

Statistical bulletin

Monthly mortality analysis, England and Wales: April 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.

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1 . Main points

- In April 2023, there were 41,966 deaths registered in England, 1,383 deaths (3.4%) above the April five-year average (2017 to 2019, 2021 and 2022); in Wales, there were 2,753 deaths registered, 7 deaths (0.3%) below the five-year average.
- Accounting for the population size and age structure, the age-standardised mortality rates (ASMR) for April 2023 in both England (882.6 deaths per 100,000 people) and Wales (954.3 deaths per 100,000 people) were both significantly below the five-year average (3.7% and 6.1% below average, respectively).
- Year-to-date (January to April 2023) deaths were above average in both England and Wales (7.2% and 6.7% above average, respectively); however, the year-to-date ASMR was similar to expected in both England (0.2% below average) and Wales (<0.1% above average).
- The leading cause of death in England in April 2023 was dementia and Alzheimer's disease (11.2% of all deaths); in Wales, the joint leading causes of death were dementia and Alzheimer's disease, and ischaemic heart diseases (10.8% of all deaths each).
- The leading cause of excess death in both England and Wales in April 2023 was symptoms, signs and ill-defined conditions, at 316 deaths (28.4%) and 24 deaths (37.8%) above average, respectively.

2 . Death registrations in April 2023

In England, there were 41,966 deaths registered in April 2023, based on provisional data. This was 986 fewer deaths than in April 2022 and 1,383 (3.4%) more deaths than the five-year average (2017 to 2019, 2021 and 2022).

In Wales, there were 2,753 deaths registered in April 2023. This was 142 fewer deaths than April 2022 and 7 (0.3%) fewer deaths than the five-year average.

The five-year average for 2023 has been calculated using the years 2017 to 2019, 2021 and 2022. For more information, see our [Understanding excess deaths during a pandemic blog](#) and our [How do we measure expected and excess deaths blog](#).

Age-standardised mortality rates (ASMRs) are used for comparisons over time, rather than numbers of deaths, because ASMRs account for changes to the population size and age structure.

Since the beginning of our data time series in 2001, mortality rates have generally been decreasing for the month of April.

In April 2023, the ASMR for England was 882.6 deaths per 100,000 people. This was [statistically significantly](#) lower than the mortality rate for April 2022 (925.8 deaths per 100,000 people), and was significantly lower than all April mortality rates since 2017. The exception to this was April 2021, which was not significantly different (867.9 deaths per 100,000 people).

In April 2023, the ASMR in Wales was 954.3 deaths per 100,000 people. This was not significantly different from the mortality rate for April 2022 (1,022.0 deaths per 100,000 people) or April 2021 (937.2 deaths per 100,000 people). Excluding these years, and similarly to England, this was significantly lower than all mortality rates for April since 2017.

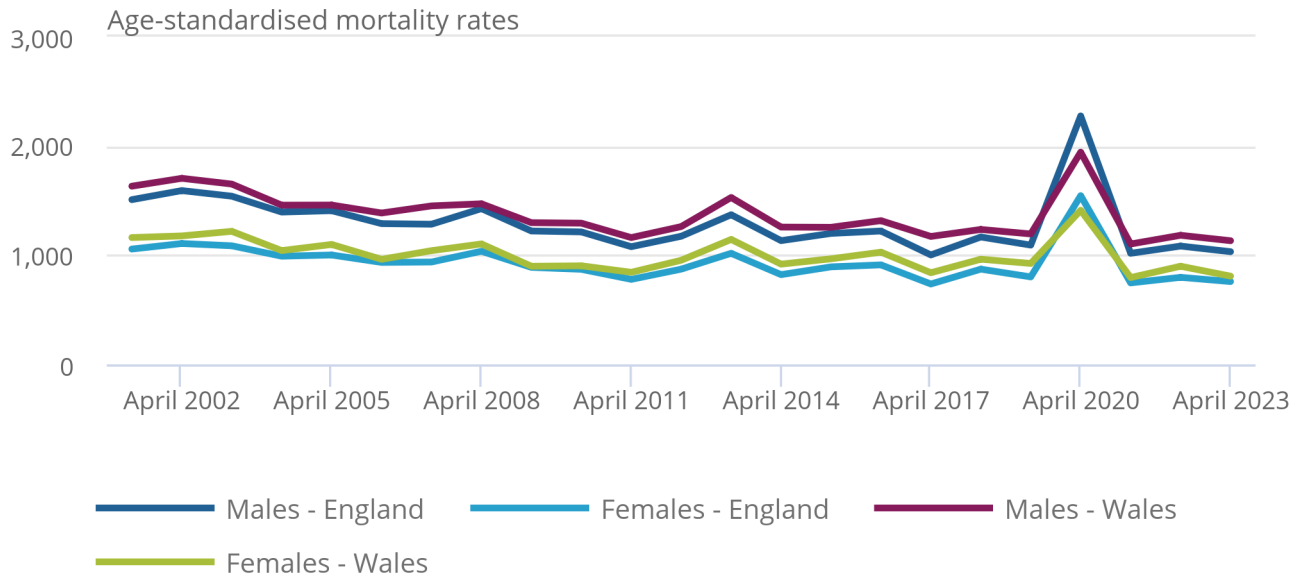
The mortality rate in April has consistently been significantly higher for males than females since the beginning of our time series in 2001. For more information on the differences between male and female ASMRs, see our [accompanying dataset](#).

Figure 1: Mortality rates for April 2023 were significantly lower than April 2022 in England, but were not significantly different in Wales

Age-standardised mortality rates by sex, England and Wales, deaths registered in April 2001 to April 2023

Figure 1: Mortality rates for April 2023 were significantly lower than April 2022 in England, but were not significantly different in Wales

Age-standardised mortality rates by sex, England and Wales, deaths registered in April 2001 to April 2023



Source: Monthly mortality analysis from the Office for National Statistics

Notes:

1. Age-standardised mortality rates per 100,000 people, standardised to the 2013 European Standard Population. Monthly rates in this bulletin are adjusted to allow for comparisons with annual rates. For more information, see [Section 10: Measuring the data](#).
2. Figures are for deaths registered, rather than deaths occurring in each period.
3. Figures for 2022 and 2023 are based on provisional mortality statistics, and populations from July 2021 onwards are based partly or wholly on population projections.
4. Figures exclude non-residents.

Deaths registered in the year to date

There were 202,461 deaths registered in England and 13,339 in Wales during the first four months (January to April) of 2023.

To gain a better idea of year-to-year differences in mortality rates, we calculated a year-to-date ASMR based on deaths registered in January to April of each year, from 2001 to 2023 (Figure 2).

For England, the year-to-date ASMR for 2023 (1,067.0 deaths per 100,000 people) was statistically significantly lower than most (15 of the 22) years since our data time series started in 2001.

