



## 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 recent increase in the number of positive COVID-19 cases across Northern Ireland has resulted in increased hospital admissions and intensive care cases. We are now also seeing further deaths associated with COVID-19, particularly in those aged 65 years and over.

While this week shows a slight drop in the rate of positive cases, your continued support in following the [regulations](#) and public health guidance is vital to reducing spread of the virus and helping manage the pressures on our health and social care system at this time.

We all have a responsibility to help protect ourselves and those we care about. Remember that you can spread the virus even if you don't have symptoms. Limiting your contact with others, self-isolating when advised, wearing face coverings where required and washing or sanitising your hands regularly will all help to prevent yourself or others becoming unwell.

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 25 October 2020)

The current incidence of positive laboratory cases is 349 per 100,000 of the Northern Ireland population (or 1 in 286 people)<sup>1,2</sup>.

However, if we assume that there are 1.3 infected individuals for every laboratory confirmed case we know about, the estimated weekly incidence is 803 per 100,000 population (1 in 125)<sup>3</sup>.

Based on provisional analysis of contact tracing service data for the period 7-27 October 2020, 55.7% (8,356/15,016) of positive cases reported having COVID-19 symptoms while 44.4% (6,660/15,016) reported having no symptoms.

## Estimated prevalence

The prevalence of active cases, as of 25 October 2020, is estimated to be 698 per 100,000 population (1 in 143), assuming that 50% of cases experience no symptoms<sup>4</sup>; 411 per 100,000 population (1 in 243) if only 15% experience no symptoms<sup>5</sup>; and 1,746 per 100,000 population (1 in 57) if 80% experience no symptoms<sup>6,7,8</sup>.

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<sup>1</sup> Source: PHA Health Protection Directorate; 29 October 2020

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

<sup>3</sup> 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.

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

<sup>5</sup> 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.

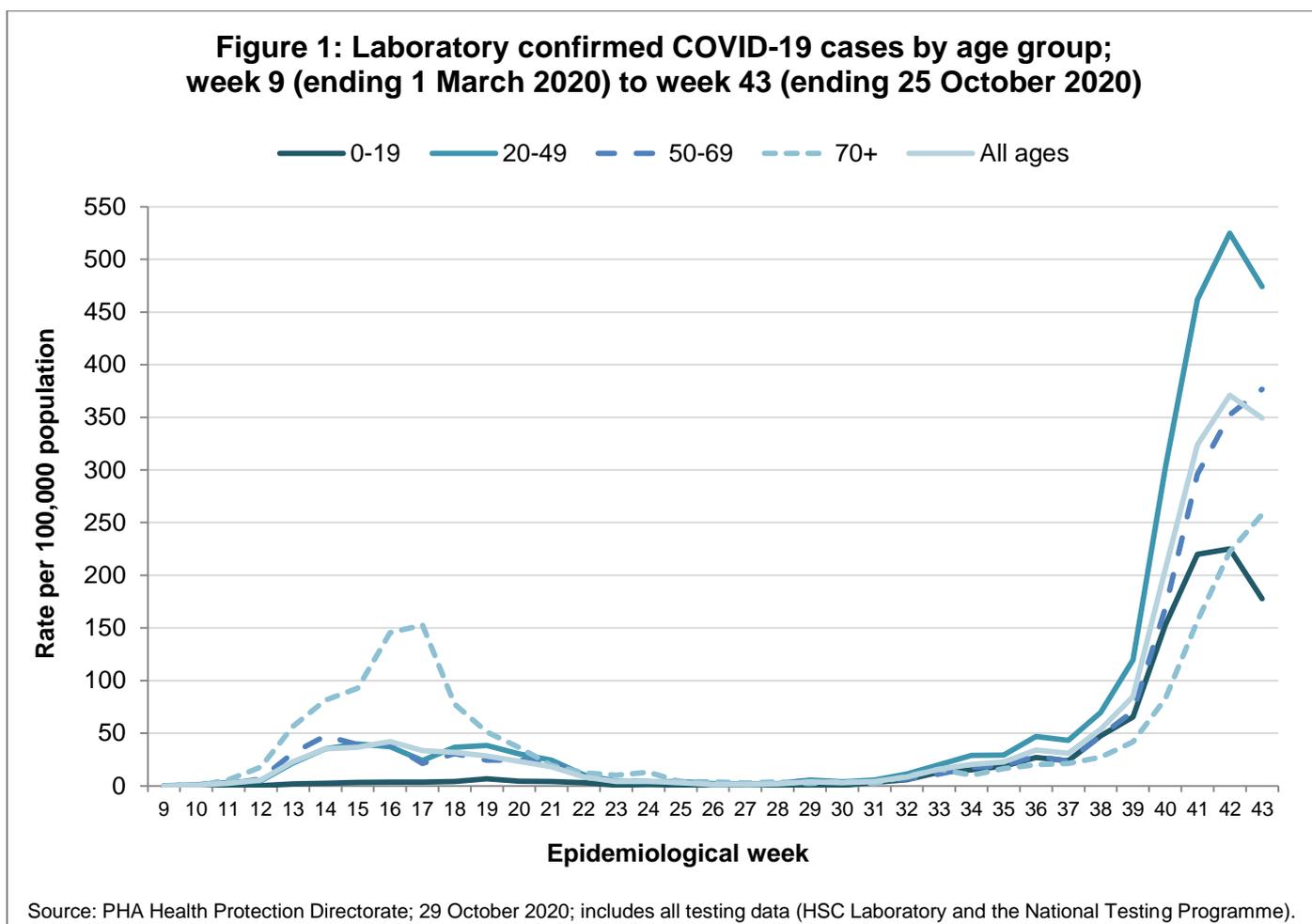
<sup>6</sup> Lavezzo E, Franchin E, Ciavarella C, Cuomo-Dannenburg G, Barzon L, Del Vecchio C, Rossi L, Manganelli R, Loregian A, Navarin N, Abate D. Suppression of a SARS-CoV-2 outbreak in the Italian municipality of Vo'. Nature. 2020;30:1-5.

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

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

# COVID-19 testing by age group

Figure 1 shows the trend in rates (per 100,000 population) of laboratory confirmed COVID-19 cases by age group and epidemiological week<sup>9</sup> from week 9 (ending 1 March 2020) to week 43 (ending 25 October 2020).



