



Introduction

COVID-19 is an illness that can affect your lungs and airways. It is caused by a type of virus called SARS-CoV-2 (coronavirus). This bulletin aims to provide a weekly update on the current situation relating to the virus in Northern Ireland. It presents high level data on key areas currently being used to monitor COVID-19 activity and highlights current issues and public health messages.

The data presented complements the current range of existing data available from other sources including the [PHA Monthly Epidemiological bulletin](#), [Department of Health COVID-19 Daily Dashboard](#) and [NISRA Deaths Registered Dashboard](#). It should be noted that the data included may be subject to change as systems are updated and comparisons with existing data sources may not be possible, for example, due to variations in data extraction and processing.

Key messages

The number of positive COVID-19 cases and clusters across Northern Ireland have increased substantially in week 40 (by 142% and 69% respectively) compared to the previous week. While the rates of positive cases have increased across all council areas during this time, the highest rates have been seen in Derry City and Strabane, Newry Mourne and Down and Belfast City council areas.

[Regional and localised restrictions](#) have been introduced with the aim of limiting spread of the virus among households. We are grateful to everyone who is playing their part by complying with these restrictions and helping to prevent spread of the virus.

Further information and advice is regularly updated and available from the [PHA website](#)

Incidence and prevalence

Estimated incidence (number of new cases in the seven days up to 4 October 2020)

The current incidence of positive laboratory cases is 205 per 100,000 of the Northern Ireland population (or 1 in 487 people)^{1,2}.

However, if we assume that there are 1.3 infected individuals for every laboratory confirmed case we know about, the estimated weekly incidence is 472 per 100,000 population (1 in 212)³.

¹ Source: PHA Health Protection Directorate; 8 October 2020

² Rates calculated using 2019 Mid-Year Population Estimates for Northern Ireland <https://www.nisra.gov.uk/publications/2019-mid-year-population-estimates-northern-ireland>

³ Bohning D, Maruotti A, Rocchetti I, and Holling H. (2020). [Estimating the undetected infections in the Covid-19 outbreak by harnessing capture-recapture methods](#). International Journal of Infectious Diseases.

Estimated prevalence

The prevalence of active cases, as of 4 October 2020, is estimated to be 410 per 100,000 population (1 in 244), assuming that 50% of cases experience no symptoms⁴; 241 per 100,000 population (1 in 414) if only 15% experience no symptoms⁵; and 1,026 per 100,000 (1 in 97) if 80% experience no symptoms^{6,7,8}.

COVID-19 testing by age group

Figures 1a and 1b show the trend in rates (per 100,000 population) of laboratory confirmed COVID-19 cases by age group and by epidemiological week⁹ from week 9 (ending 1 March 2020) to week 40 (ending 4 October 2020) (1a) with a focus on the last ten weeks, from week 30 (ending 26 July 2020) to week 40 (ending 4 October 2020) (1b).

Figure 1a: Laboratory confirmed COVID-19 cases by age group and epidemiological week; week 9 (ending 1 March 2020) to week 40 (ending 4 October 2020)

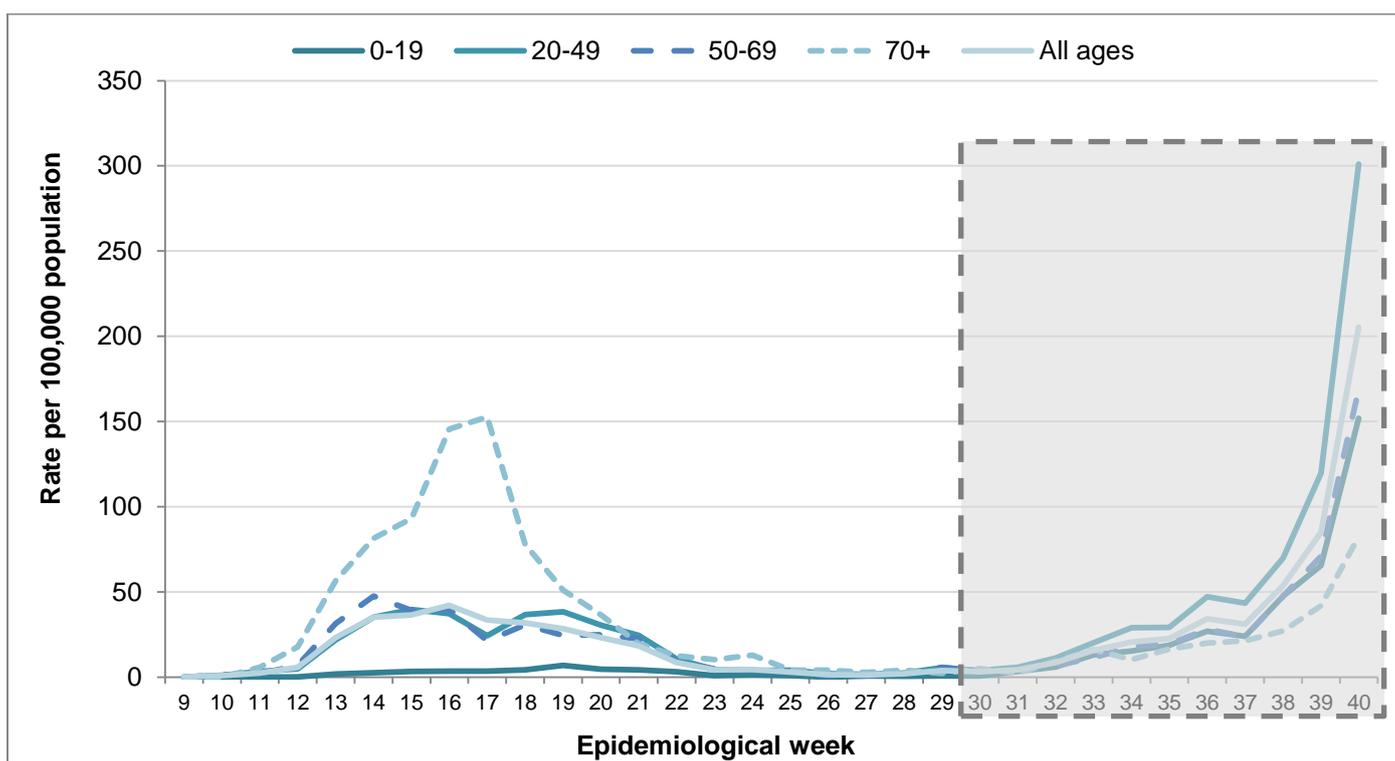


Figure 1b on the following page provides further detail on the highlighted time period.

⁴ <https://hub.jhu.edu/2020/05/12/qiqi-gronvall-asymptomatic-spread-covid-19-immunity-passports/>

⁵ Mizumoto K, Kagaya K, Zarebski A, Chowell G. Estimating the asymptomatic proportion of coronavirus disease 2019 (COVID-19) cases on board the Diamond Princess cruise ship, Yokohama, Japan, 2020. *Eurosurveillance*. 2020;25(10):2000180.

