deaths) come from the information collected when a death is registered. Information about the underlying mortality data, including details on how the data are collected and coded are available in the [Mortality metadata \(PDF, 2.4MB\)](#). The majority of deaths related to drug poisoning are registered following a coroner's inquest and the text on the coroner's death certificate is used to code all of the substances involved in the death.

4 . Output quality

This report provides a range of information that describes the quality of the data and details any points that should be noted when using the output.

We have developed [Guidelines for Measuring Statistical Quality](#); these are based upon the five European Statistical System (ESS) Quality Dimensions. This report addresses these quality dimensions and other important quality characteristics, which are:

- relevance
- timeliness and punctuality
- coherence and comparability
- accuracy
- output quality trade-offs
- assessment of user needs and perceptions
- accessibility and clarity

More information is provided about these quality dimensions in the following sections.

5 . About the output

Relevance

(The degree to which statistical outputs meet users' needs.)

Drug use and drug dependence are known causes of premature mortality, with drug poisoning accounting for [16% of deaths among people in their 20s and 30s in 2016](#). Accidental poisoning was [a leading cause of death for persons aged 20 to 49 in 2016](#). Consequently, there is considerable political, media and public interest in these figures.

The annual statistical bulletin presents figures on deaths related to drug poisoning in England and Wales for the latest years and a time series from 1993 to the latest year available is available. These figures are based on data collected on a coroner's death certificate; this is part of the [Statement of Administrative Sources](#).

Counts of deaths are broken down by:

- country and region of usual residence
- underlying cause of death
- sex and age of the deceased
- substances involved in the death

Age-standardised mortality rates are available alongside the numbers by sex and some selected substances. Age-specific mortality rates are included for sex and age breakdowns. Figures broken down by local authority of usual residence and sex of the deceased are released in datasets alongside the bulletin. These local authority level counts and rates are aggregated to rolling three-year periods in line with disclosure control principles and to ensure the robustness of estimates; the time series is available from 2001 to 2003. Drug misuse death numbers and rates are also available from Public Health England's [Public Health Outcomes Framework](#) (PHOF) at various geographic levels (see 'Alternative sources of data' for more information). More information on the definitions of these variables can be found in Table 2 in the Concepts and definitions section.

There are many potential uses of these figures, ranging from monitoring trends in deaths from specific substances to comparing mortality rates across geographies, sex, and age. But it is important to bear in mind that it may not be possible to identify new substances during post-mortem investigations and so deaths involving these substances may not be accurately represented in Office for National Statistics (ONS) statistics. In addition, ONS data cannot shed any light on other types of short-term harm associated with drug use (for example, social or psychological), the long-term damage that using such substances may cause, or the numbers of surviving individuals using such substances.

Numbers and rates of drug-related deaths are presented by registration year (the date that the death was registered by a coroner following an inquest), rather than the date that the death occurred. We are aware that some users would find analysis by occurrence year useful, but due to the amount of time an inquest can take this would delay publication. For more information see the Timeliness and punctuality section.

The disadvantage of using registration-based figures is that it is harder to examine the relationship between drug-related deaths and other factors. For example, researchers may wish to examine the impact of banning New Psychoactive Substances (NPSs; so-called "legal highs") on drug-related deaths, but this is difficult to do using registration figures because they do not show whether the death actually occurred before or after the ban – only when the death was registered.

To combat this, we published an article on [deaths involving legal highs in England and Wales](#). This analysis used dates of death occurrence (rather than registration) to compare drug-related death rates before and after specific categories of NPS became illegal. The annual bulletin also includes the number of deaths involving NPSs that were still legal at the time of death. For example, 39 of the 123 NPS-related deaths registered in 2016 involved NPS drugs that were not controlled under the [Misuse of Drugs Act](#) at the time of death.

More detailed statistics on drug-related deaths are available on request. Because these figures are based on confidential information contained on the coroner's death certificate, these statistics will be subject to disclosure control. To meet with the requirements in the ONS policy on protecting [confidentiality within birth and death statistics](#) it is sometimes necessary to suppress small cell counts, or the table may be redesigned (for example, several years of data may be combined). Discussions are always held with the customer in order to provide the most useful non-disclosive table.

Timeliness and punctuality

(Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the gap between planned and actual publication dates.)

