

**FROM: ROBIN SWANN MLA
MINISTER FOR HEALTH**

DATE: 10 December 2020

TO: EXECUTIVE COLLEAGUES

**FINAL EXECUTIVE PAPER: HEALTH PROTECTION (CORONAVIRUS,
RESTRICTIONS) (No. 2) REGULATIONS (NORTHERN IRELAND) 2020: FIFTH
REVIEW OF THE NEED FOR THE RESTRICTIONS AND REQUIREMENTS**

Introduction

1. This paper reports on the fifth review of the need for the restrictions and requirements in the Health Protection (Coronavirus, Restrictions) (No. 2) Regulations (Northern Ireland) 2020 ("the No. 2 Regulations"). The review has concluded that the current restrictions and requirements are a necessary and proportionate response to the epidemic at this time.

Background

2. The No. 2 Regulations require the Department of Health to review the need for the restrictions and requirements in the Regulations at least every 28 days. The current restrictions and requirements are summarised in Annex A.
3. At the conclusion of the fourth review, on 12 November, we agreed that the existing restrictions remained necessary and proportionate, having taken into account:
 - a. the steep increase in transmission across Northern Ireland;
 - b. the capacity of the health service to respond to the second wave of the epidemic;
 - c. the capacity of the health protection services to respond to cases and outbreaks, in particular the Test, Trace and Protect strategy, and
 - d. the adverse impacts of the restrictions on the economy and on people's health and well-being.
4. The fifth review has been guided by the four principles that we agreed in May: focus on purpose; necessity; proportionality; reliance on evidence. The purposes of the Regulations are (i) to protect the health of the population by limiting the spread of COVID-19 infection in order to minimise the numbers of cases and deaths, and (ii) to ensure as far as possible that the health care system has the capacity to care for COVID-19 patients and care for all patients, present and future.

Developments since the fourth review

5. The fourth review was completed on 11 November. Since then there have been five sets of amending regulations including the changes to enact the two-week 'circuit-breaker' restrictions, which are due to expire at the end of Thursday 10 December. On 3 November we agreed the restrictions that would be in place from 11 December and the relaxations that would apply over the Christmas period.
6. The set of restrictions and requirements that will come into operation on the night of Thursday 10 December are broadly those that were in operation on 15 October. From 23 December until 27 December there will be relaxations in respect of bubbles and households mixing indoors in private dwellings. It is likely that restrictions will need to be tightened immediately after this period as a rise in virus transmission, cases and hospitalisations is expected over the next few weeks.

Human rights impact assessment

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Course of the epidemic

8. The Chief Scientific Advisor and the Chief Medical Officer have been providing updates on the progress of the epidemic. A dashboard of key data and trends is published daily on the DoH website. The CSA's weekly briefing papers on the R figure have been circulated separately. The R paper of 9 December is attached at Annex B, which explains the dynamics of the current position and the possible impacts of the relaxations to restrictions which will be brought in this week, 11 December.
9. The figures in the table below indicate the changes in 7-day incidence across Northern Ireland since the second, third and fourth reviews of the No. 2 Regulations. Each column of figures is a snapshot from one date but they reflect the general course of the epidemic since mid-September. The incidence in mid-September was a cause for concern, with most DC areas exceeding the figure that the UK was using to trigger restrictions on people travelling from other countries.

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**7-day incidence of COVID-19 (cases per 100K population) –
snapshot at time of the second, third, fourth and current reviews of the No. 2
Regulations**

District council area	14 Sept	12 Oct	10 Nov	8 Dec
Antrim and Newtownabbey	49.1	254.4	187.8	143.0
Ards and North Down	20.5	134.9	133.6	104.4
Armagh City, B'bridge & C'avon	41.6	155.4	210.6	133.4
Belfast	43.6	462.4	206.0	116.3
Causeway Coast and Glens	4.2	205.2	244.0	173.3
Derry City and Strabane	27.9	969.7	248.2	179.2
Fermanagh and Omagh	13.7	226.0	131.8	178.0
Lisburn and Castlereagh	38.8	263.1	187.4	137.8
Mid and East Antrim	25.9	94.5	158.7	216.5
Mid Ulster	6.8	401.3	260.3	186.4
Newry, Mourne and Down	20.6	314.7	119.9	177.6

Other factors

Capacity of the Health and Social Care system

10. Our hospital system continues to be under sustained and significant pressure. As of Monday 7 December, 99 per cent of all hospital beds were occupied across the system, with 6 hospitals over capacity. The total number of COVID-19 inpatients stood at 416, with 29 COVID-19 patients in ICU. A continuing issue is the number of staff absent due to COVID-19, either ill or self-isolating. This has exacerbated an already difficult staffing position and added to the significant workforce pressures felt across the system.

Health protection services: Test, Trace and Protect etc.

11. There have been a number of recent improvements to the operation of the Contact Tracing Service including the introduction of the new digital self-trace platform to help build on other aspects including increased usage of the StopCOVID-19 App. The Public Health Agency has also now commenced **enhanced contact tracing** with effect from 16th November. This is a significant development in the approach to combatting the virus and will ensure a strong focus on identifying the likely source of a case's infection and on identifying potential common exposures which can lead to clusters. It is intended that the combination of conventional contact tracing and enhanced contact tracing will increase the contribution of contact tracing to the control of community transmission in NI.

