

Statistical bulletin

Deaths registered in England and Wales: 2021

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.



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1 . Other pages in this release

More information regarding the ongoing coronavirus (COVID-19) pandemic can be found in:

- [Deaths due to COVID-19, registered in England and Wales: 2021](#)
- [Deaths registered weekly in England and Wales, provisional](#)

2 . Main points

- In 2021, there were 586,334 deaths registered in England and Wales, which was a decrease of 3.6% compared with 2020 (607,922 deaths).
- In 2021, there were more male deaths registered than female deaths (297,989 male deaths and 288,345 female deaths); this is the same as 2020 and only the second time this has been the case since 1981.
- Taking into account the population size and age structure, age-standardised mortality rates (ASMRs) in England and Wales decreased significantly, by 6.3% for males and 5.0% for females.
- The North East was the region of England with the highest age-standardised mortality rate in both males and females for the third consecutive year; the lowest ASMRs for both males and females were in London, replacing the South West in 2020.
- In Wales, the highest age-standardised mortality rate for males was in Neath Port Talbot and for females was in Blaenau Gwent; the lowest ASMR for males was in Monmouthshire, and in Ceredigion for females.
- As in 2020, the leading cause of death in England and Wales in 2021 was the coronavirus (COVID-19), with 67,350 deaths (11.5% of all deaths); the second most common cause of death was dementia and Alzheimer's disease, accounting for 10.4% of all deaths registered in 2021 (61,250 deaths).
- In 2021, the leading cause of death for males was ischaemic heart diseases (37,095 deaths, accounting for 12.4% of all male deaths), and for females was dementia and Alzheimer's disease (40,250 deaths; 14.0% of all female deaths).

3 . Number of deaths registered in 2021

In 2021, there were 586,334 deaths registered in England and Wales; this was a decrease of 3.6% compared with 2020 (607,922 deaths). A larger decrease in deaths compared with 2020 was seen in females (3.8% lower) than males (3.3% lower) (Figure 1). In part, this may be explained by the continually higher numbers of coronavirus (COVID-19) deaths in males; the mortality rate for deaths due to COVID-19 was statistically significantly higher in males than females in 2021, as observed in 2020. For further information, please see our [Deaths registered due to COVID-19, in England and Wales, 2021](#) publication.

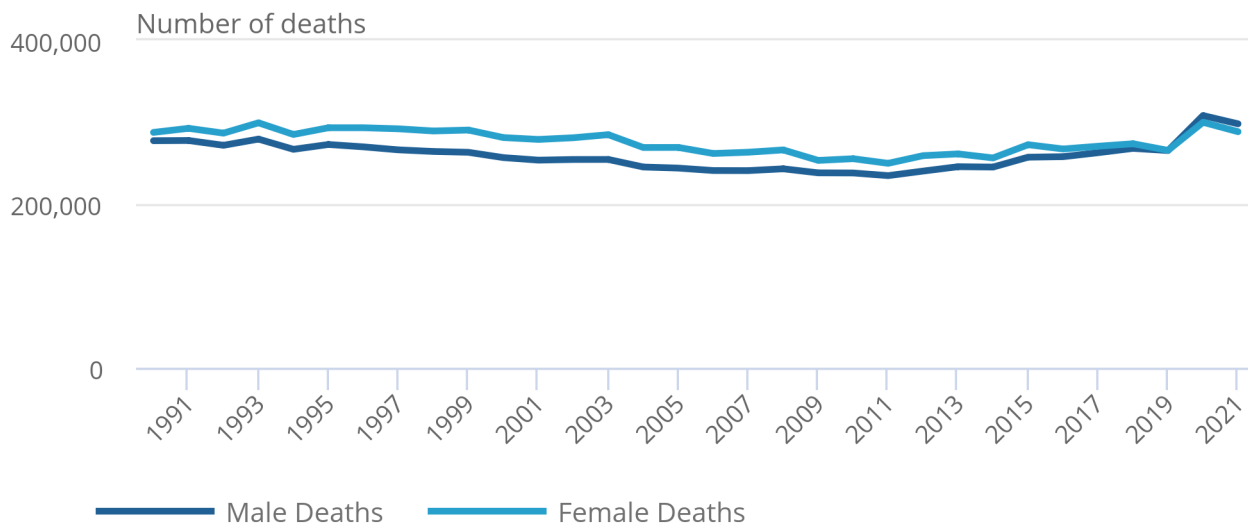
Figure 1 shows that the difference in the number of deaths between males and females had been decreasing, with a difference of 241 deaths between females and males in 1919. In 2020, the pattern reversed, with 8,216 more deaths in males than females; this was the first time that more males died than females in England and Wales since 1981. In 2021, this trend continued, with the gap between male and female deaths widening to 9,644.

