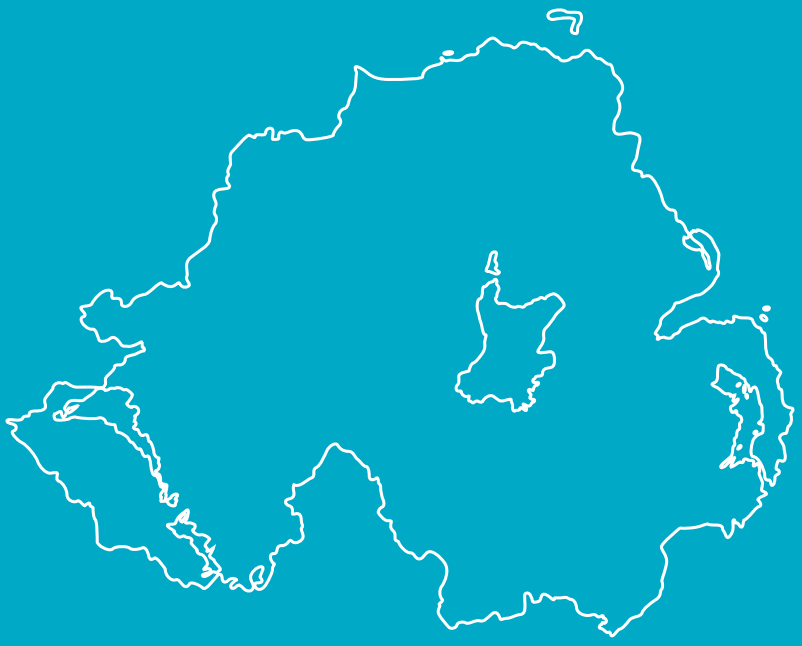
HSC Public Health Agency

Coronavirus (COVID-19)

Weekly Epidemiological Bulletin



Northern Ireland

Week 42 (18 - 24 October 2021)

Summary - Up to week 42 (24 October 2021)

To week 42, there have been a total of 263,000 laboratory confirmed cases[1] of COVID-19, including 3,539 registered COVID-19 deaths[2] in Northern Ireland (NI).

COVID-19 case epidemiology

- 263,000 laboratory confirmed cases (10.1% from HSC laboratories)
- 52.6% of total cases are female
- In week 42, those aged 5-14 had the highest case rate (996.1 per 100,000 population; 32.3% positivity)
- In week 42, Fermanagh and Omagh had the highest case rate (557.4 per 100,000 population; 21.3% positivity)

Confirmed COVID-19 care home outbreaks

- 881 confirmed COVID-19 outbreaks reported in total; includes 12 reported in week 42
- Involving 388 care homes (80.8% of all NI care homes)
- The highest proportion of outbreaks (85.9%) were reported from the Belfast Trust area

Critical care surveillance

- 838 confirmed COVID-19 individuals
- The majority of reported critical care cases were male (66.7%)
- Median age of cases was 59 years (range <1 – 90 years)

[1] Virological reports and the National Testing Programme. Due to technical issues on 26/10/21 some data from week 42 may not be included.

[2] NISRA; 2020-21 - up to 15 October 2021.

Schools Surveillance

In the 28 days up to 24 October 2021:

- There were 12,470 confirmed cases notified to the Contact Tracing Cell (CTC) where the case advised they attended or worked in a school
- 41.6% of cases were associated with post primary schools, 56.7% with primary schools and 1.7% with special schools
- 79.7% of primary, 99.0% of post primary and 87.5% of special schools have had at least one case

Mortality surveillance

- In week ending 15 October 2021, the proportion of COVID-19 deaths registered was 11.3%. From the 19 March 2020 to week ending 15 October 2021 the proportion was 12.9%
- Excess deaths were reported in 2020 in weeks 13-20, 22 and 45 and in 2021 in week 2; mainly in those over 65 years old

Testing surveillance virology

- Number of individuals tested in total: 2,245,950 (11.7% positivity)
- Number of individuals tested in:
  - HSC laboratories: 590,168 (26.3% of total tests)
  - National Testing Programme: 1,655,782 (73.7% of total tests)

Introduction

COVID-19 is an illness that can affect your lungs and airways. It's caused by a virus called SARS-CoV2 (a member of the coronavirus family).

The Public Health Agency (PHA) Health Protection team has developed this report with the primary focus of looking at the demographic characteristics (age, sex and geographical location) of people affected by the virus. It also looks at some of the wider impacts of the virus on the healthcare system, comparing recent trends in activity with historic norms. There is a large amount of data being regularly published regarding COVID-19 (for example, the Department of Health COVID-19 Daily Dashboard Updates and the NISRA Deaths Registered Dashboard). This report presents data from existing and newly developed PHA Health Protection surveillance systems that monitor COVID-19 activity in NI and complements the range of existing data currently available.

As this is an emerging pandemic the systems used will constantly evolve and the complexity of the analysis will increase. Any updates will be documented in a “what’s new” section.

Unless otherwise stated, data are presented using epidemiological weeks (a standardised method of counting weeks [Monday-Sunday] to allow for the comparison of data year after year). This is dependent on the data available and annual comparisons are not yet possible as the virus only emerged in 2020.

The data included in this report are the most up to date data available at the time of the report; however this is subject to change as the data are subject to ongoing quality assurance.

Contact tracing

Contact tracing is the process of identifying, assessing, and managing people who have been exposed to a disease to prevent onward transmission (WHO). Contact tracing can help break the chains of transmission of COVID-19 and is an essential public health tool for controlling the virus.

Contact tracing seeks to limit and prevent the spread of infections such as COVID-19. It works by identifying a confirmed case and asking them who they have been in contact with. Individual contacts are considered high risk if they have spent more than 15 minutes in close contact with a confirmed case without personal protection. This means that those who have casually passed by someone on the street will not be considered high risk. The person with a confirmed infection and their close contacts will be given advice regarding symptom management and the need to self-isolate to prevent wider spread of the virus. This advice is based on information available on the PHA website and includes social distancing, handwashing and cleaning in the home to help protect people who are at risk. We can also advise people on how to best look after those in their care.

The most up-to-date contact tracing management service update (issued 21 October 2021) can be found here*.

The StopCOVID NI contact tracing app is now available from the Google or Apple App store.

*These are experimental performance and activity data and provide a snapshot of contact tracer activity. Data reported relates to a live operational system which includes case and contact activity in progress or in a queue. It is based on manually recorded information and data extracted from current contact tracing systems and reporting methods and parameters may change over time.

Automatic reporting in future may create a discontinuity in figures. New IT systems and data outputs often take some time to bed in. Data should therefore be treated with caution while the system and understanding of the data develops. At this stage, there is a risk of data entry errors or delay, which may require that data are revised and updated in future. The process of finding and removing duplicate records may also need refining, which could result in revisions to the data.

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 settings[3].

Comment:

Number of all clusters (open and closed) that have been recorded by the contact tracing service up to 12pm Sunday 24 October 2021.

There have been 141 new clusters since Monday 18 October 2021[4,5]. In total, up to 24 October 2021, a total of 890 clusters with greater than five people have been identified in the following council areas; Antrim and Newtownabbey (n=81), Ards and North Down (n=42), Armagh, Banbridge and Craigavon (n=101), Belfast (n=213), Causeway Coast and Glens (n=42), Derry and Strabane (n=75), Fermanagh and Omagh (n=58), Lisburn and Castlereagh (n=56), Mid and East Antrim (n=59), Mid Ulster (n=95) and Newry, Mourne and Down (n=68). In addition, there have been 3,776 clusters across Northern Ireland with fewer than five people.

Source: Contact Tracing Service / PHA Health Protection Service

[3] COVID-19 transmission is most common in household settings. The number of affected households is not reported.

[4] Some clusters may overlap (larger clusters may contain or overlap with several smaller clusters).

[5] 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.

Case epidemiology

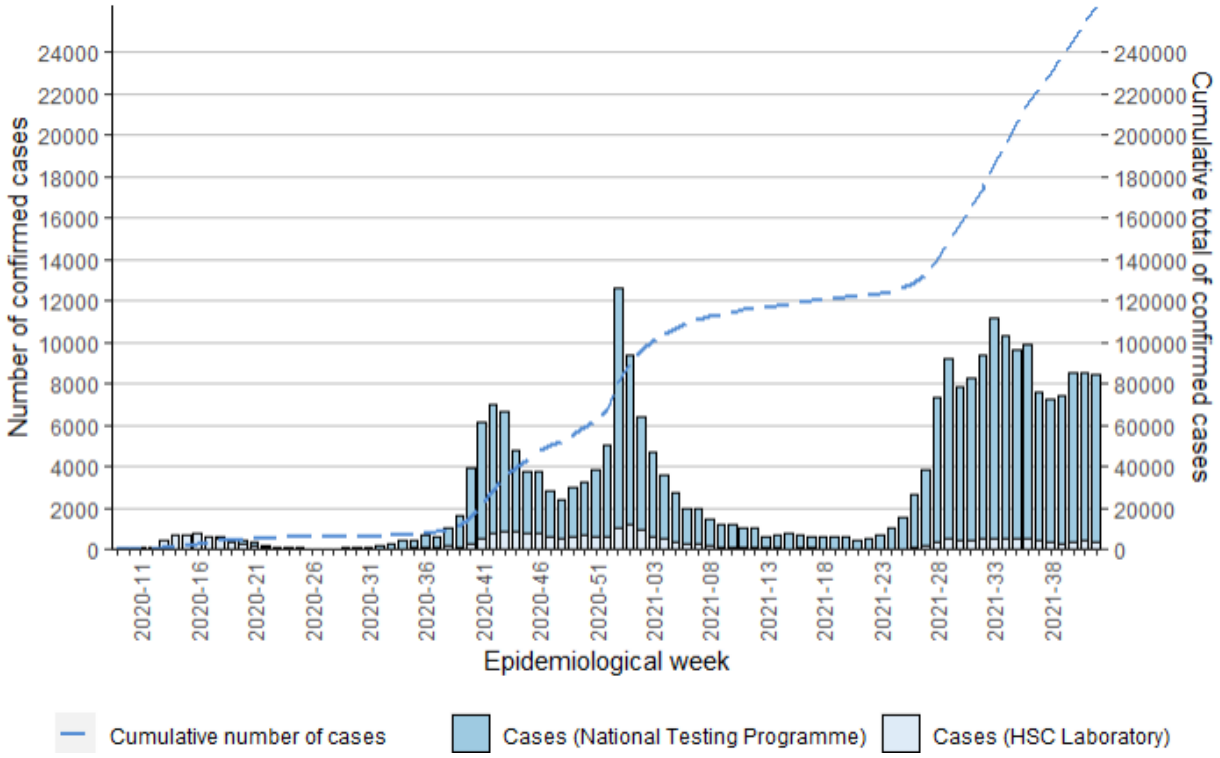


Figure 1. Laboratory confirmed COVID-19 cases by epidemiological week and source (HSC Laboratory testing and the National Testing Programme), 2020-21

Figure 1 represents the number of new weekly cases reported to the PHA (bars) and the cumulative number of cases (dashed line). Reporting is likely to be incomplete for the most recent week due to natural delays in samples reaching the labs, being tested and the information being reported. From week 40 of 2020 there was an initial increase in cases, peaking at week 42 and followed by a decrease to week 45. The number of weekly cases peaked in week 53.

There was a general downward trend in the number of weekly cases from week 53 to week 21, followed by a general increasing trend in cases, peaking in week 33. Overall there has been a decrease in the number of weekly cases since week 33; however there have been fluctuations in recent weeks. There was a decrease in the number of weekly cases between weeks 41 and 42.

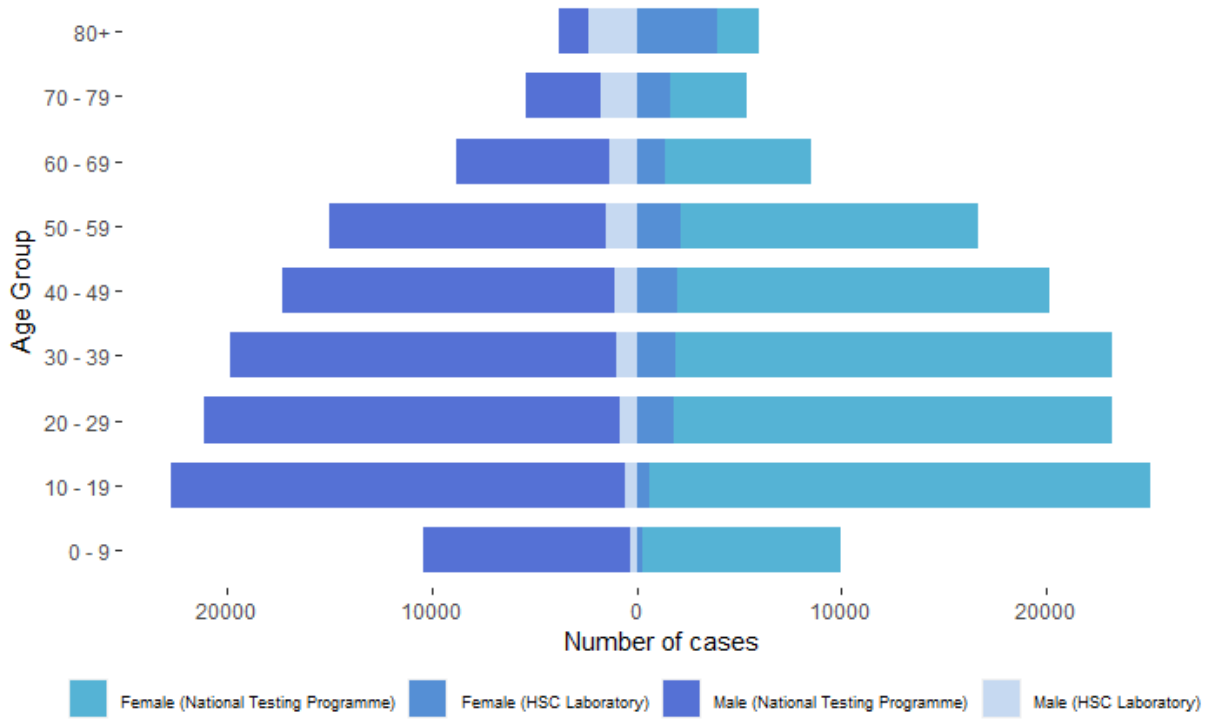


Figure 2. Laboratory confirmed cases, by age, sex and source (HSC Laboratory testing and the National Testing Programme), 2020-21

