

# Deaths involving coronavirus (COVID-19) in Scotland

Week 31  
(27 July to 2 August 2020)

Published on 5 August 2020



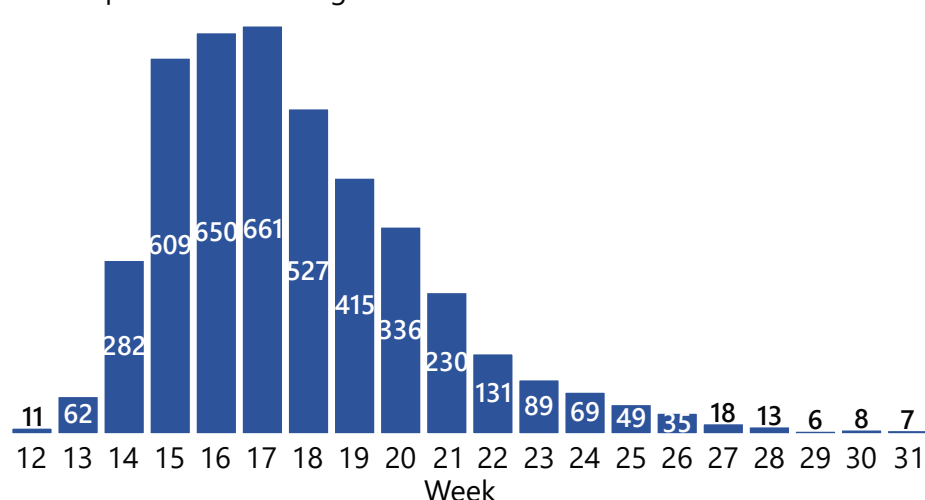
This statistical report includes provisional statistics on the number of deaths associated with coronavirus (COVID-19) and the total number of deaths registered in Scotland, for weeks 1 to 31 of 2020

# Deaths involving coronavirus (COVID-19) up to 2nd August 2020 Summary

As of 2nd August, 4,208 deaths had been registered which mentioned COVID-19

The highest number of COVID-19 deaths were registered in week 17 (20th to 26th April).

Deaths per week involving COVID-19



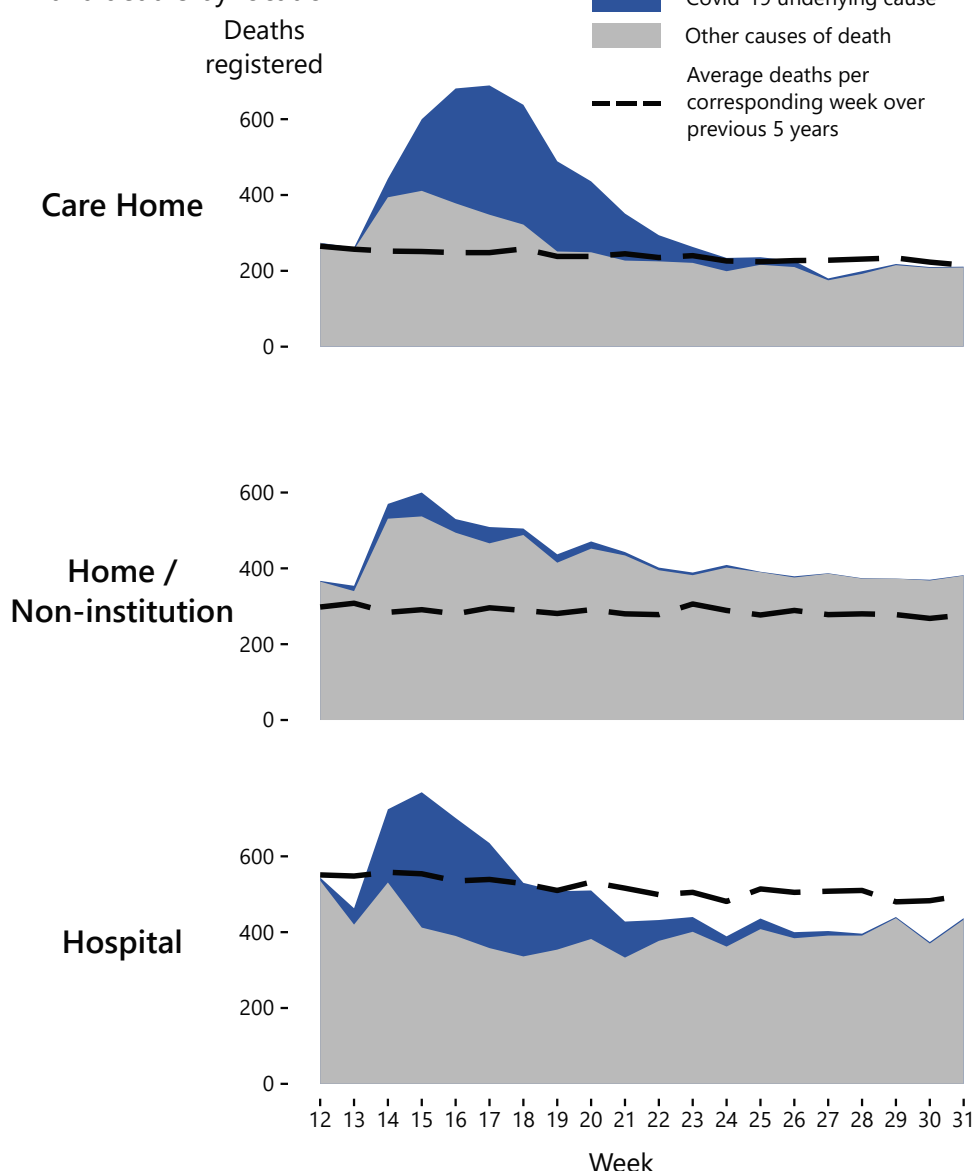
## Most excess deaths have occurred in care homes

Between weeks 12 and 31 (16th March to 2nd August) there were 2,349 (49%) more deaths in care homes than average. COVID-19 was the underlying cause in 1,875 (80%) of these excess deaths.

