

Statistical bulletin

Deaths involving COVID-19, England and Wales: deaths occurring in June 2020

Number of deaths involving the coronavirus (COVID-19) that occurred in each month in England and Wales, by country, age, sex and place of death.



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1 . Main points

- There were 50,335 deaths involving the coronavirus (COVID-19) that occurred between 1 March and 30 June 2020, registered up to 4 July 2020 in England and Wales; of these, 46,736 had COVID-19 assigned as the underlying cause of death.
- Of the deaths involving COVID-19 that occurred in England and Wales in March to June 2020, there was at least one pre-existing condition in 91.1% of cases; this is a similar level to that shown in March to May.
- Taking into account the age structure of the population, the rate of deaths in June due to COVID-19 was 53.0 per 100,000 persons in England compared with 47.0 per 100,000 persons in Wales; in both England and Wales, the mortality rate in June 2020 was lower than in May 2020.
- COVID-19 was the third most frequent underlying cause of death in June 2020 (after Dementia and Alzheimer disease and Ischaemic heart diseases), with 7.1% of all deaths (2,525 deaths) due to COVID-19; this was a large decrease compared with the proportion seen in May, when COVID-19 was the most frequent underlying cause of death and accounted for 21.6% of all deaths.
- Males had a higher rate of death due to COVID-19 than females in England and Wales; the age-standardised mortality rate (ASMR) for males was 65.1 deaths per 100,000 males compared with 43.3 deaths per 100,000 females.
- Dementia and Alzheimer disease was the most common main pre-existing condition found among deaths involving COVID-19 and was involved in 12,869 deaths (25.6% of all deaths involving COVID-19) in March to June 2020.
- The rate of deaths from all causes in June 2020 was 742.0 deaths per 100,000 persons in England and 837.5 deaths per 100,000 persons in Wales; both mortality rates were significantly lower than the five-year average (860.5 for England and 924.0 for Wales), though small increases in rates are expected over time as more deaths that occurred in June are registered.

Rates used in this release have been adjusted to take into account the period observed and therefore may differ to other rates published. More information can be found in [Section 12: Measuring the data](#).

2 . Introduction

This bulletin contains detailed analysis of all deaths that occurred in England and Wales between 1 March and 30 June 2020, registered up to 4 July 2020, where the coronavirus (COVID-19) was involved. There are breakdowns by age and sex and the causes of death mentioned on the death certificate.

The information used to produce these statistics is based on details collected when certified deaths are registered with the local registration office. In England and Wales, deaths should be registered within five days of the death occurring, but there are some situations that result in the registration of the death being delayed. For example, when a death needs to be investigated by a coroner. Therefore, there may be some deaths involving COVID-19 that occurred in between March and June but are yet to be registered, meaning they will not be included in this analysis.

Figures on deaths published by the Office for National Statistics (ONS) differ from those produced by the Department of Health and Social Care (DHSC) and the UK's public health agencies for two main reasons: the time between death and reporting of the death and the ONS's wider inclusion criteria. Our blog [Counting deaths involving COVID-19](#) helps to explain the [differences](#).

Deaths involving COVID-19 are reported for each week in our [Deaths registered weekly in England and Wales, provisional](#) release. The weekly numbers reported as "occurring" change over time, as more deaths are registered that happened in past weeks. Unlike most ONS publications on deaths, this bulletin is based on occurrence (date of death), not date of registration.

3 . How many people have died from COVID-19

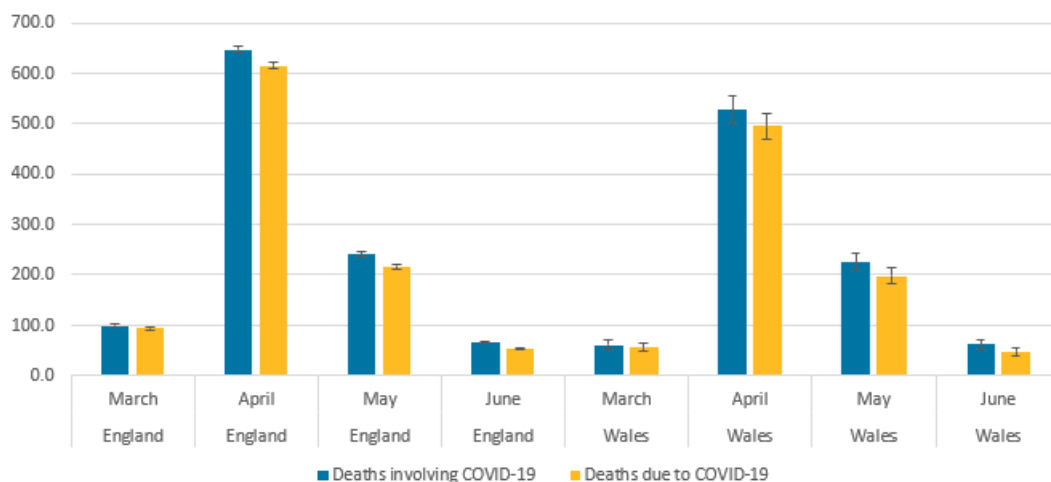
Between 1 March and 30 June 2020, there were 218,837 deaths that occurred in England and Wales and that were registered by 4 July 2020. Over a fifth of these deaths (23.0%) involved the coronavirus (COVID-19) (50,335 deaths). The doctor certifying a death can list all causes in the chain of events that led to the death and 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](#). In the majority of cases (46,736 deaths, 92.8%) where COVID-19 was mentioned on the death certificate, it was found to be the underlying cause of death.

Our definition of COVID-19 includes some cases where the certifying doctor suspected the death involved COVID-19 but was not certain, for example, because no test was done. Of the 46,736 deaths with an underlying cause of COVID-19, 3,763 (8.1%) were classified as "suspected" COVID-19. Including mentions, "suspected" COVID-19 was recorded on 8.4% (4,251 deaths) of all deaths involving COVID-19.

In this bulletin, we use the term "due to COVID-19" when referring only to deaths with an underlying cause of death as COVID-19 and we use the term "involving COVID-19" when referring to deaths that had COVID-19 mentioned anywhere on the death certificate, whether as an underlying cause or not.

Figure 1: The rate of deaths involving COVID-19 decreased between May and June 2020

Age-standardised mortality rates for deaths involving and due to COVID-19, per 100,000 persons, England and Wales, deaths occurring between March and June 2020



Source: Office for National Statistics – Deaths involving COVID-19

Notes:

1. Figures exclude deaths of non-residents.
2. Based on the date a death occurred rather than when it was registered.
3. Figures are provisional.
4. In this bulletin, we use the term “due to COVID-19” when referring only to deaths with an underlying cause of death as the coronavirus (COVID-19) and the term “involving COVID-19” when referring to deaths that had COVID-19 mentioned anywhere on the death certificate, whether as underlying cause or not.
5. Age-standardised mortality rates (ASMRs) 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 [12: Measuring the data](#).