## Comment:

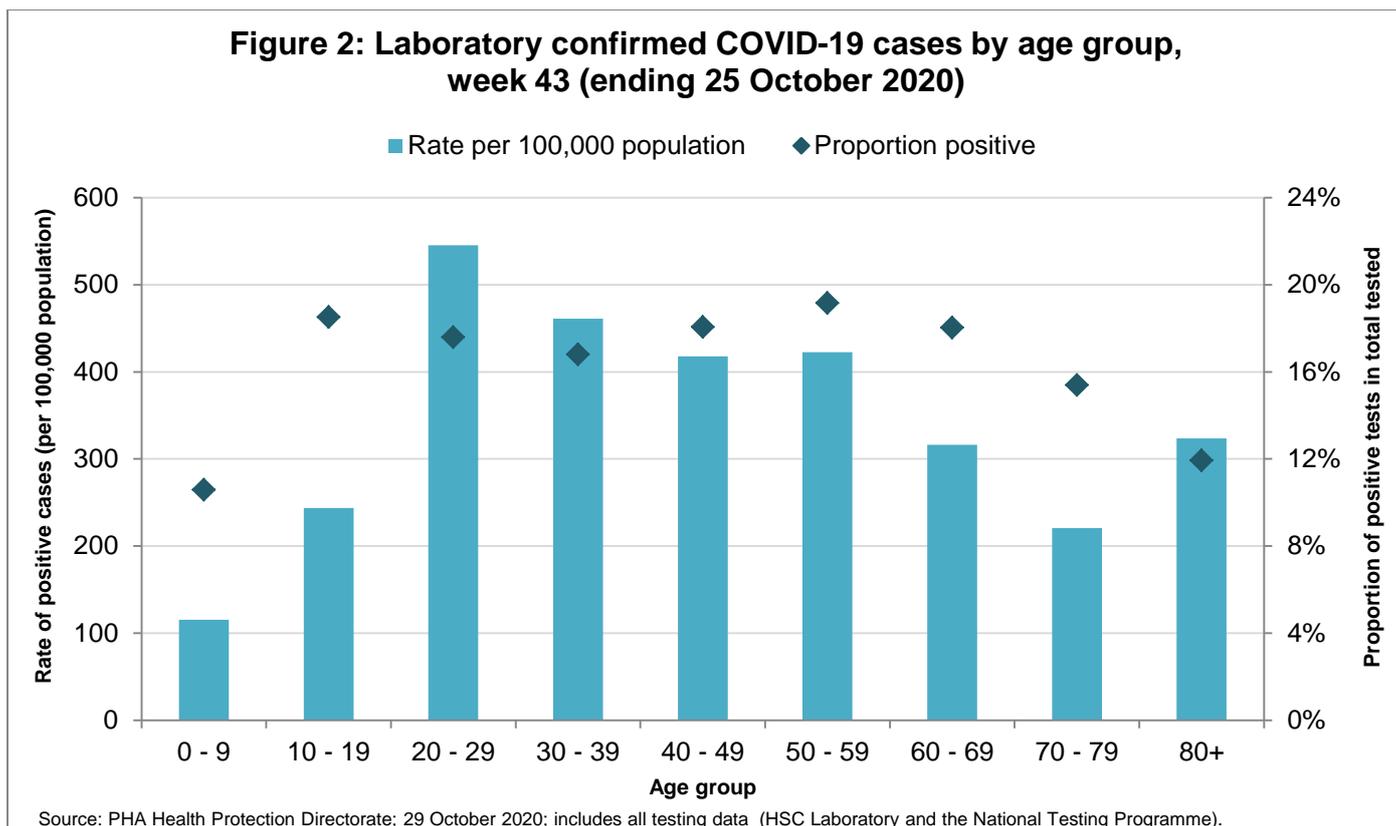
In week 43 (ending 25 October 2020) the rate of positive cases across Northern Ireland was 349 per 100,000 population; a slight decrease compared to 371 per 100,000 population in week 42 (ending 18 October 2020).

In week 43 the highest rates continue to be seen in the 20-49 year age group (474 per 100,000 population) followed by those aged 50-69 years (377 per 100,000 population), 70+ years (258 per 100,000 population) and 0-19 years (178 per 100,000 population).

Between week 42 and week 43 rates have decreased in the 0-19 and 20-49 year age groups, but have continued to increase in the 50-69 and 70+ year age groups.

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

Figure 2 provides further detail on rates of laboratory confirmed COVID-19 cases in week 43 (ending 25 October 2020) by ten year age group intervals.



**Comment:** In week 43 (ending 25 October 2020) the highest rate of new COVID-19 cases was again seen in the 20-29 year age group (545 per 100,000 population), followed by the 30-39 (461 per 100,000 population) and 50-59 (422 per 100,000 population) year age groups.

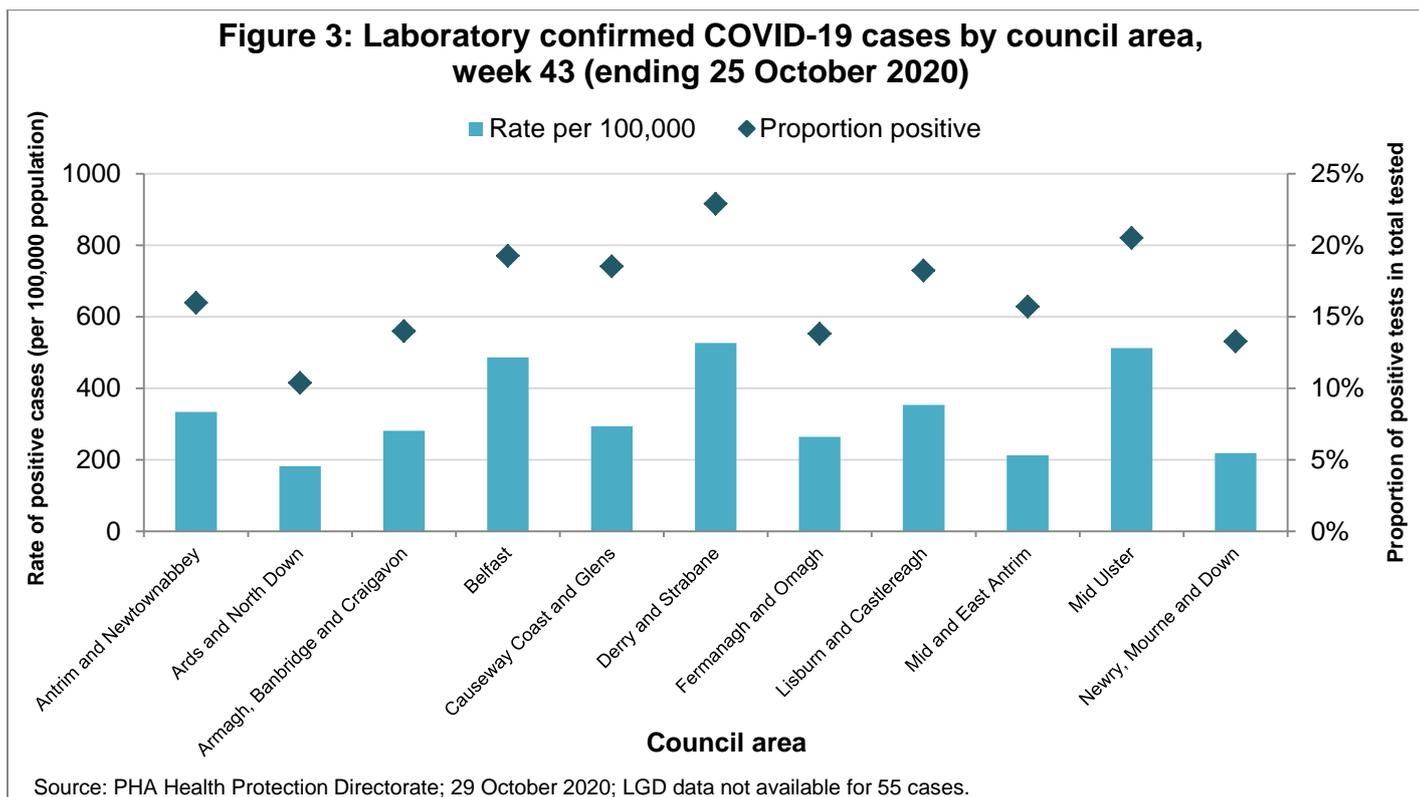
Compared to week 42 (ending 18 October 2020), in week 43 increased rates were seen in the age groups 50-59 (from 399 per 100,000 population to 422 per 100,000 population), 60-69 (from 291 per 100,000 population to 316 per 100,000 population), 70-79 (from 200 per 100,000 population to 221 per 100,000 population) and 80+ (from 262 per 100,000 population to 324 per 100,000 population).

Proportionally the largest increase was in the 80+ year age group where rates, while lower, increased by 23%.