The provisional release date of the statistical bulletin on deaths related to drug poisoning is announced on the statistics page on [GOV.UK](#) up to a year in advance. The date is then finalised at least four weeks before publication. The bulletin is published annually in August, approximately eight months after the end of the reference period. This delay is due to the large amount of quality-checking that must be performed on the underlying mortality data and the complex processing that is then carried out in order to update the drug-related deaths database.

In common with most other mortality statistics, figures for drug-related deaths are based on deaths registered in a particular calendar year. The alternative would be to publish statistics based on the year in which the death occurred. Almost all drug-related deaths are registered following a coroner's inquest, so deaths are often not registered until many months after they occurred. Due to the length of time it takes to hold an inquest, the bulletin actually presents information on deaths that may have occurred months or even years ago. This makes it more difficult to evaluate sudden changes in drug-related deaths.

Some users would prefer these statistics to be based on occurrences rather than registrations, but they would also prefer figures to be available more quickly. This would help them to monitor rapidly emerging trends in drug-related deaths. Unfortunately, legislation in England and Wales means when a coroner's inquest takes place, the death cannot be registered until the inquest is completed. Since we have no information about a death until it is registered, it can take months or even years for a death to be added to our mortality database. The only exception is when the coroner adjourns the inquest and carries out an "accelerated registration", while awaiting the outcome of criminal proceedings.

If we were to produce data based on the year a death occurred (rather than the year it was registered), publication would be delayed by at least six months in order to allow enough time for most of the deaths that occurred in a given year to be registered. If it were produced any earlier the data would be incomplete and hence inaccurate. It is unlikely this delay would be acceptable to users. In response to the concerns of users we carried out an investigation in 2012 into the impact of registration delays on drug-related deaths and mortality statistics in general. We examined whether it is possible to estimate the number of deaths that occurred in a year reliably, based on the number that have been registered by a given date. Unfortunately, it was concluded that the estimation methods were not robust enough to implement.

Nevertheless, as a result of these investigations, the annual bulletin now includes a comprehensive section on the impact of registration delays on drug-related deaths. Any significant differences between the trends based on occurrence year and registration year are highlighted in the commentary. Main data on the total number of drug-poisoning deaths are also made available by both year of occurrence and registration. In addition, there is a chart showing the median registration delay (measured in days).

During the investigation, analysis showed that the data was positively skewed and contains some deaths with very long registration delays (for example, more than eight years). Therefore the average registration delay is presented using the median value, as this is not influenced by extreme values. The median is defined as the value that is halfway through the ordered dataset, with an equal number of data values above and below. . For more details on related releases, the [GOV.UK release calendar](#) provides 12 months' advance notice of release dates. In the unlikely event of a change to the pre-announced release schedule, public attention will be drawn to the change and the reasons for the change will be explained fully at the same time, as set out in the [Code of Practice for Statistics](#).

6 . How the output is created

Source data

This output provides figures to enable monitoring of the number of deaths related to drug poisoning in England and Wales, including analysis of the types of substances involved in these deaths. To facilitate this research Office for National Statistics (ONS) has developed a drug-related deaths database, which is a subset of the national mortality database for England and Wales. Deaths are included if the underlying cause of death is regarded as drug-related, according to the National Statistics definition (see Concepts and definitions section).

All ONS mortality data – including statistics on deaths related to drug poisoning – come from information collected when a death is certified and registered. ONS codes all of the causes mentioned on a death certificate using the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision ([ICD-10](#)). From all of the causes mentioned, an underlying cause of death is selected using ICD coding rules. Deaths that are certified by a doctor are coded using the automated cause coding system (known as PC-ACCS). But most drug-related deaths are certified by a coroner and due to the extra information contained on the coroner's death certificate, the cause coding must be carried out manually.

Further details about how ONS mortality data are collected and coded can be found in the [Mortality metadata](#) (PDF, 2.4MB) and the [Mortality statistics in England and Wales Quality and Methodology Information](#).

How the bulletin is produced

The first stage in creating the bulletin is to add the latest year's data to the drugs database. An extract is taken from the national mortality database, following extensive quality checks on these underlying data. All deaths with a drug-related underlying cause (ICD-10 codes used are shown in Table 2 in the Concepts and definitions section) are selected and a wide range of variables are extracted from the database including: sex, age, postcode of usual residence, the date the death occurred and the date it was registered, ICD-10 codes for all conditions mentioned on the death certificate and the text from the coroner's death certificate.