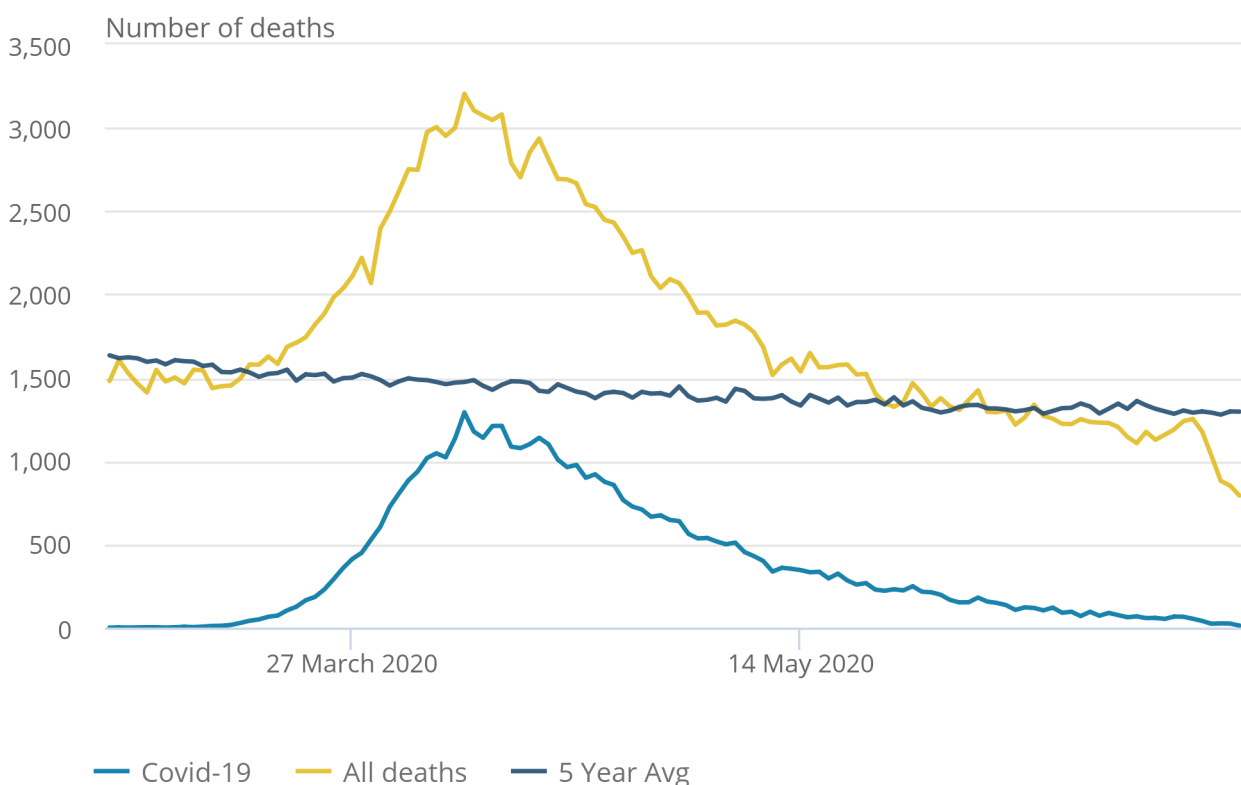
When adjusting for the size and age structure of the population, all mortality rates for deaths involving and due to COVID-19 decreased significantly between May and June 2020. There were 53.0 deaths due to COVID-19 per 100,000 persons in England and 47.0 deaths per 100,000 persons in Wales in June 2020. Taking into account all deaths involving COVID-19 increases the rate to 65.1 deaths per 100,000 persons and 62.3 deaths per 100,000 persons in England and Wales respectively.

Figure 2: The number of deaths due to COVID-19 decreased throughout June 2020

Number of deaths due to COVID-19, England and Wales, all deaths occurring in 2020 and five-year average per day between March and June 2020

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Number of deaths due to COVID-19, England and Wales, all deaths occurring in 2020 and five-year average per day between March and June 2020



Source: Office for National Statistics – Deaths involving COVID-19

Notes:

1. Figures include deaths of non-residents.
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3. Figures are provisional.

Figure 2 presents the number of deaths with an underlying cause of death of COVID-19 that occurred on each day since 2 March 2020, the first date a COVID-19 death occurred. We have included deaths that were registered up to 4 July 2020 but occurred in March, April, May or June. Over time, as more deaths are registered, the number of cases that are known to have occurred between March and June will rise, especially for dates in the later part of June.

Since 11 March 2020, the number of COVID-19 deaths occurring on each day rose (except for 6 April 2020, when it decreased by 24 deaths) until the peak of 1,292 deaths that occurred on 8 April 2020. Since 8 April, the number of deaths has been decreasing, with 12 COVID-19 deaths occurring on 30 June, although the number of recorded deaths on more recent dates will rise as we receive more death registrations.

Figure 2 also shows the number of deaths per day from March to June 2020 for all causes of death combined and the five-year average for each day. At the start of March, the number of deaths per day was below the five-year average, possibly because of the mild winter and low levels of [circulating flu](#). However, towards the end of the month, the number of deaths was above the five-year average. On 8 April, the number of deaths (3,204) was more than double the five-year average (1,473 deaths). The increase in overall daily deaths coincided with the increase in daily deaths due to COVID-19.

Throughout June the number of deaths from all causes was generally lower than the five-year average, with a few exceptions at the beginning of the month; however, the number of death occurrences will increase as we receive more death registrations. The trend reported here differs slightly to that reported in the [Deaths registered weekly in England and Wales bulletin](#), where the number of deaths remained above the average until [Week 25](#) (week ending 19 June 2020). This difference is a result of the weekly deaths bulletin reporting deaths by week of registration compared with this bulletin reporting deaths by day of occurrence. As we receive more death registrations, the number of death occurrences may rise above the five-year average for some days in June 2020.

4 . Comparing COVID-19 to other 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.

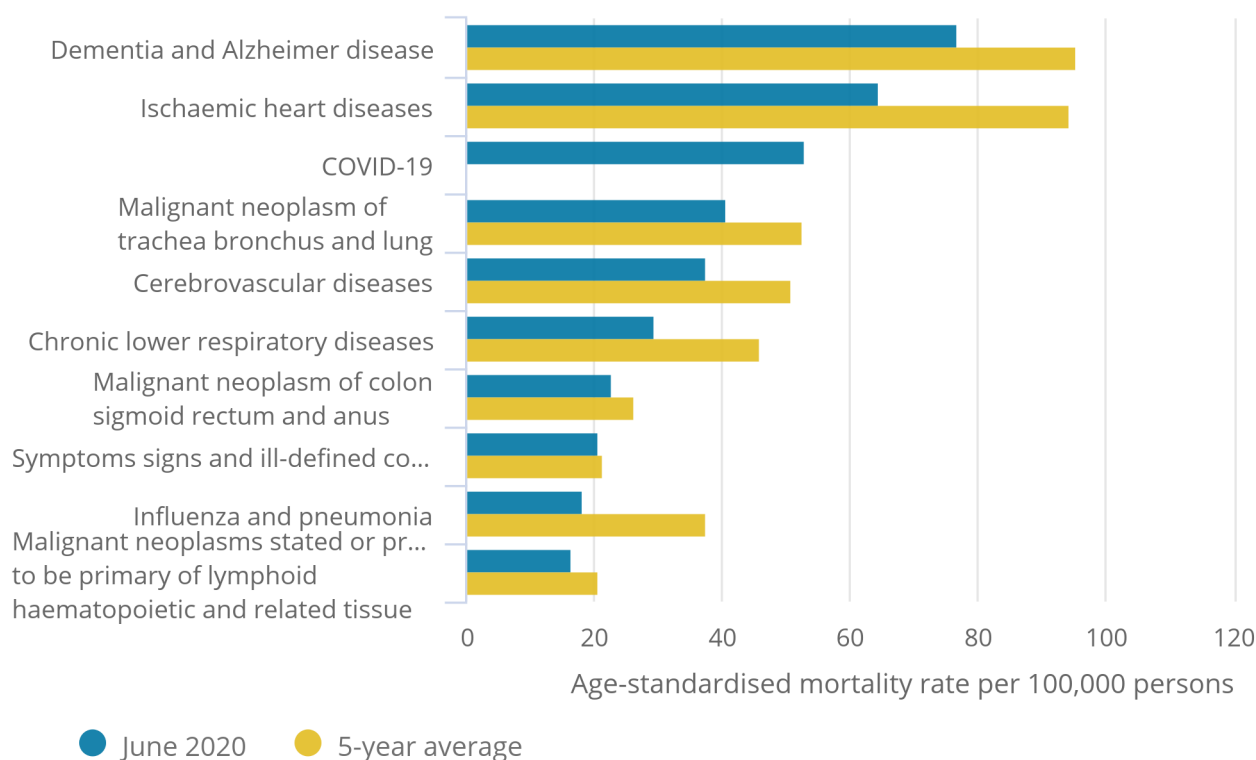
Figures 3 and 4 show the top 10 underlying causes of death occurring in June 2020 for England and Wales.

