Deaths involving coronavirus (COVID-19) in Scotland

Week 26 (22 to 28 June 2020)

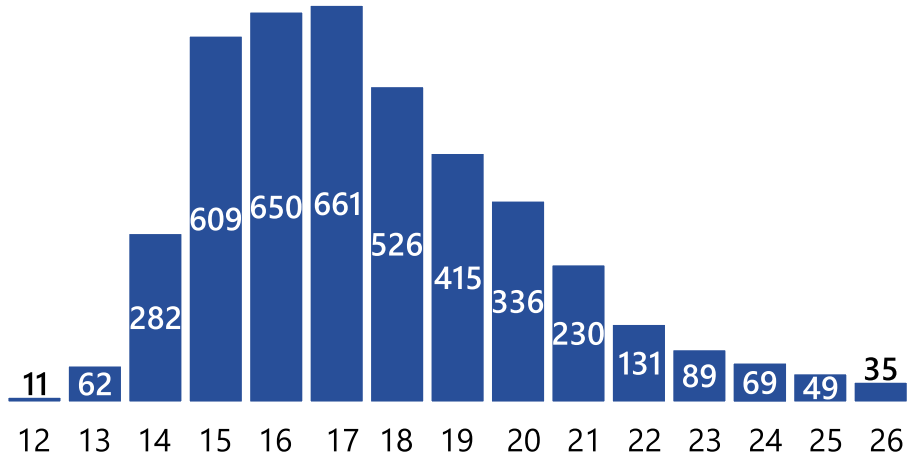
Published on 01 July 2020

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 26 of 2020

As of 28th June, 4,155 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 have decreased weekly since then to reach a level of 35in week 26.

Deaths per week involving COVID-19



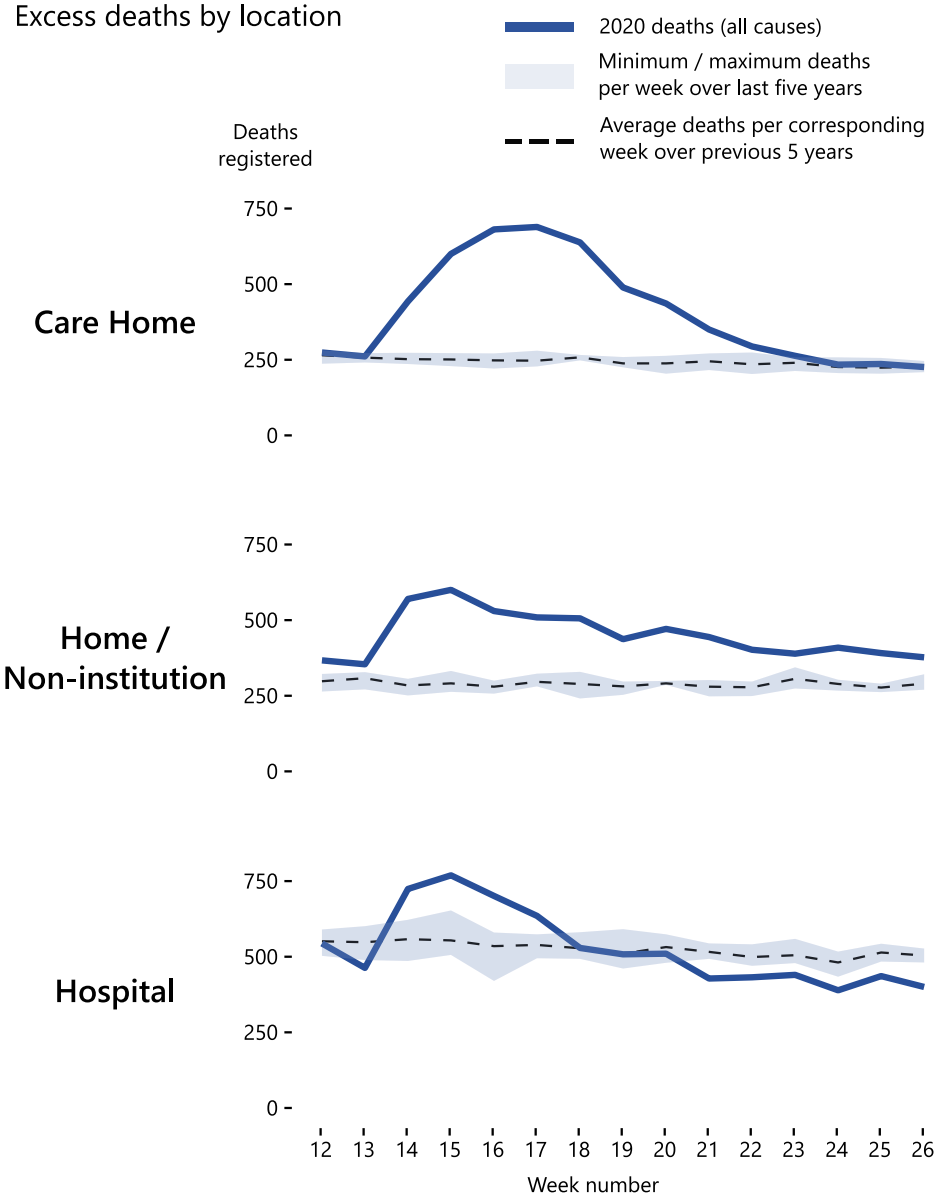
Most excess deaths have occured in care homes

Between weeks 12 and 26 (16 March to 28 June) there were 2,463 (67%) more deaths in care homes than average. Excess deaths peaked in week 17. In week 26 deaths have fallen to usual levels (1 death below the 5 year average).

In the same period, there were 2,417 excess deaths which took place at home or in a non-institutional setting (56% above average). In week 26 deaths were still above usual levels (88 deaths above the 5 year average).

