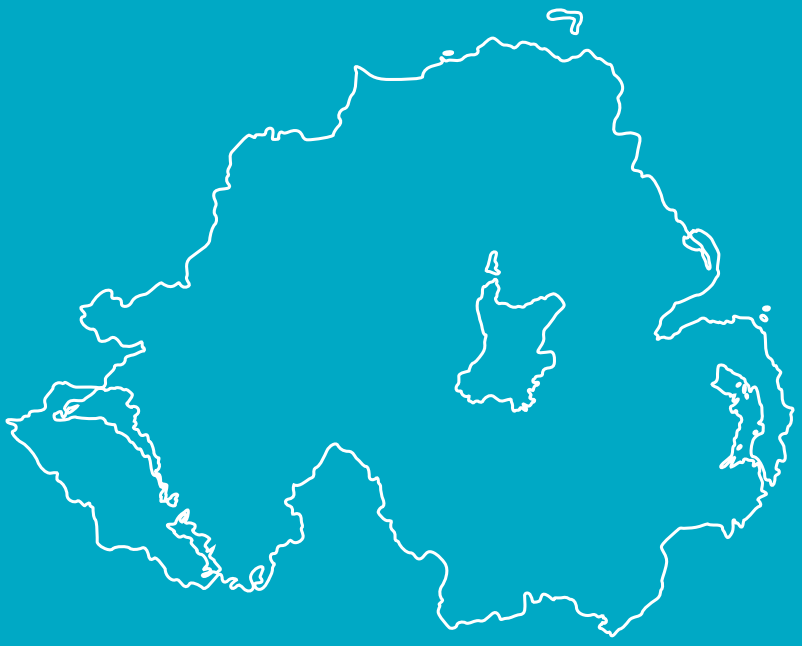
HSC Public Health Agency

Coronavirus (COVID-19)

Weekly Epidemiological Bulletin



Northern Ireland

Week 12 (22 - 28 March 2021)

Summary - Up to week 12 (28 March 2021)

To week 12, there have been a total of 116,771 laboratory confirmed cases[1] of COVID-19, including 2886 registered COVID-19 deaths[2] in Northern Ireland.

COVID-19 case epidemiology

- 116,771 laboratory confirmed cases (16.7% from HSC laboratories)
- 53.5% of total cases are female
- In week 12, those aged 15-44 had the highest case rate (75.9 per 100,000 population; 3.6% positivity)
- In week 12, Mid Ulster had the highest case rate (121.9 per 100,000 population; 6.6% positivity)

Care home outbreaks (suspected and confirmed)

- 559 confirmed COVID-19 outbreaks reported in total; includes 3 reported in week 12
- Involving 331 care homes (68.5% of all Northern Ireland care homes)
- The highest proportion of outbreaks (73.1%) were reported from the Southern Trust area

Sentinel testing

- Testing started 27 April 2020
- Number of individuals tested in total: 944 (4.2% positivity)

[1] Virological reports and the National Testing Programme.

[2] NISRA; 2020-21 - up to 19 March 2021

COVID centres

- Testing started 15 June 2020 (one COVID centre: BHSCT)
- Virology data from the COVID centre became available from 1 July 2020
- Number of individuals tested 15 - 30 June 2020: 182 (all negative)
- Number of individuals tested 1 July – 22 November 2020: 864 (1.6% positivity)

Critical care surveillance

- 575 confirmed COVID-19 individuals
- The majority of reported critical care cases were male (70.1%)
- Median age of cases was 61 years (range <1 – 90 years)

Schools Surveillance

- 1866 COVID-19 incidents reported in 889 schools (59.9% of all Northern Ireland schools)
- 52.6% of incidents have been single cases, 35.2% were clusters of 2-5 cases; 12.2% were clusters of 6 or more cases
- Since schools opened, the highest proportion of incidents (71%) have been reported in Belfast and Derry and Strabane

Mortality surveillance

- In week ending 19 March 2021, the proportion of COVID-19 deaths registered was 5.9%. From the 19 March 2020 to

week ending 19 March 2021 the proportion was 15.8%

- 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: 1,179,482 (9.9% positivity)
- Number of individuals tested in;
  - HSC laboratories: 345,296 (29.3% of total tests)
  - National Testing Programme: 834,186 (70.7% of total tests)

Introduction

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

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 impact 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 Dashboard and *Deaths involving coronavirus in Northern Ireland* by the Northern Ireland Statistics and Research Agency). This report presents data from existing and newly developed PHA Health Protection surveillance systems that monitor COVID-19 activity in Northern Ireland 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. All updates will be documented in “what’s new” section below.

Unless otherwise stated, data is 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 is the most up to date data available at the time of the report; however this is subject to change as the data is subject to ongoing quality assurance.

There is a large amount of data being regularly published regarding COVID-19 (for example, Department of Health COVID-19 Daily Dashboard Updates and NISRA Deaths Registered Dashboard). This bulletin complements the range of existing data currently available.

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 25 March 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 28 March 2021. Please note that the reporting window for clusters has changed compared to previous bulletins.

There have been 18 new clusters since Monday 22 March 2021[4,5]. 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. In total, up to 28 March 2021, a total of 481 clusters with greater than five people have been identified in the following council areas; Antrim and Newtownabbey (n=44), Ards and North Down (n=17), Armagh City, Banbridge and Craigavon (n=63), Belfast City (n=101), Causeway Coast and Glens (n=18), Derry City and Strabane (n=42), Fermanagh and Omagh (n=28), Lisburn and Castlereagh City (n=33), Mid and East Antrim(n=39), Mid Ulster (n=61) and Newry, Mourne and Down (n=35). In addition, there have been 1764 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

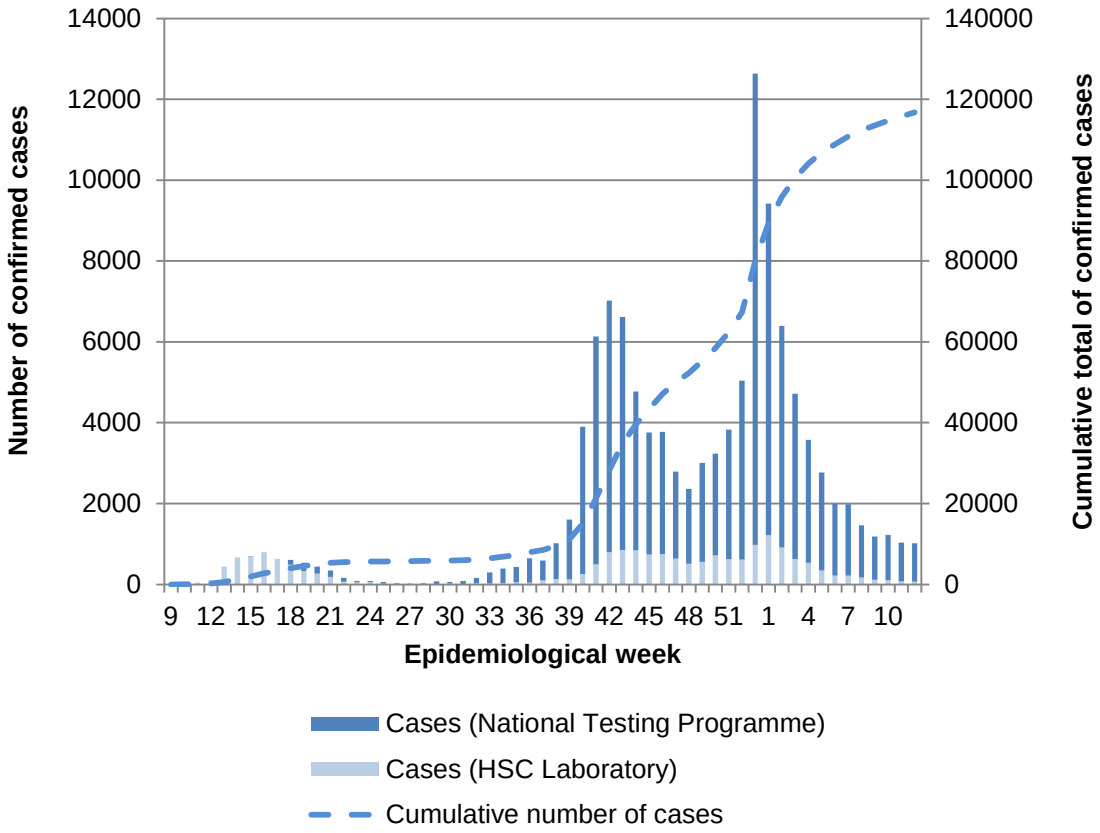


Figure 1. Laboratory confirmed COVID-19 cases by epidemiological week and source (HSC Laboratory testing and the National Testing Programme), 2020-21

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 the end of September (week 40) we have seen a large increase in cases and increasing cumulative confirmed cases, peaking during week 42. This is mainly due to increasing clusters, increasing community transmission and contact tracing within a variety of settings. There was then a decrease in cases from the end of October (week 43) to week 48, followed by an increase in cases from week 49 to week 53. There was a decrease in weekly cases since week 53, however from week 9 to week 10 there has been an increase in weekly cases. There has now been a decrease in the number of cases since week 10.

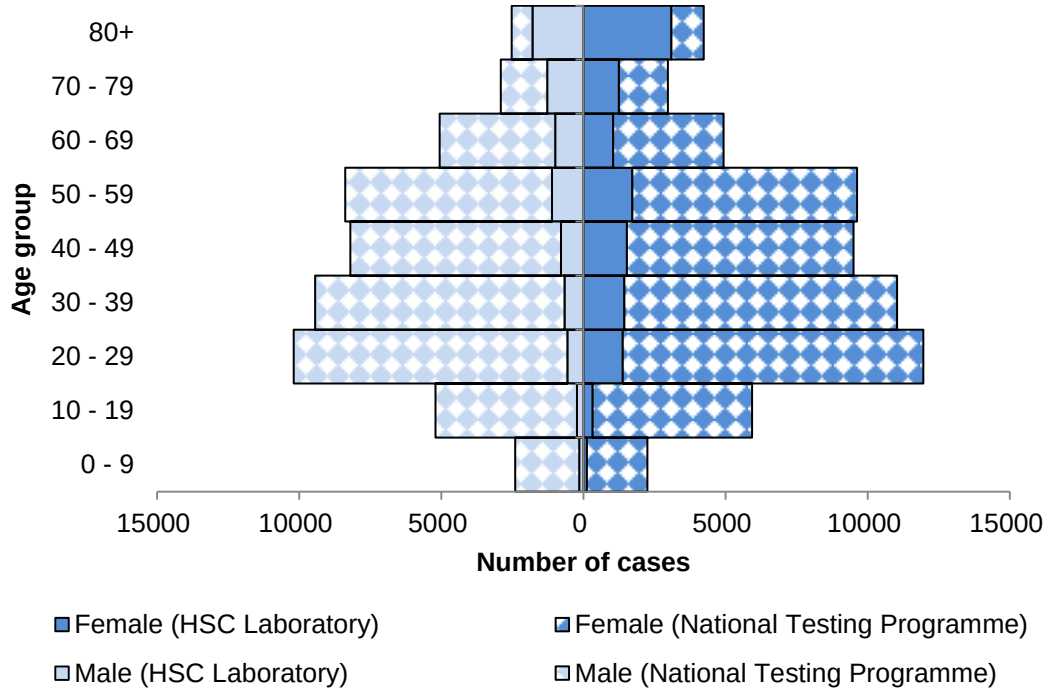


Figure 2. Laboratory confirmed cases, by age, sex and source (HSC Laboratory testing and the National Testing Programme), 2020-21