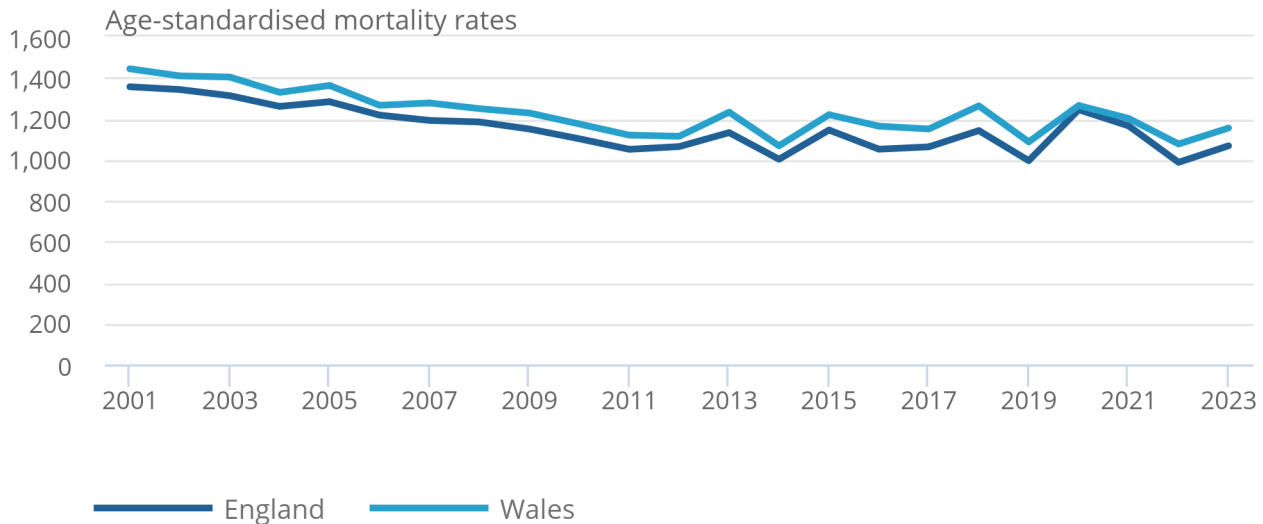
For Wales, the ASMR for 2023 (1,153.8 deaths per 100,000 people) was also statistically significantly lower than most (14 of the 22) years since our data time series began.

Figure 2: Year-to-date mortality rates in 2023 were significantly lower than most other years in both England and Wales

Age-standardised mortality rates, England and Wales, deaths registered in January to April, 2001 to 2023

Figure 2: Year-to-date mortality rates in 2023 were significantly lower than most other years in both England and Wales

Age-standardised mortality rates, England and Wales, deaths registered in January to April, 2001 to 2023



Source: Monthly mortality analysis from the Office for National Statistics

Notes:

1. Age-standardised mortality rates per 100,000 people, standardised to the 2013 European Standard Population. Monthly rates in this bulletin are adjusted to allow for comparisons with annual rates. For more information, see [Section 10: Measuring the data](#).
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3 . Excess mortality in England and Wales

Excess deaths in this bulletin are the difference between the observed deaths within a period compared with the five-year average (2017 to 2019, 2021 and 2022) for the same period. This section compares excess mortality by number of deaths with excess mortality by age-standardised mortality rate (ASMR).

In the month of April 2023, excess mortality rates have remained proportionally lower than excess deaths in England (Figure 3) and in Wales (Figure 4). This was the case regardless of whether deaths or ASMRs were below or above average.

Because ASMRs take into account the population size and age structure at a given period, it is not unusual for proportional excess mortality rates to be lower than excess deaths. This is because while deaths may be higher than we would expect, they may not be higher when relative to the population. For example, if the population was larger in the observed period than the average population of the years making up the five-year average, then the deaths per 100,000 people could be lower.

There are different ways of measuring excess mortality. These numbers will differ from those published elsewhere that use a different method, such as the [Office for Health Improvement and Disparities' \(OHID\) excess deaths measure](#). This is because the figures in this bulletin are based on the average of five years, whereas the OHID measure looks at the trend seen between 2015 and 2019, as well as accounting for population, deprivation and ethnicity. We are now investigating different ways to calculate the expected number of deaths used in excess death calculations. The background to this work and information on how to get in contact can be found in our [How we measure expected and excess deaths blog](#).

Figure 3: In England, the number of deaths continued to be above the five-year average in April 2023, with the mortality rate below average

Percentage of excess mortality, compared with the five-year average, by number of deaths and age-standardised mortality rates, England, deaths registered from January to April, 2022 and 2023

Notes:

1. Age-standardised mortality rates per 100,000 people, standardised to the 2013 European Standard Population. Monthly rates in this bulletin are adjusted to allow for comparisons with annual rates. For more information, see [Section 10: Measuring the data](#).
2. Figures are for deaths registered, rather than deaths occurring in each period.
3. Figures for 2022 and 2023 are based on provisional mortality statistics, and populations from July 2021 onwards are based partly or wholly on population projections.
4. Figures exclude non-residents.
5. The five-year average for 2023 has been provided for 2017 to 2019, 2021 and 2022, and the five-year average for 2022 has been provided for 2016 to 2019 and 2021.

Download the data

[.xlsx](#)

In England in April 2023, the number of deaths was 3.4% (1,383 deaths) above what we would expect using the five-year average. The mortality rate for April 2023 was [statistically significantly](#) lower than average (882.6 and 916.6 deaths per 100,000 people, respectively), at 3.7% below the expected rate. This is lower than April 2022 for both excess deaths (5.4% above average) and mortality rates (1.5% below average).

The number of deaths registered in the year to date of 2023 (January to April) was 7.2% above average, whereas the equivalent year-to-date value in 2022 was 3.0% below expected. The 2023 year-to-date ASMR was 0.2% below the five-year average, which was not significantly different (1,067.0 and 1,068.8 deaths per 100,000 people, respectively). Whereas the equivalent year-to-date ASMR in 2022 was significantly lower than average (986.5 and 1,082.9 deaths per 100,000 people, respectively), at 8.9% below expected.

Figure 4: In Wales, the number of deaths in April 2023 was below the five-year average; the mortality rate was also below average, but to a greater extent

Percentage of excess mortality, compared with the five-year average, by number of deaths and age-standardised mortality rates, Wales, deaths registered from January to April, 2022 and 2023

Notes:

1. Age-standardised mortality rates per 100,000 people, standardised to the 2013 European Standard Population. Monthly rates in this bulletin are adjusted to allow for comparisons with annual rates. For more information, see [Section 10: Measuring the data](#).
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4. Figures exclude non-residents.
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In Wales in April 2023, the number of deaths was 0.3% below the five-year average. The ASMR was significantly lower than average (954.3 and 1,015.8 deaths per 100,000 people, respectively), at 6.1% lower than expected. This is a lower proportion than that of April 2022 for both excess deaths (4.1% above average) and mortality rates (1.9% below average).

