



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

Compared to last week, the total number of clusters recorded in Northern Ireland has increased from 68 to 100, an increase of 47%. Additional restrictions have been introduced for people living in [certain areas](#) where the rates of infections are raised with the aim of limiting the opportunities for the virus to spread between households.

This once again reinforces the need for everyone to follow public health advice around social distancing, hand washing or sanitising, wearing of face coverings, where appropriate, and good respiratory hygiene 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 13 September 2020)

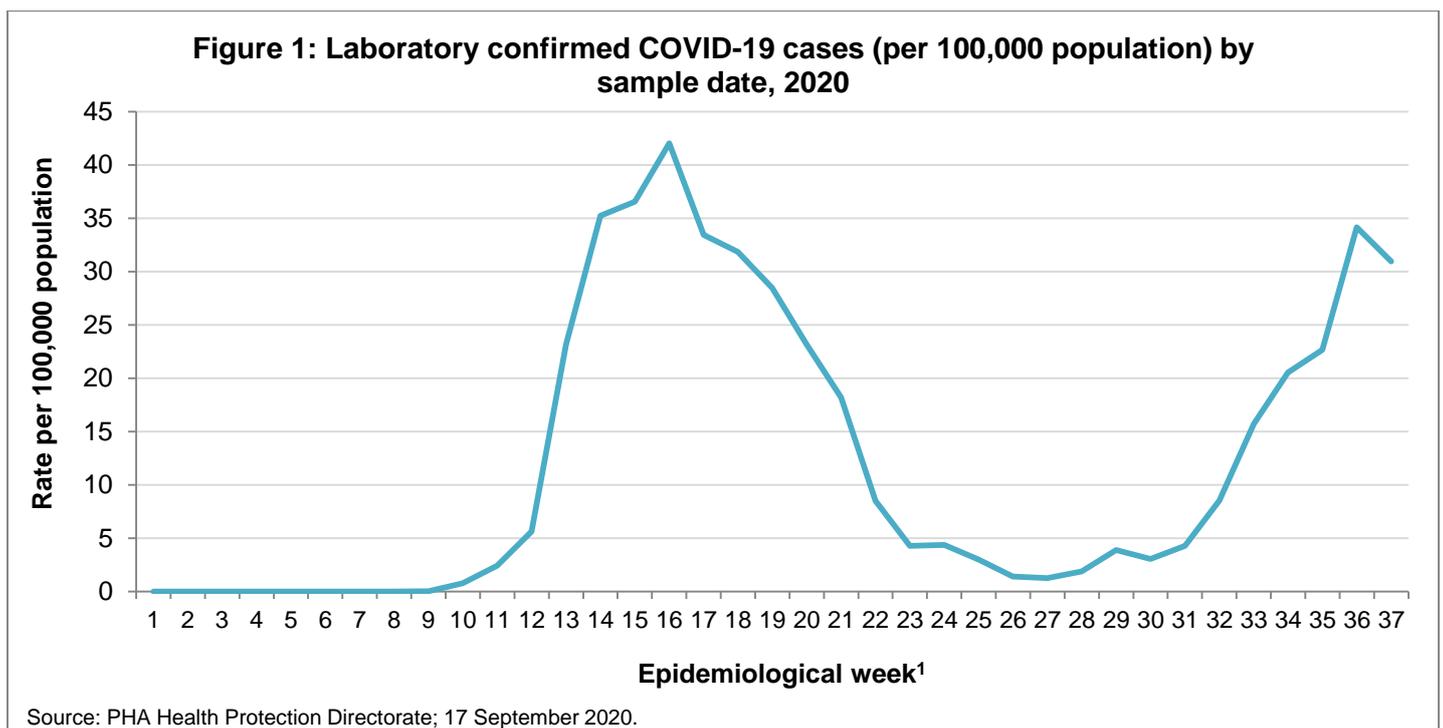
The current incidence of positive laboratory cases is 31 per 100,000 of the Northern Ireland population (or 1 in 3,232 people)².

However, if we assume that there are 1.3 infected individuals for every laboratory confirmed case we know about, the estimated weekly incidence is 71 per 100,000 population (1 in 1,405)³.

Based on provisional analysis of contact tracing service data for the period 11 August 2020 to 15 September 2020, 52.5% (812/1546) of positive cases reported having COVID-19 symptoms while 47.5% (734/1546) reported having no symptoms.

Estimated prevalence

The prevalence of active cases, as of 13 September 2020, is estimated to be 62 per 100,000 population (1 in 1,616), assuming that 50% of cases experience no symptoms⁴; 36 per 100,000 population (1 in 2,747) if only 15% experience no symptoms⁵; and 155 per 100,000 (1 in 646) if 80% experience no symptoms^{6,7,8}.



Comment: In week 37 (ending 13 September 2020) there has been a decrease in the number of new laboratory confirmed COVID-19 cases compared to week 36.

¹ Epidemiological week is a standardised method of counting weeks [Monday–Sunday] to allow for the comparison of data from year to year.

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](https://doi.org/10.1093/ije/dyaa001). International Journal of Infectious Diseases.