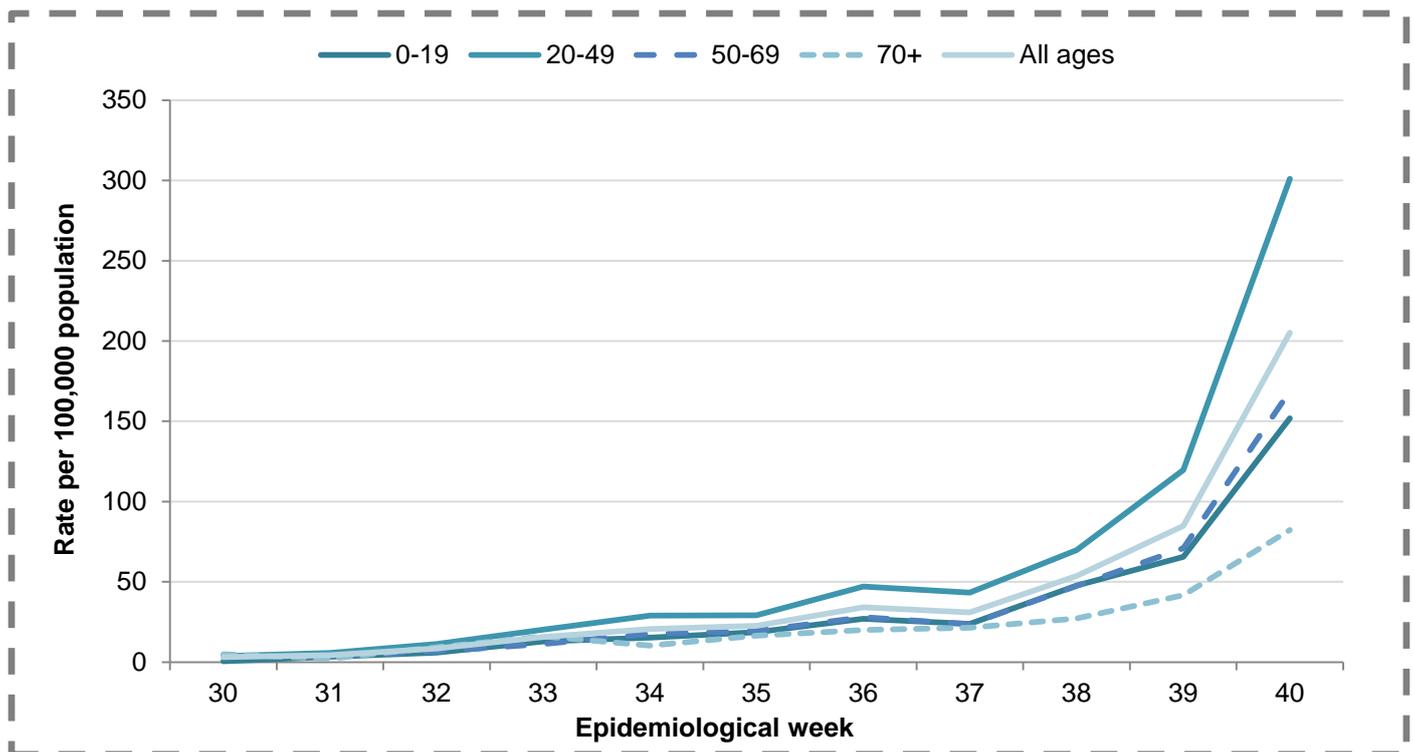
⁶ Lavezzo E, Franchin E, Ciavarella C, Cuomo-Dannenburg G, Barzon L, Del Vecchio C, Rossi L, Manganelli R, Loregian A, Navarin N, Abate D. Suppression of a SARS-CoV-2 outbreak in the Italian municipality of Vo'. *Nature*. 2020;30:1-5.

⁷ Day M. Covid-19: four fifths of cases are asymptomatic, China figures indicate. *BMJ*, 2020.

⁸ Ing AJ, Cocks C, Green JP. COVID-19: in the footsteps of Ernest Shackleton. *BMJ Thorax*. 2020.

⁹ Epidemiological week is a standardised method of counting weeks [Monday–Sunday] to allow for the comparison of data from year to year.

Figure 1b: Laboratory confirmed COVID-19 cases by age group and epidemiological week; week 30 (ending 26 July 2020) to week 40 (ending 4 October 2020)



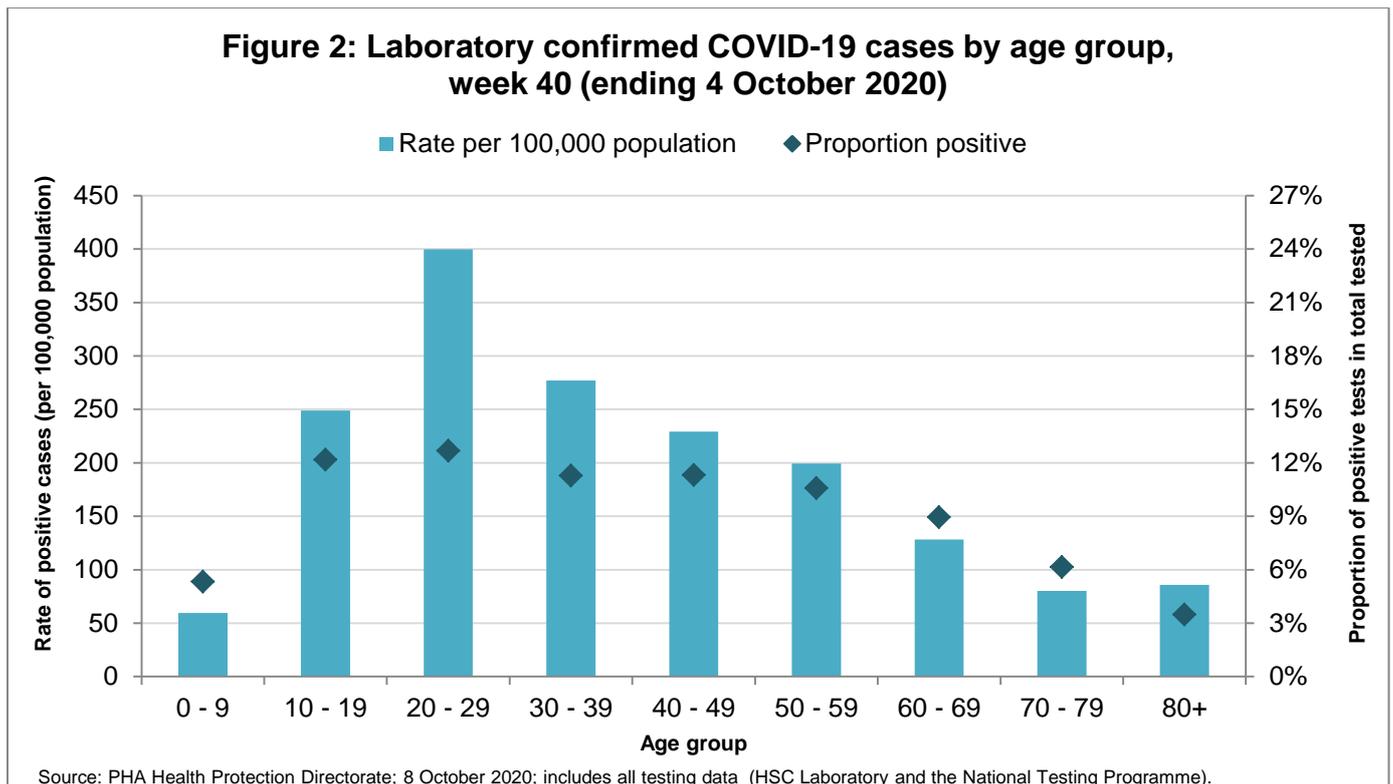
Source: PHA Health Protection Directorate; 8 October 2020; includes all testing data (HSC Laboratory and the National Testing Programme).

