Office for National Statistics

Statistical bulletin

# Deaths registered in England and Wales: 2023

Registered deaths by age, sex, selected underlying causes of death and the leading causes of death. Contains death rates and death registrations by area of residence and single year of age.

Contact:
Population Health Monitoring group
Health.Data@ons.gov.uk
+44 1329 444110

Release date:
10 October 2024

Next release:
To be announced

## Notice

### 9 January 2025

Following the Health and Social Care Statistical Outputs consultation commissioned by the Health and Social Care Statistics Leadership Forum, we are improving some of our statistical products, so they are more coherent and efficient. Additionally, we are ensuring that our resources are deployed in producing statistics for maximum possible benefit.

Full details of changes to this product, and our other health and social care products, are available in the Health and Social Care Statistical Outputs Consultation Response. We welcome user feedback on our releases. Please use the contact details on individual publication web pages to share feedback.

# Table of contents

# 1 . Main points

- There were 581,363 deaths registered in England and Wales in 2023; this was an increase of 0.7%, compared with 2022 (577,160 deaths).
- Age-standardised mortality rates (ASMRs) in England and Wales decreased, compared with 2022.
- The North East was the region of England with the highest ASMRs for both males and females; this is the second consecutive year the North East had the highest rate for both males and females, similar to before the coronavirus (COVID-19) pandemic.
- In Wales, the highest ASMR for males was in Merthyr Tydfil, and for females was in Blaenau Gwent.
- Dementia and Alzheimers disease continued to be the top leading cause of death in England and Wales in 2023, with 66,876 deaths registered (11.6% of all deaths).

# 2 . Number of deaths registered in 2023

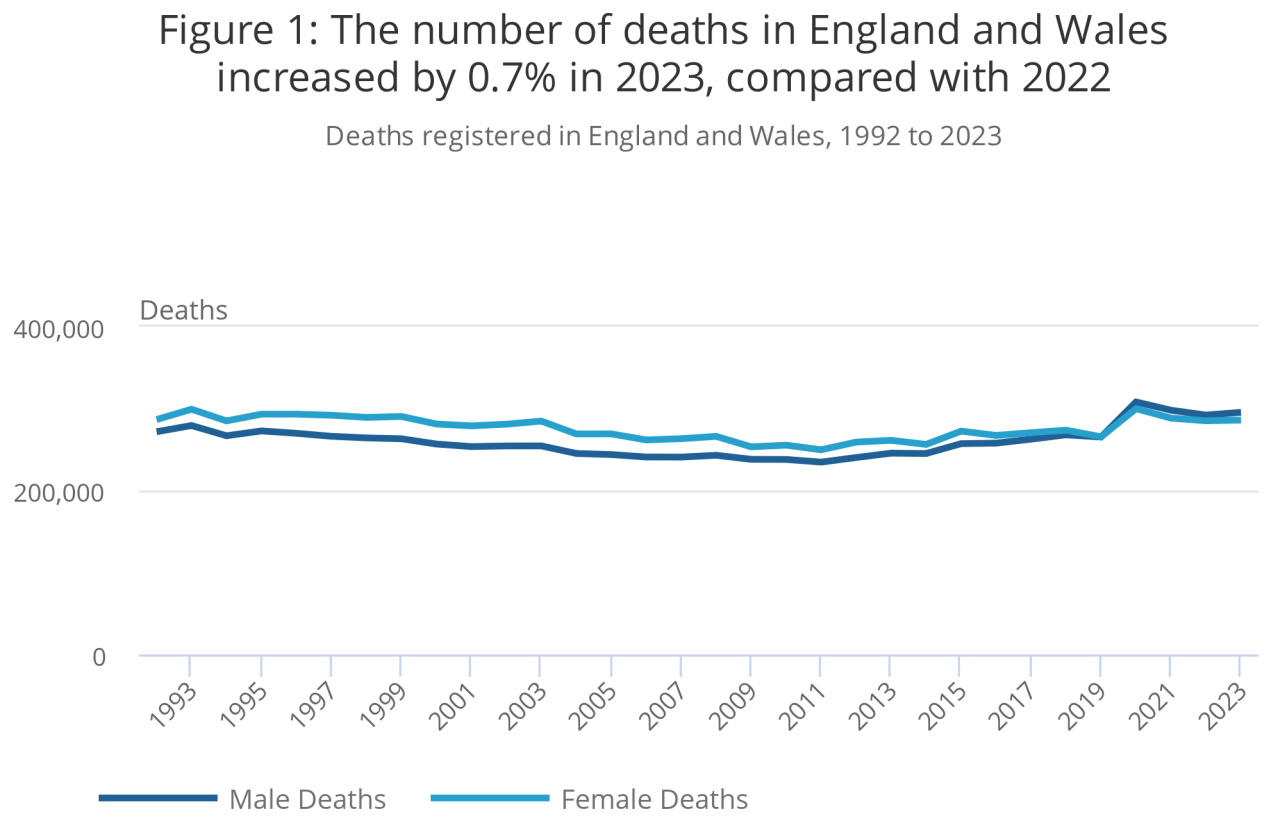
There were 581,363 deaths registered in England and Wales in 2023. This was an increase of 0.7%, compared with 2022 (577,160 deaths).