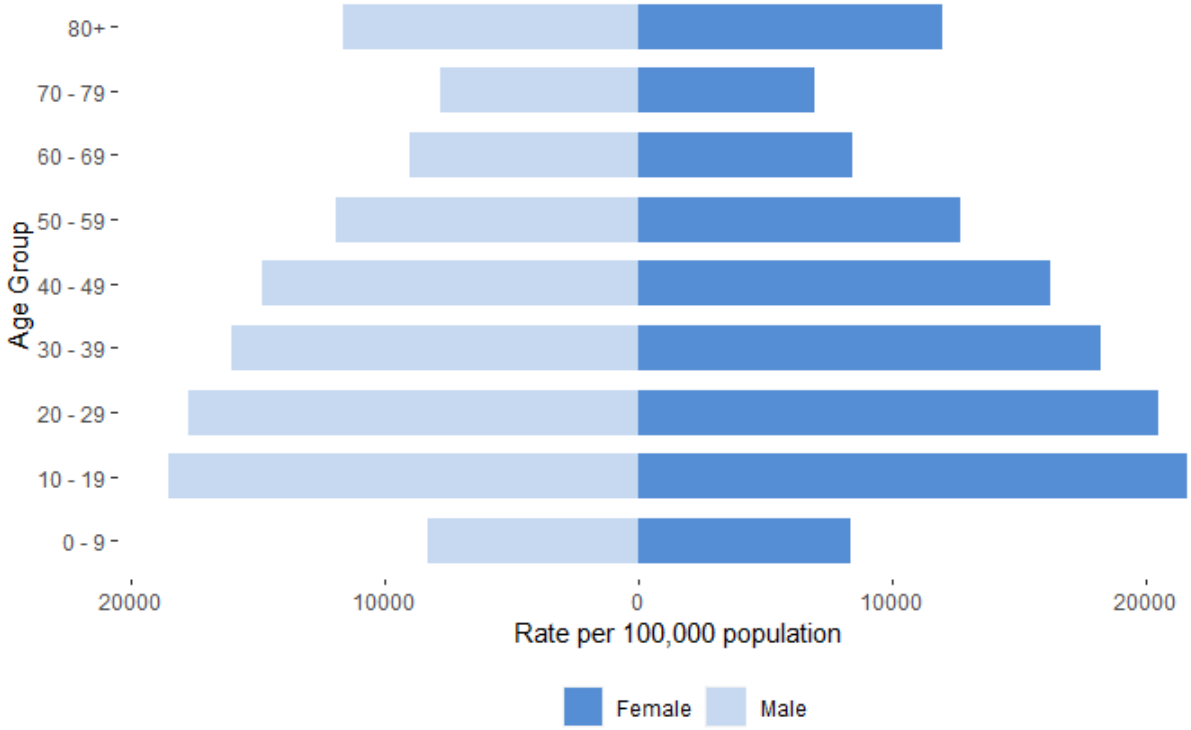


Figure 3. Laboratory confirmed cases per 100,000 population, by age and sex, for all testing data combined, 2020-21

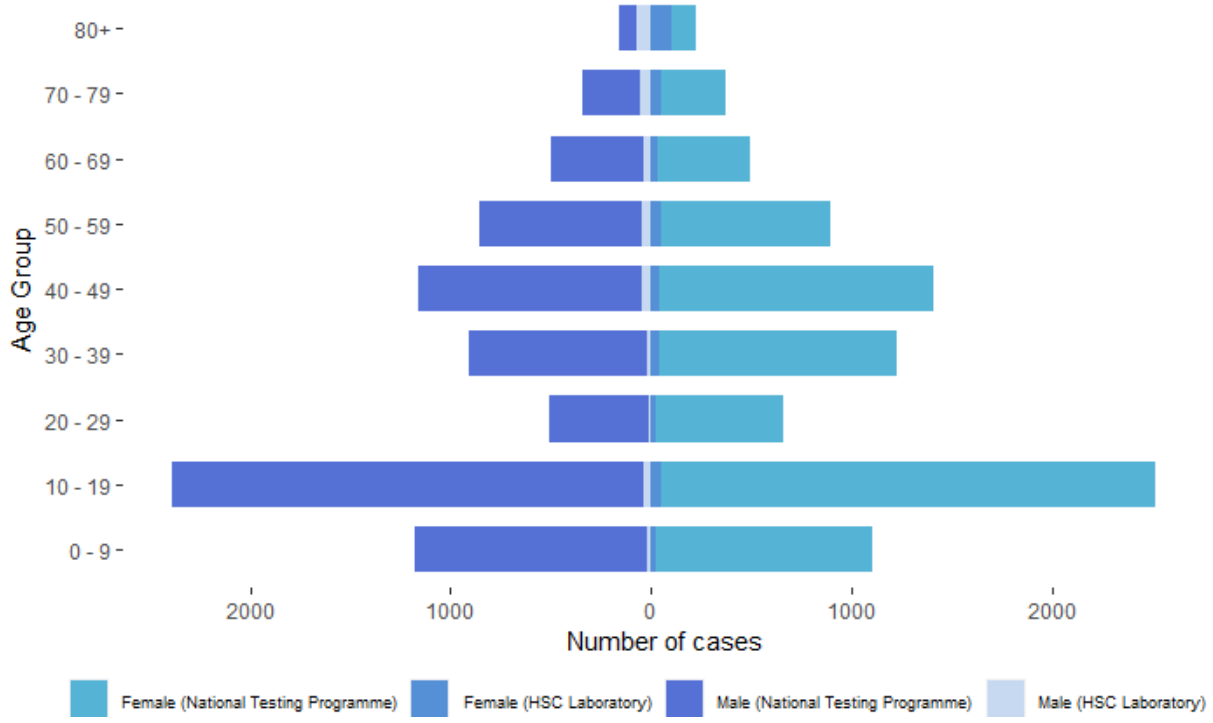


Figure 4. Laboratory confirmed cases, by age, sex and source (HSC Laboratory testing and the National Testing Programme), for weeks 41 and 42

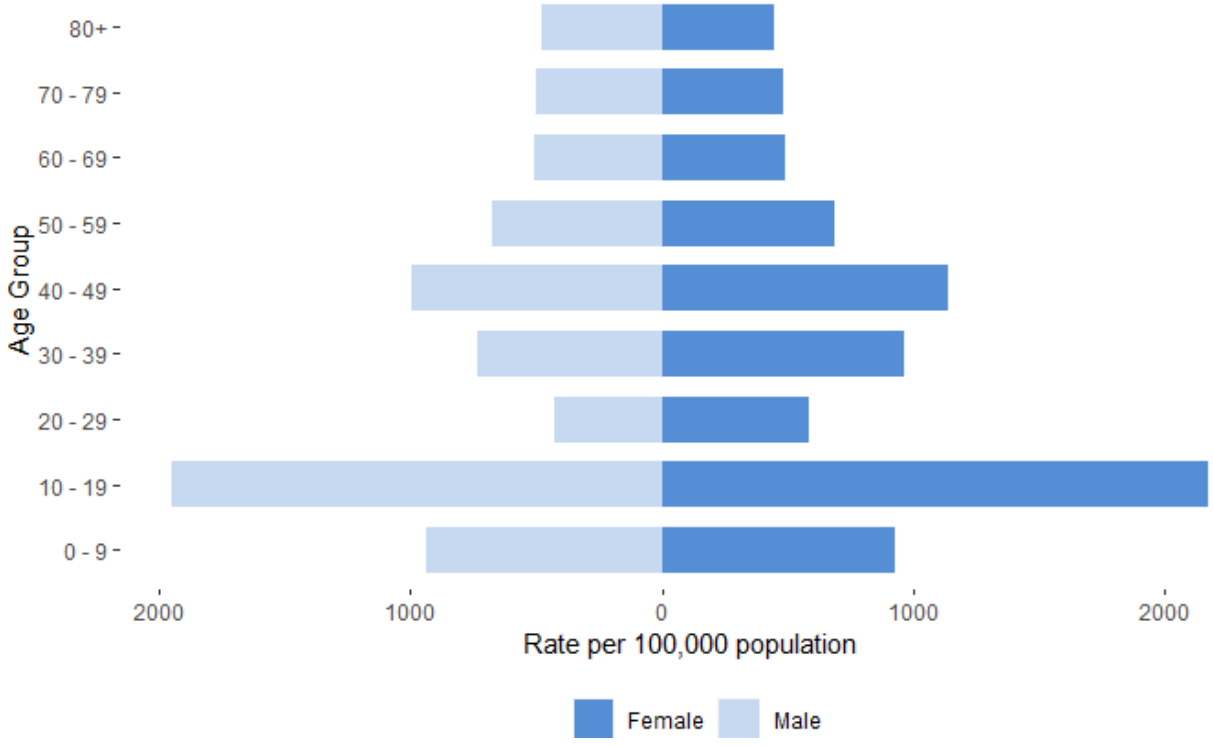


Figure 5. Laboratory confirmed cases per 100,000 population, by age and sex, for all testing data combined, for weeks 41 and 42

Figures 2 and 3 represents the cumulative number of cases reported by HSC laboratories and the National Testing Programme, and overall case rates per 100,000 population, respectively. HSC laboratory cases were mainly detected at the beginning of the pandemic in hospital settings, resulting in higher cases and rates among the older age groups. With the introduction of the National Testing Programme it has become the main source of case data as a result of enhanced community testing. This has enabled detection of a greater spectrum of disease, with more cases being detected outside of hospital settings as part of this programme, particularly in younger age groups. From this data we can now see a higher number of cases overall in the 10-19 age group.

Figures 4 and 5 show similar findings to the cumulative numbers but restricted to the previous two epidemiological weeks. These show how the age groups of cases in the most recent weeks differ from the overall cumulative cases presented in figures 2 and 3; in particular the lower case rates in the older age groups in recent weeks.

Table 1. Total laboratory confirmed COVID-19 cases, by sex, for all testing data combined

	Sex		
Age Group	Male	Female	Total*
0 - 9	10,429	9,988	20,417
10 - 19	22,720	25,089	47,809
20 - 29	21,101	23,177	44,278
30 - 39	19,865	23,190	43,055
40 - 49	17,323	20,139	37,462
50 - 59	15,035	16,702	31,737
60 - 69	8,824	8,553	17,377
70 - 79	5,391	5,399	10,790
80+	3,794	6,015	9,809
Unknown	0	3	3
Total	124,482	138,255	262,737

**Unknown sex for 263; these are not included in the total figures*

Table 2. Laboratory confirmed COVID-19 cases, by Trust				
	Epidemiological Week			
Trust Area	40	41	42	Total
Belfast	128	181	155	8,201
Northern	48	61	61	5,252
South Eastern	65	44	60	3,435
Southern	39	40	40	4,062
Western	25	30	34	2,353
Other*	8,207	8,174	8,067	239,562
Unknown	0	1	2	135
Northern Ireland	8,512	8,531	8,419	263,000

**Other cases includes those from the National Testing Programme, NIAS, private nursing home residents, pathology services, GPs and hospices*

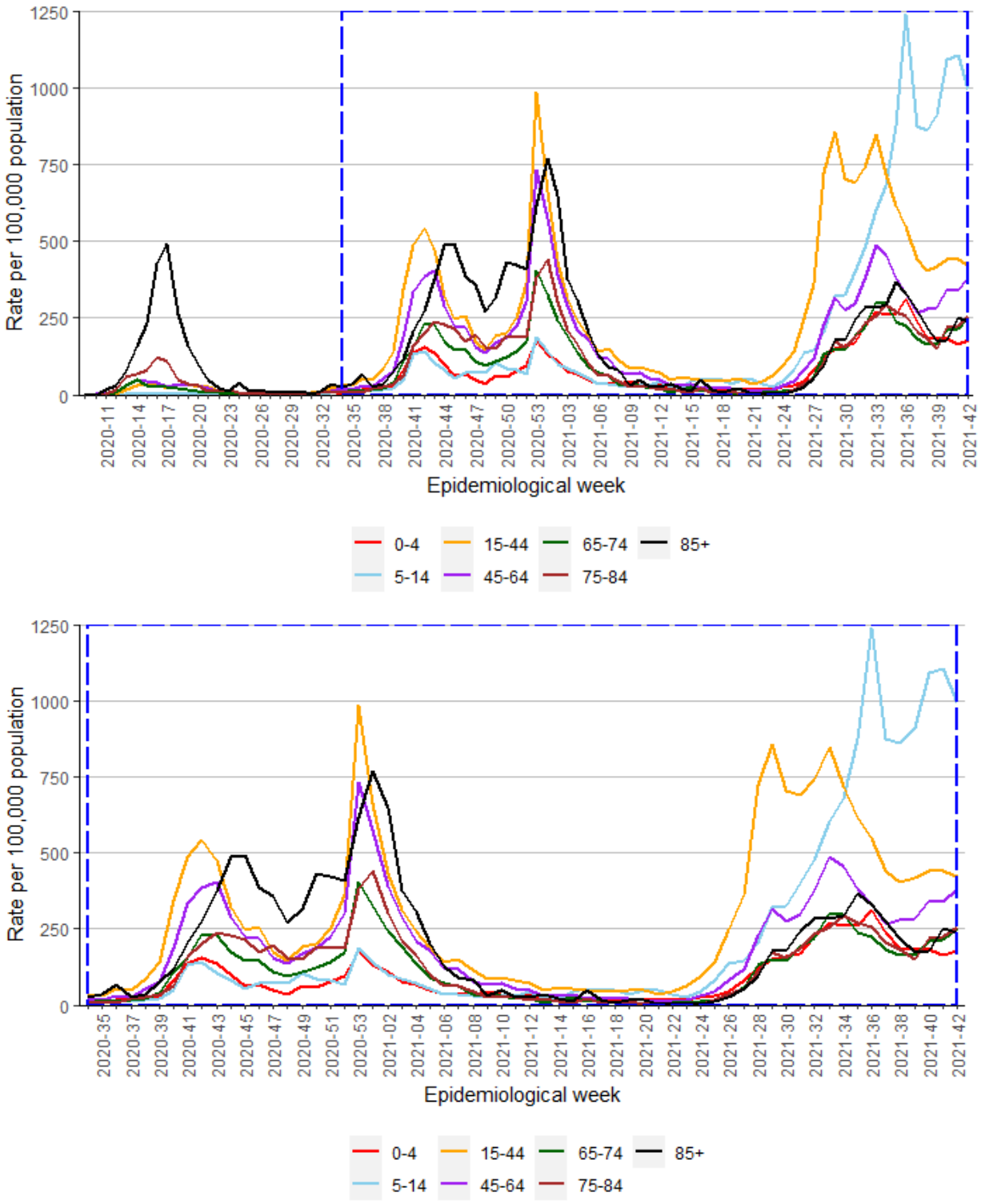


Figure 6. Weekly laboratory confirmed case rates per 100,000 population, by age group, for all testing data combined, 2020-21

The case rates decreased in week 42 compared to the previous week in the 5-14, 15-44 and 85+ age groups. All other age groups saw an increase. The highest case rates were seen in the 5-14 age group (996.1 per 100,000). This is lower than the peak of 1242.9 per 100,000 in the 5-14 age group in week 36 (06 – 13 September 2021).