Comment: In week 40 (ending 4 October 2020) the number of new laboratory confirmed COVID-19 cases continues to increase. The highest rates are observed in the 20-49 year age group (301 per 100,000 population) followed by those aged 50-69 years (169 per 100,000 population), 0-19 years (152 per 100,000 population) and 70+ years (82 per 100,000 population).

Between week 39 (ending 27 September 2020) and week 40 the rate of positive cases across Northern Ireland increased by 142% from 85 per 100,000 population to 205 per 100,000 population. Increasing rates were observed for all age groups; however, the increase was highest in the 20-49 year age group where rates increased from 120 per 100,000 population to 301 per 100,000 population, an increase of 152%.

While the rate of positive cases was lowest in the 70+ year age group, this rate almost doubled increasing from 42 per 100,000 population to 82 per 100,000 population, highlighting the risk that increasing rates in younger age groups may result in transmission to those in older age groups.

Figure 2 provides further detail on rates of laboratory confirmed COVID-19 cases in week 40 by ten year age group intervals.



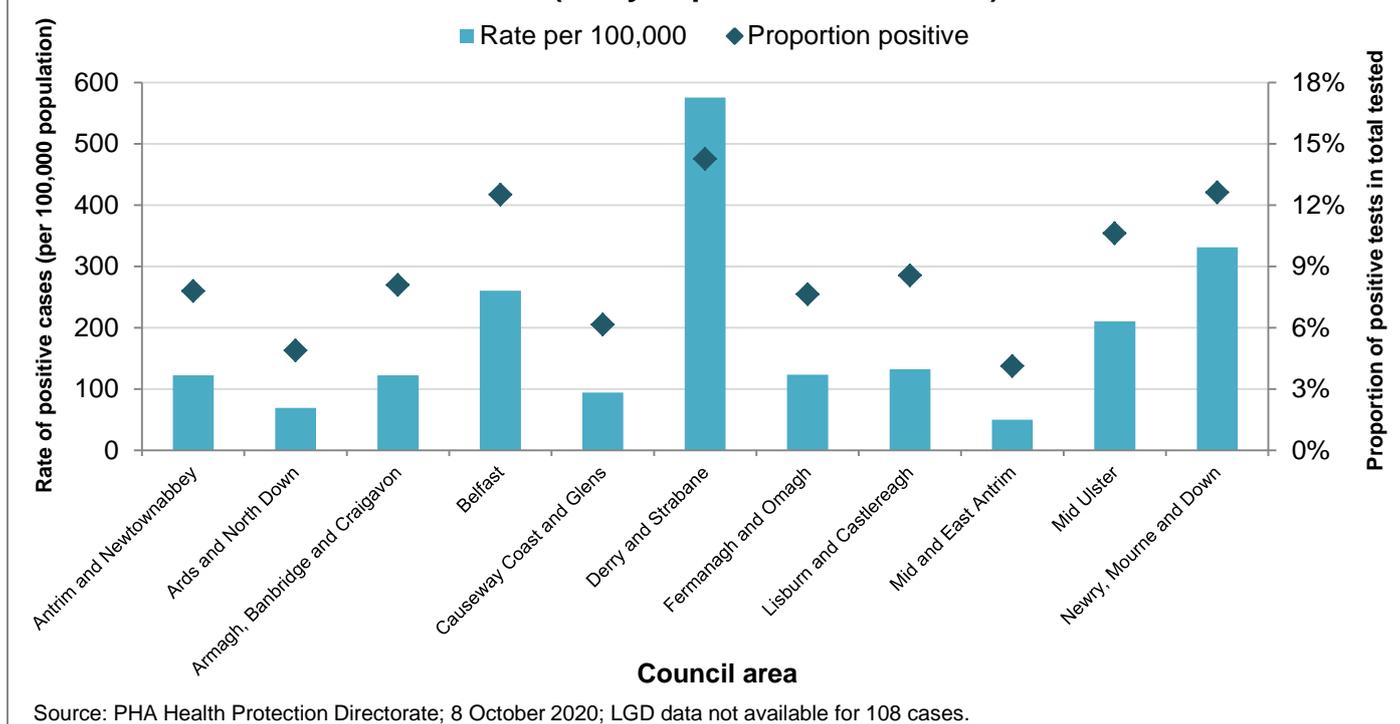
Comment: In week 40 (ending 4 October 2020) the highest rate of new COVID-19 cases was seen in the 20-29 year age group (400 per 100,000 population), followed by the 30-39 (277 per 100,000 population) and 10-19 (249 per 100,000 population) year age groups.

Compared to week 39 (ending 27 September 2020), in week 40 the greatest increases in rates were seen in those aged 20-29 years (from 183 per 100,000 population to 400 per 100,000 population), 30-39 years (from 105 per 100,000 population to 277 per 100,000 population) and 40-49 years (from 73 per 100,000 population to 229 per 100,000 population).

The proportion of positive tests for Northern Ireland in week 40 was 10.3%, with a range of 3.5% to 12.7% across all age groups.