Figure 3: Dementia and Alzheimer disease was the most frequent underlying cause of death for deaths occurring in England in June 2020

Age-standardised mortality rate for the 10 leading causes of death, per 100,000 persons, England, deaths occurring in June 2020

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Age-standardised mortality rate for the 10 leading causes of death, per 100,000 persons, England, deaths occurring in June 2020



Source: Office for National Statistics – Deaths involving COVID-19

Notes:

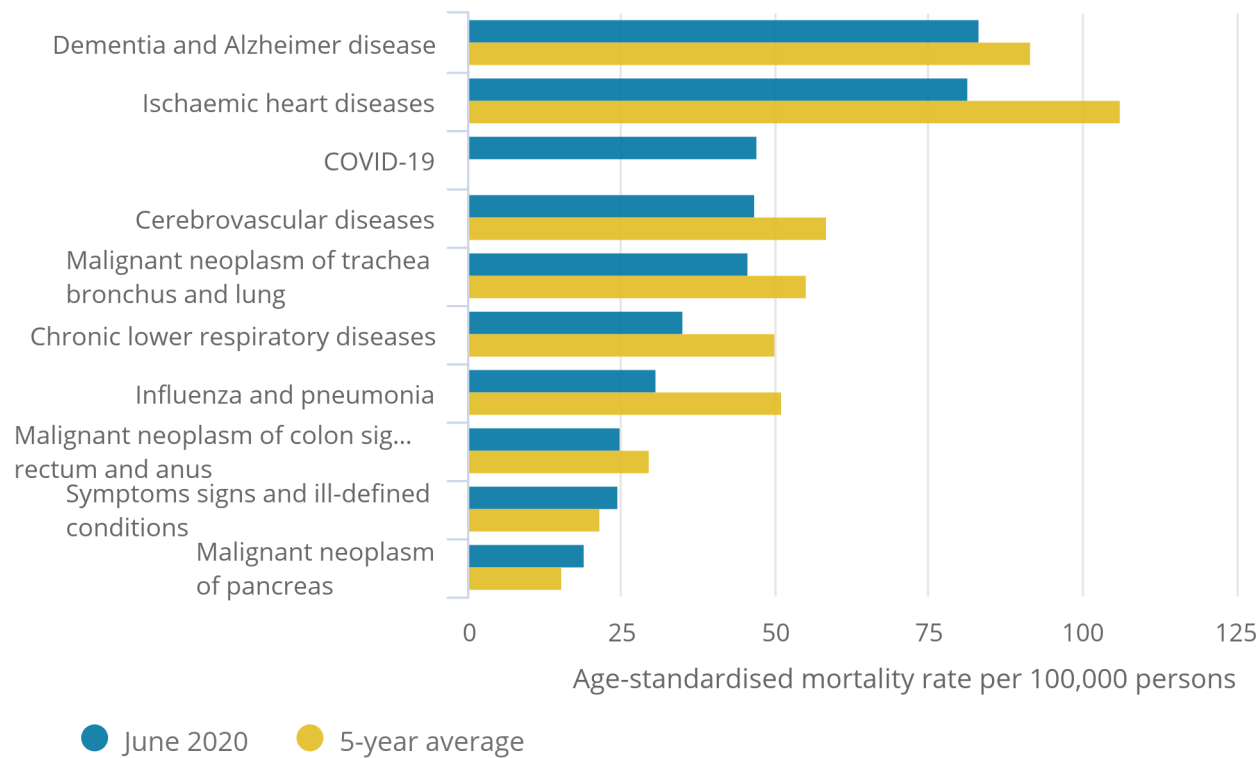
1. Figures exclude deaths of non-residents.
2. Based on the date a death occurred rather than when it was registered. As more deaths are registered, the mortality rates for leading causes of death will change, so the provisional death occurrences data should be interpreted with caution.
3. Figures are provisional.
4. Age-standardised mortality rates (ASMRs) 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 12: Measuring the data](#).

Figure 4: Dementia and Alzheimer disease was the leading cause of death for deaths occurring in Wales in June 2020

Age-standardised mortality rate for the 10 leading causes of death, per 100,000 persons, Wales, deaths occurring in June 2020

Figure 4: Dementia and Alzheimer disease was the leading cause of death for deaths occurring in Wales in June 2020

Age-standardised mortality rate for the 10 leading causes of death, per 100,000 persons, Wales, deaths occurring in June 2020



Source: Office for National Statistics – Deaths involving COVID-19

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For the first time since [March](#), the coronavirus (COVID-19) was not the leading cause of death in England and Wales in June. Dementia and Alzheimer disease was the leading cause of death in June, followed by Ischaemic heart diseases and COVID-19. Deaths from these three leading causes have decreased below the levels seen in March 2020.

For England specifically, Dementia and Alzheimer disease was the underlying cause of 3,485 deaths, 10.4% of the total. This was over a third higher than deaths where COVID-19 was the underlying cause (2,393 deaths). The age-standardised mortality rate (ASMR) of deaths due to COVID-19 was 53.0 per 100,000 persons, a quarter of the rate reported in [May](#).

Compared with the five-year average, the rate of deaths due to Dementia and Alzheimer disease was significantly lower in June 2020, at 77.0 deaths per 100,000 persons (compared with 95.5 deaths per 100,000 persons for the five-year average). All other leading causes were significantly lower than the five-year average apart from the Symptoms, signs and ill-defined conditions category, which was similar to the five-year average (20.7 in June 2020 and 21.4 for the five-year average). As more deaths are registered, the mortality rates for the leading causes of death will change, so the provisional death occurrences data should be interpreted with caution.

In Wales, Dementia and Alzheimer disease was also the leading cause in June 2020 (230 deaths, 10.0% of the total). This was almost double the number of deaths due to COVID-19 (131 deaths, 5.7% of all deaths). The ASMR of deaths due to COVID-19 was 47.0 deaths per 100,000 persons. In June 2020, most of the mortality rates from the leading causes shown in Figure 4 were similar to their five-year averages. The rates of deaths due to Chronic lower respiratory diseases and Influenza and Pneumonia were significantly lower than their five-year averages. In June 2020, the AMSR for Influenza and Pneumonia was 30.8 deaths per 100,000 population (compared with 51.0 for the five-year average) and the AMSR for Chronic lower respiratory diseases was 35.0 deaths per 100,000 population (50.0 for the five-year average).

Detailed analysis on non-COVID-19-related deaths is available in [Analysis of death registrations not involving coronavirus \(COVID-19\)](#).

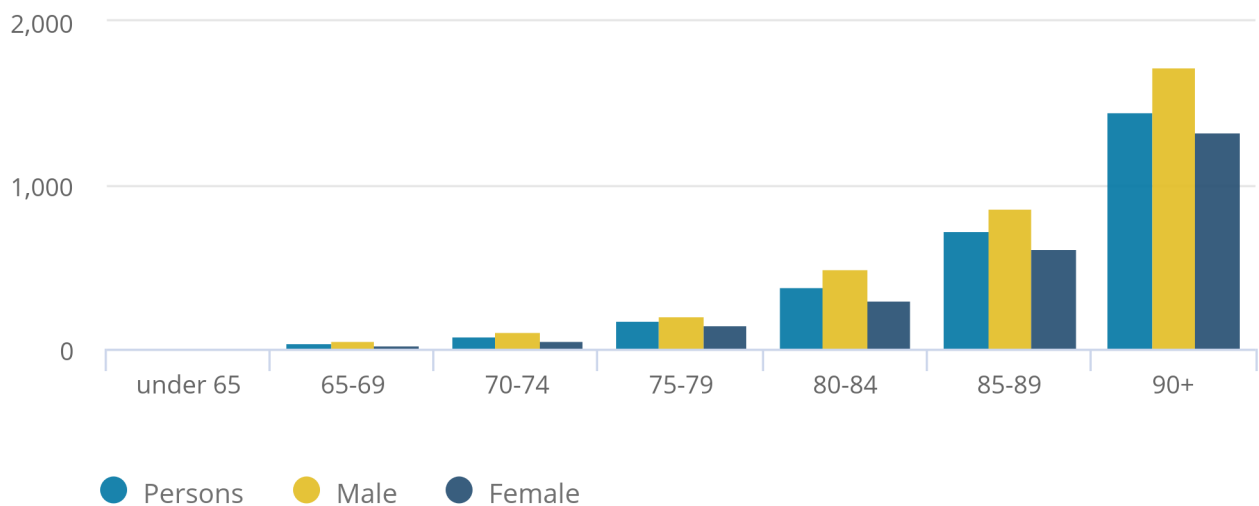
5 . Characteristics of those dying from COVID-19

Figure 5: Across all age groups in England, males had a higher rate of COVID-19 deaths than females

Age-specific mortality rates due to COVID-19, per 100,000 persons, England, deaths occurring in June 2020

Figure 5: Across all age groups in England, males had a higher rate of COVID-19 deaths than females

Age-specific mortality rates due to COVID-19, per 100,000 persons, England, deaths occurring in June 2020



Source: Office for National Statistics – Deaths involving COVID-19

Notes:

1. Figures exclude deaths of non-residents.
2. Based on the date a death occurred rather than when it was registered.
3. Figures are provisional.
4. Rate is not supplied for an age group with fewer than three deaths.
5. Age-specific mortality rates per 100,000 population, standardised to the 2013 European Standard Population. Monthly rates in this report are adjusted to allow for comparisons with annual rates. For more information see [Section 12: Measuring the data](#).

The age-standardised mortality rate (ASMR) in England for all ages combined was significantly higher in males (65.4 deaths per 100,000 males) than females (43.6 deaths per 100,000 females) in June 2020, showing a similar pattern seen in each of the last three months. Because of the small numbers of coronavirus (COVID-19) deaths in younger ages in June, Figure 5 shows all age groups under 65 years as a single group, but more detailed breakdowns by age and sex are available in the [accompanying datasets](#).

