National Records of Scotland

Drug-related deaths in Scotland in 2021

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Statistics of drug-related deaths in 2021 and earlier years, broken down by age, sex, substances implicated in the death, underlying cause of death and NHS Board and Council areas.

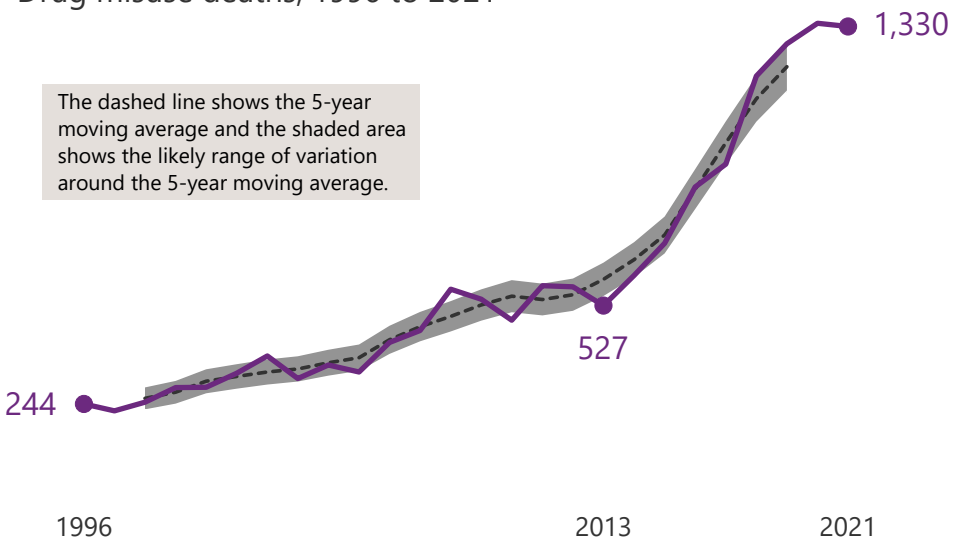
Drug-related deaths in Scotland, 2021

Summary

In 2021 there were 1,330 deaths due to drug misuse in Scotland

This is 9 deaths fewer than in 2020. This makes 2021 the first year since 2013 where drug misuse deaths have not increased. It is still the second highest annual total on record.

Drug misuse deaths, 1996 to 2021

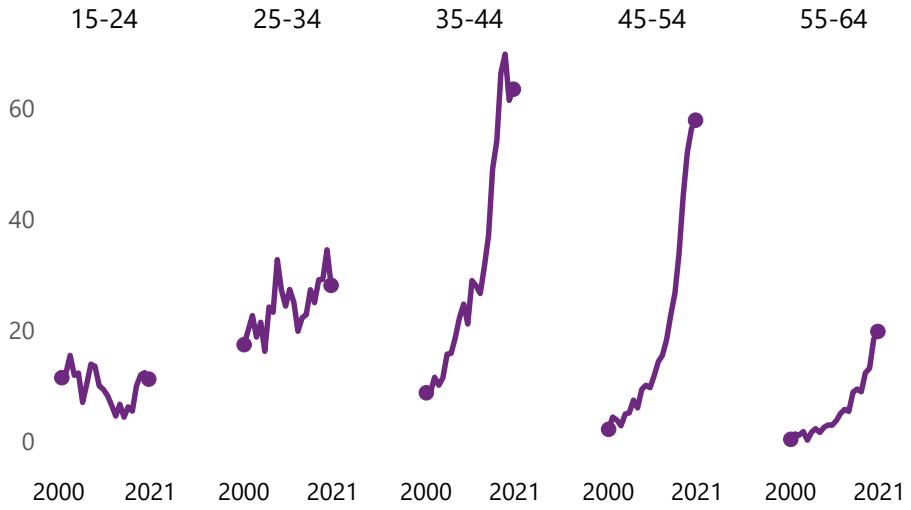


People aged 35-44 were most likely to die from drug misuse

Drug misuse deaths have increased in recent years in all age groups except 15-24. 65% of drug misuse deaths were of people aged between 35 and 54. More than two thirds of those who died were male.

* deaths per 100,000 people

Drug misuse death rates* by age group, 2000 to 2021

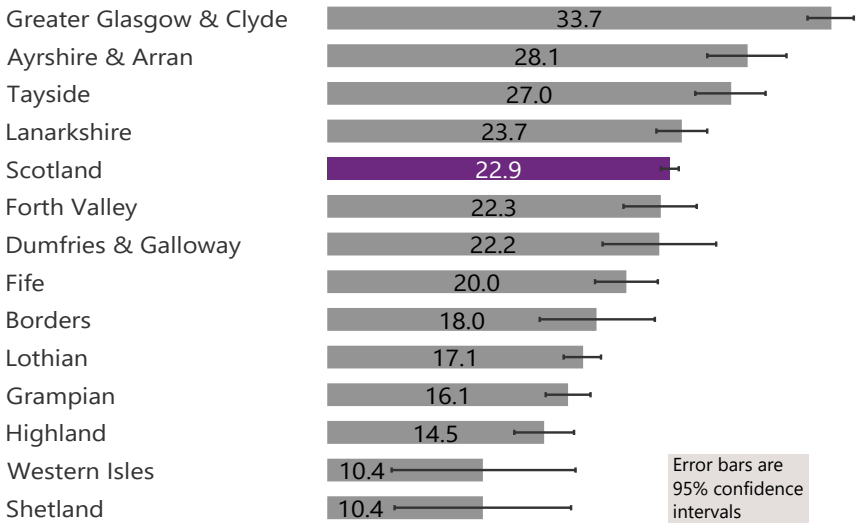


Death rates* vary across Scotland

For the period 2017-2021, Greater Glasgow and Clyde had the highest drug misuse death rate at 33.7 per 100,000 population. Western Isles and Shetland had the joint lowest drug misuse death rate at 10.4 per 100,000 population.

* age standardised death rates per 100,000 population. Rates not shown for Orkney as it had fewer than 10 deaths between 2017 and 2021.

Drug misuse death rates* by NHS Board area, 2017-2021



Contents

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Further information is available here:

Additional analyses

Annexes – providing further background and methodological information.

Tables and Figures

Main Points

- In 2021, there were 1,330 drug misuse deaths registered in Scotland. This was a decrease of 1% (9 deaths) compared with 2020. It is the second highest drug misuse deaths figure on record.
- Deaths have increased substantially over the past few decades – there were more than five times as many deaths in 2021 compared with 1996. 2021 is the first year since 2013 that drug misuse deaths have not increased.
- In 2021, males were 2.4 times as likely to have a drug misuse death as females, after adjusting for age.
- The average age of drug misuse deaths has increased from 32 to 44 over the last 21 years.
- In 2021, 65% of all drug misuse deaths were of people aged between 35 and 54.
- In 2021, after adjusting for age, people in the 20% most deprived areas were more than 15 times as likely to have a drug misuse death as those in the 20% least deprived areas. The ratio has widened over the past two decades.
- After adjusting for age, Greater Glasgow and Clyde had the highest drug misuse death rate of all health board areas (33.7 per 100,000 population for the 5-year period 2017-2021), followed by Ayrshire and Arran (28.1) and Tayside (27.1).
- Greater Glasgow and Clyde had the largest increase in its drug misuse death rate, from 8.9 per 100,000 population in the period 2000-2004 to 33.7 per 100,000 population in 2017-2021. Tayside and Ayrshire and Arran had the next biggest increases.
- Dundee City had the highest age-standardised drug misuse death rate of all local authority areas (45.2 per 100,000 population for the 5-year period 2017-2021), followed by Glasgow City (44.4) and Inverclyde (35.7).
- Dundee City had the largest increase in its drug misuse death rate, from 5.9 per 100,000 population in the period 2000-2004 to 45.2 per 100,000 population in 2017-2021. Glasgow City and Inverclyde had the next biggest increases.
- In 93% of all drug misuse deaths, more than one drug was found to be present in the body.
- Of all drug misuse deaths in 2021, 84% involved opiates or opioids (such as heroin, morphine and methadone). 69% involved benzodiazepines (such as diazepam and etizolam).
- In recent years there has been a large increase in the number of drug misuse deaths involving benzodiazepines. In 2015 there were 191 of these deaths and in 2021 there were 918; almost five times as many. This increase has mostly been driven by street benzodiazepines rather than those which are prescribed.
- In 2020 (the most recent year available for the rest of the UK) Scotland's drug misuse rate was 3.7 times that for the UK as a whole, and higher than that of any European country.