In the same period, there were 2,925 excess deaths which took place at home or in a non-institutional setting (51% above average). COVID-19 was the underlying cause in 241 (8%) of these excess deaths.

After peaking in week 15, hospital deaths fell below average levels in week 19 and are now 397 (4%) below average levels for the full period.

2020 deaths by location



This latest publication by NRS is the 18<sup>th</sup> weekly analysis of the impact and spread of COVID-19 related deaths across Scotland. This publication was introduced to provide clear and accessible official statistics delivering headline figures and more detailed analyses.

As the number of deaths from all causes have now returned to average levels and the weekly counts of deaths involving COVID-19 are very low, NRS are planning to release one further weekly publication on 12<sup>th</sup> August and then revert to a monthly publication on mortality. This monthly publication (starting on 16<sup>th</sup> September) will focus on total deaths from all causes, excess deaths and COVID-19 related deaths.

Data on deaths from all causes, excess deaths and COVID-19 related deaths will continue to be made available on a weekly basis – through the [Scottish Government's COVID-19 dashboard](#), and through UK analysis from the Office for National Statistics.

Should there be any significant changes in the spread or impact of COVID-19, NRS will consider re-introducing a weekly publication.

## Key Findings

### Deaths involving COVID-19

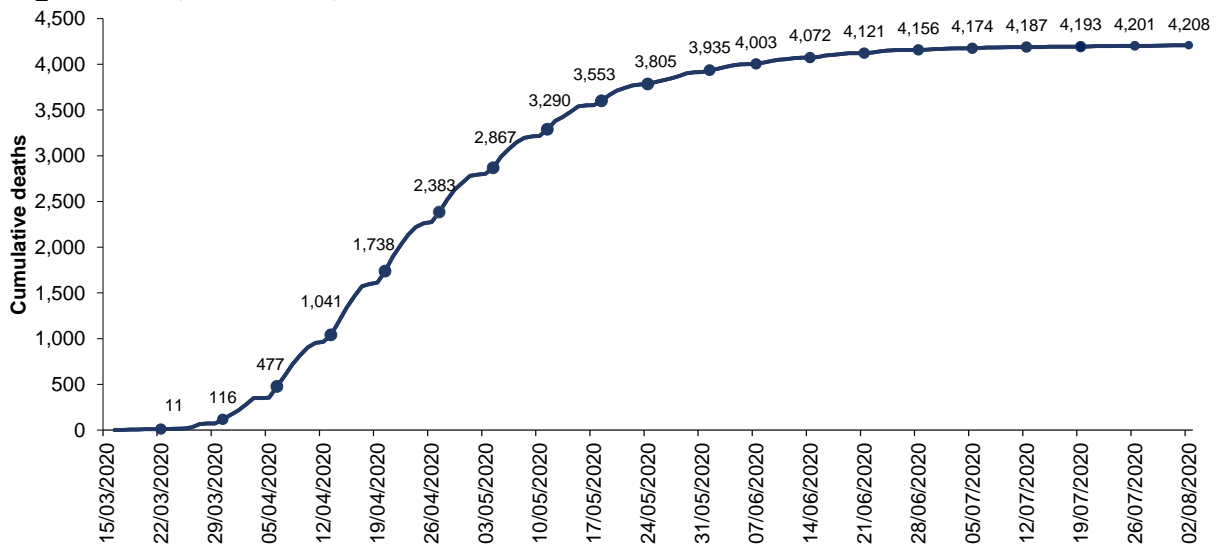
- As at 2 August, there have been a total of 4,208 deaths registered in Scotland where the novel coronavirus (COVID-19) was mentioned on the death certificate. The first mention of COVID-19 in a registered death certificate was the week beginning 16 March 2020.
- Of the total number of deaths registered in week 31 (27 July to 2 August), there were 7 where COVID-19 was mentioned on the death certificate, a decrease of 1 from the previous week (20 to 26 July), but the weekly total has remained similar over the latest three weeks.
- Deaths involving COVID-19 accounted for less than 1% of all deaths registered in week 31. This proportion has fallen steadily from its peak in week 17 when COVID-19 deaths accounted for 36% of all deaths.
- 46% of COVID-19 deaths registered to date related to deaths in care homes. 46% of deaths were in hospitals and 7% of deaths were at home or non-institutional settings.
- Two of the seven COVID-19 deaths registered in week 31 occurred in a care home. The proportion of COVID-19 deaths which took place in care homes had risen in the earlier stages of the pandemic, but began to decrease after April.

- More than three quarters (77%) of all deaths involving COVID-19 to date were of people aged 75 or over.
- This number is different from the count of deaths published daily on the [gov.scot website](https://www.gov.scot), because the latter is based on deaths of those who have tested positive for COVID-19. The NRS figures published here include all deaths where COVID-19 (included suspected cases) was mentioned on the death certificate.

### All Deaths

- The provisional total number of deaths registered in Scotland in week 31 of 2020 (27 July to 2 August) was 1,034. This is an increase of 73 from the number registered in the previous week.
- The average number of deaths registered in the corresponding week over the previous five years was 994. There were 4% more deaths (40) registered in week 31 of 2020 (27 July to 2 August) compared to the average.
- For the period covering weeks 12 – 31, there were 2,349 excess deaths in care homes (49% above average), 2,925 excess deaths at home or in non-institutional settings (51% above average) whilst after an early peak, hospital deaths fell below average levels in week 19 (4 – 10 May) and are now 397 (4% below average levels for the period covering weeks 12-31).