ICD-10 was introduced in England and Wales in January 2001. Since then various amendments to the ICD-10 have been authorised by the World Health Organisation (WHO) and we have updated our cause coding software to incorporate these changes. For more information on the impact of these changes see the Coherence and compatibility section.

Once the extract is taken, the data are processed in a statistical package called [SAS](#). Firstly, up to seven variables are created showing which drugs are mentioned on the death certificate. Secondly, a variable is created showing whether alcohol was mentioned. This includes a wide variety of scenarios ranging from evidence of alcohol consumption around the time of death (for example, an empty vodka bottle found at the scene, mention of the deceased having been to the pub or alcohol found after toxicology tests) to long-term alcohol abuse and cirrhosis of the liver. The broad nature of this variable may limit its usefulness for some researchers. Thirdly, a variable is created showing whether a volatile substance was mentioned (for example, Butane or lighter fluid). The data are then formatted and output into Excel workbooks.

Every record is then manually checked by examining the text on the death certificate to ensure the SAS program has coded the data correctly. Once the manual checking is completed and corrections made (if needed), the dataset is expanded by deriving additional variables to show whether any of the following things were mentioned on the death certificate:

- common types of drug such as heroin or morphine, cocaine and anti-depressants
- only one drug
- no specific drugs (for example, the death certificate just said "drug overdose")
- drugs controlled under the [Misuse of Drugs Act \(1971\)](#)
- certain types of compound analgesics such as co-codamol (paracetamol and codeine)

Uniform formatting is then applied; for example, generic names (such as "fluoxetine") are used rather than brand names ("Prozac"). This standard formatting allows the database to be searched more easily. A final set of manual checks is completed to ensure the last stage of processing has been completed correctly and the latest year of data are then added to the drugs database.

Mortality rates are calculated using the number of deaths and mid-year England and Wales population estimates provided by the Population Estimates Unit at ONS. Further information about the methods used to calculate mid-year population estimates can be found in the [Mid-year population estimates short methods guide \(PDF, 114KB\)](#).

Age-standardised rates are calculated as follows:

$$\text{Age – standardised rate} = \frac{\sum (P_k m_k)}{\sum P_k}$$

where:

P_k = Standard population in sex/age group k

m_k = Observed mortality rate (deaths per 1 million persons) in sex or age group

k = age or sex group 0, 1 to 4, 5 to 9, ... , 80 to 84, 85 to 89, 90 years and over

Age-standardised rates are standardised to the [European Standard Population \(ESP\)](#). This is a hypothetical population and assumes that the age structure is the same in both sexes, therefore allowing comparisons to be made between the sexes as well as between geographical areas and over time. In 2014, we introduced a change to the ESP used for calculating age-standardised rates (for more information see the relevant section under Coherence and compatibility). Table 1 shows the ESP 2013.

Table 1: Distribution of the European Standard Population (ESP) 2013

Age	Population
Under 1	1,000
1 to 4	4,000
5 to 9	5,500
10 to 14	5,500
15 to 19	5,500
20 to 24	6,000
25 to 29	6,000
30 to 34	6,500
35 to 39	7,000
40 to 44	7,000
45 to 49	7,000
50 to 54	7,000
55 to 59	6,500
60 to 64	6,000
65 to 69	5,500
70 to 74	5,000
75 to 79	4,000
80 to 84	2,500
85 to 89	1,500
90 and over	1,000
Total	100,000

These deaths data are not subject to sampling variation, as they are not drawn from a sample. Nevertheless, they may be affected by random variation, particularly where the number of deaths is small. To help assess the variability in the rates, lower and upper confidence limits form a confidence interval, which shows the range of uncertainty around the estimated figure. As a general rule, if the confidence intervals around two figures overlap, there is only a small probability that there is a genuine difference. The age-standardised mortality rates and accompanying confidence intervals can be used to:

- compare drug-related deaths in males and females
- examine trends over time
- measure differences between different geographic areas

In 2015, we started using a new method to calculate the confidence intervals where there are fewer than 100 deaths in a group. This is described in an Association of Public Health Observatories [Technical Briefing \(PDF, 570KB\)](#). We also revised the back series to reflect this.

Previously, the confidence intervals were calculated using a normal approximation method, on the assumption that the underlying deaths data are normally distributed. But, in some instances, for example, in young people, the number of drug-related deaths is relatively small (fewer than 100), and may be assumed to follow a Poisson probability distribution. In such cases, it is more appropriate to use the confidence limit factors from a Poisson probability distribution table to calculate the confidence intervals, instead of a normal approximation method. The previous normal approximation method is still used to calculate 95% confidence intervals where there are 100 or more deaths per group.