1. Introduction

This publication provides statistics of drug misuse deaths registered in Scotland in 2021. This includes trends since 1996, as well as breakdowns by age, sex, substances and other factors. These statistics are based on the definition of drug misuse deaths set out in Annex A . This is the definition that has been used in Scotland since 2001.
These official statistics are used by the Scottish Government to develop policy, and are also used by the Drug Deaths Taskforce, NHS Boards and local Alcohol and Drug partnerships.
NRS identify deaths which should be counted as drug misuse from death registration records. We receive additional information from the Crown Office and Procurator Fiscal service and forensic pathologists. We also receive advice on how to classify these deaths from medical experts at Public Health Scotland.

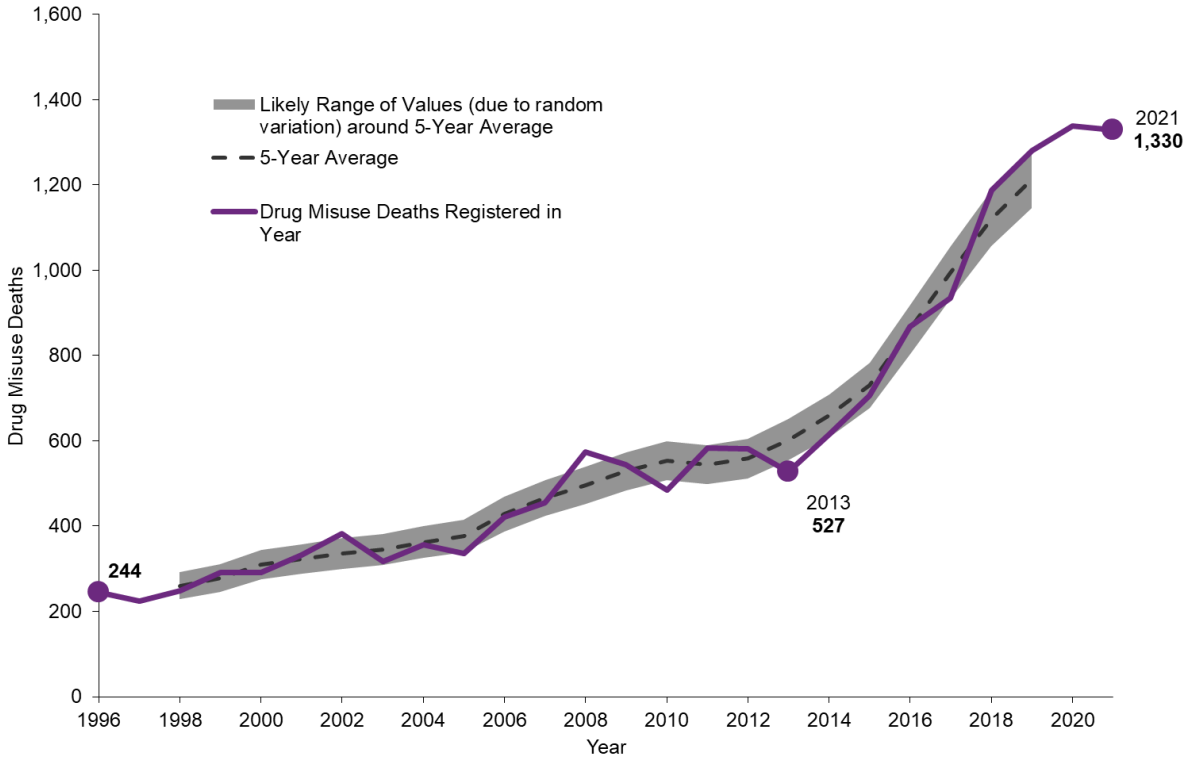
Drug Misuse Deaths

In previous editions of this report we have referred to the headline figure as 'drug-related deaths'. We now use the term 'drug-misuse deaths'. The definition has not changed and this year's figures are consistent with earlier years. We have simply changed terminology to be clearer on which statistics are the headline figure as the report also includes figures for other definitions of drug deaths. Using this terminology also makes it easier to compare with the equivalent figures for other parts of the UK.

2. Drug misuse deaths in Scotland

In 2021, there were 1,330 drug misuse deaths registered in Scotland, 1% (9 deaths) fewer than in 2020. This is the first time since 2013 that the annual figure has not increased. It is, however, the second highest number since records began in 1996. The number of drug misuse deaths has increased substantially over the last few decades – there were 5.5 times as many deaths in 2021 compared with 1996.
The number of drug misuse deaths rose in most years since 1996 and the upward trend was particularly steep between 2013 and 2018.
The age-standardised death rate in 2021 was 25 per 100,000 population.

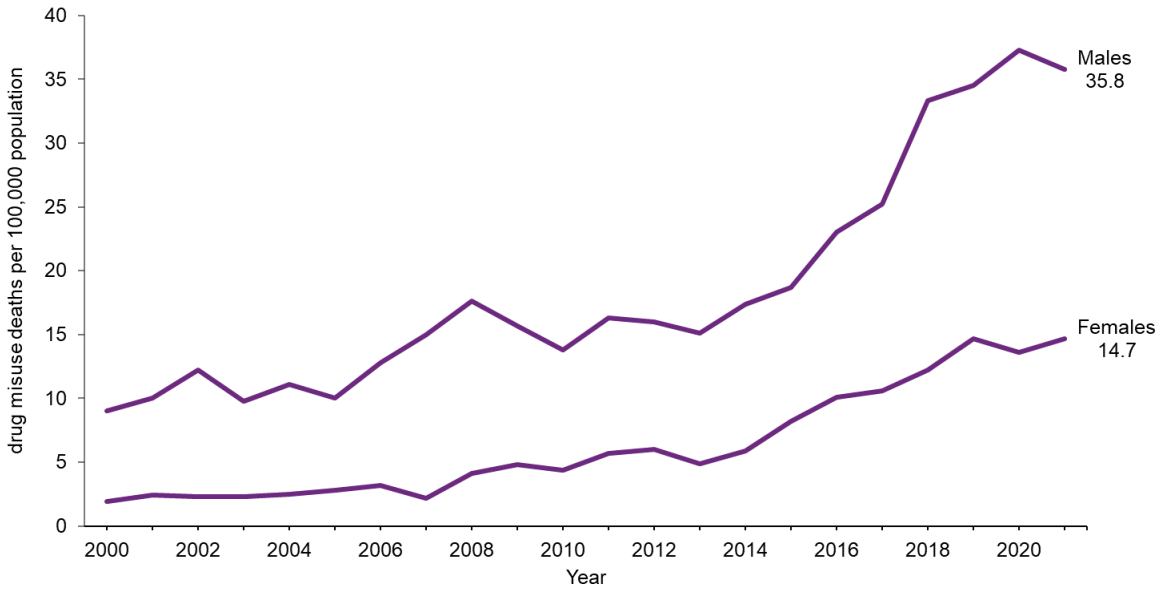
Figure 1. Drug misuse deaths in Scotland, 1996-2021



3. Drug misuse deaths by sex

In 2021, there were 933 drug misuse deaths of males, a decrease of 40 from 2020. There were 397 drug misuse deaths of females, an increase of 31 from 2020. Since 1996 there have always been more male than female deaths and in 2021, males accounted for 70% of drug misuse deaths.

Figure 2. Drug misuse deaths in Scotland, age standardised mortality rates per 100,000 population by sex, 2021



After adjusting for age, males were 2.4 times as likely to have a drug misuse death as females in 2021 (35.8 deaths per 100,000 population compared to 14.7). However, over time this gap has decreased – in the early 2000s males were more than 4 times as likely to die from drug misuse as females.

Why use age-standardised death rates?

Age-standardised death rates take account of the size of the population and its age structure, in order to provide more reliable comparisons of mortality over time and/or between areas or between sub-groups of the population.

As the probability of death tends to increase with age, changes in the age-distribution of the population could have an effect on any apparent trend shown by the numbers of deaths, or by so-called 'crude' death rates (calculated by dividing the number of deaths by the total population).

Similarly, if the populations of two areas or sub-groups have different age-distributions, using age-standardised rates will remove the effect of those differences and show which area or sub-group has the higher underlying mortality rate.

Age-standardised rates are therefore more reliable for comparing mortality over time and between different countries, between different areas (or types of area) within a country, and between the sexes.

More information on the calculation of age-standardised death rates is available on our **website**.

