COVID-19 in Northern Ireland

Daily Dashboard Charts & Graphs: 5ᵗʰ November 2020

INFORMATION
ANALYSIS
DIRECTORATE

Department of
Health
An Roinn Sláinte
Männystrie O Poustie

www.health-ni.gov.uk

Contents

INTRODUCTION

The difficulties in controlling COVID-19 are due to several factors:

- Its incubation period is relatively long, some five to six days and longer for some.
- Those who are infected become infectious, and infect others, before they display any symptoms or become aware of the disease.
- A significant fraction of cases remain asymptomatic - they never develop symptoms, but they still infect others.

Certain parameters characterise the virus itself, these include:

- **Incubation period** - the time between contracting the infection and the appearance of symptoms
- **Virulence** - the severity of its health effects.
- **Reproduction number** (infectiousness) - the number of new infections each case typically generates, and
- **Case fatality** - the number of infected people that die from the infection

UNDERSTANDING MEASURES TO 'FLATTEN THE CURVE'

COVID-19 infections, like many other viruses, grow exponentially. Fixed rate exponential growth means that the number of cases doubles in a defined amount of time. The doubling time is dynamic and informs us of the impact (or lack of impact) of interventions on epidemic growth. When we talk about '***flattening the curve'***, we mean lengthening the doubling period. Flattening the curve, or slowing the rate of growth of new infections, is crucial to the maintenance of capacity in the health sector.

A failure to moderate growth of infections rapidly overwhelms any nation's health systems, hence the need for radical social policy interventions. Flattening the curve, or increasing the doubling period, is achieved through official policies and social behaviours. These range from simple but effective practices such as:

- Washing hands correctly
- Social distancing practices (as recently introduced in many countries including Northern Ireland)
- Cessation of all non-essential activities, and stay-at-home policies (as seen in China & Italy).

All of these policies are designed to reduce the opportunity for transmission of infections – in effect aiming to slow the growth rate. The doubling period therefore is an important barometer of the effects of national policies and behaviours on the impact of the virus. Changes in the doubling period in effect, reflect policy effectiveness.

THE DOUBLING PERIOD

The effect of **doubling period** is best illustrate by comparing for example numbers between Japan and Italy. On 23rd February, Italy reported 132 cases, and Japan reported 144: virtually the same. Japan's doubling period was close to eight days, Italy's was initially less than one day. Infections in Italy were therefore doubling at many times the rate of those in Japan. Eight days later, Italy reported 1,700 cases whilst Japan reported 254. One month later (23rd March), Italy reports more than 50 times the number of cases in Japan, at nearly 60,000 cases to Japan's 1,089.

While it is informative to know both the number of cases and deaths, it is their **growth rate** that matters most. The trajectory is what is most important. This shows the rise in confirmed cases and deaths since the outbreak began. South Korea spread slowed from initial pace and in fact has now plateaued. Northern Ireland Trajectory seems to be tracking similar to that of South Korea albeit with significantly fewer cases and deaths.

The **population of countries** differ significantly but we don't need to adjust for this. If for example we were to adjust for population size and to express confirmed cases or deaths as per million all that would happen is that we would just make larger countries look like their outbreaks aren't quite as bad, and smaller countries look like theirs are much worse. Since the virus spreads exponentially the population is not a limiting factor. Its spread will be determined by the behaviour of individuals and how they mix in their communities. It will tend to spread as the people in cities across the world interact with each other in a similar manner and at a similar rate.

HOW DO WE TREAT CASES AND MANAGE TESTING?

There is the view that the number of **confirmed cases** in a country is a function of the number of tests it conducts. It is important to note despite the focus on testing large numbers of the population we do not actually know the number of people who have coronavirus in the population.

There may be a great many who are symptom free but nevertheless have the virus but just not ever been tested. It is for this reason that we plot laboratory confirmed cases and not simply refer to cases, the true number of which we do not know.
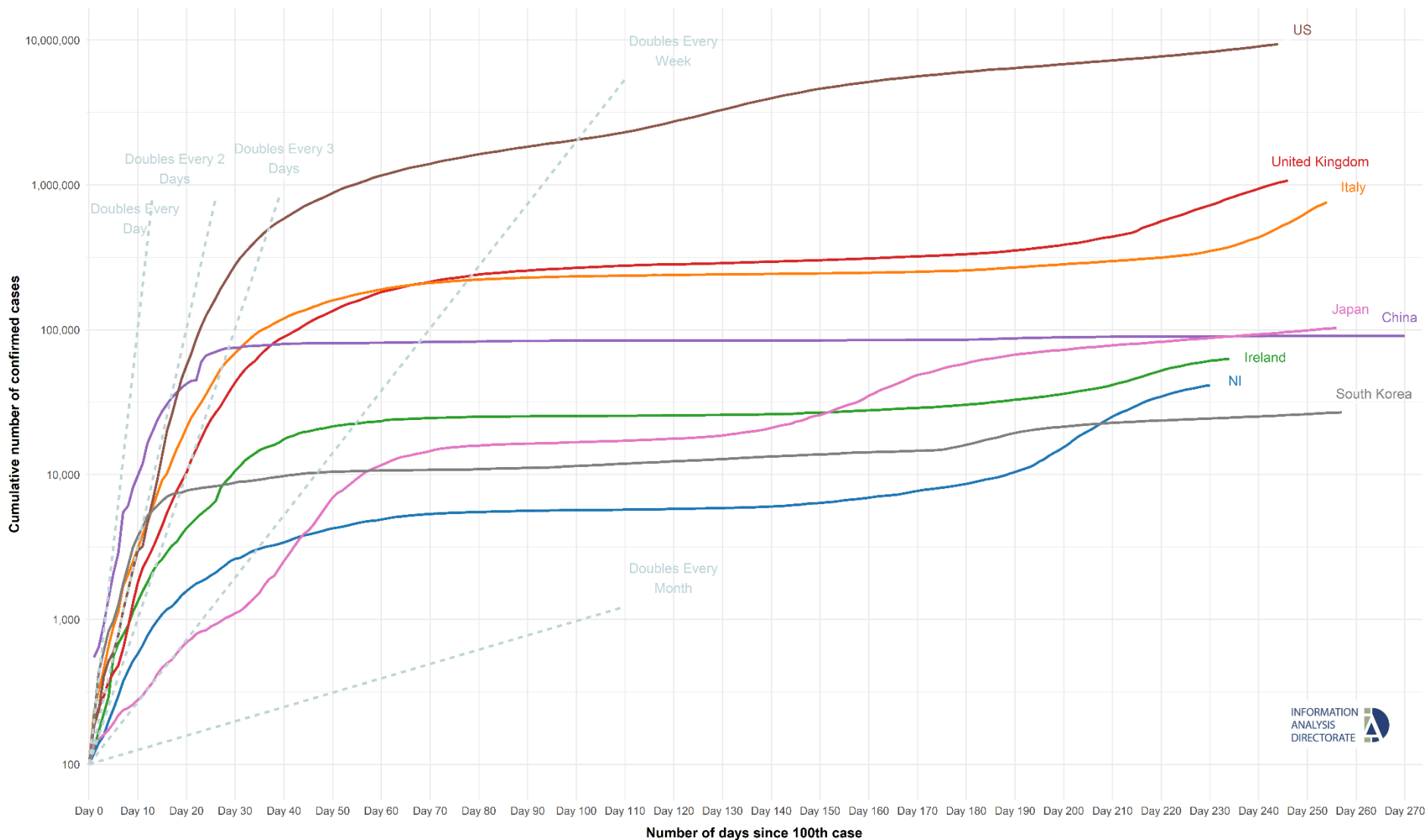
Figure 1: Cumulative number of individuals with a laboratory confirmed test for COVID-19 after the 100th case.
The 100th case for all countries are aligned by calculating the first time the cumulative number of positive cases was greater than or equal to 100 and rounding down to exactly 100. Data is not available for China before their 500th case.
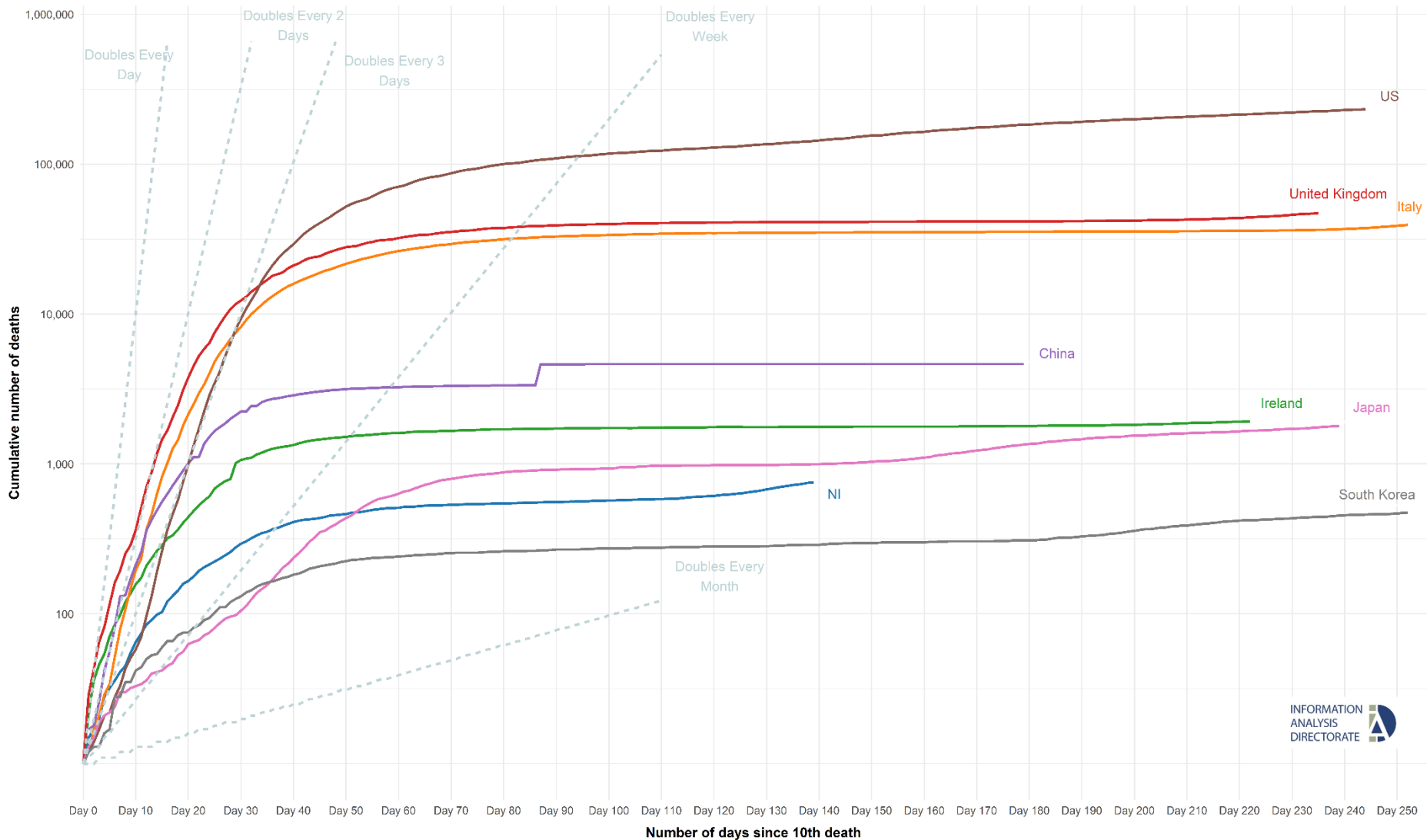
Figure 2: Cumulative number of deaths after the 10th death, where the deceased has had a positive test for COVID-19 and died within 28 days, whether or not COVID-19 was the cause of death. The 10th death for all countries are aligned by calculating the first time the number of deaths was greater than or equal to 10 and rounding down to exactly 10.
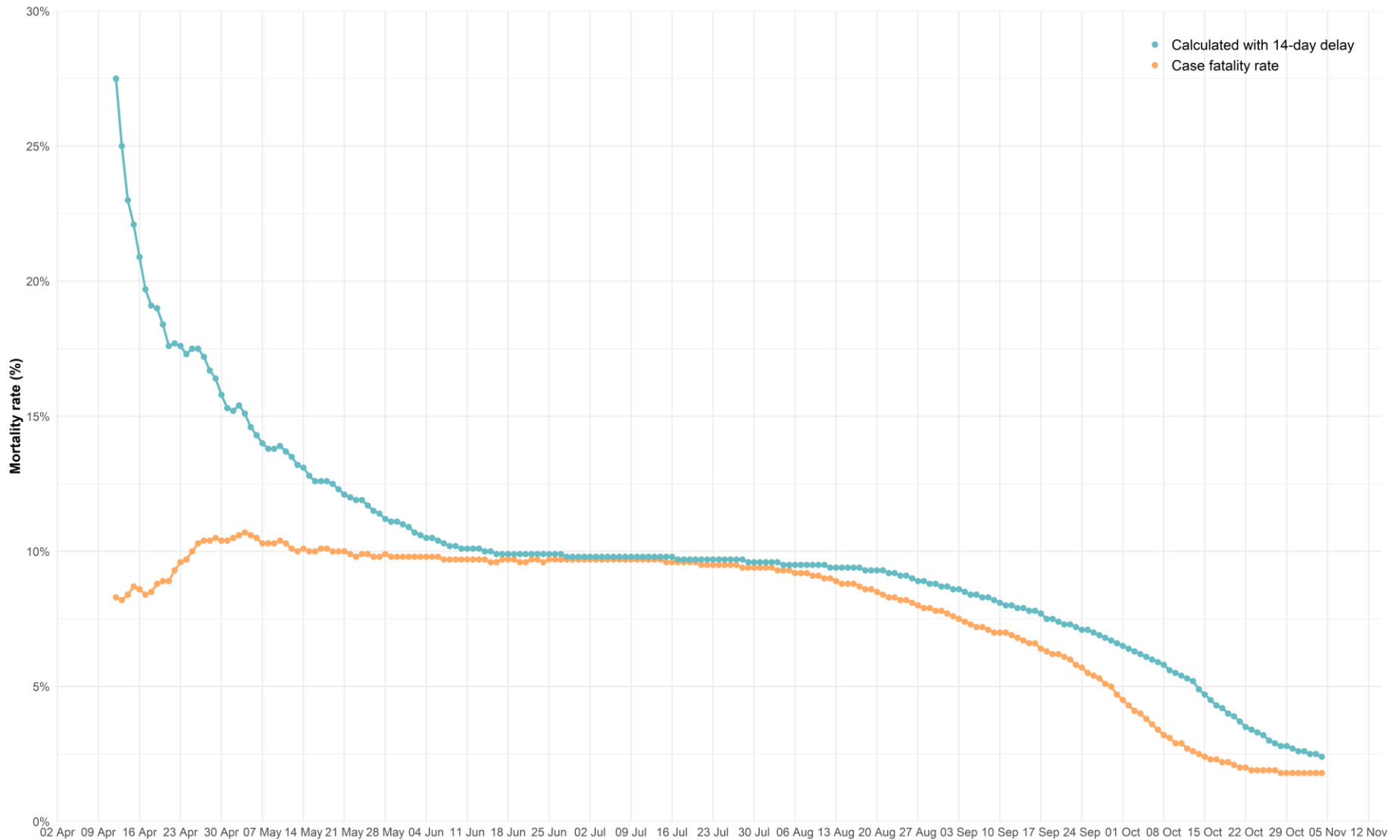
Figure 3: Mortality rate estimates are often based on the number of deaths relative to the number of confirmed cases, however, this isn't representative of the actual death rate, as patients who die on any particular day were infected much earlier. In other words, current deaths belong to the same group of patients that were infected in the past. The maximum incubation period for COVID-19 is assumed to be up to 14 days, therefore the chart below recalculates mortality by dividing the number of cumulative deaths at a specific date by the number of confirmed COVID-19 cases 14 days before.