**Figure 1: Cumulative number of deaths involving COVID-19 by date of registration, Scotland, 2020**



## Why are the NRS number of deaths different from the Scottish Government daily updates?

Put simply - they are two different measures that each have a valuable role in helping to monitor the number of deaths in Scotland involving COVID-19.

### Scottish Government daily updates

These are provided by Health Protection Scotland (HPS) and count:

- all people who have had a positive test for COVID-19 and died within 28 days of their first positive test.

These are important because they are available earlier, and give a quicker indication of what is happening day by day and are broadly comparable with the figures released daily for the UK by the Department for Health and Social Care.

### NRS weekly death totals

The figures in this publication count:

- all deaths where COVID-19 was mentioned on the death certificate by the doctor who certified the death. This includes cases where the doctor noted that there was suspected or probable coronavirus infection involved in the death.

As a result these weekly totals are likely to be higher than the daily figures - because the daily updates only include those who tested positive for the virus.

Using the complete death certificate allows NRS to analyse a lot of information, such as location of death and what other health conditions contributed to the death. We will start publishing more detailed breakdowns of the figures as soon as possible.

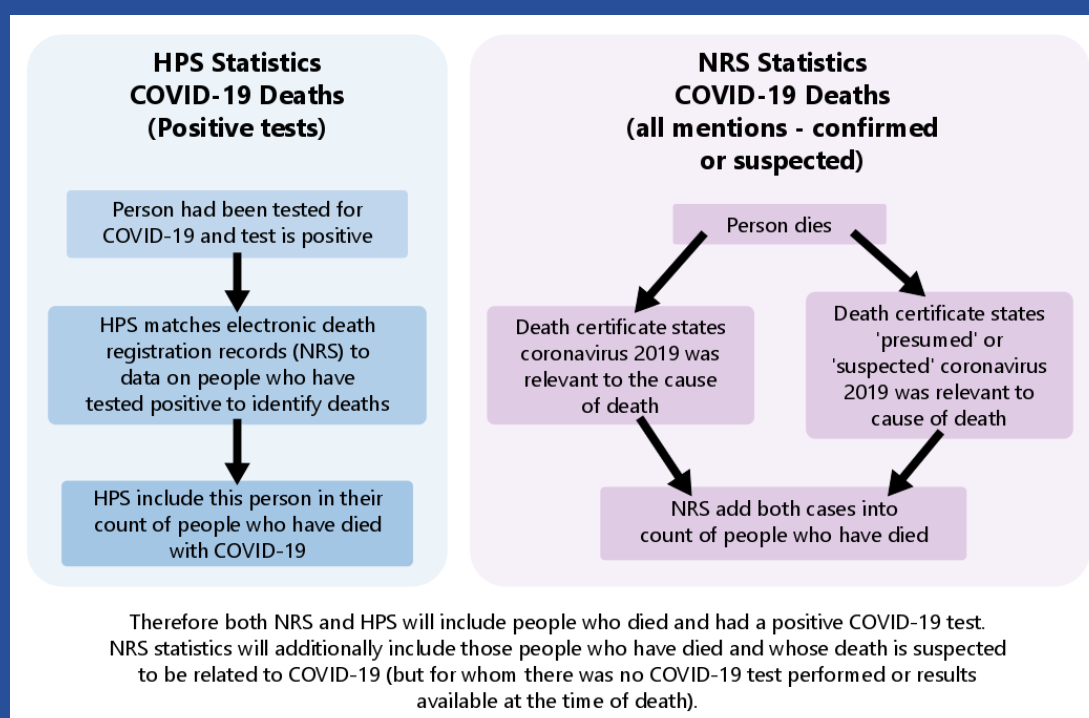
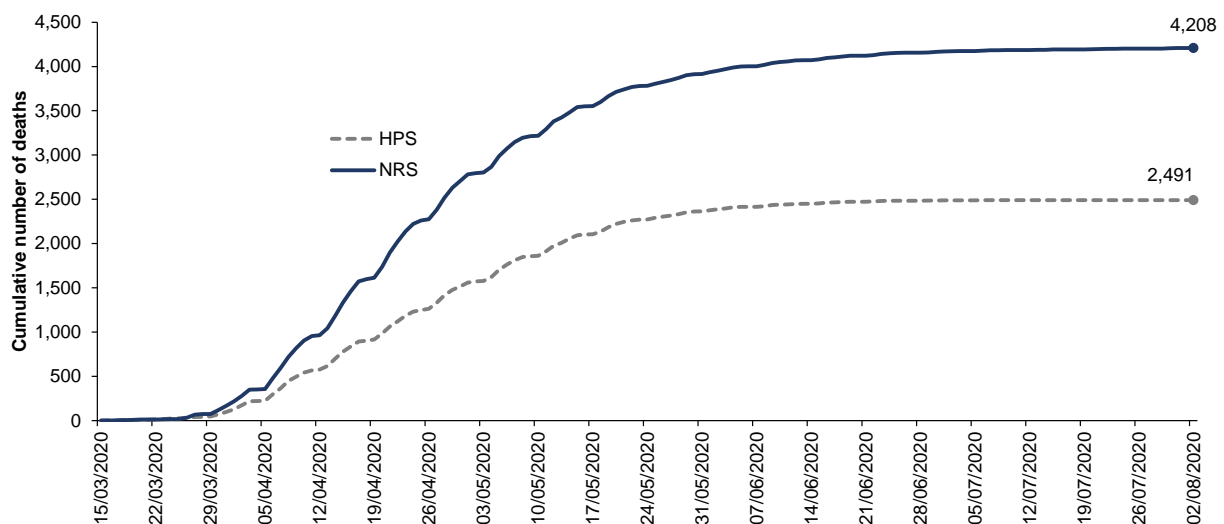


Figure 2 illustrates the differences between the two sets of figures. In the early stages, the figures were closely aligned but over time they have diverged with the NRS figure higher than the HPS figure. This is due to the inclusion of probable and suspected COVID deaths whereas the HPS figure only includes deaths of those who had tested positive for the virus. As the HPS figures count people who died within 28 days of their first positive test, in the more recent period the NRS figures may pick up people who tested positive but died more than 28 days later.