Figure 1: In 2021, the number of deaths in England and Wales decreased by 3.6% compared with 2020

Deaths registered in England and Wales, 1990 to 2021

Figure 1: In 2021, the number of deaths in England and Wales decreased by 3.6% compared with 2020

Deaths registered in England and Wales, 1990 to 2021



Source: Office for National Statistics

Notes:

1. Based on deaths registered in each calendar year.
2. Updates to the coding framework used to code cause of death took place in 2011 and 2014. More information on these updates is available in the [Measuring the data](#) section.

Looking at our entire data time series back to 1838 (Figure 2), the number of deaths registered in 2021 was the tenth highest. 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 rates showed that rates in 2021 were equal to those of 2004, rendering them the joint second highest since 2003. They were lower than those for every year from 1953 (when our time series began) to 2003. For mortality rates taking into account changes in age structure, see [Section 4](#).

Figure 2: The number of deaths in 2021 was the tenth highest in our data time series

Deaths registered and crude mortality rates, in England and Wales, 1838 to 2021

Notes:

1. Based on deaths registered in each calendar year

Download the data

[.xlsx](#)

More about coronavirus

More about coronavirus

- Find the latest on [coronavirus \(COVID-19\) in the UK](#).
- [Explore the latest coronavirus data and analysis](#) from the ONS and other sources.
- View [all coronavirus data](#).

4 . Age-standardised mortality rates by sex

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

Since 2001, mortality rates had generally been decreasing. However, following the early 2010s, we have seen a significant [slowdown in mortality improvements](#), with ASMRs in recent years declining at a slower rate than before 2010 (Figure 2).

In 2020, mortality rates for both males and females significantly 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 2021, however, the age-standardised mortality rates for both males and females significantly decreased. There were 1,159.3 deaths per 100,000 males (6.3% lower than in 2020) and 849.5 deaths per 100,000 females (5.0% lower than in 2020).

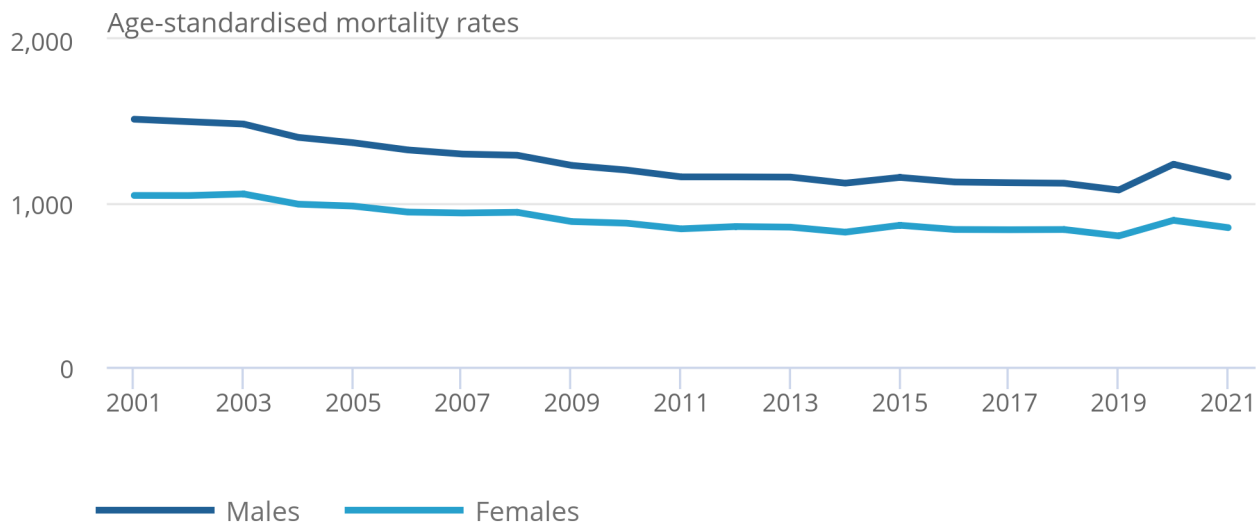
Despite this decrease from 2020, the ASMRs in 2021 remained high relative to other years in the preceding decade; they were statistically significantly higher for both males and females in 2021 than in 2019, 2018, 2017, 2016 and 2014, and also in 2011 for females.