Drug deaths definitions

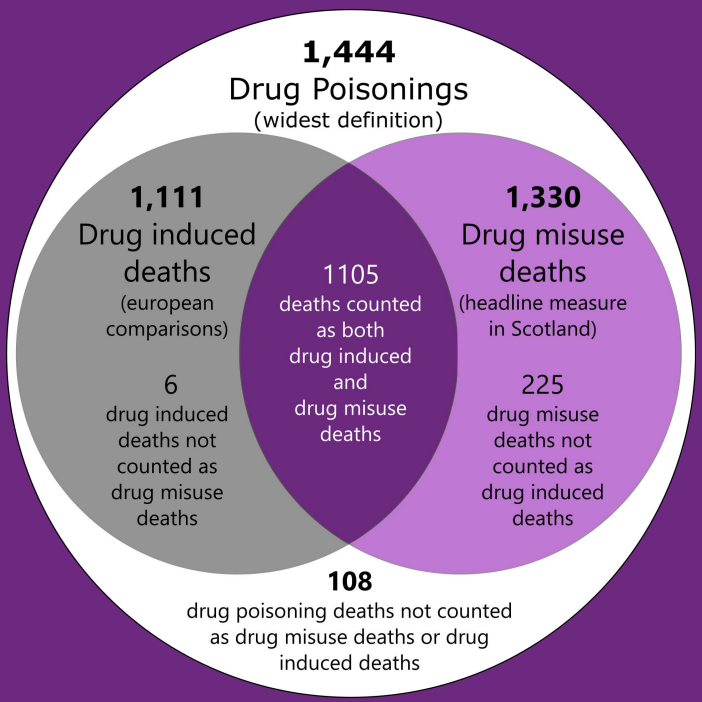
In 2021 there were:

1,444 drug poisoning deaths – a wider definition than the headline measure used in Scotland, it covers all deaths with an underlying cause of drug poisoning or drug abuse.

1,330 drug misuse deaths (previously referred to as drug-related deaths) – the headline measure used in Scotland. It covers drug poisoning deaths as defined above, but only those where any of the substances involved are controlled in the UK. This means that deaths from only e.g. aspirin or paracetamol are excuded. There are some further exclusions, described in annex B. There were 122 drug poisoning deaths which were excluded from the drug-related deaths count.

1,111 drug-induced deaths –the definition used for comparing European countries' drug death rates. It uses broadly the same (although not identical) causes as the definitions above. However, the list of substances included differ slightly (as the drugs which are controlled in each country are different). The other key difference is that only people aged 15-64 are included whereas the other two definitions cover all age groups.

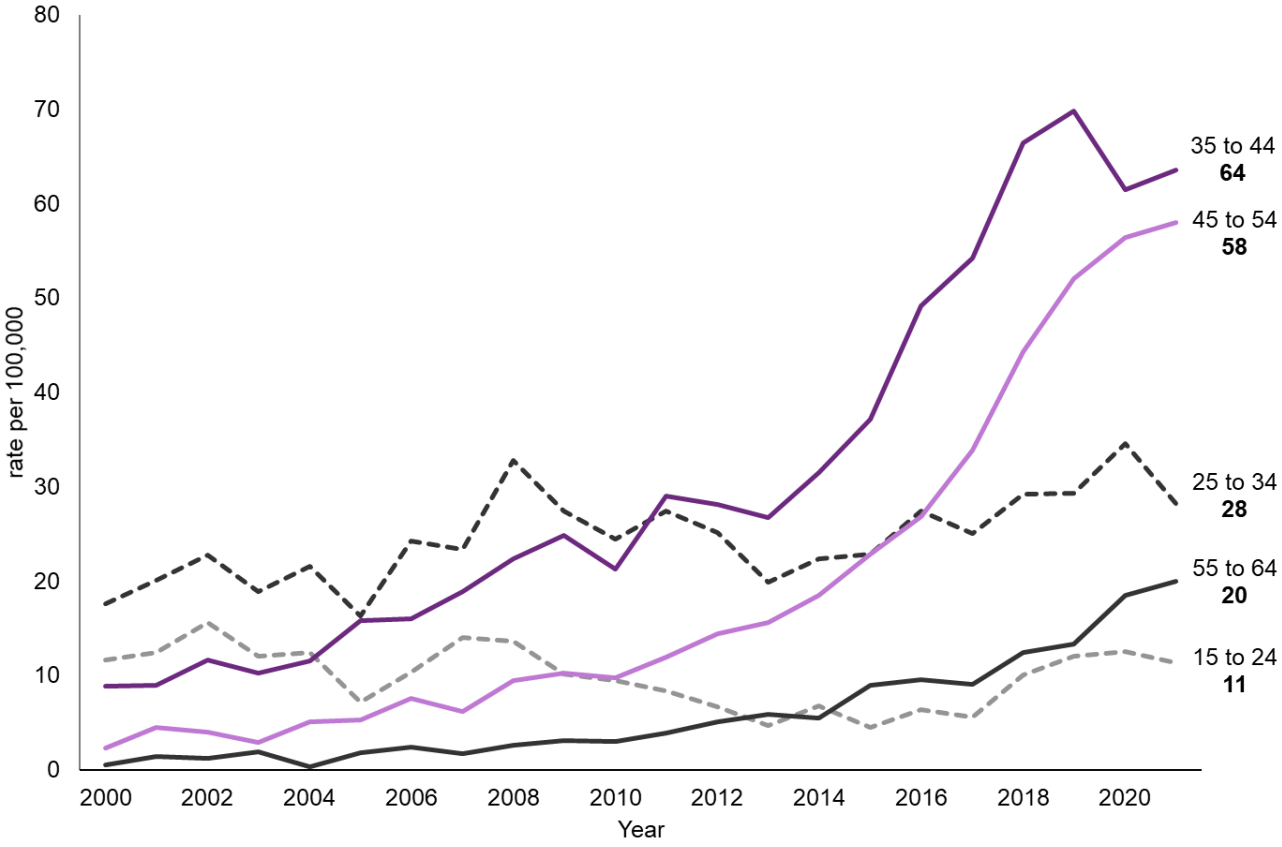
The diagram below illustrates how these three different definitions overlap, along with the relevant numbers for 2021. For more information on each of these definitions please see Annex B.



4. Drug misuse deaths by age

The age of people dying due to drug misuse has increased over the past two decades. In 2021, 65% of all drug misuse deaths were of people aged 35-54 year olds. In 2000, this age group made up just 29% of the drug misuse deaths. Conversely, those under 35 made up 21% of all drug misuse deaths in 2021, but accounted for 68% of these deaths in 2000. The average age of drug misuse deaths has increased over the last 20 years from 32 in 2000 to 44 is 2021.

Figure 3: Drug misuse deaths in Scotland, age- specific mortality rates per 100,000 population by age group, 2021



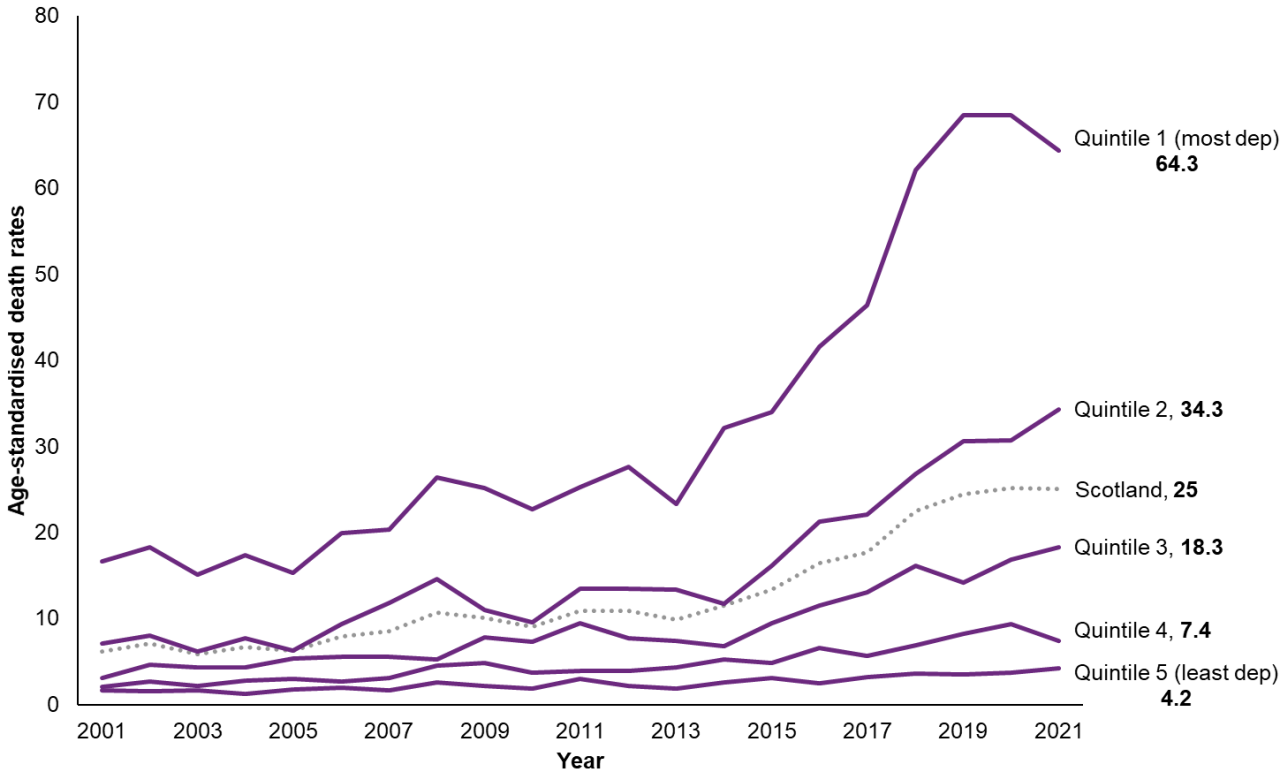
5. Drug misuse deaths by deprivation

In 2021, after adjusting for age, people in the most deprived areas were 15.3 times as likely to die from drug misuse as those in the least deprived areas (64.3 per 100,000 population compared with 4.2).