Doubling Time in the Last 5 Days and Confirmed Cases

Country	Doubling Time (in Days)			Confirmed Cases		
	Last 5 Days	5 Days Before That	Change	Last 5 Days	5 Days Before That	Change
Northern Ireland	49.4	31.5	↑ 17.9	2,804	4,017	↓ -1,213
Ireland	89.0	52.1	↑ 36.9	2,424	3,931	↓ -1,507
United Kingdom	33.1	27.9	↑ 5.2	109,431	116,034	↓ -6,603
Italy	17.4	16.6	↑ 0.8	142,703	121,892	↑ 20,811
China	2101.2	1827.2	↑ 274	142	163	↓ -21
Japan	101.8	102.0	↓ -0.2	3,478	3,355	↑ 123
United States	72.8	75.3	↓ -2.5	441,170	406,630	↑ 34,540
Germany	21.4	20.6	↑ 0.8	90,875	80,038	↑ 10,837
France	24.0	14.5	↑ 9.5	213,805	292,601	↓ -78,796
Spain	43.3	27.7	↑ 15.6	98,730	139,546	↓ -40,816
South Korea	172.2	163.5	↑ 8.7	539	556	↓ -17

Source: Information & Analysis Directorate | Department of Health | Johns Hopkins CSSE
Data updated: [1] Thursday 05 November 2020
Please note: [a] United Kingdom data includes Northern Ireland

Table 1: Comparison of doubling times of confirmed cases in the last five days with the doubling time in the five days before; as well as the number of confirmed cases in the last five days with the number of confirmed cases in the five days before that. The 'change' column compares whether cases doubled faster or slower or remained about the same; or if countries reported more or less or about the same number of cases. The number of confirmed cases in Northern Ireland is doubling at a slower rate (49.4 days) over the last 5 days compared with the doubling rate in the 5 days before that (31.5 days).

COVID-19 Testing overview

IMPORTANT NOTE: Information below refers to the cumulative number of (i) Laboratory Completed Tests (ii) Individuals with a Laboratory Completed Test, and (iii) Individuals with a Positive Laboratory Completed Test. The daily change refers to the difference between the cumulative numbers reported today and those reported yesterday. It is not however possible to generate the daily change on any other testing page, as data on pages 4 – 7 is based on the date a sample was taken, and the daily change may include samples taken on several days over the last week.

Total Tests

782,114

Includes tests carried out by both HSC Labs and National Initiative

Individuals Tested

507,632

Includes tests carried out by both HSC Labs and National Initiative

Individuals Tested Positive

41,374

Includes tests carried out by both HSC Labs and National Initiative

Individuals Tested Positive in last 7 days

4,256

Includes tests carried out by both HSC Labs and National Initiative

i. Pillar 1 - HSC Trust Laboratory Completed Tests

04 November 2020

287,894	171,758	9,260
Total Lab Tests	Individuals Tested	Individuals Tested Positive

Daily Change

2,330	844	140
Total Lab Tests	Individuals Tested	Individuals Tested Positive

ii. Pillar 2- National Initiative Laboratory Completed Tests (From 29th April onwards)

04 November 2020

494,220	335,874	32,114
Total Lab Tests	Individuals Tested	Individuals

Daily Change

4,557	1,897	376
Total Lab Tests	Individuals Tested	Individuals Tested Positive

Total Laboratory Completed Tests (Pillar 1 & 2)

04 November 2020

782,114	507,632	41,374
Total Lab Tests	Individuals Tested	Individuals Tested Positive

Daily Change

6,887	2,741	516
Total Lab Tests	Individuals Tested	Individuals Tested Positive

NOTES: Information on Individuals with a laboratory completed test has been revised to ensure that those individuals tested in both Pillar 1 and Pillar 2 are counted ONLY ONCE.

COVID-19 Testing by LGD

Individuals with laboratory completed tests for the SARS-COV2 Virus in NI refers to both (i) **HSC Trust Labs (Pillar 1)** and (ii) **National Testing Centres (Pillar 2)** and is presented below by Local Government District. It is important to note that (i) Local Government Districts assigned as 'Not Known' refer to individuals with insufficient address / postcode details and (ii) the Daily Change refers to the change in the cumulative number of individuals with a positive test between midnight 3 November and 4 November 2020, and is not comparable with data presented by Date of Specimen.

Daily Change in Cumulative Number of Individuals with a Positive Test by LGD

Local Government District	Midnight 3 Nov 2020	Midnight 4 Nov 2020	Daily Change
Antrim and Newtownabbey	2,636	2,672	36
Ards and North Down	1,872	1,894	22
Armagh City, Banbridge and...	3,620	3,694	74
Belfast	10,037	10,120	83
Causeway Coast and Glens	2,189	2,227	38
Derry City and Strabane	5,721	5,786	65
Fermanagh and Omagh	1,538	1,558	20
Lisburn and Castlereagh	2,917	2,953	36
Mid and East Antrim	1,939	1,972	33
Mid Ulster	3,730	3,788	58
Newry, Mourne and Down	3,489	3,528	39
Not Known	1,170	1,182	12
Total	**40,858**	**41,374**	**516**
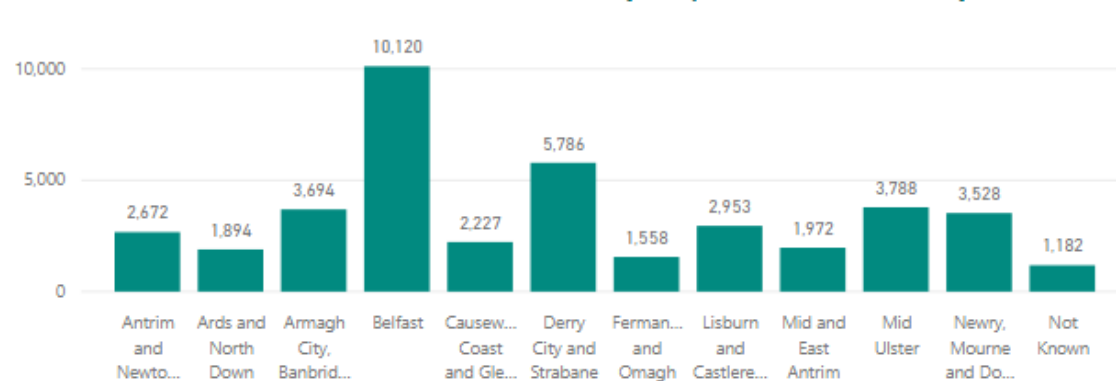
Daily Change in Cumulative Number of Individuals with a Positive Test by LGD

Cumulative Number of Individuals with a Positive Laboratory Completed Test (Pillar 1 & 2) by LGD


Cumulative Number of Individuals with a Laboratory Completed Test (Pillar 1 & 2) by LGD

| Local Government District	Total Individuals Tested	Individuals Tested Positive	Individuals Tested Negative	Individuals with Indeterminate Result	Positive Tests per 100k population
Antrim and Newtownabbey	37,049	2,672	34,374	3	1,873
Ards and North Down	36,472	1,894	34,574	4	1,177
Armagh City, Banbridge and Crai...	52,996	3,694	49,299	3	1,729
Belfast	103,239	10,120	93,109	10	2,966
Causeway Coast and Glens	31,967	2,227	29,739	1	1,544
Derry City and Strabane	48,832	5,786	43,040	6	3,840
Fermanagh and Omagh	27,222	1,558	25,660	4	1,334
Lisburn and Castlereagh	38,270	2,953	35,311	6	2,034
Mid and East Antrim	30,517	1,972	28,544	1	1,423
Mid Ulster	37,599	3,788	33,811	0	2,568
Newry, Mourne and Down	49,677	3,528	46,145	4	1,958
Not Known	13,792	1,182	12,603	7	
Total	**507,632**	**41,374**	**466,209**	**49**	**2,199**

COVID-19 Testing Details

Information below shows (i) the total number of lab completed tests, (ii) individuals with a lab completed test, and (iii) individuals with a positive lab completed test for both HSC & National Initiative.