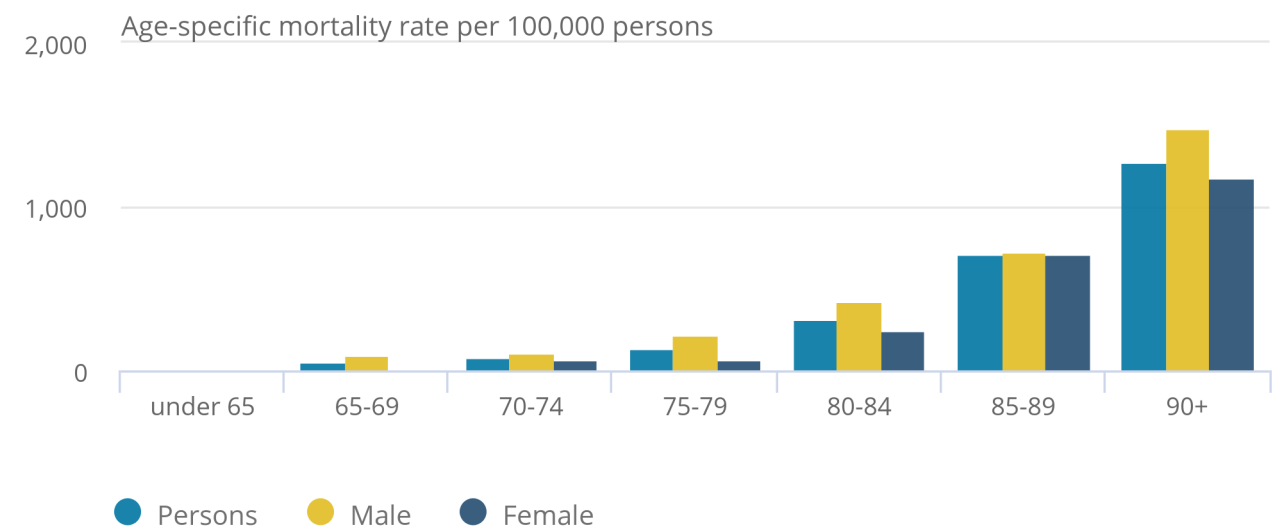
Looking at the mortality rates by age and sex, the mortality rate was higher in males than females across all of the age groups in Figure 5 (all of these differences were significant, except for the 75 to 79 years age group). The age-specific mortality rate increased significantly between each age group, with the 90 years and over group showing the highest age-specific mortality rate for both males (1,179.8 per 100,000 males) and females (1,328.5 per 100,000 females).

Figure 6: Across all age groups in Wales, males had a higher rate of COVID-19 deaths than females

Age-specific mortality rates due to COVID-19, per 100,000 persons, Wales, deaths occurring in June 2020

Figure 6: Across all age groups in Wales, males had a higher rate of COVID-19 deaths than females

Age-specific mortality rates due to COVID-19, per 100,000 persons, Wales, deaths occurring in June 2020



Source: Office for National Statistics – Deaths involving COVID-19

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2. Based on the date a death occurred rather than when it was registered.
3. Figures are provisional.
4. Rate is not supplied for an age group with fewer than three deaths (females under 65 and 65 to 69 years).
5. Rates in this chart are based on small numbers of deaths, so they are unreliable and should be interpreted with caution.
6. Age-specific mortality rates per 100,000 population, standardised to the 2013 European Standard Population. Monthly rates in this report are adjusted to allow for comparisons with annual rates. For more information, see [Section 12: Measuring the data](#).

The ASMR in Wales for all ages combined was significantly higher in males (58.9 deaths per 100,000 males) than females (37.4 deaths per 100,000 females). Because of the small numbers of COVID-19 deaths in younger ages in June, Figure 6 shows all age groups under 65 years as a single group, but more detailed breakdowns by age and sex are available in the [accompanying datasets](#).

As in England, the age-specific mortality rate for persons, males and females increased with age. The age group 90 years and over had the highest age-specific mortality rate for both males (1,480.4 deaths per 100,000 males) and females (1,177.4 deaths per 100,000 females), with 32 deaths due to COVID-19 occurring overall in this age group.

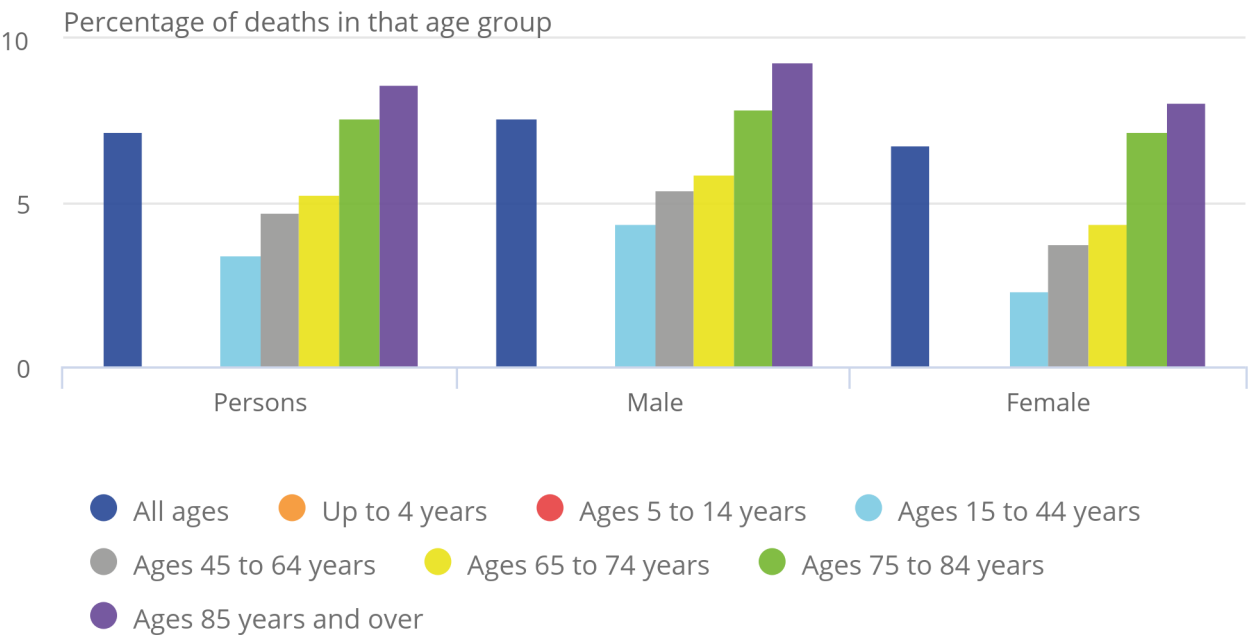
This section looks at the proportion COVID-19 deaths accounted for out of all deaths in each age group.

Figure 7: Deaths due to COVID-19 accounted for 7.2% of all deaths in England

Percentage of the total deaths in each age group that were due to COVID-19, England, occurring in June 2020

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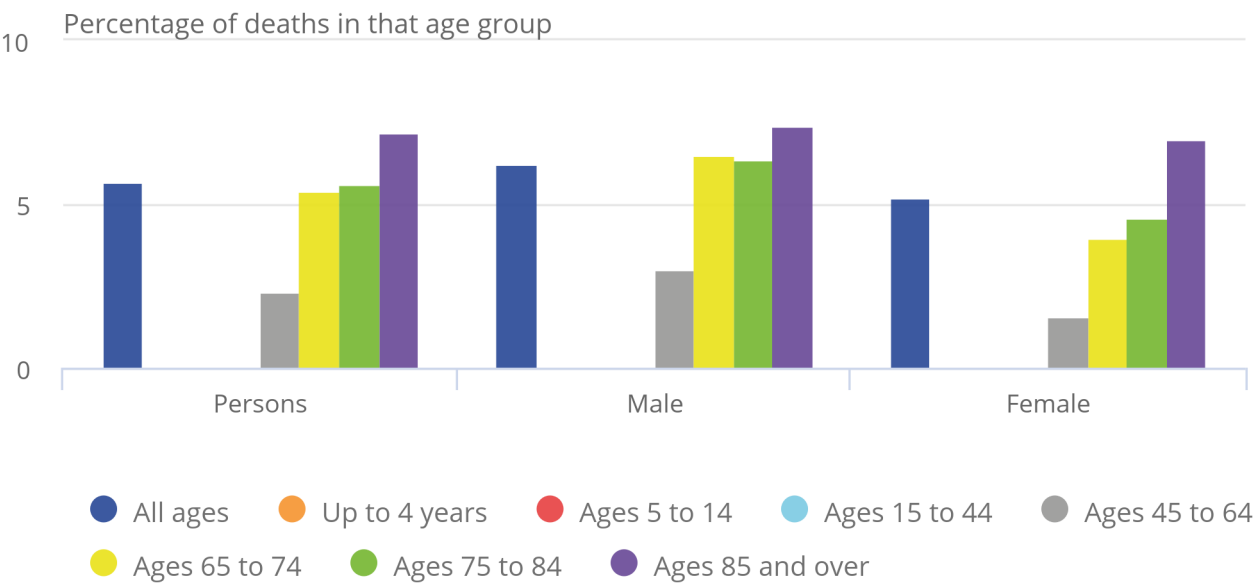
In June 2020 in England, 7.2% of all deaths occurring were a result of COVID-19, a significant reduction compared with April and May 2020. When broken down by sex, this was 7.6% of all deaths for males and 6.8% of all deaths for females. Looking at the proportion by age group, the highest proportion of deaths due to COVID-19 was in age group 85 years and over, with 8.6% of all deaths in this age group having an underlying cause of COVID-19. The 85 years and over age group had the highest proportion of COVID-19 deaths in both males (9.3%) and females (8.1%).