⁴ <https://hub.jhu.edu/2020/05/12/gigi-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.

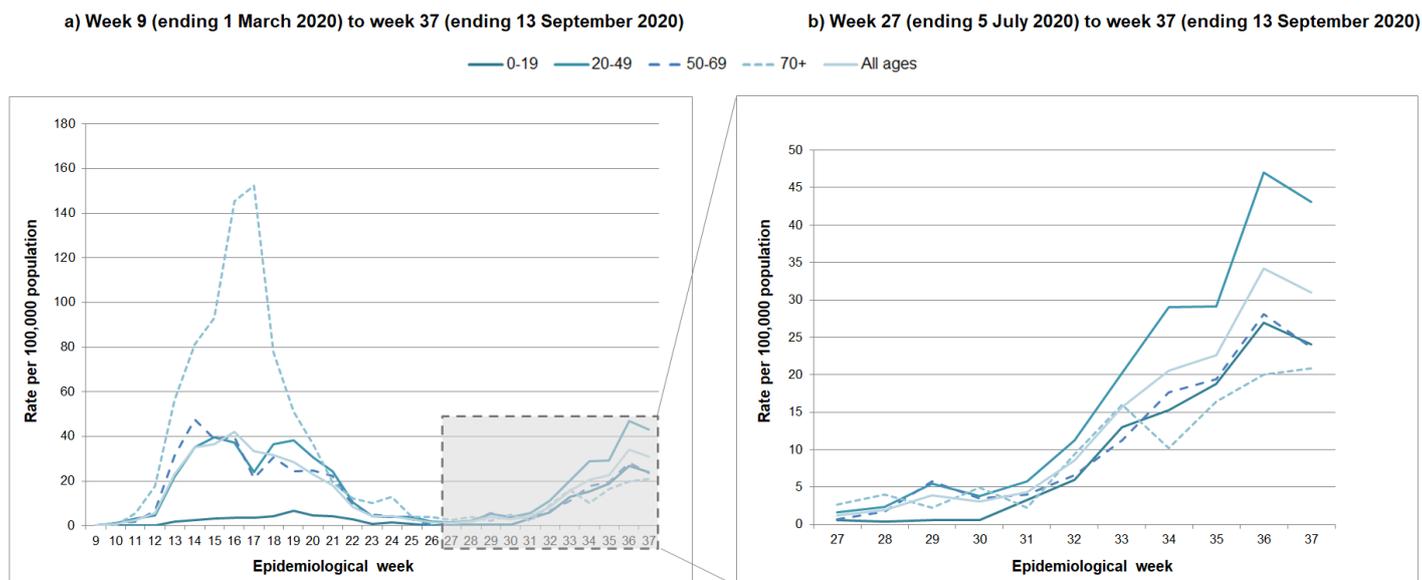
⁶ Lavezzo E, Franchin E, Ciavarella C, Cuomo-Dannenburg G, Barzon L, Del Vecchio C, Rossi L, Manganelli R, Loregian A, Navarin N, Abate D. Suppression of a SARS-CoV-2 outbreak in the Italian municipality of Vo'. Nature. 2020;30:1-5.

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.

Figure 2 shows the trend in rates (per 100,000 population) of laboratory confirmed COVID-19 cases by age group and by epidemiological week with a focus on the last ten weeks, week 27 (ending 5 July 2020) to week 37 (ending 13 September 2020). It highlights the increasing trend in COVID-19 rates across all ages over the period with the greatest increases among those aged 20-49 years. While those in this age group are less likely to develop complications of infection, there is some risk that increasing rates in these younger age groups may result in transmission to more vulnerable individuals or those in older age groups.