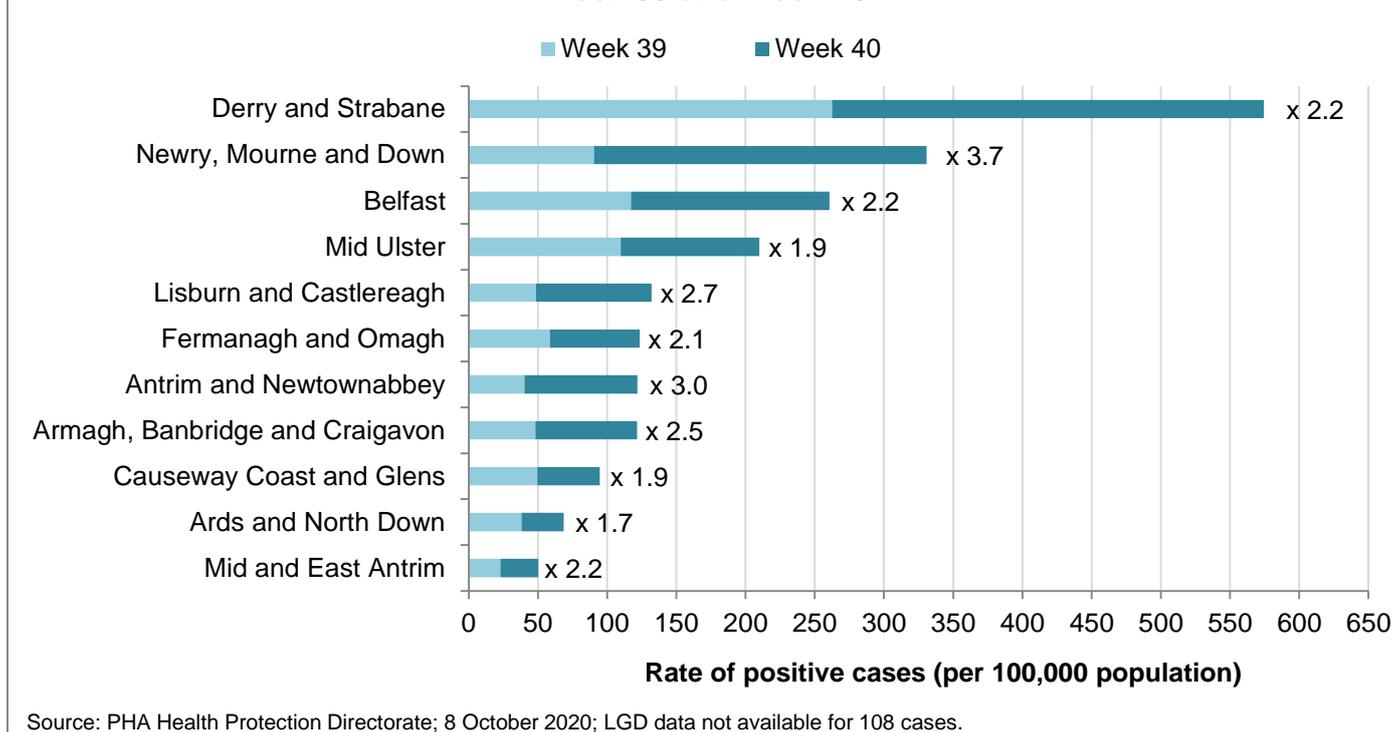
COVID-19 testing by council area

Figure 3: Laboratory confirmed COVID-19 cases by Council area, week 40 (7 days up to 4 October 2020)



Comment: In week 40 (ending 4 October 2020) the rates of laboratory confirmed COVID-19 cases varied from 50 per 100,000 population in Mid and East Antrim council area, up to 576 per 100,000 population in Derry and Strabane council area. The proportion of positive tests ranged from 4.1% in Mid and East Antrim council area to 14.3% in Derry and Strabane council area.

Figure 4: Laboratory confirmed COVID-19 cases by council area, week 39 and week 40

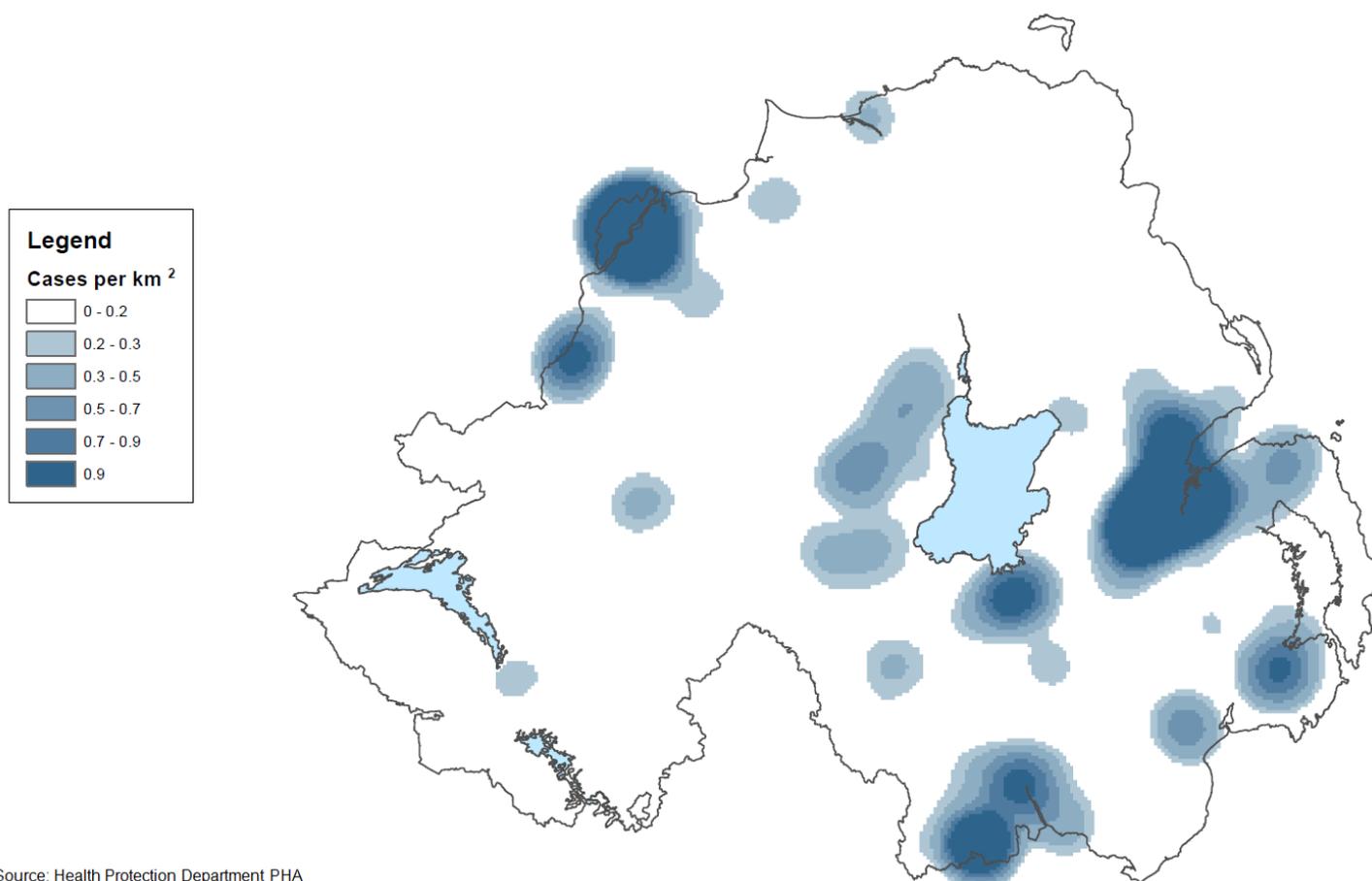


Comment: Between week 39 (ending 27 September 2020) and week 40 (ending 4 October 2020) the rate of new COVID-19 cases across Northern Ireland more than doubled (2.4 times higher) from 85 per 100,000 population to 205 per 100,000 population with increasing rates (ranging from between 1.7 to 3.7 times higher) across all council areas.