Figure 8: Deaths due to COVID-19 accounted for 5.7% of all deaths in Wales

Percentage of the total deaths in each age group that were due to COVID-19, Wales, occurring in June 2020

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Percentage of the total deaths in each age group that were due to COVID-19, Wales, occurring in June 2020



Source: Office for National Statistics – Deaths involving COVID-19

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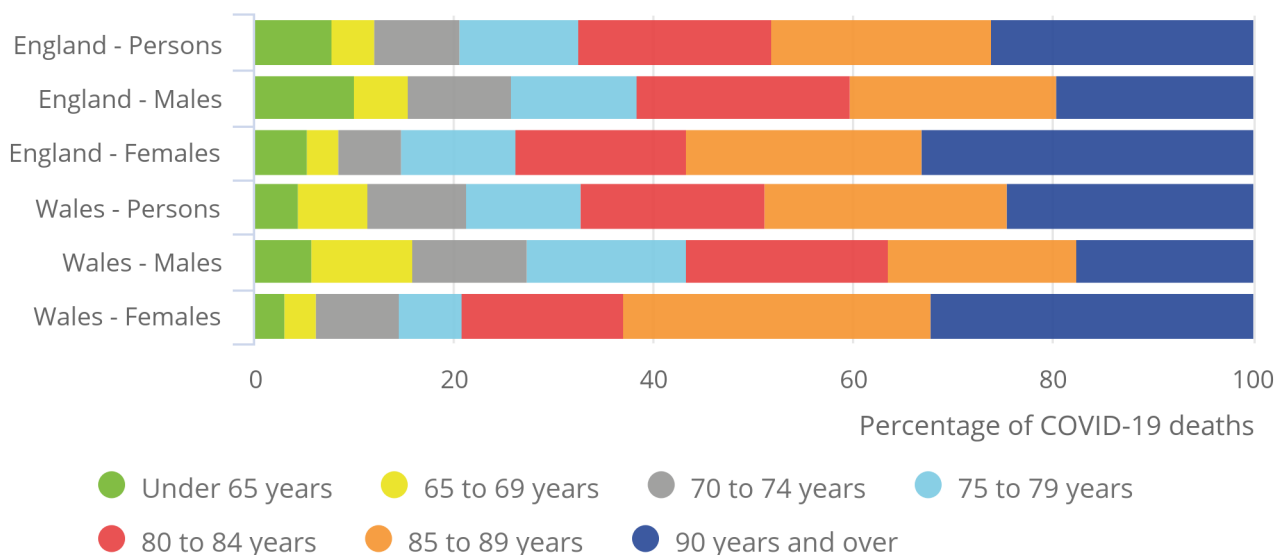
In June 2020 in Wales, 5.7% of all deaths occurring were due to COVID-19 (a significant reduction compared with April and May 2020). When broken down by sex, this was 6.2% of all deaths for males and 5.2% for females. Looking at the proportion by age group, the highest proportion of deaths due to COVID-19 was in age group 85 years and over, with 7.2% of all deaths in this age group having an underlying cause of COVID-19 (7.4% in males and 7.0% in females). The greatest difference was seen in those aged 75 to 84 years, where deaths in males (25 deaths) were almost double female deaths (14).

Figure 9: Those aged 90 years and over made up the largest proportion of COVID-19 deaths

Percentage of the total COVID-19 deaths by age group, England and Wales, occurring in June 2020

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Percentage of the total COVID-19 deaths by age group, England and Wales, occurring in June 2020



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For both England and Wales, in June around a quarter of deaths due to COVID-19 occurred in those aged 90 years and over, at 26.1% and 24.4% respectively. The age group that made up the highest proportion of COVID-19 deaths in males was those aged 80 to 84 years, with this age group accounting for 21.3% of deaths in England and 20.3% of deaths in Wales.

For females, the age group that made up the highest proportion of deaths due to COVID-19 was those aged 90 years and over with 33.1% of COVID-19 deaths in England and 32.3% of COVID-19 deaths in Wales. The higher proportions of COVID-19 deaths in females aged 90 years and over could be because the over-90-years female population (371,864) is larger than the over-90-years male population (175,925) in [England and Wales](#).

6 . Pre-existing conditions of people who died with COVID-19

We define a pre-existing condition here as the last health condition mentioned on the first part of the death certificate when it came before the coronavirus (COVID-19) or was an independent contributory factor in the death, mentioned in part II. Where only COVID-19 was recorded on the death certificate, or COVID-19 and subsequent conditions caused by COVID-19 were recorded, we refer to these deaths as having "No pre-existing conditions".

Of the 50,335 deaths that occurred in March to June 2020 involving COVID-19 in England and Wales, 45,859 (91.1%) had at least one pre-existing condition, while 4,476 (8.9%) had none. The mean number of pre-existing conditions for deaths involving COVID-19 between March and June 2020 was 2.1 for those aged 0 to 69 years and 2.3 for those aged 70 years and over.

This section presents analysis for England and Wales combined, and the [accompanying data tables](#) present data for England and Wales combined as well as for England and Wales separately.

This will be the last monthly publication in which we report on pre-existing conditions in deaths involving COVID-19. We are exploring analyses to further understand pre-existing conditions in COVID-19 using linked [datasets](#), which we intend to publish in the coming months.

Main pre-existing conditions

Here, we analyse deaths involving COVID-19 by the main pre-existing condition. This is defined as the one pre-existing condition that is, on average, most likely to be the underlying cause of death for a person of that age and sex had they not died from COVID-19. For more detail on how pre-existing conditions and main pre-existing conditions are derived, please see the accompanying methodology article, [Measuring pre-existing health conditions in death certification - deaths involving COVID-19](#).

The most common main pre-existing condition in England and Wales was Dementia and Alzheimer disease, with 12,869 deaths in March to June 2020 (25.6% of all deaths involving COVID-19). The proportion of COVID-19 deaths with a main pre-existing condition of Dementia and Alzheimer disease has remained the same as the period March to May.

Ischaemic heart diseases remain the second most common main pre-existing conditions across all ages and sexes in England and Wales, with 5,002 deaths (9.9% of all deaths involving COVID-19).

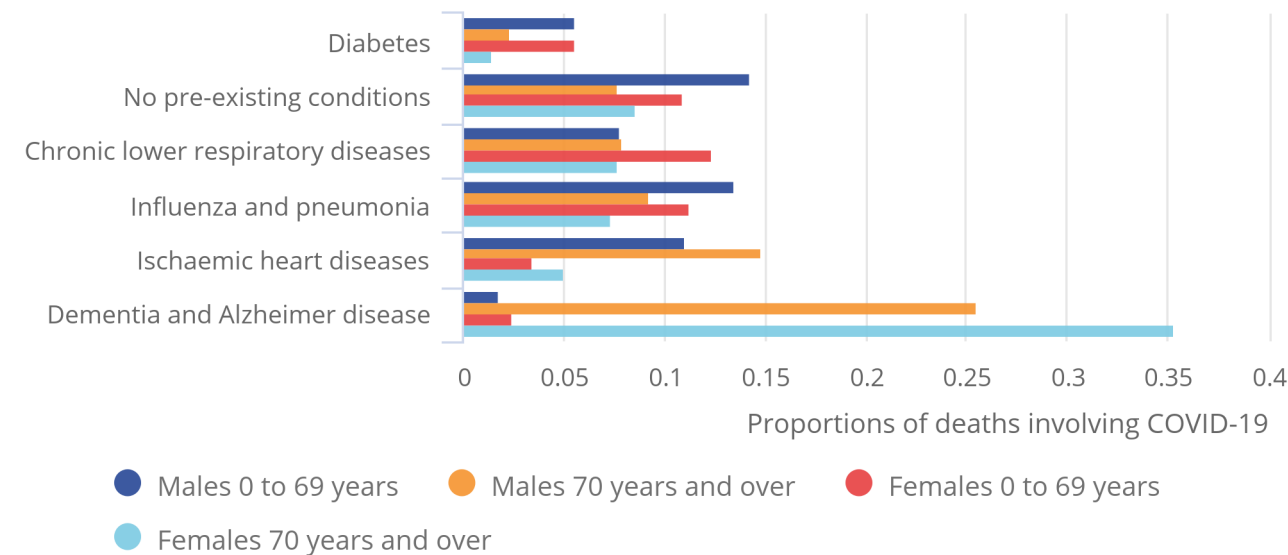
The most common main pre-existing conditions differed by age group. Figure 10 shows the proportion of deaths involving COVID-19 with six main pre-existing cause groups, for males and females aged 0 to 69 years and 70 years and over. For age groups younger than age 70 years, "No pre-existing conditions" ranks much higher than in those aged 70 years and over, where conditions such as Dementia and Alzheimer disease are much more prominent.