The number of deaths registered in the year to date of 2023 was 6.7% above average in Wales, whereas the equivalent year to date in 2022 was 3.3% below the five-year average. The 2023 year-to-date ASMR was 0.2 deaths per 100,000 people greater than the five-year average (1,153.6 and 1,153.8 deaths per 100,000 people, respectively), a proportional difference of 0.0%. Whereas the equivalent year to date in 2022 was significantly lower than average (1,075.9 and 1,172.1 deaths per 100,000 people, respectively), at 8.2% below expected.

4 . Leading causes of death

The doctor certifying a death can list all causes in the chain of events that led to the death, and the pre-existing conditions that may have contributed to the death. Using this information, we determine an underlying cause of death. More information on this process can be found in our [User guide to mortality statistics methodology](#).

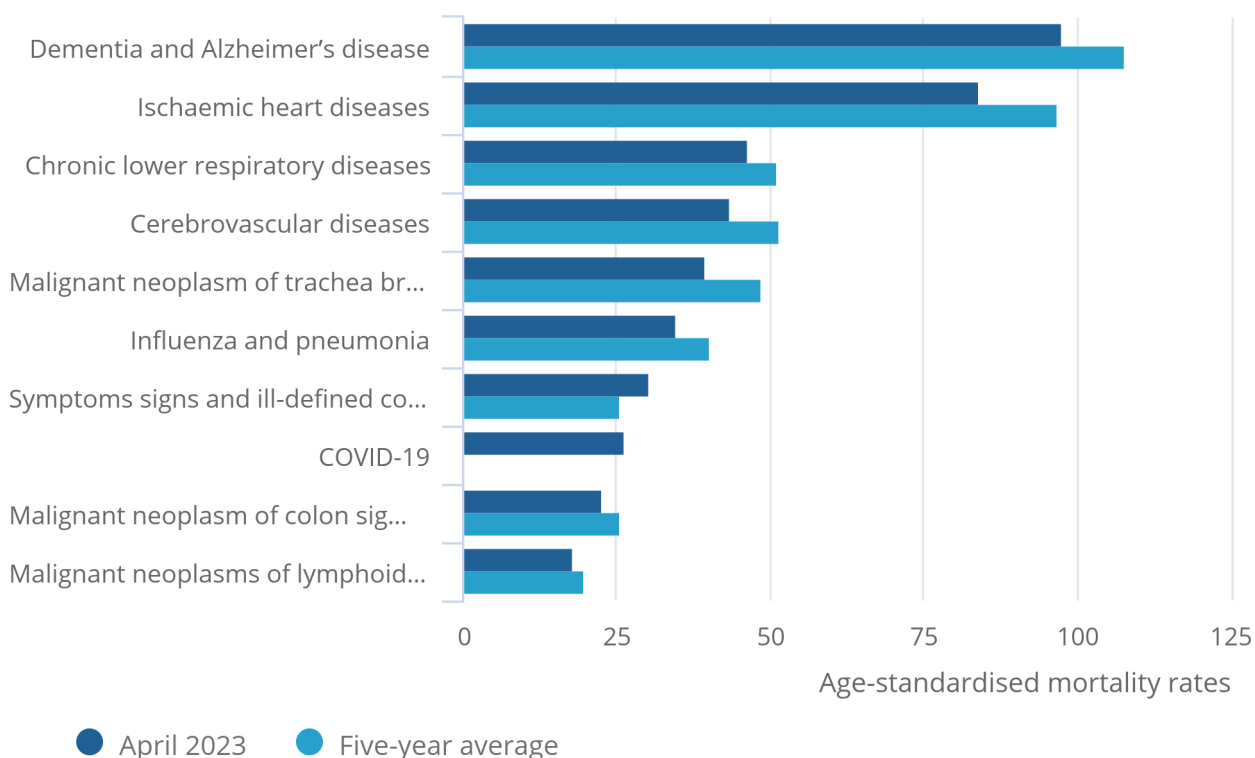
The 10 most common underlying causes of death registered in April 2023, compared with the five-year average for April (2017 to 2019, 2021 and 2022), for England and Wales, respectively, are shown in Figures 5 and 6. Causes of death are based on our [leading causes of death groupings](#).

Figure 5: In England, dementia and Alzheimer's disease remained the leading cause of death in April 2023

Age-standardised mortality rate for selected leading causes of death, per 100,000 people, England, deaths registered in April 2023

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Age-standardised mortality rate for selected leading causes of death, per 100,000 people, England, deaths registered in April 2023



Source: Monthly mortality analysis from the Office for National Statistics

Notes:

1. Age-standardised mortality rates per 100,000 population, standardised to the 2013 European Standard Population. Monthly rates in this bulletin are adjusted to allow for comparisons with annual rates. For more information, see [Section 10: Measuring the data](#).
2. Figures for 2022 and 2023 are based on provisional mortality statistics, and populations from July 2021 onwards are based partly or wholly on population projections.
3. Based on underlying cause of death.
4. Figures exclude deaths of non-residents.
5. The five-year average has been provided for 2017 to 2019, 2021 and 2022 because of the impact of the coronavirus (COVID-19) pandemic on deaths registered in 2020. Where a five-year average cannot be provided, it is denoted as "[z]" in the data downloads.
6. Leading causes are ranked based on the number of deaths, not the age-standardised mortality rates.

In England, dementia and Alzheimer's disease remained the leading cause of death in April 2023 (for the 22nd consecutive month), with 97.6 deaths per 100,000 people (4,700 deaths).