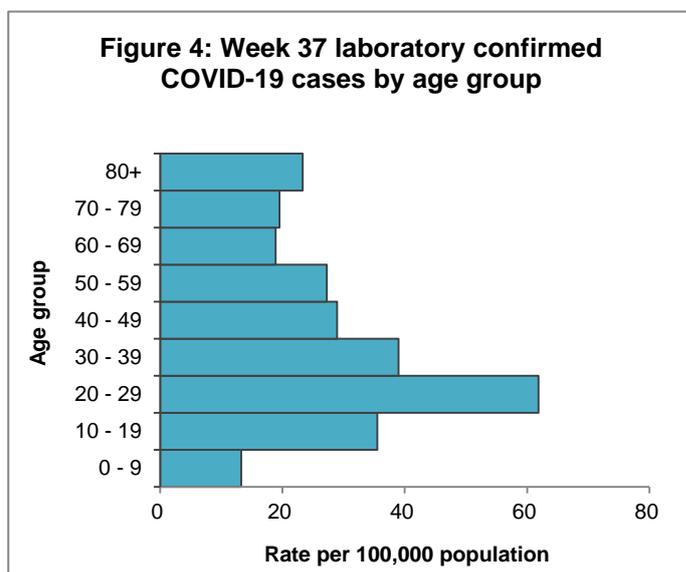
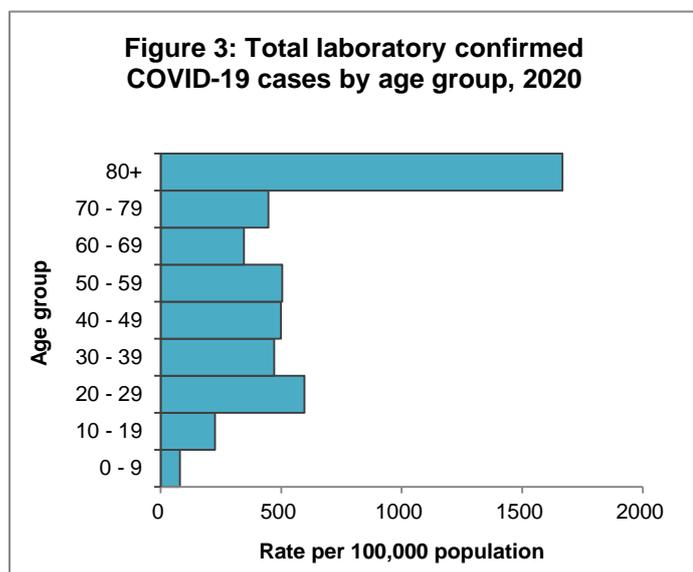
Figure 2: Laboratory confirmed COVID-19 cases by age group and epidemiological week; a) weeks 9 to 37 and b) weeks 27 to 37



Source: PHA Health Protection Directorate; 17 September 2020; includes all testing data (HSC Laboratory and the National Testing Programme).

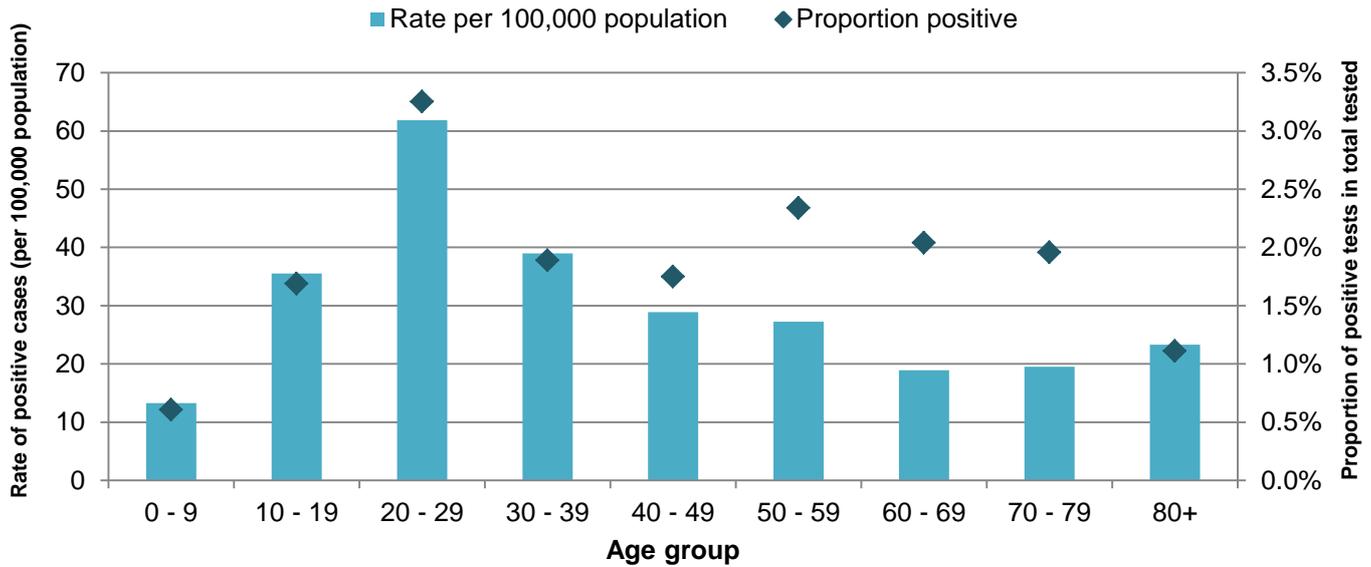
COVID-19 testing by age group

Figures 3 and 4 show the rates (per 100,000 population) of laboratory confirmed COVID-19 cases by age group for the year 2020 (cumulative) and for week 37 (ending 13 September 2020) respectively, highlighting the variation in the age profile of cases for each time period.



Source: PHA Health Protection Directorate; 17 September 2020; includes all testing data (HSC Laboratory and the National Testing Programme).