In week 42, positivity was highest in the 5-14 age group (32.3%). The lowest positivity was observed in the 85+ age group (6.7%); a change from week 41 where the lowest positivity was in the 0-4 age group.

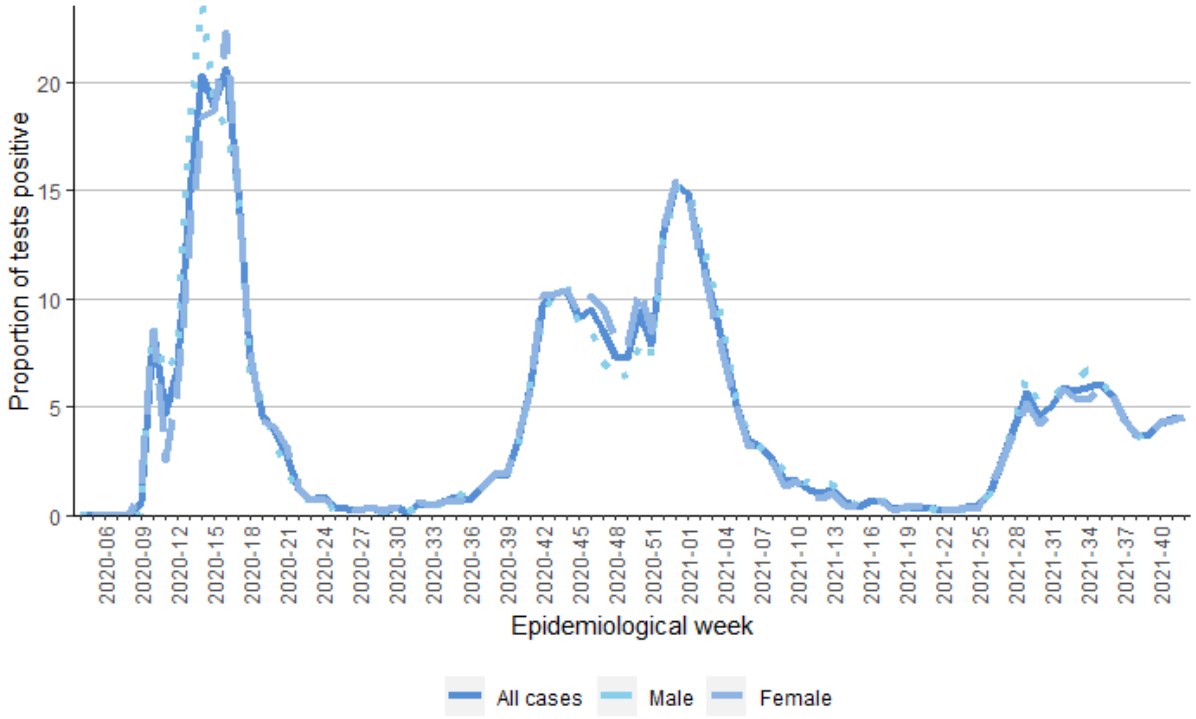


Figure 7. Positivity (%) of laboratory confirmed COVID-19 cases by epidemiological week, overall and by sex (HSC Laboratory testing), 2020-21

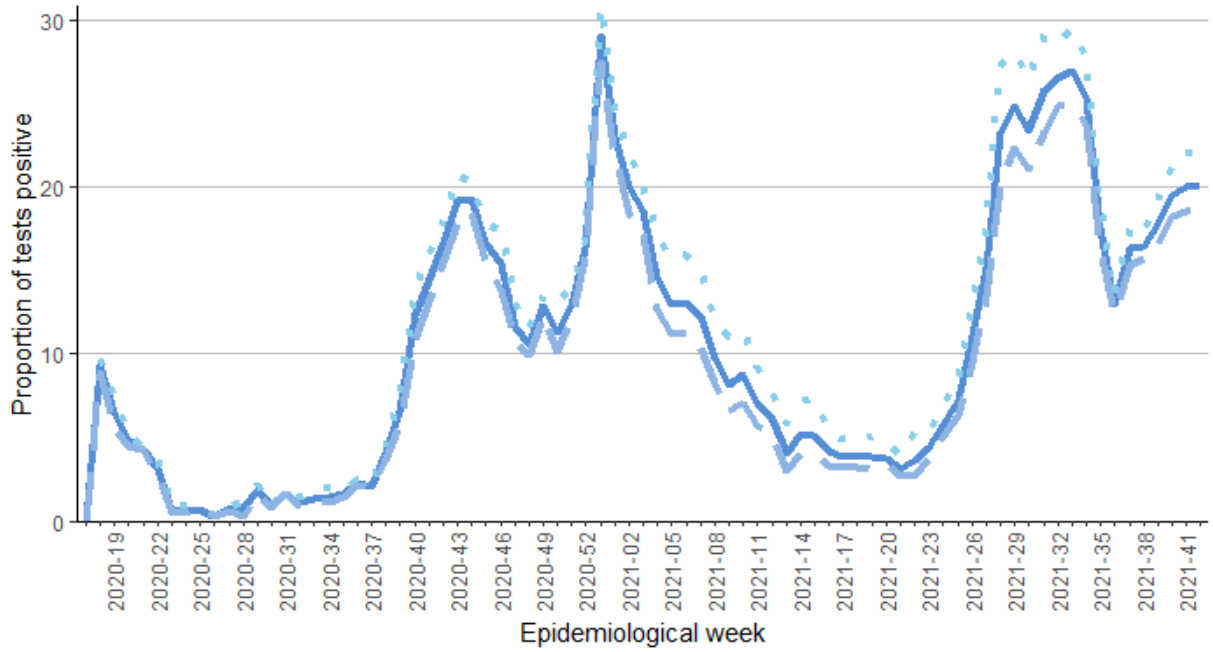


Figure 8. Positivity (%) of laboratory confirmed COVID-19 cases by epidemiological week, overall and by sex (National Testing programme), 2020-21

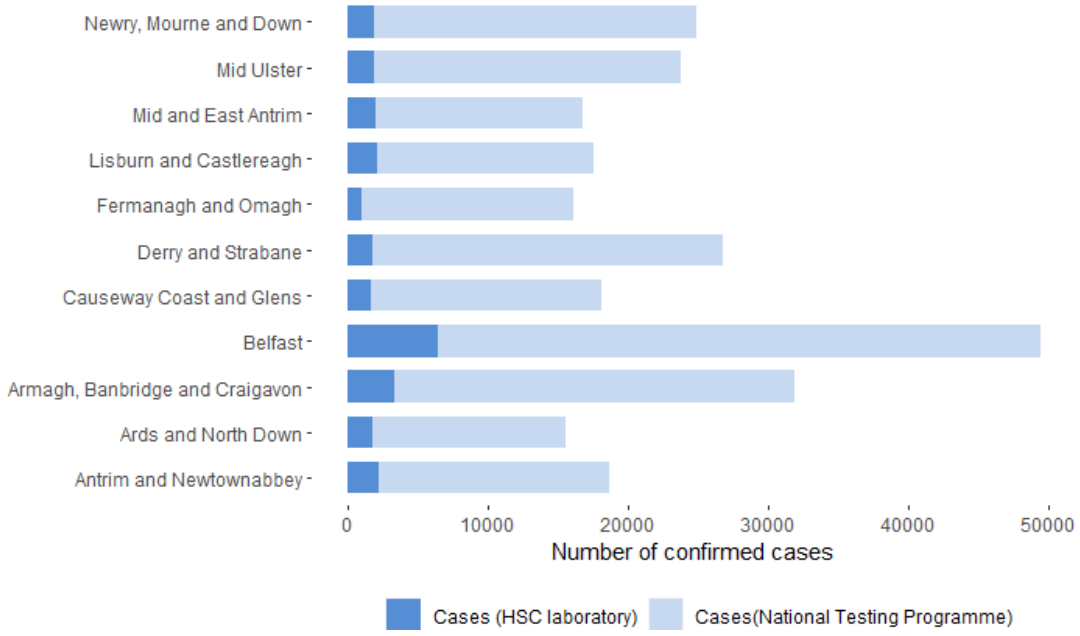


Figure 9. Total laboratory confirmed cases, by Local Government District (LGD) and source (HSC Laboratory testing and the National Testing Programme), 2020-21

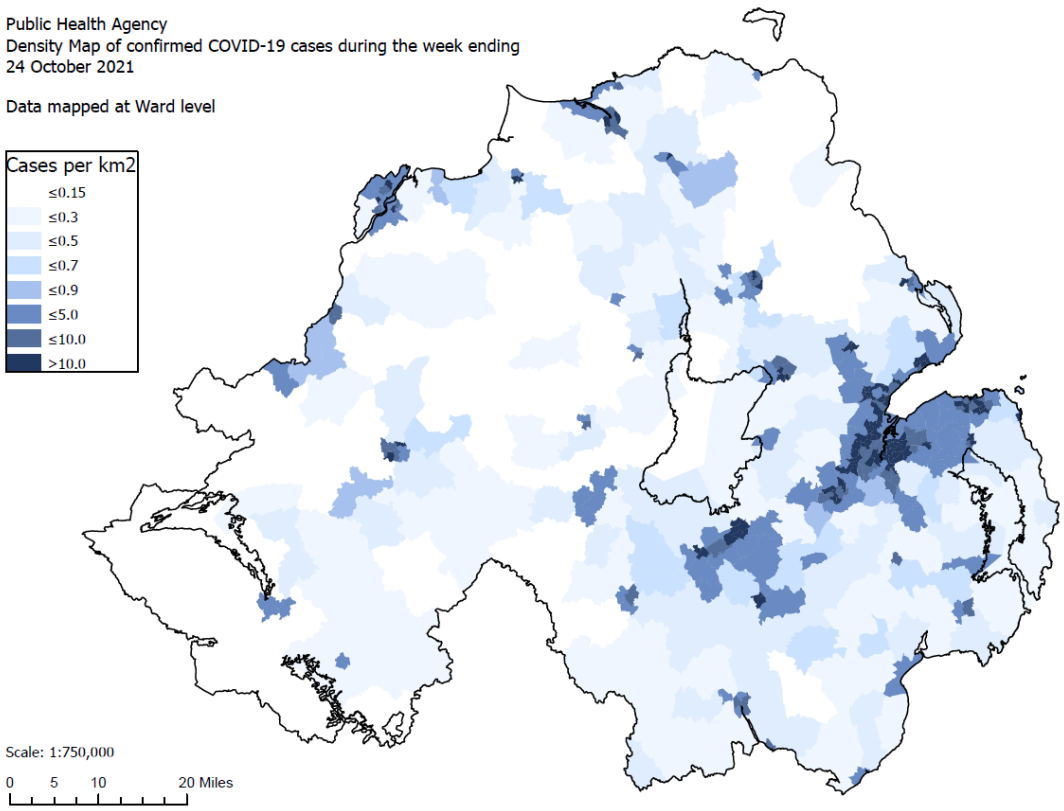


Figure 10. Density map of confirmed COVID-19 cases, for all testing combined, 2020-21

Figure 10 shows a density map based on the number of confirmed COVID-19 cases in week 42, in which data is aggregated at Ward level. The coloured shading on the map indicates density of cases, with the darkest shade of blue indicating where there is the greatest density of cases. However, information should be interpreted with caution as identified rates are based on testing which is not evenly spread across the region.

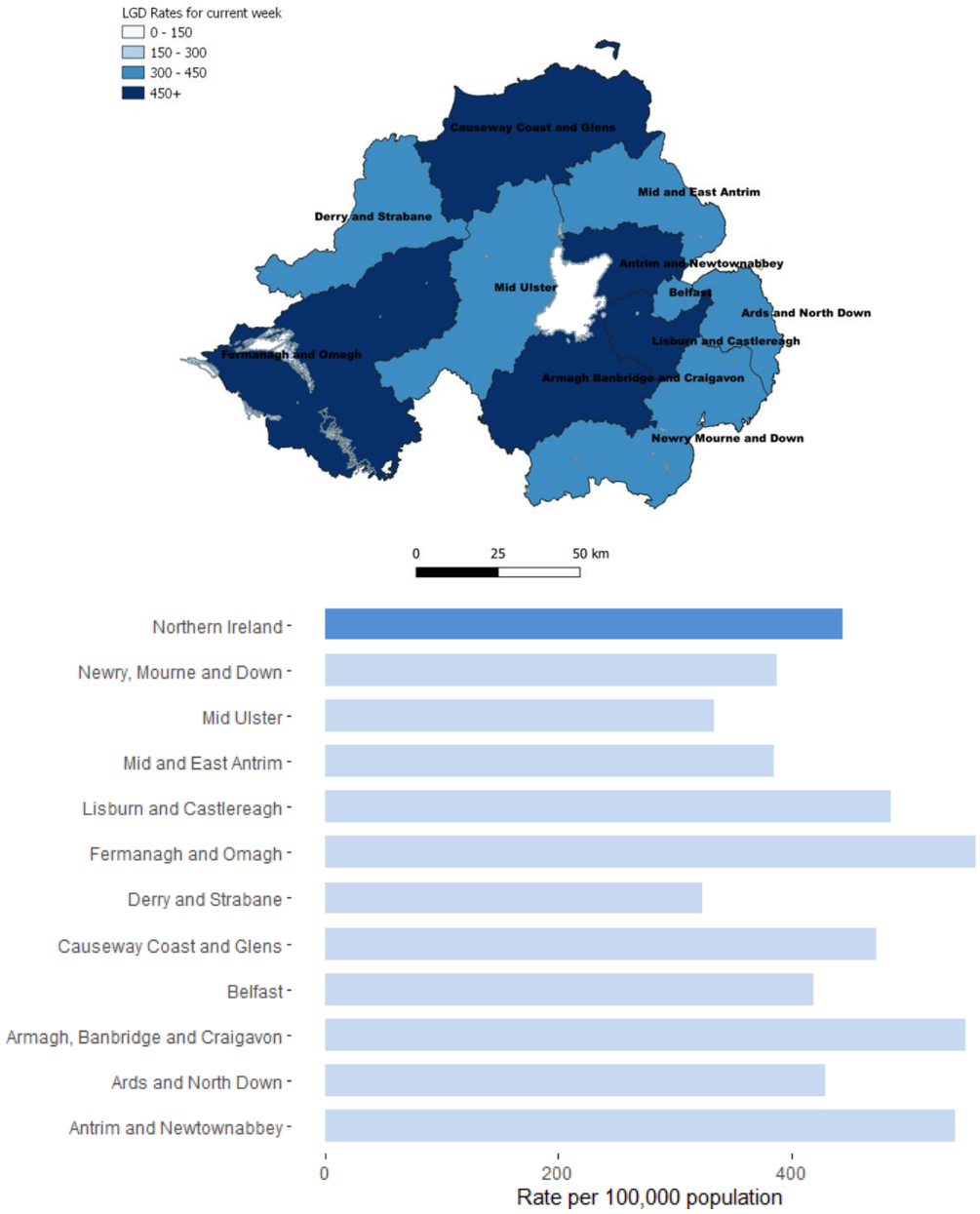
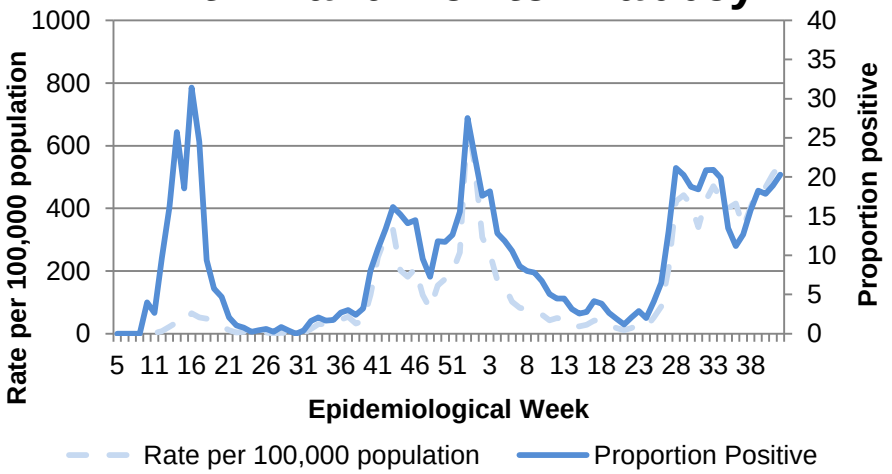
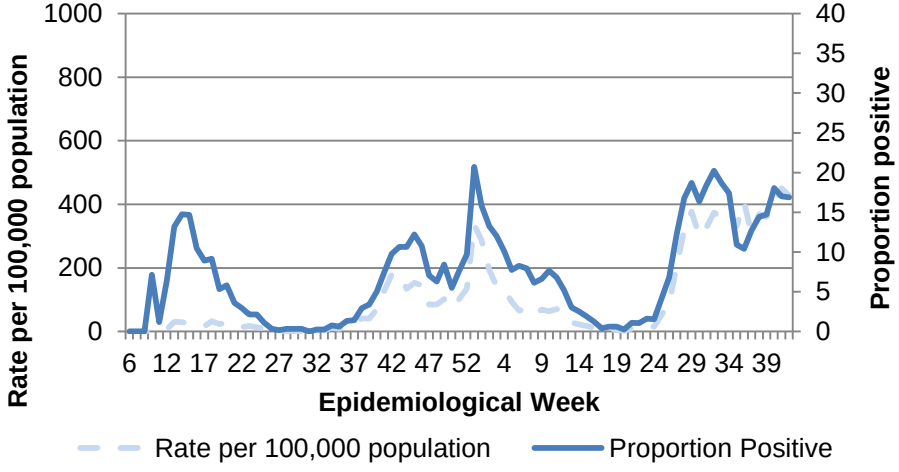