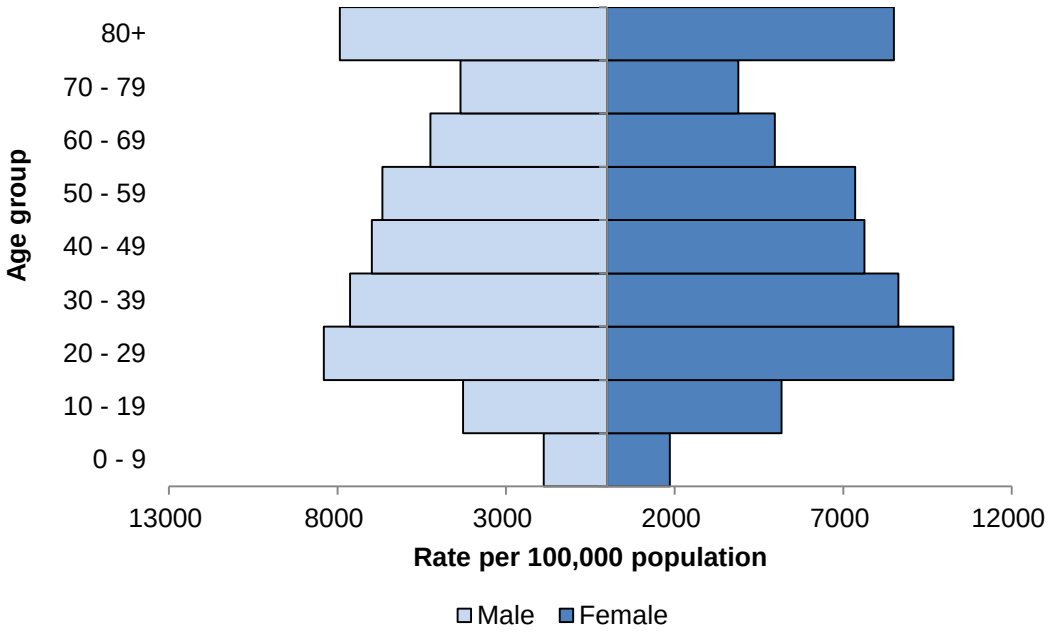


Figure 3. Laboratory confirmed cases per 100,000 population, by age and sex, for all testing data combined, 2020-21

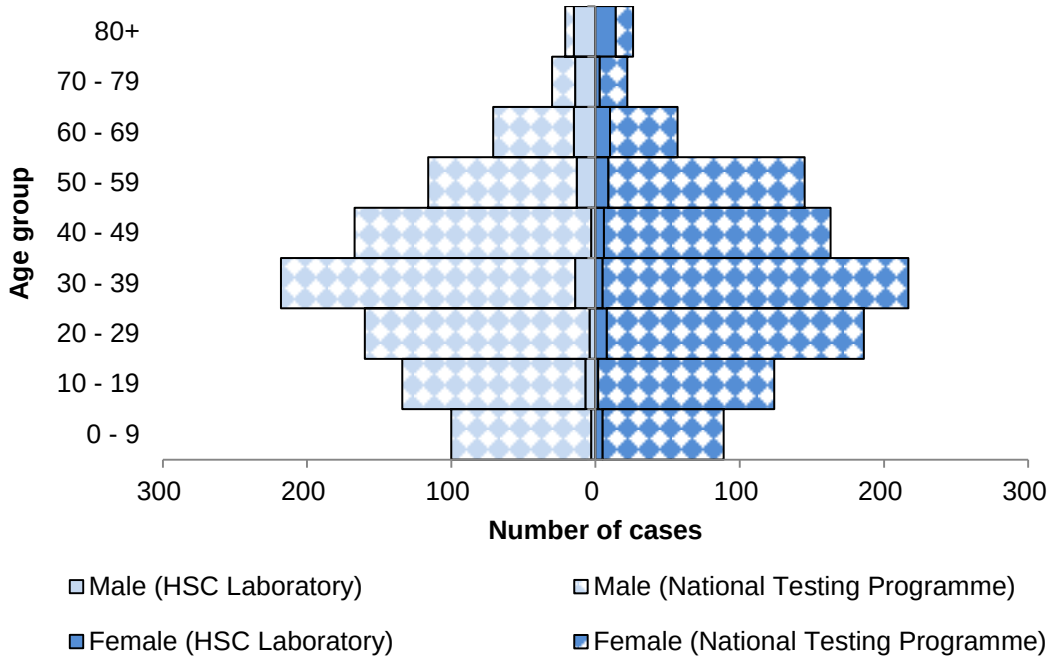


Figure 4. Laboratory confirmed cases, by age, sex and source (HSC Laboratory testing and the National Testing Programme), for weeks 11 and 12

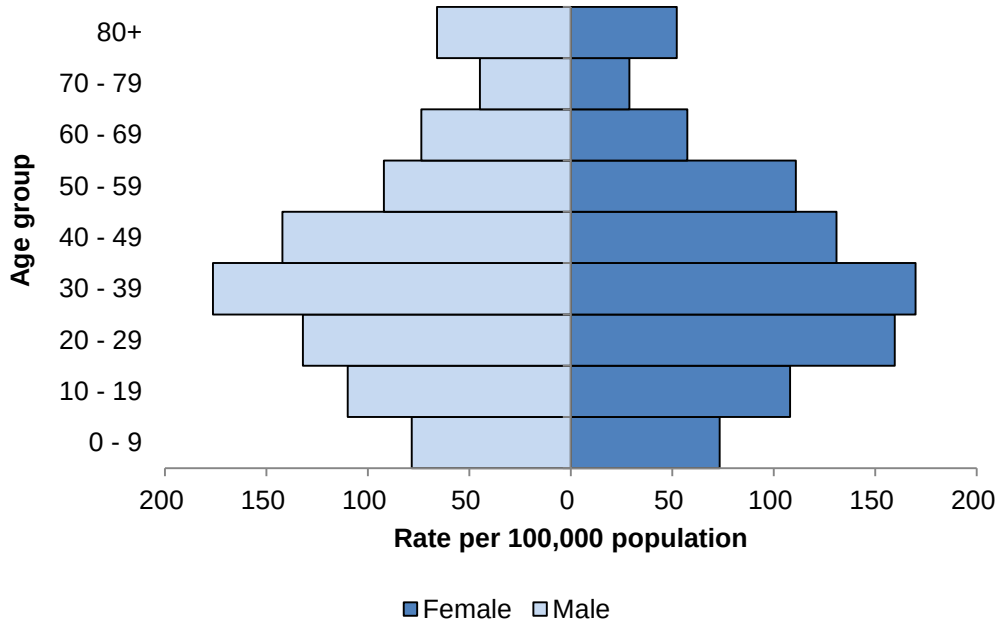


Figure 5. Laboratory confirmed cases per 100,000 population, by age and sex, for all testing data combined, for weeks 11 and 12

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 cases it has become the main source of case data as a result of enhanced community testing enabling us to detect a greater spectrum of disease. From this data we have seen a higher number of cases among the 20-29 age group.

Figures 4 and 5 show similar 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. Also, more cases are being detected outside of hospital settings as part of the National Testing Programme.

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

Age group	Sex		
	Male	Female	Total*
0 - 9	2405	2250	4655
10 - 19	5210	5928	11138
20 - 29	10192	11958	22150
30 - 39	9436	11032	20468
40 - 49	8202	9504	17706
50 - 59	8385	9628	18013
60 - 69	5062	4933	9995
70 - 79	2914	2965	5879
80+	2525	4232	6757
Unknown		2	2
Total	**54331**	**62432**	**116763**

**Unknown sex for eight cases, these are not included in the total figures*

Table 2. Laboratory confirmed COVID-19 cases, by Trust				
	Epidemiological Week			
Trust Area	10	11	12	Total
Belfast	30	11	12	5645
Northern	39	27	21	4049
South Eastern	7	8	8	2444
Southern	13	17	11	3144
Western	14	14	17	1600
Other*	1123	954	946	99806
Unknown	0	0	0	83
Northern Ireland	**1226**	**1031**	**1015**	**116771**

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

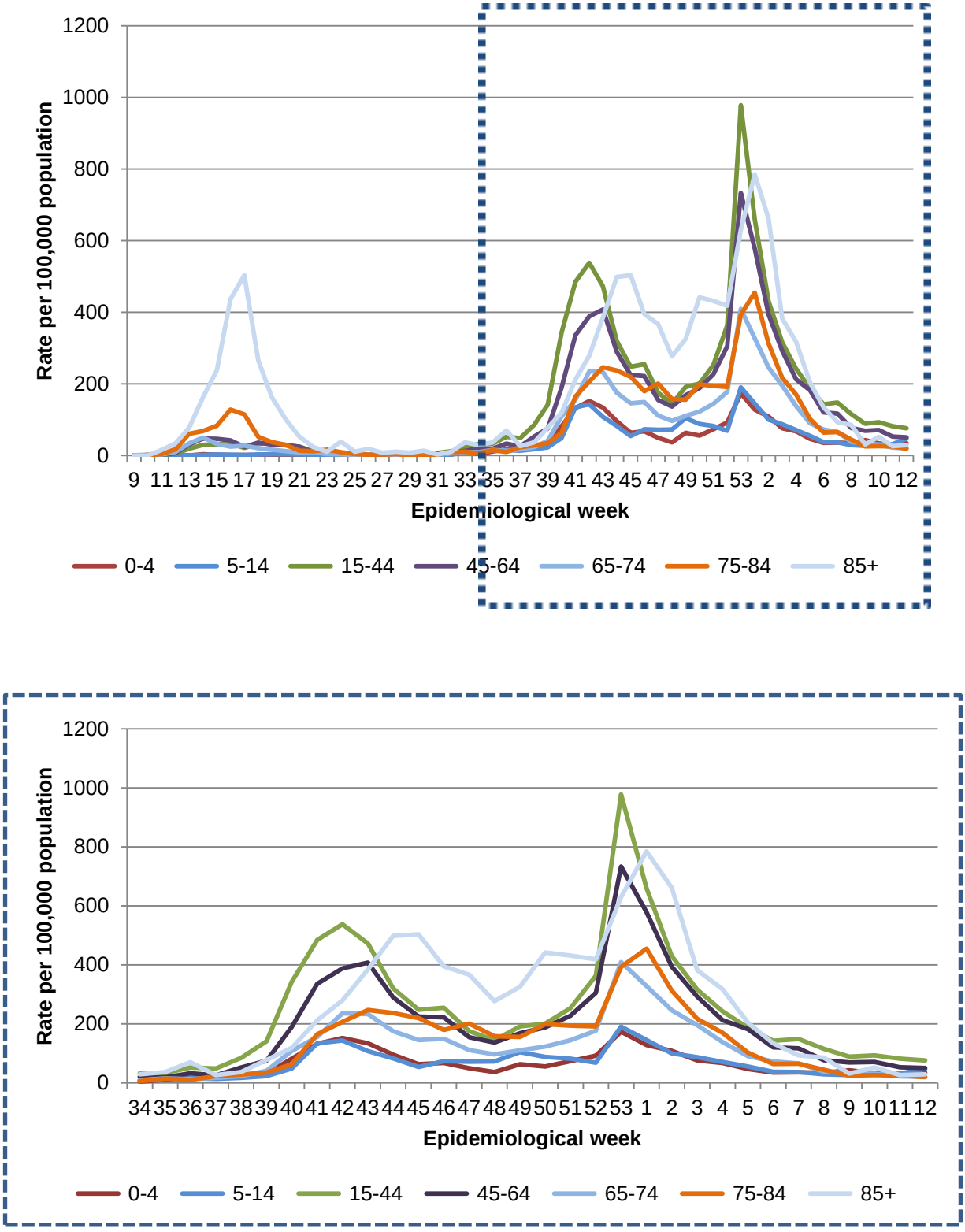


Figure 6. Weekly laboratory confirmed case rates per 100,000 population, by age group, for all testing data combined, 2020-21

The case rates increased in week 12 compared to the previous week in the 0-4, 5-14 and the 85+ age groups. The rest of the age groups saw a decrease. The highest case rates were seen in the 15-44 age group (75.9 per 100,000), which is lower than the peak of 970.1 per 100,000 in the 15-44 age group in week 53 (27 December 2020-03 January 2021).

In week 12, positivity was highest in the 5-14 age group (7.4%). The lowest positivity was observed in the 85+ age group (0.9%).