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12. In addition the Department and the Public Health Agency are continuing to work on a range of options to ensure that our contact tracing service is well positioned to deal with the pandemic in the coming months. This involves the development of a hybrid model with a focus on further digital solutions to deliver early messages to contacts and cases whilst at the same time allowing the staff in the contact tracing service to risk assess and deal with more complex cases and with clusters and outbreaks.

Wider health, societal and economic impacts of the regulations

Economic impacts

13. We have noted Minister Dodds' paper of 3 December on the economic impacts of the current restrictions.

14. For the purposes of this review, DfE have advised as follows.

- The Northern Ireland economy was running around 25% below normal at the height of the spring lockdown.
- As a result of the spring lockdown around 250,000 employees in Northern Ireland availed of HMRC's Job Retention Scheme, and tens of thousands of claims have been made under HMRC's Self-Employment Income Support Scheme. Many furloughed workers have returned to work, at least part-time.
- The Claimant Count in October 2020 stood at 60,200. This was the sixth consecutive month where the number of claimants exceeded 60,000 and is more than double the count in March. The furlough scheme has been extended to March 2021, but further job losses may still have occurred and the peak claimant count in 2020 or 2021 may yet go higher than present levels.
- A recovery began over the summer, but then the local economy faced fresh restrictions which were introduced due to rising COVID-19 infection levels. The autumn / winter restrictions have directly impacted on tens of thousands of jobs in the local economy and cost millions of pounds in lost output. However, the impact is likely to be not as severe as occurred in the springtime.
- There are still significant risks if recovery of output and jobs is not swift and sustained. The roll-out of the vaccine, coupled with pent-up demand may stimulate a strong 'bounce back'. Nonetheless, it may take years before economic activity fully returns to pre-pandemic levels.

Wider Impacts on health

15. Indications from sources available to us show that while there are some positive trends in areas such as air quality and smoking, in the main, population health is being negatively affected by the wider impacts of the COVID-19 restrictions. Overall population health – including life expectancy growth and inequalities – is being significantly affected, with the greatest effects felt by the most disadvantaged, as long-standing inequalities have been aggravated by the pandemic, particularly in relation to inequalities in education and employment. Many key behavioural risk factors are also worsening and adversely impacting some people, in particular, increased harmful alcohol consumption, more snacking and poor diets, increased sedentary behaviour and overweight and obesity levels. It should be noted that changes in behaviours are not universal and unfortunately are likely to be increasing inequalities. Fuel and food poverty rates are likely to be higher as we move into the winter period.
16. Emerging evidence suggests that the disease burden from conditions such as mental ill-health is rising, as well as there being a measurable increase in cases of domestic violence. Levels of loneliness and social isolation are also a concern. It is likely to take time for the full effect to be known. My Department continues to monitor the emerging evidence.
17. In the midst of the first wave, public health resources had been re-prioritised to support management of the direct impacts of COVID-19, and this has limited the system's capacity to address the wider impacts. Work is now underway to restart a range of services though some may still operate at reduced capacity, especially if this second wave continues unchecked. The increased digital delivery of services has been helpful for many individuals and has increased access and reduced non-attendance (particularly in rural areas) but may also increase inequalities for those who do not have access to such services.

Conclusion

18. On the basis of this review I have concluded that the current restrictions and requirements are a necessary and proportionate response to the epidemic at this point in time. This conclusion is supported by the Chief Scientific Advisor and the Chief Medical Officer.

Timing of the sixth review

19. The requirement in regulation 3 is that my Department should carry out these reviews at least every 28 days. The sixth review would normally be due to be

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completed by 7 January. It would be prudent to reschedule that review so that it is completed by 14 January, for two reasons.

20. Firstly, as we have acknowledged, the relaxations to restrictions that we have agreed for the Christmas period will almost certainly result in an increase in virus transmission. The scale of the impact will not begin to be apparent in the data for about two weeks. A one-week postponement would allow the sixth review to factor in any observed changes in incidence, hospital and ICU bed occupancy and so allow us to make better informed decisions on the necessity and proportionality of restrictions and requirements for January and beyond.
21. The second reason is to allow staff in my Department and others to have a reasonable break over the Christmas and New Year period whilst ensuring there is capacity available to address as a priority any significant rise in hospital pressures over the holiday period.
22. I would add that in recent months we have been reviewing *de facto* the need for the restrictions and requirements much more frequently than at 28-day intervals, given that each time we have considered and agreed changes to the restrictions and requirements we have done so on the basis of our understanding of the need for them, and we have been guided by the principle of necessity. I propose therefore that we amend regulation 3 so that it requires my Department to next review the need for the restrictions and requirements by 14 January.

Recommendation / Decision sought

23. I recommend that the Executive agree that:

- i. the requirement in regulation 3 for a review of the need for the restrictions and requirements in the No. 2 Regulations has been duly met;
- ii. the current restrictions and requirements in the No. 2 Regulations, as amended, are at this point in time an appropriate and necessary response to the serious and imminent threat to public health which is posed by the incidence and spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in Northern Ireland;
- iii. overall the restrictions and requirements imposed by these Regulations continue to be proportionate to what the Regulations seek to achieve, which is a public health response to that infectious disease threat in the context of the increasing rate of infection in Northern Ireland since September; and

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- iv. regulation 3 should be amended so that my Department is required to complete the sixth review by Thursday 14 January.