Figure 11. Total laboratory confirmed cases per 100,000 population, by Local Government District (LGD), for all testing data combined, week 42 (18 October – 24 October 2021)

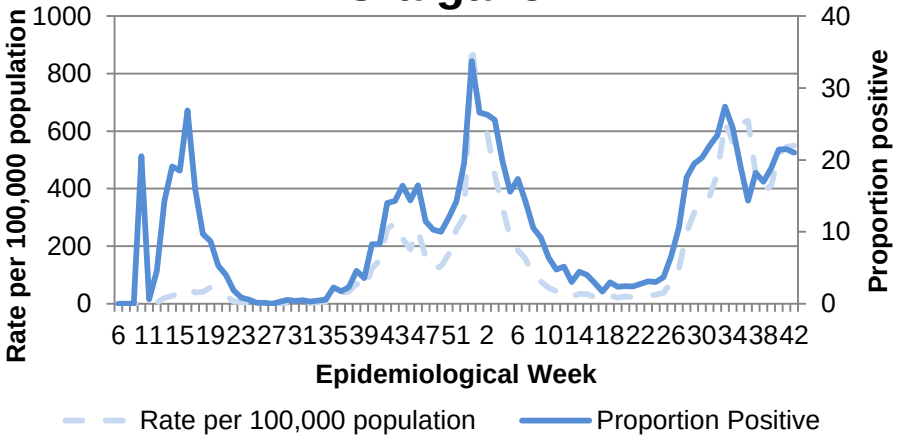
Antrim and Newtownabbey



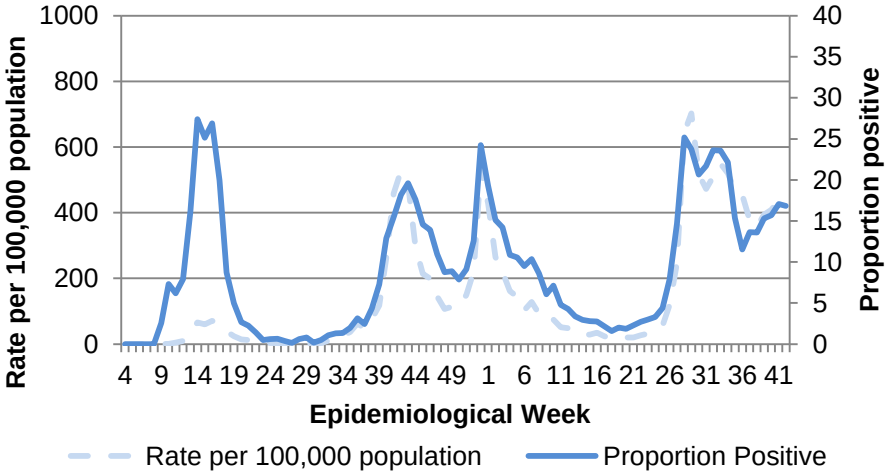
Ards and North Down



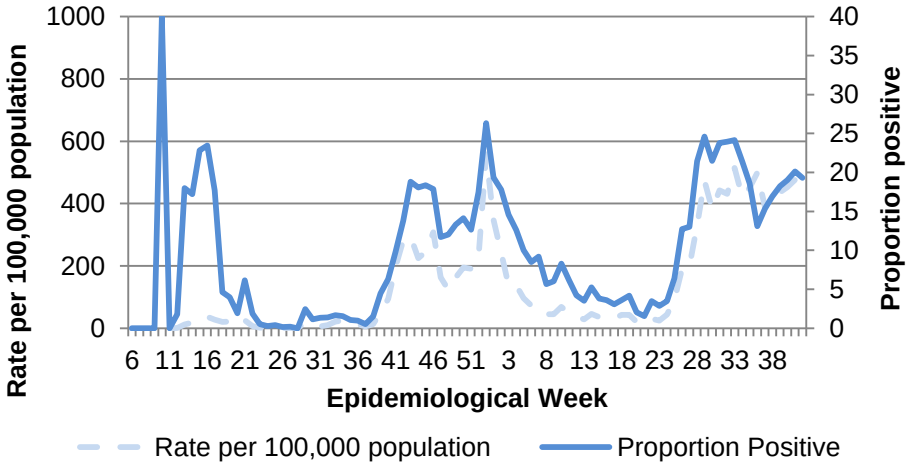
Armagh, Banbridge and Craigavon



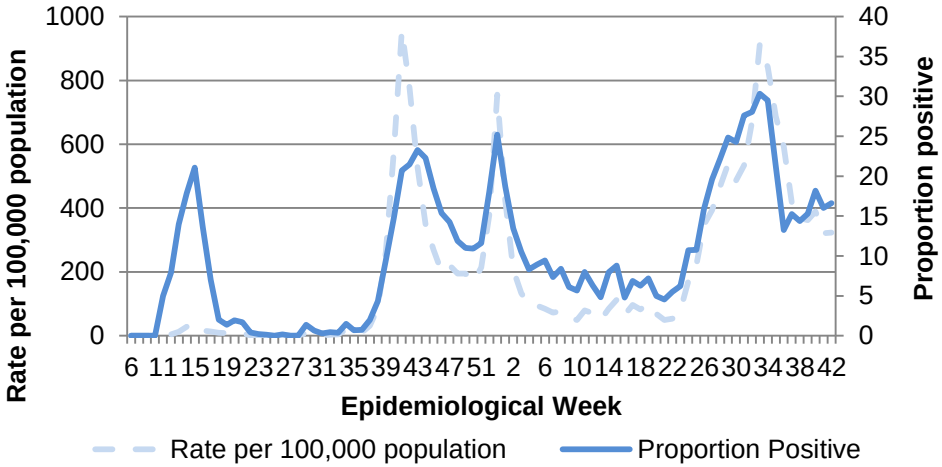
Belfast



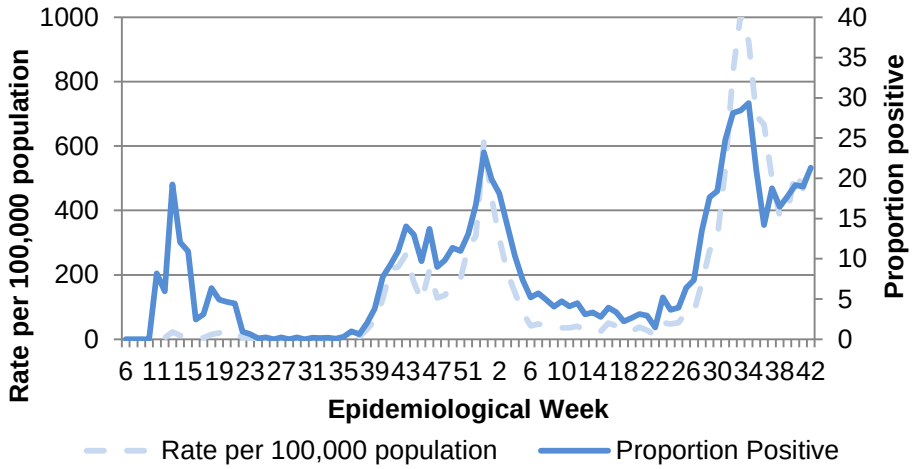
Causeway Coast and Glens



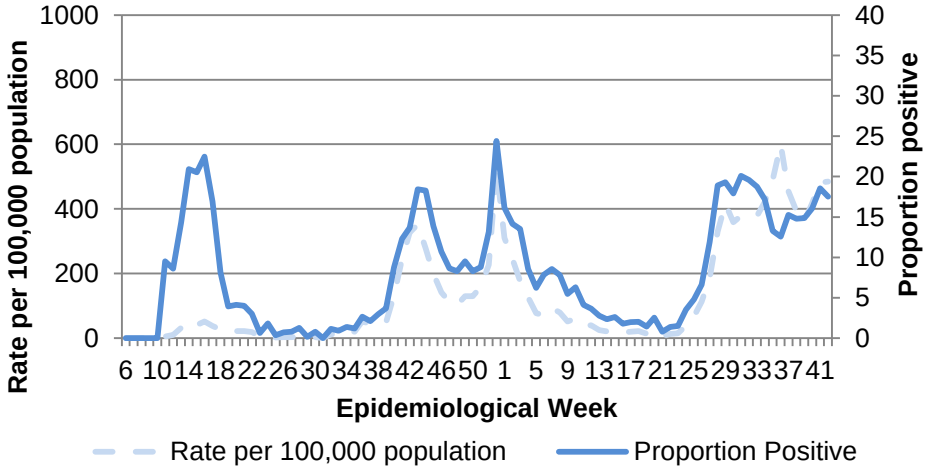
Derry and Strabane



Fermanagh and Omagh



Lisburn and Castlereagh



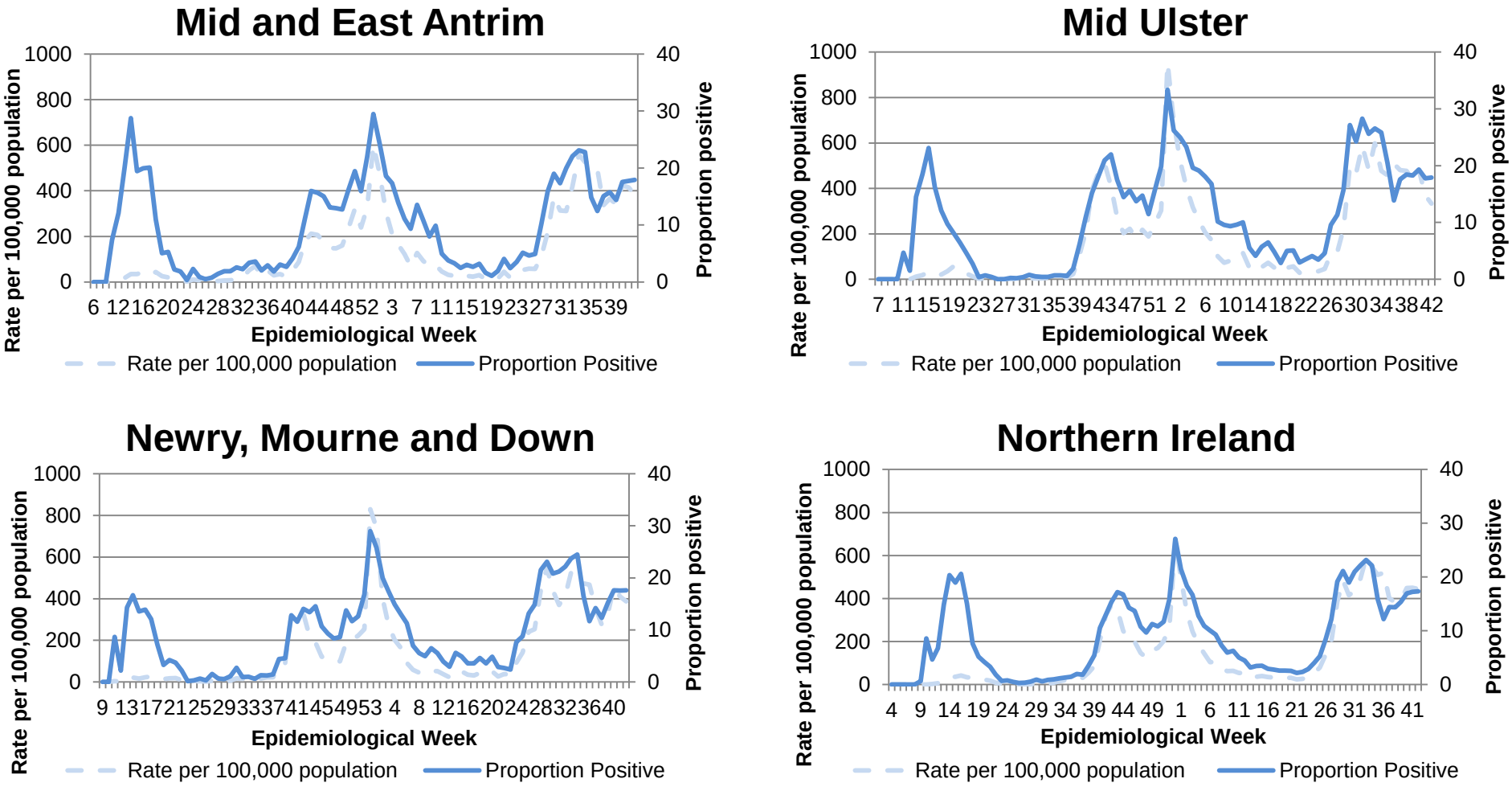


Figure 12. Weekly laboratory confirmed cases per 100,000 population and proportion positive, by Local Government District (LGD) and Northern Ireland, for all testing data combined, 2020-2021

The case rates increased in Antrim and Newtownabbey, Armagh, Banbridge and Craigavon, Derry and Strabane, Fermanagh and Omagh and Lisburn and Castlereagh in week 42 compared to week 41. All other Local Government Districts saw a decrease. Fermanagh and Omagh had the highest rate in week 42 compared to other Local Government Districts (557.4 per 100,000 population). The overall NI rate decreased from 450.1 to 444.2 per 100,000 population between weeks 41 and 42.