The largest increases were seen in Derry and Strabane (from 263 per 100,000 population to 576 per 100,000 population), Newry and Mourne (from 90 per 100,000 population to 331 per 100,000 population and Belfast (117 per 100,000 population to 261 per 100,000 population) council areas.

Figure 5 shows a contour density map based on the number of confirmed COVID-19 cases in week 40 (ending 4 October 2020). The contour lines on the map indicate increasing density of cases, with the darkest shade of blue indicating where there is the greatest density of cases. The map removes administrative boundaries and reflects the true geographical pattern of disease.

Figure 5: Density map of confirmed COVID-19 cases for the week ending 4 October 2020



Source: Health Protection Department PHA
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From data extracted on 7th October 2020

Note: The scale used for mapping may be adjusted in line with disclosure control and may not be directly comparable with previous weeks.

Comment: In line with the increasing number of positive cases, the map indicates seven areas with a density of COVID-19 cases greater than 0.9 per square kilometre in week 40 (ending 4 October 2020), an increase from three areas in week 39. However, such information should be interpreted with caution. Identified rates are based on testing which is not evenly spread across the region.

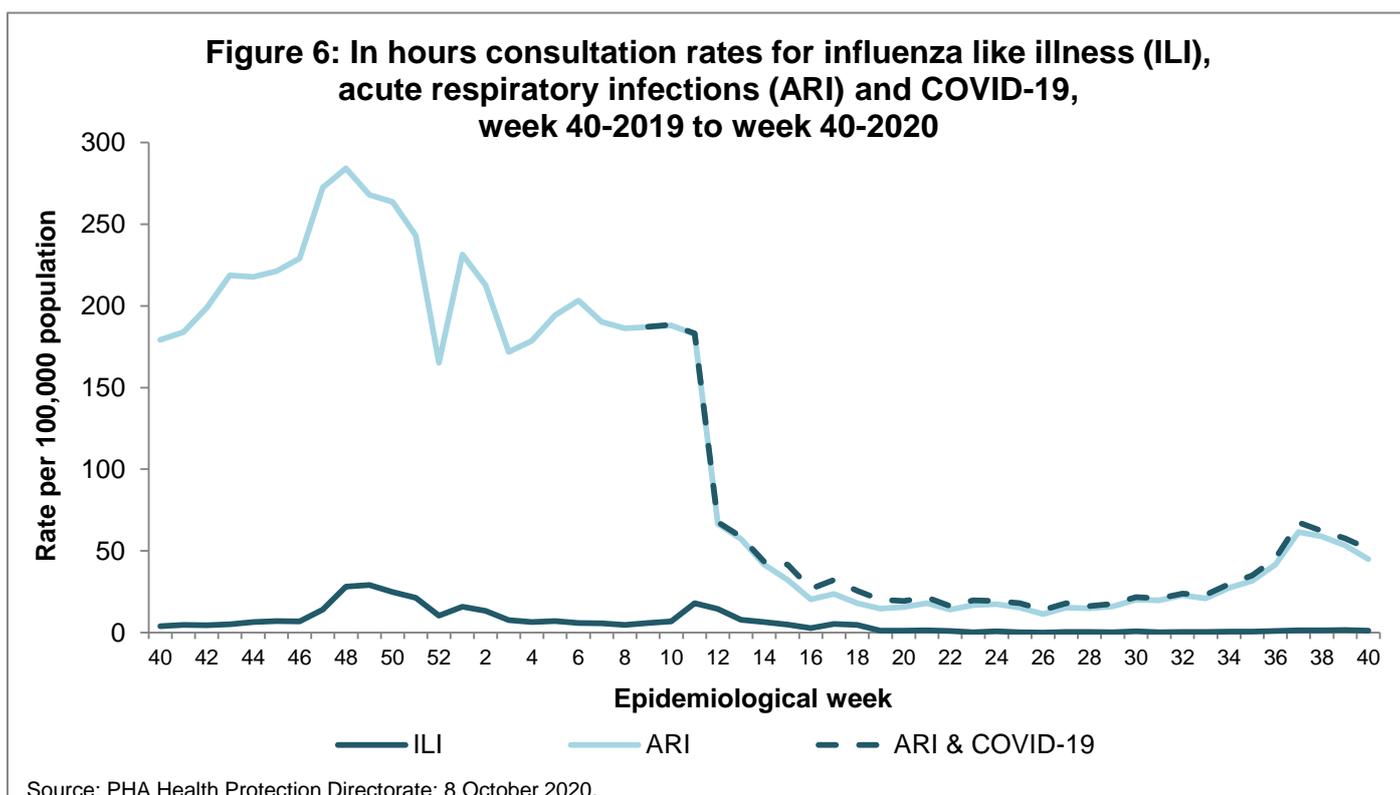
Clusters

Definition: A cluster is currently defined as two or more laboratory confirmed cases of COVID-19 among individuals associated with a key setting, who have illness onset dates within a 14 day period. Key settings in which clusters have occurred include: workplaces, retail, hospitality and leisure premises¹⁰. **Please note that the cluster data provided below from Tuesday 22 September 2020 onwards no longer includes information on schools, which will be reported separately.**

Comment: Since 29 September 2020 there have been 86 new clusters recorded (up to 12.00pm on 6 October 2020).^{11,12,13}

In total, up to 6 October 2020, 216 clusters have been identified. Of these, 32 clusters with greater than five people have been identified in the following council areas: Newry, Mourne and Down (n=8), Belfast (n=7), Mid and East Antrim (n=4), Antrim and Newtownabbey (n=3), Armagh City, Banbridge and Craigavon (n=2), Derry City and Strabane (n=2), Lisburn and Castlereagh (n=2), Mid Ulster (n=2), Ards and North Down (n=1) and Causeway Coast and Glens (n=1). In addition, there have been 184 clusters across Northern Ireland with fewer than five people.

Primary Care



¹⁰ COVID-19 transmission is most common in household settings and the number of affected households is not reported. Data also exclude Trust, educational settings and nursing homes.