Cumulative Total of Laboratory Completed Tests by Date of Specimen (Pillar 1 & 2)

● Total Lab Completed Tests ● Individuals with Lab Completed test ● Individuals with Positive Lab Completed Test
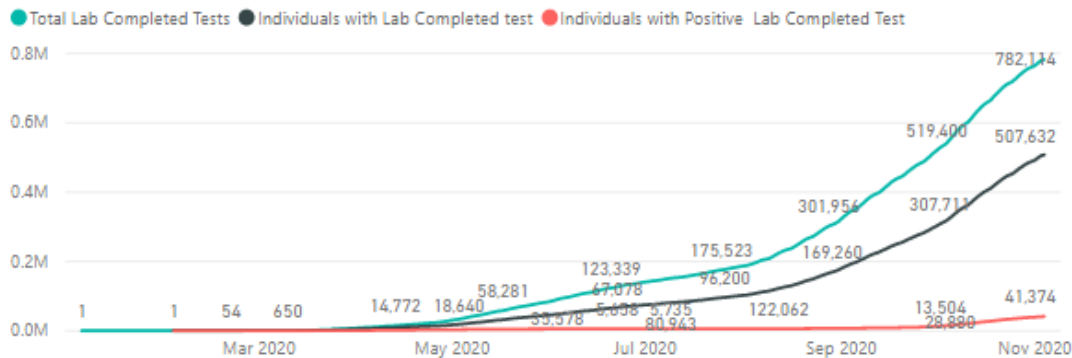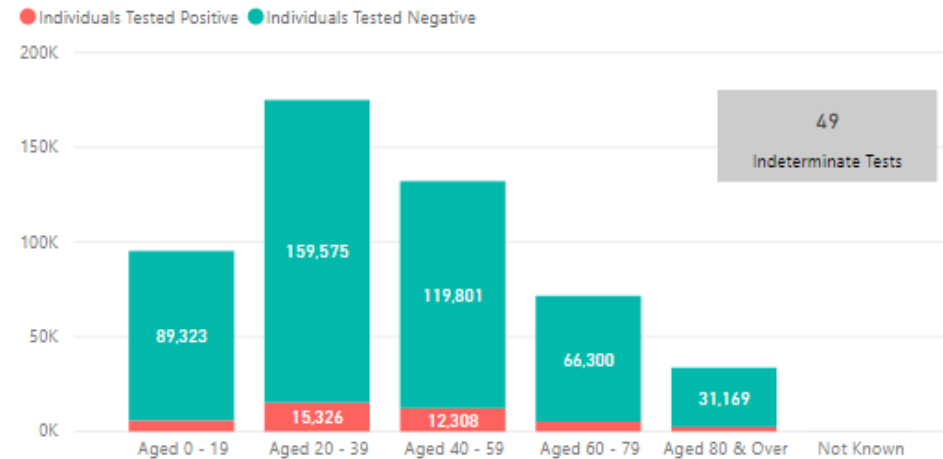

Information below refers to individuals with a positive lab completed test in both HSC & National Initiative and is presented below by the date the specimen (sample / swab) had been taken at a testing location, and not the date the labortory test was completed.

Individuals with Positive Laboratory Completed Test by Pillar and Date of Specimen

● Pillar 1 (HSC) ● Pillar 2 (National Initiative)
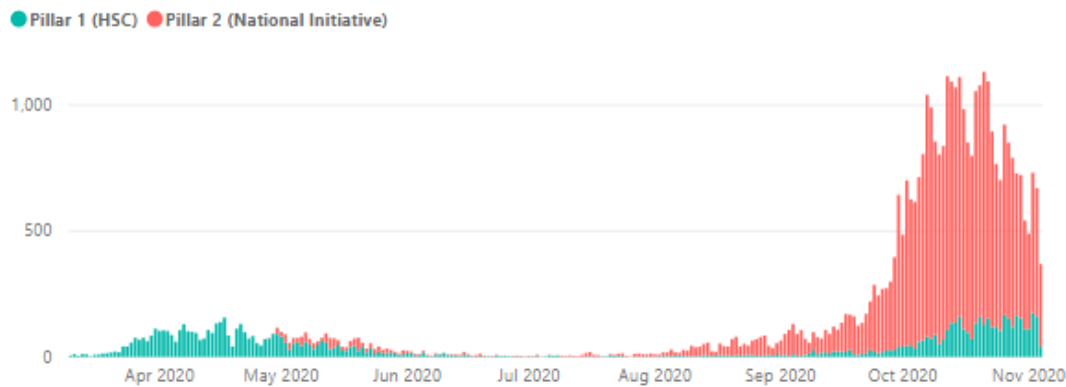
Age Group of Individuals with a Laboratory Completed Test (Pillar 1 & 2)

● Individuals Tested Positive ● Individuals Tested Negative

49 Indeterminate Tests

Gender of Individuals with a Laboratory Completed Test (Pillar 1 & 2)

● Individuals Tested Negative ● Individuals Tested Positive

437 Indeterminate Tests/Gender Not Known
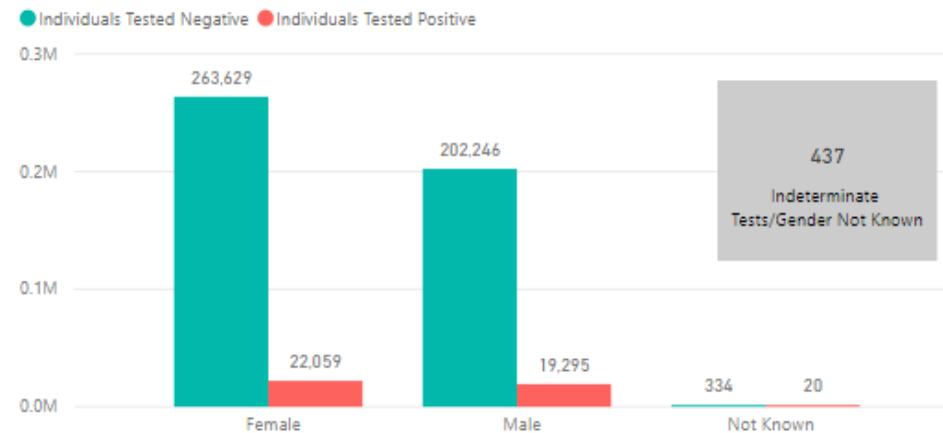
COVID Testing Last 7 Days - Postal District

Positive Cases in my Local Area

To view information on the number of individuals with a positive COVID-19 test in a specific area during the last 7 days, enter your full postcode in the box below with no spaces.

Enter a Postcode in following format and click enter i.e. BT221GB or BT34PP
Click on the icon at the side to reset the map for each postcode search.

Reset

Search 🔍 ↩

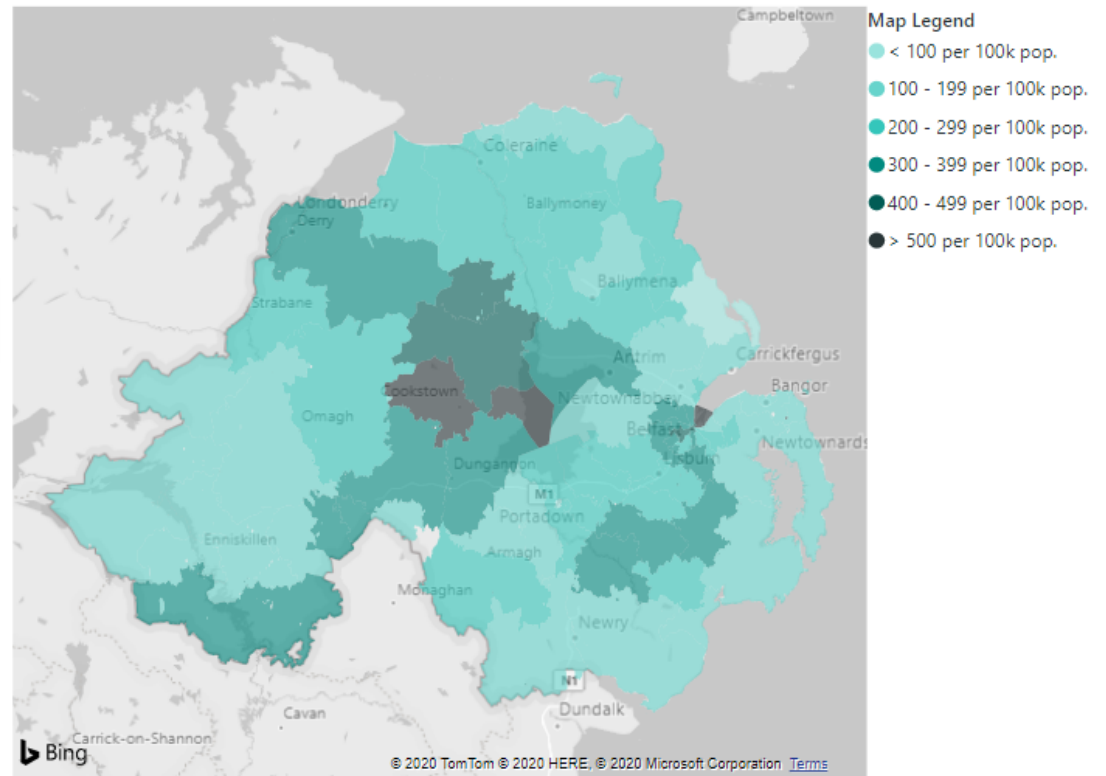Scroll down table to view data for all postcode districts selected.

Individuals Tested during Last 7 Days (26 Oct - 1 Nov 2020) by Postal District

Postal_District	Positive Cases	Rate per 100K Pop.	Individuals Tested	Population
				990
BT1	10	414.9	70	2,410
BT10	40	315.0	293	12,700
BT11	86	313.5	612	27,430
BT12	127	436.6	705	29,090
BT13	74	305.8	630	24,200
BT14	107	318.9	788	33,550
BT15	105	397.1	658	26,440
BT16	42	241.2	368	17,410
BT17	136	399.2	784	34,070
BT18	17	125.0	282	13,600
BT19	57	148.7	705	38,320
BT2	3	285.7	24	1,050
BT20	29	112.3	577	25,830
BT21	9	116.0	150	7,760
Total	**4,949**	**263.0**	**38,919**	**1,881,670**

Information:

The map below provides a visualisation of the 7-day incidence rate of individuals testing positive for COVID-19 per 100,000 population within each postal district in Northern Ireland, and will be updated on a weekly basis (each Monday).

Positive Cases in last 7 Days per 100K Pop. by Postal District (26 Oct - 1 Nov 2020)

Map Legend
- ● < 100 per 100k pop.
- ● 100 - 199 per 100k pop.
- ● 200 - 299 per 100k pop.
- ● 300 - 399 per 100k pop.
- ● 400 - 499 per 100k pop.
- ● > 500 per 100k pop.

© 2020 TomTom © 2020 HERE, © 2020 Microsoft Corporation Terms

COVID-19 Testing in the last 7 Days

Information below refers to the number of individuals with a positive laboratory completed test during the **last 7 days** (29 Oct - 4 Nov 2020) compared with the **previous 7 days** (22 Oct - 28 Oct 2020).
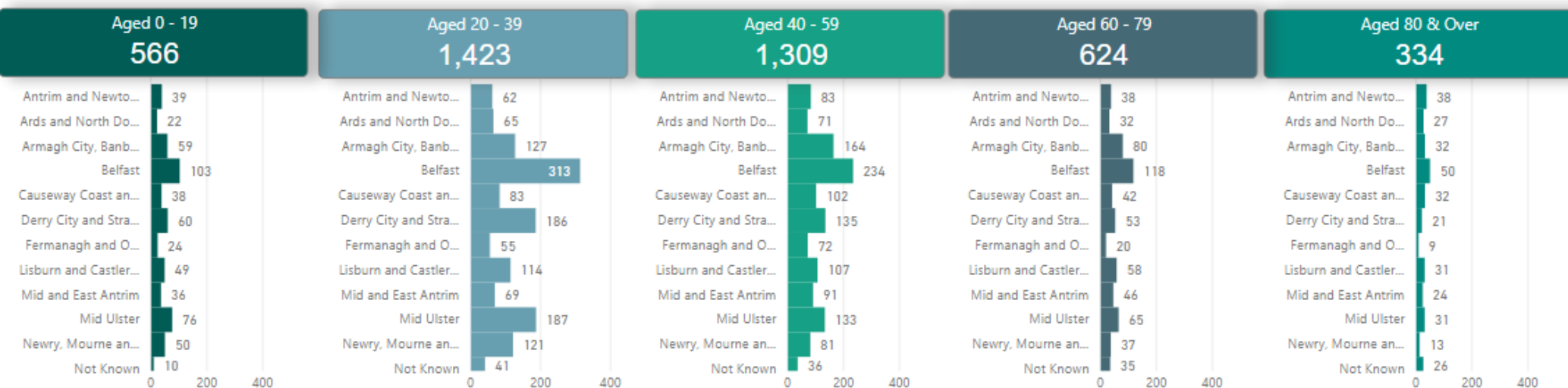
Laboratory Completed Tests during Last 7 Days (29 Oct - 4 Nov 2020) by LGD

Local Government District	+ve Cases Last 7 Days	Last 7 Day Rate per 100K	Individuals Tested Last 7 Days
Antrim and Newtownabbey	260	182.2	2,226
Ards and North Down	217	134.9	2,799
Armagh City, Banbridge and Crai...	462	216.2	3,848
Belfast	818	239.7	6,467
Causeway Coast and Glens	297	205.9	2,188
Derry City and Strabane	455	302.0	2,769
Fermanagh and Omagh	180	154.1	1,839
Lisburn and Castlereagh	359	247.3	2,703
Mid and East Antrim	266	191.9	2,057
Mid Ulster	492	333.5	3,071
Newry, Mourne and Down	302	167.6	2,904
Not Known	148		1,426
Total	4,256	226.2	34,297

Laboratory Completed Tests during Previous 7 Days (22 Oct - 28 Oct 2020) by LGD

Local Government District	+ve Cases Previous 7 Days	Previous 7 Day Rate per 100K	Individ. Tested in Previous 7 Days
Antrim and Newtownabbey	394	276.2	2,968
Ards and North Down	260	161.6	2,912
Armagh City, Banbridge and Craig...	558	261.1	3,989
Belfast	1,479	433.4	8,672
Causeway Coast and Glens	363	251.6	2,697
Derry City and Strabane	650	431.4	3,755
Fermanagh and Omagh	276	236.2	2,489
Lisburn and Castlereagh	490	337.5	2,878
Mid and East Antrim	289	208.5	2,530
Mid Ulster	728	493.5	3,941
Newry, Mourne and Down	397	220.3	3,476
Not Known	142		1,183
Total	6,026	320.2	41,490

Positive Laboratory Completed Tests during the last 7 days (29 October - 4 November 2020) by LGD

|	Aged 0 - 19	Aged 20 - 39	Aged 40 - 59	Aged 60 - 79	Aged 80 & Over
Total	566	1,423	1,309	624	334
Antrim and Newto...	39	62	83	38	38
Ards and North Do...	22	65	71	32	27
Armagh City, Banb...	59	127	164	80	32
Belfast	103	313	234	118	50
Causeway Coast an...	38	83	102	42	32
Derry City and Stra...	60	186	135	53	21
Fermanagh and O...	24	55	72	20	9
Lisburn and Castler...	49	114	107	58	31
Mid and East Antrim	36	69	91	46	24
Mid Ulster	76	187	133	65	31
Newry, Mourne an...	50	121	81	37	13
Not Known	10	41	36	35	26

Testing Trend Analysis of Individuals with a confirmed Laboratory completed test for SARS-COV2

Information below refers to the number of laboratory completed tests (Both HSC & National Initiative) by the date on which the specimen (sample / swab) had been taken at a testing location, and not the date the laboratory test was completed. Whilst this gives the most accurate analysis of how cases progress over time it does mean that the latest days' figures are usually incomplete, so it shouldn't be seen as a sudden large drop in cases.