That ratio has increased over the past two decades. In the early 2000s, those in the most deprived areas were around 10 times as likely to have a drug misuse death as those in the least deprived areas. In the last year, the gap has narrowed slightly.

Deprivation quintiles are based on the Scottish Index of Multiple Deprivation (SIMD). This is an area based measure of deprivation. Quintiles are allocated according to the deceased's usual place of residence.

Figure 4: Drug misuse deaths in Scottish Index of Multiple Deprivation (SIMD) quintiles, age-standardised deaths rates per 100,000 population, 2001-2021



6. Drug misuse deaths across areas in Scotland

After adjusting for age, Greater Glasgow and Clyde had the highest drug misuse death rate of all health board areas for the 5-year period 2017-2021 (33.7 per 100,000 population), followed by Ayrshire and Arran (28.1) and Tayside (27.1).

Western Isles and Shetland (both 10.4 per 100,000 population) had the lowest rates of all the health boards for which these figures are available. It should be noted that because Shetland and Western Isles have small populations, the confidence intervals around these figures are large.

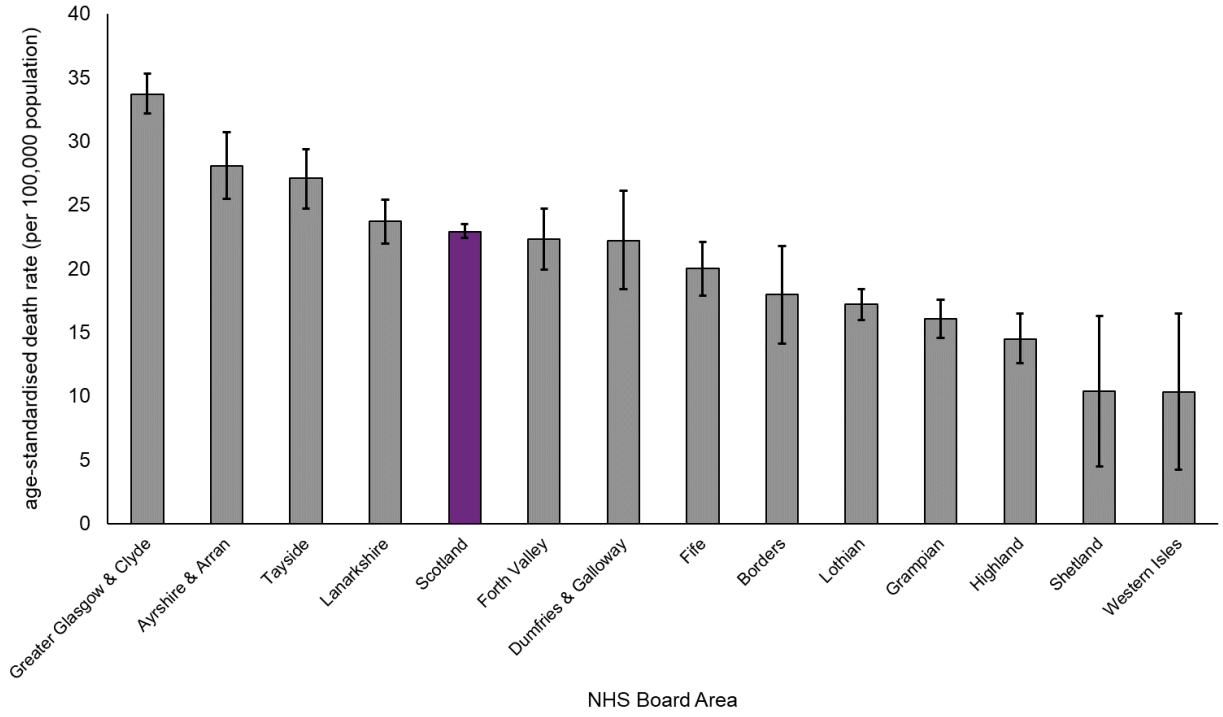
Uncertainty around estimates is illustrated by the error bars on figures 5a and 6a. These show the range in which we are 95% confident that the true rate lies.

For areas with larger populations and higher numbers of deaths, there is less uncertainty around the estimate of the rate and therefore the confidence interval is smaller.

If the confidence intervals for two areas overlap, we cannot be certain that their rates differ.

Rates are not shown for areas with fewer than 10 deaths due to the greater level of uncertainty around these estimates.

Figure 5a: Drug misuse deaths for selected NHS Board areas, age-standardised death rates per 100,000 population, 2017-2021



Greater Glasgow and Clyde has seen the greatest increase in drug misuse death rates over time, rising from a rate of 8.9 per 100,000 population in the period 2000-2004 to 33.7 per 100,000 population in 2017-2021. Tayside (rate up from 4.5 to 27.1) and Ayrshire and Arran (7.1 to 28.1) had the next biggest increases.

Figure 5b: Drug misuse deaths for selected NHS Board areas, Age standardised death rates per 100,000 population, change between 2000-2004 and 2017-2021