Figure 3: Age-standardised mortality rates for males and females remained relatively high in 2021 but significantly decreased from 2020

Age-standardised mortality rates, England and Wales, 1994 to 2021

Figure 3: Age-standardised mortality rates for males and females remained relatively high in 2021 but significantly decreased from 2020

Age-standardised mortality rates, England and Wales, 1994 to 2021



Source: 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.

5 . Age-standardised mortality rates by area

In 2021, there were 549,349 deaths from all causes in England and 36,135 deaths in Wales. In both countries, the age-standardised mortality rates (ASMRs) were significantly higher for males (1,152.7 deaths per 100,000 males in England, and 1,234.6 deaths per 100,000 males in Wales) than for females (844.1 deaths per 100,000 females in England, and 916.6 deaths per 100,000 females in Wales).

In Wales, the ASMRs were higher than in England for both males and females in 2021, as seen in previous years. ASMRs for males and females in both countries significantly decreased in 2021 compared with 2020.

In England in 2021, the ASMRs were lower for both males and females in every region compared with 2020. The region with the highest male ASMR in 2021 was the North East, which had a mortality rate of 1279.8 deaths per 100,000 males. This is compared with London, which had the lowest mortality rate of 1,064.3 deaths per 100,000 males. The highest ASMR for females was also in the North East (965.3 deaths per 100,000 females), and the lowest ASMR was in London (771.1 deaths per 100,000 females) (Table 1).

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, 2021

Region	Age-standardised mortality rate per 100,000 males	Age-standardised mortality rate per 100,000 females
North East	1279.8	965.3
North West	1279.0	943.8
Yorkshire and the Humber	1213.3	894.1
East Midlands	1202.3	876.1
West Midlands	1231.2	888.3
East	1103.6	811.7
London	1064.3	771.1
South East	1067.7	776.6
South West	1072.6	780.3
Wales	1234.6	916.6

Source: 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. Geographies are based on boundaries correct as of May 2022.

The North East was also the English region with the highest ASMRs in 2020, but London replaced the South West (lowest in 2020) as the region with the lowest mortality rates in 2021. The difference between the regions with the highest and lowest mortality rates had increased in recent years but narrowed in 2021 compared with 2020. In 2021, there was a difference of 204.1 deaths per 100,000 population between the region with the highest (the North East) and lowest (London) mortality rate, compared with a difference of 277.1 deaths in 2020 between the North East and South West.

Figure 4: Age-standardised mortality rates, males and females, local authorities in England and Wales, 2021

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. The size of the circle is proportional to the number of deaths.
2. Figures are for deaths registered rather than deaths occurring in each month.
3. Figures exclude deaths of non-residents; geographical boundaries are based on the most up-to-date information available at the time of publication.

Download the data

[.xlsx](#)

Among English local authorities, Blackpool had the highest overall mortality rate for males (1,711.3 deaths per 100,000 males, replacing Manchester in 2020). Westminster had the lowest mortality rate for males (706.9 deaths per 100,000 males, replacing the City of London in 2020). The highest overall ASMR for females was in Middlesbrough (1,218.4 deaths per 100,000 females, unchanged from 2020). As in 2020, the City of London had the lowest ASMR for females, with 387.8 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 females was in Westminster (545.6 deaths per 100,000 females; this changed from Kensington and Chelsea in 2020).

In Wales, Neath Port Talbot had the highest overall male ASMR, at 1,494.4 deaths per 100,000 males, replacing Merthyr Tydfil in 2020. The lowest male mortality rate in Wales remained in Monmouthshire (995.0 deaths per 100,000 males). The lowest overall female mortality rate was in Ceredigion (738.9 deaths per 100,000 females), replacing Monmouthshire in 2020, while, as in 2020, Blaenau Gwent had the highest rate for females (1,190.2 deaths per 100,000 females).

Information regarding deaths due to COVID-19, by local authority, is available in [Deaths due to COVID-19, registered in England and Wales: 2021](#).