A benefit of the new method is that, because the Poisson probability distribution is asymmetric and has a lower bound of 0, the lower confidence interval can never fall below 0 (unlike the normal approximation).

These changes do not affect the death rate – only the confidence interval around the rate. The impact is generally small and affects groups where there are less than 100 deaths, for example: Wales; English regions; females; younger and older age groups and specific substances.

An [Age-standardised mortality rate calculation template](#) (XLS, 98KB) is available.

7 . Validation and quality assurance

Accuracy

(The degree of closeness between an estimate and the true value.)

The legal requirement to register all deaths occurring in England and Wales means that death registrations provide an almost complete data source for mortality statistics. More information about the quality assurance and accuracy of the underlying mortality data can be found in the [Mortality metadata](#) (PDF, 2.4MB) and the [Mortality statistics in England and Wales Quality and Methodology Information](#).

Office for National Statistics (ONS) does not have access to post-mortem reports or toxicology results, so the accuracy of figures on deaths related to drug poisoning depends on the information provided by the coroner on the death certificate. There is wide variation in the level of detail given by individual coroners. Some provide a detailed description of the circumstances surrounding the death and list all of the substances found at post-mortem, including the amount of drugs that were taken. Others may list only some of the substances involved or provide only a general category of substance, such as “prescribed medication” or “painkillers”. To add, in around 12% of drug poisoning deaths no drug type is recorded on the coroner’s death certificate (for example, records only mention “drug overdose” or “multiple drug toxicity”).

Due to this variation, the findings relating to specific substances should be interpreted with care. In particular, figures on the number of deaths involving New Psychoactive Substances (NPSs) should be treated with caution because these types of drugs are constantly evolving and it may not always be possible to identify new substances during post-mortem investigations.

Another potential source of error is the coding of substances mentioned on the death certificate, which is done automatically in SAS and then manually checked. The automatic coding looks for key words or phrases within the coroner’s text, but it has limitations. For example, new, unusual or some misspelt substances will not be identified by the automatic coding, so care is taken during manual checking to ensure they are included. In addition, automatic coding can sometimes “over-code” the data, because it cannot take account of the context. For example, if both “opiate” and “heroin” are mentioned in the text, usually only heroin should be coded as we assume that heroin is the opiate that is being referred to. Manual checking of the SAS output minimises this potential source of error.

To add, the underlying cause of death is assigned manually, which is another potential source of error. Nevertheless, this risk is minimised as the coding is carried out by highly-trained, experienced staff who apply standardised International Classification of Diseases (ICD) coding rules. We carry out extensive quality checks on the underlying cause of death before the drugs extract is taken and further checks are conducted as part of the manual drugs coding process.

Coherence and comparability

(Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar. Comparability is the degree to which data can be compared over time and domain, for example, geographic level.)

A number of methodological changes, which may influence the comparability of figures over time, have been implemented in recent years. The nature of the changes and the effects on comparability are outlined in this section.

ESP 2013 implemented in 2014

Since the [implementation of the European Standard Population \(ESP\) 2013](#), figures for age-standardised rates (ASRs) in this report have been calculated using the ESP 2013, with revisions provided back to 1993. With the change from ESP 1976 to ESP 2013, rates previously provided may not match. The previously used ESP 1976 and the ESP 2013 differ in two ways.

Firstly, the ESP 2013 gives the populations in older age groups greater weighting than the ESP 1976.

Secondly, the age distribution of the ESP 1976 has an upper limit of 85 years and over, while the ESP 2013 is further disaggregated to include age groups 85 to 89, 90 to 94 and 95 and over. But, due to the availability of population estimates of assured quality for the upper age band and the differences between the ASRs calculated using 90 and over and 95 and over upper limits were not significant (for either sex), we recommend that National Statistics outputs use the ESP 2013 aggregated to 90 and over.

The impact of implementing the ESP 2013 is that drug-poisoning mortality rates have increased slightly for females over all years, with the largest increase in 1993 of 3.3 deaths per million population. For males the difference ranges from a decrease of 2.2 deaths per million population in 1998 to an increase of 0.9 deaths per million in 2011.