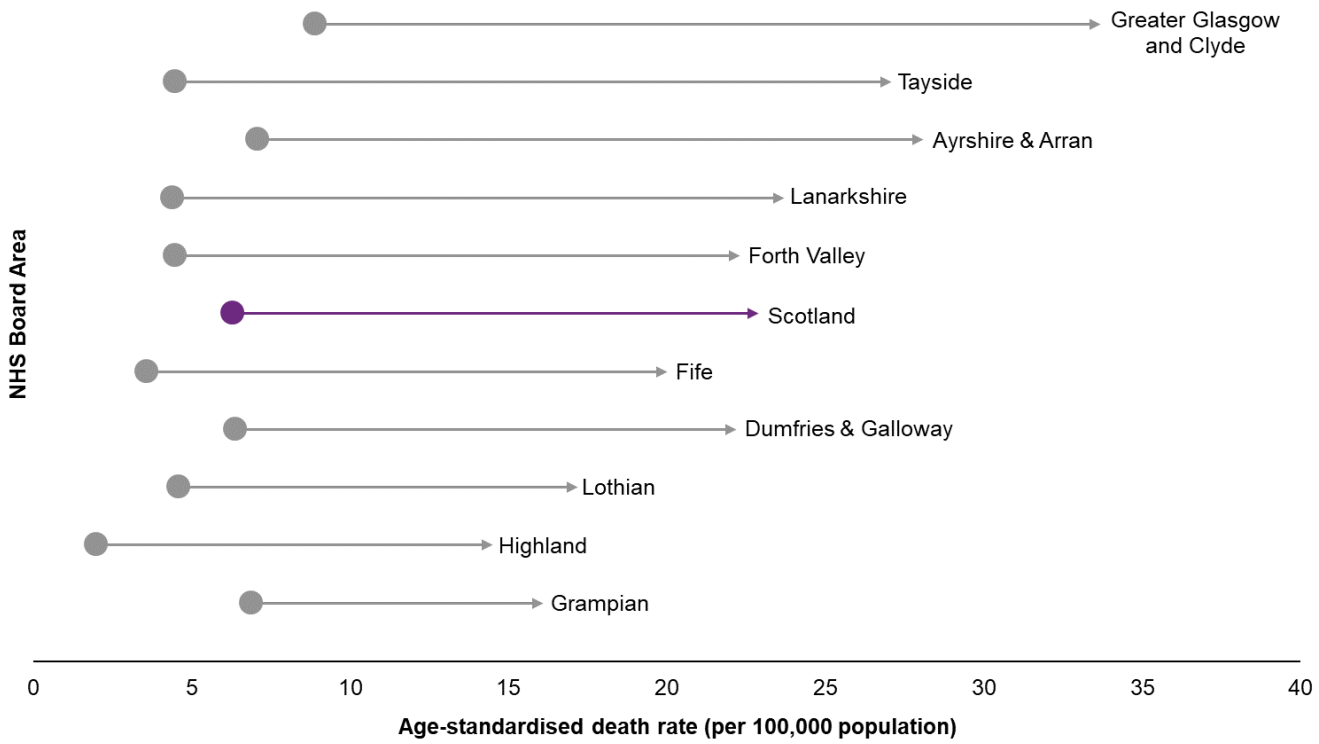
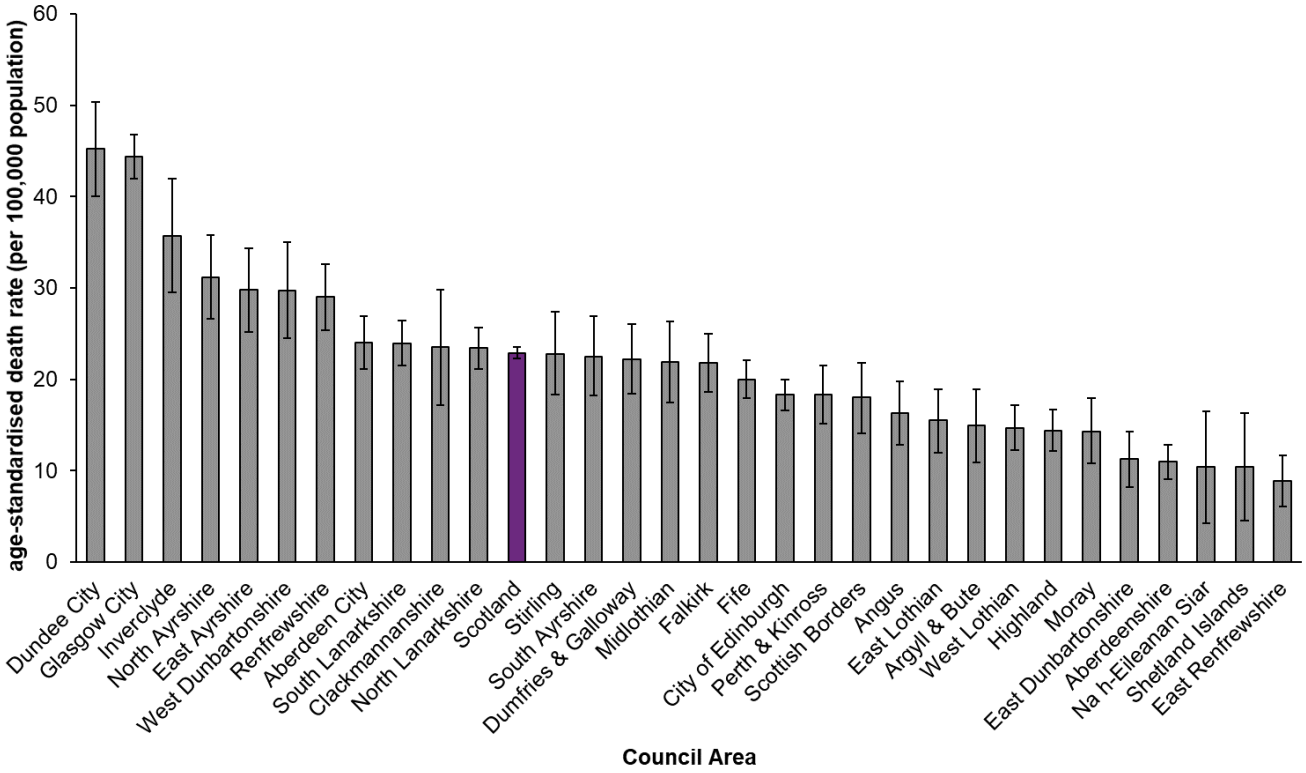
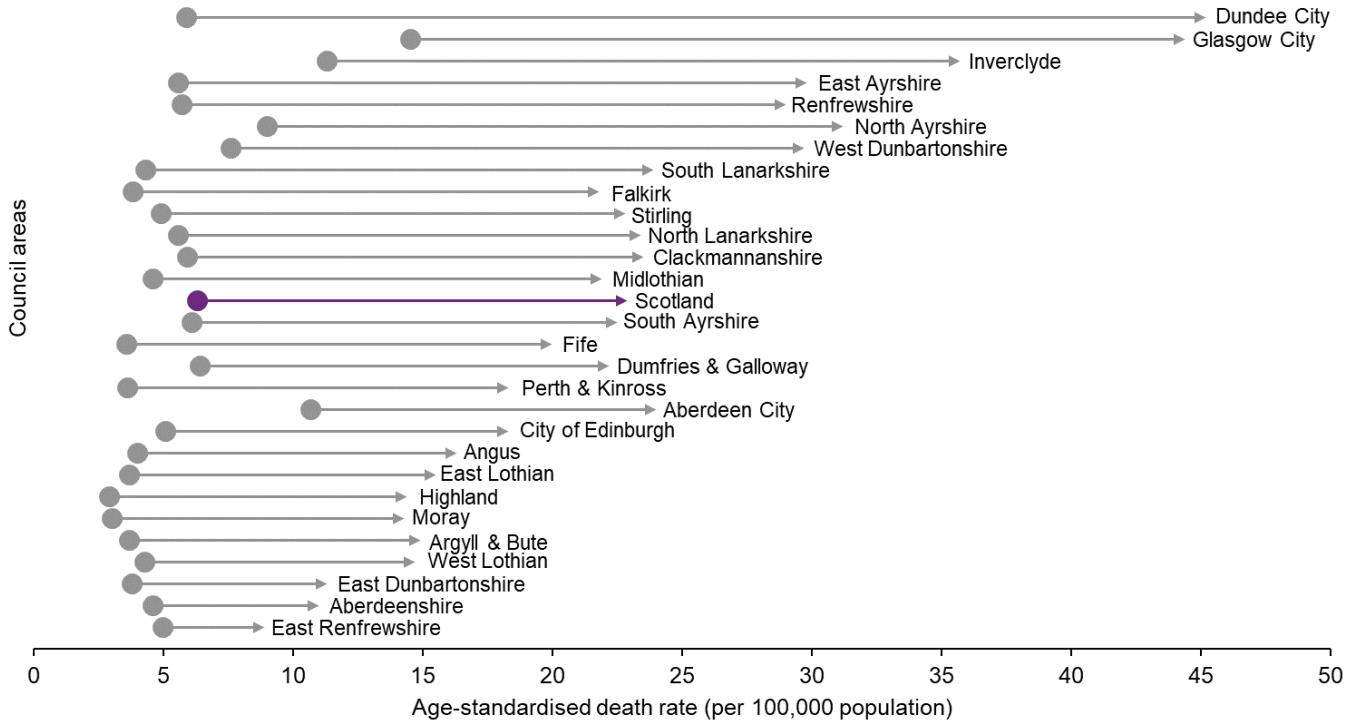


Figure 6a: Drug misuse deaths for selected council areas, age-standardised death rates per 100,000 population, 2017-2021



Of the local authority areas, Dundee City had the highest drug misuse death rate for 2017-2021, at 45.2 per 100,000 population, followed by Glasgow City (44.4) and Inverclyde (35.7). East Renfrewshire (8.9), Shetland Islands and Nah-Eileanan Siar (both 10.4) had the lowest rates of all the council areas for which these figures are available.

Figure 6b: Drug misuse deaths for selected council areas, Age standardised death rates per 100,000 population, change between 2000-2004 and 2017-2021



Over time, the greatest increases in drug misuse death rates have been in Dundee City, rising from 5.9 per 100,000 population in the period 2000-2004 to 45.2 per 100,000 population in 2017-2021. Glasgow City (rate up from 14.5 to 44.4) and Inverclyde (11.3 to 35.7) had the next biggest increases.

Drug-related death rates of problem drug users

The Additional Analyses provide information about the drug-related death rates of problem drug users, for Scotland as a whole and for health board and local authority areas.

7. Drug misuse deaths by substances implicated

In 93% of all drug misuse deaths in 2021, more than one drug was found to be present in the body.