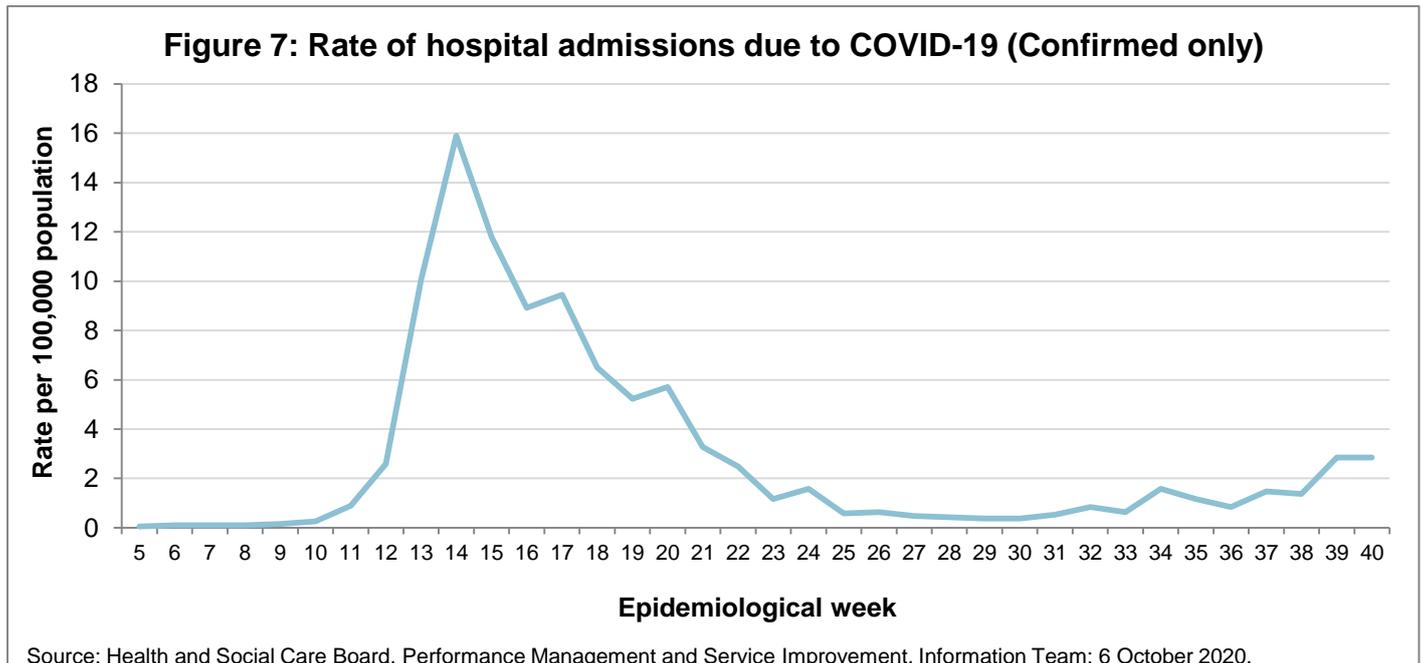
¹¹ The reporting period for cluster information has changed and information will now be reported weekly on Tuesday.

¹² Number of all clusters (open and closed) that have been recorded by the contact tracing service up to 12.00pm Tuesday 6 October 2020. Note: the reporting period for cluster data is slightly different to the remainder of the report in order to provide the most up to date cluster information at the time of the bulletin. Some clusters may overlap (larger clusters may contain or overlap with several smaller clusters).

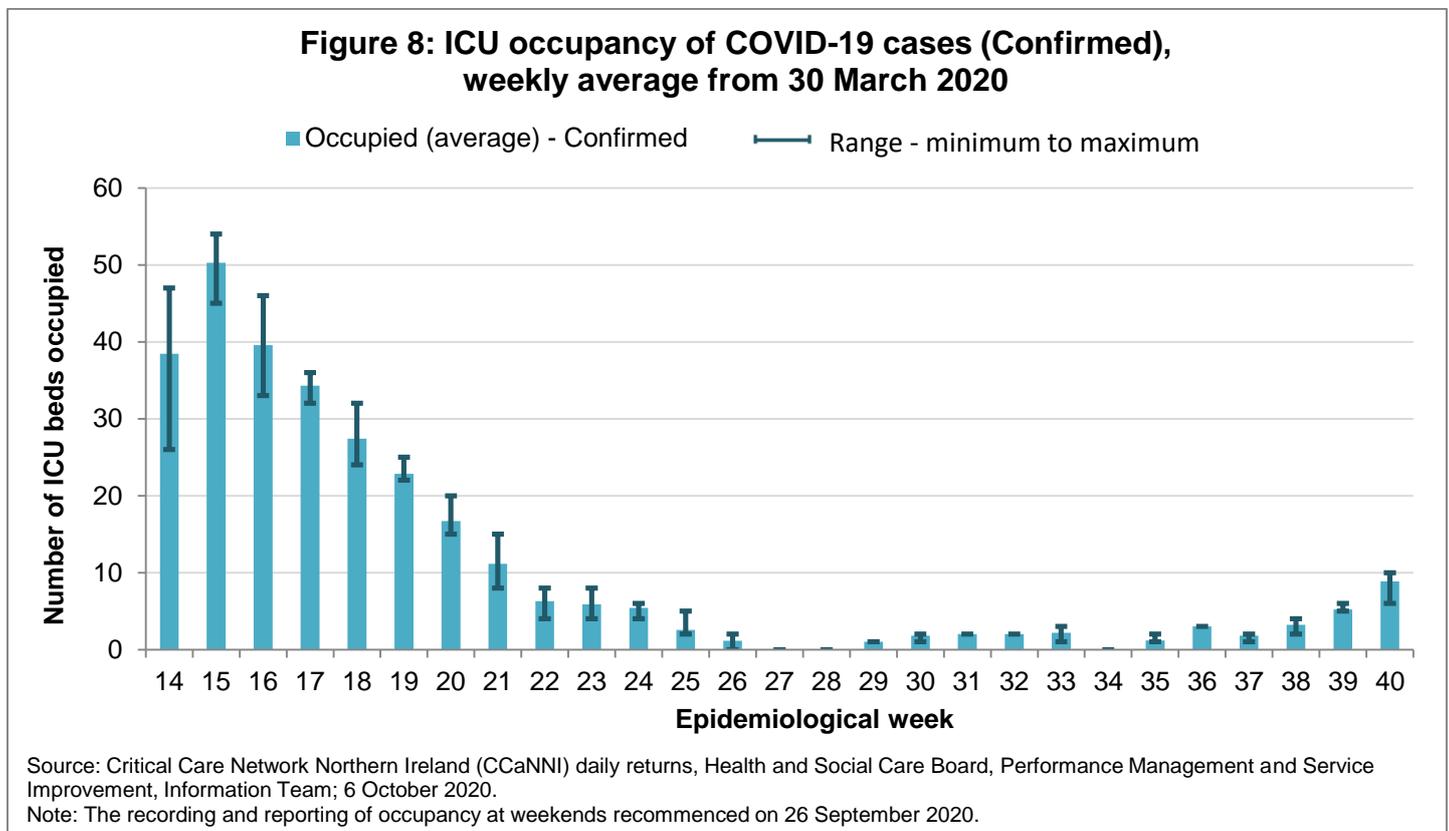
¹³ From week to week the number of clusters may change due to ongoing updates to the source information following detailed risk assessments. For this reason, we would discourage making direct comparisons between the cumulative number of clusters reported each week, with the number reported in the current week the most accurate at the time of the report.