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**ROBIN SWANN MLA
MINISTER OF HEALTH**

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Restrictions in place at 9 December 2020

Health Protection (Coronavirus, Restrictions) (No 2) Regulations (Northern Ireland) 2020

Private Dwellings (includes static caravans, privately owned holiday accommodation, a self-catering establishment or guest accommodation)

- Indoor gatherings in private dwellings restricted to members of one household.
- Outdoor gatherings at private dwellings restricted to 6 people (not counting children aged 12 or under) from no more than 2 households.
- Exemptions apply, including–
 - visits to or from one other household who you have formed a “bubble”. A maximum of 10 persons from the 2 households can gather indoors or outdoors at a private dwelling at any one time;
 - for caring responsibilities including childcare;
 - building or maintenance work, the services of any trade or profession or a business operating from home;
 - visits required for legal or medical purposes;
 - a house move;
 - a marriage or civil partnerships where one partner is terminally ill. A maximum of 10 people (not counting children aged 12 or under) may attend.
 - removal of the remains of a deceased person.
- Overnight stays at any place other than the place where you live or where your linked household is living is not permitted unless the person has a reasonable excuse.

Gatherings indoors & outdoors excluding private dwellings

- Indoors or outdoors gatherings are permitted up to a maximum of 15 people. Exemptions apply for the purposes of work, education and training including P.E. in schools, marriage and civil partnerships, funerals and associated events, blood donations and to avoid injury, illness or harm.
- Indoor and outdoor sporting events are only permitted to elite athletes. Regulation 5 still applies to sporting events for elite athletes i.e. risk assessment required for gatherings of more than 15 people. Outdoor exercise is permitted where the participants are one individual or are members of the same household. Spectators are not permitted.

Marriages and Civil Partnerships

- A maximum number of 25 persons are permitted to attend a gathering for the purpose of solemnising a marriage or forming a civil partnership. A risk assessment is required if more than 15 persons are attending.
- Marriages or civil partnerships are permitted in a private dwelling where one partner is terminally ill. A maximum of 10 people may attend.

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Funerals

Gatherings for the purpose of a funeral or committal of a body is restricted to 25 persons. Wakes and funerals in private dwellings are not permitted. A person attending a funeral or a person responsible for organising or operating a funeral or associated event in a Church, funeral directors or elsewhere must comply with the guidance on funerals issued by the Department of Health. A risk assessment is required if more than 15 persons are attending.

Businesses that must stay closed

- Close contact services– excludes services which are ancillary to a medical or health service or a social care service or for the purpose of film or television production or sports massage therapy;
- Driving instruction for all vehicles except for motorcycles (driving tests are permitted);
- cinemas;
- nightclubs;
- museums & galleries;
- bingo halls;
- conference halls and conference facilities, including those in hotels
- theatres and concert halls except for rehearsal or live recording, in both cases without an audience;
- campsites and caravan parks for touring caravans including motorhomes, except in an emergency;
- funfairs (whether outdoors or indoors) and an inflatable park;
- indoor amusement arcades;
- skating rinks;
- indoor visitor attractions;
- swimming and diving pools;
- indoor sports and exercise facilities, including soft play areas, leisure centres, gyms, equestrian centres, venues relating to motor sport and activity centres;
- outdoor sports and exercise facilities including activity centres, equestrian centres, marinas and venues relating to motor sport and water sport;
- outdoor visitor attractions, with the exception of play areas, public parks, forest and country parks, and outdoor areas of stately homes, historic homes, castles and properties operated by the National Trust;
- hospitality settings (takeaway/delivery permitted). Excludes hotels, guesthouses, B&B's, hostels, a bunkhouse, off-sales, ports, airports and motorway service areas;
- restrictions on hotels, guesthouses, B&B's, hostels and bunkhouse and off-sales;
- restrictions on libraries – orders cannot be made in person and access is only allowed for the purposes of collecting their order.

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The Retail Sector

Retail businesses are required to close, with some exceptions. If your business is wholly or mainly concerned with providing goods for sale or hire or providing a service and is listed below, it can remain open:

- Food retailers, supermarkets, convenience stores and corner shops, newsagents
- Off licences and licensed shops selling alcohol (including breweries),
- Pharmacies (including non-dispensing pharmacies) and chemists,
- Homeware stores, building supplies businesses and hardware stores,
- Petrol stations,
- Pet shops, agricultural supplies shops, livestock markets, veterinary surgeons
- Garden centres and ornamental plant nurseries and Christmas tree sales (but not cafes or restaurants in such premises),
- Motor vehicle repair, MOT services, Bicycle shops, taxi or vehicle hire businesses,
- Banks, building societies, credit unions, short term loan providers and cash points savings clubs and undertakings which by way of business operate currency exchange offices, transmit money (or any representation of money) by any means or cash cheques which are made payable to customers, Post offices,
- Funeral directors,
- Laundrettes and dry cleaners,
- Dental services, opticians, audiology services, chiropody, chiropractors, osteopaths and other medical or health services, including services relating to mental health,
- Car parks and public toilets,
- Storage and distribution facilities, including delivery drop off or collection points, where the facilities are in the premises of a business included in this sub-paragraph.