Laboratory Completed Tests by Date of Specimen (Pillar 1 & 2)

● Pillar 1 Laboratory Completed Tests   ● Pillar 2 Laboratory Completed Tests
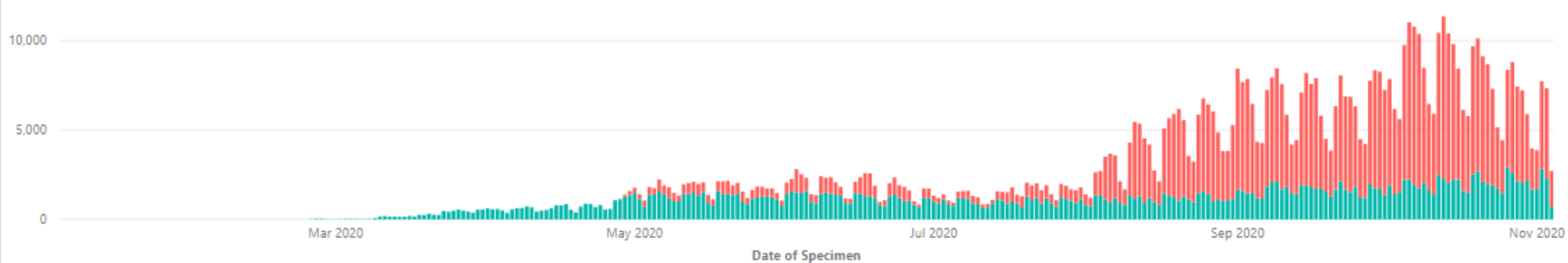
Information below shows the percentage of laboratory completed tests (Both HSC & National Initiative) which were identified as positive by the date the specimen (sample / swab) was taken at a testing location.

Proportion of Laboratory Completed Tests Identified as Positive by Date of Specimen (Pillar 1 & 2)

● % of Individuals with a positive Test   ● Rolling 7 Day % Individuals Tested Positive

Information is presented below on the 7-day rolling average of individuals with a positive laboratory completed test (Both HSC & National Initiative), by the date specimen (sample / swab) was taken at a testing location.

7 Day Rolling Average (mean) of Individuals with Positive Laboratory Completed Tests by Date of Specimen (Pillar 1 & 2)
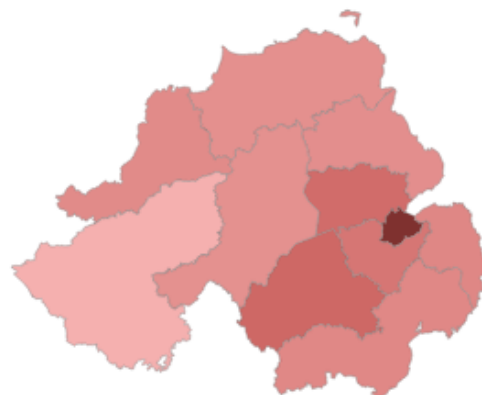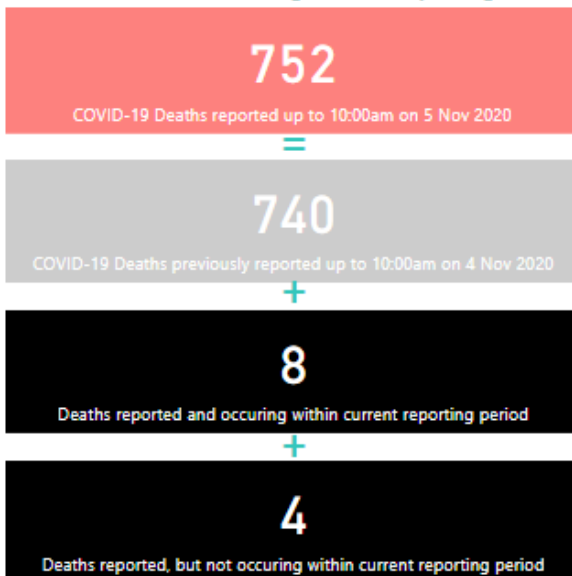

NOTE: Data is not yet available for the National Initiative between 4th - 28th April 2020 and this has resulted in a slight dip in the charts above between 19th - 29th April 2020.
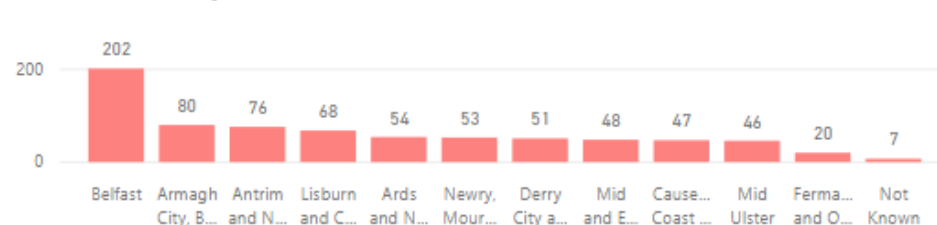
Cumulative COVID-19 Deaths By Local Government District by Age, Gender and Previously Report Deaths and Deaths in Current Reporting Period by Date of Death

Breakdown of Deaths During Current Reporting Period

752
COVID-19 Deaths reported up to 10:00am on 5 Nov 2020
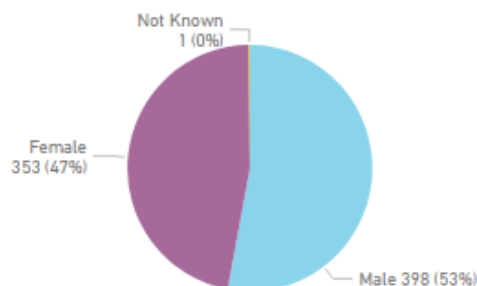
=

740
COVID-19 Deaths previously reported up to 10:00am on 4 Nov 2020

+

8
Deaths reported and occuring within current reporting period

+

4
Deaths reported, but not occuring within current reporting period

COVID-19 Deaths by Gender

Not Known 1 (0%)
Female 353 (47%)
Male 398 (53%)

COVID-19 Deaths by Local Government District

COVID-19 Deaths by Age Group

Age Group	Deaths
Aged 0 - 19	1
Aged 20 - 39	2
Aged 40 - 59	32
Aged 60 - 79	248
Aged 80 & Over	468
Not Known	1

COVID-19 Deaths by Local Government District

District	Deaths
Belfast	202
Armagh City, B...	80
Antrim and N...	76
Lisburn and C...	68
Ards and N...	54
Newry, Mour...	53
Derry City a...	51
Mid and E...	48
Cause... Coast ...	47
Mid Ulster	46
Ferma... and O...	20
Not Known	7

Cumulative COVID-19 Deaths by Date of Death

1, 91, 305, 460, 530, 552, 575, 620, 752

Previously Reported Deaths and Deaths in Current Reporting Period by Date of Death

● Previously Reported Deaths   ● Deaths Reported in Current Reporting Period   ● Rolling 7 Day Avg.Deaths
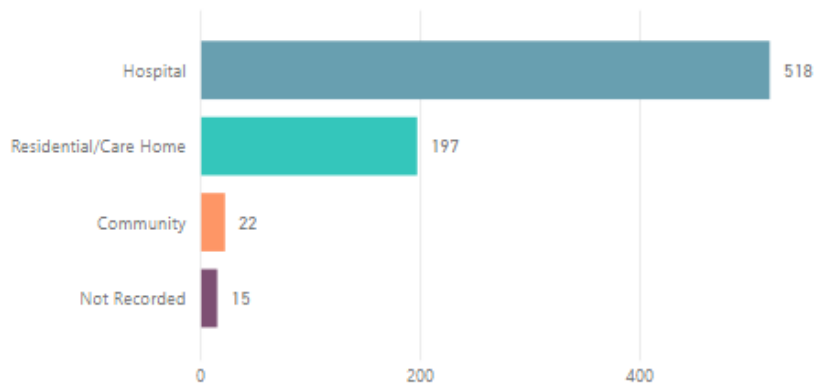

Note 1: Deaths in current reporting period include deaths which will have occurred in that period, along with deaths which have only been reported within that period. For example, A death may occur on Thursday 30th April but not be reported until Saturday 2nd May

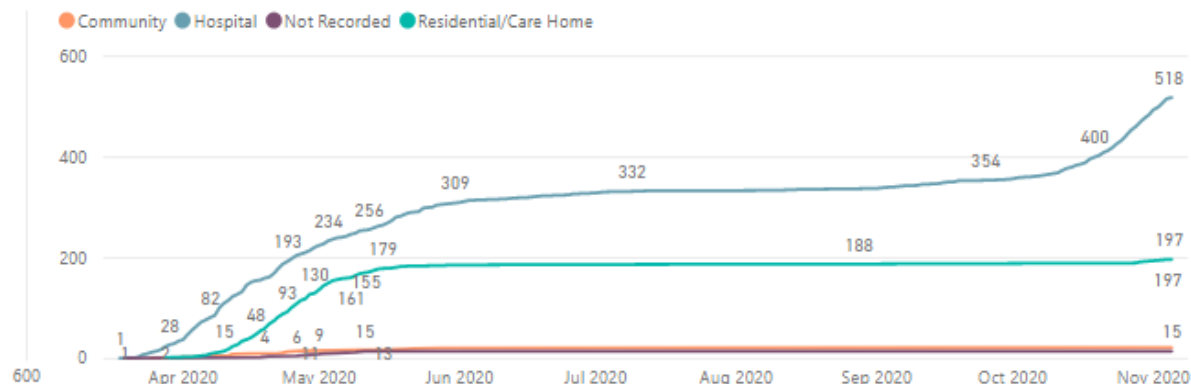Note 2: Current Reporting Period = 10:00 on 4 November 2020 - 10:00 on 5 November 2020

Cumulative COVID-19 Deaths by Death Setting

COVID-19 Deaths by Setting

Hospital — 518
Residential/Care Home — 197
Community — 22
Not Recorded — 15

Cumulative COVID-19 Deaths by Date of Death and Setting

● Community ● Hospital ● Not Recorded ● Residential/Care Home

Hospital values: 82, 193, 234, 256, 309, 332, 354, 400, 518
Residential/Care Home values: 1, 28, 15, 48, 93, 130, 155, 179, 161, 188, 197
Other values: 1, 2, 4, 6, 9, 15, 197, 15

COVID-19 Daily Deaths by Date of Death and Setting

● Community ● Hospital ● Not Recorded ● Residential/Care Home

Note: The Community setting includes deaths recorded as occuring in Community, Hospice and Other settings. Information displayed reflects deaths reported to the PHA up to the end of the current reporting period, and includes individuals who have had a positive test for COVID-19 and died within 28 days, whether or not COVID-19 was the cause of death. A broader picture on COVID-19 fatalities is provided in the weekly NISRA bulletin which details deaths across hospital and community settings. NISRA figures are derived from the formal process of death registration and may include cases where the doctor completing the death certificate diagnosed suspected cases of COVID-19.