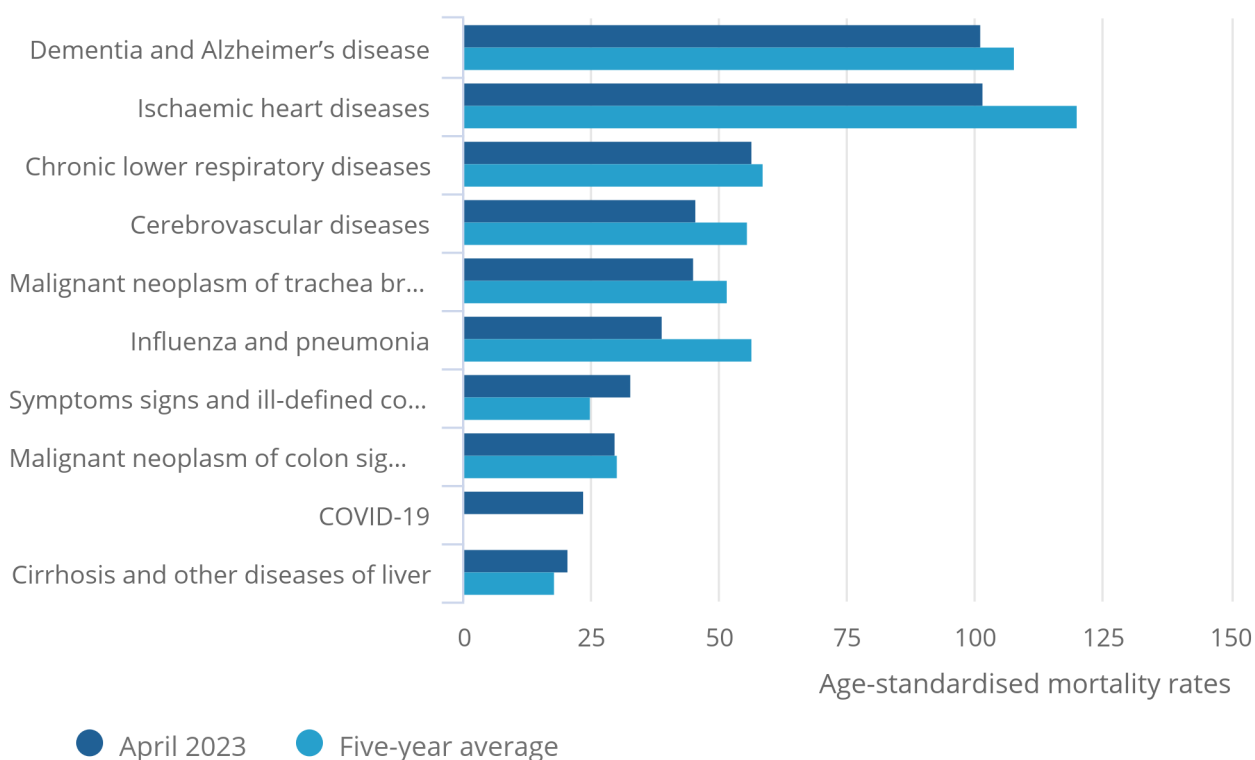
The 10 leading causes of death in April 2023 are also the leading causes of death in the year to date (January to April 2023). The ordering is generally similar, except for deaths due to influenza and pneumonia, which is ranked fourth in the year to date compared with ranking sixth in April 2023, because of the high number of deaths due to this cause in January and February.

Figure 6: In Wales, dementia and Alzheimer’s disease, and ischaemic heart diseases were the joint leading causes of death in April 2023

Age-standardised mortality rate for selected leading causes of death, per 100,000 people, Wales, deaths registered in April 2023

Figure 6: In Wales, dementia and Alzheimer’s disease, and ischaemic heart diseases were the joint leading causes of death in April 2023

Age-standardised mortality rate for selected leading causes of death, per 100,000 people, Wales, deaths registered in April 2023



Source: Monthly mortality analysis from the Office for National Statistics

Notes:

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6. Leading causes are ranked based on the number of deaths, not the age-standardised mortality rates.

In Wales, dementia and Alzheimer's disease remained the leading cause of death in April 2023 for the second consecutive month, with 101.1 deaths per 100,000 people (296 deaths). Ischaemic heart diseases was also the joint leading cause of death, with 101.8 deaths per 100,000 people (296 deaths). Despite the two causes having the same number of deaths, the age-standardised mortality rate differs slightly. This is because of the different age structures of the deaths.

Since July 2020, when this analysis began, these causes of death have rotated in and out of the top ranking for Wales. Following the second wave of the coronavirus (COVID-19) pandemic, ischaemic heart diseases were the leading cause of death in Wales for 15 of the 17 months between March 2021 and July 2022. Dementia and Alzheimer's disease was then the leading cause of death in Wales for eight of the past nine months, including this month. Further analysis is needed to understand the fluctuations in these leading cause of death groupings in Wales.

Of the 10 leading causes of death in April 2023, nine were also the leading causes of death in the year to date (January to April 2023). Cirrhosis and other diseases of the liver is ranked eleventh in the year to date (compared with tenth in April), whereas heart failure and complications and ill-defined heart disease is ranked tenth (eleventh in April).

Most leading causes in the year to date are in a different rank than April 2023, except for ischaemic heart diseases (ranked first), chronic lower respiratory diseases (ranked third), and symptoms, signs and ill-defined conditions (ranked seventh).

More information on leading causes of death is available in Table 12 for England, and Table 13 for Wales, in our [accompanying dataset](#). More in-depth analysis of leading causes of death is available in our annual [Deaths registered in England and Wales: 2021 bulletin](#), based on finalised mortality data.

Coronavirus (COVID-19) mortality

We use the term "due to" when referring only to deaths where COVID-19 was the underlying cause of death. We use the term "involving" when referring to deaths that had COVID-19 mentioned anywhere on the death certificate, whether as an underlying cause or not.

The first deaths involving COVID-19 were registered in England and Wales in March 2020. Since then, COVID-19 was the underlying cause in most deaths that involved COVID-19 (83.7% in England, 82.7% in Wales).

In England, COVID-19 remained the eighth leading cause of death in April 2023 for the fourth consecutive month, at 26.3 deaths per 100,000 people (1,260 deaths), accounting for 3.0% of all deaths. This was [statistically significantly](#) lower than the mortality rate for deaths due to COVID-19 in March 2023, at 34.3 deaths per 100,000 people (1,698 deaths; 3.3% of all deaths).

In Wales, COVID-19 decreased to the ninth leading cause of death in April 2023 (from eighth in March 2023), at 23.8 deaths per 100,000 (71 deaths), accounting for 2.6% of all deaths. This was not significantly different than the mortality rate for deaths due to COVID-19 in March 2023, at 34.0 deaths per 100,000 people (103 deaths, 3.0% of all deaths).

For more information on our definition of coronavirus (COVID-19) deaths, see [Section 10: Measuring the data](#).

More about coronavirus

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

5 . Excess mortality by causes of death

Changing trends in causes of death can help us to understand possible causes of excess mortality. Leading causes of excess deaths can include some of the 10 most common causes of death (see [Section 4: Leading causes of death](#)), but will also include other leading cause of death groupings, which contribute to above-average mortality.

Please see [Section 3: Excess mortality in England and Wales](#) for ongoing methodology work on excess mortality.