Figure 5: Laboratory confirmed COVID-19 cases by age group, week 37 (ending 13 September 2020)



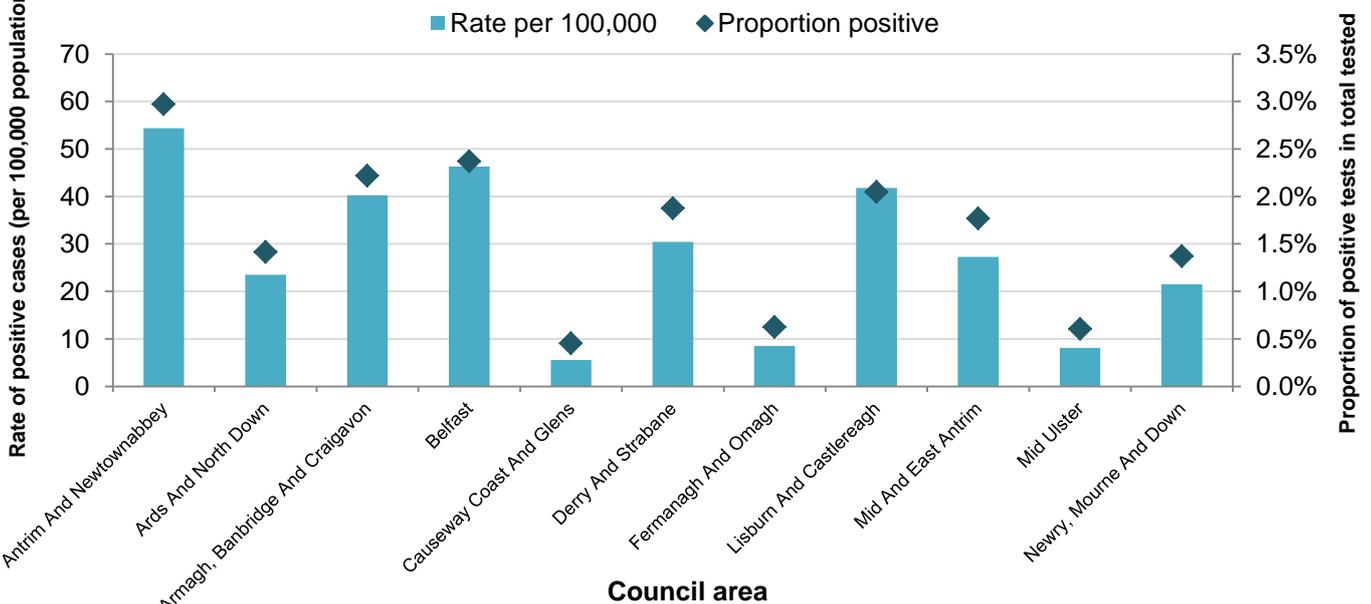
Source: PHA Health Protection Directorate; 17 September 2020; includes all testing data (HSC Laboratory and the National Testing Programme).

Comment: In week 37 (ending 13 September 2020) the highest rate of new COVID-19 cases was seen in the 20-29 year age group, followed by the 30-39 and 10-19 year age groups, as in week 36. Compared to week 36, the rates of new COVID-19 cases in week 37 increased in the 60-69 and 70-79 year age groups with decreases in the 0-9, 10-19, 20-29, 30-39, 40-49, 50-59 and 80+ year age groups.

The proportion of positive tests in week 37 for Northern Ireland was 1.8%, with a range of 0.6% to 3.3% across all age groups.

COVID-19 testing by council area

Figure 6: Laboratory confirmed COVID-19 cases by Council area, week 37 (7 days up to 13 September 2020)