Exemptions:

All other retail businesses must close to the public but may continue to provide goods or services:

- o in response to orders received on-line, by telephone, by text message or by post
- o by making deliveries or otherwise providing goods or services by appointment e.g. via click and collect and
- o no person attends within the premises of the business to collect goods or avail of a service.

The Hospitality Sector

- Hospitality businesses are only permitted to sell or provide food or drink (not including intoxicating liquor) via deliveries, takeaways or drive-ins for orders between 05:00 and 23:00. Hotels, guesthouses, harbour terminals, airports and motorway service areas are excluded from this requirement.

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- Hotels or guesthouses may continue to provide food or drink (not including intoxicating liquor) as part of a service for residents. Intoxicating liquor may be provided to the guest however it can only be consumed by the resident in their accommodation. Room service of intoxicating liquor is not permitted.
- Harbour terminals, airports and motorway service areas can continue to sell or provide food and drink (including intoxicating liquor).
- Food and drink (not including intoxicating liquor) may only be sold or provided on a ferry crossing which lasts or is expected to last three hours or more or in a canteen in a workplace, school, prison, hospital, care home or military establishment.
- A business which sells intoxicating liquor for consumption off the premises (including bars and public houses) may continue to do so only from 08:00 on Monday to Saturday, and from 10:00 on Sunday, until 20:00 on any day, or in response to orders placed between those hours. Intoxicating liquor can only be sold or provided in the manufacturer's original sealed packaging.

Venues at which intoxicating liquor may be consumed

Bars, public houses, restaurants etc. are required to close however the following requirements apply to **all venues where alcohol may be consumed including hotels, guesthouses, ports, airports and motorway service areas**:

- A responsible person for the venue must ensure social distancing measures are maintained at all times. See section below on 'Requirements in relation to social distancing'.
- Alcohol and food at such venues will be not be permitted to be purchased or obtained after 22.30. Alcohol must not be consumed after 23.00 and all customers must leave by 23.00.
- Such venues cannot permit food to be purchased, obtained or consumed prior to 05.00am and alcohol cannot be purchased, obtained or consumed prior to 11.30am.
- Live music, dancing or the provision of music for dancing is not permitted except for professional dancers providing entertainment or a first dance by a party of a marriage or civil partnership.
- The organiser/operator of the venue must carry out a risk assessment and determine and display at each part of the venue where alcohol may be consumed, the maximum number of persons who may be seated there and determine the volume at which any background music will be played so as to enable visitors to conduct conversation at normal loudness of speech.
- The organiser/operator must obtain and record visitor information including name, number and date and time of their visit. This information must be retained for at least 21 days and provided to a relevant person if requested to do so within 24 hours of the request. The information must be destroyed as soon as reasonably practicable after the 21 day period unless there is another basis outside these regulations on which the details may lawfully be retained.
- Hand sanitising facilities must be provided on or before entering the venue.

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- Visitors must be seated immediately with no more than 6 persons (not counting children aged 12 or under) from a maximum of 2 households seated at any one table.
- Food and drinks orders are table service only except for buffets where 2m social distancing must be maintained and food and drinks may only be consumed at the table at which they are seated.
- Visitor's movement within the premises only to enter the premises, reach the table at which they are to be seated, access toilet facilities, access smoking areas, leave the premises or to select food from a buffet. Residents of hotels and guesthouses are permitted access any services of the hotel or guesthouse.

Requirements in relation to social distancing

A person responsible for the organisation or operation of a shop, shopping centre or a venue at which intoxicating liquor may be consumed must take reasonable measures to ensure that employees or visitors to such a place, comply with 2 metres social distancing measures at all times.

The responsible person is required to:

- provide information to employees and visitors on how to minimise the risk of exposure to and the spread of coronavirus;
- ensure all employees and visitors maintain 2m social distancing including those waiting to enter the premises (unless members of the same or a linked household), by altering the layout of a relevant place including those parts to which visitors do not customarily have access, managing and controlling points of access and egress, shared facilities and movement around the venue;
- that a relevant place is regularly cleaned, hygiene is maintained and in particular points or places which are likely to be used frequently by employees and visitors (such as entry barriers and gates and card terminals) are regularly sanitised;

Where it is not reasonably practicable for a social distance of 2 metres to be maintained, social distancing measures require a relevant person to take reasonable steps to ensure that—

- (a) any close face to face contact is limited between persons;
- (b) barriers or screens are installed and maintained;
- (c) personal protective equipment is used where appropriate and in such a case is made readily available.

Restrictions on Places of Worship

If you are responsible for a place of worship you must close that place of worship and cease to admit any person to the premises except for the following purposes:

- individual acts of private worship;
- funerals - number of attendees must not exceed 25 people (including children under the age of 12 and the celebrant). DoH guidance on funerals must be complied with.

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- to solemnise a marriage ceremony – maximum of 25 people, including the marriage celebrant and the two parties to the marriage;
- provision of essential voluntary services , urgent public support services, support for the vulnerable or homeless, blood donation sessions or support in an emergency;
- to record or broadcast an act of worship online, on TV, radio or to worshippers who are present in a vehicle parked on the premises, i.e. 'drive-in' services (attendees must remain in their vehicle). There must be no more than 8 persons in the premises.
- Everyone (excluding the person leading the service being broadcast) must wear a face covering inside a place of worship except when seated.