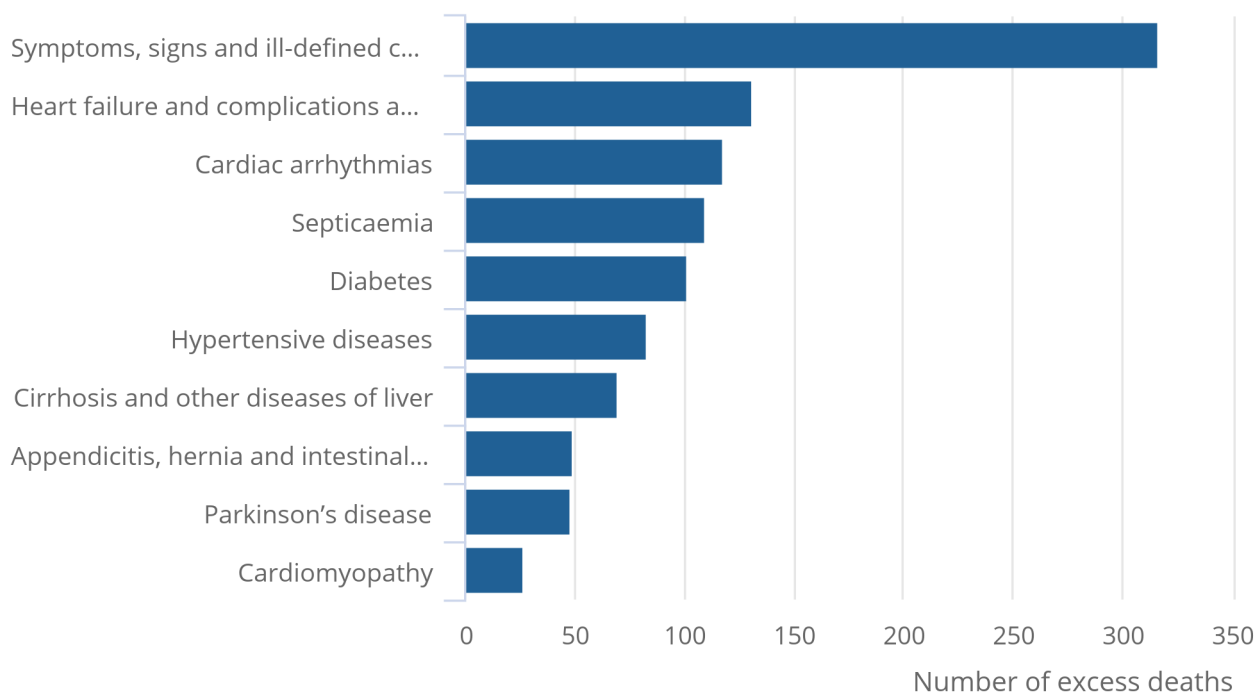
While the number of deaths by cause of death may be higher in April 2023 compared with the five-year average for April (2017 to 2019, 2021 and 2022), the age-standardised mortality rate (ASMR) may be lower. This is because ASMRs take into account changes in population size and age structure. Therefore, changing trends in the age groups affected by the cause of death, and the size of that age group in the population, will cause changes to the ASMR.

Figure 7: In England, symptoms, signs and ill-defined conditions remained the leading cause of excess death in April 2023

Number of excess deaths, compared with the 2017 to 2019, 2021 and 2022 five-year average, for selected leading causes of death, England, deaths registered in April 2023

Figure 7: In England, symptoms, signs and ill-defined conditions remained the leading cause of excess death in April 2023

Number of excess deaths, compared with the 2017 to 2019, 2021 and 2022 five-year average, for selected leading causes of death, England, deaths registered in April 2023



Source: Monthly mortality analysis from the Office for National Statistics

Notes:

1. Figures for 2022 and 2023 are based on provisional mortality data.
2. Based on underlying cause of death.
3. Figures exclude deaths of non-residents.
4. Leading causes are ranked based on the number of excess deaths.
5. The five-year average has been provided for 2017 to 2019, 2021 and 2022 because of the impact of the coronavirus (COVID-19) pandemic on deaths registered in 2020.

In England in April 2023, the leading cause of excess death was symptoms, signs, and ill-defined conditions, with 316 excess deaths (28.4% above average).

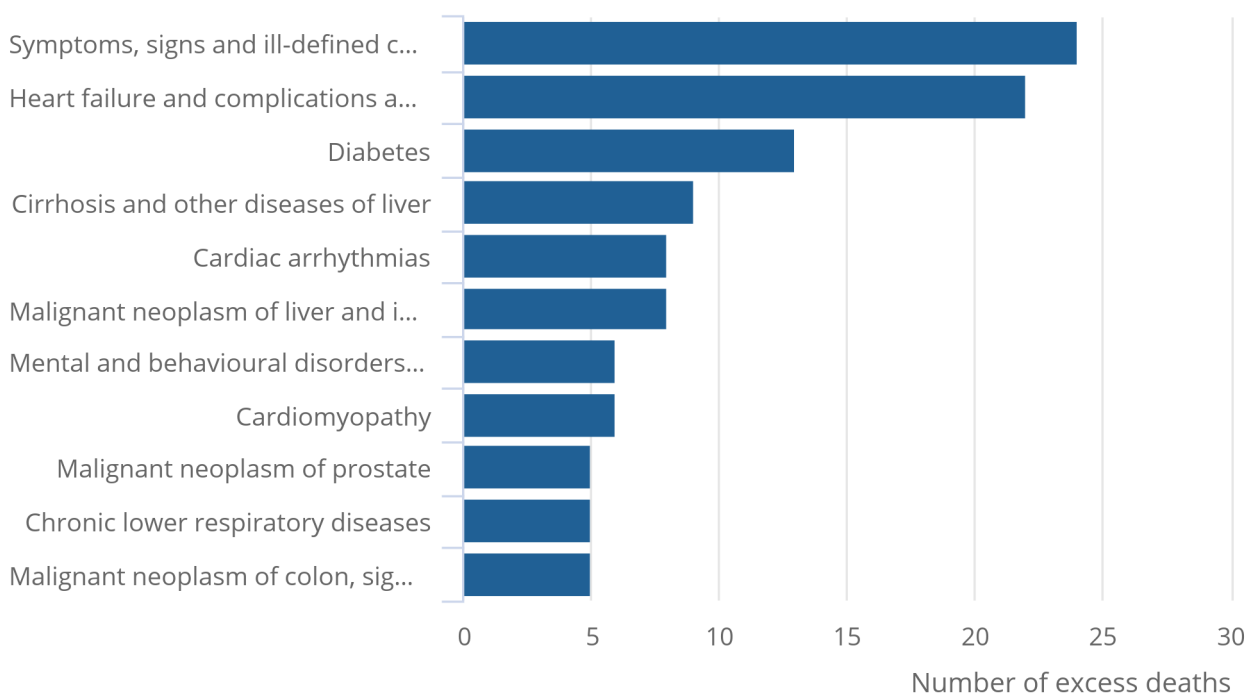
Deaths due to septicaemia had the largest proportional increase when compared with the five-year average for both ASMR (39.6% above average) and number of deaths (51.1% above average). The two causes mentioned above were the only causes of death registered in April 2023 that were [statistically significantly](#) higher than the April five-year average.

Figure 8: In Wales, symptoms, signs and ill-defined conditions was the leading cause of excess death in April 2023

Number of excess deaths, compared with the 2017 to 2019, 2021 and 2022 five-year average, for selected leading causes of death, Wales, deaths registered in April 2023

Figure 8: In Wales, symptoms, signs and ill-defined conditions was the leading cause of excess death in April 2023

Number of excess deaths, compared with the 2017 to 2019, 2021 and 2022 five-year average, for selected leading causes of death, Wales, deaths registered in April 2023



Source: Monthly mortality analysis from the Office for National Statistics

Notes:

1. Figures for 2022 and 2023 are based on provisional mortality data.
2. Based on underlying cause of death.
3. Figures exclude deaths of non-residents.
4. Leading causes are ranked based on the number of excess deaths.
5. The five-year average has been provided for 2017 to 2019, 2021 and 2022 because of the impact of the coronavirus (COVID-19) pandemic on deaths registered in 2020.