Excess deaths in hospitals peaked in week 15 and have now fallen to below average levels (105 deaths below the 5 year average in week 26).

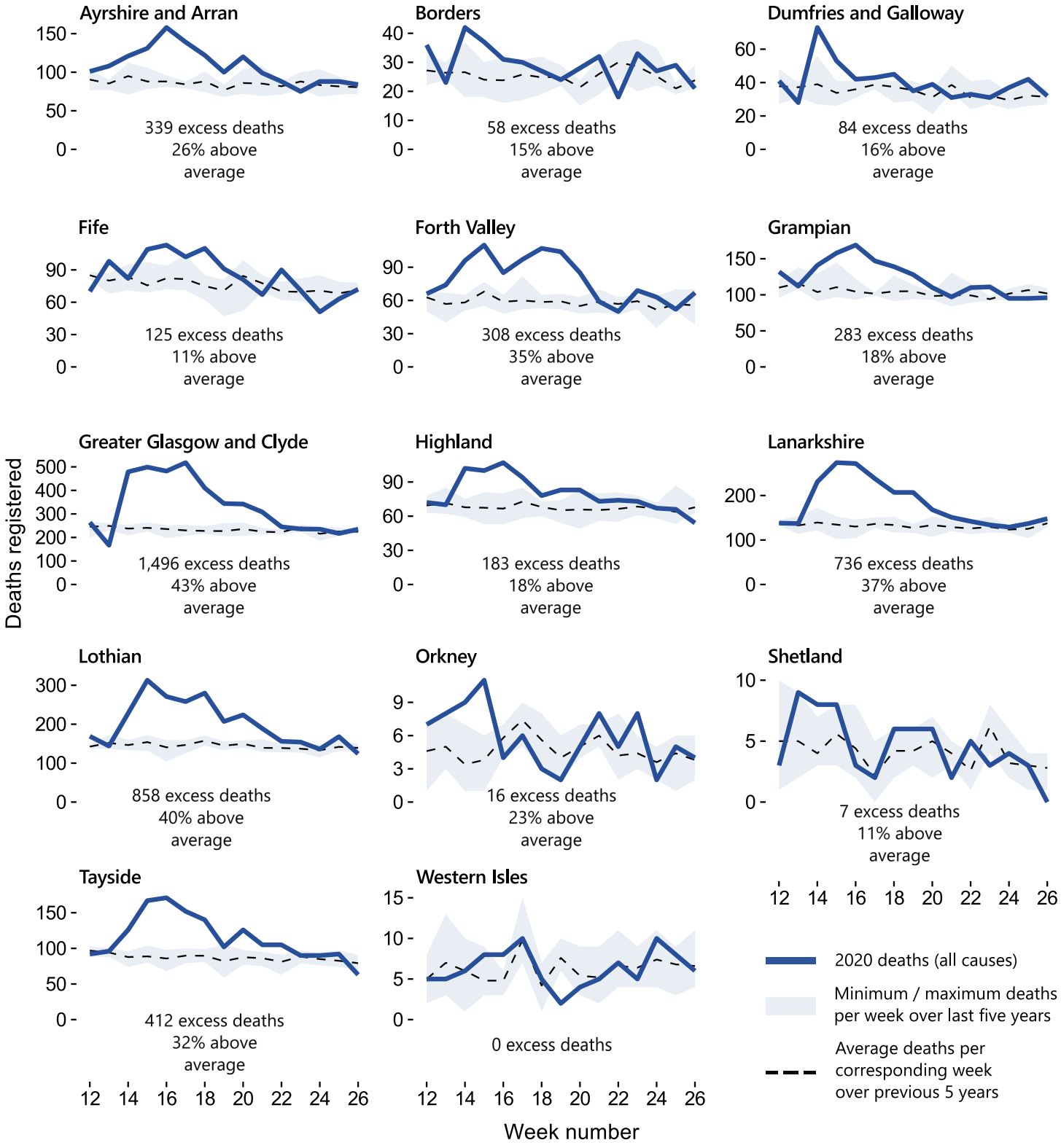
Excess deaths by location



Deaths have returned to normal levels in most areas

Greater Glasgow and Clyde had the most excess deaths over weeks 12 to 26 (43% above average for the previous five years). Lothian (40%), Lanarkshire (37%), Forth Valley (35%) and Tayside (32%) also had relatively high levels of excess deaths.

Excess deaths by Health Board of residence, weeks 12 to 22



Key Findings

Deaths involving COVID-19

- As at 28th June, there have been a total of 4,155 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 16th March 2020.

- Of the total number of deaths registered in week 26 (22nd to 28th June), there were 35 where COVID-19 was mentioned on the death certificate, a decrease of 14 from the previous week (15th to 21st June). This is the ninth weekly reduction in a row, and the lowest weekly total since mid-March.

- Deaths involving COVID-19 accounted for 3% of all deaths registered in week 25. This proportion has fallen steadily from its peak in week 17 when COVID-19 deaths accounted for 36% of all deaths.

- 47% 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.

- The proportion of COVID-19 deaths which took place in care homes has risen over time but has dropped back in recent weeks and now represents 46% of all COVID-19 deaths in week 26. The number of deaths in care homes fell for a ninth week, by 4 to 16.

- 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, 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.