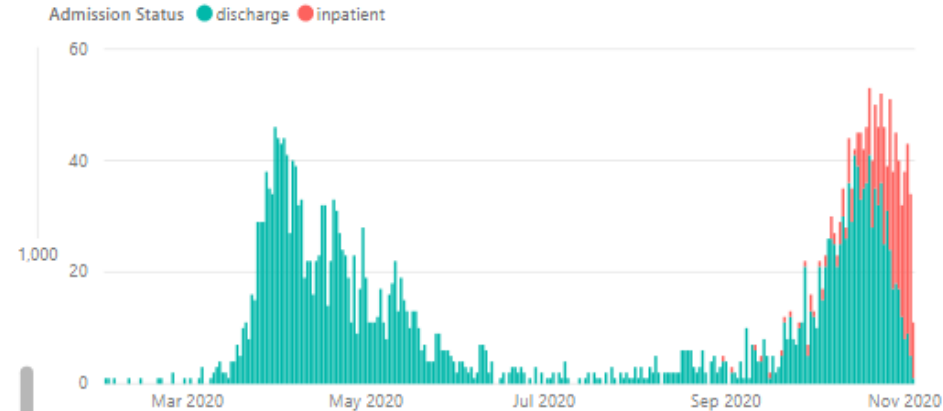# Confirmed COVID-19 Admissions by HSC Trust, Age Group & Patient Status: Covid-19 Admissions by Admission Date & Occupancy by Date
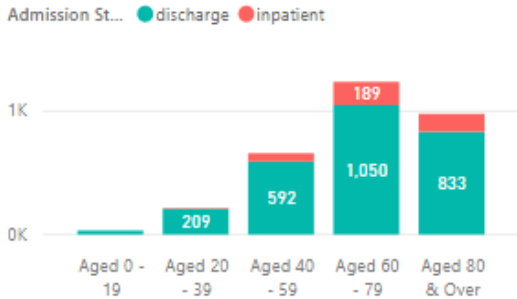
3,125 Admissions	2,716 Discharged
409 Inpatients	20 Hospitals
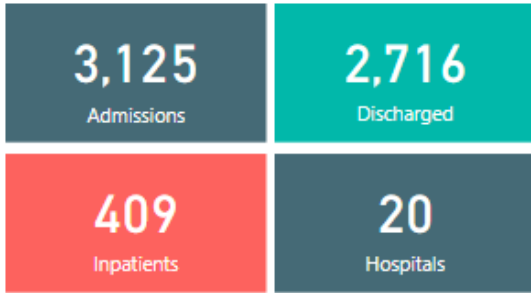
COVID-19 Admissions by Trust & Patient Status

Admission Status ● discharge ● inpatient

Trust	discharge	inpatient
Belfast	784	88
Northern	638	85
South Eastern	378	60
Southern	534	97
Western	382	79

COVID-19 Admissions by Age Group & Patient Status

Admission St... ● discharge ● inpatient

Age Group	discharge	inpatient
Aged 0 - 19		
Aged 20 - 39	209	
Aged 40 - 59	592	
Aged 60 - 79	1,050	189
Aged 80 & Over	833	

COVID-19 Admissions by Hospital & Patient Status

Admission Status ● discharge ● inpatient

Hospital	discharge	inpatient
Mater Infirmor...	563	
Craigavon Area	466	77
Antrim	465	61
Ulster	354	
Altnagelvin Area	296	62
Causeway	118	
Royal Victoria	113	

Change in Admissions & Discharges by HSC Trust

HSC Trust	Admissions in Last 7 Days	Discharges in Last 7 Days	Admissions in Last 14 Days	Discharges in Last 14 Days
Belfast	41	65	123	145
Northern	65	51	121	98
South Eastern	36	38	81	62
Southern	45	61	119	111
Western	56	61	121	130
Total	243	276	565	546

COVID-19 Admissions by Admission Date & Patient Status

Admission Status ● discharge ● inpatient

## COVID-19 Admissions, Discharges & Inpatients at Midnight for the Last 8 Days

| Date	Admissions	Discharged	Inpatients
28 October 2020	2,882	2,440	442
29 October 2020	2,927	2,487	440
30 October 2020	2,967	2,538	429
31 October 2020	2,999	2,559	440
01 November 2020	3,037	2,586	451
02 November 2020	3,080	2,627	453
03 November 2020	3,114	2,674	440
04 November 2020	3,125	2,716	409

Note 1: Discharges include: discharge under medical grounds, self-discharge or death.
Note 2: Admissions data is sourced from a live administrative system which is continually being amended and updated, as such previous days' admission data may be revised.
Note 3: Figures include patients admitted for other reasons but who subsequently test positive for COVID-19.

COVID-19 Inpatients by HSC Trust: Confirmed COVID-19
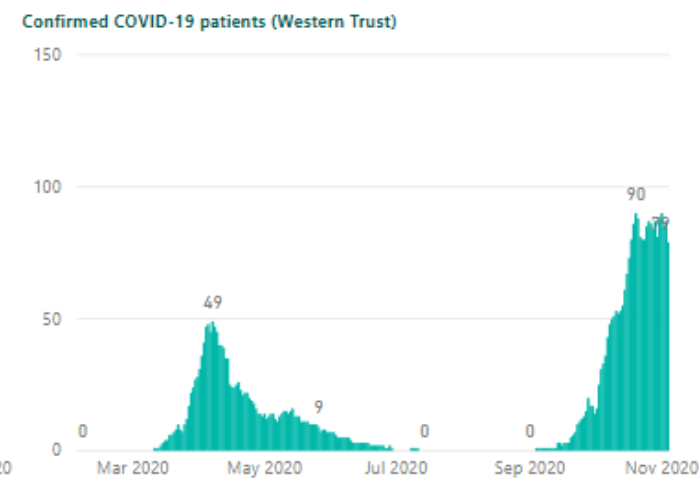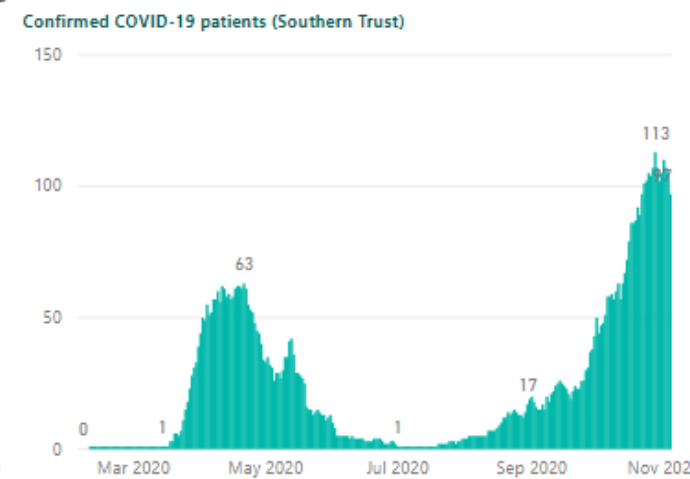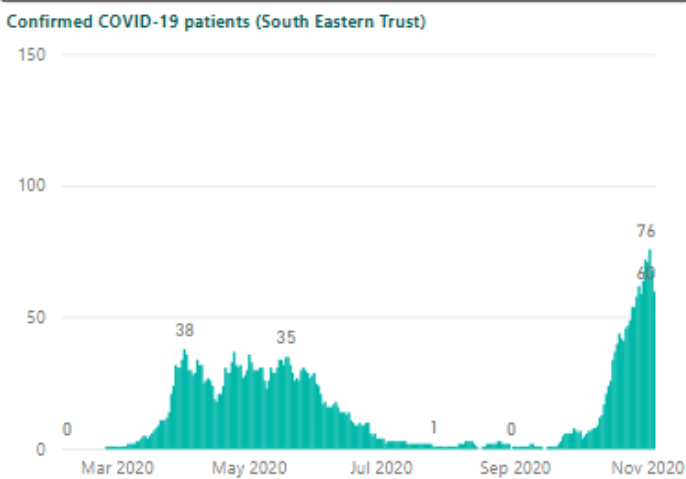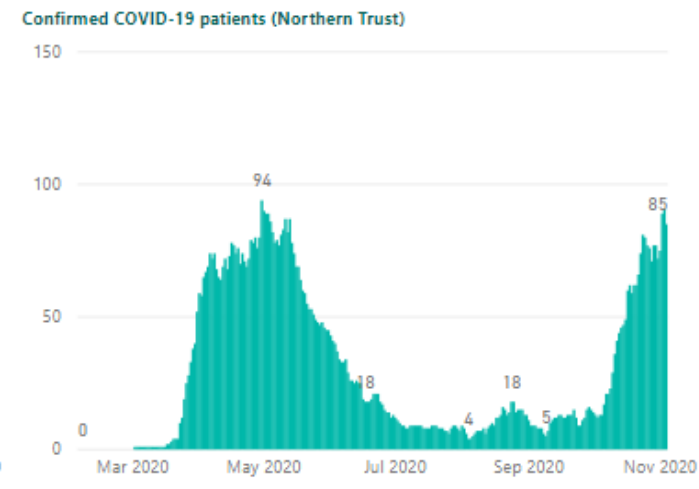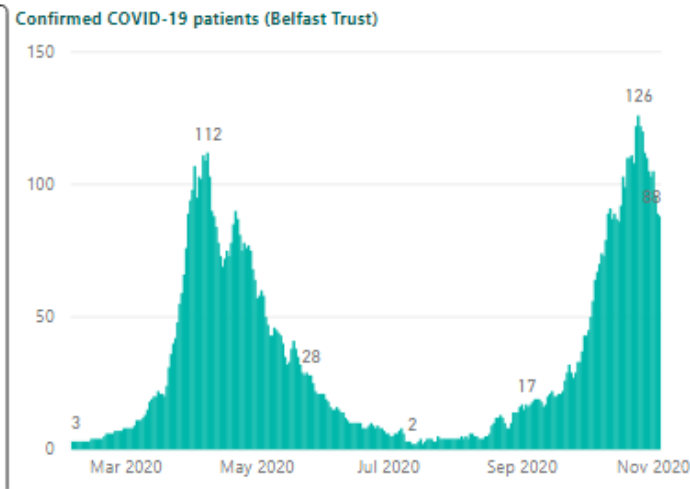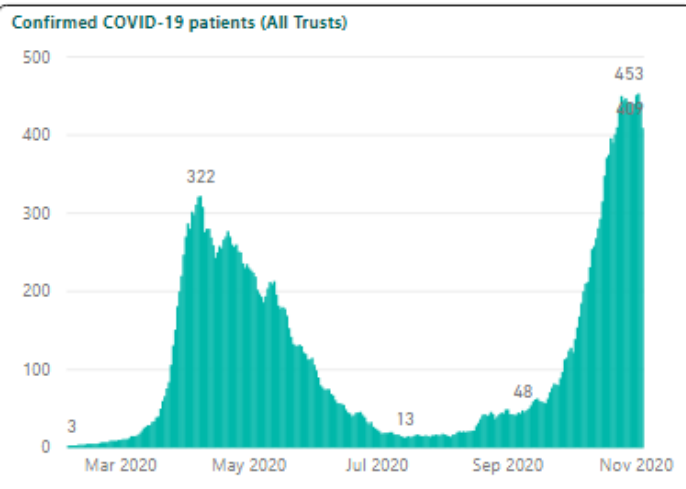
Confirmed COVID-19 Daily Admissions by HSC Trust
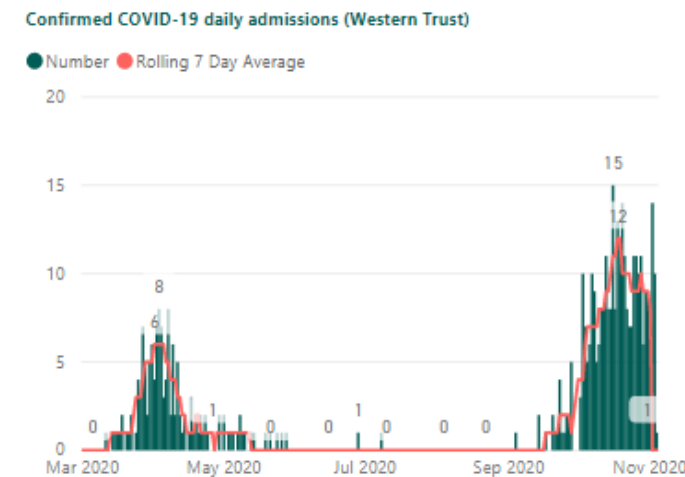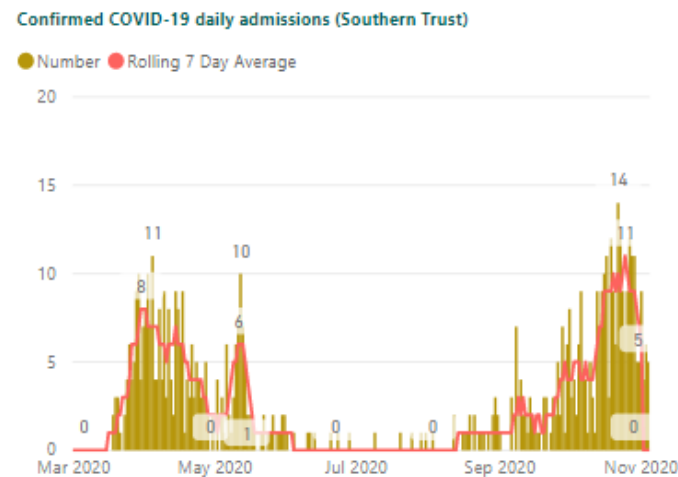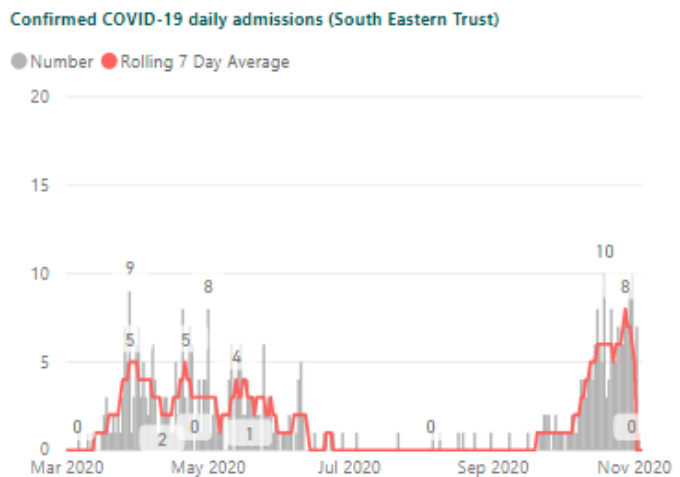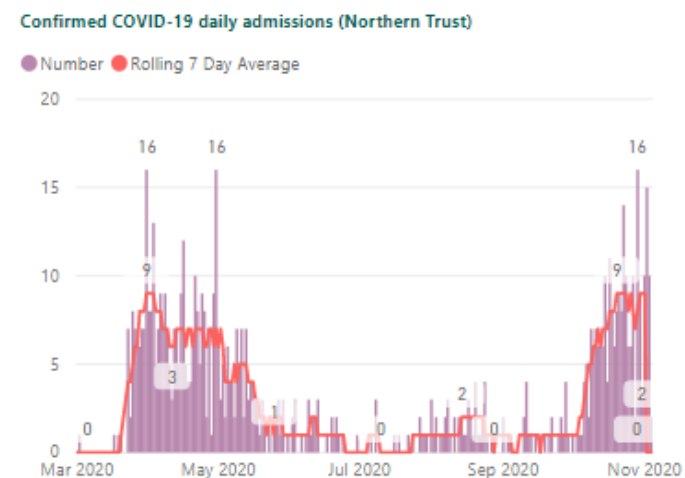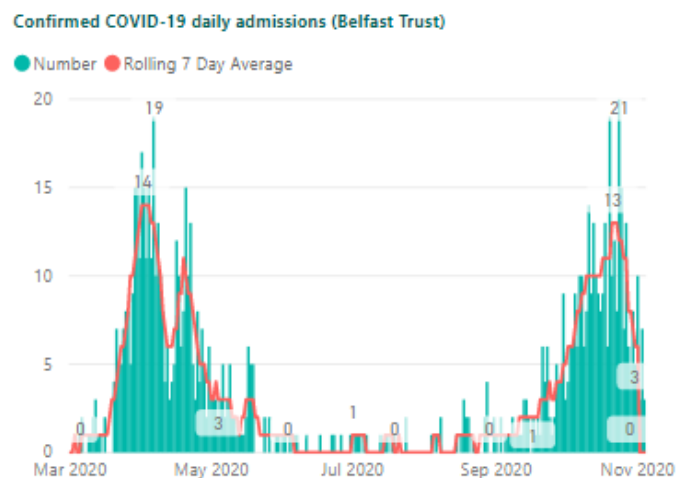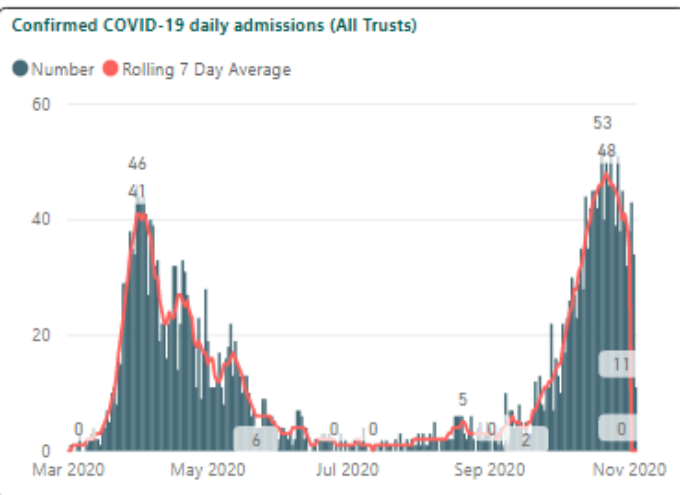
ICU Bed Capacity: ICU COVID-19 suspected and positive, ICU Other and ICU Beds Available, ICU 5-day Rolling Average and Ventilator Use in ICU.