6 . Leading causes of death

The Office for National Statistics' (ONS') [leading causes of death groupings](#) are based on a list developed by the World Health Organization (WHO). This categorises causes of death using the [International Classification of Diseases, tenth 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 to provide policymakers with enough detail to generate appropriate health policies and interventions. Deaths due to COVID-19 is included as a leading cause group (ICD-10 codes U.071, U.072, U10.9). For further information on definitions of COVID-19 deaths, see the glossary section of [Deaths due to COVID-19, registered in England and Wales: 2021](#).

This analysis presents the five leading cause groups with the highest numbers of deaths registered in 2021, 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

In England and Wales as a whole, the leading causes of death accounted for 41.4% of all deaths registered in 2021. As in 2020, COVID-19 was the overall leading cause of death; there were 67,350 deaths with an underlying cause of COVID-19, accounting for 11.5% of all deaths registered in 2021. This was a decrease of 8.7% compared with 2020.

Following COVID-19, the remaining leading causes of death in England and Wales were:

- dementia and Alzheimer's disease (61,250 deaths; 10.4% of all deaths, and a 12.6% decrease from 2020)
- ischaemic heart diseases (56,960 deaths; 9.7% of all deaths, and a 2.1% increase from 2020)
- cerebrovascular diseases (29,041 deaths; 5.0% of all deaths, and a 2.3% decrease from 2020)
- malignant neoplasm of trachea, bronchus and lung (28,190 deaths; 4.8% of all deaths, and a 1.9% decrease from 2020)

All of these cause groups were also leading causes in 2020, and in the same order. It is worth noting that this bulletin analyses the [underlying cause of death](#) only, so does not consider other contributory conditions or diseases mentioned on the death certificate. The majority (86.6%) of deaths that mentioned COVID-19 on the death certificate in 2021 had COVID-19 as the underlying cause of death; where these deaths had another cause mentioned as a contributory factor, this would not be included in our leading causes analysis. For example, diabetes was mentioned as a pre-existing condition on 14,159 death certificates where COVID-19 was the underlying cause of death; these deaths would not be included in the diabetes figures presented in this bulletin.

In England and Wales in 2021, the top five leading causes of death remained the same compared with 2020. When looking at England and Wales separately, COVID-19, dementia and Alzheimer's disease, ischaemic heart diseases, and cerebrovascular diseases all featured in the leading causes of death in both countries. The fifth leading cause of death in England, however, was malignant neoplasms of trachea, bronchus and lung (26,410 deaths, or 4.8% of all deaths registered), whereas, in Wales, the fifth leading cause was chronic lower respiratory diseases (1,834 deaths, or 5.1% of all deaths). For further information including age and sex breakdowns, see Tables 10a to 10c of the [accompanying dataset](#).

Leading causes of death in males and females

In 2021, ischaemic heart diseases was the overall leading cause of death in males (37,095 deaths), accounting for 12.4% of all male deaths. The second most common cause of death for males was COVID-19, accounting for 12.3% (36,794 deaths) of all male deaths registered. This represents a reversal of the top two leading causes of death for males since 2020.

Despite a substantial decrease in deaths since 2020, dementia and Alzheimer's disease remained the leading cause for females overall, with 40,250 deaths registered in 2021 (14.0% of all female deaths, compared with 15.3% in 2021). COVID-19 was again the second overall leading cause of death among females (30,556 deaths), accounting for 10.6% of all female deaths registered in 2021. More detailed information on COVID-19 deaths is available in [Deaths due to COVID-19, registered in England and Wales: 2021](#).

Leading causes of death by age group

In England and Wales in 2021, ischaemic heart diseases replaced COVID-19 as the leading cause of death among males of all ages. However, when broken down by age group for males, the most common leading cause in each age group remained the same. For females, the leading causes in each age group remained the same with a single exception; whereas malignant neoplasms of breast was the leading cause of death among females aged 50 to 64 years in 2020, in 2021 the leading cause among females in this age group was COVID-19 (the third leading cause in 2020). Malignant neoplasms of breast became the second leading cause of death among females in this age group.