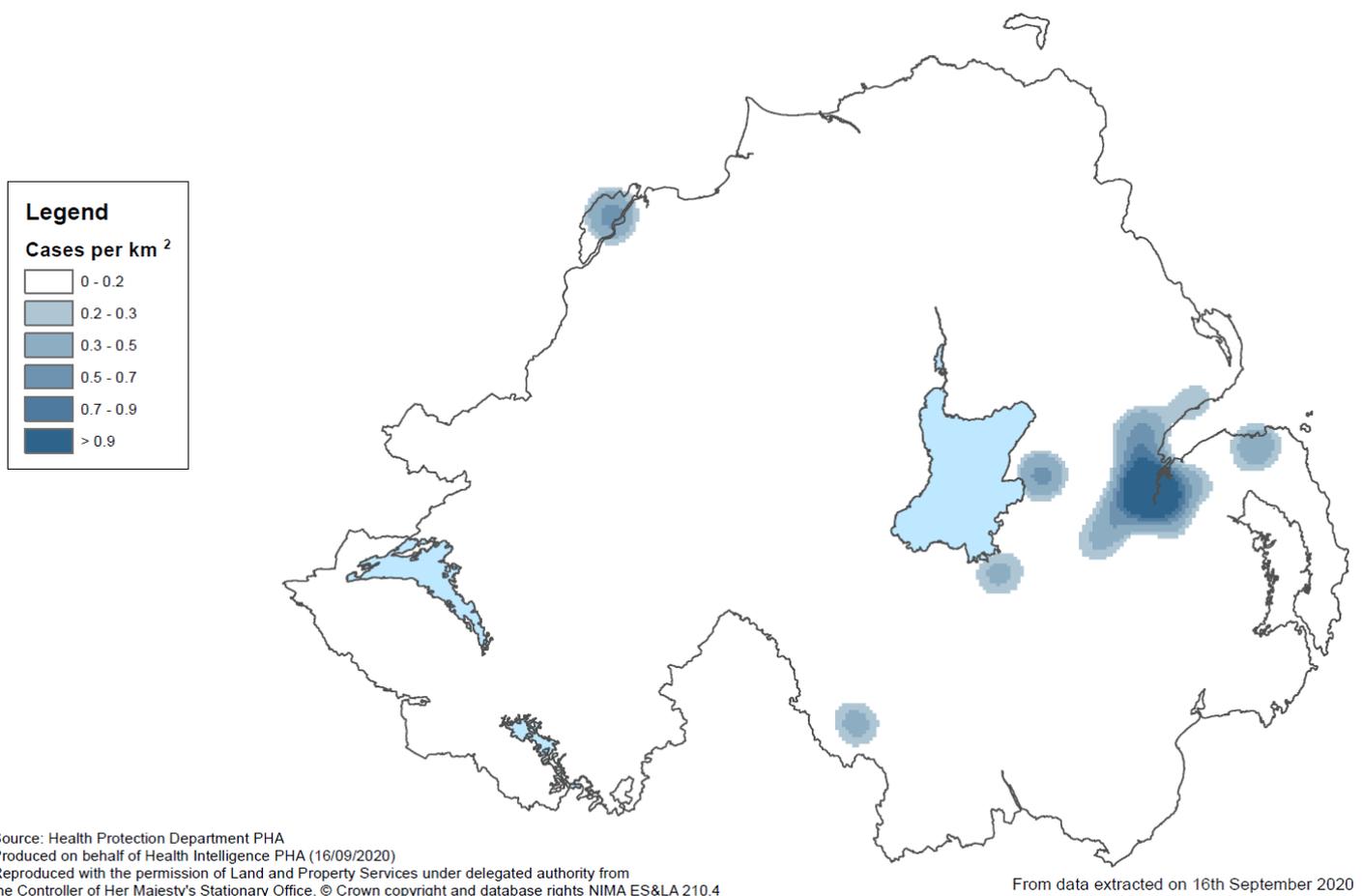
Source: PHA Health Protection Directorate; 17 September 2020; LGD data not available for 10 cases.

Comment: In week 37 (ending 13 September 2020) the rates of new COVID-19 cases varied from 6 per 100,000 population in Causeway Coast and Glens council area, up to around 54 per 100,000 population in Antrim and Newtownabbey council area.

The proportion of positive tests ranged from 0.5% in Causeway Coast and Glens council area to 3.0% in Antrim and Newtownabbey council area.

Figure 7 shows a contour density map based on the number of confirmed COVID-19 cases in week 37 (ending 13 September 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 7: Density map of confirmed COVID-19 cases for the week ending 13 September 2020



Note: The scale on this map has been adjusted in line with disclosure control and may not be directly comparable with previous weeks.

Comment: The map indicates there is one area with a density of COVID-19 cases greater than 0.9 per square kilometre in week 37 (ending 13 September 2020). However, such information should be interpreted with caution. Identified rates are based on testing which is not evenly spread across the region.