It should be noted that the apparent flattening of these curves over weekends are caused by a limited number of death registrations taking place at weekends and are not an indication that the curve has reached a plateau. Figures for weekends will be artificially low and the numbers are likely to rise more steeply at the beginning of the week as registrars catch up with the backlog of death registrations.

**Figure 2: Cumulative number of deaths involving COVID-19 in Scotland using different data sources 2020**



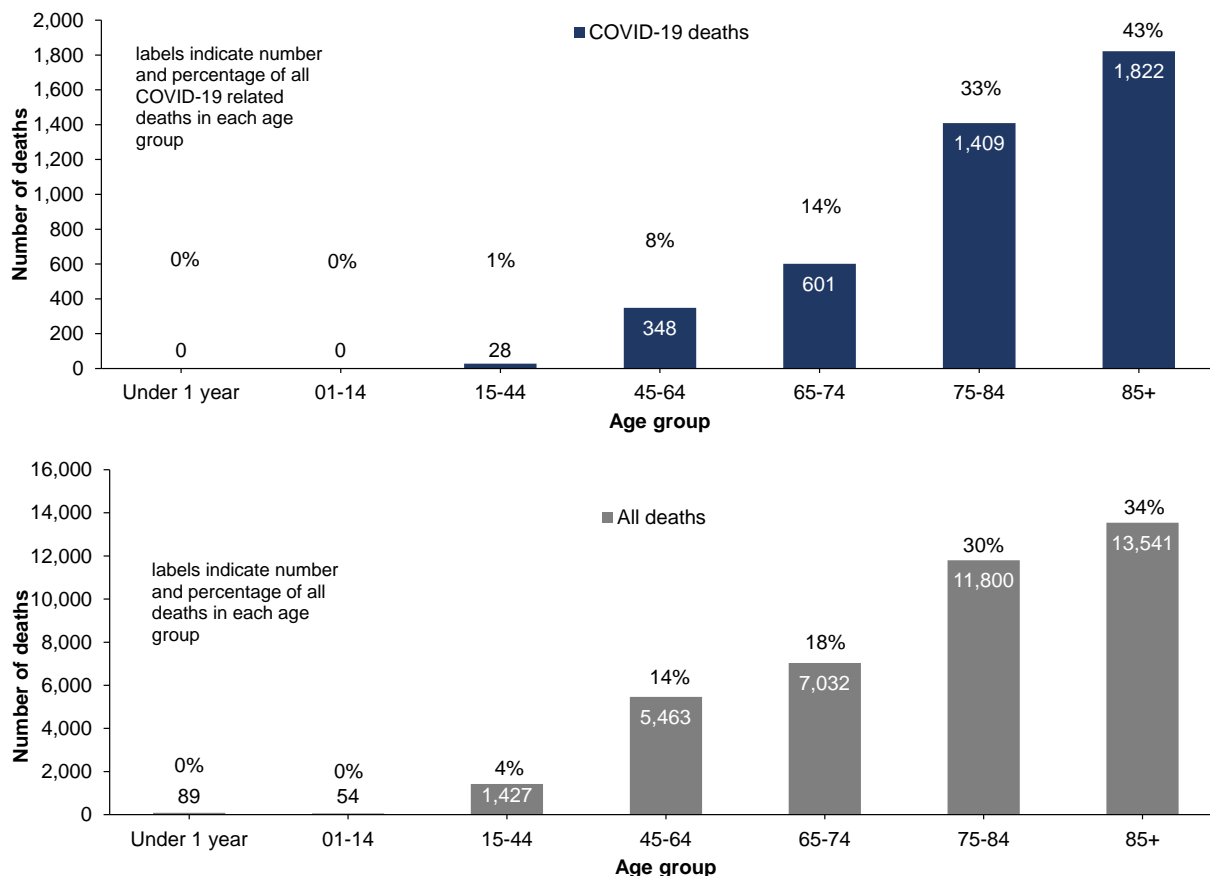
### How are different age groups being impacted?

- More than three quarters (77%) of all deaths involving COVID-19 to date were of people aged 75 or over.
- The greatest proportion of COVID-19 deaths are in people aged 85+ with 43% of all COVID-19 deaths. This compares with 34% of deaths from all causes in this age category.

### What are the number of deaths broken down by sex?

- Of all deaths to date involving COVID-19, just under 50% were male (2,091) and just over 50% were female (2,117).
- Age-standardised death rates (adjusting for the age-structure of the population) were 43% higher for men than for women (289 vs 201 per 100,000 population for deaths occurring in March - June).