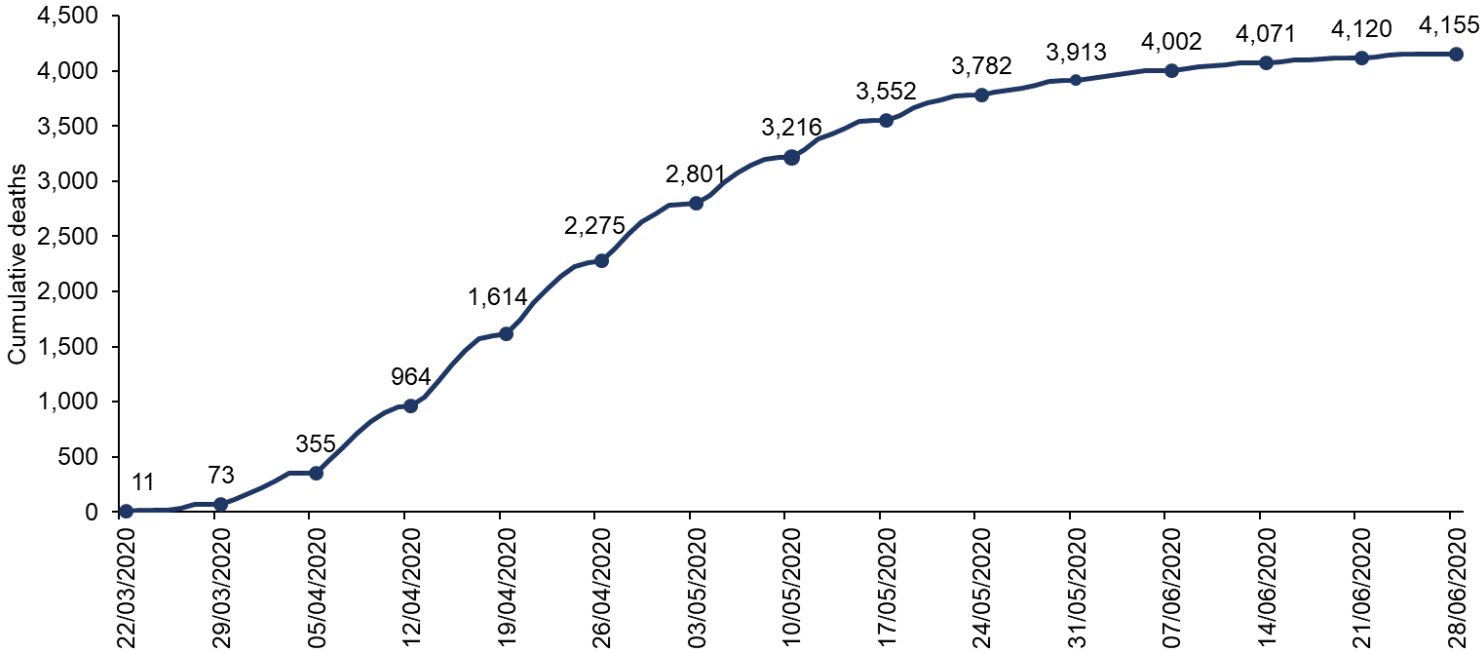
All Deaths

- The provisional total number of deaths registered in Scotland in week 26 of 2020 (22nd to 28th June) was 1,006. This is a decrease of 59 from the number registered in the previous week.

- The average number of deaths registered in the corresponding week over the previous five years was 1,026. There were 2% fewer deaths (20) registered in week 26 of 2020 (22nd to 28th June) compared to the average. This is the first time the total number of deaths has been lower than the average since week 13 (23rd to 29th March) .

- For the period covering weeks 12 – 26, there were 2,463 excess deaths in care homes (67% above average), 2,417 excess deaths at home or in non-institutional settings (56% above average) whilst after an early peak, excess deaths in hospitals have fallen and are now only 34 (<1%) above average levels.

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.

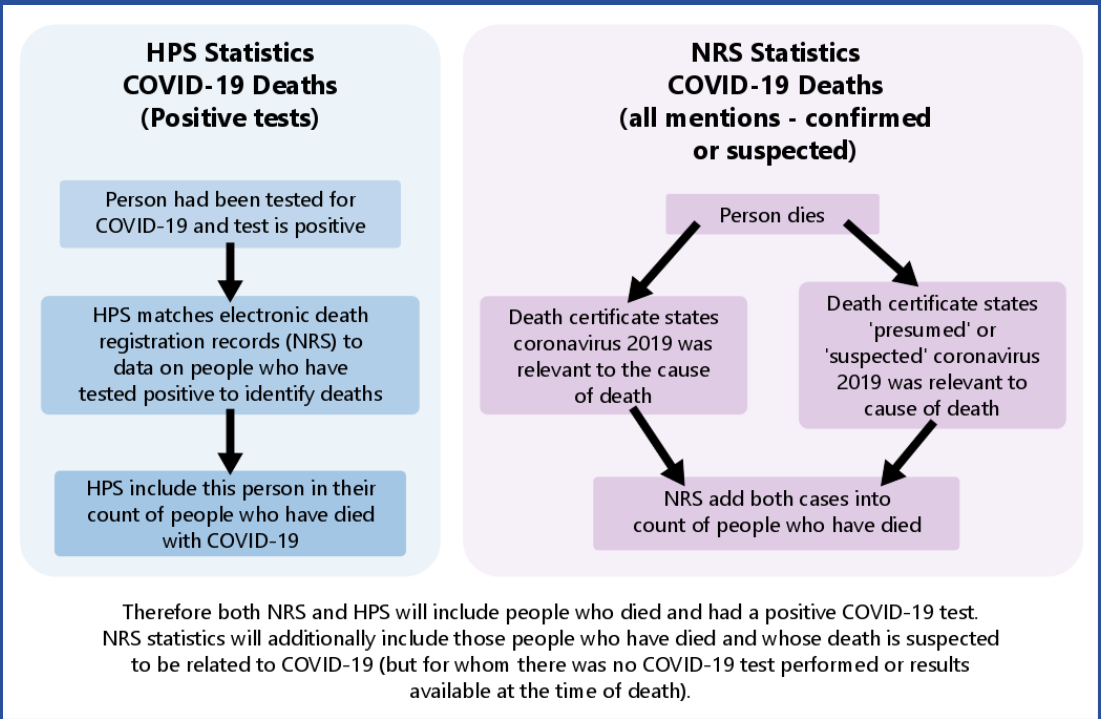
These are important because they are available earlier, and give a quicker indication of what is happening day by day and are broadly comparable with the figures released daily for the UK by the Department for Health and Social Care.