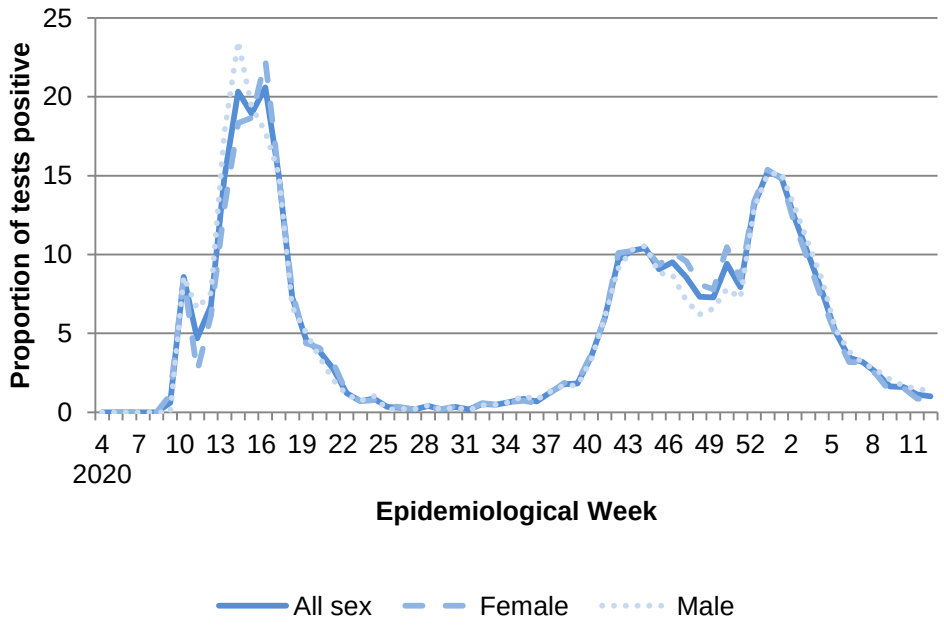


Figure 7. Positivity (%) of laboratory confirmed COVID-19 cases by epidemiological week, overall and by sex (HSC Laboratory testing), 2020-21

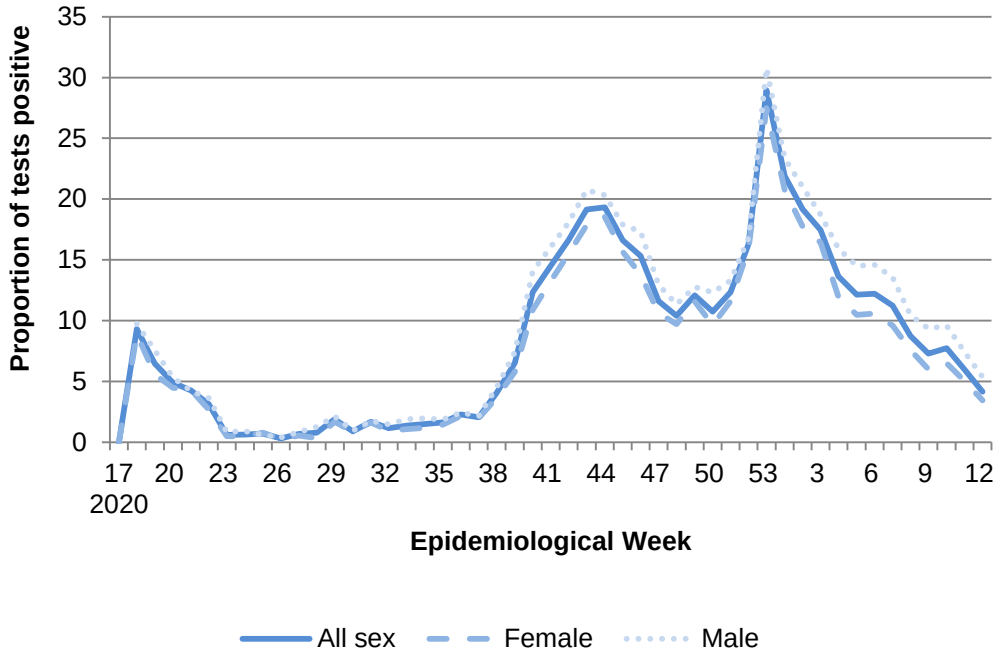


Figure 8. Positivity (%) of laboratory confirmed COVID-19 cases by epidemiological week, overall and by sex (National Testing programme), 2020-21

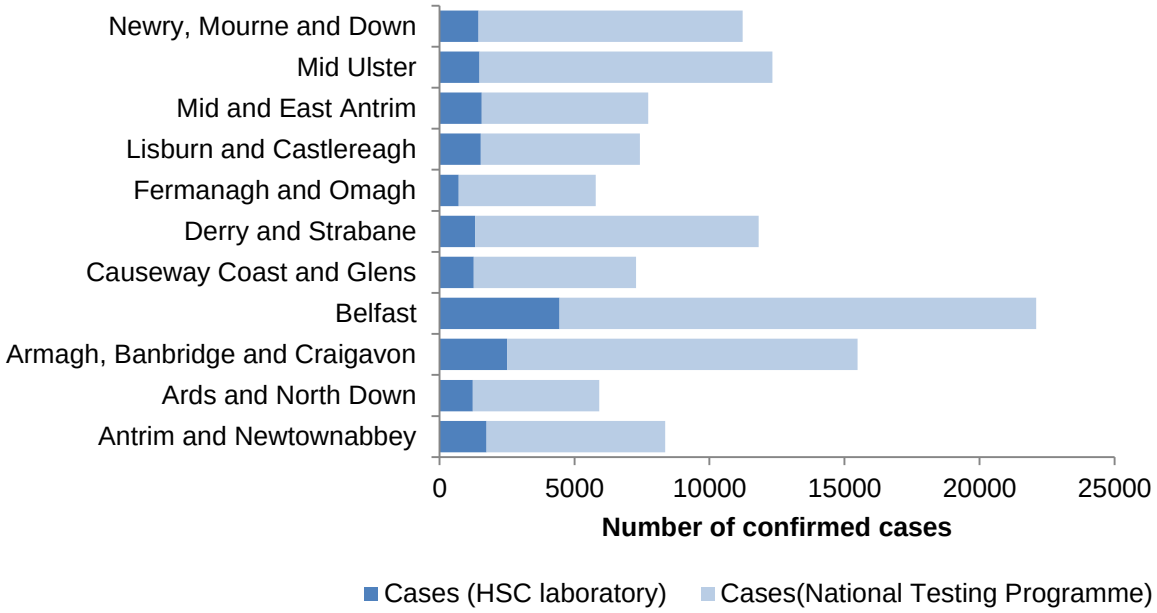


Figure 9. Total laboratory confirmed cases, by Local Government District (LGD) and source (HSC Laboratory testing and the National Testing Programme), 2020-21

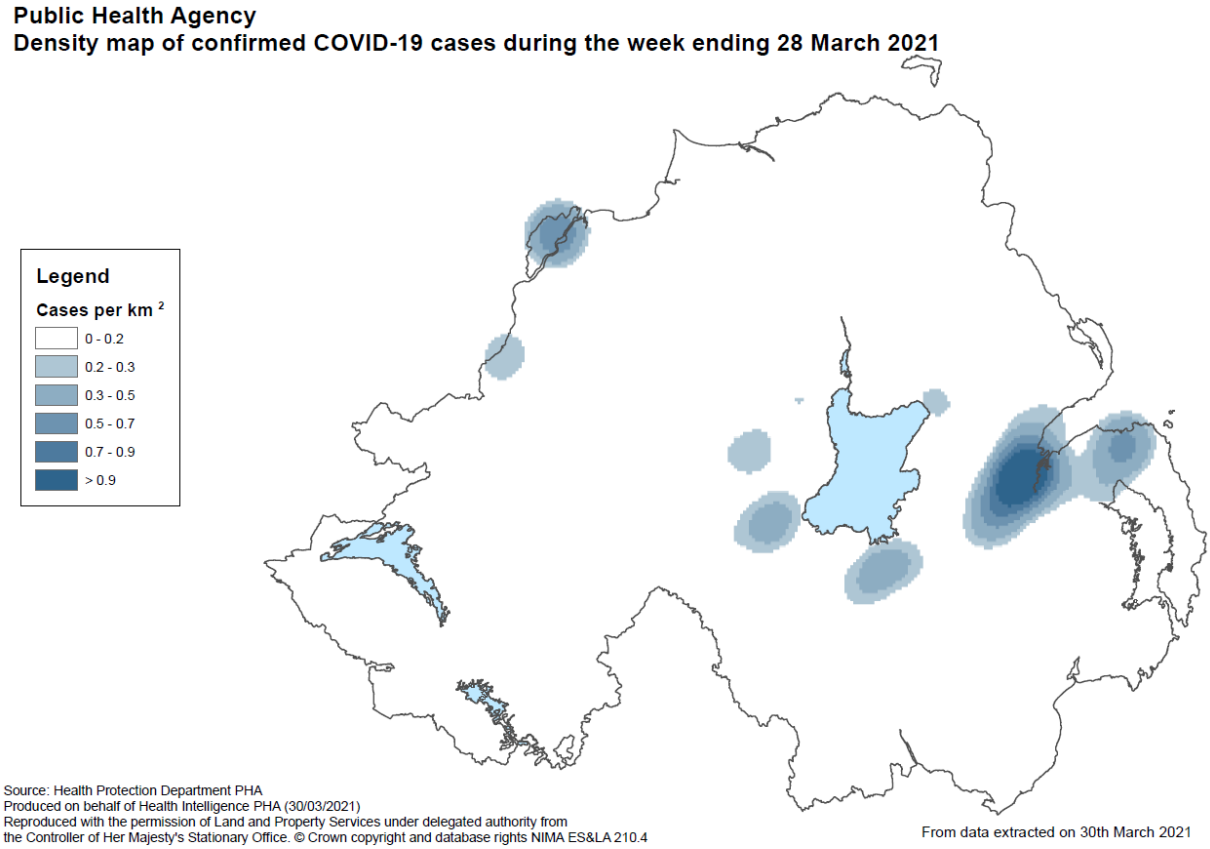
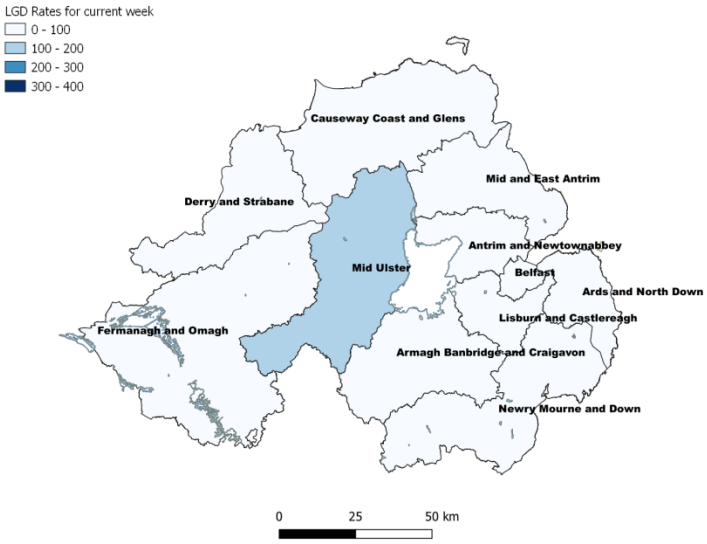


Figure 10. Density map of confirmed COVID-19 cases, for all testing combined, 2020-21

Figure 10 shows a contour density map based on the number of confirmed COVID-19 cases in week 12. 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 highlights an increased number of areas with the highest density of COVID19 cases in week 12 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.