**Figure 3: COVID-19 deaths and all deaths registered between weeks 1 and 31 (year to 2 August), 2020 by age group, Scotland**

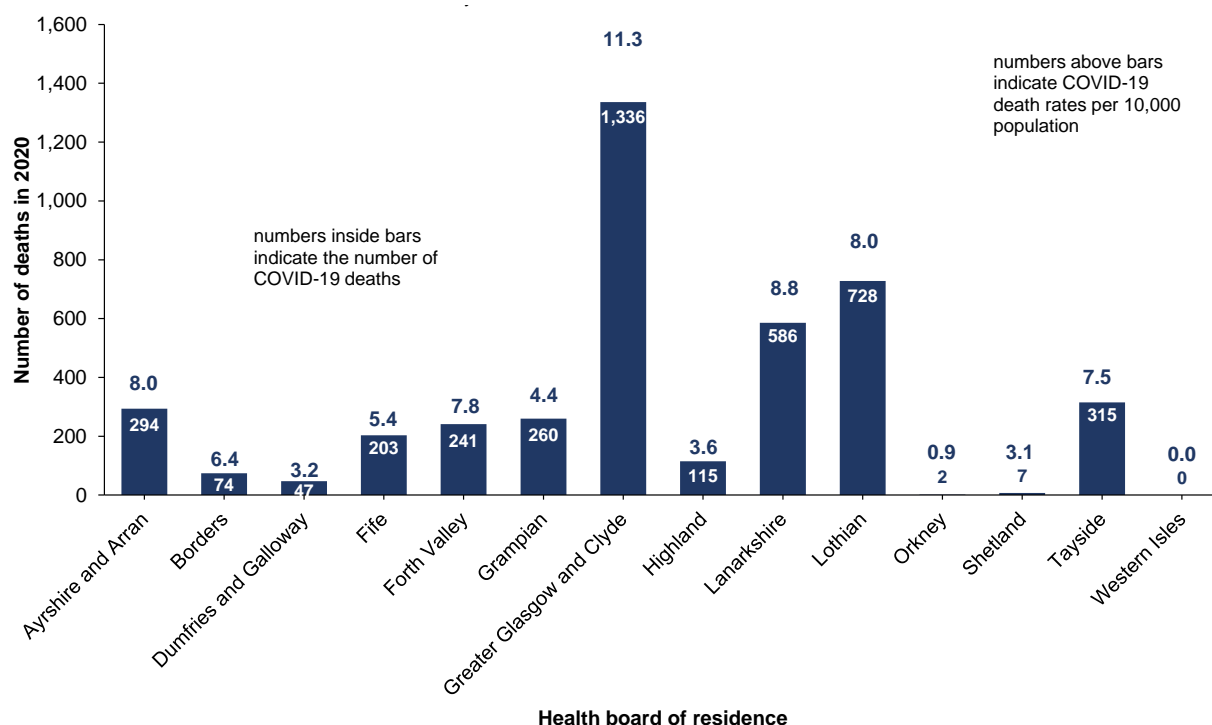


### How do the number of deaths differ across Scotland?

- In week 31 (27 July to 2 August), the Health Board area with the highest number of deaths involving COVID-19 was Greater Glasgow and Clyde with 3 deaths.
- The health board with the highest number of COVID-19 deaths to date was also Greater Glasgow and Clyde with 1,336 deaths (also the highest rate of COVID-19 deaths to date with 11.3 deaths per 10,000 population).
- Figures for council areas are available in the accompanying [spreadsheet](#).

The rates presented in figure 4 are crude death rates (simply calculated by dividing the number of deaths by the total population). Age-standardised death rates are preferred for comparing between areas which may have different population structures (i.e. if one area has a greater proportion of older people). A comparison of health boards and local authorities using age-standardised rates is available in figures S7 and S8 in the [additional analysis spreadsheet](#).

**Figure 4: Deaths involving COVID-19 registered between weeks 1 and 31 (year to 2 August), 2020 by Health Board of residence, Scotland<sup>1</sup>**



### How do these weekly death figures compare with those produced by ONS (for England and Wales)?

The figures are produced using same definition as those published by the ONS for England and Wales, so are broadly comparable.

One minor difference is how the registration weeks are defined:

- Weeks used by ONS (for England and Wales) run from Saturday to Friday
- NRS weeks (for Scotland) run from Monday to Sunday (this is the [ISO8601](#) standard week).

In practice, this is likely to have very little impact on comparisons as there are few registrations that take place on Saturdays and Sundays.

You can view the latest weekly figures from ONS for England and Wales [here](#) and their latest monthly analysis [here](#). The latest figures from NISRA for Northern Ireland are available [here](#). The figures for the rest of the UK are a week behind those for Scotland so the equivalent weeks should be compared.

<sup>1</sup> Rates per 10,000 population are based on population in mid-2019 as these are the most recent population estimates at the time of publication.