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'R' paper, 9 December 2020

Modelling the COVID-19 epidemic; the Reproduction Number and other indicators

Current estimate of Rt (hospital admissions): 1.0 – 1.2 (above 1)

Current estimate of Rt (new positive tests): 0.9 – 1.1 (around 1)

Average number of new positive tests per day last 7 days: 447 (up from 358)

7 day incidence based on new positive tests: 165 / 100k (up from 132)

14 day incidence based on new positive tests: 297 / 100k (unchanged from 290)

7 day average of total positive tests (pillar 1 and 2) – 8.1% (up from 7.8%)

Tests per 7 days per 1000 population – 21.4 (up from 18.5)

Number of new positive tests in over 60s in last 7 days – 652 (unchanged from 660)

Proportion of total positive tests occurring in over 60s - 25.1% (down from 26.5%)

First COVID +ve hospital admission in last week – 168 (up from 151)

Number of community acquired COVID inpatients – 327 (down from 338)

COVID +ve ICU patients – 30 (down from 38)

Over the last week, the number of cases has increased overall by around 25%, while remaining steady in the over 60s. This reflects an increase in Rt to around 1.2 during the week when cafes and close contact services were open, and retail was busy. Hospital admissions have begun to rise after the expected lag period and this is likely to continue for another few days.

There is a yet no clear impact of the current restrictions in terms of reduced transmission. We may yet see a decrease, but it also possible that there has been variable adherence to the restrictions or that the impact of click and collect and other retail activity has been significant. Rt is therefore around 1 for cases and above 1 for hospital admissions. Hospital inpatient numbers show signs of plateauing at a high level. ICU occupancy continues to fall and deaths to vary from day to day.

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Testing has increased over the last week, and the percentage of % tests risen slightly. NI continues to have a lower incidence than Wales, and is similar to England at present and higher than Scotland and ROI.

Given the current restrictions, we anticipate that numbers will remain stable or decline slightly until shortly before Christmas when they will begin to rise again. The rate of increase will depend on how much Rt increases following the 11th December. If Rt can be maintained at 1.6 or below then intervention would not be required until towards the end of December. However, if Rt were to rise as high as 1.8 then intervention would be required a few days earlier than this.

The Executive has previously determined that its policy is to keep Rt at or below 1.0. Any intervention will need a number of weeks to have maximum impact and therefore to influence the trajectory of the course of the epidemic.

Community transmission remains widespread, associated with multiple small clusters and some larger outbreaks.

Regional variation in cases:

Incidence per LGD is shown over the last week in the table below. Ten of 11 LGDs show an increase in cases in the last week.

01-Dec	02-Dec	03-Dec	04-Dec	05-Dec	06-Dec	07-Dec	08-Dec	LGD
91.9	101.1	118.6	130.5	147.4	153.0	155.8	143.2	Antrim and Newtownabbey
84.5	78.9	83.3	75.2	83.9	92.0	104.4	104.4	Ards and North Down
121.9	121.4	114.0	112.1	118.2	125.2	129.4	133.1	Armagh City, Banbridge and Craigavon
104.4	100.6	98.9	106.2	111.4	115.8	118.5	116.1	Belfast
126.9	139.3	127.6	134.5	138.0	141.4	171.2	173.3	Causeway Coast and Glens
205.7	204.4	207.1	209.1	207.1	190.5	196.4	179.2	Derry City and Strabane
139.5	133.5	147.2	162.6	173.7	174.6	171.2	178.0	Fermanagh and Omagh
94.9	106.0	105.3	115.0	124.0	133.0	137.8	138.5	Lisburn and Castlereagh
199.6	216.2	231.3	234.9	229.9	237.1	245.7	216.2	Mid and East Antrim
181.8	199.5	200.1	201.5	211.0	212.4	220.5	186.6	Mid Ulster
107.8	118.3	128.9	145.5	157.8	173.3	187.8	177.8	Newry, Mourne and Down

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Determining the value of R_t :

The most common approach to determining R_t during an epidemic is to use mathematical modelling, in particular a compartmental model using a SIR (susceptible-infectious-recovered) approach or a variation of it. Dozens of such models have been published and are in use throughout the world; there is no single standard model which everyone uses.

In addition to the impact of the mathematical model used, the calculated value of R_t is also influenced by the choice of input variable. R_t calculated for new COVID-19 cases will not be the same as R_t calculated for hospital admissions, or ICU occupancy, or deaths. There may be a significant lag (2-3 weeks) before a fall in R_t is apparent depending on the input variable(s) used.