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.

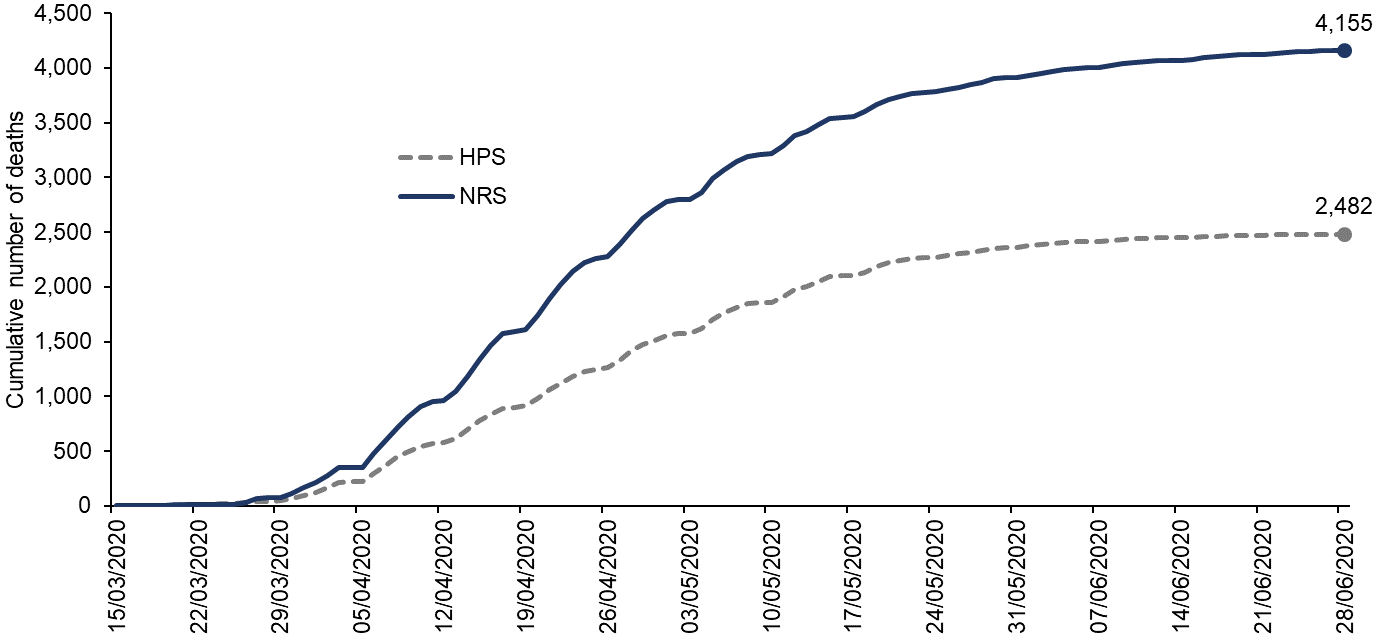


Therefore both NRS and HPS will include people who died and had a positive COVID-19 test. NRS statistics will additionally include those people who have died and whose death is suspected to be related to COVID-19 (but for whom there was no COVID-19 test performed or results available at the time of death).

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.

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



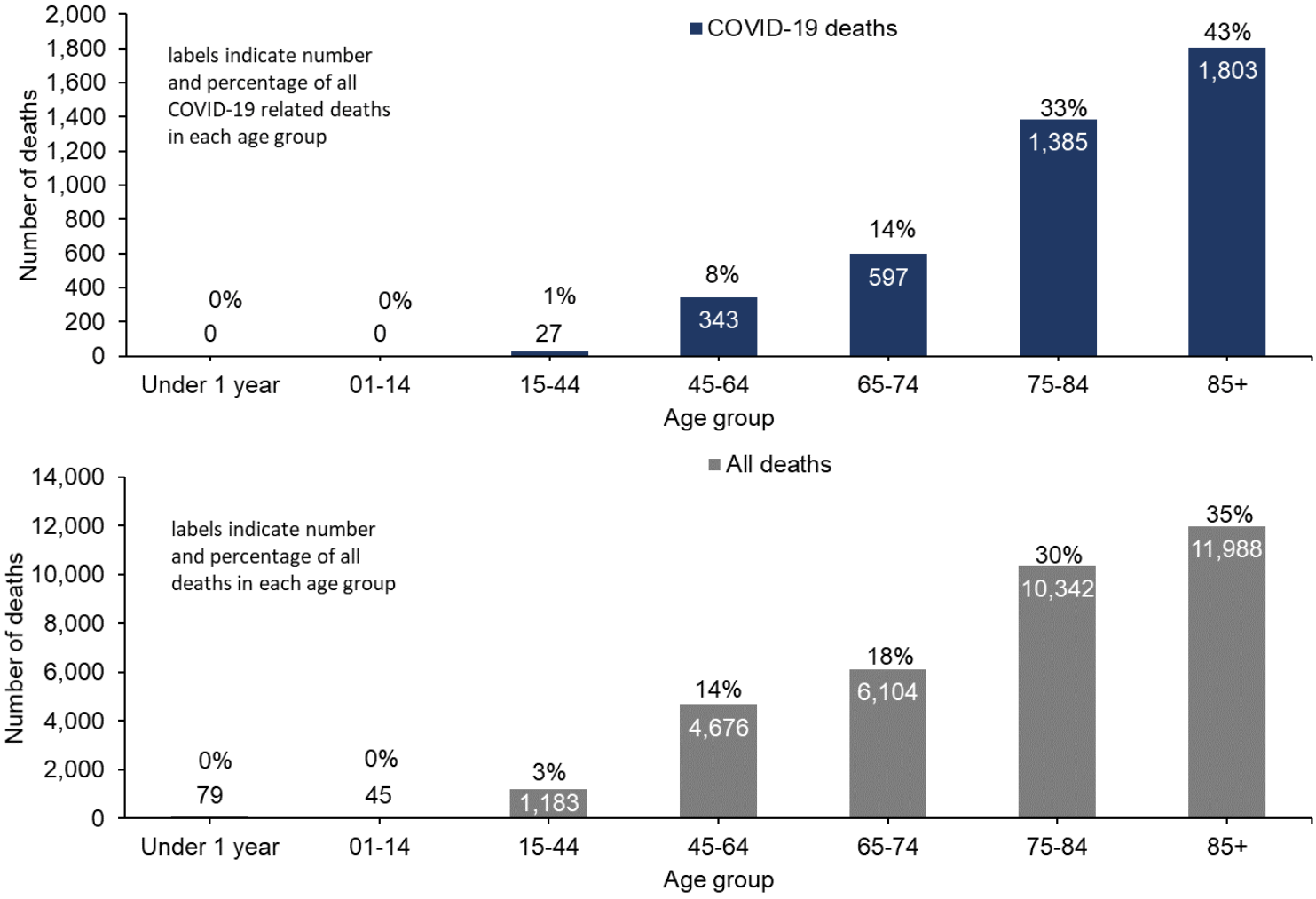
How are different age groups being impacted?