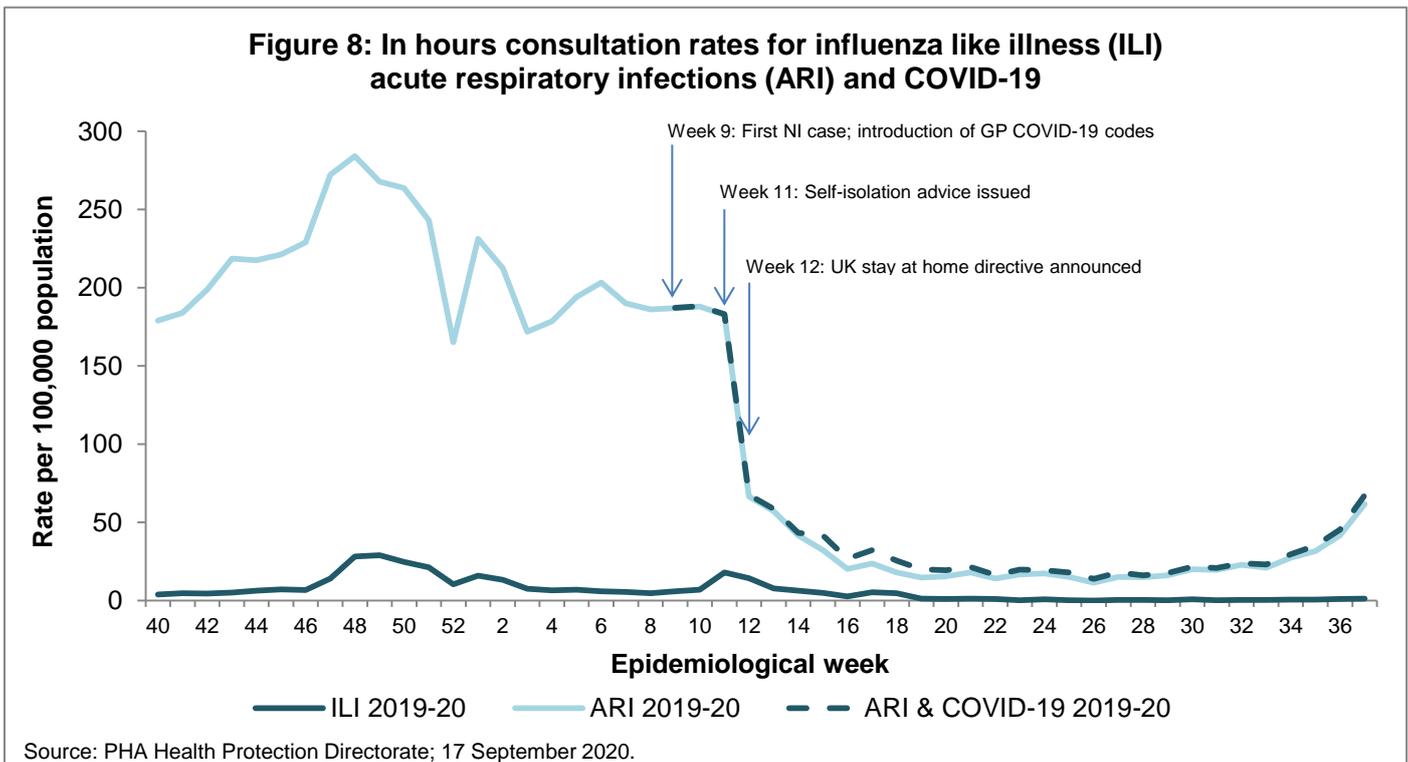
Clusters

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 premises as well as educational settings⁹.

Comment: Since 8 September 2020 there have been 32 new clusters recorded (up to 5.00pm on 15 September 2020).^{10,11,12}

In total, up to 15 September 2020, 100 clusters have been identified. Of these, 19 clusters with greater than five people have been identified in the following council areas; Newry, Mourne and Down (n=4), Antrim and Newtownabbey (n=3), Mid and East Antrim (n=3), Belfast (n=6), Ards and North Down (n=1), Armagh City, Banbridge and Craigavon (n=1) and Causeway Coast and Glens (n=1). In addition, there have been 81 clusters across Northern Ireland with fewer than five people.

Primary Care¹³

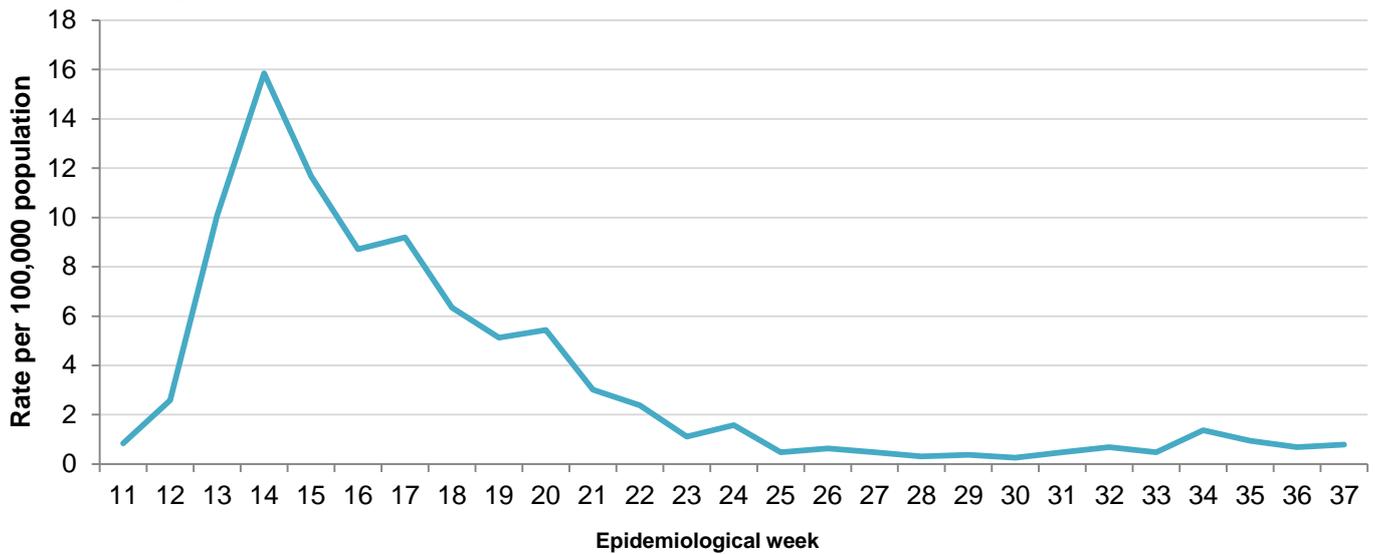


Comment on the trend: The increasing trend in Acute Respiratory Infection (ARI) consultation rates continues to be observed; at week 37 (ending 13 September 2020) the rate of consultations for ARI & COVID-19 was 67 per 100,000 population, an increase from 45 per 100,000 population in week 36.