There was a 1.1% increase in male deaths and a 0.3% increase in female deaths, compared with 2022 (Figure 1).

Figure 1 shows that the difference we have seen in the number of deaths between males and females since 2020 has continued, with the gap between male and female deaths widening to 9,644 in 2021, before narrowing to 6,968 in 2022 then widening again to 9,469 in 2023.

**Figure 1: The number of deaths in England and Wales increased by 0.7% in 2023, compared with 2022**

**Deaths registered in England and Wales, 1992 to 2023**




**Source: Deaths registered in England and Wales from the Office for National Statistics**

**Notes:**

1. Based on deaths registered in each calendar year.
2. Figures include deaths of non-residents.

The number of deaths registered in 2023 was the 18th-highest since 1838 (Figure 2). However, it is important to recognise that the population of England and Wales has grown over this time period. For this reason, we have included crude mortality rates per 100,000 persons, which provide fairer comparisons between years than numbers of deaths alone.

The crude mortality rate reduced slightly in 2023 (955.3 per 100,000), compared with 2022 (958.0 per 100,000), but remains the sixth-highest crude mortality rate since 2004. For mortality rates account for changes in age structure, see Section 4: Age-standardised mortality rates by area.

## Figure 2: The number of deaths registered in 2023 was the 18th highest in our data time series

**Deaths registered and crude mortality rates, England and Wales, 1838 to 2023**

**Notes:**

1. Based on deaths registered in each calendar year.
2. The population estimates used to calculate crude death rates for England, Wales, and England and Wales from 1938 to 1980 are rounded to the nearest hundred for each single year of age. Figures based on these rounded population estimates are of a slightly lower level of accuracy than the figures for 1981 onwards.
3. Figures for England and Wales include deaths of non-residents.
4. Rates have been calculated using the most up-to-date population estimates when the statistics were published.

**Download the data**

Downloac

# 3 . Age-standardised mortality rates by sex

Age-standardised mortality rates (ASMRs) are a better measure of mortality than the number of deaths, because they account for the population size and age structure.