Table 2: Ischaemic heart diseases and dementia and Alzheimer's disease were the leading causes of death for males and females, respectively, in 2021
Leading causes of death by age group and sex, England and Wales, 2021

Males

Age Group	Leading Cause	% of male deaths
All ages	Ischaemic heart diseases	12.4
1 to 4 years	Congenital malformations deformations and chromosomal abnormalities	14.9
5 to 19 years	Intentional self-harm; and event of undetermined intent	19.3
20 to 34 years	Intentional self-harm; and event of undetermined intent	25.6
35 to 49 years	Accidental poisoning	12.2
50 to 64 years	Ischaemic heart diseases	16.7
65 to 79 years	Ischaemic heart diseases	14.2
80 years and over	COVID-19	12.8

Females

Age Group	Leading Cause	% of female deaths
All ages	Dementia and Alzheimer's disease	14.0
1 to 4 years	Congenital malformations deformations and chromosomal abnormalities	19.6
5 to 19 years	Intentional self-harm; and event of undetermined intent	15.7
20 to 34 years	Intentional self-harm; and event of undetermined intent	17.6
35 to 49 years	Malignant neoplasms of breast	10.3
50 to 64 years	COVID-19	11.5
65 to 79 years	COVID-19	10.7
80 years and over	Dementia and Alzheimer's disease	20.0

Source: Office for National Statistics

Notes

1. Based on deaths registered in the calendar year.
2. In England and Wales, a conclusion of suicide cannot be returned for children aged under 10 years. "Intentional self-harm; and event of undetermined intent" in this bulletin differs from the National Statistics definition of suicide.

For more detailed information on leading causes of death by sex, age group, and country, see Tables 10a to 10c of the [accompanying dataset](#).

7 . Deaths registered in England and Wales data

[Deaths registered in England and Wales](#)

Dataset | Released 1 July 2022

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.

[Deaths registered in England and Wales – 21st century mortality](#)

Dataset | Released 1 July 2022

Annual data on the number of deaths registered in England and Wales by age group, sex, year and underlying cause of death, as defined using the International Classification of Diseases, Tenth Revision.

[Explorable dataset of deaths registered in England and Wales](#)

Dataset | Released July 2022

Mortality statistics for deaths registered in 2013 to 2021. 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 2021.

[Deaths registered in England and Wales by deprivation](#)

Dataset | Released 1 July 2022

Number of deaths registered by deprivation decile, by sex and single year of age.

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 the [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 our [uncertainty pages](#).

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 the [User guide to mortality statistics](#).

9 . Measuring the data

This publication provides information concerning mortality rates and causes of death registered in 2021; this includes deaths where COVID-19 was the underlying cause of death.

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 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 the [accompanying dataset](#) include analysis of causes of death by broad disease groupings (a list of these is available in [Section 10 of the 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 the [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.

The [Revisions policy for population statistics \(including mortality statistics\)](#) is also available.

Infant, neonatal and post-neonatal mortality rates

Because of the coronavirus (COVID-19) pandemic, birth registrations in England and Wales were delayed and therefore analyses of stillbirths, neonatal mortality, and infant mortality are not included for 2021 currently. The datasets will be updated when these data become available.

Coding of deaths

Deaths are cause coded using the World Health Organization's (WHO) [International Classification of Diseases, tenth edition \(ICD-10\)](#). Deaths are coded to ICD-10 using IRIS software (version 2013). Cause of death reported here represents the final underlying cause of death for ages 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 (detailed in the [bridge coding study](#)) used to code cause of death. 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 (detailed in the [dual coding study](#)) where deaths that were coded to chest infection (J98) would now be coded to chest infection (J22), but 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).

On 1 January 2020, we updated the software used to code causes of death and derive a single underlying cause. This is known as Multicausal and Unicausal Selection Engine (MUSE) (IRIS version 5.5). More information is available on the [differences caused by the change of software](#).

Populations

Figures for 2021 are based on projected populations.

10 . Strengths and limitations

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

Death figures reported here are based on deaths registered in the data year. These include some deaths that occurred in the years prior to 2021 (32,593 out of 586,334 deaths). The Office for National Statistics (ONS) also takes an annual extract of death occurrences in the autumn following the data year to allow for late registrations. Further information on the [impact of registration delays for a range of causes](#) is available.

Figures in this release only represent deaths that were registered in England and Wales; these include some deaths of individuals whose usual residence was outside England and Wales (850 of the 586,334 deaths registered in 2021), while any deaths of residents that happened abroad are not included.

11 . Related links

[Monthly mortality analysis, England and Wales: May 2022](#)

Bulletin | Released 22 June 2022

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 | Released 9 December 2020

The World Health Organization (WHO) provides data on the leading causes of death in the world.

[Births in England and Wales: 2020](#)

Bulletin | Released 14 October 2021

Live births, stillbirths and the intensity of childbearing, measured by the total fertility rate.