Decreased rates were seen for age groups 0-9 (from 131 per 100,000 population to 115 per 100,000 population), 10-19 (from 324 per 100,000 population to 244 per 100,000 population), 20-29 (from 616 per 100,000 population to 545 per 100,000 population) and 30-39 (from 521 per 100,000 population to 461 per 100,000 population) years. Proportionally the largest decrease was seen in the 10-19 year age group where rates decreased by 25%.

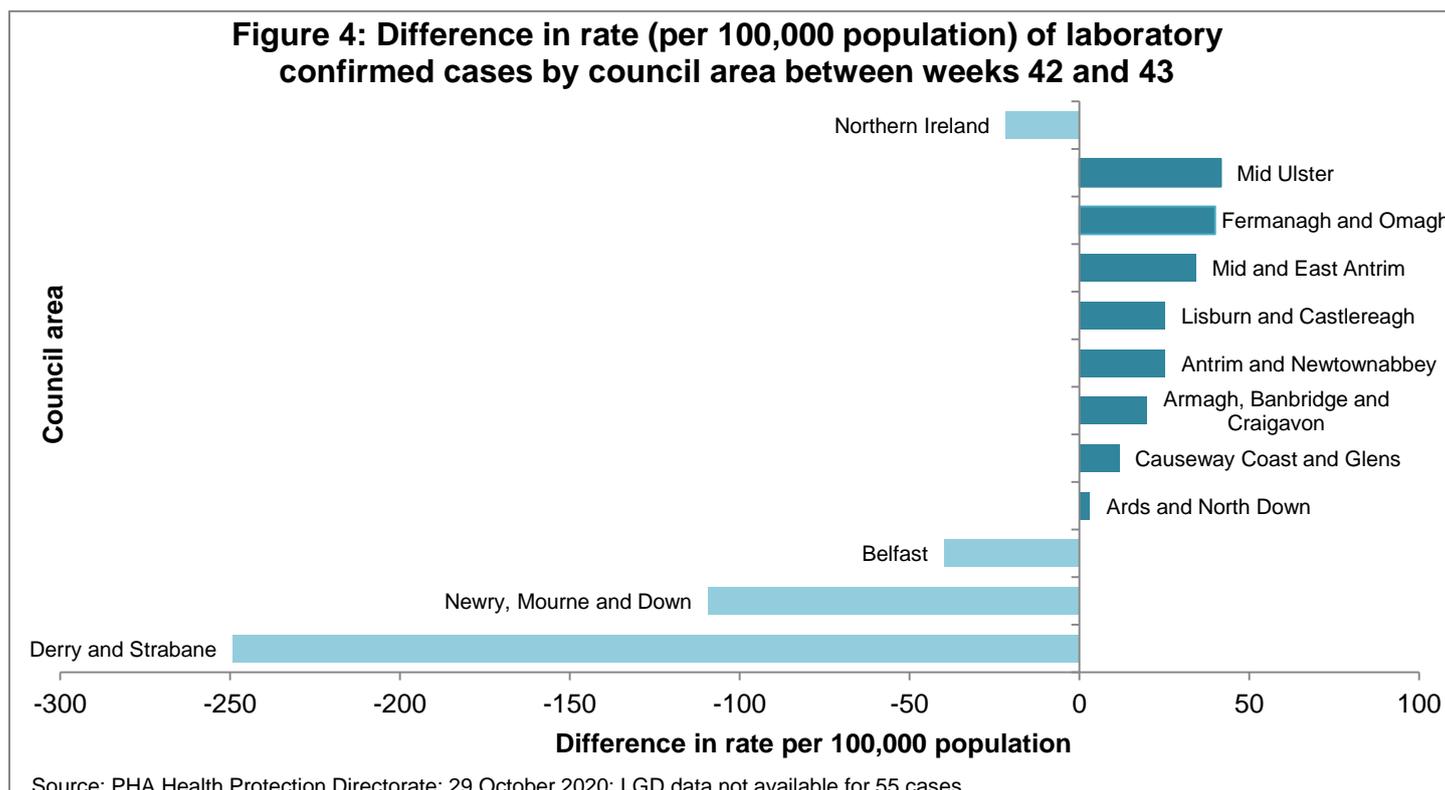
The proportion of positive tests for Northern Ireland in week 43 was 16.9%, with a range of 10.6% to 19.2% across all age groups.

# COVID-19 testing by council area



**Comment:** In week 43 (ending 25 October 2020) the rates of laboratory confirmed COVID-19 cases varied from 182 per 100,000 population in Ards and North Down council area, up to 527 per 100,000 population in Derry and Strabane council area. The proportion of positive tests ranged from 10.4% in Ards and North Down council area to 22.9% in Derry and Strabane council area.

Figure 4 shows the difference in the rate of new laboratory confirmed COVID-19 cases by council area in weeks 42 (ending 18 October 2020) and 43.



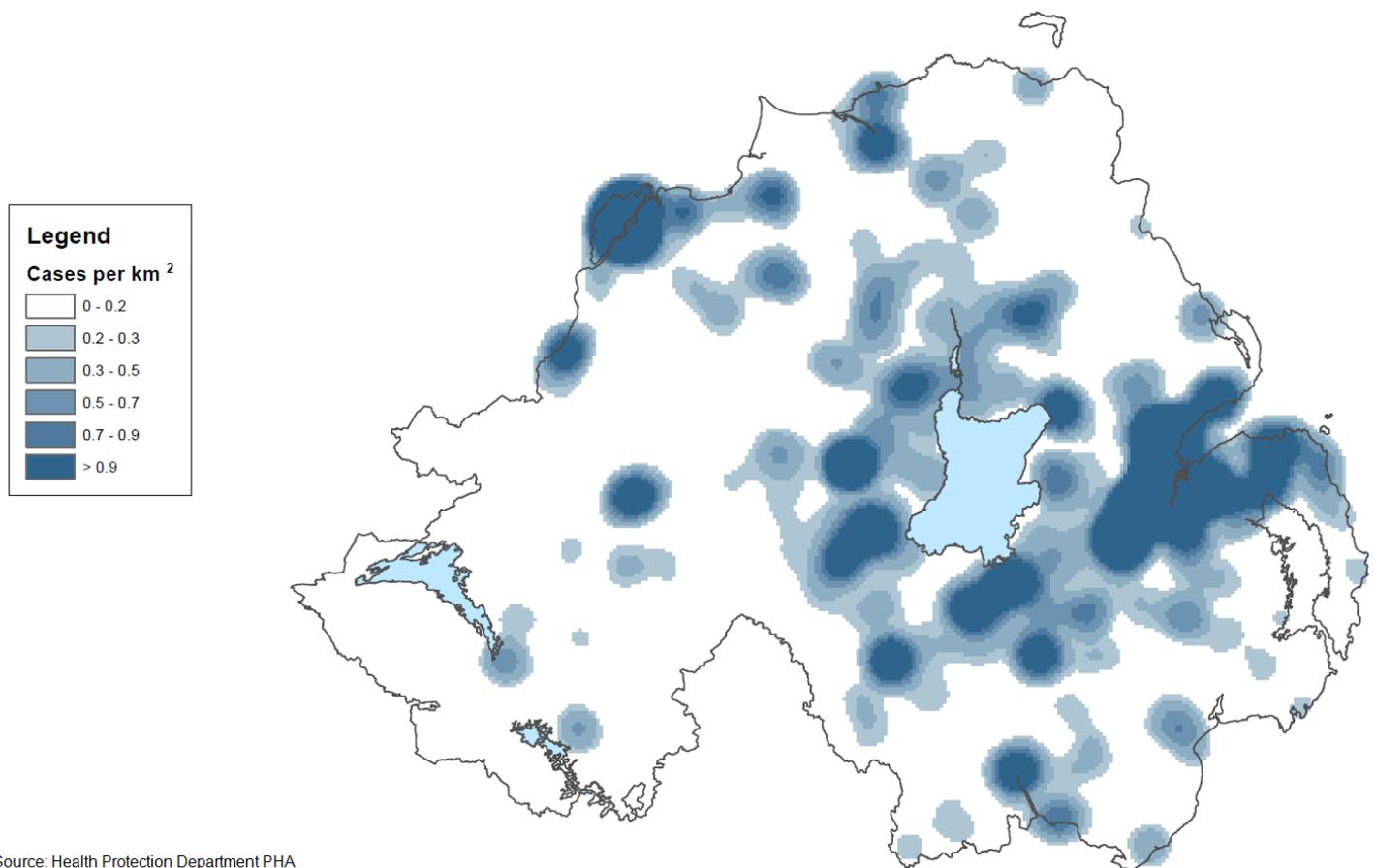
**Comment:** Between week 42 (ending 18 October 2020) and week 43 (ending 25 October 2020) the rate of new COVID-19 cases across Northern Ireland decreased from 371 per 100,000 population to 349 per 100,000 population, a 6% decrease.