**Figure 5: Deaths by week of registration, Scotland, 2020**

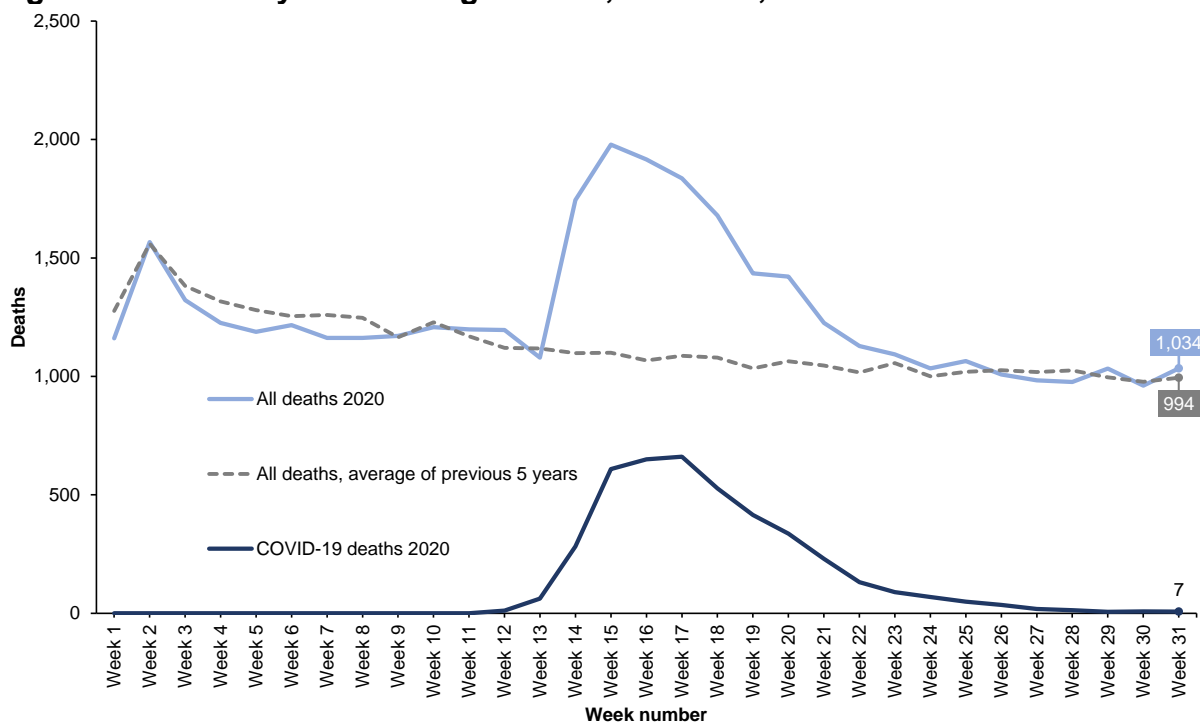


Figure 5 shows that in 2020 up to week 13, the number of weekly registered deaths in Scotland had been broadly in line with the five year average. From week 14 to 22, there was a clear divergence from the five year average. After peaking in week 15, the number of excess deaths has reduced and has been within 5 per cent above or below the average in every week since week 23 (1 to 7 June). For the most recent week (ending 2 August) there were 40 (4%) more deaths registered compared to the average for this time of year.

### What are “Excess Deaths”?

The total number of deaths registered in a week in 2020 minus the average number of deaths registered in the same week over the period 2015 to 2019.

Deaths involving COVID-19 as a percentage of all deaths rose from 16% in week 14 to 36% in week 17, but has since fallen to less than 1% in week 31.

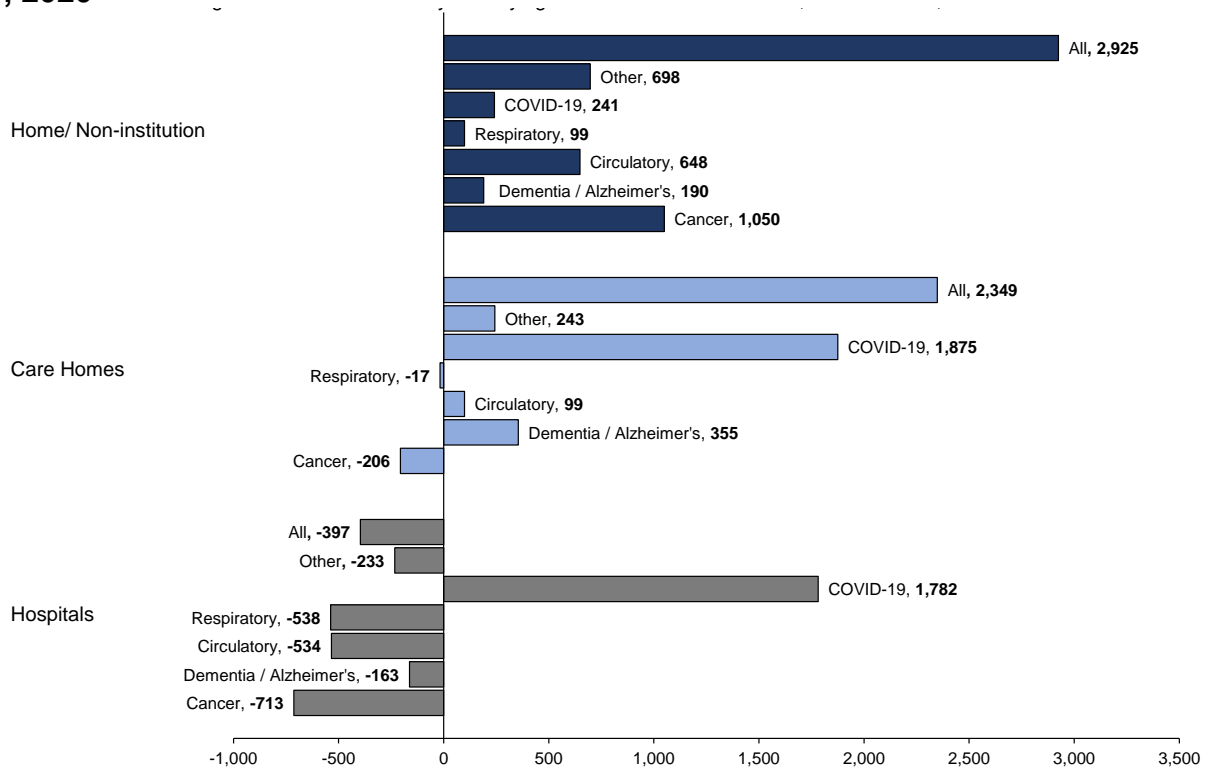
Figure 6 shows the number of excess deaths during weeks 12 to 31 (the period since the first coronavirus death was registered) broken down by location of death and the underlying cause of death.

There were 2,349 excess deaths in care homes (49% above average for the time of year), 2,925 excess deaths at home or in non-institutional settings (51% above average) whilst after an early peak, hospital deaths fell below average levels in week 19 (4 – 10 May) and are now 397 (4%) below average levels for the period covering weeks 12-31.

In care homes and hospitals, COVID-19 was the cause of the majority of excess deaths whilst in home and non-institutional settings there were far fewer excess deaths involving COVID-19. Cancer, circulatory deaths, and deaths from other causes

accounted for most of the excess deaths in these settings. Conversely, in hospital settings there were lower than average numbers of deaths from all causes other than COVID-19.