For drug misuse, again for females the rates have increased in every year, with the largest increase in 1993 of 1.1 deaths per million. For males it has decreased in every year, with the largest decrease in 2002 of 3.2. This is because the ESP 2013 gives a higher weight to those in the higher age groups. Males dying due to drug poisoning tend to be younger than females, which explains the different impact for the different sexes. When looking at the substances mentioned on death certificates, the female mortality rate with the largest change was for paracetamol in 2004, an increase of 1.4 deaths per million. For males the largest change was for heroin or morphine in 2001, a decrease of 2.4 deaths per million. Again this will relate to the age groups most associated with these substances.

Drug misuse indicator definition revised in 2014

We have implemented a revision to the drugs misuse indicator for the 2013 data onwards. The definition of this indicator is:

- deaths where the underlying cause is drug abuse or drug dependence
- deaths where the underlying cause is drug poisoning and where any of the substances controlled under the Misuse of Drugs Act 1971 are involved

This definition has been adopted across the UK. To make sure the ONS drug misuse data include drugs that are newly controlled under the Misuse of Drugs Act, 20 newly-controlled drugs were added and this list is updated each year. Figures for all previous years (back to 1993) have been revised to allow for statistical comparison across the time series.

The revision caused the number of drug misuse deaths in England and Wales to increase, with the increase being greatest in the most recent years. For example, three additional deaths were classified as due to drug misuse in 1995 whilst there were 140 in 2012. The mortality rates increased over the years as there were more deaths related to these newly-classified drugs. The largest change in rate for regions was in Yorkshire and The Humber in 2012 (30.1 to 33.8 deaths per million population in 2012) and in the East Midlands (from 20.7 to 23.8 deaths per million population in 2012). Additionally, for both males and females, the largest increase in mortality rate occurred in the 40 to 49 age group.

New version of ICD-10 and IRIS software introduced in 2014

As mentioned in the How the output is produced section, since ICD-10 was introduced in England and Wales in January 2001, the World Health Organisation (WHO) has authorised various amendments and we have updated our cause-coding software to incorporate these changes.

Between 2001 and 2010, we used software version 2001.2; between 2011 and 2013 version 2010 was used and in January 2014, the software was changed to a package called IRIS (version 2013). IRIS software version 2013 incorporates all official updates to ICD-10 approved by WHO, which were timetabled for implementation before 2014.

To understand the impact of these changes on mortality statistics, we carried out bridge-coding studies in which a sample of deaths that had previously been coded using the old software were then independently recoded using the new version.

The [first of these bridge-coding studies](#), focusing on the move to version 2010 in 2011, found a large impact on the assignment of underlying cause of death for drug-related deaths, causing a large reduction in deaths with an underlying cause of a mental and behavioural disorder and a corresponding increase in deaths with an accidental underlying cause. It did not, however, affect the total number of drug-related deaths. More information about the impact of this coding change on drug-related deaths statistics can be found in the [2012 bulletin](#).

The [second study](#), analysing the move to IRIS (version 2013) software in 2014, expected to find a small decrease in the number of drug-related deaths, due to a change in the coding of deaths involving helium. Almost all of these deaths are suicides and until 2014 they would have been assigned an underlying cause of X64 or Y14 (poisoning by other and unspecified drugs, medicaments and biological substances). From 2014, deaths involving helium are assigned an underlying cause of X67 or Y17 (poisoning by other gases and vapours) and are no longer included in the range of codes used to select drug-related deaths. Consequently, the total number of drug-related deaths were approximately 2% lower in 2014 than they would have been had the coding change not been implemented.

In addition, analysis of the bridge-coded data suggested a small increase in deaths assigned an accidental poisoning underlying cause and a corresponding decrease in deaths assigned to mental and behavioural disorder due to drug use. The selection of one of these two causes is dependent on the precise wording on the death certificate and due to the small number of drug-related deaths in the bridge-coded data (around 200) it is possible these changes are simply random noise in the data.

This means figures for 2011 onwards by underlying cause will not be directly comparable with figures for 2001 to 2010.

Alternative sources of data

There are several alternative sources of data on drug-poisoning deaths. The annual ONS release of mortality statistics [Deaths registered in England and Wales \(Series DR\)](#) contains data on poisoning deaths. When the underlying cause of death is a drug poisoning, the nature of the main injury, known as the “secondary cause”, is also coded and this shows the drug involved in the death. One table in the Series DR publication shows the number of deaths broken down by secondary cause. The advantage of this alternative table is that it contains a more detailed age-sex breakdown than the drug-related deaths statistical bulletin. But it only uses the secondary cause of death and does not include other substances mentioned. Moreover, the ICD codes used for secondary cause of death are often broad groups of drugs, rather than a specific substance (for example, “benzodiazepines”, rather than “diazepam”).