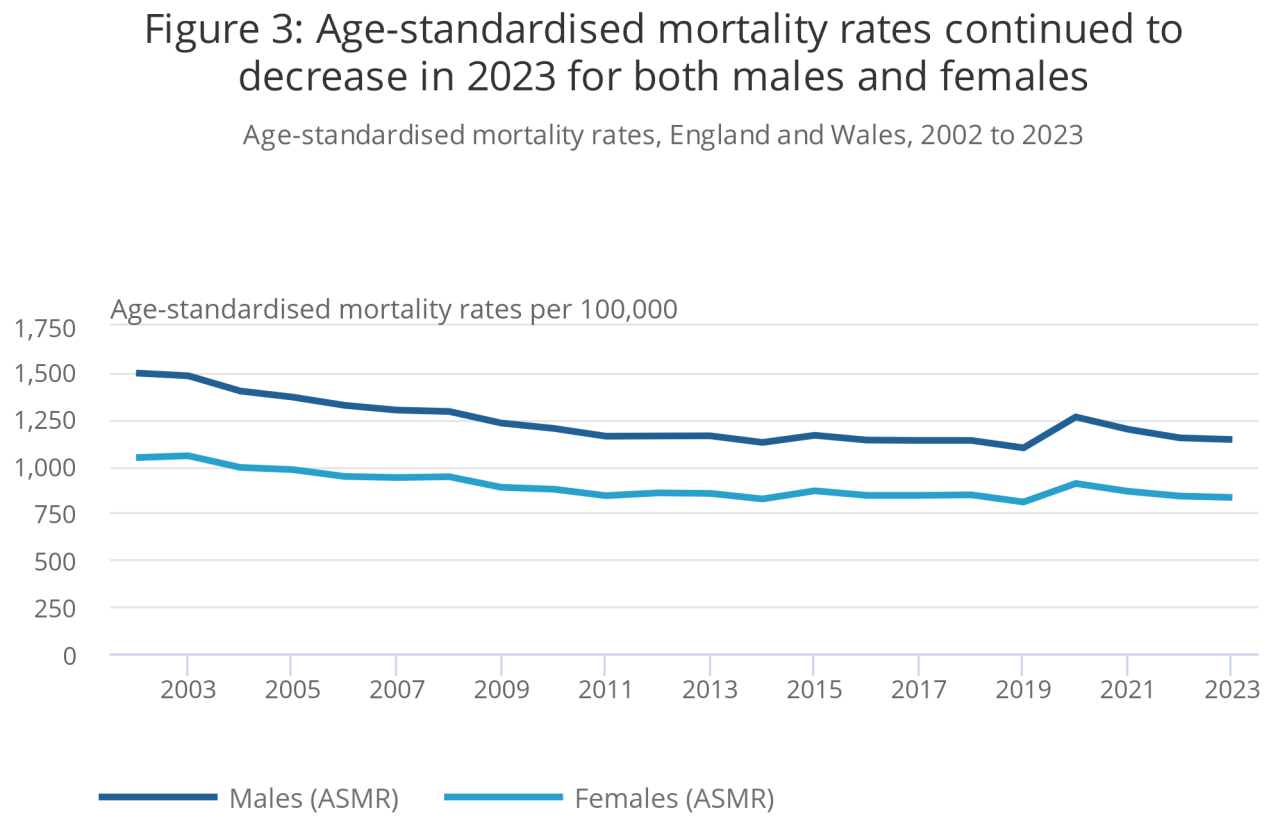
Since 2001, mortality rates had generally been decreasing. However, we have seen a substantial slowdown in mortality improvements following the early 2010s, as described in our Changing trends in mortality in England and Wales: 1990 to 2018 article. ASMRs in recent years have declined at a slower rate than before 2010 (Figure 3).

In 2020, mortality rates for both males and females notably increased, in comparison with the previous year. This increase was linked to the ongoing coronavirus (COVID-19) pandemic, with the first deaths due to COVID-19 registered in England and Wales in March 2020.

In 2023, there were 1,142.1 deaths per 100,000 males (0.7% lower than in 2022) and 832.6 deaths per 100,000 females (0.9% lower than in 2022). However, this decrease was only statistically significant for females.

**Figure 3: Age-standardised mortality rates continued to decrease in 2023 for both males and females**

**Age-standardised mortality rates, England and Wales, 2002 to 2023**




**Source: Deaths registered in England and Wales from the Office for National Statistics**

**Notes:**

1. Based on deaths registered in each calendar year.

2. These rates are for all ages and are standardised to the 2013 European Standard Population. They allow comparisons between populations with different age structures, including between males and females, and over time. For more information on these rates, please see our[User guide to mortality statistics](#).

3. Data for England and Wales include deaths of non-residents.

# 4 . Age-standardised mortality rates by area

In 2023, there were 544,054 deaths registered from all causes in England, and 36,054 deaths registered in Wales. In both countries, the age-standardised mortality rates (ASMRs) were substantially higher for males (1,133.6 deaths per 100,000 males in England, and 1,237.4 deaths per 100,000 males in Wales) than for females (826.6 deaths per 100,000 females in England, and 904.0 deaths per 100,000 females in Wales).

In Wales, the ASMRs were higher than in England for both males and females in 2023, as seen in previous years.

The North East remained the English region with the highest ASMRs for both males (1,290.0 deaths per 100,000 males) and females (947.2 deaths per 100,000 females) in 2023. The South East and London continued to be the English regions with the lowest ASMR for males (1,044.0 deaths per 100,000 males) and females (731.1 deaths per 100,000 females), respectively.