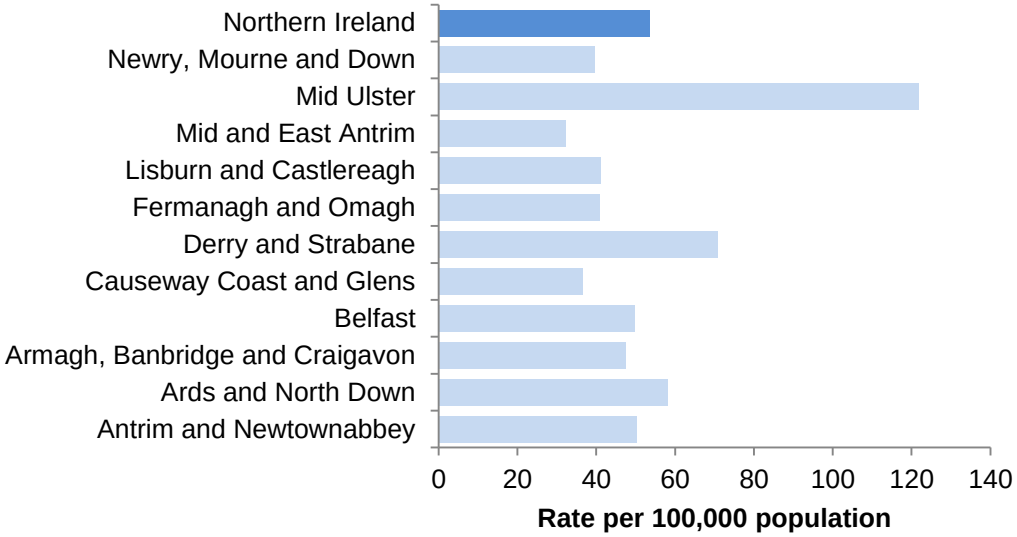
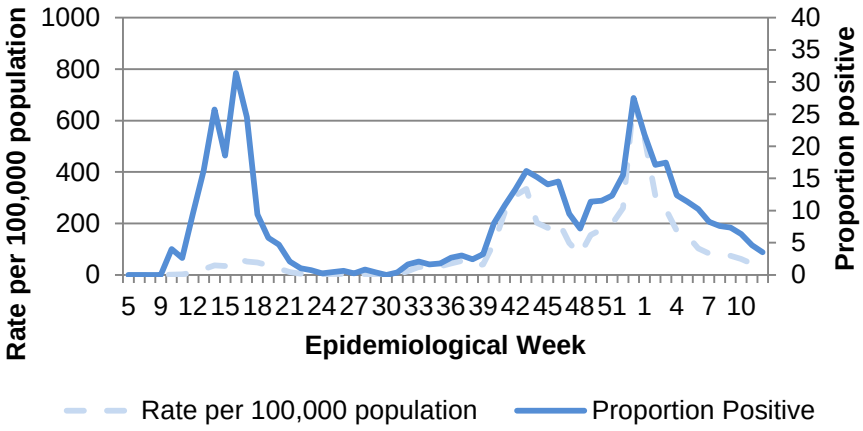
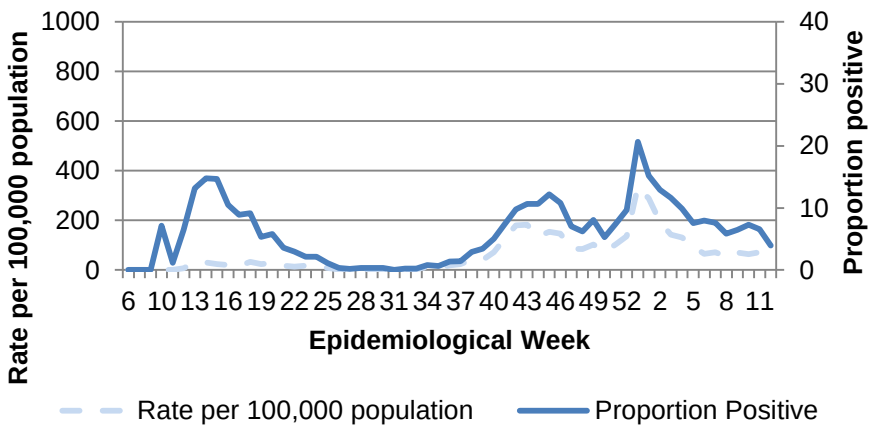


Figure 11. Total laboratory confirmed cases per 100,000 population, by Local Government District (LGD), for all testing data combined, week 12 (22 - 28 March 2021)