Compared to week 42, in week 43 rates decreased in Derry and Strabane (from 776 per 100,000 population to 527 per 100,000 population, a 32% decrease), Newry, Mourne and Down (from 328 per 100,000 population to 219 per 100,000 population, a 33% decrease) and Belfast (526 per 100,000 population to 486 per 100,000 population, an 8% decrease) council areas.

However, increased rates were seen in all other council areas including for example, Mid Ulster (from 471 per 100,000 population to 512 per 100,000 population, an increase of 9%), Fermanagh and Omagh (from 224 per 100,000 population to 264 per 100,000 population, an 18% increase) and Mid and East Antrim (from 178 per 100,000 population to 213 per 100,000 population, a 19% increase).

Figure 5 shows a contour density map based on the number of confirmed COVID-19 cases in week 43 (ending 25 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.

**Figure 5: Density map of confirmed COVID-19 cases for the week ending 25 October 2020**



Source: Health Protection Department PHA  
Produced on behalf of Health Intelligence PHA (28/10/2020)  
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From data extracted on 28th 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:** The map highlights an increased number of areas with the highest density of COVID-19 cases in week 43 (ending 25 October 2020) and spread of the virus to other areas. However, information should be interpreted with caution as 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<sup>10</sup>.

**Comment:** Since 20 October 2020 there have been 66 new clusters recorded (up to 4.00pm on 27 October 2020).<sup>11,12,13</sup> In total, up to 27 October 2020, 445 clusters have been identified. Of these, 79 clusters with greater than five people have been identified in the following council areas: Belfast (n=29), Derry City and Strabane (n=11), Newry, Mourne and Down (n=9), Mid and East Antrim (n=6), Armagh City, Banbridge and Craigavon (n=5), Antrim and Newtownabbey (n=4) Lisburn and Castlereagh (n=4), Mid Ulster (n=4), Causeway Coast and Glens (n=3), Fermanagh and Omagh (n=3), and Ards and North Down (n=1). In addition, there have been 366 clusters across Northern Ireland with fewer than five people.

## Schools surveillance

Information on school COVID-19 incidents<sup>14</sup> is based on situations reported to PHA COVID School Team.

These include:

- Single confirmed case of COVID-19 (SARS-CoV-2) in a student or member of staff in the school setting. The incident is closed after 14 days if there have been no further cases.
- Cluster of two or more confirmed cases of COVID (SARS-CoV-2) in a student or member of staff in the school setting within a 14 day period. The incident is closed after 14 days if there have been no further cases from the last case.

Note: A school may have had more than one incident since opening.

A total of 616 incidents had been reported to the PHA School team since schools opened in August 2020 up to 25 October 2020<sup>15</sup>.

Table 1 shows the number of school incidents by school type.

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<sup>10</sup> 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.

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

<sup>12</sup> Number of all clusters (open and closed) that have been recorded by the contact tracing service up to 12.00pm Tuesday 13 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).

<sup>13</sup> 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.

<sup>14</sup> A COVID-19 incident relates to the occurrence of at least one case (pupil or staff member) of COVID-19 in a school setting.

<sup>15</sup> Schools and other education settings will be closed for an extended half-term holiday break from 19 to 30 October 2020.

<https://www.nidirect.gov.uk/articles/coronavirus-covid-19-advice-schools-colleges-and-universities>

**Table 1: Number of COVID-19 incidents in schools by school type**

School type	Total number of incidents (n)
Primary	385
Post Primary	198
Special	33
<b>Total</b>	<b>616</b>

Note: The figures are a snapshot of incidents recorded at the time of data extraction. A school may have had more than one incident since opening. Figures should not be compared from week to week as the number will include new reports and further cases of existing incidents.

**Table 2: Number of incidents by school and incident type**

Incident type	School type	Total number of incidents (n)	Proportion (%)
<b>Single Case</b>	Primary	221	76.5
	Post Primary	52	18.0
	Special	16	5.5
	<b>All</b>	<b>289</b>	
<b>Cluster (2-5 cases)</b>	Primary	145	60.9
	Post Primary	81	34.0
	Special	12	5.0
	<b>All</b>	<b>238</b>	
<b>Cluster (&gt;5 cases)</b>	Primary	19	21.3
	Post Primary	65	73.0
	Special	5	5.6
	<b>All</b>	<b>89</b>	

### Cumulative number of schools affected by at least one case of COVID-19

A school may have had more than one incident since opening. Table 3 shows the cumulative number of schools that have had at least one incident in the period up to 25 October 2020.

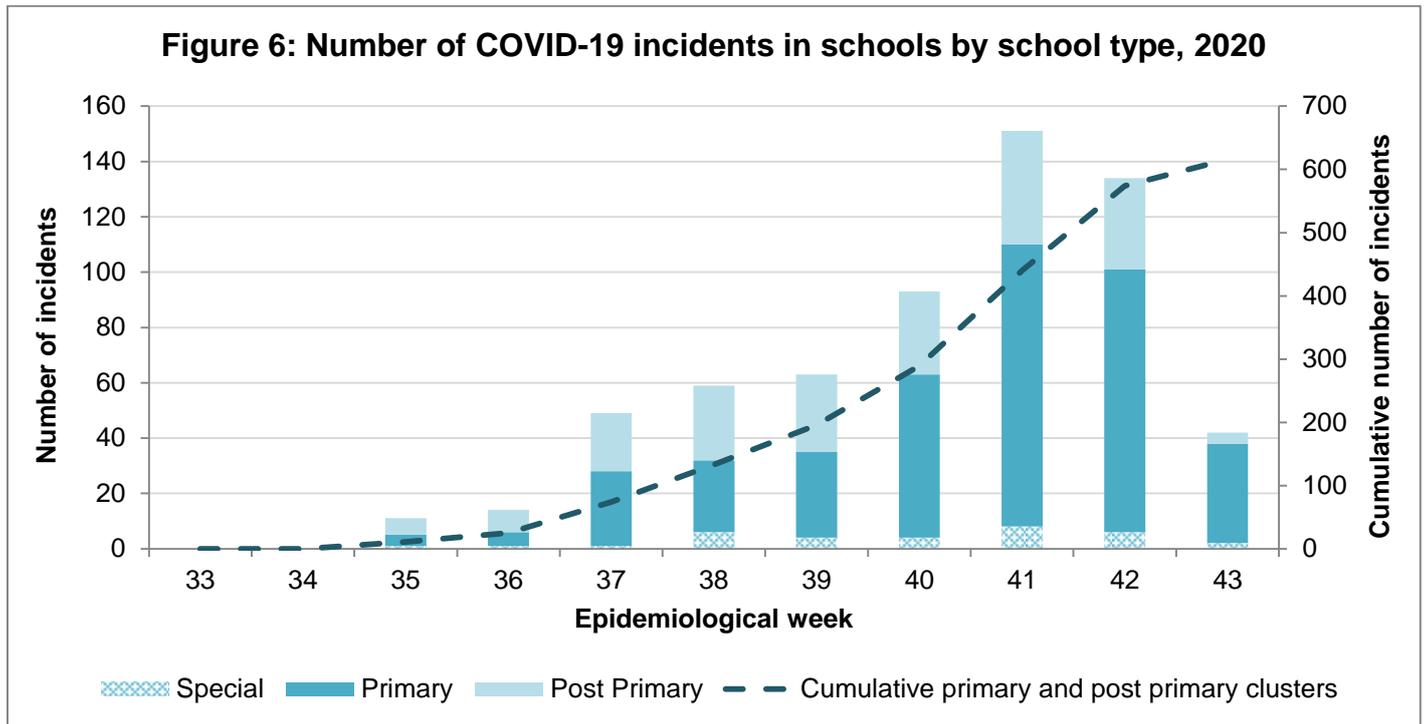
The 616 incidents have occurred in 529 schools in Northern Ireland. Overall 51% of schools have had at least one COVID-19 case in a pupil or member of staff.