Figure 10: Dementia and Alzheimer disease was the most common main pre-existing health condition in deaths involving COVID-19 between March and June 2020

Proportion of deaths involving COVID-19 by main pre-existing condition, sex and age, England and Wales, occurring in March to June 2020

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6. Pre-existing conditions are grouped using the Office for National Statistics’s (ONS’s) leading causes of deaths list and the International Classification of Diseases, tenth edition (ICD-10) blocks of causes.

The [accompanying dataset](#) provides breakdowns of the main pre-existing conditions for all persons, males and females by five-year age group from age 45 years onwards for England and Wales combined and separately.

All pre-existing conditions

Here, we analyse all pre-existing conditions on the death certificate, not just the main pre-existing condition, for deaths involving COVID-19. This allows us to look at conditions that are less likely to be selected as the main pre-existing condition but are still prevalent.

For example, when looking across all pre-existing conditions in deaths involving COVID-19, diabetes is the fourth most common condition in England and Wales. However, when only considering the main pre-existing condition, it is the eighth most common main pre-existing condition for deaths involving COVID-19. This is because when Diabetes is recorded alongside other pre-existing conditions, it is less likely to be selected as the main pre-existing condition.

The most common pre-existing condition in deaths involving COVID-19 was Dementia and Alzheimer disease with 13,840 deaths across both sexes and all ages in England and Wales between March and June 2020. This was followed by Symptoms, signs and ill-defined conditions (12,031 deaths), Influenza and Pneumonia (11,029 deaths), and Diabetes (9,820 deaths).

The average number of pre-existing conditions varied by age and by sex with males aged 70 years and over having an average of 2.4 pre-existing conditions, whereas males aged 0 to 69 years had fewer pre-existing conditions overall with an average of 2.0 pre-existing conditions. For females, the difference between ages was smaller with an average of 2.1 pre-existing conditions for those aged 0 to 69 years and 2.2 for those aged 70 years and over.

Figure 11 shows the counts of deaths involving COVID-19 for the most common pre-existing conditions. Deaths may be counted more than once here as someone may have more than one pre-existing condition.

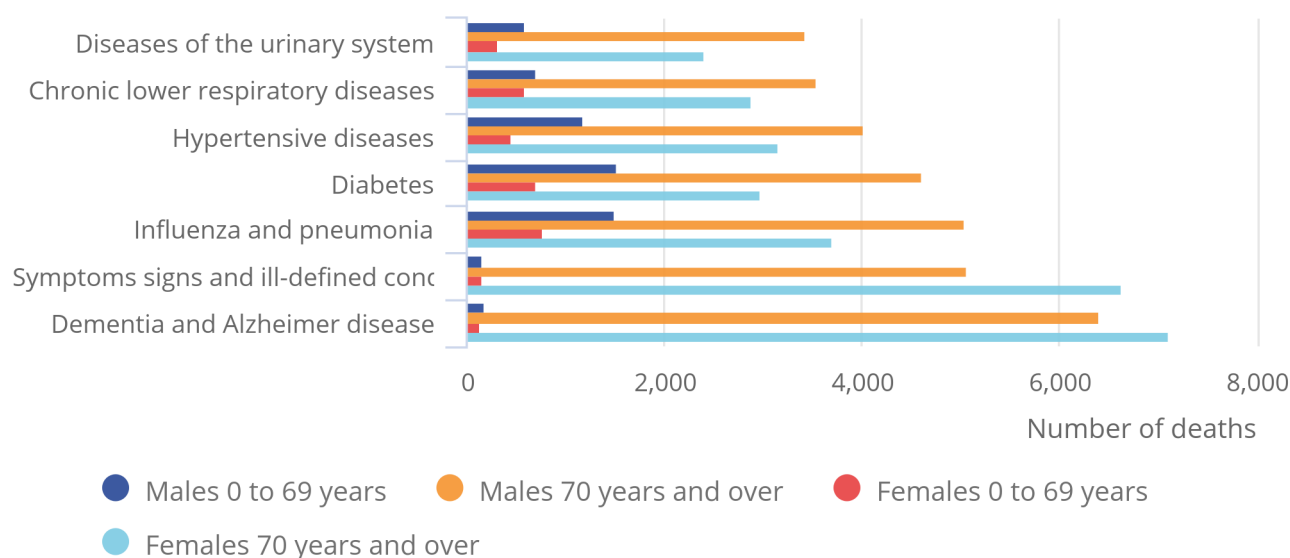
The "Symptoms, signs and ill-defined conditions" category is mostly deaths with a code for "Old Age".

Figure 11: Dementia and Alzheimer disease was the most common pre-existing health condition in deaths involving COVID-19 between March and June 2020

Number of deaths involving COVID-19 by common pre-existing condition, sex and age, England and Wales, occurring in March to June 2020

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Number of deaths involving COVID-19 by common pre-existing condition, sex and age, England and Wales, occurring in March to June 2020



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6. Pre-existing conditions are grouped using the Office for National Statistics's (ONS's) leading causes of deaths list and the International Classification of Diseases, tenth edition (ICD-10) blocks of causes.
7. Deaths may be counted more than once here as someone may have more than one pre-existing condition.

7 . Time taken for the deaths in March to June to be registered

Deaths should normally be registered within five days of the date of death, but there are a number of situations where the registration of a death will be delayed. The length of registration delay can vary greatly, with some deaths taking much longer to be registered than the majority. Deaths certified by a coroner after inquest generally take much longer to be registered than the more "routine" deaths certified by a doctor. Deaths from causes such as suicide, alcohol, drugs or accidents or that took place in suspicious circumstances are most often referred to a coroner, so they have a longer registration delay.

This section looks at how long the deaths that occurred between March and June 2020 took to be registered. As there is a delay between death occurrence and death registration, we do not know the final number of deaths that occurred between March and June 2020 yet. The median registration delay may therefore increase as those deaths not registered yet but occurring between March and June 2020 are registered. More information on this issue can be found in our [impact of registration delays](#) release.

Table 1 shows the median delay of death registration in days for deaths that occurred between March and June 2020 for all causes of death and for those involving the coronavirus (COVID-19). The median delay in registration was the same at four days for deaths involving COVID-19 and for all causes of death.

Table 1: Median delay in registration was the same for COVID-19 deaths and all causes of death in March to June 2020

Median registration delay, lower and upper quartiles, minimum and maximum delay for deaths occurring in England and Wales, March to June 2020

Statistics (days)	All causes of death	Deaths involving COVID-19
Median registration delay	4	4
Lower quartile	2	2
Upper quartile	6	6
Minimum	0	0
Maximum	123	113

Source: Office for National Statistics – Deaths involving COVID-19

Notes

1. Figures are provisional. [Back to table](#)
2. Based on deaths occurring in March to June 2020 rather than deaths registered in March to June 2020. [Back to table](#)
3. Including deaths registered up until 4 July 2020. [Back to table](#)