In Wales in April 2023, the leading cause of excess deaths was symptoms, signs, and ill-defined conditions, with 24 excess deaths (37.8% above average).

Deaths due to heart failure and complications and ill-defined heart disease had the largest proportional increase when compared with the five-year average for both ASMR (58.5% above average) and number of deaths (66.7% above average). This was also the only cause of deaths registered in April 2023 that was significantly higher than the five-year average.

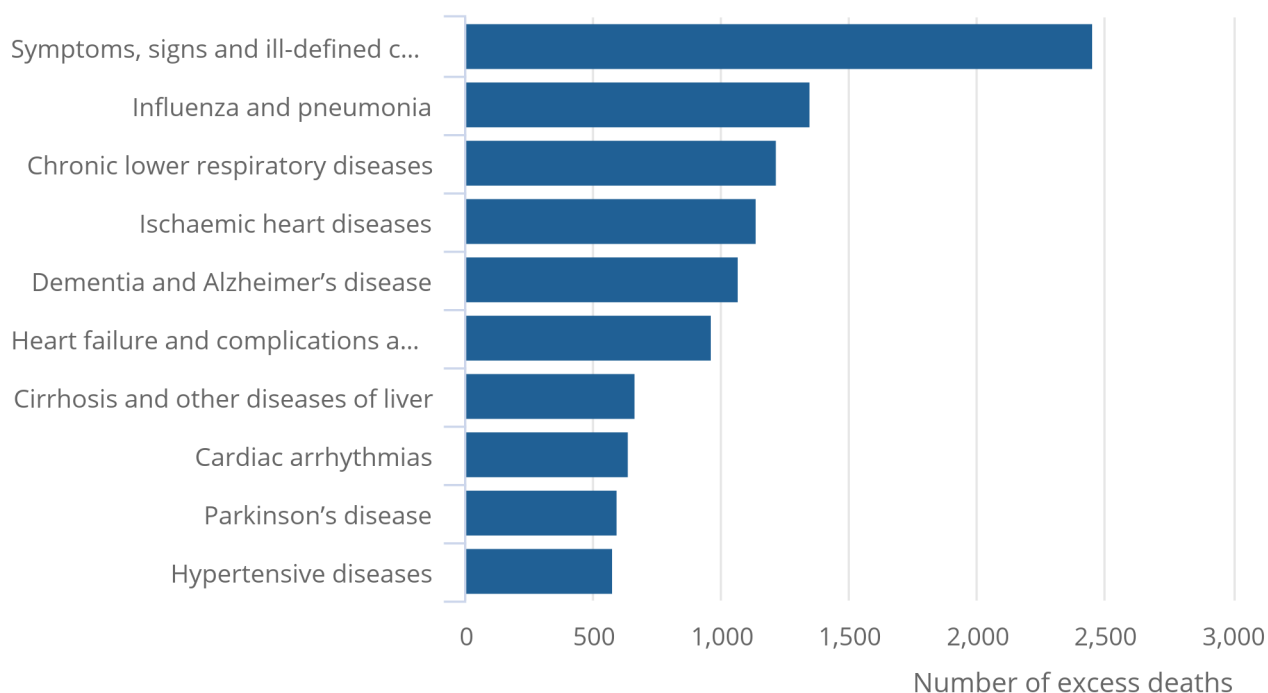
Excess mortality by causes of death in the year-to-date

Figure 9: In England, symptoms, signs and ill-defined conditions was the leading cause of excess death in the year-to-date for 2023

Number of excess deaths, compared with the 2017 to 2019, 2021 and 2022 five-year average, for selected leading causes of death, England, deaths registered in January to April 2023

Figure 9: In England, symptoms, signs and ill-defined conditions was the leading cause of excess death in the year-to-date for 2023

Number of excess deaths, compared with the 2017 to 2019, 2021 and 2022 five-year average, for selected leading causes of death, England, deaths registered in January to April 2023



Source: Monthly mortality analysis from the Office for National Statistics

Notes:

1. Figures for 2022 and 2023 are based on provisional mortality data.
2. Based on underlying cause of death.
3. Figures exclude deaths of non-residents.
4. Leading causes are ranked based on the number of excess deaths.
5. The five-year average has been provided for 2017 to 2019, 2021 and 2022 because of the impact of the coronavirus (COVID-19) pandemic on deaths registered in 2020.

In England, the leading cause of excess death in the year to date (January to April) of 2023 was symptoms, signs, and ill-defined conditions, with 2,459 excess deaths (50.0% above average). The mortality rate was significantly higher compared with the five-year average ASMR (39.6 compared with 28.4 deaths per 100,000 people).

The ASMR for deaths due to dementia and Alzheimer's disease in the 2023 year to date was the only leading cause of excess death ranked in the top ten to be significantly lower than the five-year average for the equivalent period.

When considering ASMRs, the largest percentage increase was in deaths due to septicaemia, with 50.8% above average (7.7 compared with 5.1 deaths per 100,000 people, respectively).

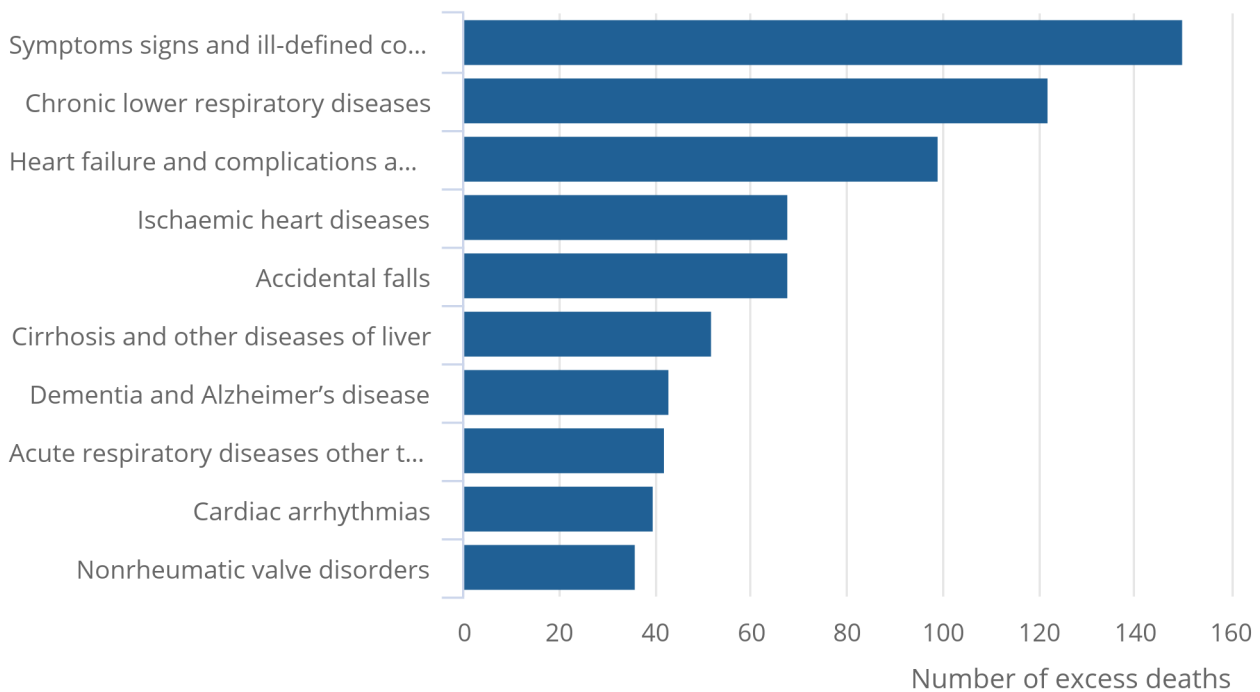
Deaths due to malignant neoplasms of the trachea, bronchus and lung had the greatest number of deaths below average, at 370 fewer deaths (4.1% below average). The mortality rate was significantly lower than average (46.1 compared with 51.6 deaths per 100,000 people), at 10.8% below average.