- 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 35% 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 (2,069) and just over 50% were female (2,086).
- Age-standardised death rates (adjusting for the age-structure of the population) were 45% higher for men than for women (367 vs 253 per 100,000 population for deaths occurring in March - May) (week 24 report).

Figure 3: COVID-19 deaths and all deaths registered between weeks 1 and 26 (year to 28th June), 2020 by age group, Scotland



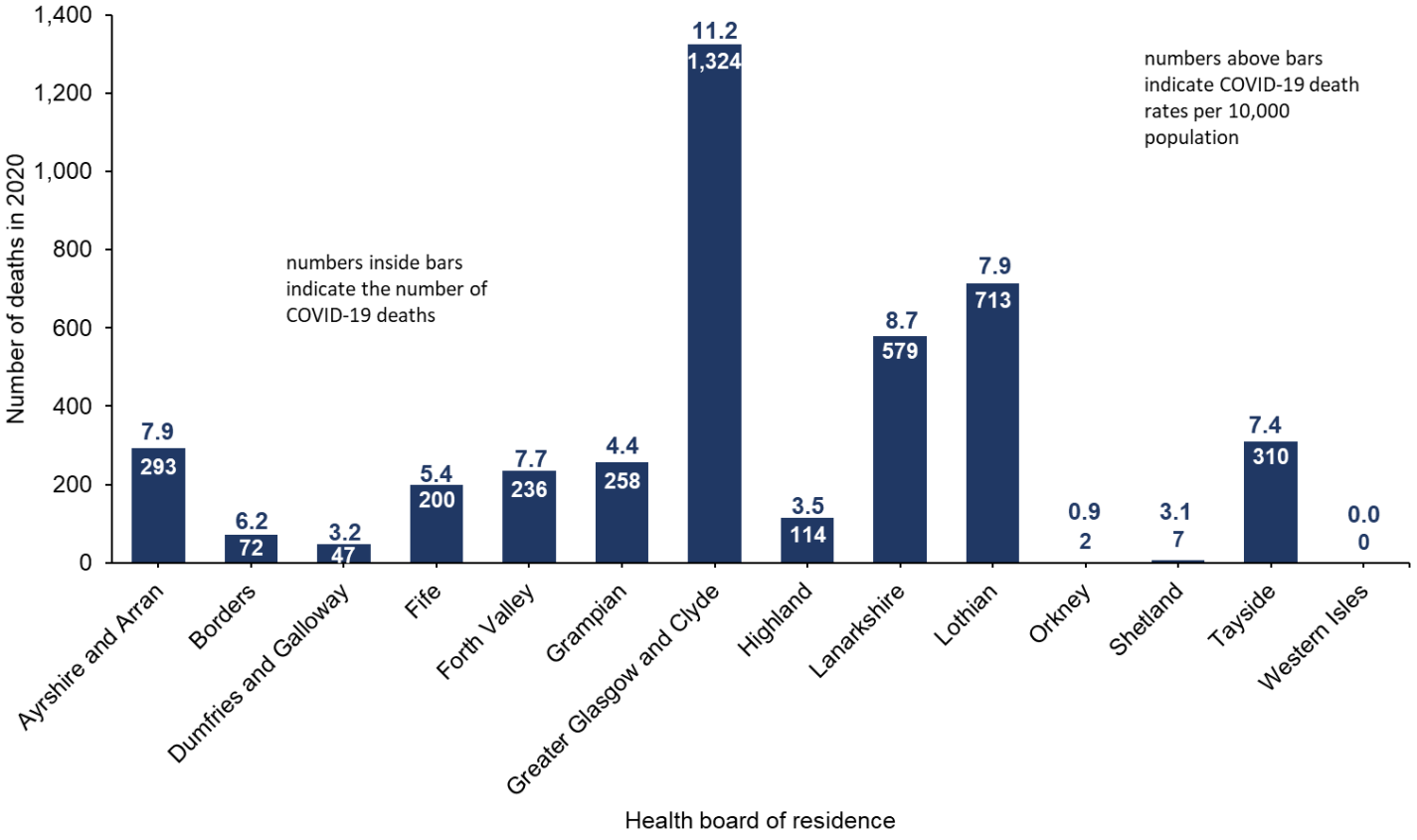
How do the number of deaths differ across Scotland?