**Table 3: Number of schools with a COVID-19 incident**

School type	Number of schools that have had at least one case (n)	Total number of schools (n)	Proportion of schools that have had at least one case (%)
Primary	333	803	41.5%
Post Primary	163	193	84.5%
Special	33	39	84.6%
<b>Total</b>	<b>529</b>	<b>1,035</b>	<b>51.1%</b>

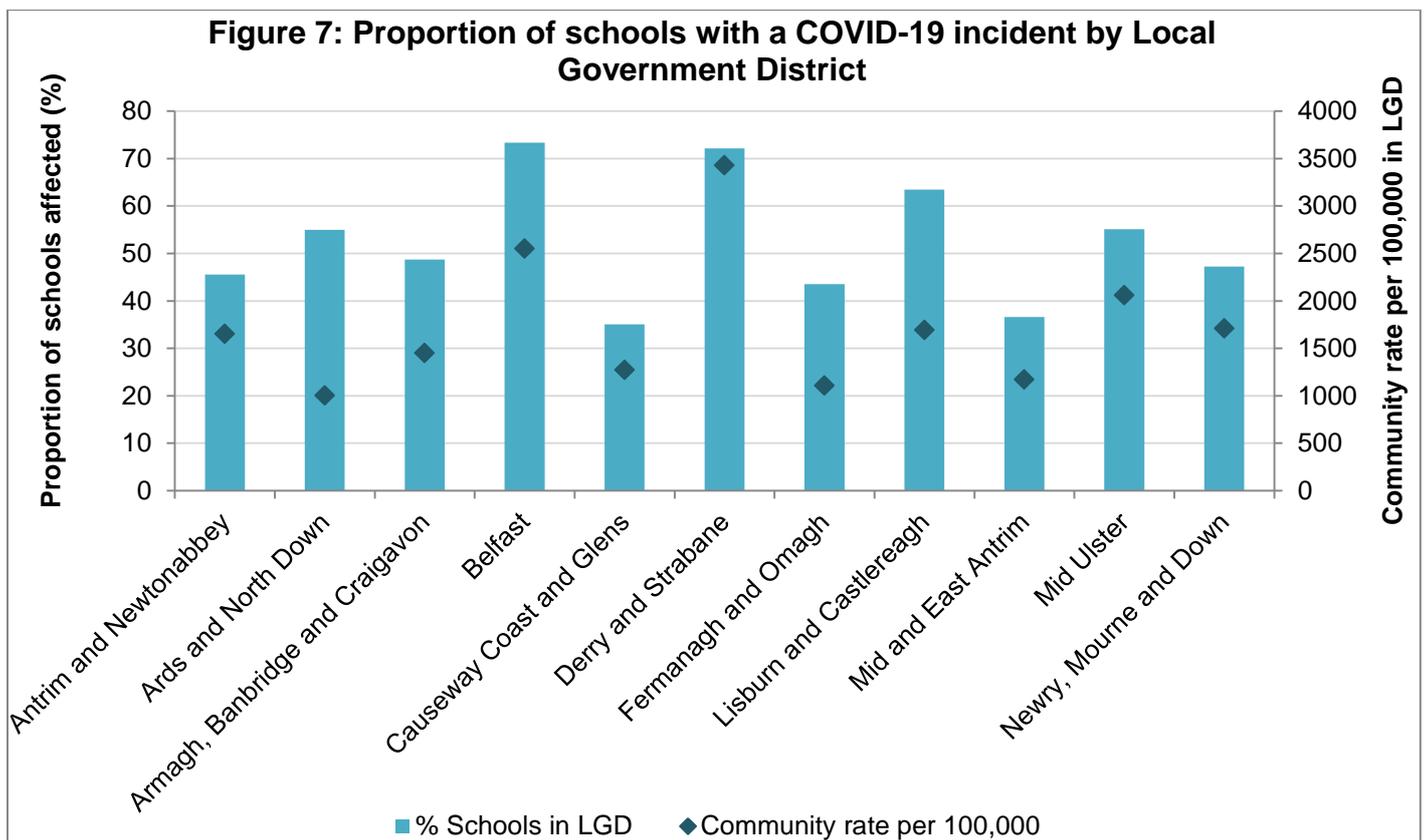
## Trend of school incidents

Figure 6 shows the number of incidents in schools since they opened in August 2020 until the end of week 43 (25 October 2020).



## Cumulative school incidents by Local Government District

Figure 7 shows the cumulative number of incidents in schools by LGD since they opened in August 2020 until the end of week 43 (25 October 2020).



## Cumulative number of COVID-19 cases

Up to the end of week 43 (ending 25 October 2020) 2,137 confirmed COVID-19 cases had been reported by schools to the PHA School Team and recorded on the case management record system. Information on the pupil/staff breakdown in primary, post-primary and special schools was available for 87% (1,867) of all cases. Staff member includes teaching and non-teaching staff.

**Table 4: Number of COVID-19 cases reported by schools where information is available on pupil/staff, up to week 43**

School type	Pupil cases (n)	Staff cases (n)	Total cases (n)	Proportion of all cases that are pupils (%)
Primary	426	308	734	58%
Post Primary	812	223	1,035	78%
Special	23	75	98	23%
<b>Total</b>	<b>1,261</b>	<b>606</b>	<b>1,867</b>	<b>68%</b>