126 Total ICU Beds	
49 ICU Covid Occupied	
55 Other ICU Occupied	
22 Unoccupied Beds	
79 Total Ventilated Patients	
42 Covid-19 Ventilated	
37 Non Covid-19 Ventilated	

% of ICU Beds Covid-19 Occupied, Other Occupied and Unoccupied Today
● Covid-19 ICU Occupied ● Other ICU Occupied ● ICU Unoccupied

NEW

% of ICU Beds Covid-19 Occupied, Other Occupied and Unoccupied
● Covid-19 ICU Occupied ● Other ICU Occupied ● ICU Unoccupied

Covid-19 ICU Bed Occupancy : 5 Day Rolling Average

Covid-19 Ventilated Patients and Other Ventilated Patients
● Covid-19 Ventilated Patients ● Other Ventilated Patients

General Bed Capacity: Available & Occupied Beds and COVID-19 Bed Occupancy

| 494 Covid-19 Occupied Beds | + | 2,172 Other Occupied Beds | + | 207 Awaiting Admission | = | 2,873 Total Occupied Beds | ÷ | 2,861 Total Available | = | 100% % Beds Occupied | | 12 Over Capacity |

Following the introduction of a more representative measurement of general bed occupancy levels, data reported prior to 18th October should not be compared with data reported from this date. The revised method is intended to provide a more accurate indicator of the operational bed pressures. Further information on this change in methodology can be found in the occupancy notes section at the end of this dashboard.
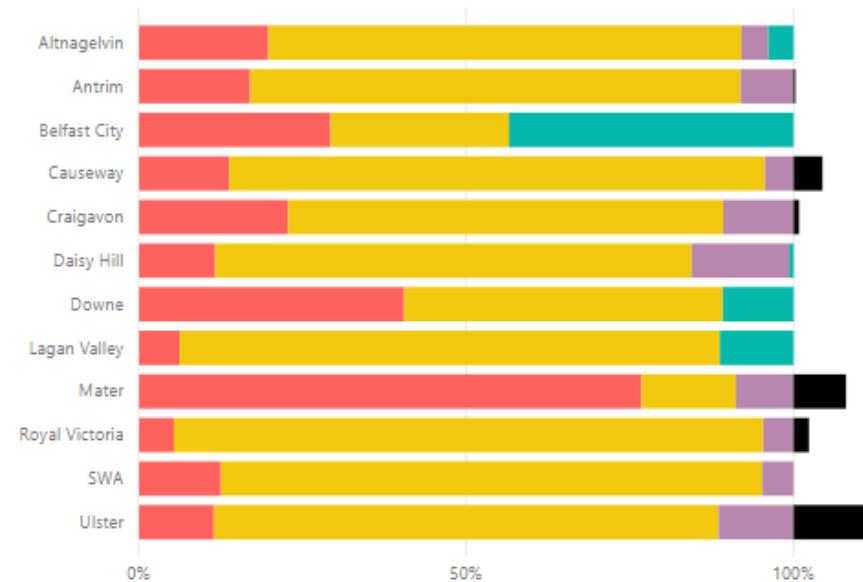
% of Beds Covid-19 Occupied, Other Occupied and Unoccupied NEW

● Covid Occupied ● Other Occupied ● Awaiting Admission Today ● Unoccupied ● % Over Capacity

Any hospital site displaying an occupancy capacity beyond 100% indicates that the hospital is operating beyond it's current available bed capacity. Whilst individual hospitals may display unoccupied beds, the Northern Ireland position may be over capacity when the total Northern Ireland bed availability is calculated.

Bed Occupancy - % Occupied and Unoccupied

● Covid Occupied ● Other Occupied ● Awaiting Admission ● Unoccupied ● % Over Capacity
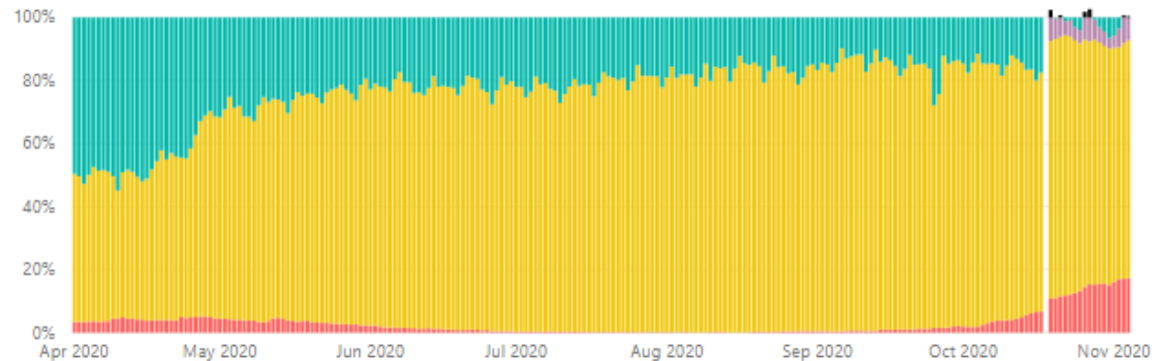
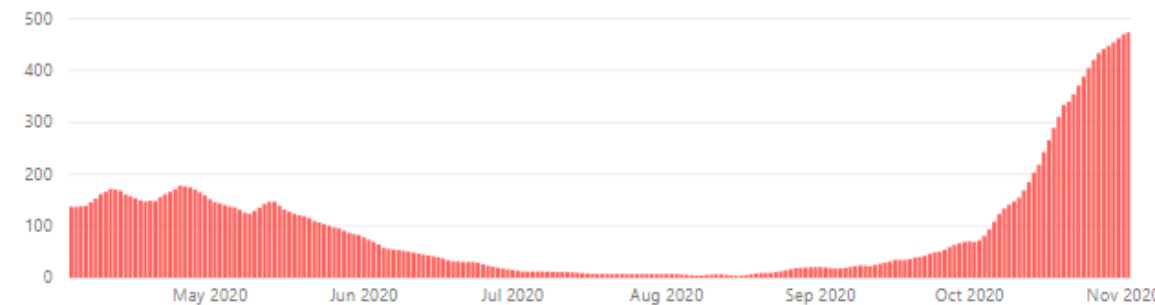## Covid-19 Bed Occupancy : 5 Day Rolling Average by Date

COVID-19 Care Home Total Acute Respiratory Outbreaks:
Active Cases Confirmed COVID-19, Suspected COVID-19 and Closed Outbreaks.