- In week 26 (22nd to 28th June), the Health Board area with the highest number of deaths involving COVID-19 was Lanarkshire with 11 deaths.
- The health board with the highest number of COVID-19 deaths to date was Greater Glasgow and Clyde with 1,324 deaths (also the highest rate of COVID-19 deaths to date with 11.2 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 report for week 24.

Figure 4: Deaths involving COVID-19 registered between weeks 1 and 26 (year to 28th June), 2020 by Health Board of residence, Scotland[1]



[1] 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.

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.

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

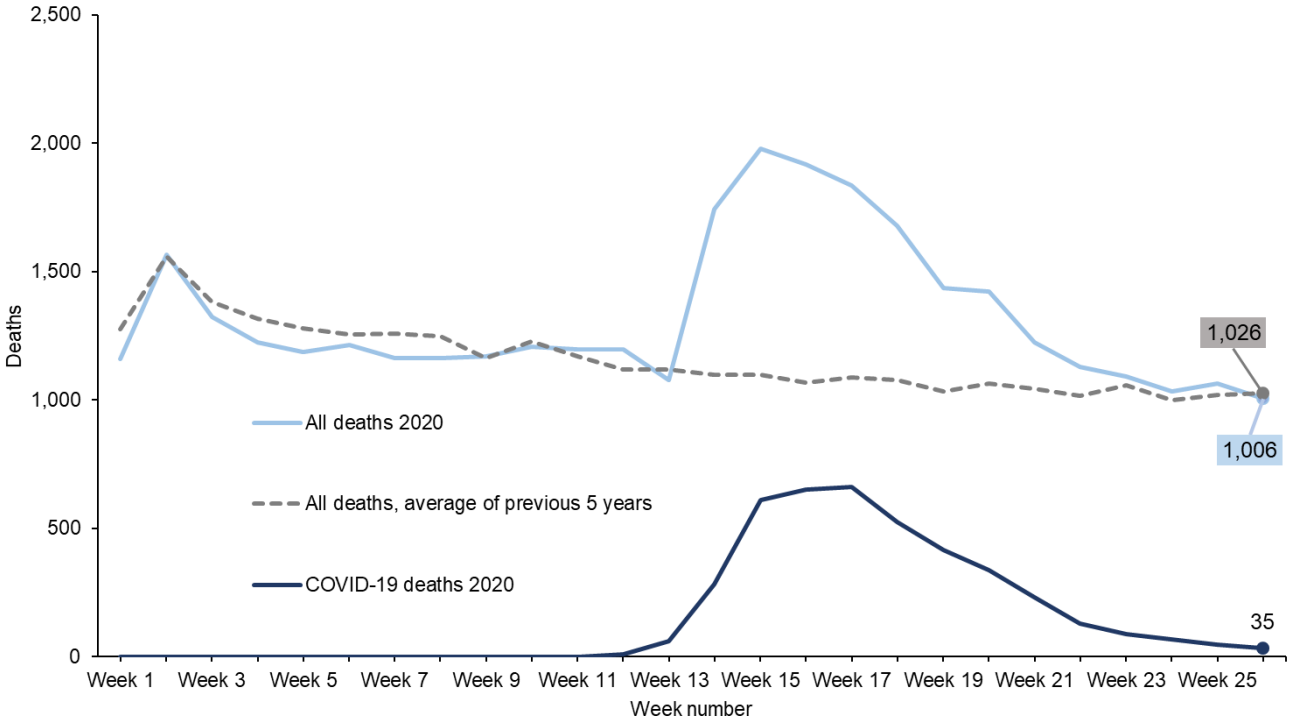


Figure 5 shows that in 2020 up to week 13, the number of weekly registered deaths in Scotland had been broadly in line with the five year average. From week 14 onwards there has been a clear divergence from the five year average. After peaking in week 15, the number of excess deaths has reduced. For the most recent week (ending 28th June) there were 20 (2%) fewer deaths registered compared to the average for this time of year. This is the first time since week 13 that 2020 deaths have been below the five year average.

What are "Excess Deaths"?