Comment on the trend: In week 40 (ending 4 October 2020) the rate of consultations for ARI & COVID-19 was 51 per 100,000 population, a slight decrease compared to week 39 (58 per 100,000 population).

Secondary Care



Comment on the trend: In week 40 (ending 4 October 2020) the rate of confirmed hospital admissions for COVID-19 remains similar compared to week 39.



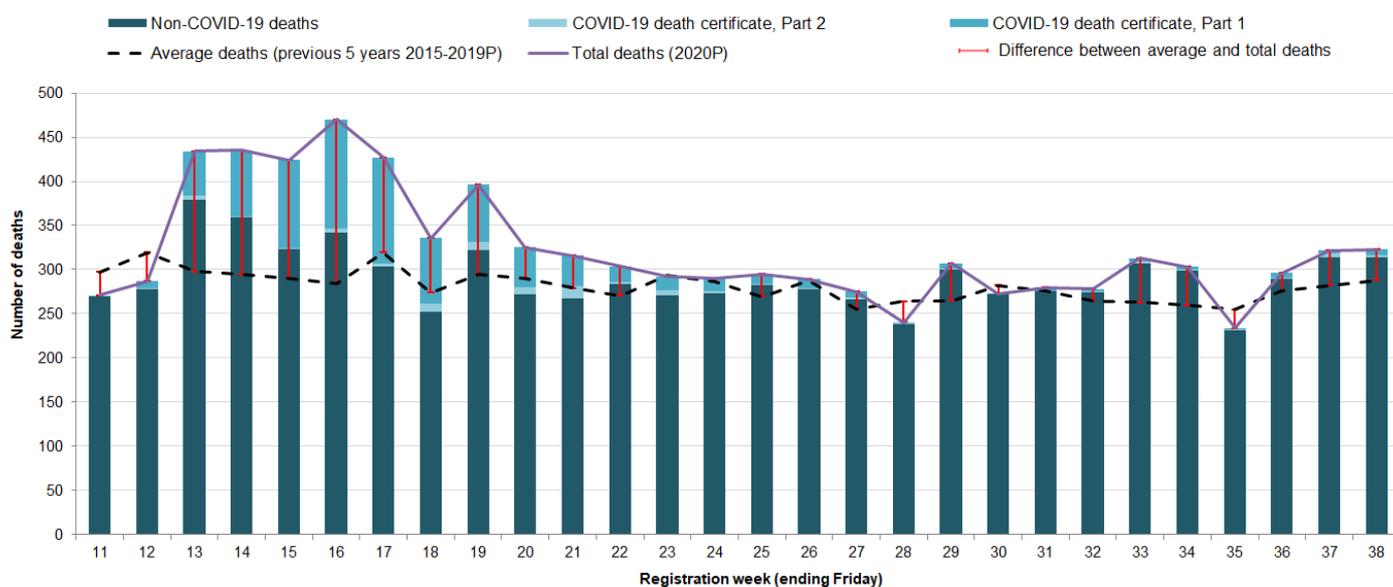
Comment on the trend: During week 40 (ending 4 October 2020) the average ICU occupancy for COVID-19 confirmed cases was 9, increasing from 6 at the beginning of the week up to 10 as of the 4 October 2020.

Mortality surveillance

Medical Certificate of Cause of Death for confirmed/suspected COVID-19

The Northern Ireland Statistics and Research Agency (NISRA) provide a [weekly update](#) on the number of **registered respiratory and COVID-19 associated deaths each Friday**. Figure 9 highlights the total weekly number of deaths registered¹⁴ in Northern Ireland since week 11 (ending 20 March 2020) and compares these to the average number of deaths registered in the corresponding week for the five year period 2015-2019¹⁵. It also highlights the weekly breakdown of registered deaths that were non-COVID-19 related and those associated with COVID-19.¹⁶

Figure 9: Northern Ireland registered deaths[^], including COVID-19 associated deaths, Week 11 (ending 20 March 2020) to Week 38 (ending 25 September 2020)



Registration week (ending Friday)	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
COVID-19 death certificate, Part 1	0	8	50	75	100	123	120	75	65	45	35	18	15	14	11	10	7	0	6	1	4	3	4	3	2	5	4	7
COVID-19 death certificate, Part 2	1	1	5	1	1	5	4	9	9	8	14	2	6	3	1	1	2	2	1	0	1	1	2	1	1	2	4	2
Non-COVID-19 deaths	270	278	379	359	323	342	303	252	322	272	267	284	271	273	283	278	266	238	300	272	275	274	307	299	231	289	314	314
Average deaths (previous 5 years 2015-2019P)	297	320	298	295	290	284	320	274	295	290	279	271	293	286	270	288	255	264	265	282	276	265	263	259	255	276	282	288
Total deaths (2020P)	271	287	434	435	424	470	427	336	396	325	316	304	292	290	295	289	275	240	307	273	280	278	313	303	234	296	322	323

Source: NISRA; Figures relate to all deaths registered up to 25 September 2020 with a mention of COVID on the death certificate; P Weekly published data are provisional; ^ This data is based on registrations of deaths, not occurrences. The majority of deaths are registered within five days in Northern Ireland. Please note: Where COVID is mentioned in part 1 it may not be the underlying cause of death. NISRA quarterly statistics provide detail of underlying cause following coding to ICD-10 rules; figures are available up to Q1 at <https://www.nisra.gov.uk/statistics/registrar-general-quarterly-report/registrar-general-quarterly-tables> and Q2 were published on 17 September 2020.

Comment: In week 38 (ending 25 September 2020), nine COVID-19 related deaths were registered, an increase of one from the previous week. From week 11 (ending 20 March 2020) to week 38 there have been 900 deaths associated with COVID-19. Over the same period 1,157 ‘excess deaths’ (ie deaths above the average for the corresponding weeks in previous years) have been registered in Northern Ireland. Of the nine COVID-19 associated deaths registered in the week to 25 September 2020, SARS CoV-2 infection was the primary cause of death in seven cases (78%).