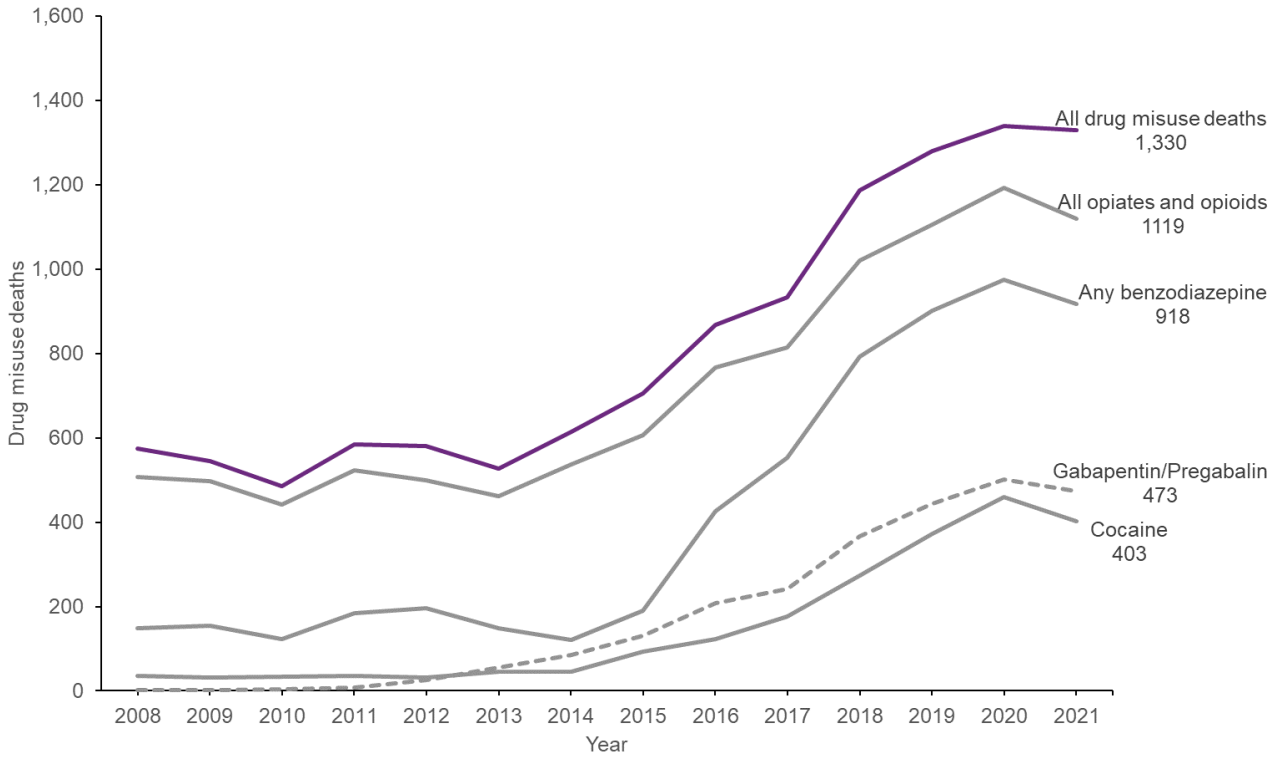
Of all drug misuse deaths in 2021, the following substances were implicated[1]:

- opiates/opioids (such as heroin/morphine and methadone) – 1,119 deaths (84% of the total)
- benzodiazepines (such as diazepam and etizolam) – 918 (69%)
- gabapentin and/or pregabalin – 473 (36%)
- cocaine – 403 (30%)

In NRS's statistics, the normal basis for the figures for individual drugs is 'drugs which were implicated in, or which potentially contributed to, the cause of death'. We also record drugs which were present but not thought to have contributed to the death. Futher analyses on drugs which were present are in the additional analyses document published alongside this report. Annex C includes more details on how drugs are recorded.

The distinction between 'prescribable' and 'street' benzodiazepines is explained in Annex H.

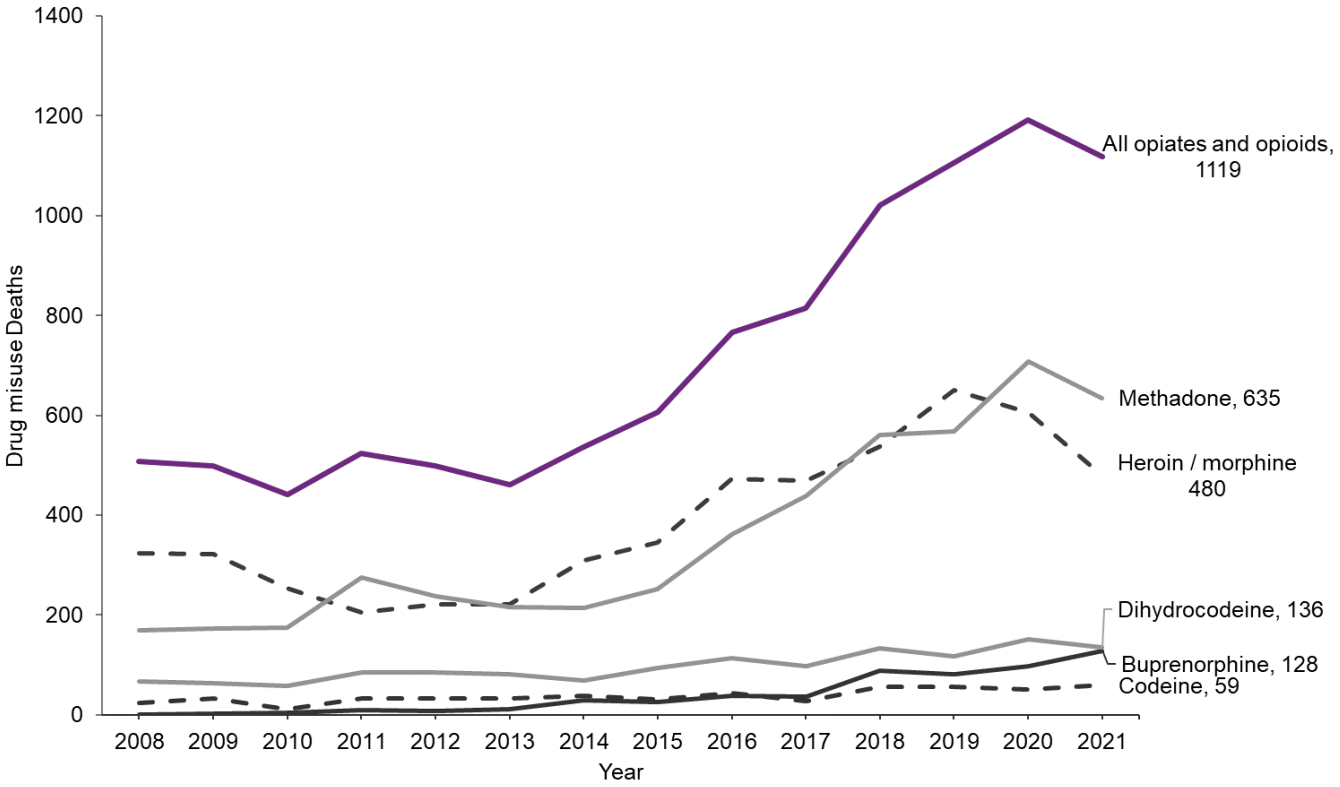
Figure 7a: Number of drug misuse deaths in Scotland by drugs implicated



[1] The percentages add up to more than 100 because more than one drug was implicated in most deaths