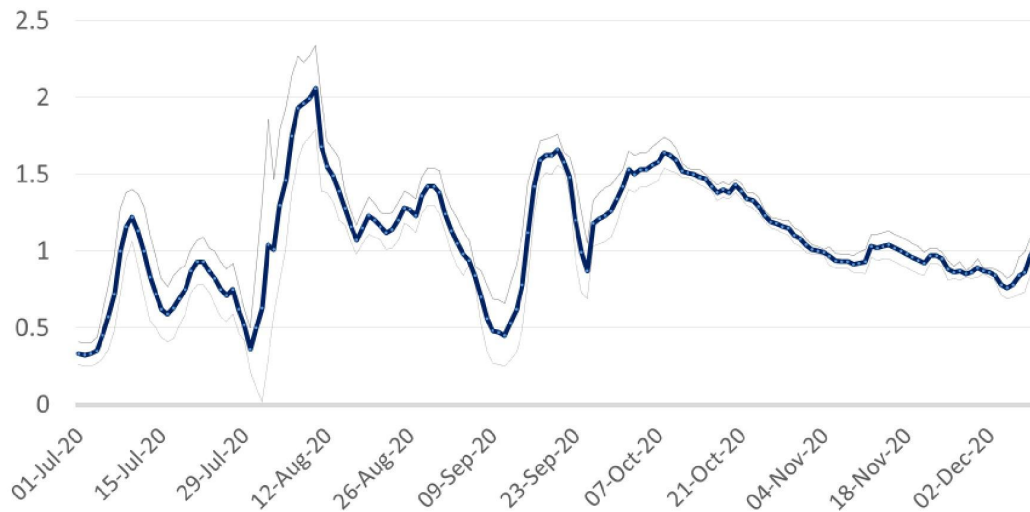
The modelling group determines R_t each day using a bespoke Northern Ireland SIR model. As its primary input the group uses hospital in-patient admissions with community acquired COVID-19, but also uses a range of other inputs. We therefore have several different values for R_t each day, each of which has a midpoint value and a lower and upper boundary (95% confidence intervals). In addition a number of academic groups, both in the UK and ROI, model the COVID-19 epidemic and we have access to their estimates of R_t for Northern Ireland. R_t can also be determined based on a contact matrix survey, and this approach may be more reliable when levels of community transmission are very low.

Trends for Northern Ireland:

The graph below shows how R_t has changed over time during the course of the COVID-19 epidemic in Northern Ireland using hospital admissions with community acquired COVID-19 as an example. The value of R_t differs somewhat when other inputs are used, and is currently around 1.1 for hospital admissions and 1 for cases.

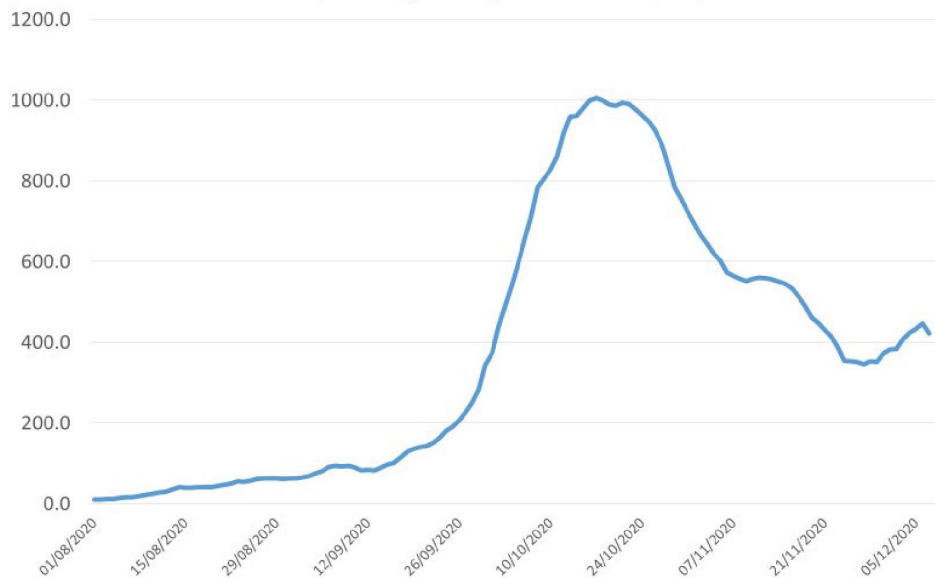
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R based on COVID confirmed hospital inpatients



The graphs below shows that the number of new COVID 19 cases has increased by around 25% in the last week. Testing has also increased, and test positivity has plateaued at a relatively high level.