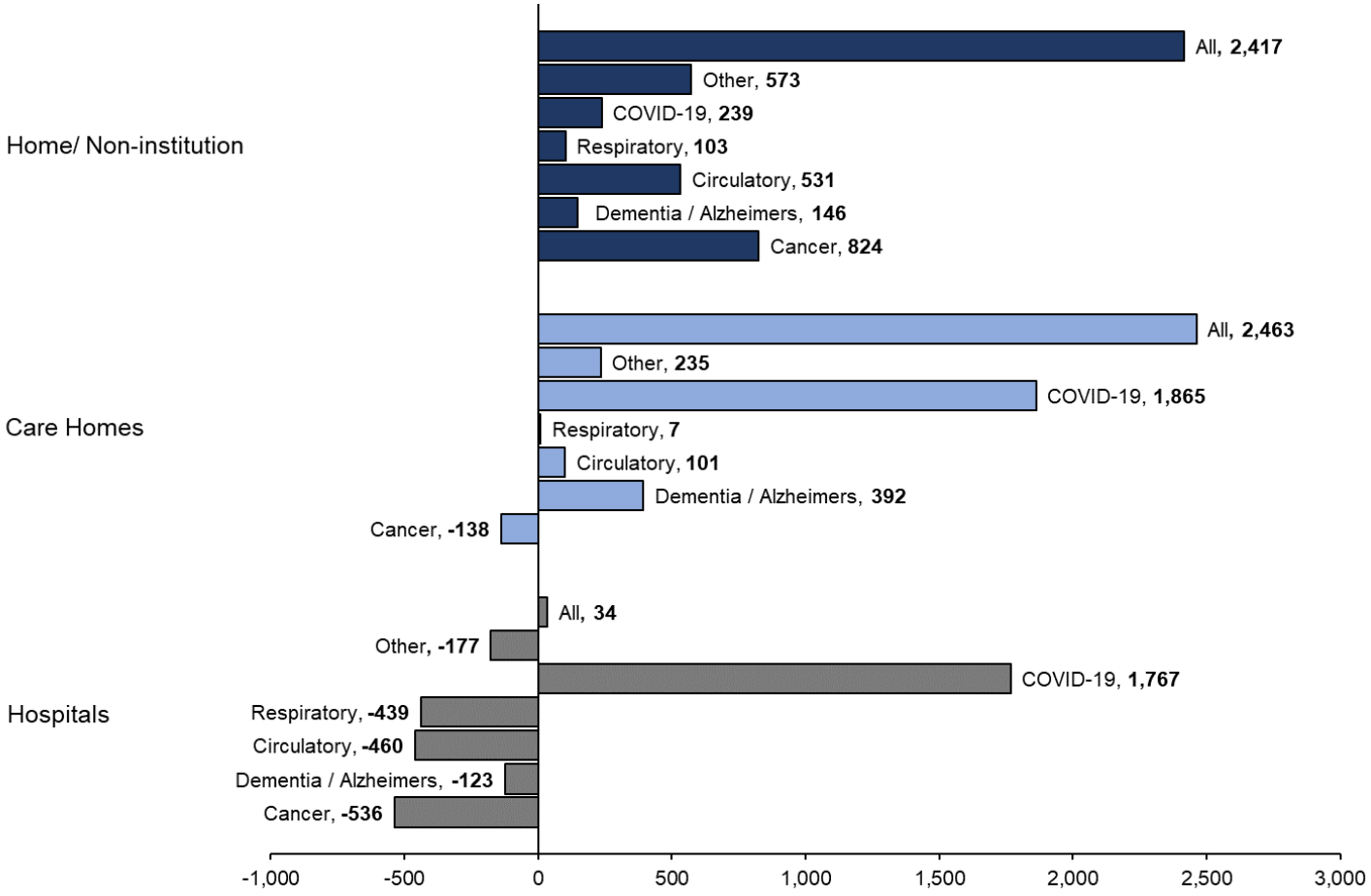
The total number of deaths registered in a week in 2020 minus the average number of deaths registered in the same week over the period 2015 to 2019.

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 3% in week 26.

Figure 6 shows the number of excess deaths during weeks 12 to 26 (the period since the first coronavirus death was registered) broken down by location of death and the underlying cause of death.
There were 2,463 excess deaths in care homes (67% above average for the time of year), 2,417 excess deaths at home or in non-institutional settings (56% above average) whilst after an early peak, excess deaths in hospitals have fallen and are now only 34 (<1%) above average levels in weeks 12 to 26.

In care home 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 26, 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 26 (3,878) are slightly lower than the number given for COVID-19 deaths elsewhere in this publication (4,155) as they are deaths involving COVID (either as the underlying cause or as a contributory factor).

Of all deaths involving COVID-19 registered by 28th June, it was the underlying cause in 93% of cases (3,878 out of 4,155).

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 4,155 deaths involving COVID-19 which were registered to date, 47% related to deaths in care homes. 46% of deaths were in hospitals and 7% of deaths were at home or non-institutional settings.

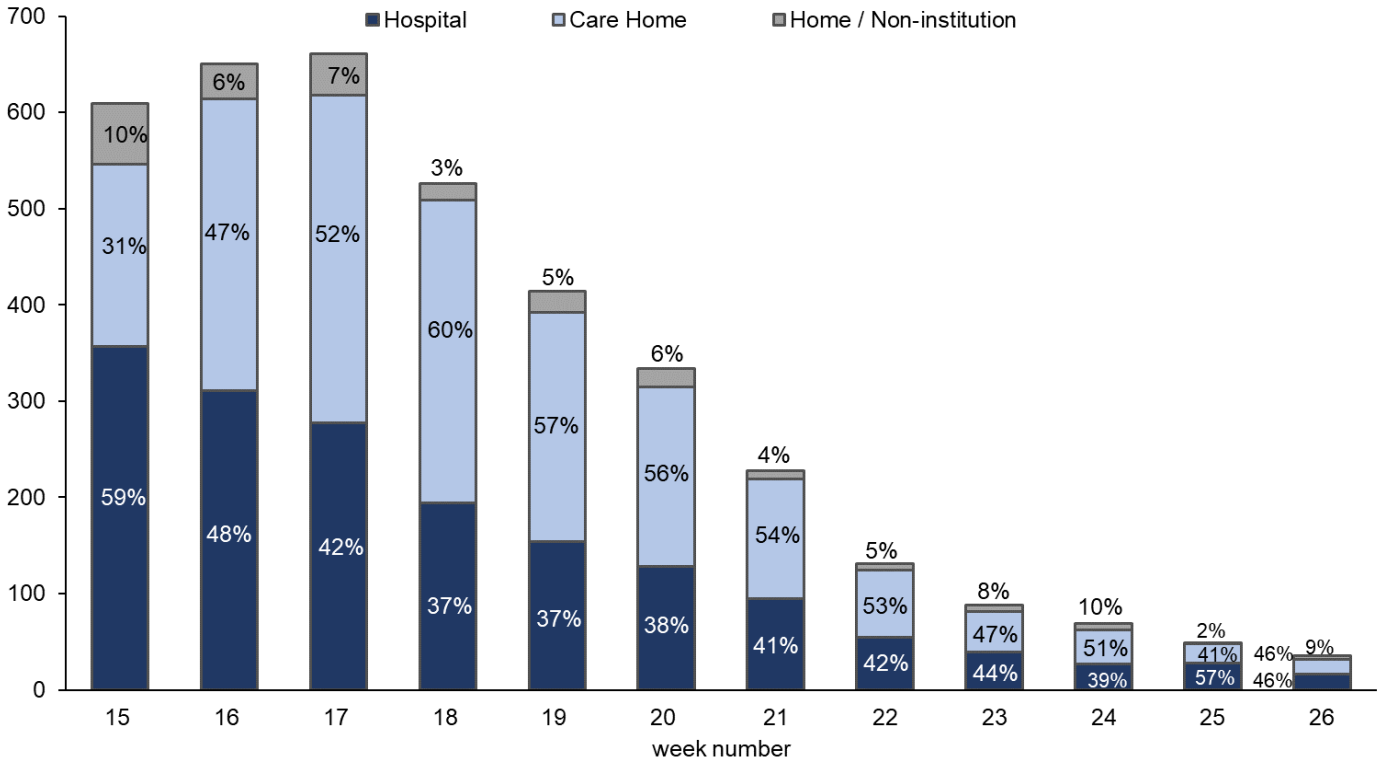
To put these figures into context, in 2018 (the latest year for which final figures are available) around 24% of all deaths occurred in care homes, 49% in hospitals and 27% in home or non-institutional settings.