Figure 10: In Wales, symptoms, signs and ill-defined conditions was the leading cause of excess death in the year-to-date for 2023

Number of excess deaths, compared with the 2017 to 2019, 2021 and 2022 five-year average, for selected leading causes of death, Wales, deaths registered in January to April 2023

Figure 10: In Wales, symptoms, signs and ill-defined conditions was the leading cause of excess death in the year-to-date for 2023

Number of excess deaths, compared with the 2017 to 2019, 2021 and 2022 five-year average, for selected leading causes of death, Wales, deaths registered in January to April 2023



Source: Monthly mortality analysis from the Office for National Statistics

Notes:

1. Figures for 2022 and 2023 are based on provisional mortality data.
2. Based on underlying cause of death.
3. Figures exclude deaths of non-residents.
4. Leading causes are ranked based on the number of excess deaths.
5. The five-year average has been provided for 2017 to 2019, 2021 and 2022 because of the impact of the coronavirus (COVID-19) pandemic on deaths registered in 2020.

In Wales, the leading cause of excess death in the year to date (January to April) of 2023 was symptoms, signs, and ill-defined conditions, with 150 excess deaths (53.3% above average). The mortality rate was significantly higher when compared with the five-year average ASMR (39.3 compared with 27.3 deaths per 100,000 people).

When considering ASMRs, the largest percentage increase was in deaths due to intestinal infectious diseases, with 56.2% above average (3.7 compared with 2.4 deaths per 100,000 people, respectively).

Deaths due to influenza and pneumonia had the greatest number of deaths below average, at 35 fewer deaths (4.6% below average). This was the only cause of death in Wales in the 2023 year to date that was significantly lower than average (63.5 compared with 71.2 deaths per 100,000 people), at 10.8% below average.

6 . Death occurrences in April 2023

This section is based on the date a death occurred, rather than the date of registration used in the previous sections, to monitor current mortality trends. The number of death occurrences is incomplete because it is likely that more deaths need to be registered.

Instances where the number of daily death occurrences in April were below the range of the last five years may be a result of when the data extract was created. Specifically, deaths that occurred towards the end of the month may not have been registered by the time the data extract was created. We would therefore expect the number of death occurrences to be higher in future releases, and comparisons should be treated with caution. Further information can be found in [Section 10: Measuring the data](#).

Figure 11: In England, the majority of daily deaths in 2023 were within the range of the five-year average

Number of deaths occurring on each day from January 2022 to April 2023, five-year average and range, England

Notes:

1. Figures are for deaths occurring on each day rather than deaths registered, registered up to 7 May 2023. Death occurrences will increase as more deaths are registered, particularly for later dates.
2. Figures for 2022 and 2023 (including deaths that occurred in previous years but were registered in 2022 and 2023) are based on provisional mortality data.
3. Figures exclude non-residents.
4. For deaths occurring in 2022, the five-year average consists of deaths occurring between 2016 to 2019 and 2021, whereas for deaths occurring in 2023, the five-year average consists of deaths occurring between 2017 to 2019, 2021 and 2022.

Download the data

[.xlsx](#)

In the first four months of 2023 (January to April), 171,241 deaths occurred in England, and were registered by 7 May 2023; this was 14,611 fewer deaths (7.9% lower) than the five-year average (2017 to 2019, 2021 and 2022). Most days (62.5%) had daily death occurrences within the range of the five-year average, and 34.2% had death occurrences below the range.

In April 2023, there were 32,163 death occurrences registered by 7 May 2023; this was 8,479 fewer deaths than average (20.9% lower). This will increase as more deaths are registered. For example, since 7 April 2023, 6,550 more deaths were registered as occurring in March 2023, a 17.1% increase than that published in the [March edition of our Monthly mortality analysis bulletin](#).

Figure 12: In Wales, the majority of daily deaths in 2023 were within the range of the five-year average

Number of deaths occurring on each day from January 2022 to April 2023, five-year average and range, Wales

Notes:

1. Figures are for deaths occurring on each day rather than deaths registered, registered up to 7 May 2023. Death occurrences will increase as more deaths are registered, particularly for later dates.
2. Figures for 2022 and 2023 (including deaths that occurred in previous years but were registered in 2022 and 2023) are based on provisional mortality data.
3. Figures exclude non-residents.
4. For deaths occurring in 2022, the five-year average consists of deaths occurring from 2016 to 2019, and 2021, whereas for deaths occurring in 2023, the five-year average consists of deaths occurring from 2017 to 2019, 2021 and 2022.

Download the data

[.xlsx](#)

In the 2023 year to date, 11,302 deaths occurred in Wales, and were registered by 7 May 2023; this was 1,017 fewer deaths (8.3% lower) than the five-year average. Most days (64.2%) had daily death occurrences within the range of the five-year average, and 32.5% had death occurrences below the range.

In April 2023, there were 2,206 death occurrences registered by 7 May 2023; this was 565 fewer deaths than average (20.4% below). This will increase as more deaths are registered. For example, 353 more deaths were registered as occurring in March 2023 since 7 April 2023, a 13.4% increase than that published in the [March edition of our Monthly mortality analysis bulletin](#).

7 . Pre-existing conditions of people whose death was due to COVID-19, deaths registered in January to March 2023

Data on pre-existing conditions of people who died due to coronavirus (COVID-19) in England and Wales between January 2020 to March 2023 can be found in our [accompanying dataset](#). Quarter 1 (Jan to Mar) 2023 analysis is available in our [Monthly mortality analysis, England and Wales: March 2023 bulletin](#). We will publish analysis for Quarter 2 (Apr to Jun) 2023 in our June 2023 edition of this bulletin.

8 . Monthly mortality data

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

Dataset | Released 23 May 2023

Provisional data on death registrations and death occurrences in England and Wales, broken down by sex and age. Includes deaths due to coronavirus (COVID-19) and leading causes of death.