The highest positivity occurred in Fermanagh and Omagh (21.3%). NI's proportion positive in week 42 was 17.3%, a slight increase from 17.2% in week 41. This is lower than the peak positivity of 27.1% reported across NI in week 53 (27 December 2020 – 03 January 2021).

Source: HSC Trust laboratory reports and the National Testing Programme

Deprivation

An analysis of COVID-19 related health inequalities relating positive test cases and COVID-19 related admissions between the most and least deprived areas of NI, including variations across age, sex and urban and rural areas was published by Department of Health on 16 December 2020.

Care home outbreaks

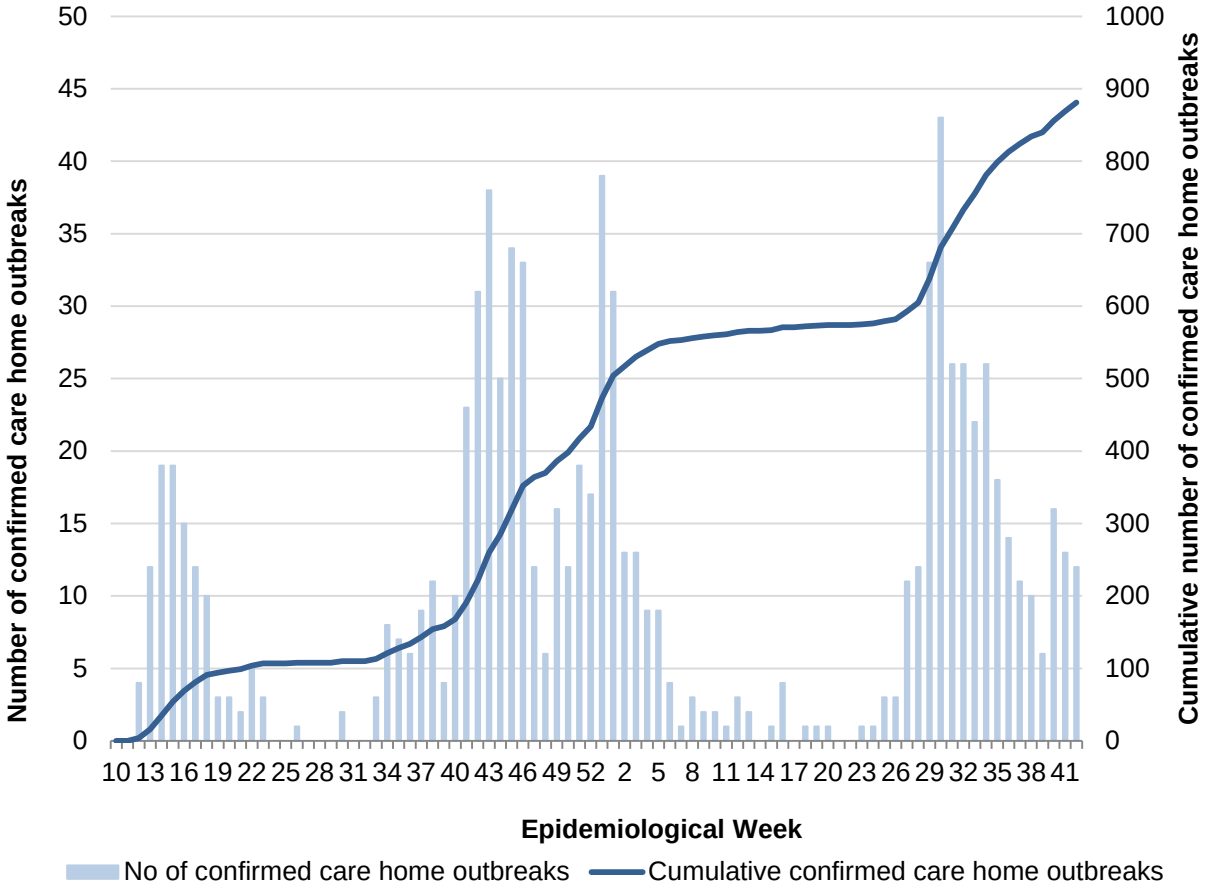


Figure 13. Confirmed COVID-19 care home outbreaks in Northern Ireland, 2020-21

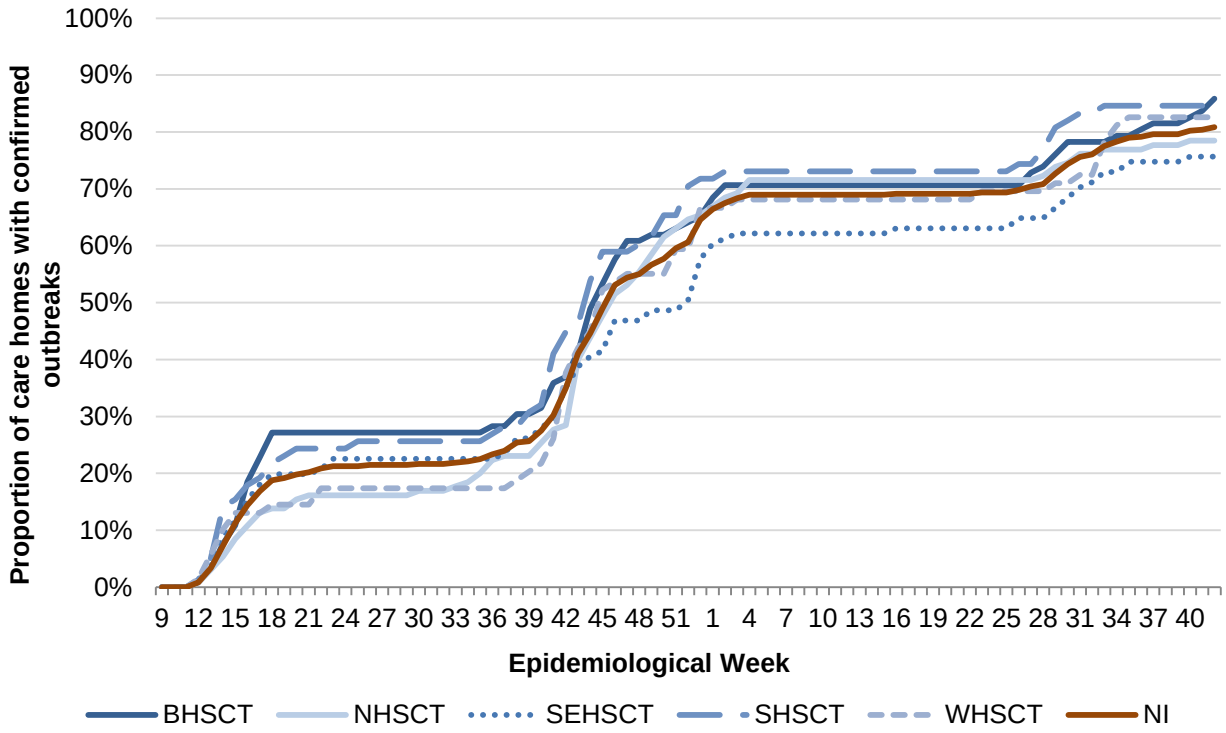


Figure 14. Proportion of care homes with confirmed COVID-19 in Northern Ireland by Trust area, 2020-21

Table 3. Proportion of care homes with confirmed COVID-19 outbreaks in Northern Ireland, by Trust Area

Trust Area	Cumulative total of care homes with outbreaks in 2020-21	% of care homes with outbreaks	Total number of care homes
Belfast	79	85.9%	92
Northern	102	78.5%	130
South Eastern	84	75.7%	111
Southern	66	84.6%	78
Western	57	82.6%	69
Northern Ireland	388	80.8%	480

**Please note the total number of registered care homes are regularly updated and may differ when compared to previous weeks*

To week 42, a total of 881 confirmed COVID-19 care home outbreaks were reported, involving 388 care homes (80.8% of all NI care homes). The highest proportion of care homes with confirmed COVID-19 outbreaks (85.9%) were reported from the Belfast Trust area.

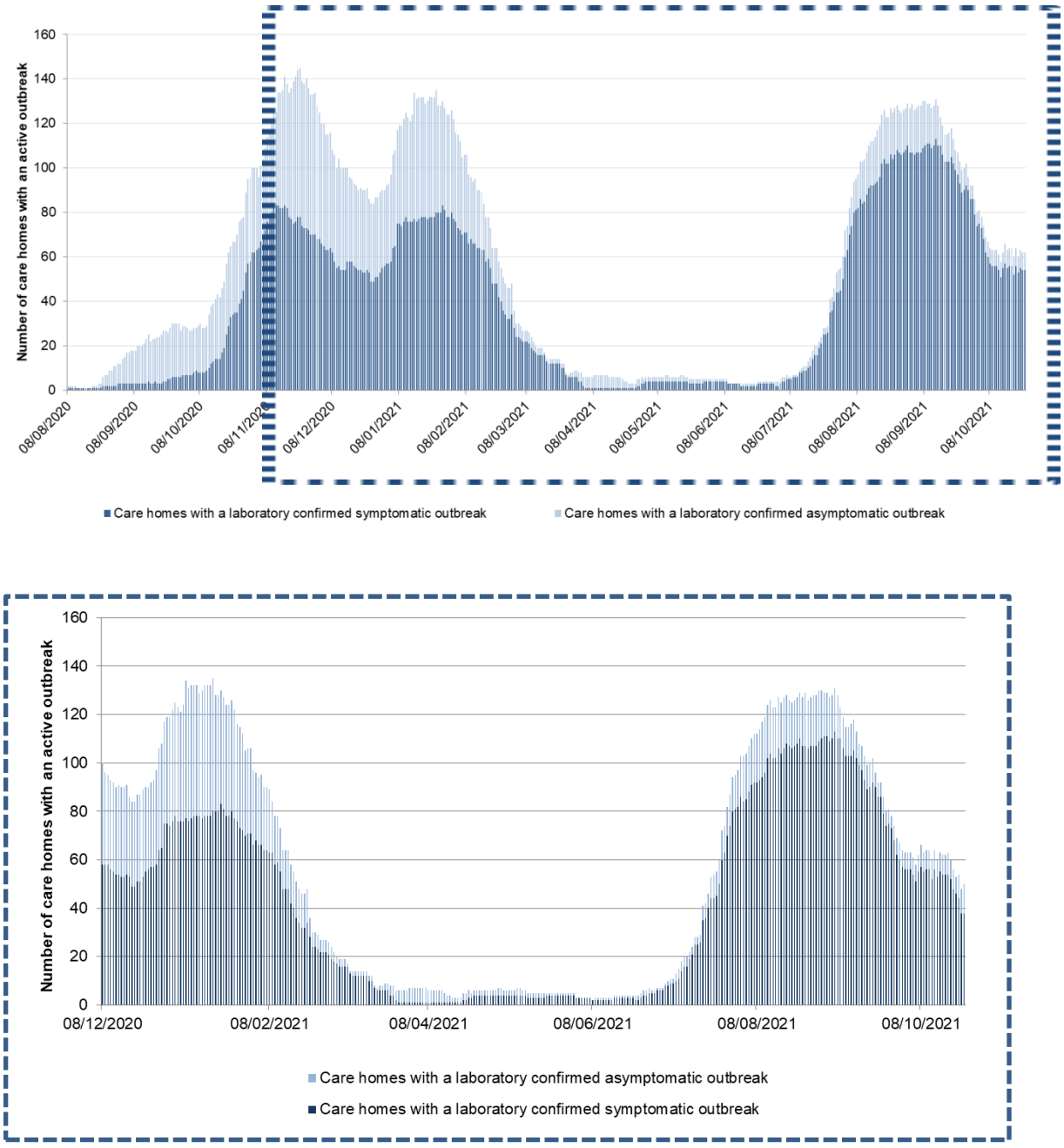
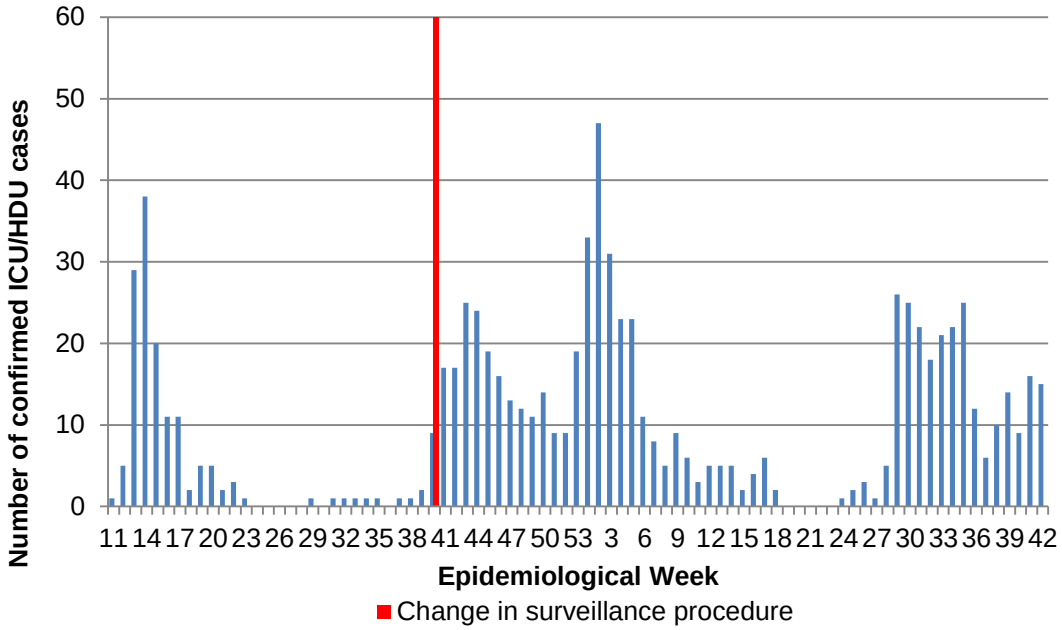


Figure 15. Number of care homes with a confirmed active symptomatic or asymptomatic COVID-19 outbreak[6] in Northern Ireland, 2020-21

Source: PHA Health Protection duty room reports from care homes

[6] PHA began recording confirmed Covid-19 outbreaks as either symptomatic or asymptomatic on 1 August 2020. This means the numbers represented on the graph may not equal the total active confirmed COVID-19 outbreaks. Confirmed COVID-19 outbreaks reported prior to 1 August 2020 and are still ongoing are not included in this graph. Additionally, other respiratory outbreaks are not included.