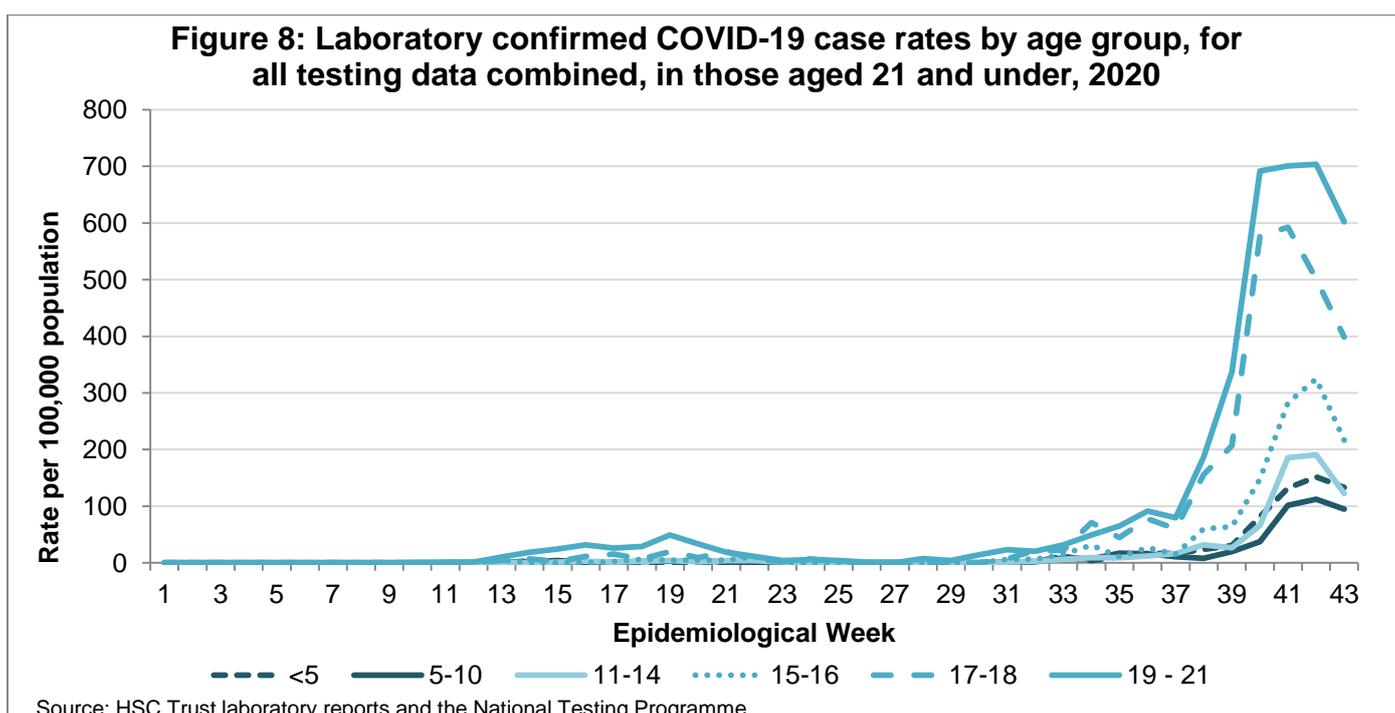
Note: The definitive source for the number of COVID-19 confirmed cases in school aged children is from the HSC Laboratory testing and the National Testing Programme. Direct comparisons should not be made with laboratory data.

**Table 5: Number of COVID-19 cases in pupils as a proportion of all pupils, up to week 43**

School type	Pupil cases (n)	Proportion of all school aged pupils in Northern Ireland (%)
Primary	426	0.23%
Post Primary	812	0.53%
Special	23	0.40%
<b>Total</b>	<b>1,261</b>	<b>0.38%</b>

Source: PHA COVID-19 Schools Team, Department of Education school statistics.

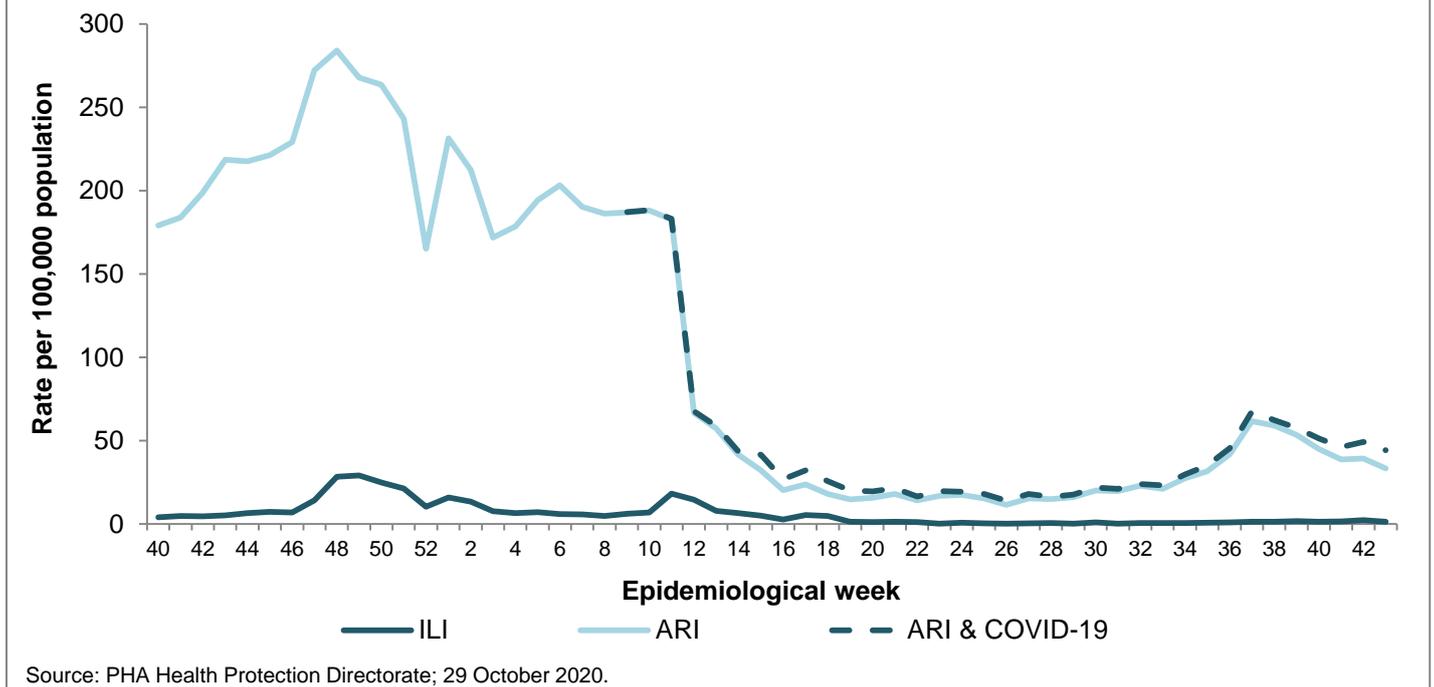
Figure 8 shows the rate of laboratory confirmed COVID-19 cases in those aged 21 years and under by age group and epidemiological week.



**Comment:** In week 43, the highest rates were observed in the 19-21 age group (602 per 100,000), followed by the 17-18 age group (399 per 100,000).