[Deaths due to coronavirus \(COVID-19\) by English region and Welsh health board](#)

Dataset | Released 23 May 2023

Provisional age-standardised mortality rates for deaths due to COVID-19 by sex, English regions and Welsh health boards.

[Deaths involving coronavirus \(COVID-19\) by month of registration, UK](#)

Dataset | Released 23 May 2023

Provisional age-standardised mortality rates for deaths involving COVID-19 by sex and month of death registration, for England, Wales, Scotland and Northern Ireland.

[Deaths registered monthly in England and Wales](#)

Dataset | Released 23 May 2023

Number of deaths registered each month by area of usual residence for England and Wales, by region, county, local and unitary authority, and London borough.

[Single year of age and average age of death of people whose death was due to or involved coronavirus \(COVID-19\)](#)

Dataset | Released 23 May 2023

Provisional deaths registration data for single year of age and average age of death (median and mean) of persons whose death involved coronavirus (COVID-19), England and Wales. Includes deaths due to COVID-19 and breakdowns by sex.

[Pre-existing conditions of people who died due to coronavirus \(COVID-19\), England and Wales](#)

Dataset | Released 25 April 2023

Pre-existing conditions of people who died due to COVID-19, broken down by country, broad age group, and place of death occurrence, usual residents of England and Wales.

9 . Glossary

Age-specific mortality rates

Age-specific mortality rates are used to allow comparisons between specified age groups.

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. In this bulletin, we have adjusted the monthly ASMRs to allow for comparisons with annual rates. For more information see [Section 10: Measuring the data](#).

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 about COVID-19 is available from the WHO](#).

Pre-existing condition

A pre-existing condition is defined as any condition that either preceded the disease of interest (for example, COVID-19) in the sequence of events leading to death or was a contributory factor in the death but not part of the causal sequence.

More information on the pre-existing conditions methodology is available in our [Pre-existing conditions of people who died due to COVID-19, England and Wales dataset](#).

Registration delay

Mortality statistics are compiled from information supplied when deaths are certified and registered as part of civil registration, 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 the date of occurrence and the 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.

95% confidence intervals

A confidence interval is a measure of the uncertainty around a specific estimate. If a confidence interval is 95%, it is expected that the interval will contain the true value on 95 occasions if repeated 100 times. As intervals around estimates widen, the level of uncertainty about where the true value lies increases. The size of the interval around the estimate is strongly related to the number of deaths, prevalence of health states and the size of the underlying population. At a national level, the overall level of error will be small compared with the error associated with a local area or a specific age and sex breakdown. More information is available on our [uncertainty pages](#).

10 . Measuring the data

This bulletin provides timely surveillance of mortality in England and Wales, based on the best available provisional data, including all-cause mortality and coronavirus (COVID-19) deaths.

Analysis contains deaths registered in April 2023 by age and sex, and includes deaths that occurred in April 2023 by date of death. Non-residents of England and Wales are excluded. In April 2023, there were 89 deaths of non-residents that were registered in England and Wales.

Data sources

This bulletin is based primarily on death registrations. Analysis by month of death registration is consistent with our [Deaths registered weekly in England and Wales, provisional bulletin](#) and allows for a more timely analysis than would be possible using death occurrences. Death occurrences show the number of deaths that occurred within a calendar period and give a better indication of exactly when deaths were at their highest. This allows mortality to be related to other factors such as weather patterns. Figures on death occurrences are available in our [accompanying dataset](#) for surveillance of recent mortality trends.

A provisional extract of death registrations and death occurrences data is taken on the first working day after the eighth day of the month, to allow time for deaths to be registered. For more detail on the data sources used, see our [Coronavirus and mortality in England and Wales methodology](#).

Definition of COVID-19 deaths

We use the term "due to COVID-19" when referring only to deaths with an underlying cause of death of COVID-19. When considering all the deaths that had COVID-19 mentioned anywhere on the death certificate, whether as an underlying cause or not, we use the term "involving COVID-19." The International Classification of Diseases (ICD-10) codes used to define COVID-19 are:

1. U07.1: COVID-19, virus identified
2. U07.2: COVID-19, virus not identified
3. U09.9: post-COVID condition, unspecified (this cannot be assigned to the underlying cause of death so is not included in the "deaths due to COVID-19" definition)
4. U10.9: multisystem inflammatory syndrome associated with COVID-19, unspecified

There are several ICD-10 codes not included in our definitions of deaths due to COVID-19 and deaths involving COVID-19. These are:

1. U08.9: personal history of COVID-19, unspecified
2. U11.9: need for immunisation against COVID-19, unspecified
3. U12.9: COVID-19 vaccines causing adverse effects in therapeutic use, unspecified

Tables 14 and 15 of our [accompanying dataset](#) provide figures of each COVID-19 ICD-10 code registered since March 2020. Our figures usually consist of first registrations only. On occasion, and after further investigation, a death can be re-registered as a different cause of death. For transparency of our statistics, these tables include re-registrations as well as initial registrations. All the other figures remain as first registration only.

Monthly mortality rates

To calculate monthly mortality rates that are comparable with annual rates, adjustments must be made to annual population estimates to account for the time covered. Our [Coronavirus and mortality in England and Wales methodology](#) provides more detail on how this is calculated.

Acknowledgement

We would like to thank Rebecca Smith and Anisah Saib for their valued contribution to this bulletin.

11 . Strengths and limitations

Provisional data are used

Provisional death registrations and death occurrences data are used in this bulletin. This enables timely analysis to be completed to monitor mortality trends. However, as the data for 2022 and 2023 are provisional, they are subject to change.

Data coverage, timeliness and registration delays

Mortality data give complete population coverage. They ensure the estimates are of high precision and representative of the underlying population at risk. However, because of [registration delays](#), monthly death occurrence data are always somewhat incomplete. This is especially true for deaths that occurred towards the end of the month.

More quality and methodology information on strengths, limitations, appropriate uses and how the data were created is available in our [Mortality statistics in England and Wales Quality and Methodology Information \(QMI\)](#) and our [User guide to mortality statistics methodology](#).

12 . Related links

[Deaths registered weekly in England and Wales](#)

Bulletin | Released weekly

Provisional counts of the number of deaths registered in England and Wales, including deaths involving coronavirus (COVID-19), in the latest weeks for which data are available.

[Death registration summary statistics, England and Wales: 2022](#)

Article | Released 11 April 2023

Number of deaths registered by year, sex, area of usual residence and selected underlying cause of death.

[Deaths registered in England and Wales: 2021 \(refreshed populations\)](#)

Bulletin | Released 27 January 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.

[Coronavirus \(COVID-19\) latest data and analysis](#)

Web page | Updated as and when new data become available

Brings together the latest data and analysis on the coronavirus (COVID-19) pandemic in the UK and its effect on the economy and society.

[Excess deaths in England and Wales: March 2020 to December 2022](#)

Article | Released 9 March 2023

Number of excess deaths, including deaths due to coronavirus (COVID-19) and due to other causes. Including breakdowns by age, sex and geography.

13 . Cite this statistical bulletin

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