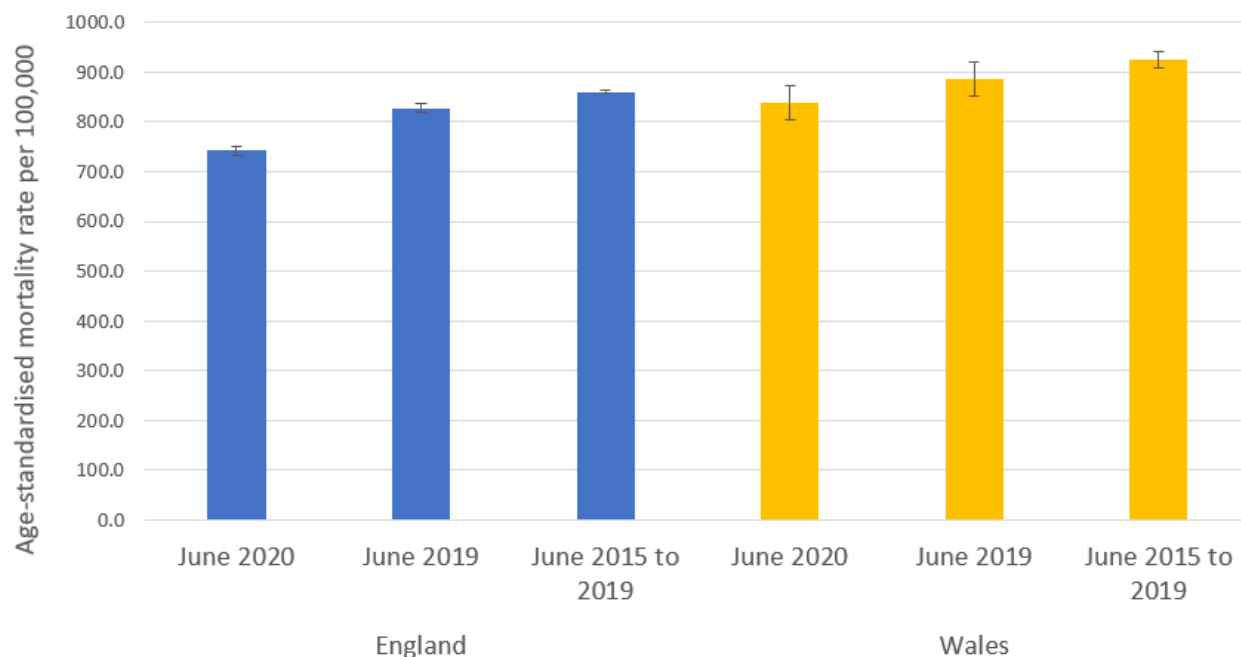
Looking at the percentage of deaths registered within seven days of death, 82.1% of all deaths that occurred between March and June 2020 were registered within seven days, whereas 86.3% of deaths involving COVID-19 that occurred between March and June 2020 were registered within seven days. This indicates that deaths involving COVID-19 overall are registered faster than all causes of death.

8 . COVID-19 and the overall mortality rate for June

Figure 12 shows the age-standardised mortality rate (ASMR) for June 2020 as well as comparative figures for June 2019 and the five-year June average between 2015 and 2019.

Figure 12: The rate of deaths from all causes in June 2020 was below the five-year average

Age-standardised mortality rates for all deaths, per 100,000 persons, England and Wales, June 2020, June 2019, and the five-year average for June



Source: Office for National Statistics – Deaths involving COVID-19

Notes:

1. Figures exclude deaths of non-residents.
2. Based on the date a death occurred rather than when it was registered.
3. Figures for 2020 are provisional.
4. Age-standardised mortality rates (ASMRs) 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 12: Measuring the data](#).

It is important to note that the number of deaths for June 2020 is likely to increase as we receive more registrations. Currently, the rate of deaths occurring in June 2020 (742.0 deaths per 100,000 persons for England and 837.5 deaths per 100,000 persons for Wales) is significantly lower than the five-year average of June 2015 to June 2019 (860.5 for England and 924.0 for Wales). This is a change compared with [last month](#), when the mortality rate for deaths occurring in May 2020 was significantly higher than the five-year average. Similar trends were reported in our [weekly deaths bulletin](#); in Weeks 25 and 26 of 2020, the number of deaths registered was below the five-year average.

The mortality rate in June 2020 was also lower when compared with the same month in 2019, which had a rate of 885.6 per 100,000 population for Wales. In England, the mortality rate in June 2020 was significantly lower compared with June 2019, which had a rate of 827.7 deaths per 100,000 population.

9 . COVID-19 and all-cause deaths by place of death

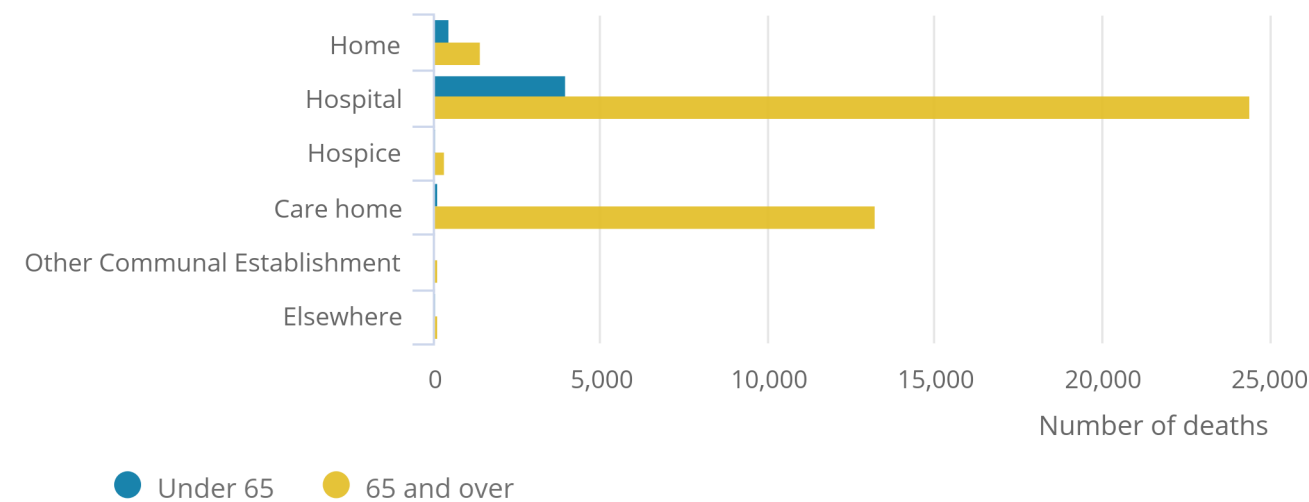
This section looks at deaths due to the coronavirus (COVID-19) and deaths from all causes, by the place of death and age between March and June 2020. More detailed data on place of death by age group, sex, country and month of death are available in the [accompanying datasets](#).

Figure 13: Over half of all deaths due to COVID-19 in England occurred in hospital

Number of deaths due to COVID-19, by age and place of death, England, deaths occurring between March and June 2020

Figure 13: Over half of all deaths due to COVID-19 in England occurred in hospital

Number of deaths due to COVID-19, by age and place of death, England, deaths occurring between March and June 2020



Source: Office for National Statistics – Deaths involving COVID-19

Notes:

1. Figures exclude deaths of non-residents.
2. Based on the date a death occurred rather than when it was registered.
3. Figures for 2020 are provisional.
4. Hospital includes acute and community but not psychiatric hospitals.
5. Deaths at home are those at the usual residence of the deceased (according to the informant), where this is not a communal establishment. Care homes includes homes for the chronic sick; nursing homes; homes for people with mental health problems; and non-NHS multi-function sites. Hospices include Sue Ryder Homes; Marie Curie Centres; oncology centres; voluntary hospice units; and palliative care centres. Other communal establishments include schools for people with learning disabilities; holiday homes and hotels; common lodging houses; aged persons' accommodation; assessment centres; schools; convents and monasteries; nurses' homes; university and college halls of residence; young offender institutions; secure training centres; detention centres; prisons; and remand homes. Elsewhere includes all places not covered before such as deaths on a motorway; at the beach; climbing a mountain; walking down the street; at the cinema; at a football match; while out shopping; or in someone else's home. This category also includes people who are pronounced dead on arrival at hospital.