380
Total Acute Respiratory Outbreaks
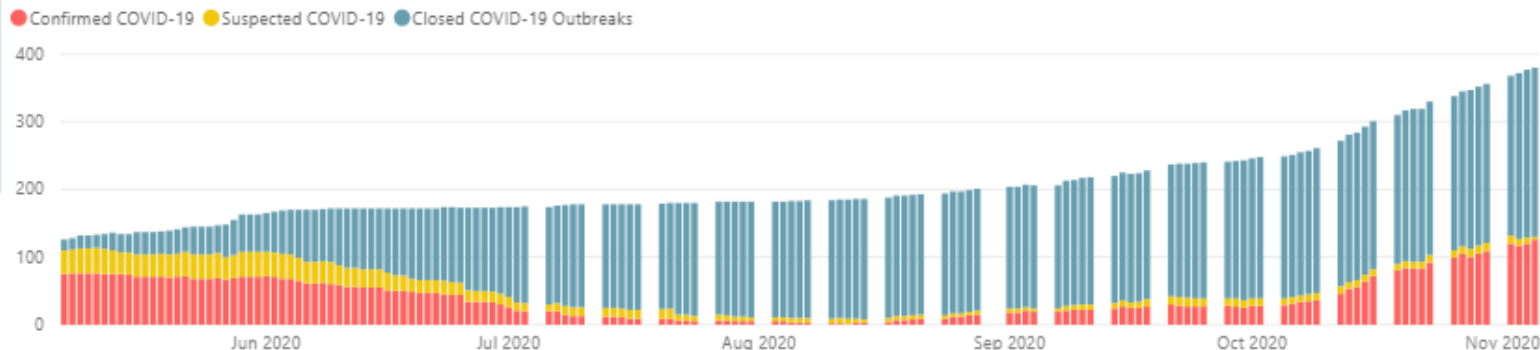
126
Confirmed COVID-19

4
Suspected COVID-19

250
Closed COVID-19 Outbreaks

Confirmed COVID-19, Suspected COVID-19 and Closed COVID-19 Outbreaks by Reporting Date

● Confirmed COVID-19   ● Suspected COVID-19   ● Closed COVID-19 Outbreaks

Key Definitions

Suspected case of COVID-19*

Any resident (or staff) with symptoms of COVID-19 (high temperature or new continuous cough), or new onset of influenza like illness or worsening shortness of breath.

*Symptoms may be more nuanced in older people with co-morbidities in care homes who may present with Flu Like Illness (FLI), respiratory illness, new onset confusion, reduced alertness, reduced mobility, or diarrhoea and sometimes do not develop fever. This may be true for COVID-19, so such changes should alert staff to the possibility of new COVID infection

Confirmed case of COVID-19

Any resident (or staff) with laboratory confirmed diagnosis of COVID-19.

Outbreak definition

Two or more cases in a facility which meet the case definition of a possible or confirmed case of COVID-19, within a 14-day period among either residents or staff in the care home **Note:** In a situation where a care home is reporting one possible case, the duty room in PHA will arrange for a swab to be undertaken for the symptomatic patient. If the test results for the single case is positive or any additional cases are reported during the monitoring period than further testing is advised for all staff and residents in line with the new guidance for testing.

Declaring the End of an Outbreak/outbreak closed

An outbreak can be declared over when there are no new cases for 14 days after symptom onset of most recent case.

TECHNICAL NOTES: COVID-19 TESTING (1)

COVID-19 cases are identified by taking specimens from people at testing centres across Northern Ireland and sending these specimens to laboratories to be tested. If the test is positive, this is a referred to as a Laboratory Completed Test. The information reported by DoH from 24th June 2020 refers to the number of laboratory completed tests for the SARS-COV2 virus carried out at (i) HSC Laboratories (Pillar 1) and (ii) National Initiative (Pillar 2) at midnight each day.

HSC Trusts (Pillar 1)

Prior to 24th June 2020 information on laboratory completed tests was only reported for the 5 HSC Trust laboratories listed below.
- Regional Virus Laboratory (Belfast);
- Antrim Testing Laboratory (commenced 23/03/2020);
- Craigavon Area Testing Laboratory (commenced 28/03/2020);
- Altnagelvin Area Testing Laboratory (commenced 03/04/2020); and,
- Ulster Testing Laboratory (commenced 15/05/2020).

National Initiative (Pillar 2)

Alongside testing by HSC Trust laboratories, there is a programme of testing for the SARS-COV2 virus being carried out at National Testing Centres (mainly for Health Care / Key Workers) by appointment only. Information on laboratory completed tests for the National Initiative are available from 28th April 2020; although, we are waiting for additional data to be provided for the period 4th April - 28th April. Information refers to samples / specimens taken at regional testing centres (below), mobile testing units, and by patients in their own homes.

DATA PROVISION

Data on laboratory completed tests completed and authorised by each HSC laboratory and the National Initiative are refreshed in the Regional Data Warehouse at 4am each day and refer to the position at the end of the previous working day. DoH extract this information at 9am each day.

TECHNICAL NOTES: COVID-19 TESTING (2)

DATA QUALITY

Quality assurance of this data is undertaken by the DoH using a combination of automated and semi-automated programmes, with manual checking both before and post processing. Data from each source are merged and duplicate reports are generated to identify any duplicate test records based on 'Specimen Number' (RVL) or 'Ascension Number' for other laboratories. Duplicate tests are then removed from the data at this stage.

Data quality issues around completeness of Health Care Number, Date of Birth, and Postcode have limited our ability to identify both duplicate tests and individuals tested. However, this has improved over recent weeks and the information from the start of February 2020 is refreshed each day to take account of this.

It is also important to note that the information being reported by the DoH are derived from data extracts of LIVE Laboratory systems, and may therefore be revised or updated in subsequent data extracts. These revisions may improve issues around the completeness of the recording of the key variables above, but they may also provide information on additional tests for an individual that produced a positive laboratory completed result, having previously tested negative. For these cases, the positive result will now be included and any previous negative results excluded from the report on individuals tested.

DATA REPORTING

Information provided by each HSC Trust (Pillar 1) Laboratory and the National Initiative (Pillar 2) enables the DoH to report on the following:

- Number of individuals with a laboratory completed test for SARS-COV2 Virus;
- Number of individuals with a laboratory completed positive test for SARS-COV2 Virus;
- Number of individuals with a laboratory completed negative test for SARS-COV2 Virus; and,
- Total number of laboratory completed tests for SARS-COV2 Virus.

Daily Change in Cumulative Testing Figures (Page 3)

The daily change reported on the COVID-19 Testing page (page 3) refers to the change in the cumulative number of (i) laboratory completed tests, (ii) individuals with a laboratory completed test, and (iii) individuals with a positive completed test reported today and yesterday. It is important to note that the daily change may refer to samples taken over the last week, and not just over the last 24 hours, and therefore SHOULD NOT be compared with data on other testing pages that is presented by the Date of Specimen.

It is also important to note that the daily change in tests and individuals tested are de-duplicated back to the start of the outbreak and not just the last 24 hours, so for example if the daily change in tests was 1,000 and the daily change in individuals tested was 750, it doesnt mean that 250 people were tested twice. It is simply that 250 individuals had a previous test, and as we only count the most recent test, the previous test is excluded whilst the new test is included, resulting in the cumulative number of individuals tested to remain the same.

TECHNICAL NOTES: COVID-19 TESTING (3)

Data Presented by Date of Specimen

Apart from the daily change in cumulative numbers, all other testing information is presented by the date the specimen (swab) was taken from the individual being tested, rather than the date the laboratory tested, completed and authorised the result. Whilst this gives the most accurate analysis of how cases progress over time it does mean that the latest days' figures are usually incomplete, so it shouldn't be seen as a sudden large drop in cases.

It is also important to note that most testing to date has been offered to those in hospital with a medical need as well as HSC key workers, rather than the general population, many with mild symptoms. So completed cases represent the typical population of people with severe disease, rather than all of those who get infected.

Local Government District (LGD)

Laboratory completed tests are aggregated to Local Government Districts, though a number of cases cannot be matched to this geographical are due to missing / incorrect postcodes. For this reason the LGD count will not add up to the total number of individuals tested for Northern Ireland.

KEY TERMS USED

Individuals Tested

Refers to the number of individuals who have had a laboratory completed test for the SARS-COV2 Virus since February 2020. If an individual has had more than one test for the SARS-COV2 Virus, only the **most recent** laboratory completed positive test result will be reported, with all other results of laboratory completed tests excluded, regardless of when the test took place.

Cumulative Individuals Tested

Refers to the total number of individuals who have had a laboratory completed test for the SARS-COV2 Virus since February 2020. This information is presented by the date the specimen (sample / swab) had been taken at a testing location, and does not refer to the date on which the laboratory completed and authorised the result of the test.

Total Tests

Refers to the total number of laboratory completed tests for the SARS-COV2 Virus. If an individual has had more than one laboratory completed test, each result will be counted.

TECHNICAL NOTES: COVID-19 TESTING

Cumulative Total Tests

Refers to the total number of completed authorised laboratory tests for the SARS-COV2 Virus since February 2020. This information is presented by the date the specimen (sample / swab) had been taken at a testing location, and does not refer to the date on which the laboratory completed and authorised the result of the test.

Laboratory Completed Test

Refers to the final stage of the testing process, whereby a specimen / sample (swab) has been taken at a testing location, the specimen / sample has been booked and processed by a laboratory, and a result been completed and authorised by a laboratory technician.

Laboratory completed results for are listed as one of the following; with only positive, negative and indeterminate results being included in individuals tested and total tests.

- Positive;
- Negative;
- Indeterminate;
- Not Tested (not included in individuals tested and total tests); or,
- Invalid (not included in individuals tested and total tests).

It should be noted that results identified as 'Void' are removed.

TECHNICAL NOTES: DEATHS

Death extracts are provided daily to the DOH detailing the count of deaths reported to the PHA where the deceased has had a positive test for COVID-19 and died within 28 days, whether or not COVID-19 was the cause of death. PHA sources include reports by healthcare workers (e.g. HSC Trusts, GPs) and information from local laboratory reports. Local Government Districts are defined by the deceased's residential setting. Interpretation of the figures should take into account that totals by date of death, particularly for recent prior days, are likely to be updated in future releases.

DATA QUALITY

Data is refreshed each day to include any deaths that have been reported during the current reporting period (from 10.00 am one day previous until 10.00 am on the day of reporting). Deaths submitted by HSC Trusts after 10.00am will be reported in the Daily COVID report for the following day. There may also be deaths reported to the PHA a number of days after the death occurred. Data will be refreshed and revisions to previous reported figures by date of death will be provided in the latest report.

DATA REPORTED

Data is reported in the following ways:

- Total number of deaths reported up to the end of the current reporting period
- Total number of deaths reported in the current reporting period
- Total number of deaths reported up to the end of the current reporting period, split by Local Government District (LGD)
- Total number of deaths reported up to the end of the current reporting period, split by Gender
- Total number of deaths reported up to the end of the current reporting period, split by Age Group
- Daily updated counts of deaths reported split by date of death

TECHNICAL NOTES: ADMISSIONS

The Patient Administrative System (PAS) is a patient level administrative data source that provides information on patient care delivered by health and social care hospitals in Northern Ireland. Data from PAS are routinely uploaded to the Regional Data Warehouse, which is managed by the Business Service Organisation (BSO).

Data Quality

A daily download is taken at 08:30 from the Admissions and Discharges universe of the Regional Data Warehouse reflecting admissions as of midnight prior to the download date. Patients admitted with suspected or confirmed COVID-19 are identified using specific Method of Admission Codes (CR or CC) and Specialty Codes (COVS or COVC). Method of Admission codes are only used for non-elective patients only.

Information is constantly being revised as records are updated by HSC Trusts and therefore figures for historical dates may change. When technical issues arise or errors in the data are discovered, the HSCB email to inform DOH.

Admission / Discharges

A patient may be admitted more than once, for example:
· Admitted on two or more separate occasions
· Admitted to hospital A within one HSC Trust and later transferred and admitted to hospital B _in a different HSC Trust_. The admission to hospital B will be recorded as a new admission.

Consequently, patients may also be discharged more than once and these discharges will be included in the discharge total.

Internal Transfers

If a patient with suspected or confirmed COVID-19 is transferred between hospitals within the same HSC Trust they are admitted using a CR/CC Method of Admission Code. The Method of Discharge is recorded as ID – Internal Discharge.

The Belfast Trust identifies confirmed /suspect COVID-19 patients by using the specialty codes (COVC or COVS). Any internal transfers will be admitted using the IA Method of Admission Code.

Internal transfers are not counted as new admissions and only the final admission record will be counted for these patients.

TECHNICAL NOTES: ADMISSIONS

Inpatients / Hospitalisations

Number of people currently in hospital with confirmed or suspected COVID-19 at midnight, taking into account new admissions and subtracting deaths and discharges.

Discharges + Inpatients ≠ Admissions

Inpatients are counted according to the hospital the patient is physically present in, this can lead to the total inpatient figure and the total discharge figure not summing to the total admissions figure. For example,
a patient is admitted to hospital A and later discharged from hospital A and transferred to hospital B within the same HSC Trust. This is an internal transfer, therefore an admission and discharge would be counted for hospital A but no admission or discharge would be counted for hospital B. The patient may however be counted as an inpatient at hospital B. Consequently the admissions total for hospital B will not be equal to the sum of discharges and inpatients for hospital B.

The alternative to this would be to count all internal admissions but this double counts patients if / when they are tranferred between hospitals and would provide an inflated figure for admissions and discharges.