Critical care surveillance



*Since start of week 40 (28 September 2020), data collection for critical care surveillance has been streamlined to coincide with the well-established surveillance of influenza patients in critical care in conjunction with the Critical Care Network Northern Ireland (CaNNI). For weeks 11-40 in 2020, Epidemiological week refers to the week the positive specimen was obtained. Post week 40 it refers to the week in which the individual was admitted to ICU.

Figure 16. ICU/HDU COVID-19 cases by sample result week, 2020-21

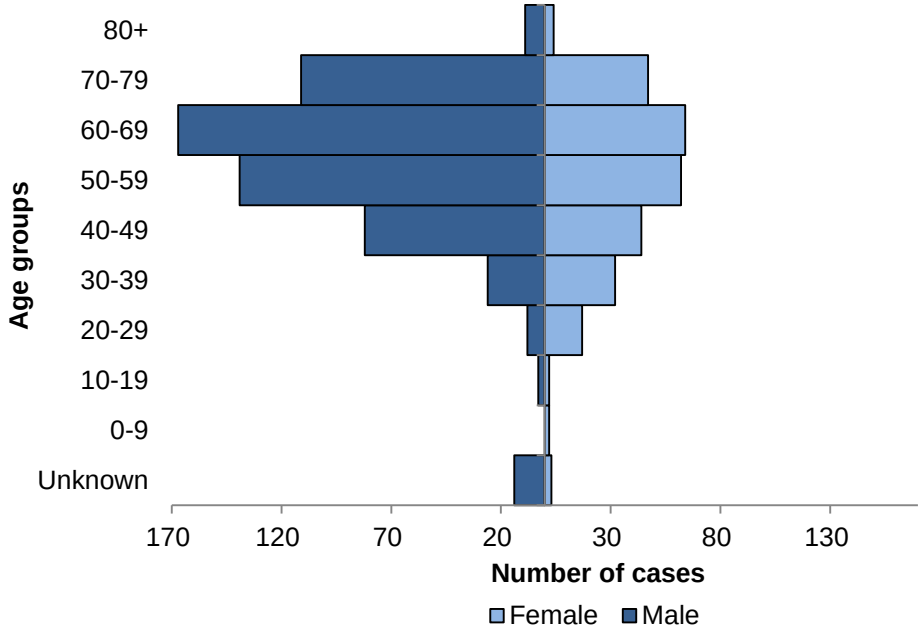


Figure 17. ICU/HDU COVID-19 cases, by age and sex, 2020-21

To week 42, there have been 838 individuals admitted to critical care with confirmed SARS-CoV2 reported to the PHA. Week 2 had the highest number of ICU reports with a positive result (n=47). Of the 838 individuals 66.7% (n=559) were male. The ages ranged from <1 year to 90 years, with a median age of 59 years.

Source: PHA COVID-19 critical care surveillance online reporting system and the Critical Care Network Northern Ireland (CaNNI)

The Intensive Care National Audit and Research Centre (ICNARC) publish a report on patients critically ill with COVID-19 (https://www.icnarc.org/Our-Audit/Audits/Cmp/Reports). There is also a specific report which can be downloaded presenting analysis of data on patients critically ill with confirmed COVID-19 reported to ICNARC up to 23:59 on 21 October 2021 from critical care units in NI participating in the Case Mix Programme (the national clinical audit for adult critical care).

Schools' Surveillance

From 10 September 2021 there was a change to contact tracing of children within schools settings[1, 2]. The change in contact tracing arrangements, data systems and recording mean data presented from that date will differ from that previously presented on schools in the PHA COVID-19 bulletin. This data is therefore not directly comparable with the schools data included in previous COVID-19 bulletins.

Reported association of cases with a school or educational institution does not necessarily mean that transmission occurred in school. COVID-19 transmission to pupils and staff can occur in a variety of settings, including their households where the risk of transmission is known to be high. Inferences should not be made from these data about where COVID-19 transmission took place.

Summary points

The rates per 100,000 of confirmed cases in the school age population rose over the summer months (weeks 21 to 33, Figure 18). This rise was most marked in those aged 15 and over. The rates in the 15-16 and 17-18 year olds then fell between weeks 34 and 38, possibly reflecting rising vaccination rates in these age groups. In contrast, rates in younger children aged 5-15, few of whom would be vaccinated, continued to rise.

In the 28 days up to 24 October 2021:

1. There were 12,470 confirmed cases notified to the Contact Tracing Service (CTS) where the case advised they attended or worked in a school (5,187 primary, 7,075 post-primary and 208 special school cases) (Table 4).
2. The proportion of confirmed cases which were pupils was 3.3% of the total enrolled school population (Table 5).

3. 41.6% of cases were associated with post primary schools, 56.7% with primary schools and 1.7% with special schools (Table 4).
4. 92.0% of cases were pupils (Table 6).
5. 79.7% of primary, 99.0% of post primary and 87.5% of special schools have had at least one case. Of schools with at least one case in the last 28 days, almost two-thirds (63.5%) had 10 cases or fewer (Tables 7 and 8).
6. In 80.1% of schools, the number of cases in pupils was less than 5% of their enrolled school population (Table 9).
7. In 6.3% of post primary schools the number of cases in pupils was greater than 10% of their enrolled school population, compared to 3.9% in primary schools (Table 9).

1. Joint memo from the Offices of the Ministers of Education and Health regarding revised arrangements for contact tracing of children in schools - https://www.educationni.gov.uk/sites/default/files/publications/education/Joint%20Memo%20from%20DE%20and%20DoH%20Ministers.pdf
2. Updated CMO guidance regarding schoolchildren - https://www.health-ni.gov.uk/sites/default/files/publications/health/CMO-letter-to-school-community.pdf

Methodology and caveats

- This report contains data related to confirmed COVID-19 cases (PCR positive) entered onto the CTC database between 27 September and 24 October 2021 (Epi weeks 39 to 42 based on date of sample,) where the case is reported to be associated with a school. Data was extracted at 10 am on Wednesday 27 October 2021.
- Weeks 21, 22 etc refer to Epidemiological weeks, running Monday to Sunday.
- It is important to note that the definitive source for the number of COVID-19 confirmed cases in school aged children is from PCR testing via the National Testing Programme and HSC laboratories. Direct comparisons should not be made between laboratory data and data in this report. This report is subject to change as data quality and methods develop.
- Cases associated with nurseries, pre-schools, further education colleges and universities are not included in this report.
- The association of cases with a primary, post primary or special school is based on self-reported data collected as part of the contact tracing process. The data presented were analysed using data from the CTC database, which is designed for contact tracing purposes and not for identifying where transmission took place. Reported association of cases with a school or educational institution does not mean that cases were in school during their infective period or at the date of the test, nor that transmission occurred in school. Inferences should not be made from these data about where COVID-19 transmission took place.
- Cases aged 4 to 19 years are categorised as pupils and those over 19 years categorised as staff. Cases without a recorded date of birth were excluded from pupil/staff totals, which may be slightly different from other table totals.
- School enrolment numbers are taken from https://www.education-ni.gov.uk/publications/school-enrolment-school-level-date-202021. Data on the number of school institutions has been updated

(http://apps.education-ni.gov.uk/appinstitutes/default.aspx) and may differ from previous reports.

- Regular twice weekly Lateral Flow Device (LFD) testing in pupils in post primary schools and staff in all mainstream schools may increase case ascertainment as asymptomatic individuals testing positive by LFD test are encouraged to seek PCR test confirmation of the result.

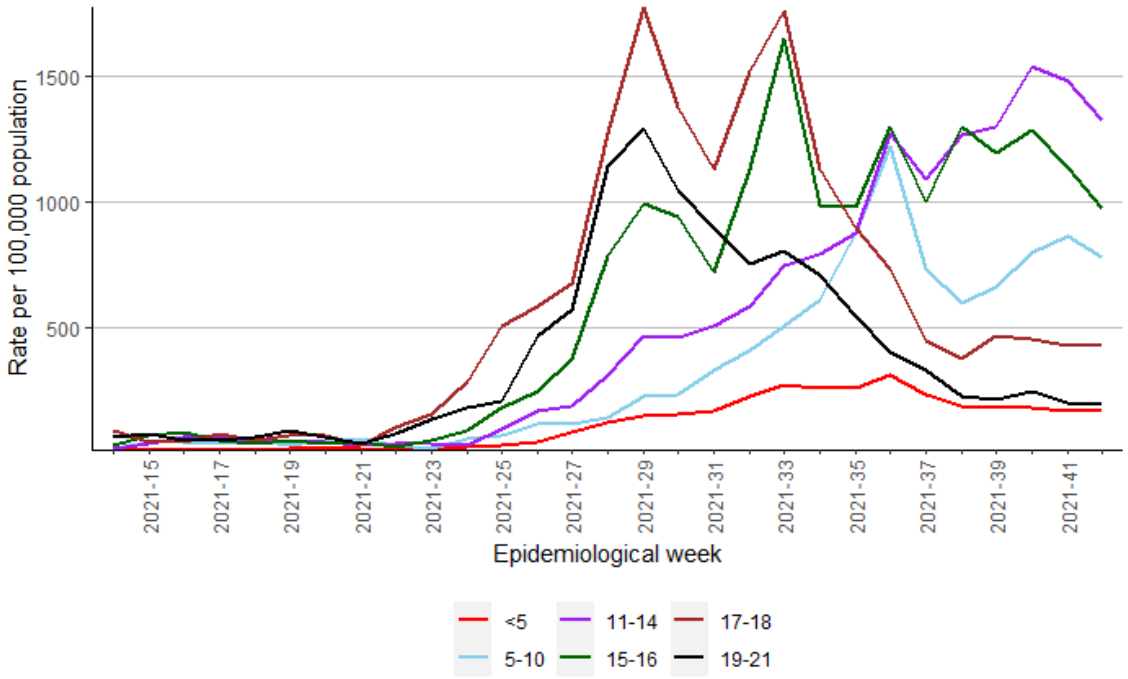


Figure 18. Weekly COVID-19 laboratory confirmed case rates per 100,000 population, by age group, for all testing data combined, in those aged 21 and under.

Please note: This figure shows case rates derived from laboratory testing data and NOT from CTC data.

Table 4 shows the total number of cases (includes pupils and staff) by school type in the 4 weeks up to Epidemiological Week 42 (24 October 2021).

Table 4. Number of COVID-19 cases reported by school type				
Epidemiological Week and Week ending	Primary	Post Primary	Special	Total Cases
Week 39 (03 Oct)	1,112	1,687	50	2,849
Week 40 (10 Oct)	1,306	1,953	43	3,302
Week 41 (17 Oct)	1,445	1,787	51	3,283
Week 42 (24 Oct)	1,324	1,648	64	3,036
Total	**5,187**	**7,075**	**208**	**12,470**

**Primary: includes primary and preparatory schools. Post primary: includes secondary and grammar schools.*

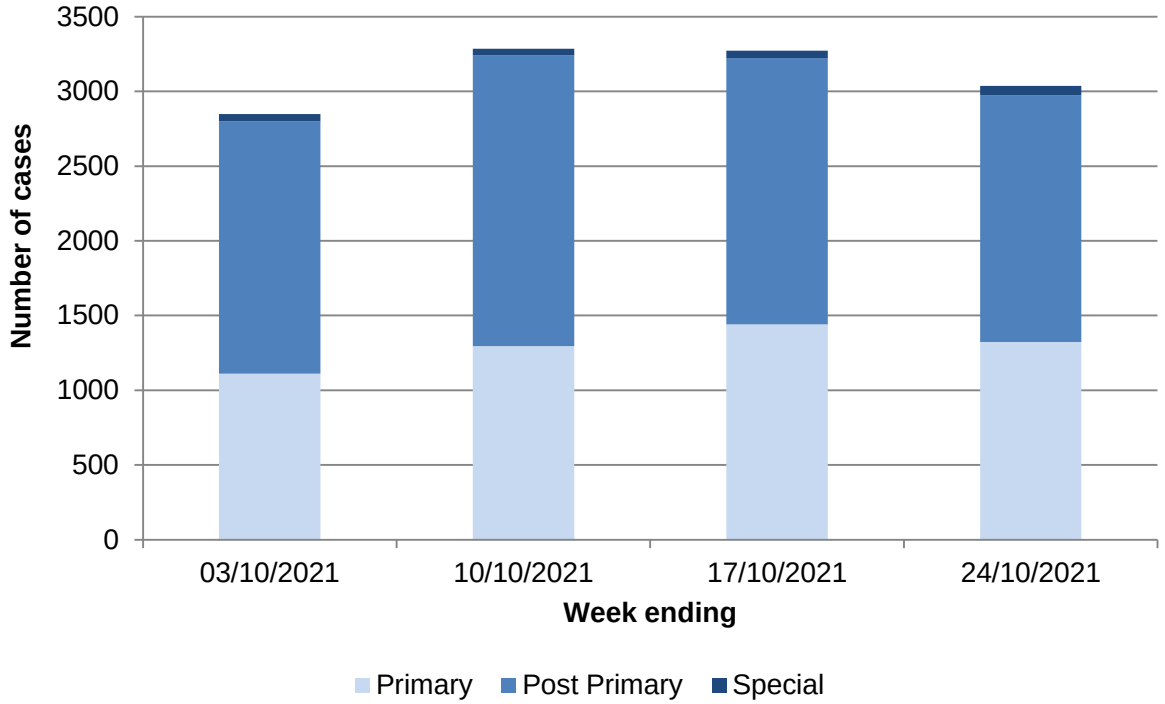


Figure 19. Number of COVID-19 cases reported by school type in the 4 weeks up to Epidemiological Week 42 (24 October 2021).