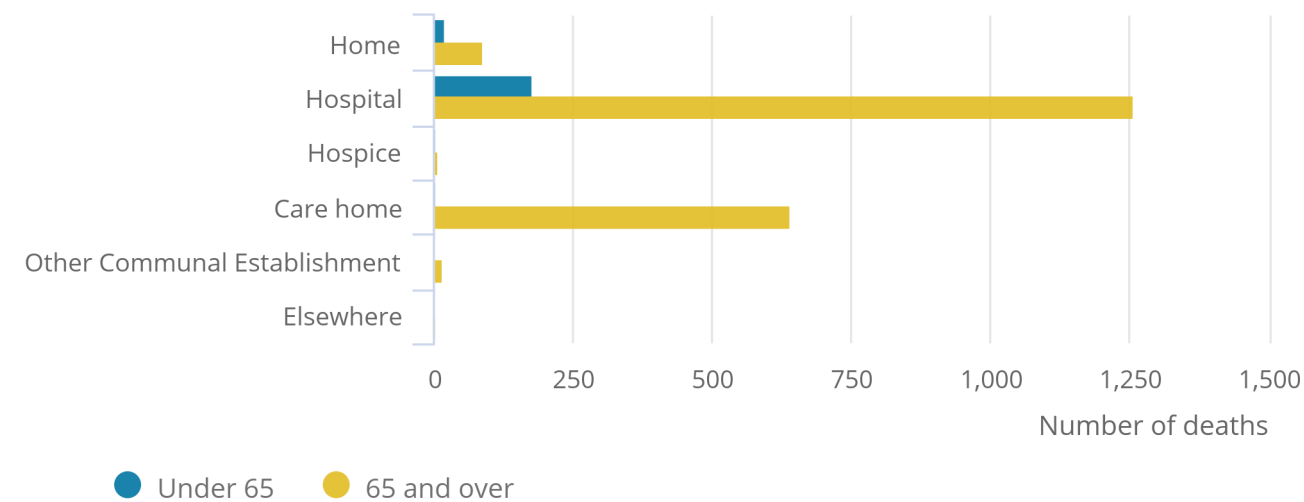
Of all the deaths due to COVID-19 that occurred between March and June in England, 63.9% (28,390 deaths) happened in hospital. Most of the COVID-19 deaths in hospital were in people aged 65 years and over (86.1%). Care homes were the second most common place of COVID-19 deaths, with 30.2% of all deaths due to COVID-19 (13,417 deaths) in England occurring in care homes. Almost all (98.9%) of the COVID-19 deaths in care homes were of people aged 65 years and over. Deaths in private homes accounted for 4.2% of all deaths due to COVID-19 (1,879 deaths). A quarter (26.0%) of these deaths were in people aged under 65 years. The remaining deaths occurred in other types of communal establishment and elsewhere, accounting for 0.8% of all deaths due to COVID-19 (339 deaths).

Figure 14: Over half of all deaths due to COVID-19 in Wales occurred in hospital

Number of deaths due to COVID-19, by age and place of death, Wales, deaths occurring between March and June 2020

Figure 14: Over half of all deaths due to COVID-19 in Wales occurred in hospital

Number of deaths due to COVID-19, by age and place of death, Wales, deaths occurring between March and June 2020



Source: Office for National Statistics – Deaths involving COVID-19

Notes:

1. Figures exclude deaths of non-residents.
2. Based on the date a death occurred rather than when it was registered.
3. Figures for 2020 are provisional.
4. Hospital includes acute and community but not psychiatric hospitals.
5. Deaths at home are those at the usual residence of the deceased (according to the informant), where this is not a communal establishment. Care homes includes homes for the chronic sick; nursing homes; homes for people with mental health problems; and non-NHS multi-function sites. Hospices include Sue Ryder Homes; Marie Curie Centres; oncology centres; voluntary hospice units; and palliative care centres. Other communal establishments include schools for people with learning disabilities; holiday homes and hotels; common lodging houses; aged persons' accommodation; assessment centres; schools; convents and monasteries; nurses' homes; university and college halls of residence; young offender institutions; secure training centres; detention centres; prisons; and remand homes. Elsewhere includes all places not covered before such as deaths on a motorway; at the beach; climbing a mountain; walking down the street; at the cinema; at a football match; while out shopping; or in someone else's home. This category also includes people who are pronounced dead on arrival at hospital.

In Wales, the most common place of death for deaths due to COVID-19 was also in hospital (64.6% of all deaths due to COVID-19, or 1,438 deaths). Most of these COVID-19 deaths in hospital were of people aged 65 years and over (87.6%). Similar to England, care homes had the second highest number of COVID-19 deaths, with 29.0% of all deaths due to COVID-19 occurring in care homes (645 deaths) and almost all (99.2%) of these deaths were of people aged 65 years and over. Deaths in private homes accounted for 4.9% of all deaths due to COVID-19 (108 deaths). A fifth (19.4%) of these deaths were in people aged under 65 years. The remaining deaths occurred in other types of communal establishment and elsewhere, accounting for 1.0% of all deaths due to COVID-19 in Wales (22 deaths).

10 . Analysis of deaths involving COVID-19 data

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

Dataset | Released 26 June 2020

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.

[Deaths involving COVID-19, England and Wales](#)

Dataset | Released 23 June 2020

Number of deaths registered each month in England and Wales, including deaths involving the coronavirus (COVID-19), by age, sex and country.

11 . 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 [12: 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 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 was not part of the causal sequence.

Main pre-existing condition

The main pre-existing condition is defined as the one pre-existing condition that is, on average, mostly likely to be the underlying cause of death for a person of that age and sex.

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 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. In some circumstances, significance has also been tested using z scores. More information about this z test is available in Appendix 1 of the [Sullivan guide](#).

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. Therefore, the widths of the confidence intervals reported in this release will have sizable differences.

12 . Measuring the data

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

To meet user needs, we are providing more information alongside our usual [Deaths registered monthly in England and Wales](#) dataset. This information is presented by sex and age group. We are also providing age-standardised mortality rates (ASMRs) and age-specific mortality rates for recent time periods and breakdowns of deaths involving the coronavirus (COVID-19) by associated pre-existing health conditions.

Different sources of COVID-19 data

These figures are different from the daily surveillance figures on COVID-19 deaths published by the Department of Health and Social Care (DHSC) on the [GOV.UK](https://gov.uk) website, for the UK as a whole and its constituent countries. Figures in this report are derived from the formal process of death registration and may include cases where the doctor completing the death certificate diagnosed possible cases of COVID-19, for example, where this was based on relevant symptoms but no test for the virus was conducted. Our figures also include any deaths that occur outside hospital.

In contrast to the GOV.UK figures, we include only deaths registered in England and Wales, which is the legal remit of the Office for National Statistics (ONS). Table 2 provides an overview of the differences in definitions between sources.

Table 2: Definitions of coronavirus (COVID-19) deaths between different sources

	DHSC COVID-19 (as published on GOV.UK) before 29 April	DHSC COVID-19 (as published on GOV.UK) from 29 April	ONS COVID-19 deaths registered	ONS COVID-19 death occurrence (actual date of death)	NHS England	Public Health Wales
Coverage	UK (however we only include England and Wales breakdowns for comparable coverage with ONS data)	UK (however we only include England and Wales breakdowns for comparable coverage with ONS data)	Registrations in England and Wales	Registrations in England and Wales	England only	Wales only
			Selected UK figures are included in the weekly release	In discussions with devolved nations to create UK estimates in the near future		
Inclusion	Deaths in hospitals	Includes any place of death, including care homes and community	Any place of death, including care homes and community	Any place of death, including care homes and community	Deaths in hospitals	Includes any place of death, including care homes and community
	Deaths where patient has been tested for COVID-19	Deaths where patient has been tested for COVID-19	Deaths where COVID-19 has been mentioned on the death certificate	Deaths where COVID-19 has been mentioned on the death certificate		Deaths where patient has been tested for COVID-19
Timeliness	Provided daily but not officially registered	Provided daily but not officially registered	Weekly registrations are 11 days behind because of the time taken to register, process and publish	Weekly registrations are 11 days behind because of the time taken to register, process and publish	Updated daily for each date of death	Updated daily for each date of death

There is usually a delay of at least five days between occurrence and registration. More information on this issue can be found in our [impact of registration delays release](#).

Monthly mortality rates

We publish the [mid-year population estimates](#) used for calculating rates; these are currently available up to 2019. For 2020, [population projections](#) were used.

Calculation of mortality rates for monthly deaths requires adjustments to be made to annual population estimates to calculate rates that are comparable with annual rates.

We calculate an annual population centred on the midpoint of the month using two years' worth of population estimates (or where these are not available, population projections). This is then multiplied by the number of days within the month as a proportion of the total number of days within that year. The output is used as the population denominator in calculations of age-standardised and age-specific mortality rates:

May 2020 population =

$$(population_{2019}(i) +) \left(population_{2020} - \left(population_{2019}(i) \times \left(\frac{m}{M} \right) \right) \right) \times \left(\frac{N}{M} \right)$$

where m is the number of days from 1 July 2019 (the start of the mid-year for the population estimate) to the midpoint of May inclusive, N is the number of days in May 2020, M is the number of days in 2020 and (i) is the age group.

Our [User guide to mortality statistics](#) provides further information on data quality, legislation and procedures relating to mortality and includes a [glossary of terms](#).

13 . Strengths and limitations

Figures are based on the date the death occurred, not when it was registered. There is usually a delay of at least five days between occurrence and registration, so there may be some deaths that occurred between March and June 2020 that are not yet registered. More information on this issue can be found in our [impact of registration delays release](#).