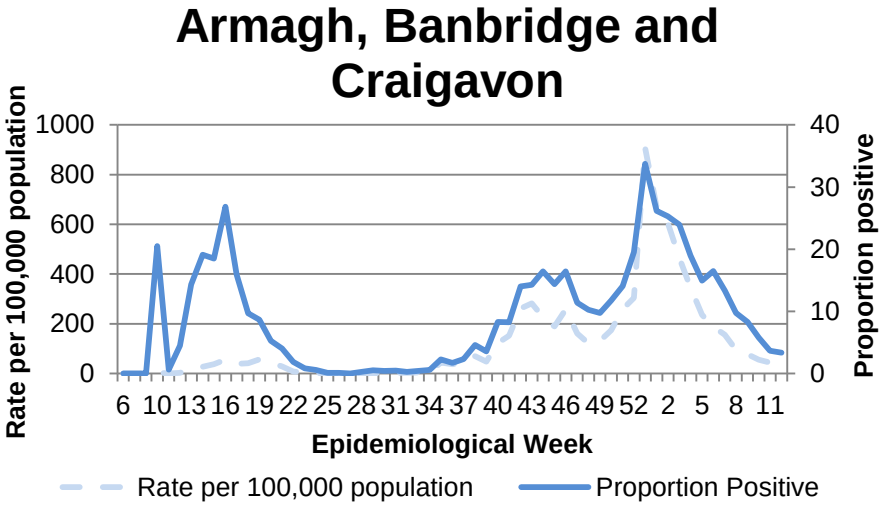
Antrim and Newtownabbey



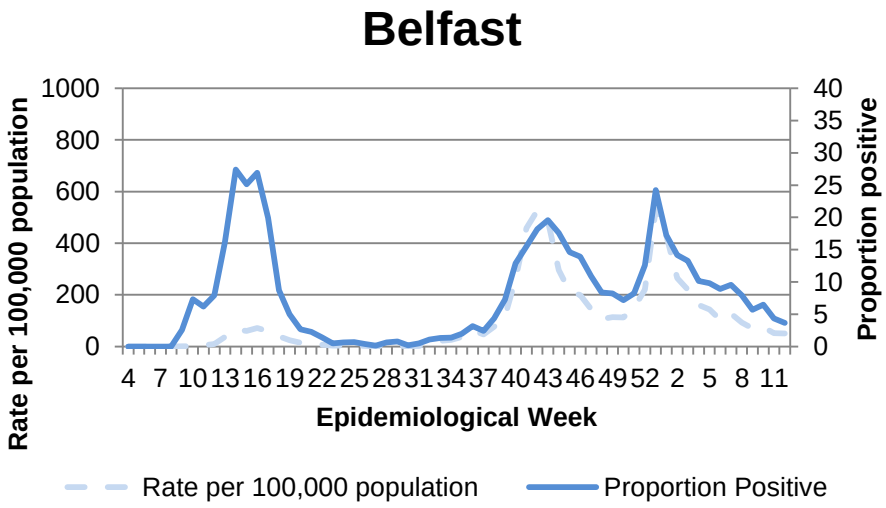
Ards and North Down



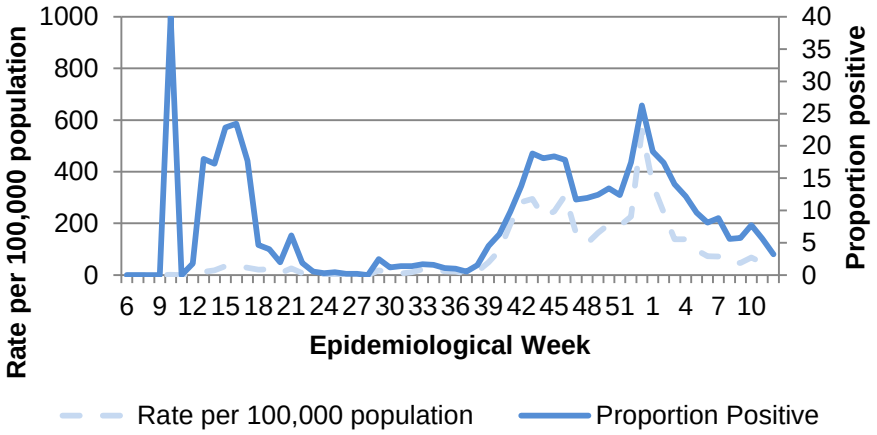
Armagh, Banbridge and Craigavon



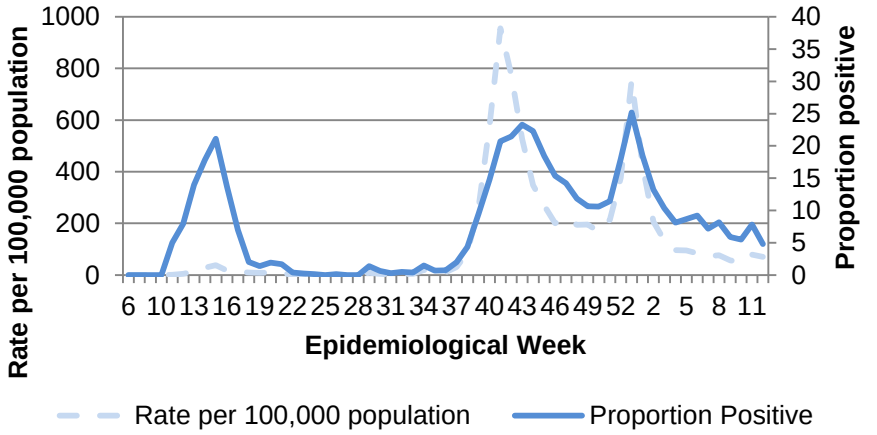
Belfast



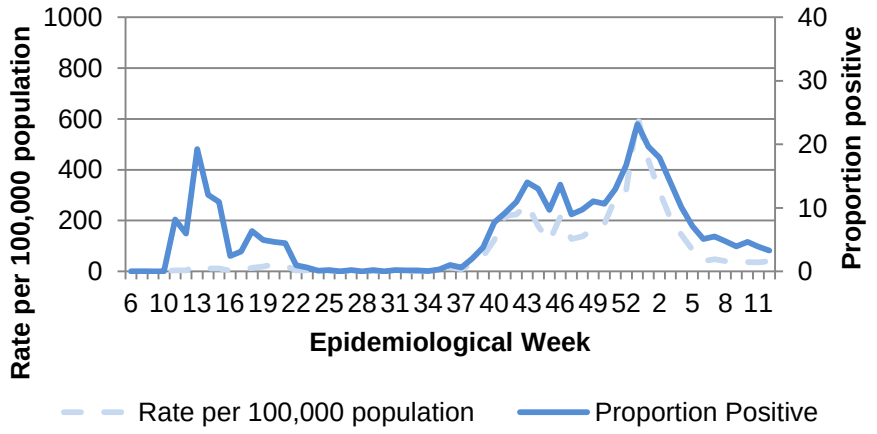
Causeway Coast and Glens



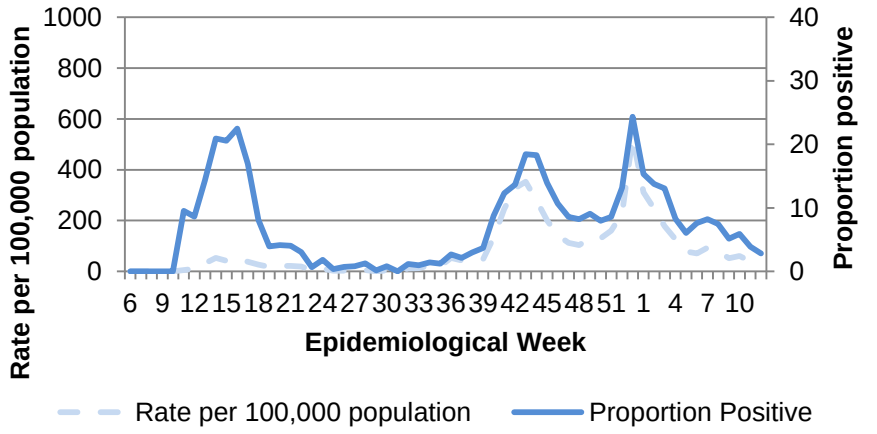
Derry and Strabane



Fermanagh and Omagh



Lisburn and Castlereagh



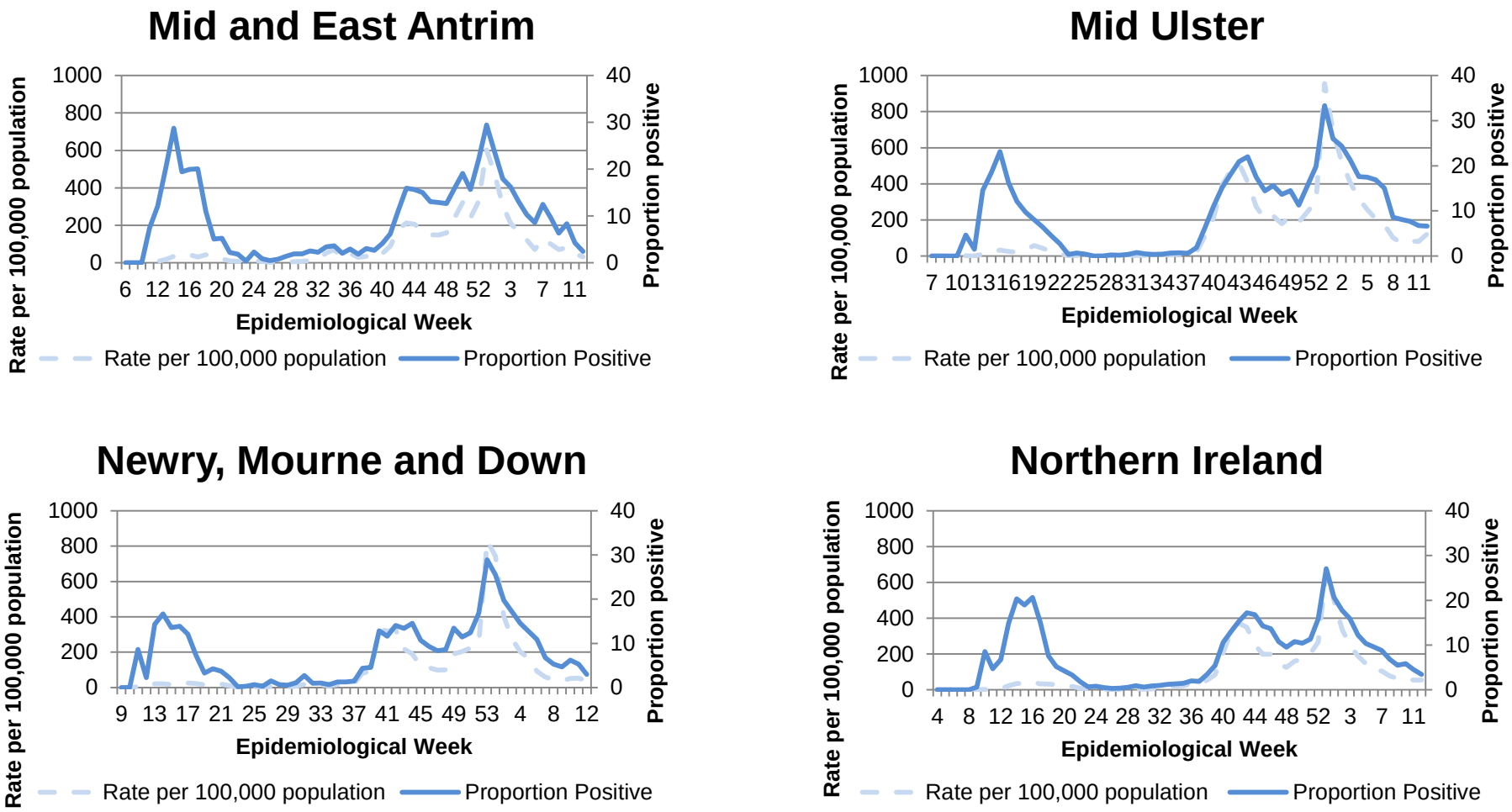


Figure 12. Weekly laboratory confirmed cases per 100,000 population and proportion positive, by Local Government District (LGD) and Northern Ireland, for all testing data combined, 2020-2021

The case rates increased in Antrim and Newtownabbey, Armagh, Banbridge and Craigavon, Fermanagh and Omagh, Lisburn and Castlereagh and Mid Ulster in week 12 compared to week 11. All other areas saw a decrease compared to the previous week. Mid Ulster had the highest rate in week 12 compared to other Local Government Districts (121.9 per 100,000 population). The overall Northern Ireland rate decreased from 54.4 to 53.6 per 100,000 population between weeks 11and 12.

The highest positivity occurred in Mid Ulster (6.6%). Northern Ireland's proportion positive in week 12 was 3.4%, a decrease from 4.5% in week 11. This is lower than the peak positivity of 26.4% reported across Northern Ireland 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 Northern Ireland, including variations across age, sex and urban and rural areas was published by Department of Health on 16 December 2020.

Care home outbreaks

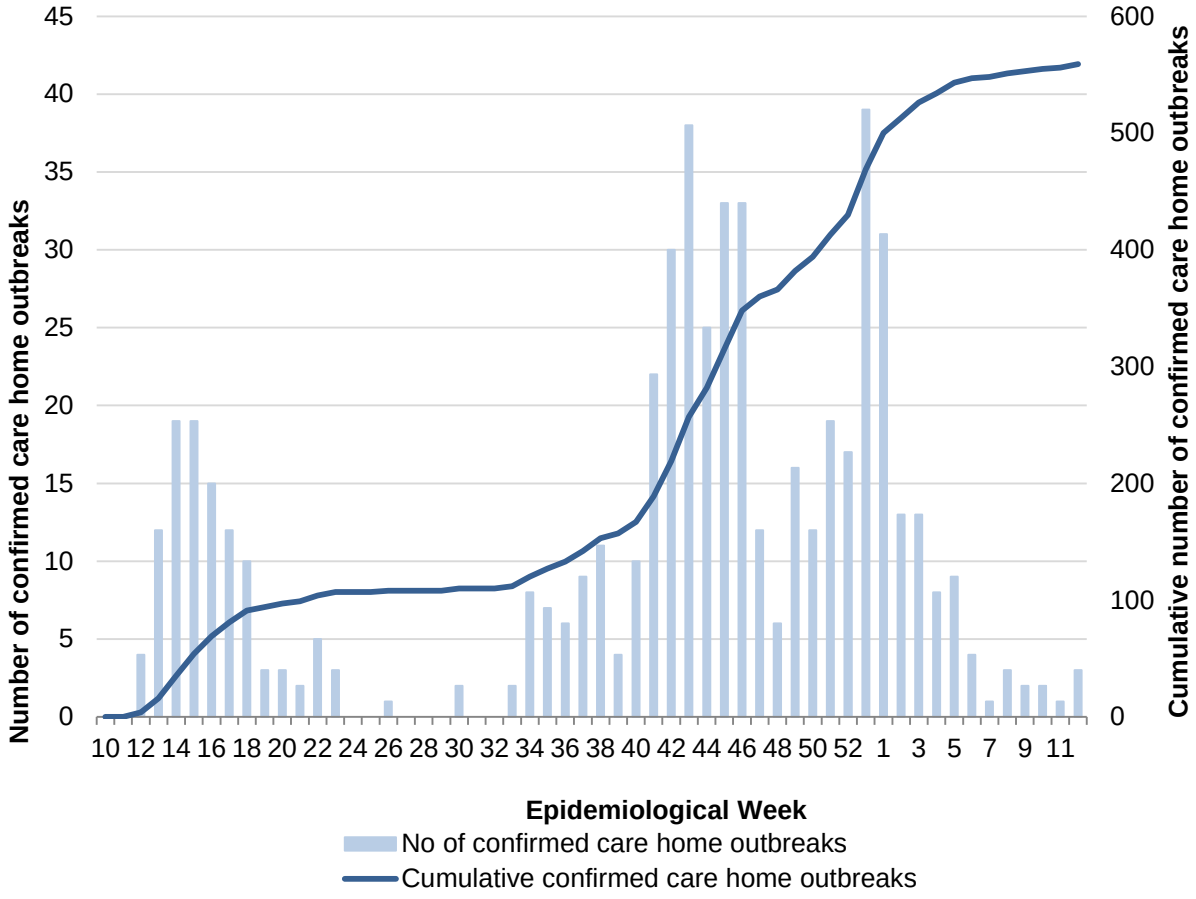


Figure 13. Confirmed COVID-19 care home outbreaks in Northern Ireland, 2020-21

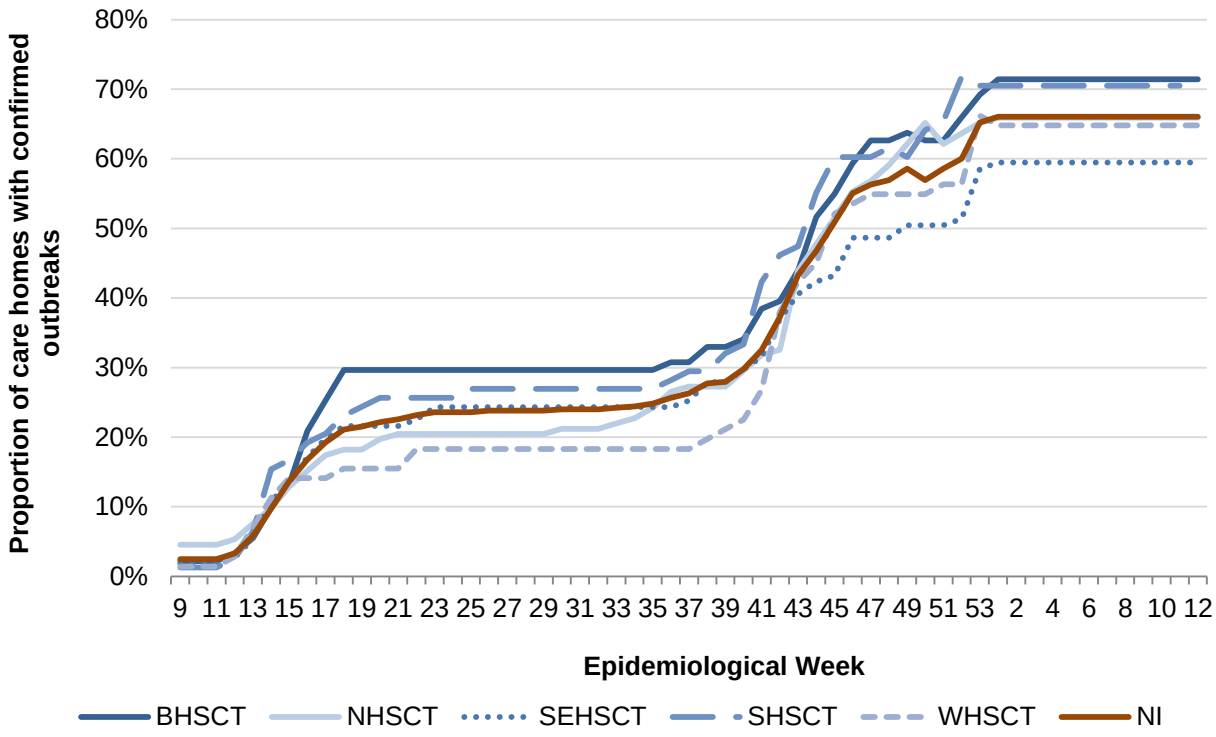


Figure 14. Proportion of care homes with confirmed or suspected COVID-19 in Northern Ireland by Trust, 2020-21

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

Trust Area	Cumulative total of care homes with outbreaks in 2020	% of care homes with outbreaks	Total number of care homes
Belfast	65	71.4%	91
Northern	93	70.5%	132
South Eastern	68	61.3%	111
Southern	57	73.1%	78
Western	48	67.6%	71
Northern Ireland	331	68.5%	483

To week 12, a total of 559 confirmed COVID-19 care home outbreaks were reported, involving 331 care homes (68.5% of all Northern Ireland care homes). The highest proportion of care homes with confirmed COVID-19 outbreaks (73.1%) were reported from the Southern Trust area.