Table 5 shows the number cases that are pupils by school type and as a proportion of all enrolled pupils in NI, in the last 7 and 28 days, up to Epidemiological Week 42 (24 October 2021).

Table 5. Number of cases and as a proportion of all school age children, by school type, in the previous 7 and 28 days to 24 October 2021

	7 days		28 days	
School Type	**Cases**	**Proportion of pupil enrolment for sector**	**Cases**	**Proportion of pupil enrolment for sector**
Primary	1146	0.6%	4,551	2.5%
Post Primary	1,526	1.0%	6,628	4.5%
Special	39	0.6%	121	1.9%
Total	**2,711**	**0.8%**	**11,300**	**3.3%**

Table 6 shows the number of pupils and staff cases, by school type, in the previous 28 days, up to Epidemiological Week 42 (24 October 2021).

Table 6. Number of pupil and staff cases, by school type, in the previous 28 days to 24 October 2021				
School Type	**Pupils**	**Staff**	**Total**	**Proportion of all cases that are pupils**
Primary	4,551	502	5,053	90.1%
Post Primary	6,628	397	7,025	94.3%
Special	121	87	208	58.2%
Total	**11,300**	**986**	**12,286**	**92.0%**

Table 7 shows number of schools with cases and the proportion, by school type, in the previous 28 days, up to Epidemiological Week 42 (24 October 2021).

Table 7. Number and proportion of schools with COVID-19 cases by school type			
School Type	**Number schools with at least one case**	**Proportion of schools with at least one case**	**Total number of schools in NI**
Primary	640	79.7%	803
Post Primary	191	99.0%	193
Special	35	87.5%	40
Total	**866**	**83.6%**	**1,036**

**Please note the total number of schools has been updated and may differ when compared to previous weeks*

Table 8 shows the number and percentage of schools with cases in pupils or staff, by type of school in the previous 28 days, up to Epidemiological Week 42 (24 October 2021).

Table 8. Number and percentage of schools with cases by school type					
	Schools with COVID-19 cases				
School Type	1-5	6-10	11-15	>15	Total
Primary	344 (53.8%)	146 (22.8%)	40 (6.2%)	110 (17.2%)	640
Post Primary	6 (3.1%)	21 (11.0%)	20 (10.5%)	144 (75.4%)	191
Special	16 (45.7%)	17 (48.6%)	*	*	35
Total	**366 (42.3%)**	**184 (21.2%)**	**61 (7.0%)**	**255 (29.4%)**	**866**

** Data not disclosed due to small numbers. Percentages may not add to 100% due to rounding.*

Table 9 shows positive cases in the context of school pupil population by considering the number of pupil cases in each school relative to the number of pupils in that school. It shows the number and percentage of schools categorised by the proportion of pupil cases relative to the enrolled school population, by type of school in the previous 28 days, up to Epidemiological Week 42 (24 October 2021).

Table 9. Number and percentage of schools categorised by the proportion of pupil cases relative to the enrolled school population by school type

	Percentage of cases relative to school population (Number of pupil cases / total pupils enrolled)					
School Type	**0.1 to 2.4%**	**2.5 to 4.9%**	**5.0 to 7.4%**	**7.5 to 9.9%**	**≥10%**	**Total**
Primary	354 (57.8%)	157 (25.7%)	49 (8.0%)	28 (4.6%)	24 (3.9%)	612
Post Primary	51 (26.7%)	77 (40.3%)	34 (17.8%)	17 (8.9%)	12 (6.3%)	191
Special	18 (60.0%)	10 (33.3%)	*	*	*	30
Total	**423 (50.8%)**	**244 (29.3%)**	**84 (10.1%)**	**45 (5.4%)**	**37 (4.4%)**	**833**

** Data not disclosed due to small numbers. Percentages may not add to 100% due to rounding. The total number of schools in Table 8 (which considers pupil cases only) may differ from Table 7 (which includes pupil and staff cases). Percentage of cases relative to school population = number of pupil cases/ total pupils enrolled. Table does not include schools with no cases.*

School sizes vary a great deal, with some having fewer than 100 pupils and others having more than 1,000. Having 10 cases in a school with 1,000 pupils is very different in its impact to having 10 cases in a school with 50 pupils. Pupil cases divided by the enrolled pupil populations have been calculated as percentages for all schools with at least one case. These have then been grouped into five categories, ranging from those with less than 2.5% of pupils testing positive in the 28 day period to those with 10% or more. This is shown in Table 9.

In 6.3% of post primary schools the number of cases in pupils in the last 28 days was greater than 10% of their enrolled school population, compared to 3.9% in primary schools.

Source: PHA Education Cell and Contact Tracing Cell

Mortality Surveillance

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

The Northern Ireland Statistics and Research Agency (NISRA) provide the weekly number of **registered respiratory and COVID-19 deaths each Friday (here).** In week ending 15 October 2021, the proportion of COVID-19 deaths registered was 11.3%, and from 19 March 2020 to week ending 15 October 2021 the proportion of COVID-19 deaths registered was 12.9%.

Weekly published data are provisional and is based on registrations of deaths, not occurrences. The majority of deaths are registered within five days in NI. 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'. Figures relate to all deaths registered up to 15 October 2021 with a mention of COVID-19 on the death certificate. Please note: Where COVID-19 is mentioned in part 1 it may not be the underlying cause of death. COVID-19 deaths include any death where Coronavirus or COVID-19 (suspected or confirmed) was mentioned anywhere on the death certificate. NISRA quarterly statistics provide detail of underlying cause following coding to ICD-10 rules; figures are available here. Figures may be impacted by General Registration Office closures over public holidays.

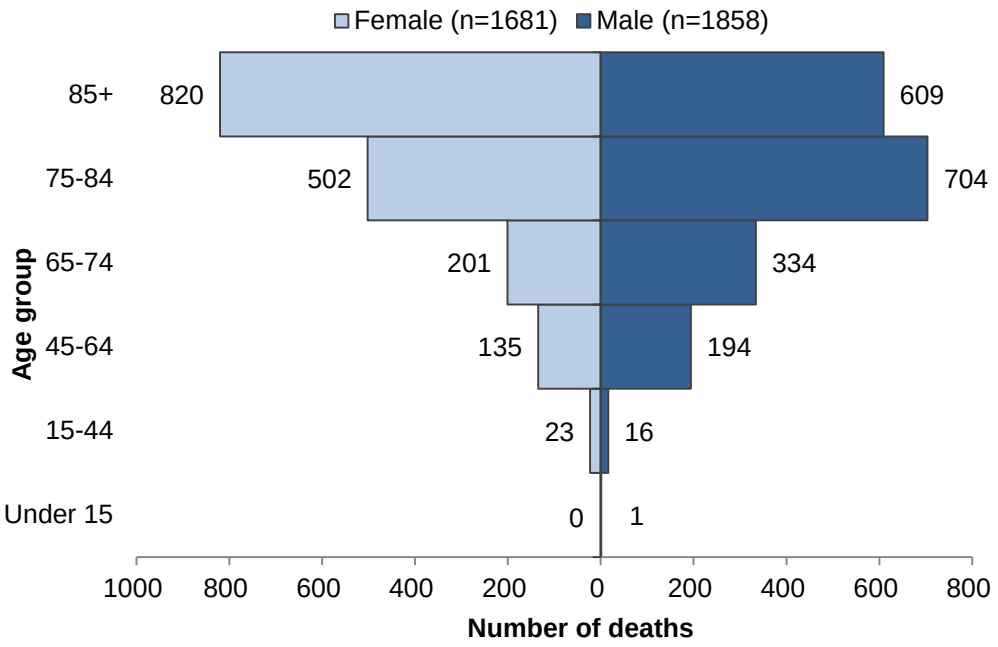
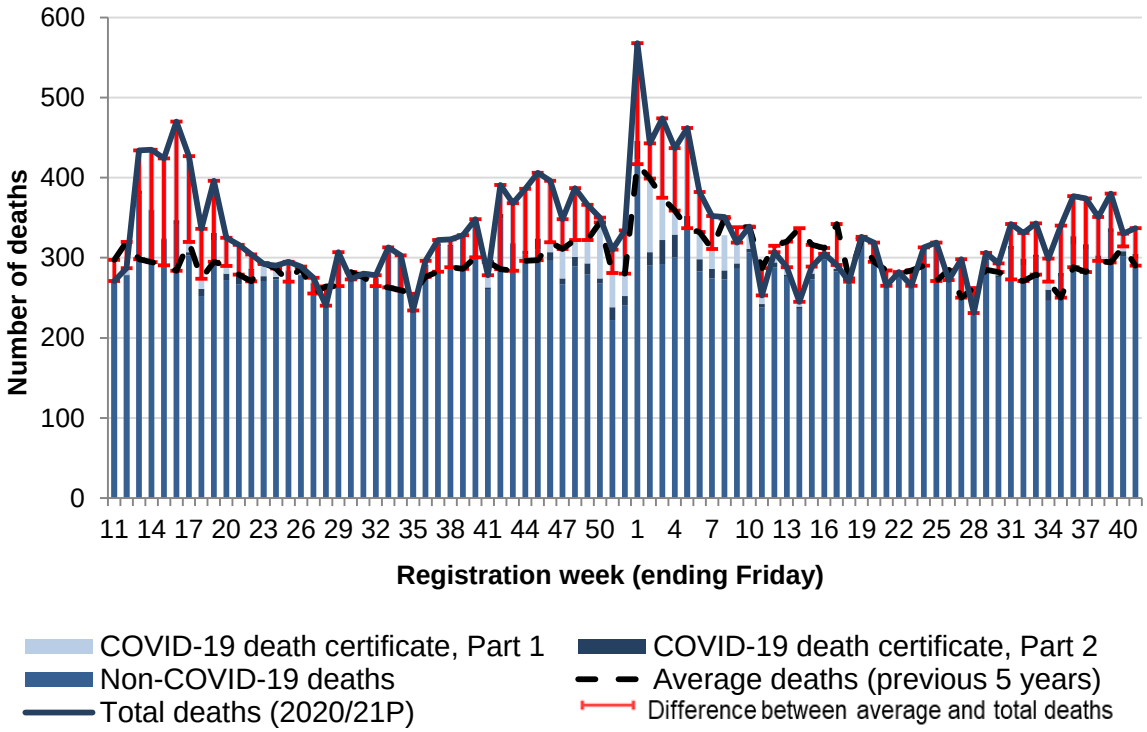


Figure 21. NISRA registered COVID-19 deaths by sex and age group, up to week ending 15 October 2021



Up to week 52, the Average deaths (previous 5 years) period ranged from 2015-2019. From 2021 week 1 onwards, this period ranges from 2016-2020

Figure 22. Northern Ireland registered deaths, including COVID-19 associated deaths, Week 11 (ending 20 March 2020) to Week 41 (ending 15 October 2021)

Table 10.1 Northern Ireland registered deaths, including COVID-19 associated deaths, Week 11 (ending 20 March 2020) to Week 52 (ending 01 January 2021)

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	42	43	44	45	46	47	48	49	50	51	52
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	36	50	77	82	89	74	86	73	76	72	82
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	6	1	5	14	11	7	12	14	6	16	12
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	349	317	304	310	296	267	289	279	268	222	240
Average deaths (previous 5 years)	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	286	284	296	297	319	311	322	322	344	281	280
Total deaths (2020)	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	391	368	386	406	396	348	387	366	350	310	334

Table 10.2 Northern Ireland registered deaths, including COVID-19 associated deaths, Week 1 (ending 08 January 2021) to Week 41 (ending 15 October 2021)

Registration week (ending Friday)	1	2	3	4	5	6	7	8	9	10	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	122	136	152	108	110	84	66	44	26	28	11	16	9	6	9	4	5	2	4	3	2	1	1	1	0	1	2	2	7	15	27	32	39	39	59	50	57	48	43	22	32
COVID-19 death certificate, Part 2	23	17	30	29	16	15	12	11	7	4	4	3	3	3	7	3	3	1	3	1	1	1	1	0	2	0	1	1	2	3	4	8	4	14	5	11	6	7	5	6	6
Non-COVID-19 deaths	423	290	292	300	336	283	274	273	286	307	238	288	276	236	273	298	283	267	319	315	263	280	263	312	317	271	295	228	297	275	311	291	300	246	276	316	311	296	332	302	299
Average deaths (previous 5 years)	417	399	375	359	337	332	311	349	338	338	287	315	320	337	316	312	342	274	323	295	284	280	284	290	271	285	250	262	285	282	273	271	279	270	250	288	282	296	294	314	290
Total deaths (2021P)	568	443	474	437	462	382	352	351	319	339	253	307	288	245	289	305	291	270	326	319	265	282	265	313	319	272	298	231	306	293	342	331	343	299	340	377	374	351	380	330	337

Source: Northern Ireland Statistical Research Agency (NISRA)