⁹ COVID-19 transmission is most common in household settings. The number of affected households is not reported.
¹⁰ The reporting period for cluster information has changed and information will now be reported weekly up to 5.00pm on Tuesday.
¹¹ Number of all clusters (open and closed) that have been recorded by the contact tracing service up to 5.00pm Tuesday 1 September 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).
¹² 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.
¹³ GP coding for COVID-19 data was not available before week 14 of 2020.

Secondary Care

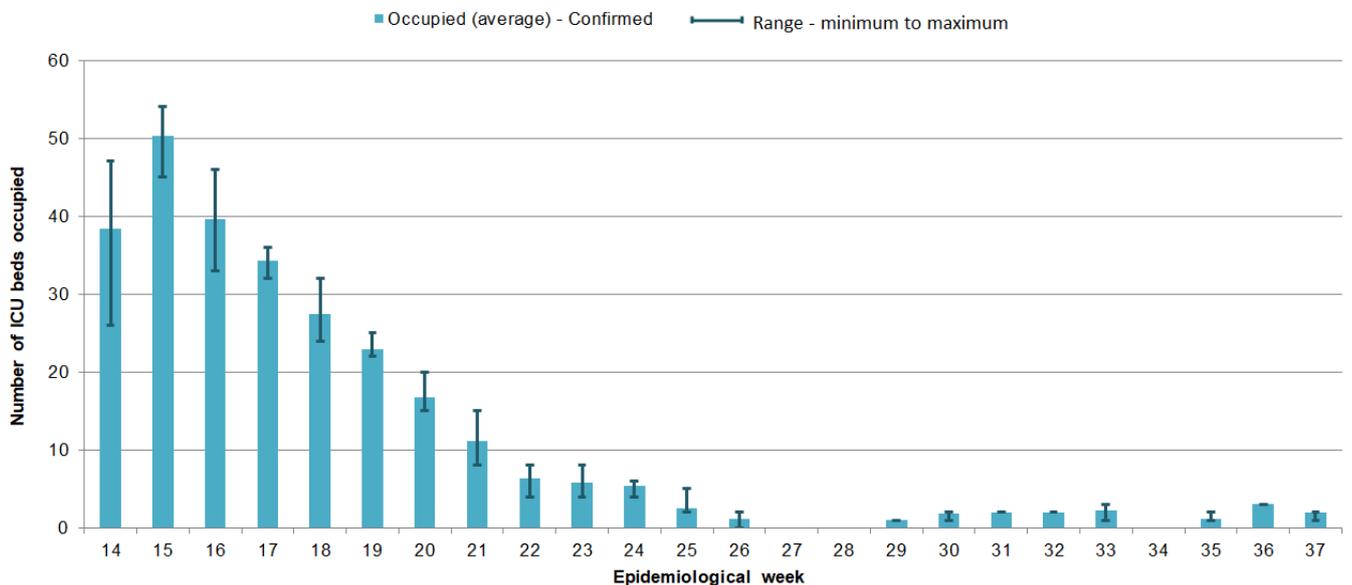
Figure 9: Rate of hospital admissions due to COVID-19 (Confirmed only)



Source: Health and Social Care Board, Performance Management and Service Improvement, Information Team; 15 September 2020.

Comment on the trend: In week 37 (ending 13 September 2020) the rate of confirmed hospital admissions for COVID-19 was 0.8 per 100,000 population, similar to that in week 36. The rate of admissions for COVID-19 remains low.

Figure 10: ICU occupancy of COVID-19 cases (Confirmed), weekly average from 30 March 2020



Epidemiological week	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Occupied - Confirmed	38.4	50.3	39.6	34.3	27.4	22.9	16.7	11.1	6.3	5.9	5.4	2.6	1.1	0.0	0.0	1.0	1.8	2.0	2.0	2.2	0.0	1.2	3.0	1.8
Maximum Occupancy	47	54	46	36	32	25	20	15	8	8	6	5	2	0	0	1	2	2	2	3	0	2	3	2
Minimum Occupancy	26	45	33	32	24	22	15	8	4	4	4	2	0	0	0	1	1	2	2	1	0	1	3	1

Source: Critical Care Network Northern Ireland (CCaNNI) daily returns, Health and Social Care Board, Performance Management and Service Improvement, Information Team; 15 September 2020. Note: The recording and reporting of occupancy at weekends ceased from the 4 July 2020

Comment on the trend: On 11 September 2020 there was one confirmed COVID-19 case in ICU. During the five day period 7-11 September 2020 (week 37) the average ICU occupancy for COVID-19 confirmed cases was 1.8 and ranged from one to two during this time. The rate of occupancy by COVID-19 cases in ICU remains very low.