Drug misuse deaths counts and rates are presented in the [Public Health Outcomes Framework \(PHOF\)](#) at various geographic breakdowns including local authority, Public Health England (PHE) centres, deprivation deciles and combined authorities. These PHOF rates are presented per 100,000 population, whereas the ONS bulletin rates are reported per 1 million population. This allows the PHOF drug misuse indicator to be comparable with other indicators used in the framework, whereas the ONS rates are easier to interpret where numbers of drug deaths are relatively small.

The [Crime in England and Wales](#) bulletin is another ONS release that includes data on drugs. This publication combines data from the [Crime Survey for England and Wales \(CSEW\)](#) and police recorded crime statistics from the Home Office. The CSEW data includes experiences of anti-social behaviour broken down by type of offence including “people using or dealing drugs”. The Home Office data includes numbers and rates of police recorded drug offences, split into “trafficking of drugs” and “possession of drugs”. The Home Office also publishes a more detailed breakdown of [drug use statistics based on the CSEW](#) (PDF, 1.1MB). This includes trends in the frequency of drug use, type of substances used and attitudes towards drugs by various levels of demographic detail such as age, sex and lifestyle factors.

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) combines data from the England and Wales drug-poisoning database with data from Scotland and Northern Ireland to create figures for the UK, which allows international comparisons with other European countries. The [latest EMCDDA report](#) (PDF, 6.4MB) shows that the drug-related death rate in the UK was higher than most other European countries. However, the authors advise caution when making international comparisons, because of differences in definitions and the quality of reporting.

8 . Concepts and definitions

(Concepts and definitions describe the legislation governing the output and a description of the classifications used in the output.)

Source data and legislation

Mortality data are based on the information collected when a death is registered. The collection and dissemination of this data are governed by a range of legislation including the [Births and Deaths Registration Act 1953](#) and the Population (Statistics) Acts [1938](#) and [1960](#). More details on this legislation and other relevant legislation can be found in the [Mortality metadata](#) (PDF, 2.4MB).

Underlying causes of death definition

Office for National Statistics (ONS) codes all of the causes of death mentioned on the death certificate using the [International Statistical Classification of Diseases and Related Health Problems](#). From all of the causes mentioned on the death certificate, an underlying cause of death is selected using automated ICD coding rules. The underlying cause of death is defined by the World Health Organisation as:

- the disease or injury that initiated the train of events directly leading to death, or
- the circumstances of the accident or violence that produced the fatal injury (or poisoning)

More information on how the underlying cause of death is chosen can be found in section 9 of the [User guide to mortality statistics](#).

Drug-related deaths definition

There is no internationally-agreed definition of what constitutes a drug-related death. Therefore, the figures reported in this statistical bulletin are based on the current National Statistics definition of deaths related to drug poisoning. This definition includes accidents, suicides and assaults involving drug poisoning, as well as deaths from drug abuse and drug dependence. It does not include other adverse effects of drugs (for example, anaphylactic shock, or transport accidents where the driver was under the influence of drugs). Also, a small number of deaths from assaults involving drugs are excluded because ONS does not have full information on the death. Here, because someone is being prosecuted in relation to the death, the coroner adjourns the inquest and registers the death using an “accelerated registration”. ONS does not receive full information about the death until criminal proceedings are completed.

Drug-poisoning deaths involve a broad spectrum of substances, including legal and illegal drugs, prescription drugs (either prescribed to the deceased or obtained by other means) and over-the-counter medications. Some deaths may also be the result of complications of drug abuse (such as deep vein thrombosis or septicaemia resulting from intravenous drug use, or heart disease due to chronic cocaine use), rather than an acute drug overdose. Deaths involving these types of complications are generally coded as a mental and behavioural disorder due to drug use.

Deaths from 2001 onwards are included where one of the ICD-10 codes shown in Table 2 is the underlying cause of death. ICD-9 codes are also included, for the years 1993 to 2000.