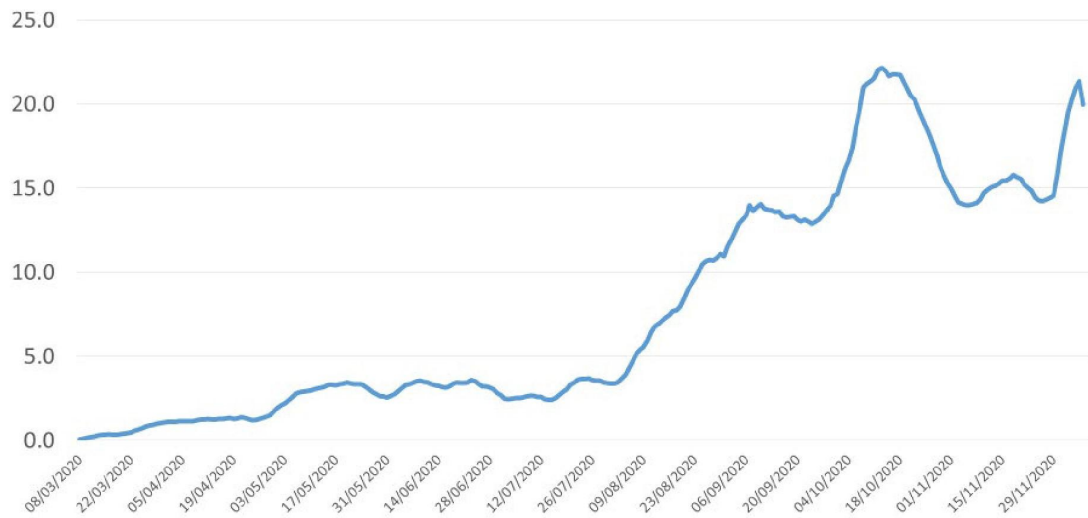
7 day rolling average new cases/day



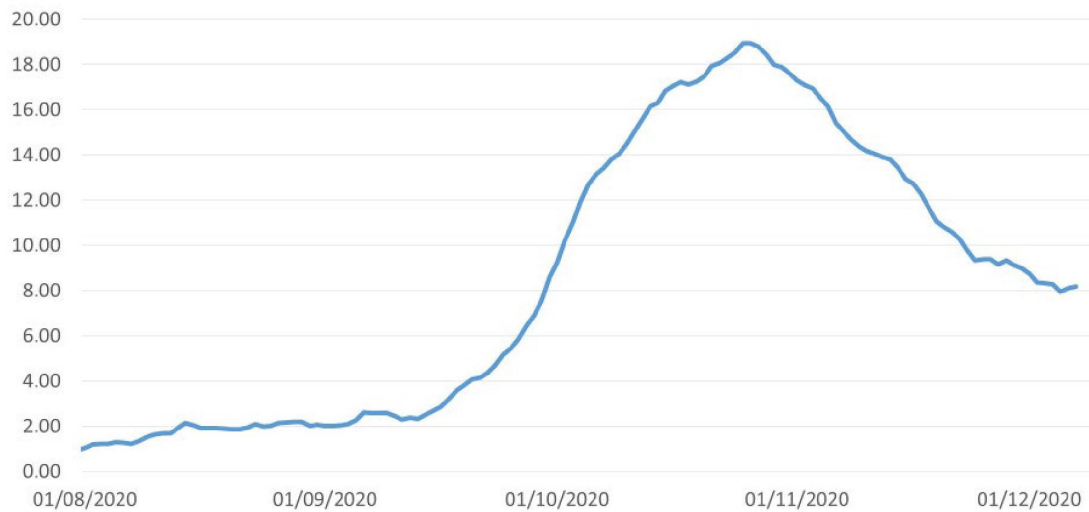
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7 day rolling average tests per 1000 population



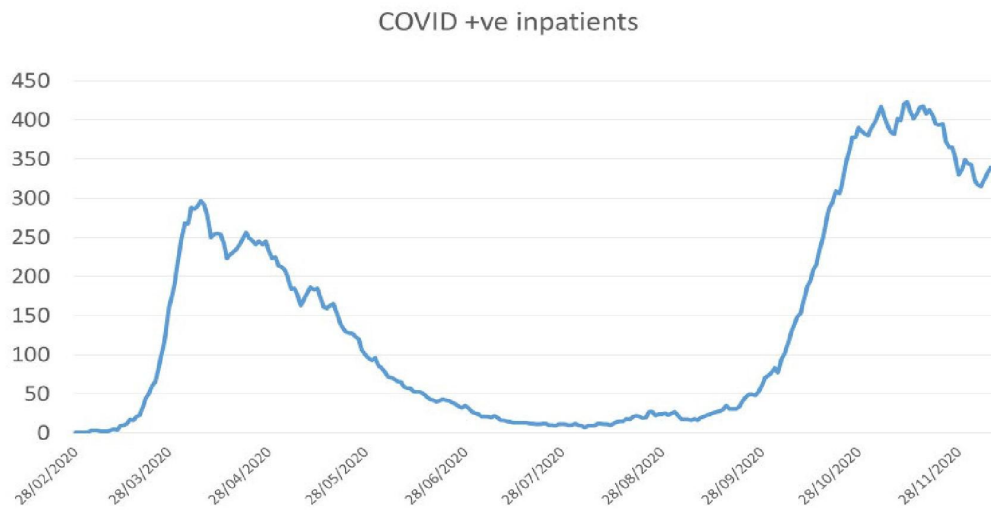
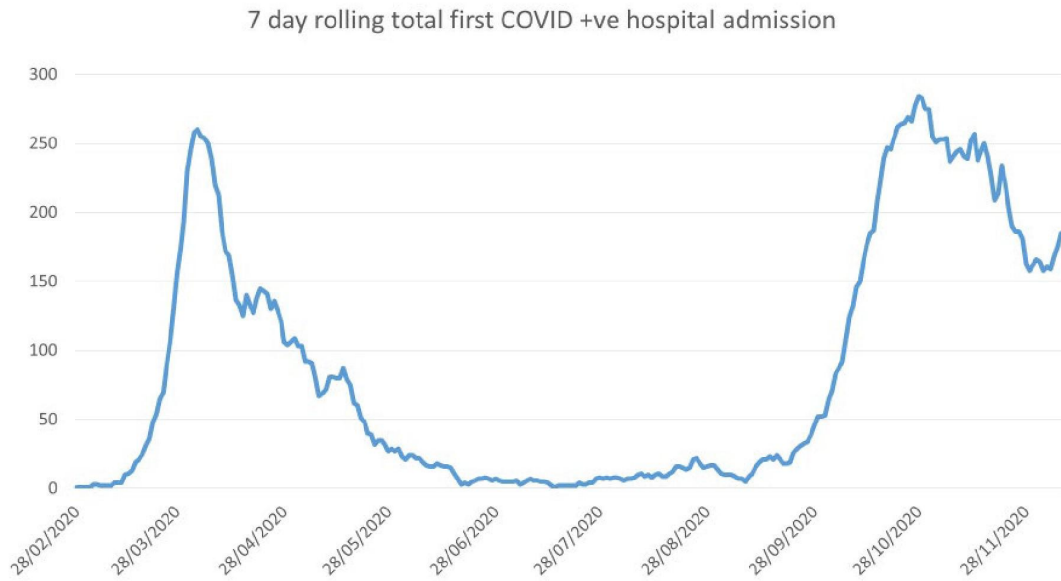
7 day rolling average test positivity (%)