Table 1: The North East was the English region with the highest age-standardised mortality rate for males and females

Age-standardised mortality rates by sex, in English regions and Wales, 2023

| Region | Age-standardised mortality rate per 100,000 males | Age-standardised mortality rate per 100,000 females |
|---|---|---|
| **North East** | 1290.0 | 947.2 |
| **North West** | 1264.2 | 932.5 |
| **Yorkshire and the Humber** | 1212.5 | 892.0 |
| **East Midlands** | 1171.6 | 866.7 |
| **West Midlands** | 1175.3 | 860.8 |
| **East** | 1068.8 | 780.9 |
| **London** | 1045.6 | 731.1 |
| **South East** | 1044.0 | 758.5 |
| **South West** | 1073.6 | 782.4 |
| **Wales** | 1237.4 | 904.0 |

Source: Deaths registered in England and Wales from the Office for National Statistics

Notes

1. Based on deaths registered in a calendar year.
2. These rates are for all ages and are standardised to the 2013 European Standard Population.
3. Geographical boundaries are based on the most up-to-date information available at the time of publication.

### Figure 4: Age-standardised mortality rates, males and females, local authorities in England and Wales, 2023

**Notes:**

1. Points on the map are placed at the centre of the local area they represent and do not show the actual location of deaths.

2. Based on deaths registered in calendar year.

3. Figures exclude deaths of non-residents. Geographical boundaries are based on the most up-to-date information available at the time of publication.

4. Age-standardised mortality rates (ASMRs) are standardised to the 2013 European Standard Population, expressed per 100,000 population. They allow comparisons between populations with different age structures, including between males and females, and over time. For more information on these rates, please see ourUser guide to mortality statistics.

**Download the data**

Downloac

Among English local authorities, Blackpool had the highest overall mortality rate for males (1,618.4 deaths per 100,000 males) and for females (1158.5 deaths per 100,000 females). The City of London had the lowest mortality rate for males (775.7 deaths per 100,000 males) and females (462.8 deaths per 100,000 females). It is worth noting that the City of London population is small. Therefore, age-standardised rates for this local authority may be unreliable. So, for reference, the second lowest ASMR in England for males was in Surrey Heath (850.8 deaths per 100,000 males), and for females it was in Richmond upon Thames (598.6 deaths per 100,000 females).

In Wales, Merthyr Tydfil had the highest overall male ASMR (1,586.5 deaths per 100,000 males). The lowest male mortality rate in Wales was in Ceredigion (1,026.0 deaths per 100,000 males).

The lowest overall female mortality was Monmouthshire (691.7 deaths per 100,000 females), while Blaenau Gwent had the highest rate for females (1,141.6 deaths per 100,000 females).

# 5 . Leading causes of death

Our Leading causes of death in England and Wales (revised 2016) groupings are based on a list developed by the World Health Organization (WHO). This categorises causes of death using the International Classification of Diseases, 10th edition (ICD-10) into groups that are epidemiologically more meaningful than single ICD-10 codes, for the purpose of comparing the most common causes of death in the population.

Causes such as cancer and circulatory diseases are split into different subtypes, with the aim of providing policymakers with enough detail to generate appropriate health policies and interventions.

This analysis presents the five leading cause groups with the highest numbers of deaths registered in 2023, for each age and sex group. Where these five most common causes do not cover at least 40% of the deaths in a given age and sex group, additional leading causes are included until at least 40% of the total deaths are covered by the analysis.

## Overall leading causes of death

For the second year in a row, coronavirus (COVID-19) was not in the top five leading causes of death in England and Wales. Dementia and Alzheimers disease continued to be the top leading cause of death, continuing the pre-pandemic trend. There were 66,876 deaths with an underlying cause of dementia and Alzheimers disease, accounting for 11.6% of all deaths registered in 2023.

Following dementia and Alzheimers disease, the remaining leading causes of death in England and Wales were:

- ischaemic heart diseases (57,895 deaths; 10.0% of all deaths, and a 2.5% decrease in deaths from 2022)
- chronic lower respiratory diseases (32,106 deaths; 5.5% of all deaths, and a 7.7% increase in deaths from 2022)
- cerebrovascular diseases (29,474 deaths; 5.1% of all deaths, and a 0.7% increase in deaths from 2022)
- malignant neoplasm of trachea, bronchus and lung (27,923 deaths; 4.8% of all deaths, and a 2.3% decrease in deaths from 2022)
- influenza and pneumonia (24,240 deaths; 4.2% of all deaths, not a leading cause in 2022)

COVID-19 continued to drop in the leading causes of death list in 2023. The other leading causes are in the same order, except the sixth leading cause, Influenza and pneumonia, which was not a leading cause in 2022. Chronic lower respiratory diseases, a new addition to the leading causes list in 2022, continues to increase in 2023.

This bulletin analyses the underlying cause of death only, as described in Section 9: Cause of death coding of our User guide to mortality statistics. It does not consider other contributory conditions or diseases mentioned on the death certificate.