**Figure 6: Excess Deaths by underlying cause of death\* and location, weeks 12 to 31, 2020**



\* ICD-10 codes for cause of death categories are as follows:

Cancer – C00-C97

Dementia and Alzheimer's – F01, F03, G30

Circulatory – I00-I99

Respiratory – J00-J99

COVID-19 – U07

Other – all other codes not mentioned above

### What do we mean by “Underlying Cause of Death”?

The figures in this publication focus on deaths where COVID-19 was mentioned on the death certificate (either as the underlying cause or as a contributory factor).

In order to present a comparison of different causes of death, it is better to focus on deaths by underlying cause. This is because several causes can be listed on an individual death certificate so if we include all mentions of each particular cause we would end up with some double counting within our analysis.

The analysis of excess mortality in table 4 and figure 6 is based on deaths where COVID-19 was the underlying cause of death. Therefore the number of deaths to week 31 (3,905) are slightly lower than the number given for COVID-19 deaths elsewhere in this publication (4,208) as they are deaths involving COVID (either as the underlying cause or as a contributory factor).

Of all deaths involving COVID-19 registered by 2<sup>nd</sup> August, it was the underlying cause in 93% of cases (3,905 out of 4,208).

More information on how the underlying cause of death is determined is available on the [NRS website](#).

### Where have COVID-19 deaths taken place?

Of the 4,208 deaths involving COVID-19 which were registered to date, 46% related to deaths in care homes. 46% of deaths were in hospitals and 7% of deaths were at home or non-institutional settings.

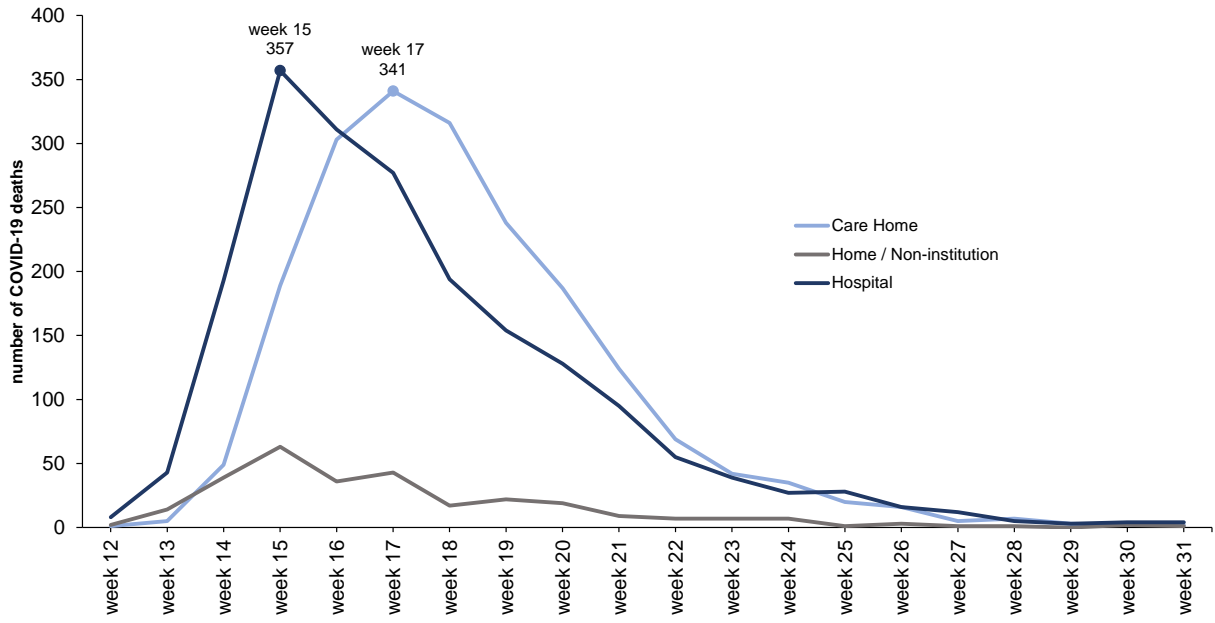
To put these figures into context, in 2018 (the latest year for which final figures are available) around 24% of all deaths occurred in care homes, 49% in hospitals and 27% in home or non-institutional settings.

Figure 7 shows the number of deaths involving COVID-19 by location for weeks 12 to 31 in 2020.

In earlier weeks most COVID-19 deaths were occurring in hospitals, but by week 17 more COVID-19 deaths were occurring in care homes. Since week 23 the number of COVID-19 deaths in hospitals and care homes has been broadly similar.

Breakdowns of location of death within health board and council area are available in table 3 of the accompanying [spreadsheet](#).