Table 2: International Classification of Diseases, Ninth Revision (ICD-9) and Tenth Revision (ICD-10) codes used to define deaths related to drug poisoning

Description	ICD-9 Codes	ICD-10 Codes
Mental and behavioural disorders due to drug use (excluding alcohol and tobacco)	292, 304, 305.2–305.9	F11–F16, F18–F19
Accidental poisoning by drugs, medicaments and biological substances	E850–E858	X40–X44
Intentional self-poisoning by drugs, medicaments and biological substances	E950.0–E950.5	X60–X64
Assault by drugs, medicaments and biological substances	E962.0	X85
Poisoning by drugs, medicaments and biological substances, undetermined intent	E980.0–E980.5	Y10–Y14

In addition, this definition includes only deaths related to poisonings by drugs, medicaments and biological substances - poisonings by other types of chemicals and noxious substances (such as carbon monoxide) are excluded. The number of deaths from poisoning by other chemicals and noxious substances can be found the [Deaths registered in England and Wales \(Series DR\)](#) publication.

Drug misuse deaths definition

As explained fully in the Coherence and compatibility section, from 2013 onwards the definition of the drug misuse indicator is:

- deaths where the underlying cause is drug abuse or drug dependence
- deaths where the underlying cause is drug poisoning and where any of the substances controlled under the Misuse of Drugs Act 1971 are involved

9 . Other information

Output quality trade-offs

(Trade-offs are the extent to which different dimensions of quality are balanced against each other.)

As described in the Timeliness and punctuality section, drug-related deaths statistics are based on deaths registered in a particular calendar year, rather than the year the death occurred. This allows more timely publication of the statistics. The disadvantage of using registration-based figures is that it is harder to examine the relationship between drug-related deaths and other factors (such as the illegalisation of a specific substance).

We are aware that users would like more timely outputs based on when a death occurred. But this will not be possible without a change in the legislation surrounding death registration (see the Timeliness and punctuality section). In order to better manage the trade-off between timeliness and usefulness, we investigated ways of estimating the impact of registration delays on drug-related deaths figures. Unfortunately, the results to this investigation showed this estimation to be lacking in accuracy so this method of estimation has not been implemented.

Assessment of user needs and perceptions

(The processes for finding out about users and uses, and their views on the statistical products.)

Feedback from users is invited in the statistical bulletin with the inclusion of a standard statement within the background notes: 'We welcome feedback from users on the content, format and relevance of this release'. Regular attendance of ONS researchers at user group meetings and conferences also ensures feedback is received, as well as meetings with key stakeholders. To add, contact with users via ad-hoc requests provides steer on breakdowns and analysis that are not currently in the bulletin.

10 . Sources for further information or advice

Accessibility and clarity

(Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the release details, illustrations and accompanying advice.)

Our recommended format for accessible content is a combination of HTML web pages for narrative, charts and graphs, with data being provided in usable formats such as CSV and Excel. Our website also offers users the option to download the narrative in PDF format. In some instances other software may be used, or may be available on request. Available formats for content published on our website that we do not produce, or is referenced on our website but stored elsewhere, may vary. For further information please refer to the contact details at the beginning of this report.

For information regarding conditions of access to data please refer to:

- [Terms and conditions \(for data on the website\)](#)
- [Copyright and reuse of published data](#)
- [Accessibility](#)

Charging scheme

Statistics on [deaths related to drug poisoning](#) can be accessed free of charge.

Provisional release dates are announced on the [GOV.UK release calendar](#) up to 12 months in advance and final dates at least four weeks in advance. This enables equal access to these statistics for all users and signposts the location of the statistics on our website.

The bulletin contains a summary of government policy relating to drug-related deaths and also information on users and uses of the data. It also includes statistical commentary, which describes the data and offers explanations of main trends. This narrative helps users to interpret and make appropriate use of the statistics.

It is not possible to publish the drug-poisoning database in its entirety, as it contains confidential data. National and regional level figures are available in the bulletin and variables such as age are grouped to protect confidentiality. More detailed tables, including figures for lower geographies, different age groups and substances not mentioned in the bulletin, are available on request (subject to legal frameworks, disclosure control, resources and agreement of costs, where appropriate). Information describing the limitations of data in these more detailed tables is provided with each individual request.

In addition, researchers can apply to access the individual record data contained on the drugs database, by becoming an [approved researcher][6]. For more information, please contact the mortality analysis team using the contact details at the beginning of this report.

Useful links

[Disclosure Control Policy for Birth and Death Statistics](#)

[Drug Related Deaths in Scotland](#)

[Drug Related Deaths in Northern Ireland](#)