# Primary Care

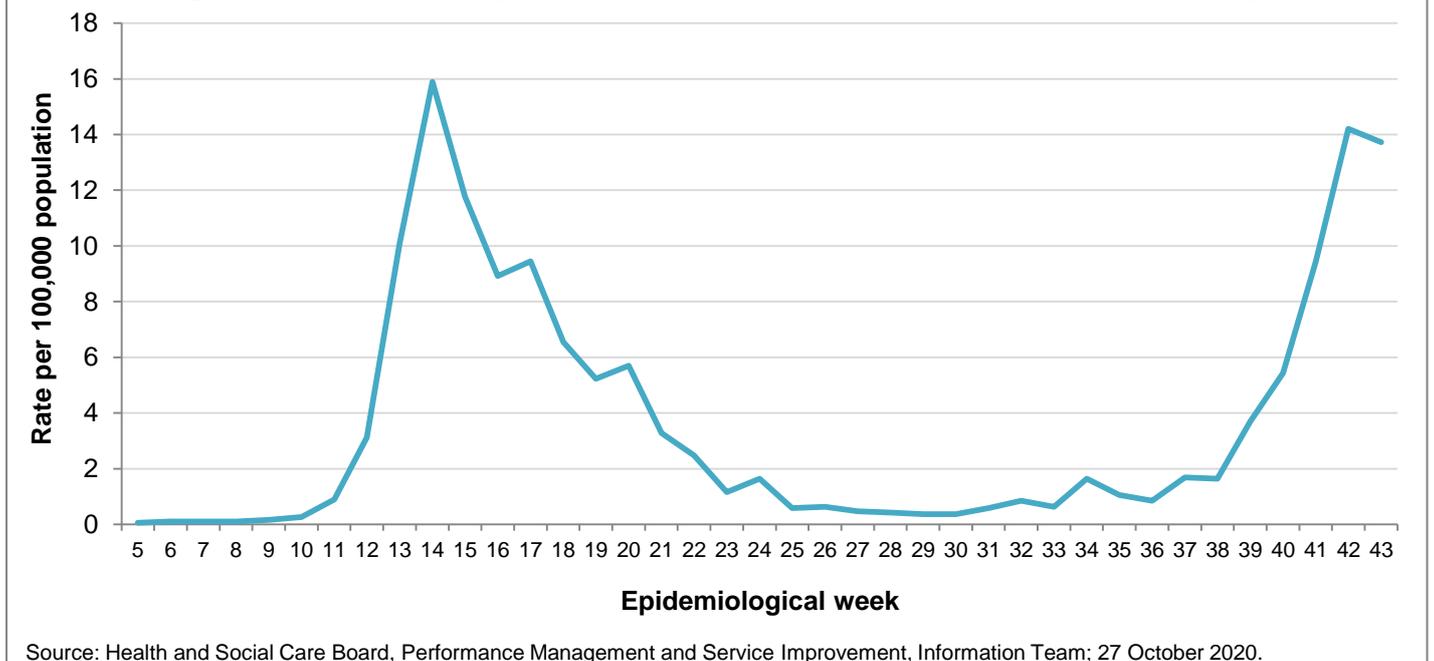
**Figure 9: In hours consultation rates for influenza like illness (ILI), acute respiratory infections (ARI) and COVID-19, week 40-2019 to week 43-2020**



**Comment:** In week 43 (ending 25 October 2020) the rate of consultations for ARI & COVID-19 was 44 per 100,000 population, a slight decrease compared to week 42 (49 per 100,000 population).

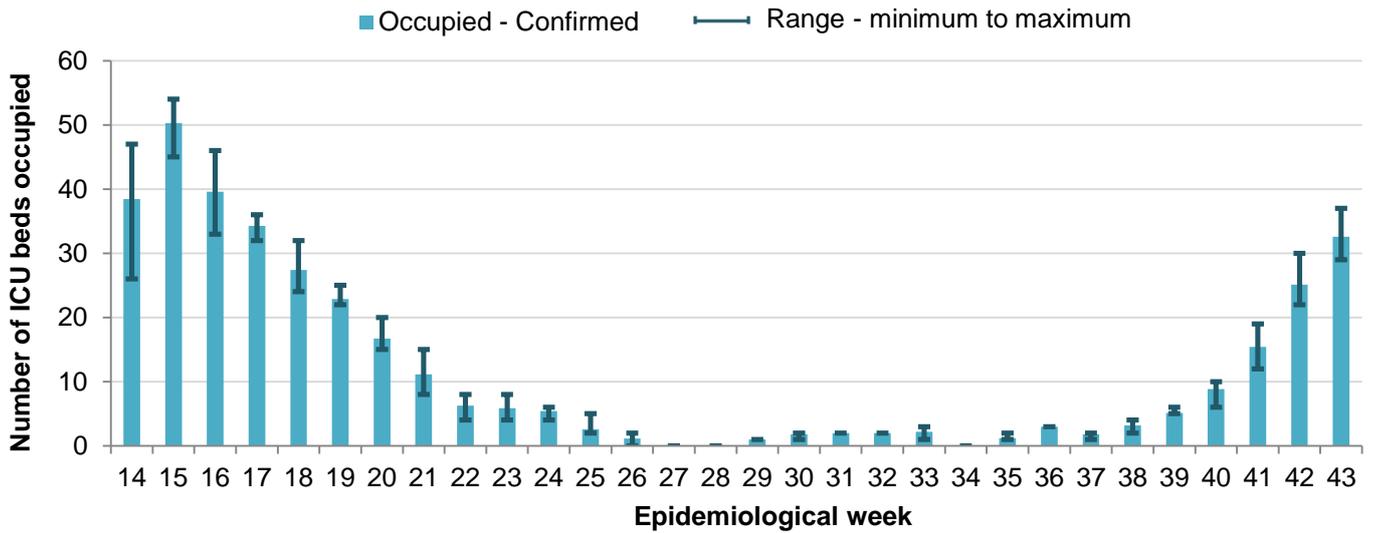
# Secondary Care

**Figure 10: Rate of hospital admissions due to COVID-19 (Confirmed only)**



**Comment:** In week 43 (ending 25 October 2020) the rate of confirmed hospital admissions for COVID-19 was 13.7 per 100,000 population, a slight decrease from 14.2 per 100,000 in the previous week.

**Figure 11: ICU occupancy of COVID-19 cases (Confirmed), weekly average from 30 March 2020**



Source: Critical Care Network Northern Ireland (CCaNNI) daily returns, Health and Social Care Board, Performance Management and Service Improvement, Information Team; 27 October 2020.

Note: The recording and reporting of occupancy at weekends recommenced on 26 September 2020.

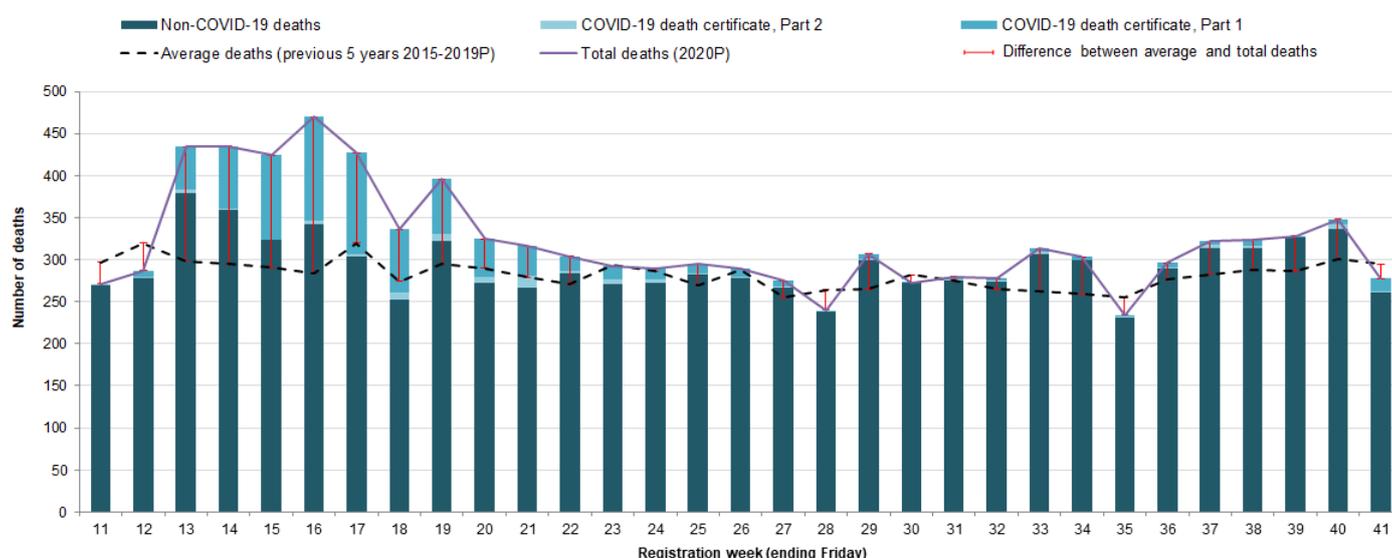
**Comment:** On the 25 October 2020 there were 37 confirmed COVID-19 cases in ICU. During week 43 (ending 25 October 2020) the average ICU occupancy for COVID-19 confirmed cases was 33, and ranged from 29 to 37 during this time. The increasing trend in ICU cases may be expected to continue with ongoing hospital admissions for COVID-19.