**Figure 7: Deaths involving COVID-19 by location of death, weeks 12 to 31, 2020**

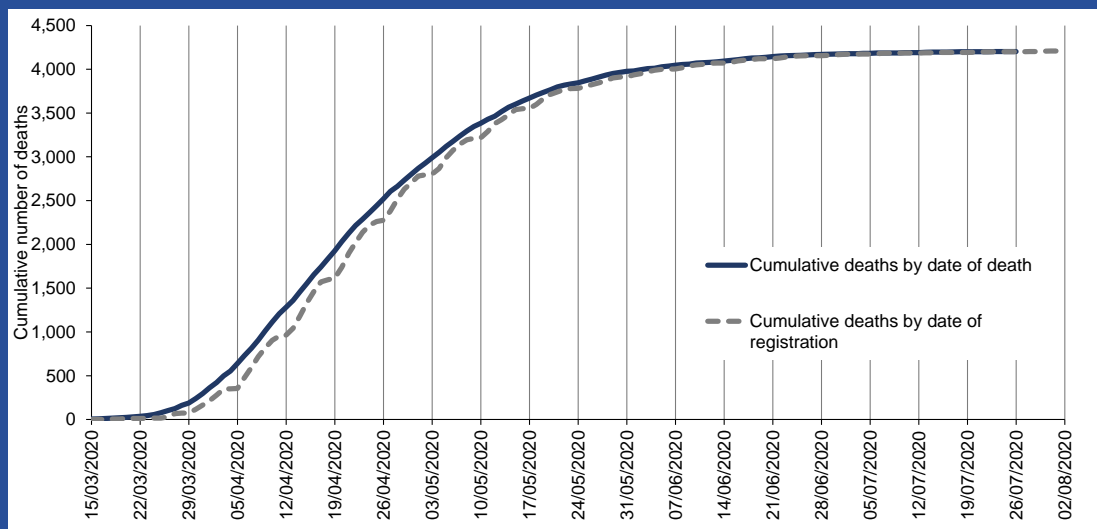


## Why focus on date of registration rather than the actual date of death?

The figures throughout this report are based on the date a death was registered rather than the date the death occurred. When someone dies, their family (or a representative) have to make an appointment with a registrar to register the death. Legally this must be done within 8 days, although in practice there is, on average, a 3 day gap between a death occurring and being registered.

This therefore means that the latest trend in COVID-19 deaths by date of registration (the NRS headline measure) has a lag of around 3 days when compared with the figures on date of death. Figure 8 below illustrates this – of the 4,201 deaths which were registered by 26 July, all had all occurred by 22 July.

**Figure 8: Deaths involving COVID-19, Date of Death vs Date of Registration 2020**



This publication includes all deaths which were registered by 2<sup>nd</sup> August. There will, however, be deaths which occurred before 2<sup>nd</sup> August but were not yet registered. In order to include a more complete analysis based on date of death, we need to wait an additional week to allow the registration process to fully complete. The trend based on date of death therefore only includes deaths which occurred by 26<sup>th</sup> July as the majority of these are likely to have been registered – so although this gives a more accurate picture, it takes more time to compile. However, they are valuable statistics and provide a clearer understanding of the impact and progress of COVID-19, when used alongside the other available daily and operational data.

### In Summary

The death count based on **date of registration is more timely** but is incomplete.

The death count based on **date of death is more complete** and gives a more accurate trend on the progress of the virus, but less timely (a one week delay compared to date of registration figures).

## Things you should know about how these statistics are compiled

Figures are based on the date of registration. In Scotland deaths must be registered within 8 days but in practice, the average time between death and registration is around 3 days.

Figures are allocated to weeks based on the ISO8601 standard. Weeks begin on a Monday and end on a Sunday. Often weeks at the beginning and end of a year will overlap the preceding and following years (e.g. week 1 of 2020 began on Monday 30 December 2019) so the weekly figures may not sum to any annual totals which are subsequently produced.

Deaths involving COVID-19 are defined as those where COVID-19 is mentioned on the death certificate, either as the underlying cause of death or as a contributory cause. Cause of death is coded according to the International Statistical Classification of Diseases and Related Health Conditions 10<sup>th</sup> Revision (ICD-10). The relevant codes included in this publication are U07.1 and U07.2.

Figures include deaths where 'suspected' or 'probable' COVID-19 appears on the death certificate.

Data are provisional and subject to change in future weekly publications. The data will be finalised in June 2021. Reasons why the data might be revised later include late registration data being received once the week's figure have been produced or more information being provided by a certifying doctor or The Crown Office and Procurator Fiscal Service (COPFS) on the cause of death.

Certain user enquiries for ad-hoc analysis related to COVID-19 deaths have been published on our [website](#).

## Index of available analysis on registered deaths involving COVID-19

<b>Breakdown</b>	<b>Frequency</b>	<b>When Added</b>	<b>Latest Period Covered</b>	<b>Date Last Published</b>
<a href="#">Age group</a>	Weekly	8 April 2020	Week 31	5 August 2020
<a href="#">Sex</a>	Weekly	8 April 2020	Week 31	5 August 2020
<a href="#">Location</a>	Weekly	15 April 2020	Week 31	5 August 2020
<a href="#">Health Board</a>	Weekly	8 April 2020	Week 31	5 August 2020
<a href="#">Local Authority</a>	Weekly	22 April 2020	Week 31	5 August 2020
<a href="#">Excess deaths by cause</a>	Weekly	22 April 2020	Week 31	5 August 2020
<a href="#">Excess deaths by cause and location</a>	Weekly	17 June 2020	Week 31	5 August 2020
<a href="#">Age-standardised mortality rates – Scotland</a>	Monthly	13 May 2020	June	15 July 2020
<a href="#">Age-standardised mortality rates – sub-Scotland</a>	Monthly	17 June 2020	March – June combined	15 July 2020
<a href="#">Leading causes of death</a>	Monthly	13 May 2020	June	15 July 2020
<a href="#">Pre-existing conditions</a>	Monthly	13 May 2020	June	15 July 2020
<a href="#">Deprivation</a>	Monthly	13 May 2020	March - June combined	15 July 2020
<a href="#">Urban Rural</a>	Monthly	13 May 2020	March - June combined	15 July 2020
<a href="#">Daily occurrences by location of death</a>	Monthly	13 May 2020	March, April May and June	15 July 2020
<a href="#">Occupation</a>	Monthly	17 June 2020	March – June combined	15 July 2020
<a href="#">Intermediate Zone</a>	Monthly	17 June 2020	March – June combined	15 July 2020
<a href="#">Ethnic Group</a>	One-off	8 July 2020	March to mid-June	8 July 2020

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

Informing the future – We are responsible for the Census of Population in Scotland which we use, with other sources of information, to produce statistics on the population and households.

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### Enquiries and suggestions

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