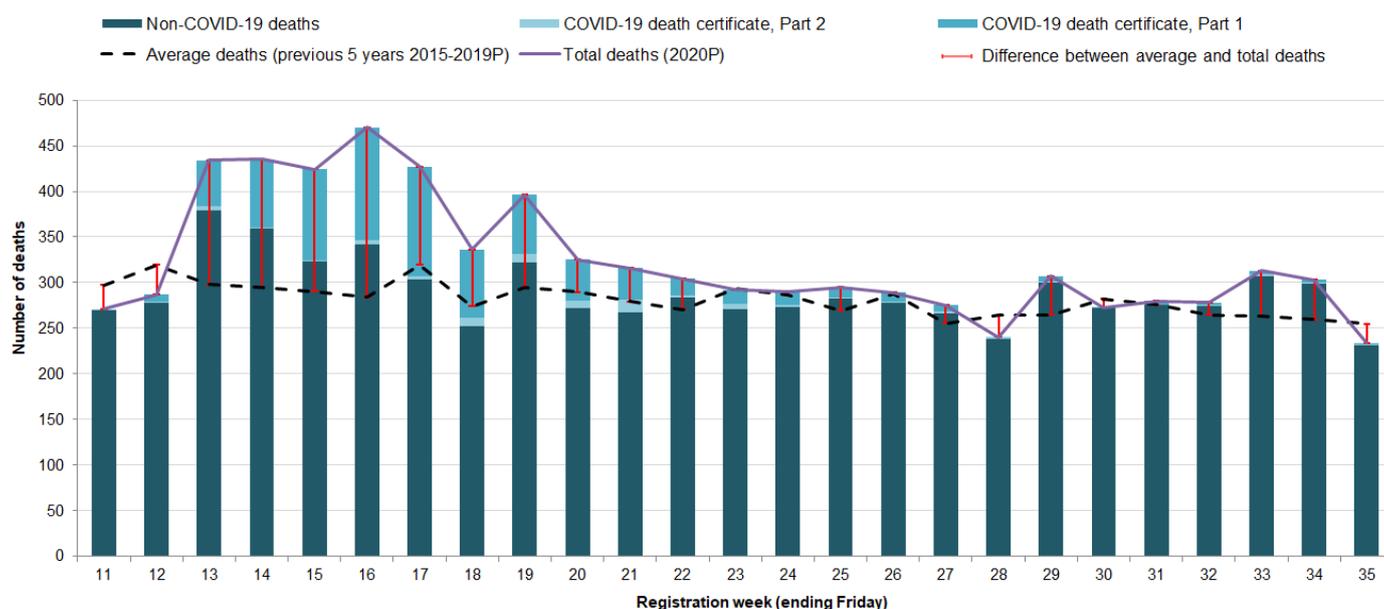
Mortality surveillance

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 11 highlights the total weekly number of deaths registered¹⁴ in Northern Ireland from 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 11: Northern Ireland registered deaths^A, including COVID-19 associated deaths, Week 11 (ending 20 March 2020) to Week 35 (ending 4 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
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
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
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
Average deaths (previous 5 years 2015-2019P)	297	320	298	295	290	284	320	274	295	290	279	293	286	270	288	255	264	265	282	276	265	263	259	255	
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

Source: NISRA; Figures relate to all deaths registered up to 4 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/registrars-general-quarterly-report/registrars-general-quarterly-tables> and Q2 will be published on 17 September 2020.

Comment: In week 35 (ending 4 September 2020), three COVID-19 related deaths were registered, a decrease of one from the previous week. From week 11 (ending 20 March 2020) to week 35 there have been 876 deaths associated with COVID-19. Over the same period, 1062 ‘excess deaths’ (ie deaths above the average for the corresponding weeks in previous years) have been registered in Northern Ireland.

The number of deaths from all causes, in the week to 4 September 2020, is slightly lower than the number expected based on the average for the last five years and the number of COVID-19 associated deaths remains low, as a proportion of all deaths during that week (1.28%). That is, for every person who died of a COVID-19 associated condition, 77 people died of other causes. Of

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

¹⁵ The 5-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.

the three COVID-19 associated deaths, in the week to 4 September 2020, SARS CoV-2 infection was the primary cause of death in two cases.

Provisional statistics from the Registrar General Quarterly Report for Quarter 2 2020, which cover 1 April 2020 to 30 June 2020, show there were a total of 4,684 deaths registered over the period¹⁷. COVID-19 was the underlying cause of 732 of these deaths, equating to 15.6% of the total deaths in the quarter. This brings the total number of deaths in the calendar year to 30 June 2020 with COVID-19 as the underlying cause of death to 755.

In comparison, NISRA's weekly death statistics, which count the number of deaths where COVID-19 was mentioned on the death certificate, reported that in the calendar year to 30 June 2020, 830 deaths involved COVID-19. This means that COVID-19 was the underlying, primary cause of death in 91.0% of all deaths which mentioned COVID-19 on the death certificate.

Persons aged 75 and over accounted for two-thirds (66.2%) of all deaths and 80.5% of deaths registered due to COVID-19 this calendar year up to 30 June 2020.

¹⁷ Northern Ireland Statistics and Research Agency (NISRA). Registrar General Quarterly Tables 2020. 17 September 2020
<https://www.nisra.gov.uk/publications/registrar-general-quarterly-tables-2020>

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 ceased from 4 July 2020 and the average occupancy presented is an average for the five day period Monday to Friday of the epidemiological week.

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.

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