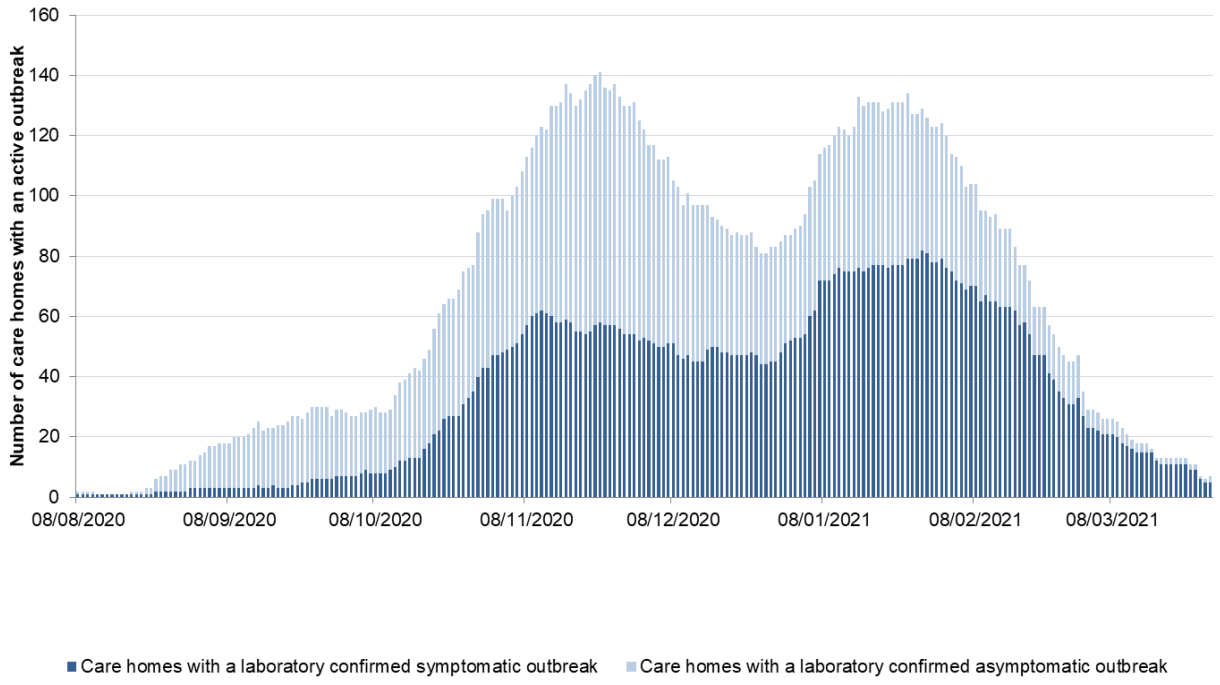


Figure 15. Number of care homes with a confirmed active symptomatic or asymptomatic COVID-19 outbreak[6] in Northern Ireland, 2020-21

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.

Sentinel testing

Table 4. COVID-19 activity in Northern Ireland Sentinel GP Practices*, week 12, 2021			
Period	**Individuals tested**	**Number positive**	**Proportion positive**
Current week	25	0	0%
Total	**944**	**40**	**4.2%**

**Sentinel testing started 27 April 2020; excludes care home residents and healthcare workers*

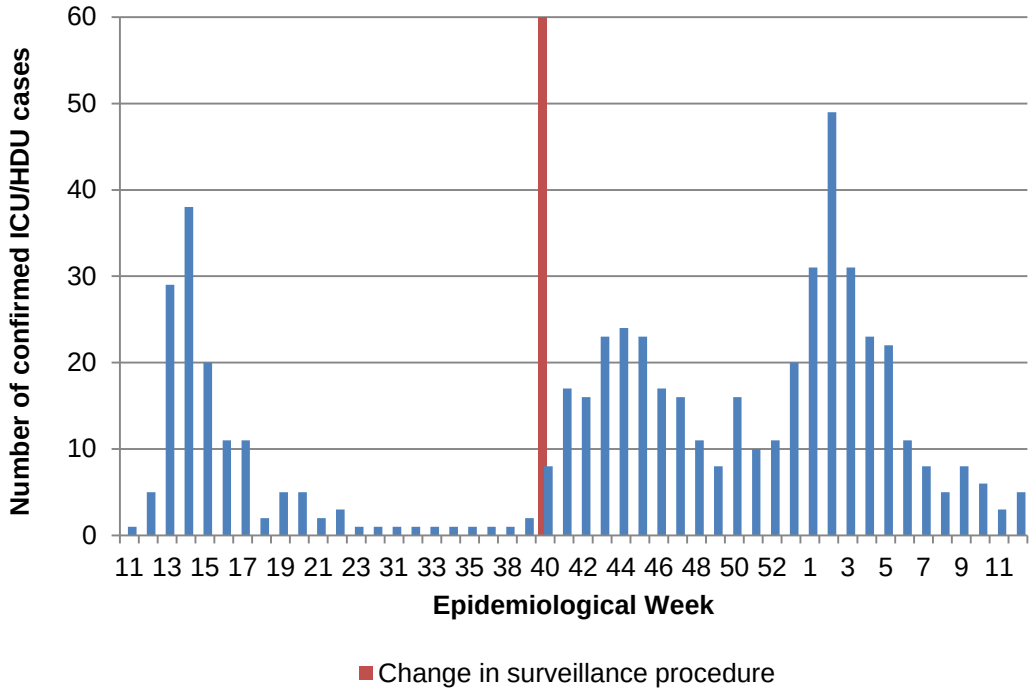
COVID centre testing

Table 5. COVID-19 activity in Northern Ireland COVID Centres*, week 12, 2021			
Period	**Individuals tested**	**Number positive**	**Proportion positive**
Current week	-	-	N/A
Total	**864**	**14**	**1.6%**

** One COVID centre operational from 15 June 2020 (BHSCT); virology data in table above from 01 July 2020. Data provided from the COVID centre directly reported 182 individuals tested between 15 June and 30 June 2020 inclusive. All results were negative. This data is subject to change as we continue to quality assure the COVID centre information against virology.*

Source: HSC Trust laboratory reports and the National Testing Programme

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

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

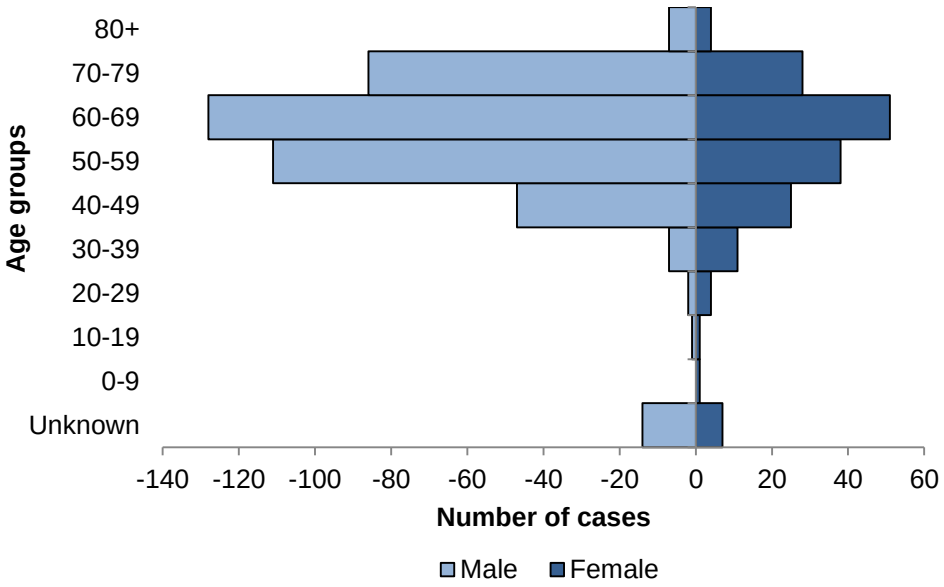


Figure 17. ICU/HDU COVID-19 cases, by age and sex, 2020-21

To week 12, there have been 575 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=49).

Of the 575 individuals 70.1% (n=403) were male. The ages ranged from <1 year to 90 years, with a median age of 61 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 25 March 2021 from critical care units in Northern Ireland participating in the Case Mix Programme (the national clinical audit for adult critical care).

Schools Surveillance

Information on school COVID incidents 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

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.

Data is collected on the number of COVID school incidents reported to the PHA COVID School Team since schools reopened.

The number of cases that have been reported by schools to the PHA school team is also included in this section 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 provide an underestimate of laboratory data.

Table 6 shows the number of school incidents by type of school that have been reported to the PHA School team up to the end of week 12.

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 6. Number of COVID-19 Incidents in Schools	
School Type	**Total to date**
Preschool	115 *(6.2%)*
Primary	1097 *(58.8%)*
Post Primary	529 *(28.3%)*
Special	125 *(6.7%)*
Total	1866

Table 7 shows the number of school incidents by type of school and also type of incident i.e. single case in a 14 day period or cluster of cases within a 14 day period.

Clusters have been further broken down into those with 2 to 5 cases and 6 or more cases.

Table 7. Number of Incidents by School and Incident Type

Incident Type	School Type	Total to date	Proportion
Single Case	Preschool	83	8.5%
	Primary	650	66.2%
	Post Primary	186	18.9%
	Special	63	6.4%
	All	982	
Cluster (2-5 cases)	Preschool	29	4.4%
	Primary	381	58.0%
	Post Primary	198	30.1%
	Special	49	7.5%
	All	657	
Cluster (>5 cases)	Preschool	3	1.3%
	Primary	66	29.1%
	Post Primary	145	63.9%
	Special	13	5.7%
	All	227	

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

A school may have had more than one incident since opening on 24th August. Table 8 shows the cumulative number of schools that have had at least one school incident up to the end of week 12.

The 1866 school incidents have occurred in 889 schools in Northern Ireland. Overall 59.9% of schools have had at least one COVID-19 case in a pupil or member of staff.

Table 8. Number of Schools with a COVID-19 Incident

School Type	No. Schools that have had at least one case	Total number of schools in Northern Ireland	Proportion of school in Northern Ireland that have had at least one case
Preschool	94	458	20.5%
Primary	574	792	72.5%
Post Primary	185	194	95.4%
Special	36	39	92.3%
Total	889	1483	59.9%

Trend of school incidents

The following information includes the number of incidents in schools since they first reopened until the end of week 12 (28 March 2021).

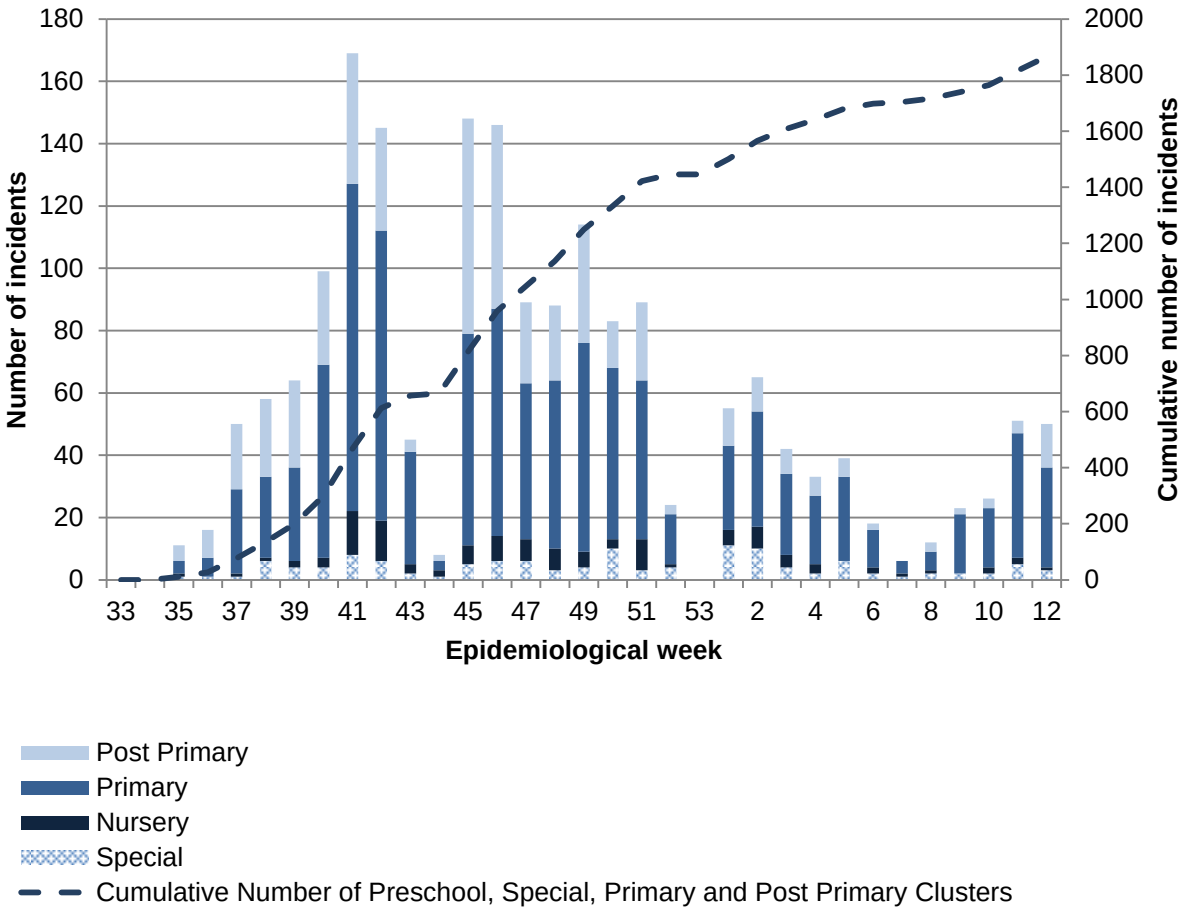


Figure 18. Number of COVID-19 incidents in schools, by school type, week 33 - 12

Cumulative School Incidents by Local Government District

The following information includes the cumulative number of incidents in schools by LGD since they first reopened until the end of week 12 (28 March 2021).