All-cause excess deaths

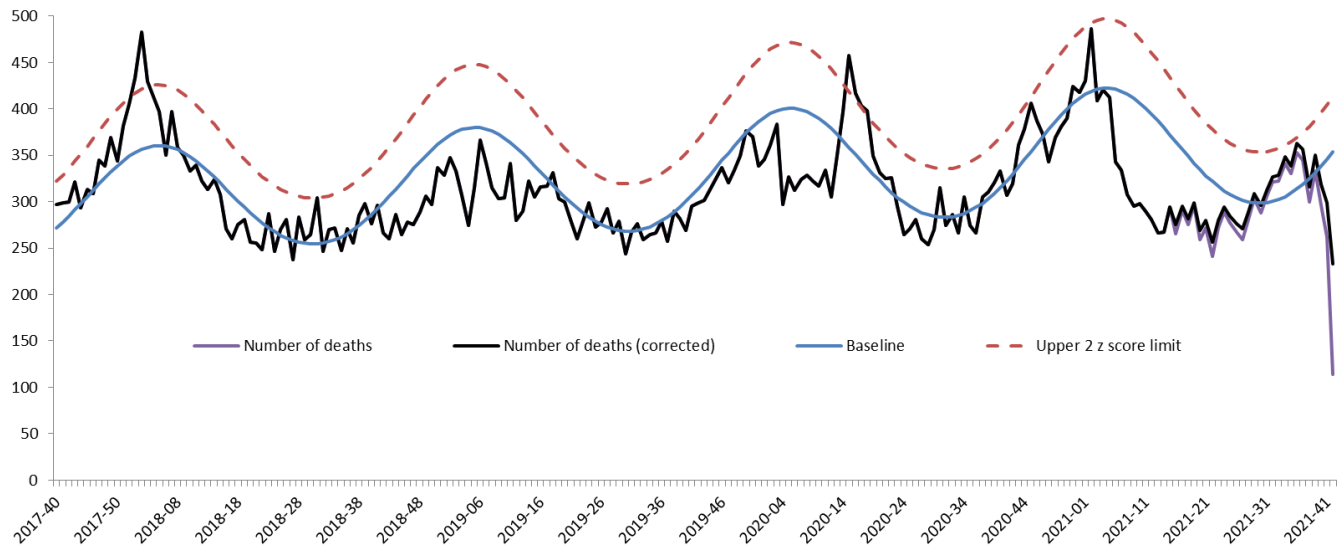
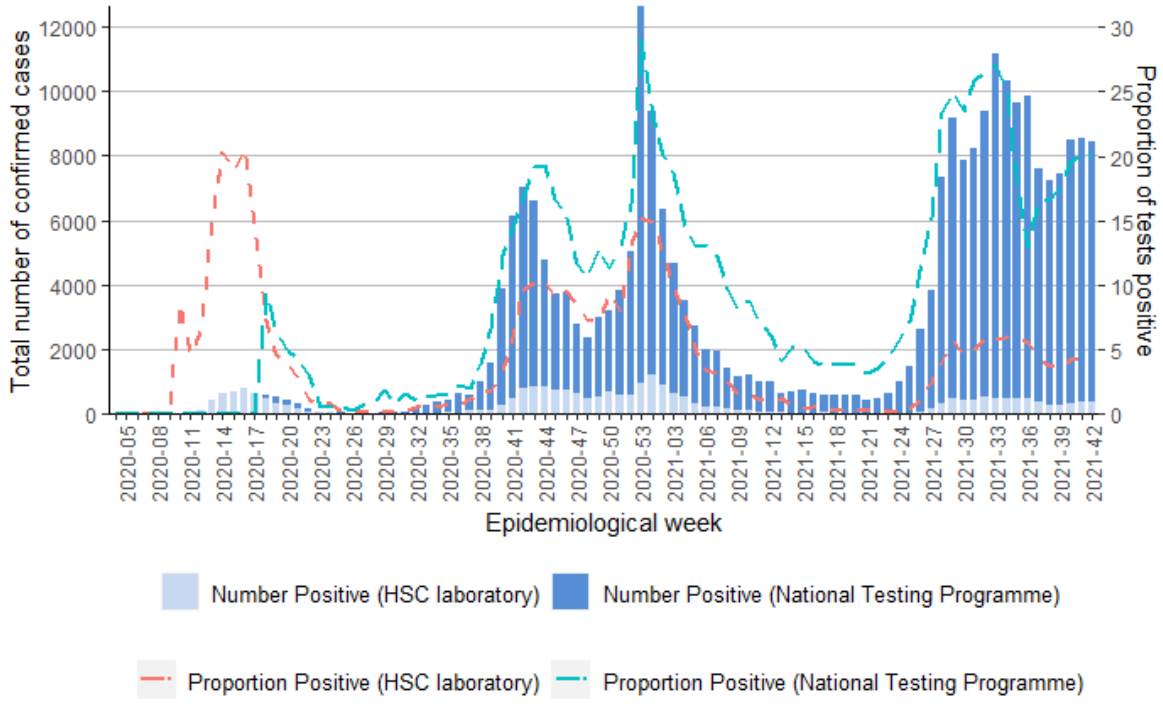


Figure 23. Weekly observed and expected number of all-cause deaths in all ages, week 40 2017 - week 42 2021

In 2020, excess all-cause deaths were reported in epidemiological weeks 13 to 20, week 22 and 45. During 2021, excess deaths were reported in week 2 (11 – 17 January). This increase in deaths happened outside the influenza season and at a time when we know flu was not circulating (here).

While these more recent excesses have occurred within the flu season, reports show flu was not widely circulating. This suggests the excess mortality may in part be related to COVID-19 deaths and to a fall in presentation to hospital with other conditions (data not shown). Excess deaths were mainly in those over 65 years, which is in line with the age profile of COVID-19 deaths. Despite delay correction, reported mortality data are still provisional due to the time delay in registration and observations which can vary from week to week; not all registrations for the current week will have been included this bulletin.

Virology testing surveillance



Total individuals tested include those that were reported as indeterminate

Figure 24. Weekly number of individuals tested for COVID-19 and proportion positive, by source (HSC Laboratory testing and the National Testing Programme), 2020-21

Table 11. COVID-19 activity in Northern Ireland, for all testing data combined, week 42, 2021			
Period	**Individuals tested**	**Number positive**	**Proportion positive**
Current week	48,547	8,419	17.3%
Total	**2,245,950**	**263,000**	**11.7%**

Table 12. COVID-19 activity in Northern Ireland (HSC laboratory), week 42, 2021			
Period	**Individuals tested**	**Number positive**	**Proportion positive**
Current week	8,265	371	4.5%
Total	**590,168**	**26,565**	**4.5%**

Table 13. COVID-19 activity in Northern Ireland (National Testing Programme), week 42, 2021			
Period	**Individuals tested**	**Number positive**	**Proportion positive**
Current week	40,282	8,048	20%
Total	**1,655,782**	**236,435**	**14.3%**

Source: HSC Trust laboratory reports and the National Testing Programme

To week 42, the total number of individuals tested was 2,245,950 and positivity was 11.7%. Overall, more individuals have now been tested as part of the National Testing Programme, and positivity is now higher (14.3%) compared to HSC laboratories (4.5%).

Global situation

As of 26 October, WHO has been notified of 243,857,028 confirmed cases of COVID-19, including 4,953,246 related deaths.

Appendix

PHA Health Protection COVID-19 surveillance systems

The PHA Health Protection Directorate has established the following surveillance systems to monitor COVID-19 activity across the spectrum of community and heath care settings. As new systems are developed they will be added to this report.

Case epidemiology

SARS-CoV2 testing was first developed by the National Reference Laboratory (Public Health England) for all of the United Kingdom on 24 January 2020. On 7 February 2020, SARS-CoV2 testing was developed locally by the Regional Virus Laboratory, Belfast Health and Social Care (HSC) Trust and performed testing across NI. Since 23 March, 28 March, 3 April and 13 May respectively, Northern HSC Trust, Southern HSC Trust, Western HSC and South Eastern HSC Trust laboratories, have been performing SARS-CoV2 testing.

The PHA Health Protection Directorate laboratory surveillance system collates SARS-CoV2 laboratory data on all tests from HSC Trust laboratories.

As an individual may have more than one test for clinical purposes, the laboratory data is then collated to enable monitoring of individuals rather than tests performed by laboratories. This is done using the Organism-Patient-Illness-Episode (OPIE) principle, a standard approach used across the UK.[7] The episode length used nationally is 6 weeks (42 days), and is being reviewed as more data becomes available.

[7] Public Health England. 2016. Laboratory reporting to Public Health England: A guide for diagnostic laboratories. [ONLINE] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739854/PHE_Laboratory_Reporting_Guidelines.pdf. [Accessed 21 April 2020]

If an individual is infected on two separate occasions by the same organism (within the episode of infection) they will be represented by one distinct record. It is still unclear to what extent second infections occur in COVID-19. The exception to this is where the first result is negative and is then followed by a positive result on a second occasion. In such circumstances, the later positive result will be recorded rather than the earlier negative one. If an individual is infected on two separate occasions by the same organism (outside the episode of infection with recovery implied) they will be represented by two distinct records, regardless of the test result. This is a standard approach which is taken across a range of infectious diseases.

All laboratories report a standardised data set which includes individual demographics, test result and source (location) at the time the specimen was taken. Data are collated to produce information on the number and trend of individuals tested at HSC Trust laboratories and the number and trend of confirmed cases in NI.

National Testing Programme

The National Testing Programme in NI consists of drive through (regional test sites), mobile test unit sites, home testing and satellite testing of nursing homes.

Everyone in NI with symptoms of COVID-19 is eligible for testing. Close contacts of COVID-19 positive individuals will also be contacted to book a test.

Testing is prioritised through the website gov.uk for essential workers who are self-isolating because they are symptomatic, or have household members who are symptomatic, to help enable essential workers to return to work as soon as safe.

Testing is available for the general public through the website nhs.uk.

The StopCOVID NI contact tracing app is now available from the Google or Apple App store.

Testing for non-HSC essential workers and the general public is currently conducted in drive-through sites operating in Belfast,

Enniskillen, Craigavon, Derry/Londonderry and Antrim. In addition there are also mobile testing units currently operating within NI, and walk through test sites operating in Omagh, Newry, Lisburn, Ballymena and on Ulster University and Queen's University campuses.

Home testing can be requested by any individual meeting the criteria with a test kit(s) being mailed to the individual and household contacts.

Tests are processed in laboratories outside the normal health and social care network and data fed back to the Public Health Agency via the Business Services Organisation.

The data has been included in the case epidemiology and virology testing surveillance sections. These data should be interpreted with caution when interpreted alongside the HSC laboratory data, because they include testing undertaken as part of the outbreak response i.e. possibly asymptomatic people with a certain age, gender or area profile. Testing numbers may be skewed to different local government districts depending on whether an outbreak was detected and managed.

For more information, see here.

Care home outbreak surveillance

Care home is a term that includes all nursing homes and residential homes in Northern Ireland that are registered with the Regulation and Quality Improvement Agency (RQIA) and can either be HSC Trust or independently owned. There are 472 active care homes in NI.

All care homes have a requirement to notify the PHA Health Protection duty room of suspected outbreaks of any infectious disease. A suspected outbreak of COVID-19 occurs when two or more residents and/or staff meet the case definitions for suspected COVID-19, confirmed COVID-19, influenza-like illness or worsening shortness of breath.

The PHA Health Protection Directorate care home outbreak surveillance system collects and collates data on all initial notifications of suspected COVID-19 outbreaks from the duty room clinical records.

The care home COVID-19 outbreak surveillance system is updated every day to reflect public health management. If the risk assessment subsequently excludes an outbreak of the initial notification then the surveillance data will be updated.

Primary care surveillance

Sentinel testing

The GP sentinel testing surveillance system builds on the existing flu sentinel testing system where 36 general practices ('spotter' practices), representing approximately 11% of practices across Northern Ireland, are commissioned to carry out flu testing in suspected influenza-like illness.

Individuals registered at a spotter practice with symptoms of suspected COVID-19 and who are well enough to self-care in their own home are referred to a Trust testing facility for testing. The service commenced in 13 spotter practices in Belfast and South Eastern HSC Trust locality at the end of April and is currently being rolled out to the other 23 practices in Northern, Southern and Western HSC Trust localities.

Laboratories reports from spotter practices are identified from the laboratory (virology) surveillance and are collated to produce information on the number of individuals tested and the number of confirmed cases.

Critical care surveillance

Until 28 September 2020, the PHA Health Protection COVID-19 critical care online reporting system captured the incidence of COVID-19 infections in critical care and aims to improve the understanding of severe disease.

This system should complement critical care data collected by the Health and Social Care Board for service planning purposes and the publicly available reports on COVID-19 in critical care NI by the Intensive Care National Audit and Research Centre (iCNARC) (here).

Since 28 September 2020, data collection for critical care surveillance has been streamlined to coincide with the well-established surveillance

of influenza patients in critical care in conjunction with the Critical Care Network Northern Ireland (CaNNI).

Data is collected on all individuals admitted to an Intensive Care Unit (ICU) or High Dependency Unit (HDU) with a positive COVID-19 result, from either before or during the ICU/HDU admission.

Mortality surveillance

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

The traditional method for examining the number of deaths, and the range of causes of death, takes information from death certificates that are reported to the General Registrar's Office (GRO). The death certificate contains two parts. Part 1 describes the immediate causes of death and Part 2 provides information on related conditions that may also have contributed to death. The numbers of deaths from COVID-19 are based on COVID-19 being recorded on any part of the death certificate (i.e. Part 1 or Part 2).

These include all deaths in which a doctor feels that COVID-19 was either a direct or indirect cause of death. It includes confirmed cases (deaths with a positive laboratory result) and probable or suspected cases, where a doctor assesses that COVID-19 was a cause of death but there is either no lab test or the test was negative. It captures deaths in all settings, such as hospitals, care homes, hospices and the community. It takes up to five days for most deaths to be certified by a doctor, registered and the data processed, meaning these deaths will be reported on about a week after they occurred.

Inclusion of references to COVID-19 in Part 2 of the death certificate may slightly over estimate the number of individuals where COVID-19 is a significant contributor to death.

All-cause excess deaths

The PHA Health Protection Directorate reports the weekly number of excess deaths from any cause for NI using the Mortality Monitoring in Europe (EuroMOMO) model. EuroMOMO provides a coordinated, timely and standardised approach to monitoring and analysing mortality data

across the UK and Europe, to ensure that signals are comparable between countries. Further information is available here.

Based on mortality data supplied by NISRA, EuroMOMO produces the number of expected and observed deaths every week, corrected for reporting delay and standardised for the population by age group and region. Excess mortality is reported if the number of observed deaths exceeds the number of expected deaths, and is defined as a statistically significant increase in the number of deaths reported over the expected number for a given point in time.

Case definitions

Case definitions are determined by Public Health England, on the advice of the New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG). As the pandemic evolves and more evidence emerges the definitions will change to ensure individuals are appropriately identified.

Possible case of COVID-19 (as of 28 September 2020)

As of 02 October, case definitions for inpatient and community settings were consolidated into one list. Unusual presentations are also highlighted.

Individuals with

- new continuous cough **OR**
- high temperature **OR**
- a loss of, or change in, normal sense of smell (anosmia) or taste (ageusia)

Individuals with any of the above symptoms but who are well enough to remain in the community should follow the stay at home guidance and get tested.

Clinicians should be alert to the possibility of atypical presentations in patients who are immunocompromised.

Alternative clinical diagnoses and epidemiological risk factors should be considered.

A wide variety of clinical symptoms have been associated with COVID-19.

Patients with acute respiratory infection, influenza-like illness, clinical or radiological evidence of pneumonia, or acute worsening of underlying respiratory illness, or fever without another cause should have a COVID-19 test, whether presenting in primary or secondary care.

In addition, the following situation should prompt clinicians to consider COVID-19 testing:

- Onset of delirium (acute confusion) in older people, or in those with dementia or cognitive impairment. New infections in people with dementia may manifest as delirium.

Confirmed case of COVID-19

An individual with clinical symptoms and a positive SARS-CoV2 specimen result.

Critical care COVID-19 case

A case that has either been admitted to an ICU/HDU in NI with a pre-existing positive result for SARS-CoV2, or received a positive result for SARS-CoV2 post-admission to ICU/HDU.

Influenza-like Illness (ILI)

Acute respiratory disease with sudden onset of symptoms and:

- at least one systemic symptom (fever ≥37.8°C, myalgia, malaise, headache) AND
- at least one respiratory symptom: cough (with or without sputum), shortness of breath (and/or wheezing), sore throat, nasal discharge, sneezing or congestion

Further Information

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