Figure 7 shows the numbers and proportion of deaths involving COVID-19 by location for weeks 15 to 26 in 2020.

In earlier weeks most COVID deaths were occurring in hospitals. The proportion of deaths in care homes has increased over time although has dropped back in recent weeks and now represents 46% of COVID deaths in week 26. The number of COVID-19 deaths in care homes fell for an eighth week, by 4 to 16.

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 15 to 26, 2020

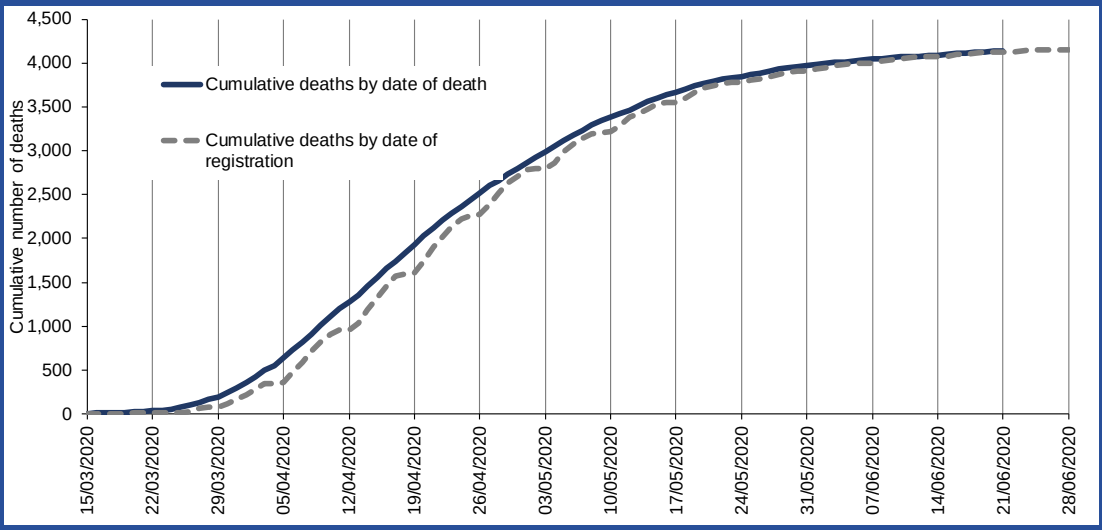


Why focus on date of registration rather than the actual date of death?

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 4,120 deaths which were registered by 21st June, all had all occurred by 18th June.

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



This publication includes all deaths which were registered by 28th June. There will, however, be deaths which occurred before 28th June 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 21st June as all of these have now 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 10th 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.

We recently published a note on our website which explains why we cannot currently analyse COVID-19 deaths data on the basis of ethnic group.

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

Breakdown	Frequency	When Added	Latest Period Covered	Date Last Published
Age group	Weekly	8th April 2020	Week 26	1st July 2020
Sex	Weekly	8th April 2020	Week 26	1st July 2020
Location	Weekly	15th April 2020	Week 26	1st July 2020
Health Board	Weekly	8th April 2020	Week 26	1st July 2020
Local Authority	Weekly	22nd April 2020	Week 26	1st July 2020
Excess deaths by cause	Weekly	22nd April 2020	Week 26	1st July 2020
Excess deaths by cause and location	Weekly	17th June 2020	Week 26	1st July 2020
Age-standardised mortality rates – Scotland	Monthly	13th May 2020	May	17th June 2020
Age-standardised mortality rates – sub-Scotland	Monthly	17th June 2020	March - May combined	17th June 2020
Leading causes of death	Monthly	13th May 2020	May	17th June 2020
Pre-existing conditions	Monthly	13th May 2020	May	17th June 2020
Deprivation	Monthly	13th May 2020	March - May combined	17th June 2020
Urban Rural	Monthly	13th May 2020	March - May combined	17th June 2020
Daily occurrences by location of death	Monthly	13th May 2020	March April and May	17th June 2020
Occupation	Monthly	17th June 2020	March – May combined	17th June 2020
Intermediate Zone	Monthly	17th June 2020	March – May combined	17th June 2020

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