The leading cause of death in England was dementia and Alzheimers disease (63,056 deaths; 11.6% of all deaths registered). This was followed by:

- ischaemic heart diseases (9.9%)
- chronic lower respiratory diseases (5.5%)
- cerebrovascular diseases (5.1%)
- malignant neoplasm of trachea, bronchus and lung (4.8%)
- influenza and pneumonia (4.2%)

The leading cause of death in Wales was dementia and Alzheimers disease (3,796 deaths; 10.6% of all deaths registered). This was followed by:

- ischaemic heart diseases (10.4%)
- chronic lower respiratory diseases (5.9%)
- malignant neoplasm of trachea, bronchus and lung (5.1%)
- cerebrovascular diseases (5.0%)
- influenza and pneumonia (4.3%)

# 6 . Impact of registration delays

In 2023, there were 581,363 deaths registered in England and Wales. Of these, 581,362 had a valid date of death occurrence, as well as registration. This bulletin analyses deaths where a registration delay can be determined. This figure (581,362) is used as the denominator for registration delay proportions.

Of the 581,362 deaths registered in England and Wales, 91.3% were registered in the same year as they occurred. The number of deaths registered more than a year after they occurred increased from 6,481 (1.1% of all registrations) in 2022 to 8,200 (1.4% of all registrations) in 2023.

The median time between a death occurring and being registered (registration delay) in England and Wales was seven days in 2023. Deaths certified by coroners had a median registration delay of 31 days, compared with six days for deaths certified by doctors. The median delay for deaths certified by a coroner has continued to increase since 2012.

# 7 . Data on deaths registered in England and Wales

Deaths registered in England and Wales
Dataset | Released 10 October 2024
Annual data on deaths registered by age, sex and selected underlying cause of death. Tables also provide both mortality rates and numbers of deaths over time.

Explorable dataset of deaths registered in England and Wales
Dataset | Released 10 October 2024
Mortality statistics for deaths registered in 2013 to 2023. Numbers of deaths and age-standardised rates by age, sex, year, geography, and cause of death (ICD-10 classification and leading causes of death). Deaths by deprivation indices in England and Wales, sex and single year of age, deaths registered in 2023.

Impact of registration delays on mortality statistics
Dataset | Released 10 October 2024
Data for England and Wales on the time taken to register deaths by cause of death, age, sex, certification type and area of usual residence. Includes analysis on infant deaths.

# 8 . Glossary

## Age-standardised mortality rates

Age-standardised mortality rates (ASMRs) are used to allow comparisons between populations that may contain different proportions of people of different ages. The 2013 European Standard Population is used to standardise rates; more information is available in our User guide to mortality statistics.

## Coronaviruses

The World Health Organization (WHO) defines coronaviruses as "a large family of viruses that are known to cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS)". Between 2001 and 2018, there were 12 deaths in England and Wales due to a coronavirus infection, with a further 13 deaths mentioning the virus as a contributory factor on the death certificate.

## Coronavirus (COVID-19)

COVID-19 refers to the "coronavirus disease 2019" and is a disease that can affect the lungs and airways. It is caused by a type of coronavirus. Further information is available from the World Health Organization (WHO).

## Registration delay

Mortality statistics are compiled from information supplied when deaths are certified and registered as part of civil registration, which is a legal requirement. According to the Births and Deaths Registration Act 1953, a death should be registered within five days unless it is referred to a coroner for investigation. Mortality statistics for a given time period can be based on occurrence (death date) or registration (registration date); registration delay is the difference between date of occurrence and date of registration.

## Statistical significance

The term "significant" refers to statistically significant changes or differences. Significance has been determined using the 95% confidence intervals, where instances of non-overlapping confidence intervals between estimates indicate the difference is unlikely to have arisen from random fluctuation. More information is available on how we measure and communicate uncertainty for our surveys.

## Crude mortality rates

Crude mortality rates are used to allow comparisons between populations of different sizes, so are a better measure to compare across time than numbers of deaths alone. However, crude rates do not take account of differences in the structure of populations such as the age and sex distribution (see "age-standardised mortality rates" in this Glossary). More information is available in Section 15: Death rates, ratios and standardisation of our User guide to mortality statistics.

# 9 . Data sources and quality

This bulletin provides information about mortality rates and causes of death registered in 2023.