The cumulative community rate per 100,000 population is also shown in the figure.

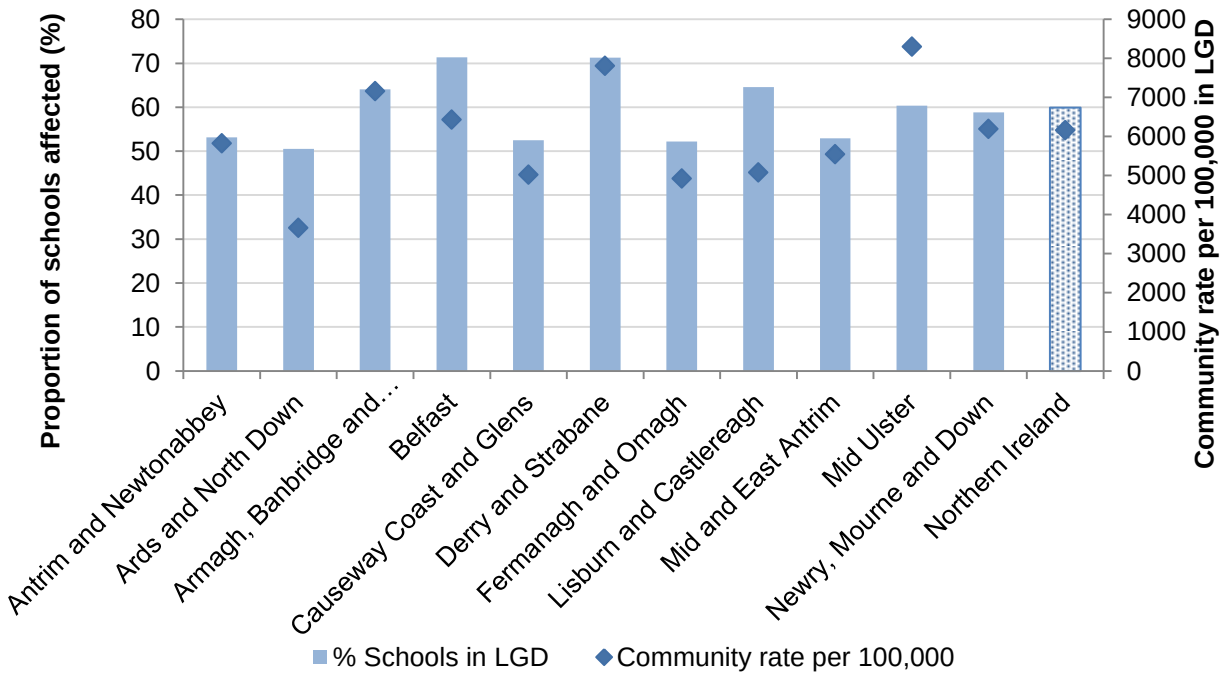


Figure 19. Proportion of schools with a COVID-19 incident and overall background community rate by 100,000 (2020) by Local Government District (LGD)

Cumulative number of COVID-19 cases reported by schools to PHA School Team

Since schools opening on 24th August until the end of week 12, there have been 5,500 confirmed COVID-19 cases that occurred at any point during this time reported by schools to the PHA School Team.

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.

Staff member includes teaching and non-teaching staff.

Table 9. Number of COVID-19 cases reported by schools where information is available on pupil / status, up to week 12

School	Pupil Case	Staff Case	Total	Proportion of all cases that are pupils
Preschool	73	111	184	39.7%
Primary	1229	1016	2245	54.7%
Post Primary	2115	637	2752	76.9%
Special	101	218	319	31.7%
All	3518	1982	5500	64.0%

Table 10. Number of COVID-19 cases in school aged children reported by schools where information is available as a proportion of all school age children, up to week 12		
School Type	**Pupil cases**	**Proportion of all school aged pupils in Northern Ireland**
Preschool	73	0.02%
Primary	1229	0.36%
Post Primary	2115	0.62%
Special	101	0.03%
All	3518	1.03%

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

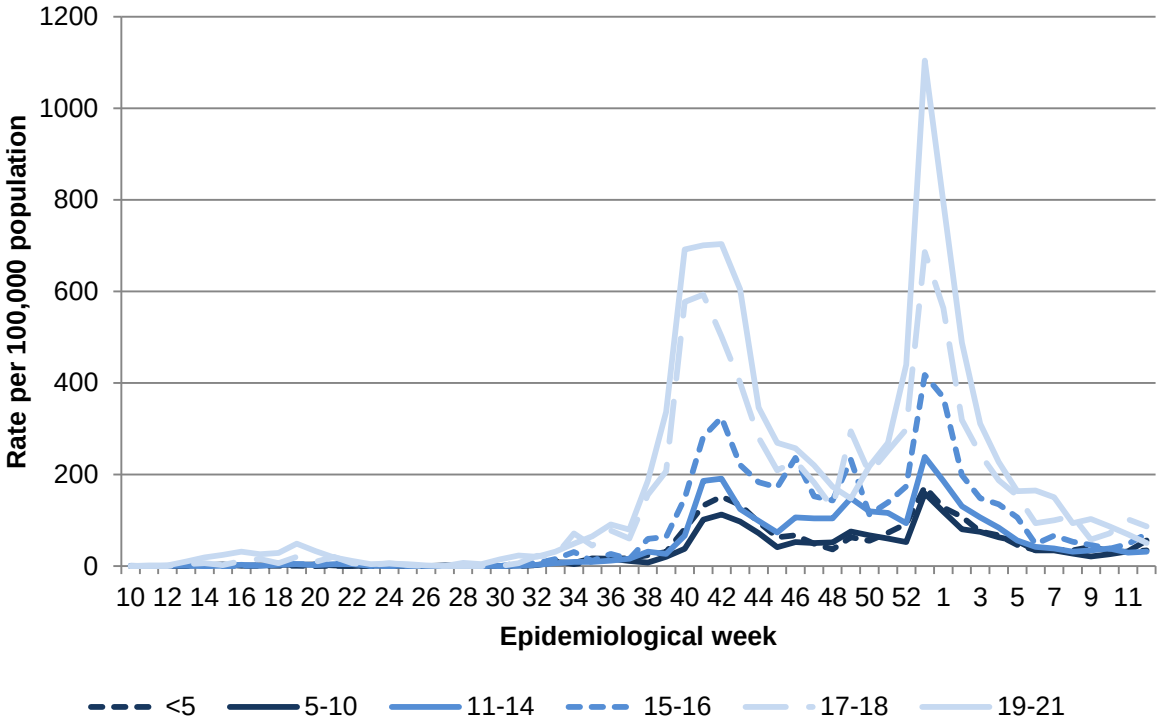


Figure 20. Weekly COVID-19 laboratory confirmed case rates per 100,000 population, by age group, for all testing data combined, in those aged 21 and under, 2020-21

Compared to week 11, all age groups increased in week 12 apart from the 17-18 and 19-21 age groups, which saw a decrease. The 17-18 age group had the highest case rates (86.9 per 100,000), followed by the 15-16 age group (70.7 per 100,000).

Source: HSC Trust laboratory reports and the National Testing Programme

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 19 March 2021, the proportion of COVID-19 deaths registered was 5.9%, and from 19 March 2020 to week ending 19 March 2021 the proportion of COVID-19 deaths registered was 15.8%.

Weekly published data are provisional and is based on registrations of deaths, not occurrences. The majority of deaths are registered within five days in Northern Ireland. 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 19 March 2021 with a mention of COVID on the death certificate. Please note: Where COVID 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.

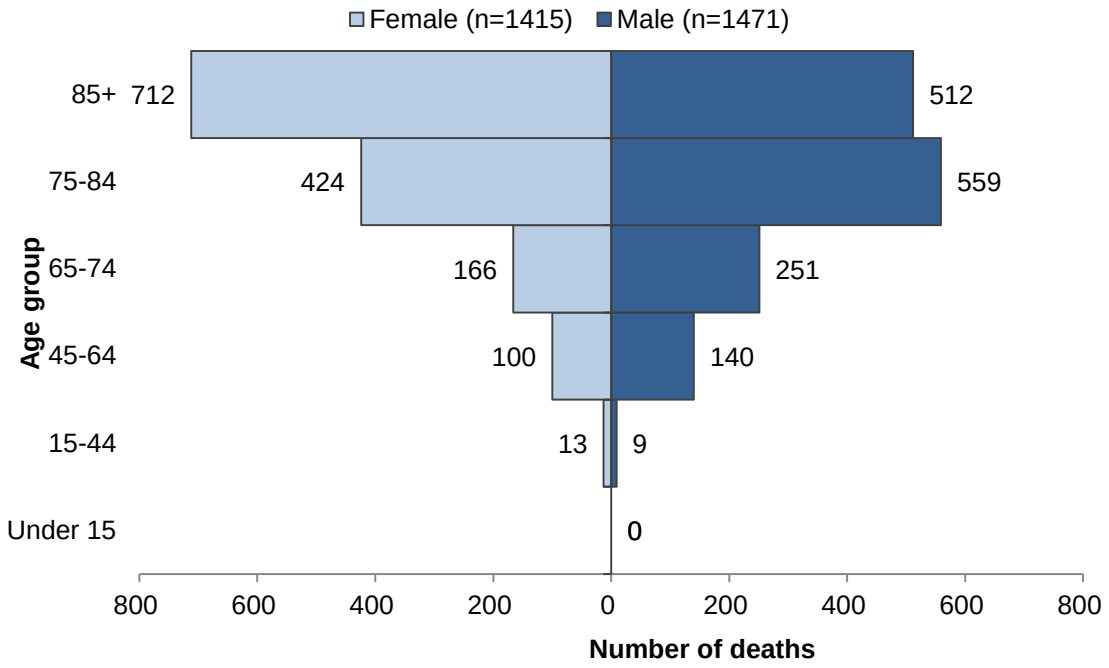
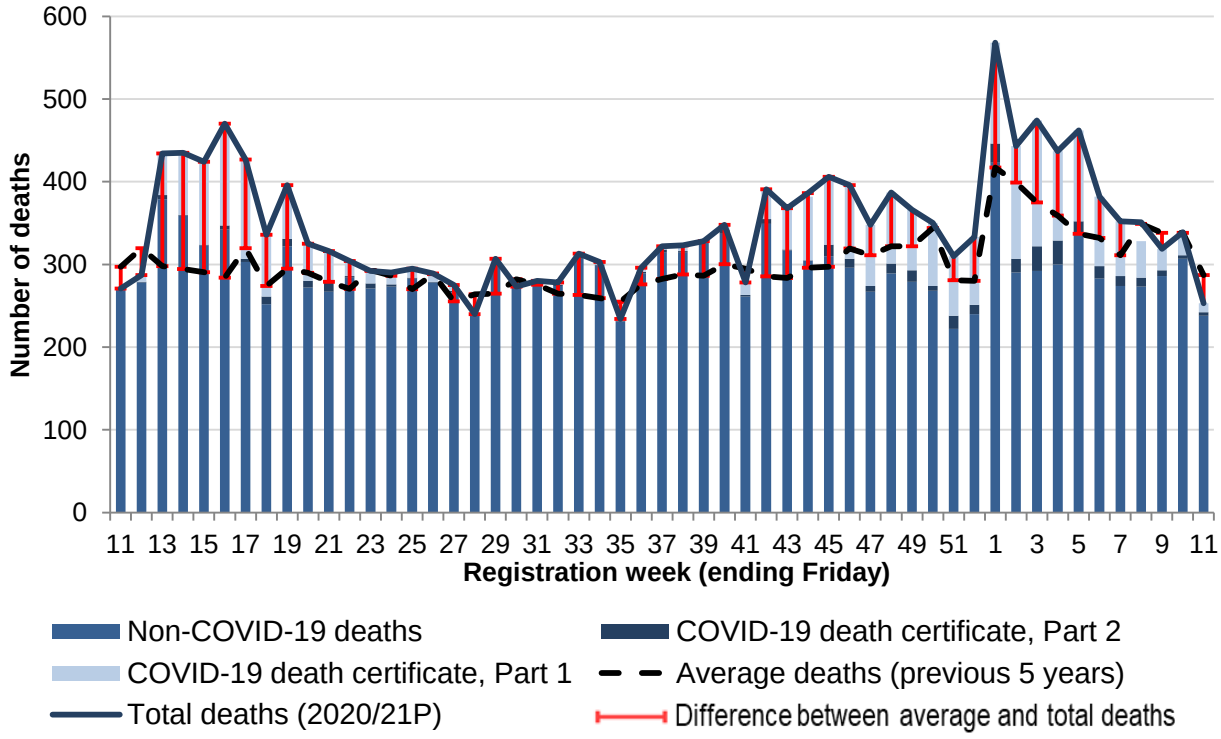