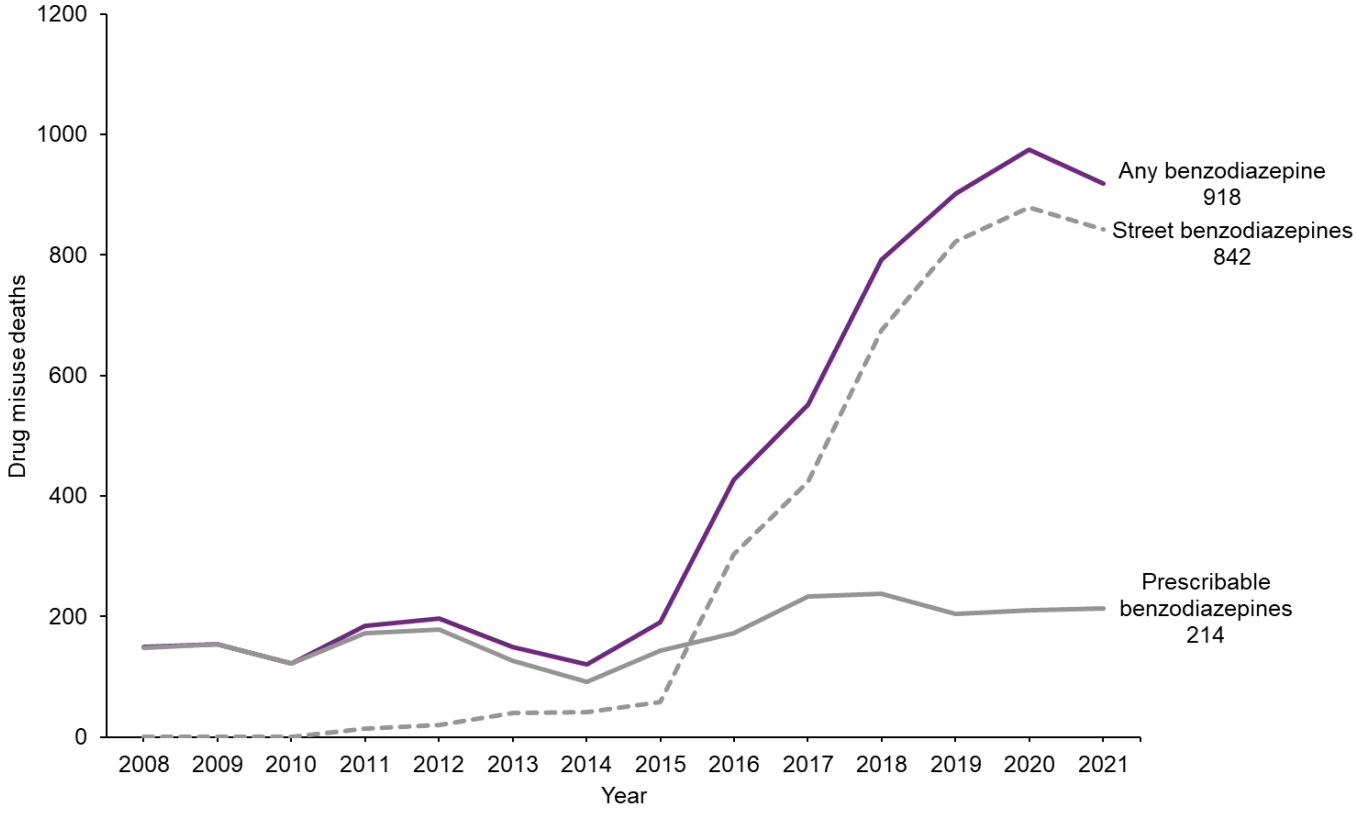
Since 2008, opiates and opiods have been the drugs most commonly implicated in drug misuse deaths in Scotland. The proportion of drug misuse deaths implicating benzodiazepines has increased from 26% in 2008 to 69% in 2021.

Figure 7b: Number of drug misuse deaths in Scotland by drugs implicated, Opiates/Opioids



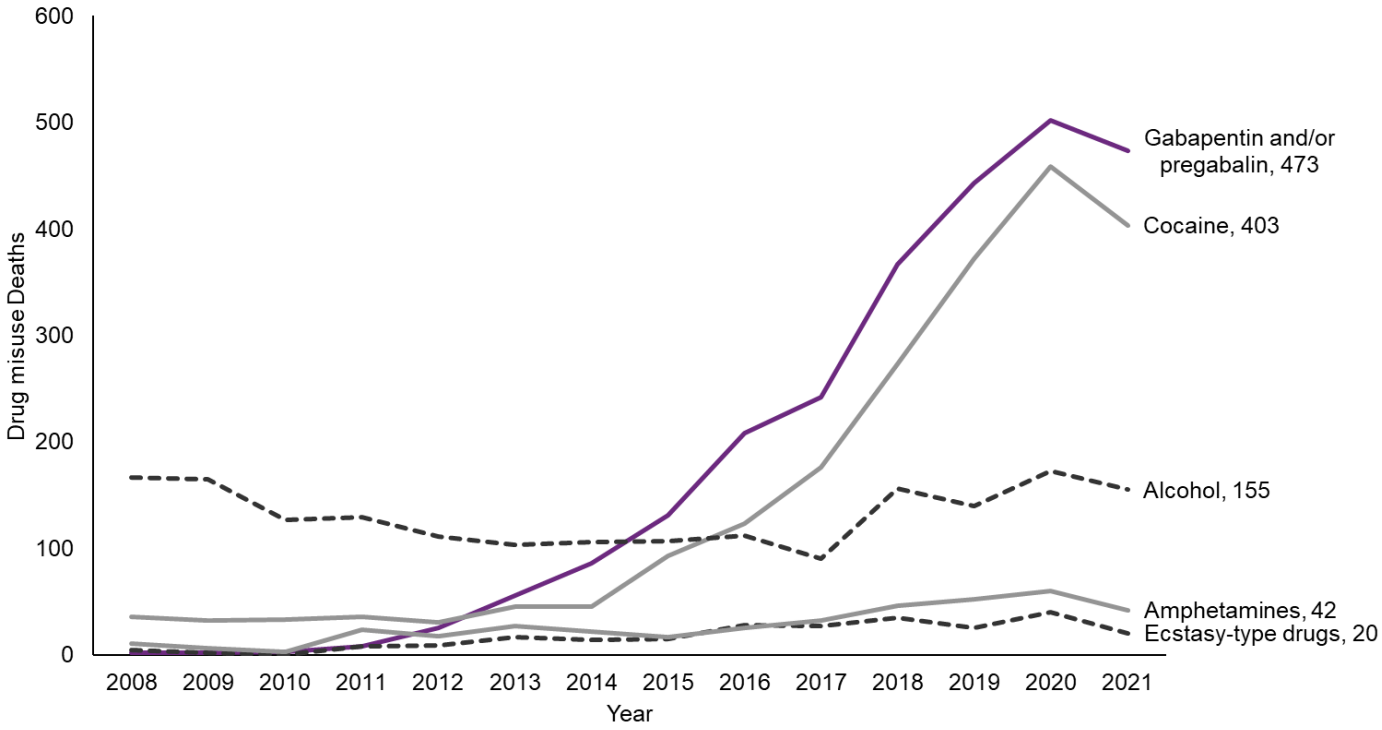
The majority of drug misuse deaths implicating opiates/opioids involved heroin/morphine and/or methadone. We report heroin and morphine as one category because it is not possible to tell which form the drug was in from a post mortem.

Figure 7c: Number of drug misuse deaths in Scotland by drugs implicated, Benzodiazepines



In recent years, the number of deaths where street benzodiazepines (for example, etizolam) were implicated has increased rapidly from one death in 2008 to 842 in 2021. These now account for the vast majority of drug misuse deaths where benzodiazepines were implicated. The number of drug misuse deaths where prescribable benzodiazepines were implicated has increased slightly with 148 deaths in 2008 and 214 in 2021. Prescribable benzodiazepines are often medications for anxiety or insomnia.

Figure 7d: Number of drug misuse deaths in Scotland by drugs implicated, Other significant drugs



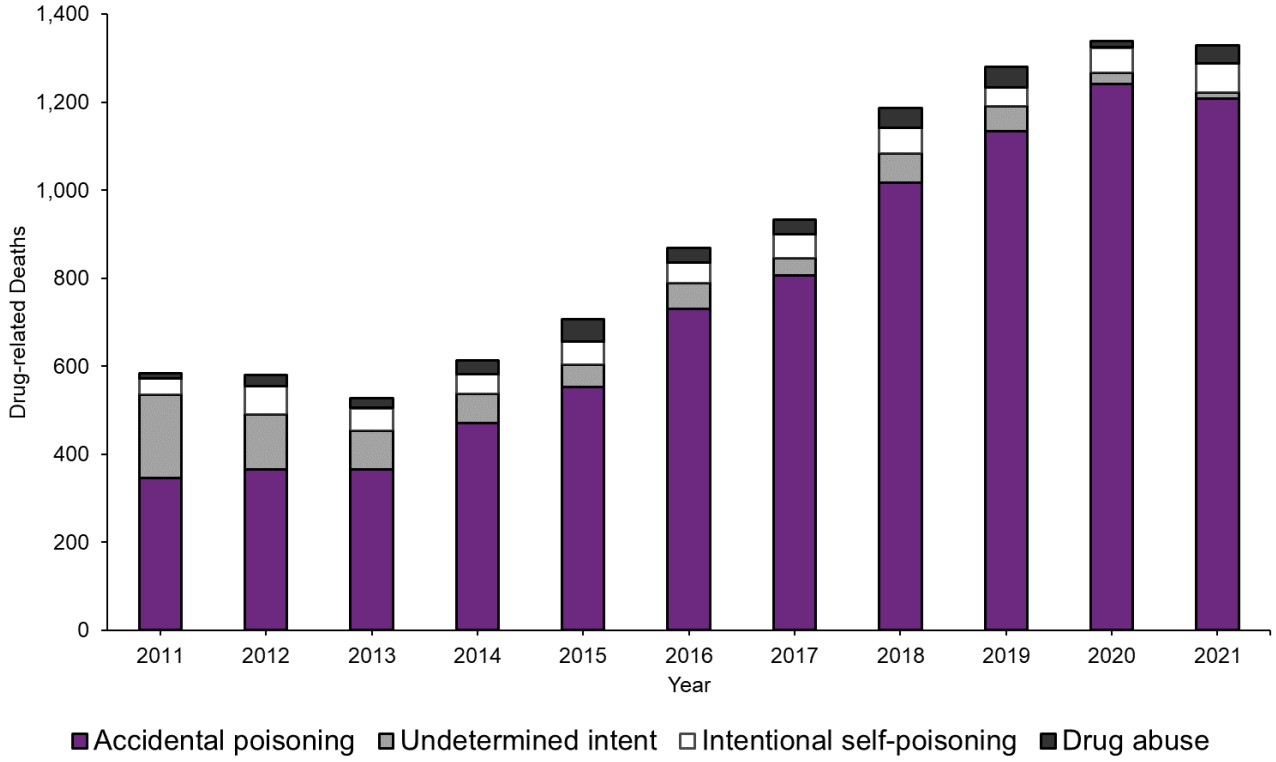
The proportion of drug misuse deaths where gabapentin and/or pregabalin were implicated has increased from <1% in 2008 to 36% in 2021. These are drugs used to treat epilepsy and nerve pain. The proportion where cocaine was implicated has also increased from 6% in 2008 to 30% in 2021. The number of drug misuse deaths where alcohol was implicated (in addition to a controlled drug) has remained fairly similar, although the proportion has fallen from 29% in 2008 to 12% in 2021.