# 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 12 highlights the total weekly number of deaths registered<sup>16</sup> 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 2015-2019<sup>17</sup>. It also highlights the weekly breakdown of registered deaths that were non-COVID-19 related and those associated with COVID-19.<sup>18</sup>

**Figure 12: Northern Ireland registered deaths<sup>A</sup>, including COVID-19 associated deaths, Week 11 (ending 20 March 2020) to Week 41 (ending 16 October 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	39	40	41
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	1	6	15
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	1	5	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	326	337	261
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	286	300	295
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	328	348	278

Source: NISRA; Figures relate to all deaths registered up to 16 October 2020 with a mention of COVID on the death certificate; P Weekly published data are provisional; <sup>A</sup> 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:** Overall, the mortality (death) rate in Northern Ireland for week 41 is below the five year average, that is, fewer people are currently dying than would be expected in an average year.

In week 41 (ending 16 October 2020), 17 COVID-19 related deaths were registered, an increase of six from the previous week. From week 11 (ending 20 March 2020) to week 41 there have been 930 deaths associated with COVID-19. Over the same period 1,229 'excess deaths' (ie deaths above the average for the corresponding weeks in previous years) have been registered in Northern Ireland.

In week 41 the proportion of COVID-19 deaths registered was 6% of the total number of registered deaths (17/278); for the year up to 16 October 2020 the proportion of COVID-19 deaths registered

<sup>16</sup> P Weekly published data are provisional and subject to change.

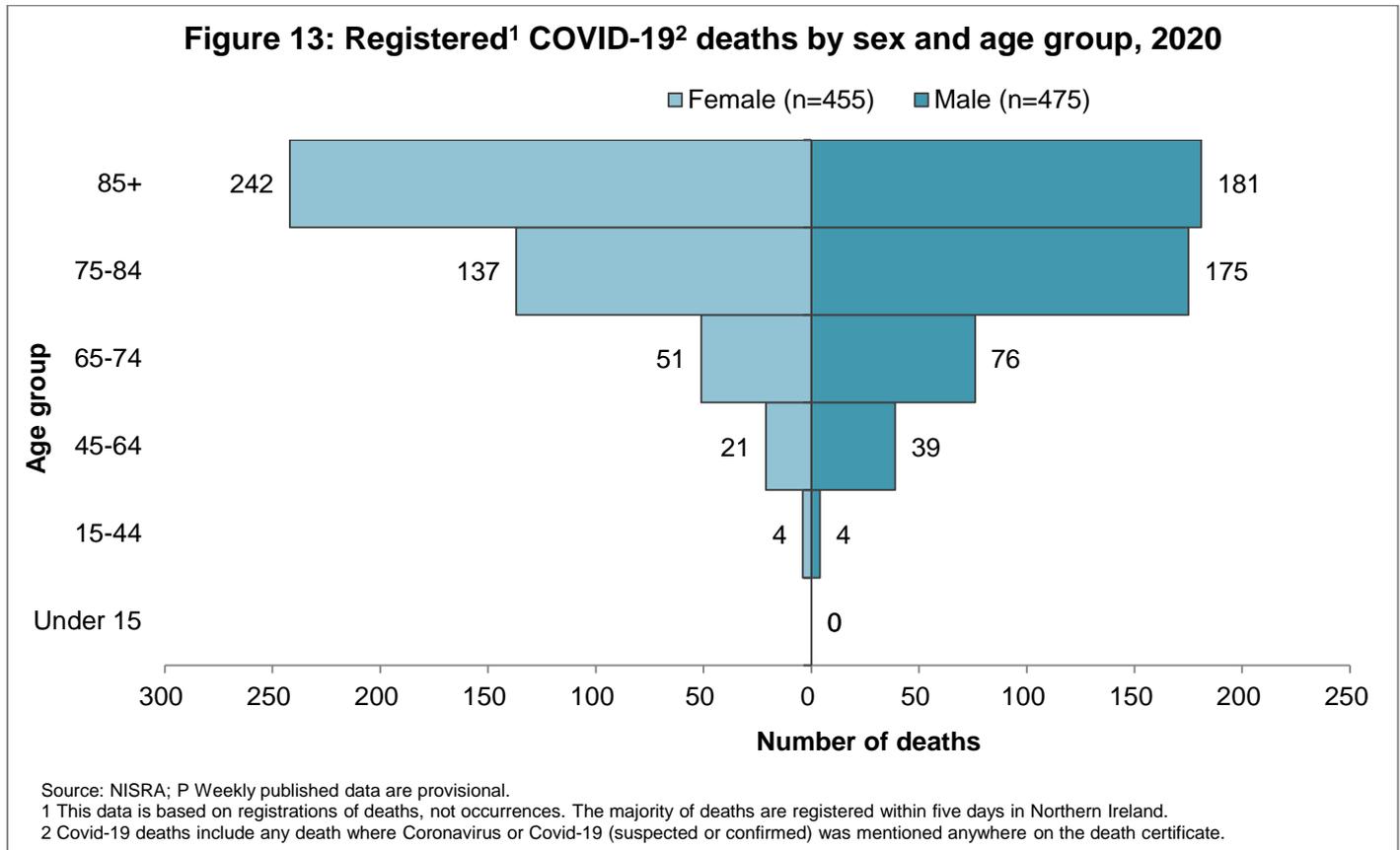
<sup>17</sup> The five-year average is not a whole number so comparisons with 2020 week-on-week can vary by up to one death due to rounding.

<sup>18</sup> 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.

is 7% (930/13,383) of the total number of registered deaths. Just less than one quarter (24.4%; 930/3,816) of respiratory<sup>19</sup> deaths registered have been associated with COVID-19.

### COVID-19 deaths by age and sex

Figure 13 shows the number of registered COVID-19 deaths by sex and age group up to week 41 (ending 16 October 2020).



**Comment:** In week 41, all 17 COVID-19 related deaths registered were in those aged 65 years and over.

More than three quarters of registered COVID-19 deaths have been in those aged 75 years and over (79%; males 75% and females 83%). The disproportionate effect of age on the death rate is illustrated by the fact that there have been a total of 68 deaths under the age of 65 years from COVID-19 associated infections during the pandemic.

<sup>19</sup> Respiratory deaths include any death where terms directly relating to respiratory causes were mentioned anywhere on the death certificate (this includes Covid-19 deaths). This is not directly comparable to the ONS figures relating to 'deaths where the underlying cause was respiratory disease'.

# 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. Cluster data provided from 22 September 2020 onwards no longer includes information on schools, which will be reported separately.

## Schools surveillance

Data are sourced from the number of COVID school incidents reported to the PHA COVID School Team since schools reopened. The PHA COVID School Team carries out contact tracing of cases that attend a school in collaboration with PHA Test and Trace Programme. Clusters are also further investigated by the School Team in liaison with local partners.

The number of cases that have been reported by schools to the PHA school team is also included to provide high level information on cases broken down by pupil and staff status. It is important to note that the definitive source for the number of COVID-19 confirmed cases in school aged children is from the HSC Laboratory testing and the National Testing Programme. Direct comparisons should not be made with laboratory data as the school teams figures may be an underestimate of laboratory data.

This information is shared with Department of Education prior to publication.

## 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. Weekly figures presented may be subsequently revised in line with PAS updates.

## 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.

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