Definitions

Admission: Any person admitted to hospital with suspected or confirmed COVID-19, excluding internal admissions.

Inpatient / Hospitalisation: Any person admitted to hospital with suspected or confirmed COVID-19 that has not been discharged or died.

Discharge: Any person admitted to hospital with suspected or confirmed COVID-19 that has subsequently been discharged or died., excluding internal transfers.

Date/Time Stamp: Midnight

Specialty: COVS or COVC

Method of Admission: CR: Suspected COVID-19 or CC: Confirmed COVID-19

TECHNICAL NOTES: ADMISSIONS

There is a lag of up to eight months in the clinical coding of diagnoses on patient records. Therefore, at the start of the pandemic two new admission codes were created which did not need to be clinically coded to enable the identification of and reporting on all COVID-19 patients admitted to hospital. Any patient presenting with COVID-19 like symptoms was coded as CR – Suspect COVID, and swabbed for testing. Once a positive test result was obtained the code was changed to CC – Confirmed COVID19. HSC Data Standards Guidance on the topic was shared with Trusts. As well as facilitating reporting, these codes were also used operationally on wards to make sure staff were aware of symptomatic patients. If a CR patient's lab result was negative they remained coded as CR on the hospital system in order to continue to alert staff to the nature of their symptoms. In many cases, these patients did nit actually have COVID-19, meaning that the CR code over-represented the actual number of patients.

The views of clinical and operational colleagues based in hospitals who provided input and feedback to the dashboard was that the use of the CR codes may not be helpful to the public understanding of the true number of COVID patients in hospital because, despite guidance, the CR code was not always used consistently across wards and hospitals and was not changed once a patient had a negative test.

Given that all patients admitted to hospital are **now swabbed and there is better coding of confirmed cases much earlier in the process than at the beginning of the pandemic,** on 27th May the decision was taken that it was no longer appropriate to include the CR codes and that reporting of them should cease. New pages focusing only on confirmed (CC) cases were developed and these were presented together with the confirmed/suspected combined charts and tables for a short transition period to maintain transparency and to enable users to see the relationship between the two data sets of data. This commenced on 1st June and this addition to the dashboard was welcomed by clinical colleagues and other users. Following this transition period it was announced on the 8th June on the notes section of the dashboard that reporting of suspected cases (CR) would cease from 10th June. From 10th June reporting focused on confirmed cases only.

TECHNICAL NOTES: BED OCCUPANCY

The Department sources data on Intensive Care Units from the CCANI network each day. CCaNNI provide the data to the Department as an excel spreadsheet, providing the ICU and ventilation position for each Intensive Care Unit as of the morning of reporting. The ICU capacity presented includes additional surge capacity available on the day of reporting. The spreadsheet includes for each Unit (including Paediatric and Cardiac ICU):
- the number of available ICU beds;
- the number of beds occupied by COVID-19 confirmed patients;
- the number of beds occupied by COVID-19 suspected patients; and
- the total number of beds occupied.

From 18th October onwards, the methodology for calculating bed occupancy has changed. Previously, the General Beds data displayed a static picture of beds which were physically occupied at a given point in time. This did not however take into account the dynamic nature of bed modelling and the flow of patients in and out of hospital over the course of a day. The revised methodology now includes patients where a 'Decision to Admit' (DTA) has been made, e.g. from an Emergency Department, thereby projecting more accurate occupancy levels across hospital sites. Trusts are also being asked to provide additional Admissions data as at 9am on the morning of reporting to help assess operational pressures which are impacting upon bed occupancy. The revised methodology now includes adult only acute and geriatric inpatient beds at the 12 main hospital sites as presented on the Dashboard; it excludes Paediatric, Obstetric, Mental Health and Day Beds, as well as beds in smaller hospital sites which may have been included in the previous returns submitted by Trusts. Data prior to 18th October should not be compared with data from this date, however the time series has been retained to demonstrate the trend in COVID-19 occupancy levels.

Prior to 18th October, the Department sourced data on General Beds Occupancy from the Health and Social Care Board (HSCB) each day. Trusts are required to submit information on the number of beds occupied, available and closed within each of their hospital sites to the HSCB at 11am each morning to reflect data as at the previous midnight. Within this return, Trusts provide the total bed complement of the hospital site, the number of beds closed, the number occupied by lab confirmed COVID-19 patients, non-lab confirmed (suspected) COVID-19 patients, the total number of beds occupied and the number of beds still available.

General Beds Occupancy data presents the current daily position, with variables as follows:
- total number of available general beds across Northern Ireland;
- % occupancy = (current number of beds occupied + beds awaiting admission today) / total available beds;
- total number occupied = current number of beds occupied + beds awaiting admission today;
- the number of general beds occupied by confirmed COVID-19 patients;
- the number of general beds occupied by non COVID-19 patients = total number currently occupied - number occupied by COVID-19 patients;
- total number awaiting admission today across the region;

TECHNICAL NOTES: BED OCCUPANCY

- number of unoccupied beds = total number of beds available - total number of beds occupied; where this number is a minus,, a zero will be displayed and the number above capacity will instead be shown
- number above/below capacity = total number of beds occupied - total number of beds available

It is important to note that individual hospital sites may have spare capacity as demonstrated on the hospital level chart, however as a region the total number occupied plus those awaiting admission across Northern Ireland may outweigh the total number available, leading to an overall unoccupied capacity of zero.

DATA QUALITY

Quality assurance of this data is undertaken by the DoH using a combination of automated and semi-automated programmes, with manual checking both before and post processing. When occupancy data is received into the Department, a member of staff checks that the figures presented in both files appear complete. Any discrepancies are raised with the data supplier to seek clarification or revision. Data files are then appended to relevant 'master' files which contain a record of previous returns. Sense checks are undertaken to ensure internal consistency and clarification is sought from the supplier if data looks missing or erroneous. Data for ICU is reported based on the date that the CCaNNI network collated the information and data for general beds is based on the occupancy position on the day prior to reporting.

Given that the information is collated from teams in each Trust responsible for the management of ICU beds, it is believed to be an accurate reflection of ICU capacity on any given day. It presents a static picture at a point in time and is not revised retrospectively unless an error is discovered in the data or a change to the methodology used to produce the information is required. Any such changes will be alerted to users.

General beds occupancy is based on data submitted from Trust Control Rooms daily and is intended to be an indicator of operational bed pressures as at 9am.

Prior to the change in methodology on 18th October, data provided by HSCB was re-run for three consecutive days for each day of reporting to capture any updates to the Patient Administration System (PAS), however the data presented within this Dashboard is based on the initial run date of the data and therefore doesn't include updates made to PAS on subsequent days.

Both data sources are considered to be management information and are therefore provisional and subject to revision.

TECHNICAL NOTES: BED OCCUPANCY

DATA REPORTING

Information provided by the CCaNNI network and HSCB enables the Department to report on the number of patients occupying ICU and general beds each day, how many patients are ventilated, how many of these patients have suspected or confirmed COVID-19 and how many beds are still available across the region. Charts are presented to show the daily occupancy levels as well as 5 day rolling averages which help to smooth the variations in daily data. From Wednesday 24th June onwards, all general and ICU beds data displayed on this dashboard refer to confirmed COVID-19 patients only. Prior to 13th April 2020, ventilator data presented includes both suspected and confirmed covid-19 patients. From 13th April onwards, ventilator data includes confirmed COVID-19 patients only. There is a break in the time series for general bed occupancy levels from 18th October onwards and data prior to this date should not be compared with data prior to this date.

TECHNICAL NOTES: DASHBOARD UPDATES

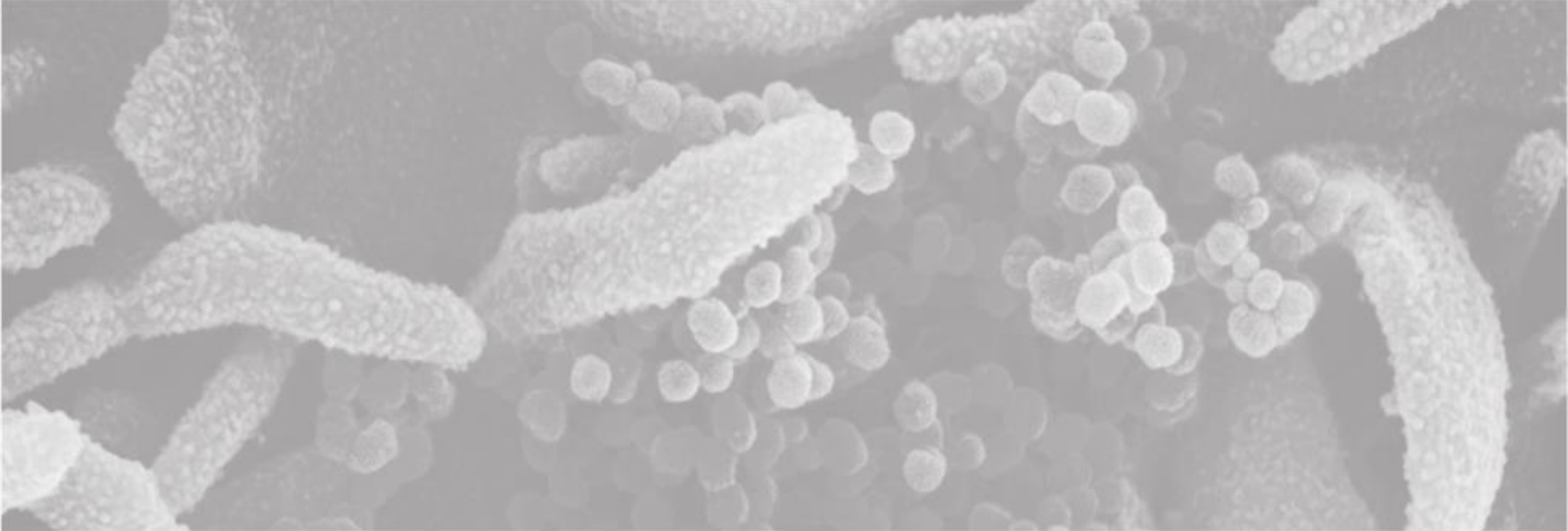| DATE ANNOUNCED	CHANGE TO DASHBOARD
08 May 2020	From 8th May Admissions and Inpatient numbers will be broken down into confirmed and suspected COVID-19 cases.
11 May 2020	From 11th May additional charts on a rolling 5 day average occupancy rate in G&A / ICU Beds are now available.
13 May 2020	From 13th May, information on the rate of positive lab completed tests per 100,000 population has been included.
28 May 2020	From 28th May information on COVID-19 death settings and historical trend analysis of COVID-19 care home outbreaks have been added to the dashboard.
01 June 2020	From 1st June, additional pages have been added for COVID-19 testing trend analysis (7 day rolling average of positive tests & percentage of all tests identified as positive) and additional information on COVID-19 admissions. Ongoing validation of admissions data has resulted in revised figures being published from 1st June.
09 June 2020	From 10th June 2020 data on suspected COVID-19 patient admissions and inpatients will be removed from the dashboard and reporting will focus on confirmed cases only.
12 June 2020	From 15th June 2020, information will be presented on the numbers of ventilated COVID / Non-COVID patients. We will also include a breakdown of COVID / Non COVID general be occupancy.
23 June 2020	From 25th June all beds and ventilation data will focus on confirmed COVID-19 cases only.
23 June 2020	From 26th June reporting will commence on the outcomes of laboratory completed tests at National Testing Centres.
26 June 2020	Change to Reporting Frequency-From week commencing 29th June the COVID-19 dashboard will no longer be updated at weekends.
06 July 2020	From 6th July a page detailing deaths reported on the Saturday and Sunday of each weekend will be added. This will be updated each Monday on the dashboard.
26 August 2020	From 26th August information on admissions and discharges within the last 7 and 14 days has been added to page 10 of the dashboard.
03 September 2020	From 2nd September an additional page was added on laboratory completed tests by LGD during the most recent and previous 7 days, and a breakdown of positive tests by age group and LGD.
28 September 2020	From 28th September the methodology used to create admissions, discharges and inpatients data was updated. A number of internal transfers that had been doubled counted were removed, this resulted in a slight decrease in historical admission, discharge and inpatients figures.
13 October 2020	From 13th October additional information was added on the daily change in the cumulative number of individuals tested positive by LGD.
16 October 2020	From 16th October an additional page was added on laboratory completed tests during last 7 days by postal district, including a postcode search.
19th October	From 19th October, the methodology for computing occupancy levels has been changed. Data on ICU and General Beds Occupancy is also now presented at Hospital level.

INFORMATION
ANALYSIS
DIRECTORATE

Department of
Health
An Roinn Sláinte
Männystrie O Poustie
www.health-ni.gov.uk