When interpreting these mortality statistics, please note that:

- death statistics are compiled from information supplied when deaths are certified and registered as part of civil registration, which is a legal requirement
- this release provides both summary figures and more detail on both individual causes of death and selected leading causes of death, where individual causes are aggregated using a list developed by the World Health Organization (WHO), modified for use in England and Wales; deaths where coronavirus (COVID-19) was the underlying cause have been included in this release using the ICD-10 definition U07.1, U07.2 and U10.9
- summary figures published in our accompanying Deaths registered in England and Wales dataset include analysis of causes of death by broad disease groupings; a list of these is available in Section 10: ONS short list of cause of death of our User guide to mortality statistics

## Methodology guides

More quality and methodology information (QMI) on strengths, limitations, appropriate uses, and how the data were created is available in our Mortality statistics in England and Wales QMI.

Our User guide to mortality statistics provides further information on data quality, legislation, and procedures relating to mortality, and includes a glossary of terms. Information on how age-standardised mortality rates (ASMRs) are calculated is also included.

Our Revisions policy for population and international migration statistics (including mortality statistics) is also available.

## Coding of deaths

Deaths are coded by cause using the World Health Organization's (WHO's) International Classification of Diseases, 10th edition (ICD-10). Deaths are coded to ICD-10 using IRIS software (version 2013). Cause of death reported in this bulletin represents the final underlying cause of death for those aged 28 days and over. This takes account of additional information received from medical practitioners or coroners after the death has been registered.

In 2011, there was an update to the coding framework used to code cause of death, as detailed in our Results of the ICD-10 v2010 bridge coding study. This meant that deaths from vascular dementia that were previously coded to cerebrovascular disease (I60 to I69) would be coded to vascular dementia (F01).

There were further changes to the framework in 2014, as detailed in our Impact of the Implementation of IRIS software for ICD-10 Cause of Death Coding on Mortality Statistics bulletin. These changes included that deaths that were coded to chest infection (J98) would now be coded to chest infection (J22), and those with a mention of dementia (F01 or F03) would now be coded to dementia (F01 or F03). Additionally, deaths that were previously coded to aspiration pneumonia (I69) where dementia was mentioned on the death certificate would now be coded to dementia (F01 or F03).

For deaths registered from 1 January 2022, cause of death is coded to the ICD-10 classification using MUSE 5.8 software. Deaths registered between 1 January 2020 and 31 December 2021 were coded to the using MUSE 5.5 and previous years were coded to IRIS 4.2.3. More information is available in our Cause of death coding in mortality statistics software changes: January 2022 article.

## Populations

Rates in this publication have been calculated using our mid-year population estimates, published on 23 November 2023.

There is a large degree of comparability in death statistics between countries within the UK. There are some differences, though these are believed to have a negligible impact on the comparability of the statistics. These differences are outlined in our Mortality statistics in England and Wales QMI.

Death figures reported in this bulletin are based on deaths registered in the data year. These include some deaths that occurred in the years prior to 2023 (50,563 out of 581,363 deaths). We also take an annual extract of death occurrences in the autumn following the data year to allow for late registrations. Further information is available in our Impact of registration delays on mortality statistics in England and Wales: 2022 article for a range of causes.

Figures in this bulletin only represent deaths that were registered in England and Wales. These include some deaths of individuals whose usual residence was outside England and Wales (1,255 of the 581,363 deaths registered in 2023). Any deaths of residents that happened abroad are not included.

## Accredited official statistics

These accredited official statistics were independently reviewed by the Office for Statistics Regulation in February 2013. They comply with the standards of trustworthiness, quality and value in the Code of Practice for Statistics and should be labelled "accredited official statistics".

# 10 . Related links

Monthly mortality analysis, England and Wales: July 2023
Bulletin | Released 23 August 2023
Provisional death registration data for England and Wales, broken down by sex, age and country. Includes deaths due to coronavirus (COVID-19) and leading causes of death.

Where to find statistics on UK deaths involving the coronavirus (COVID-19) and infection rates by country
Article | Released 19 May 2020
Links to statistics on coronavirus (COVID-19) deaths and infection rates published by the different constituent countries of the UK.

The top 10 causes of death
Web page | Updated 7 August 2024
The World Health Organization (WHO) provides data on the leading causes of death in the world.

Births in England and Wales: 2022
Bulletin | Released 23 February 2024
Live births, stillbirths and the intensity of childbearing, measured by the total fertility rate.

# 11 . Cite this statistical bulletin

Office for National Statistics (ONS), released 10 October 2024, ONS website, statistical bulletin, Deaths registered in England and Wales: 2023