The following graphs show first hospital admission of COVID +ve patients over a rolling 7 day period and the number of hospital inpatients. Admission numbers are currently rising, with inpatients and deaths are roughly stable.

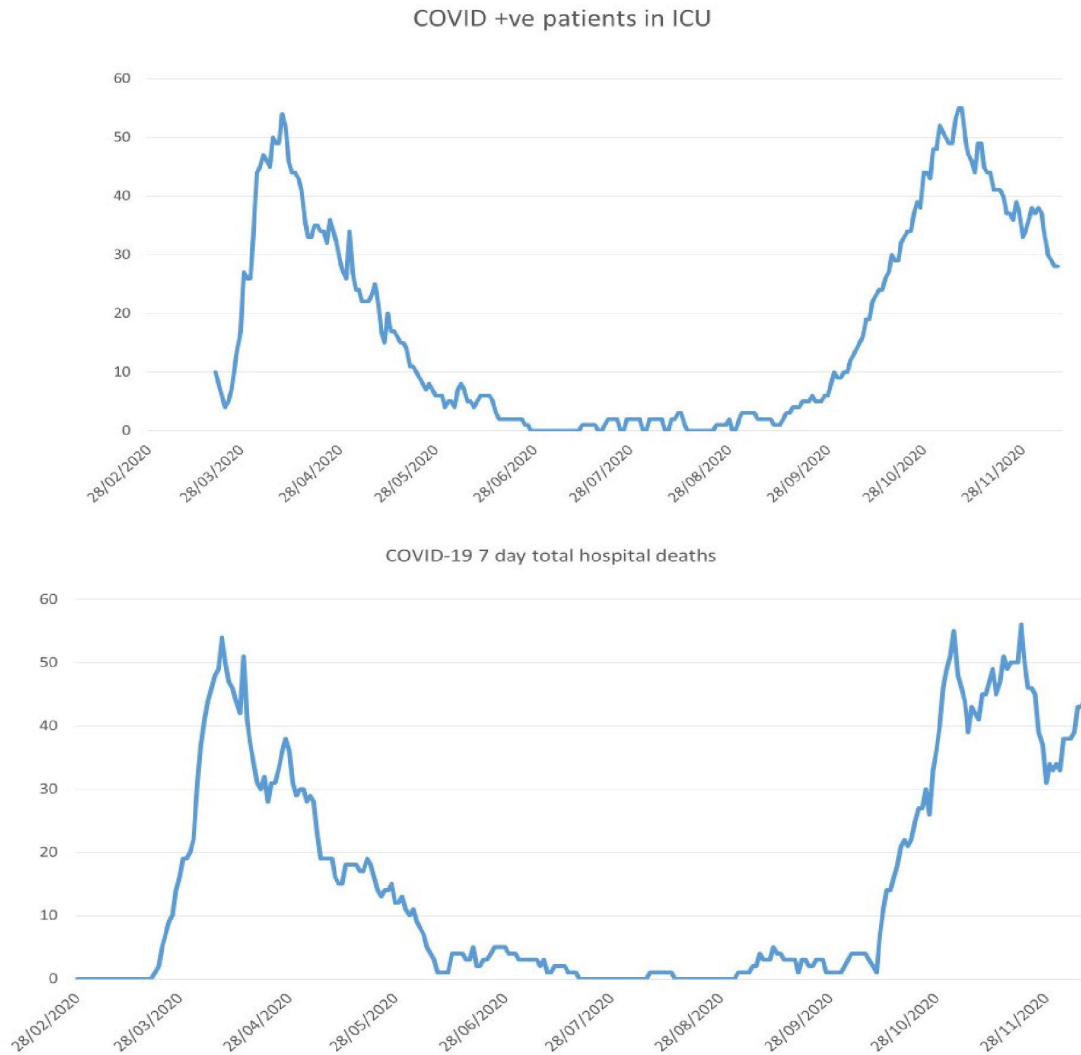
OFFICIAL - EXECUTIVE

OFFICIAL - EXECUTIVE



OFFICIAL - EXECUTIVE

OFFICIAL - EXECUTIVE



NI, UK, ROI comparison:

The following chart shows cases per 7 days / 100 k population across the Common Travel Area. NI continues to have a lower incidence than Wales, and is similar to England at present and higher than Scotland and ROI.

OFFICIAL - EXECUTIVE

OFFICIAL - EXECUTIVE