New psychoactive substances (NPSs) are drugs which have been made to mimic the effects of illegal substances such as cocaine or ecstasy. These drugs have become more common in recent years and many have also now become controlled.
In 2021, there were 825 deaths where controlled NPSs were implicated. The majority of NPSs involved were benzodiazepines, for example, etizolam. There is more information about NPSs in Annex E.

8. Drug misuse deaths by cause of death

In 2021, the vast majority (91%) of drug misuse deaths were classified as accidental poisonings. This proportion has increased in recent years. Five per cent of deaths were due to intentional self-poisoning, and one per cent were poisonings of undetermined intent. In three per cent of drug misuse deaths, the underlying cause of the death was believed to be long-term drug abuse, rather than poisoning/overdose.

Figure 8: Number of drug misuse deaths by underlying cause of death, Scotland, 2011 to 2021

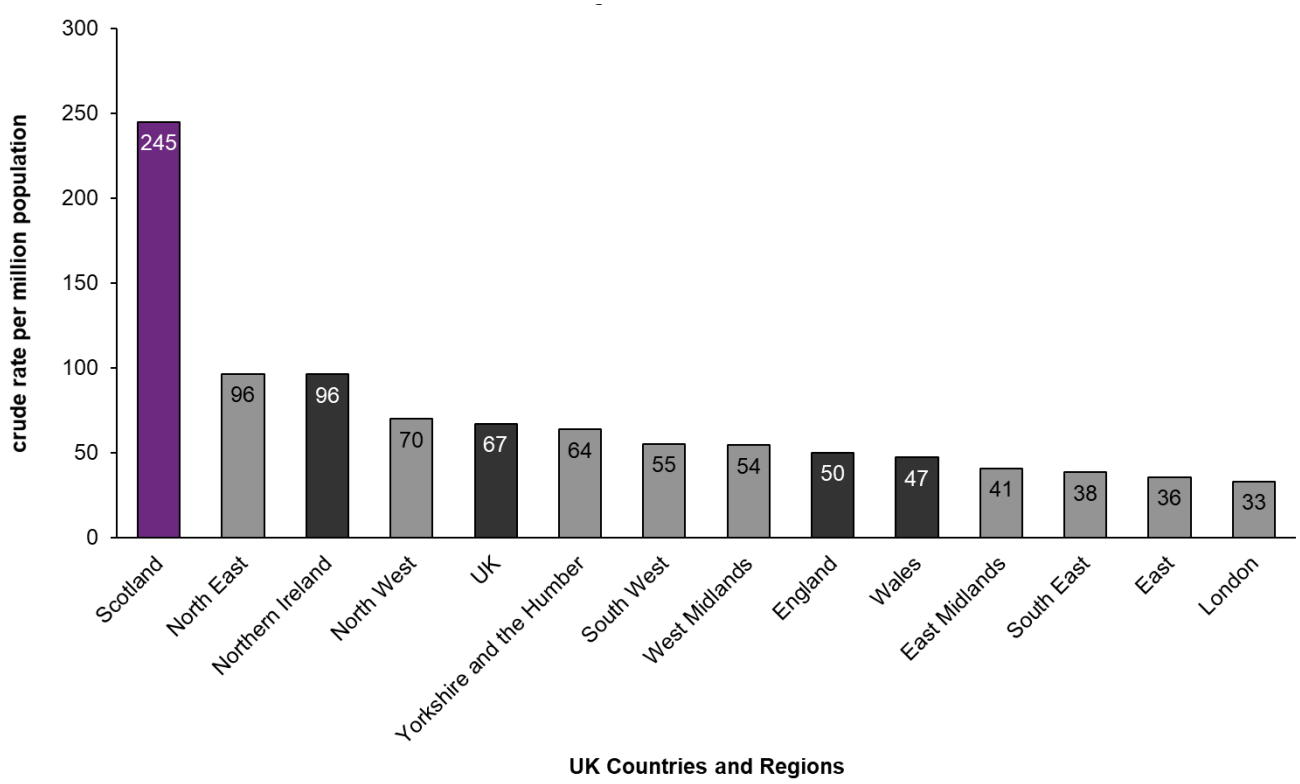


9. Comparisons with UK and European countries

Scotland's drug misuse death rate in 2020 was 3.7 times the rate for the UK as a whole. The most recent figures for the UK are for 2020 until the Office of National Statistics publish their 2021 figures in August 2022.

In 2020, there were 1,339 drug misuse deaths registered in Scotland, a rate of 245 deaths per million population. This compares to 4,500 drug misuse deaths in the UK as a whole, a rate of 67.1 deaths per million population. The next highest rate of drug misuse deaths was in the North East of England, 96.2 deaths per million population.

Figure 9: Drug misuse deaths, crude rates per million population, UK countries and regions, 2020



On the basis used for European comparisons (described in the box below), Scotland had a drug-death rate of 327 per million population aged 15-64 in 2020. This was much higher than the rates reported for any other country, the next largest being 85 per million for Norway.

The basis of comparisons with other countries

The comparison with European countries uses the number of drug-induced deaths aged 15 to 64, relative to the population of that age. This is defined in the 'European Drug Report 2021' published by the **European Monitoring Centre for Drugs and Drug Addiction** (EMCDDA). It notes that there are issues of coding, coverage and under-reporting in some countries. In the latest report, most countries' figures are for 2020.

The comparison with the UK as a whole uses the drug misuse rate per million population. As it covers all ages, the rates are lower than the EMCDDA's rates, which covers only people aged 15 to 64.

More information about these comparisons is available in Annex G and in the diagram on page 7.

10. Links to related statistics

- Deaths related to Drug Poisoning in England and Wales is published annually by the Office for National Statistics

- Drug-Related and Drug Misuse Deaths, Northern Ireland is published annually by the Northern Ireland Statistics and Research Agency

- Deaths from various causes are published annually by National Records of Scotland (NRS), including alcohol-specific deaths, homeless deaths, and probable suicides are published annually by National Records of Scotland

- Vital Events Reference Tables are published by NRS and contain annual statistics on deaths.

- Births, Deaths and Other Vital Events, Quarterly Figures are published by NRS and contain statistics on deaths for the most recent quarter (with a limited breakdown by cause of death).

11. 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 About this Publication document that is published alongside this publication on the NRS website.

National Records of Scotland

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Preserving the past – We look after Scotland's national archives so that they are available for current and future generations, and we make available important information for family history.

Recording the present – At our network of local offices, we register births, marriages, civil partnerships, deaths, divorces and adoptions in Scotland.

Informing the future – We are responsible for the Census of Population in Scotland which we use, with other sources of information, to produce statistics on the population and households. You can get other detailed statistics that we have produced from the Statistics section of our website. Scottish Census statistics are available on the Scotland's Census website.

We also provide information about future publications on our website. If you would like us to tell you about future statistical publications, you can register your interest on the Scottish Government ScotStat website.

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Enquiries and suggestions

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