Figure 21. NISRA registered COVID-19 deaths by sex and age group, up to week ending 19th March 2021



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 11 (ending 19 March 2021)

Table 11. Northern Ireland registered deaths, including COVID-19 associated deaths, Week 11 (ending 20 March 2020) to Week 11 (ending 19 March 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	1	2	3	4	5	6	7	8	9	10	11*
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	122	136	152	108	110	84	66	44	26	28	11
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	1	14	11	7	12	14	6	16	11	23	17	30	29	16	15	12	11	7	4	4
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	423	290	292	300	336	283	274	273	286	307	238
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	417	399	375	359	337	332	311	349	338	338	287
Total deaths (2020/21P)	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	333	568	443	474	437	462	382	352	351	319	339	253

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

** Figures may be impacted by Registration Office closures on 17th March*

Source: Northern Ireland Statistical Research Agency (NISRA)

All-cause excess deaths

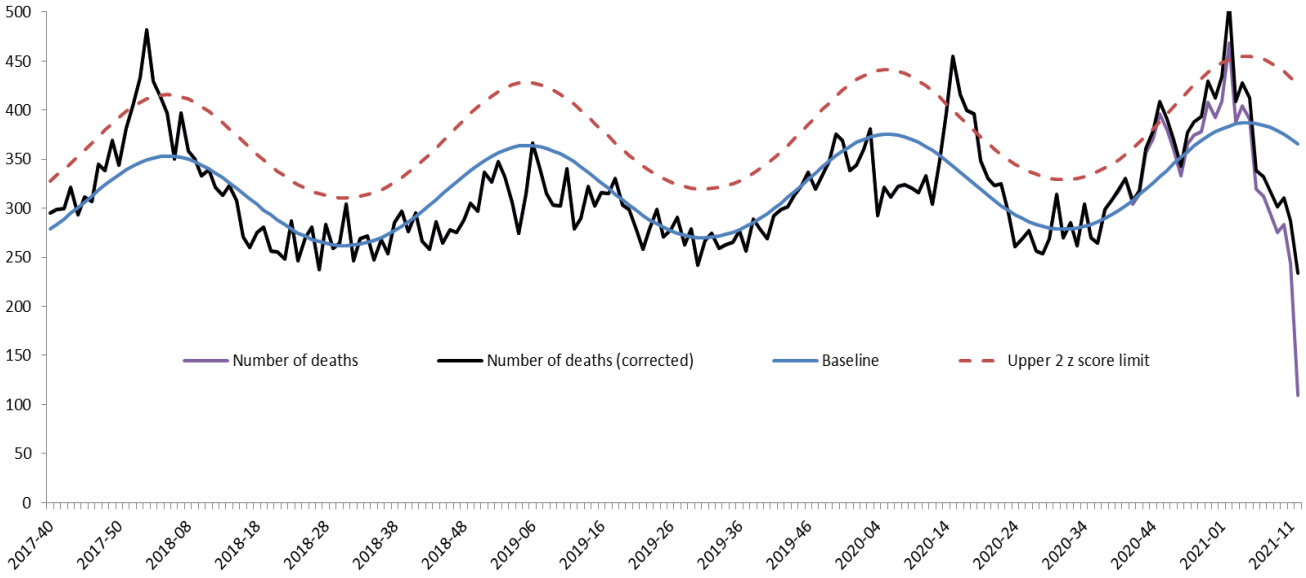
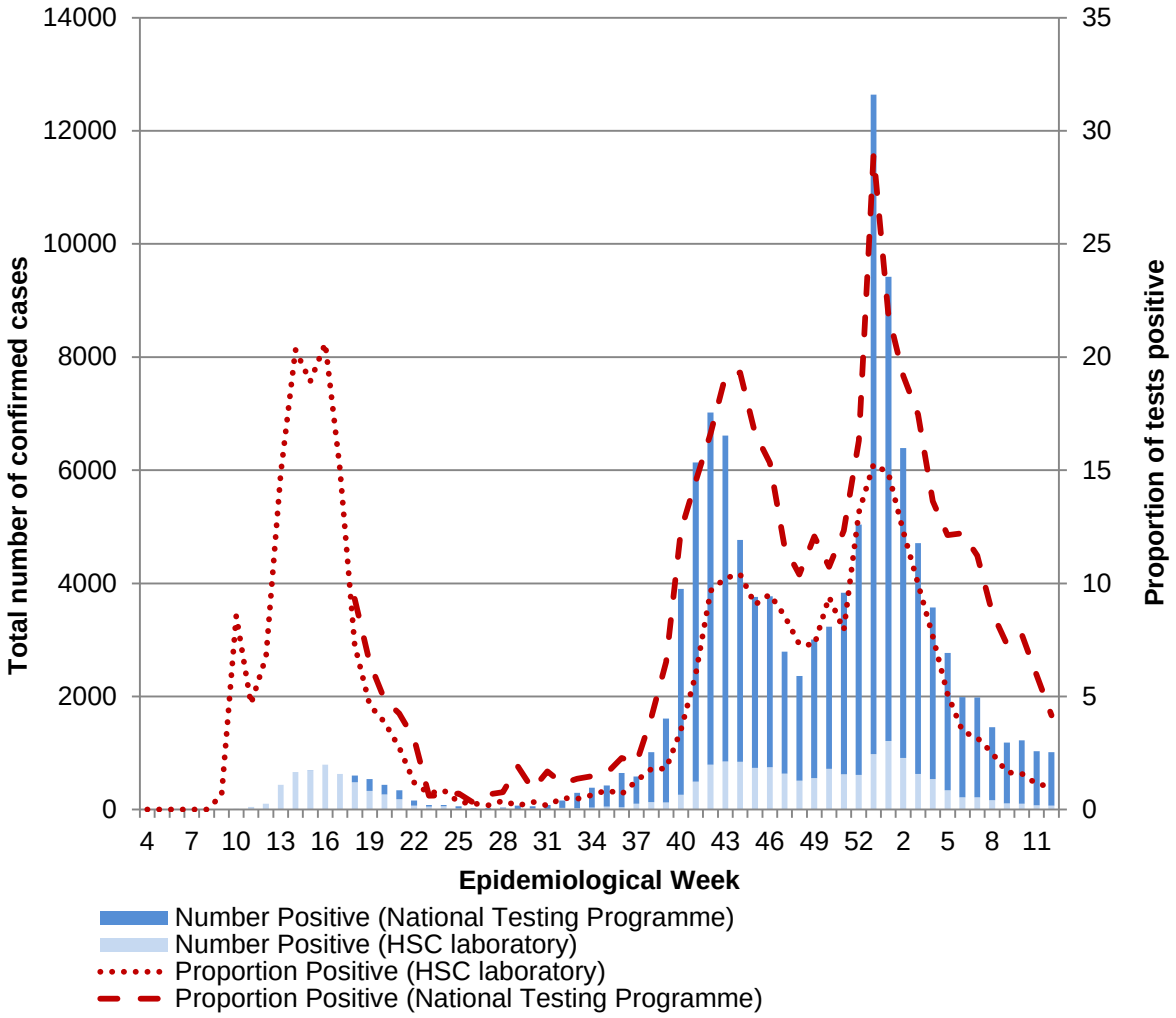


Figure 23. Weekly observed and expected number of all-cause deaths in all ages, week 40 2017 - week 12 2021

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 (11th – 17th 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 SARS-CoV2 and proportion positive, by source (HSC Laboratory testing and the National Testing Programme), 2020-21

Table 12. COVID-19 activity in Northern Ireland, for all testing data combined, week 12, 2021			
Period	**Individuals tested**	**Number positive**	**Proportion positive**
Current week	29674	1015	3.4%
Total	**1,179,482**	**116,771**	**9.9%**

Table 13. COVID-19 activity in Northern Ireland (HSC laboratory), week 12, 2021			
Period	**Individuals tested**	**Number positive**	**Proportion positive**
Current week	6997	71	1.0%
Total	**345,296**	**19,490**	**5.6%**

Table 14. COVID-19 activity in Northern Ireland (National Testing Programme), week 12, 2021			
Period	**Individuals tested**	**Number positive**	**Proportion positive**
Current week	22677	944	4.2%
Total	**834,186**	**97,281**	**11.7%**

Source: HSC Trust laboratory reports and the National Testing Programme

To week 12, the total number of individuals tested was 1,179,482, positivity 9.9%. Overall, more individuals have now been tested as part of the National Testing Programme, and positivity is now higher (11.7%) compared to HSC laboratories (5.6%).

Global situation

As of 31 March, WHO has been notified of 127,619,612 confirmed cases of COVID-19, including 2,791,953 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 Northern Ireland. 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:

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 is 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 Northern Ireland.

National Testing Programme

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

Everyone in Northern Ireland with symptoms of coronavirus is now eligible for testing.

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.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739854/PHE_Laboratory_Reporting_Guidelines.pdf. [Accessed 21 April 2020]

Testing for non-HSC essential workers and the general public is currently conducted in drive-through sites operating in Belfast, Enniskillen, Derry/Londonderry and Portadown. In addition there is a mobile testing unit currently operating within Northern Ireland.

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. This data should be interpreted with caution, when interpreted alongside the HSC laboratory data, because it includes 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

A 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 independent sector owned. There are 472 active care homes in Northern Ireland.

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.

Currently, care homes with multiple facilities, i.e. nursing and residential, but the same name may be reported as one outbreak, rather than two (if both units are affected) which may underestimate the number of care homes affected.

Primary care surveillance

a. 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.

b. COVID centre testing

A COVID centre is a separate facility created as an extension of primary care to help direct suspected COVID positive patients for assessment.

This keeps practices free to deal with any other medical problems. Triage will still occur at the practice, most likely via phone followed by referral to the centre if required.

There are three categories of patient that might be assessed at a COVID centre:

1. patients symptomatic for COVID, or already test positive who are clinically worsening: there will also be direct pathways for investigation and/or admission from the centre
2. patients where there is diagnostic uncertainty: symptoms similar to COVID but could be another clinical problem ranging from tonsillitis to meningitis requiring an assessment to exclude or confirm
3. patients being discharged from hospital: this group will grow with time but on many occasions will still have a need for clinical assessment and follow up.

Centres are staffed by GPs, helped by other members of staff, including nurses, health care workers etc.

Centres run from 8am to 10pm and see patients after triage and referral (by CCG) from the practice.

Patients can either be seen in their car outside the centre if a straightforward examination is needed, or brought into the centre for assessment. Patients are told to wait in their car until phoned to come in to prevent any crowding or grouping of patients.

Centres are hosted by the trusts and operate in each trust area.

Critical care surveillance

Until 28th 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 Northern Ireland by the Intensive Care National Audit and Research Centre (iCNARC) (here).

Since 28th 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 SARS-CoV2 result, from either before or during the ICU/HDU admission.

Schools Surveillance

Information on school COVID incidents is based on situations reported to PHA COVID School Team. These include:

- **Single confirmed case** of COVID (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** 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

PHA COVID School Team carries out contact tracing of cases that attend a school in collaboration with PHA Test and Trace Programme. All clusters are also investigated by the School Team in liaison with local partners.

Data is collected on the number of COVID school incidents reported to the PHA COVID School Team since schools reopened. This is the first week of reporting school surveillance.

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 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 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 Northern Ireland 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 2nd 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 SARS-CoV-2 test, whether presenting in primary or secondary care.

In addition, the following situation should prompt clinicians to consider SARS-CoV2 testing:

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