¹⁴ P Weekly published data are provisional and subject to change.

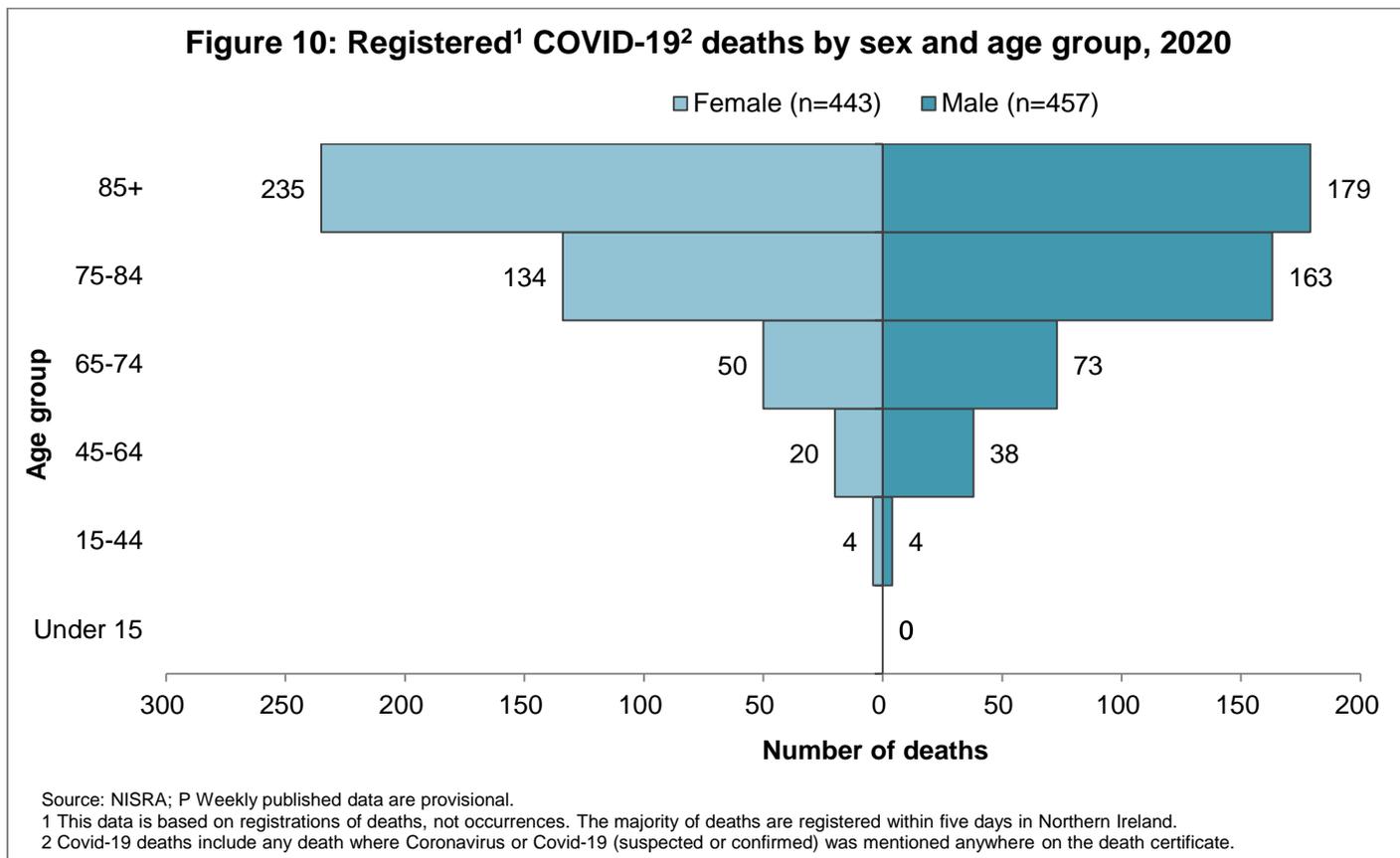
¹⁵ The five-year average is not a whole number so comparisons with 2020 week-on-week can vary by up to one death due to rounding.

¹⁶ COVID-19 deaths include any death where coronavirus or COVID-19 (suspected or confirmed) was mentioned anywhere on the death certificate (Part 1 or Part 2). Part 1 includes the diseases or conditions that led directly to death while Part 2 includes other conditions that were not part of the main cause of death but may have contributed in hastening death.

While the proportion of COVID-19 associated deaths as a proportion of all deaths has increased slightly from week 35 (1.3%), it remains relatively low in week 38 (2.8%) compared to earlier in the pandemic.

COVID-19 deaths by age and sex

Figure 10 shows the number of **registered COVID-19 deaths** by sex and age group up to 25 September 2020. More than three quarters of registered COVID-19 deaths have been in those aged 75 years and over (79%; males 75% and females 83%).



Appendix

Incidence and prevalence

Data provided jointly with the Department of Health COVID-19 Modelling Group. Estimates presented are based on data sourced from the PHA Health Protection Directorate laboratory surveillance system.

COVID-19 testing by age group and council area

Data are sourced from the PHA Health Protection Directorate laboratory surveillance system. The system collates SARS-CoV-2 laboratory data on all tests from HSC Trust laboratories and data from the National Testing Programme in Northern Ireland. Further detail on collation and analysis of this data is available from the [PHA Monthly Epidemiological bulletin](#)

Clusters

Data are sourced from the Contact Tracing Service/PHA Health Protection Service.

Primary Care

GP in-hours respiratory syndromic surveillance data is extracted from the Apollo GP Flu Surveillance System (Wellbeing Software) and is sourced by the PHA Health Protection Surveillance team. Data are analysed to produce trends of ARI, ILI and COVID-19 consultation rates. Further details on collation and analysis of this data is available from the [PHA Monthly Epidemiological bulletin](#)

Admissions

Data are sourced from the Patient Administration System through the Health and Social Care Board, Performance Management and Service Improvement, Information Team.

ICU Occupancy

Data are sourced from daily Critical Care Network Northern Ireland (CCaNNI) report and provided by the Health and Social Care Board, Performance Management and Service Improvement, Information Team. Data are included from 30 March 2020; includes Adults, Paediatrics and Cardiac Intensive Care Units. The recording and reporting of occupancy at weekends which had ceased from 4 July 2020 recommenced on 26 September 2020.

Mortality surveillance

Medical Certificate of Cause of Death for confirmed / suspected COVID-19

Data are sourced from the Northern Ireland Statistics and Research Agency (NISRA). NISRA provide a [weekly update](#) on the number of **registered** respiratory and COVID-19 associated deaths each Friday. Additional analyses of death data, for example on COVID-19 related deaths **occurring** (March-August) may also be referenced.

This bulletin is produced by the Health Intelligence Team on behalf of the Director of Public Health.