Coronavirus (COVID-19): Analysis

State of the Epidemic in Scotland (5th March 2021)

Background

This report summarises the current situation on the COVID-19 epidemic in Scotland. It brings together the different sources of evidence and data about the epidemic in Scotland at this point in time, why we are at that place, and what is likely to happen next. This summarises the data up to and including the 4 March 2021 on COVID-19 in Scotland. This updates the previous publication published on 26 February 2021[1]. The information in this document helps the Scottish Government, the health service and the wider public sector respond to the epidemic and put in place what is needed to keep us safe and treat people who have the virus.

This edition of the state of the epidemic, summarises current data on COVID-19 at a national level, at a local level and how Scotland currently compares to the rest of the UK. It looks at the vaccination program in Scotland and the effects which are beginning to be seen from this. Information is provided about variants of concern and what impact these may have. Bringing this information together in one place gives the opportunity to better understand the current state of the epidemic in Scotland.

Key Points

- The reproduction rate R in Scotland is currently estimated as being below 1, (i.e. between 0.7 and 0.9).

[1] Scottish Government: Coronavirus (COVID-19): state of the epidemic - gov.scot (www.gov.scot)

- An average of 521 cases were reported per day in the 7 days to 4 March, which is a 33% decrease in reported cases since the 25 February.
- There were 72 weekly cases per 100,000 in the week to 1 March. This compares to 302 weekly cases per 100,000 on 8 January and is now similar to the weekly case rate observed at the end of September. This has been decreasing for the last week suggesting a decline in the weekly case rate after a short plateau.
- Cases and deaths are declining the most in the over 75s suggesting an impact from vaccination in this age group.
- The estimated proportion of people becoming infected with Covid remains below England, Northern Ireland and Wales as determined through the weekly ONS survey.
- Latest modelled estimates suggest there are currently between 14 and 32 new daily infections per 100,000 people in Scotland.
- Average daily deaths are level with England and Wales, but higher than those reported for Northern Ireland.
- Falkirk currently has the highest weekly case rate in Scotland reporting 144 cases per 100,000 in the last week, while the Orkney and Shetland Islands have reported no cases in the same time.
- At a national level hospital bed and ICU occupancy are projected to fall over the next few weeks, but with the potential to plateau or increase as a result of schools reopening.
- Over 1.6 million people in Scotland have now been vaccinated against SARS-CoV-2, with the initial target for older care home residents having been surpassed.
- The current UK variant of concern has been increasing its share of confirmed cases since it was first detected in Scotland in mid-December and is now the dominant strain. A small number (4) cases of the 'Brazilian' P1 variant has been detected in Scotland for the first time.

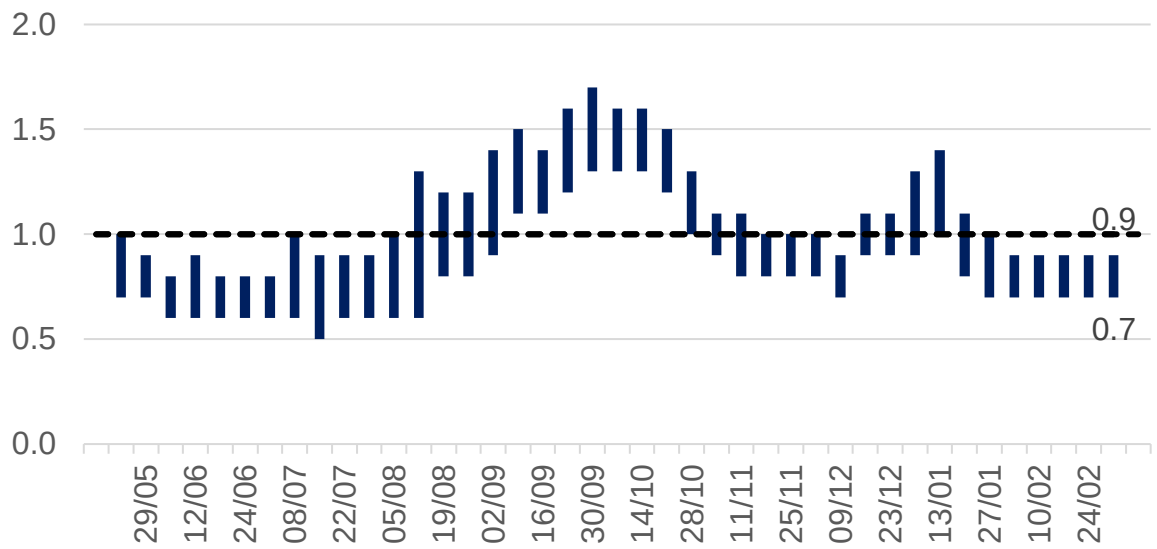
Method

This report brings together a wide range of publically available figures from a range of data sources. These include publications by Scottish Government, Public Heath Scotland, National Records of Scotland, Office for National Statistics along with scientific publications and SAGE summaries where appropriate to summarise the state of the epidemic in Scotland in a given week. We also provide information on public attitudes to the virus from weekly You Gov polling surveys.

The national picture

The latest R value for Scotland (published on 4 March)[2] has remained the same as the previous four weeks and was between 0.7 and 0.9 (Figure 1), with a growth rate of between -6% and -2% .

Figure 1. R in Scotland over time

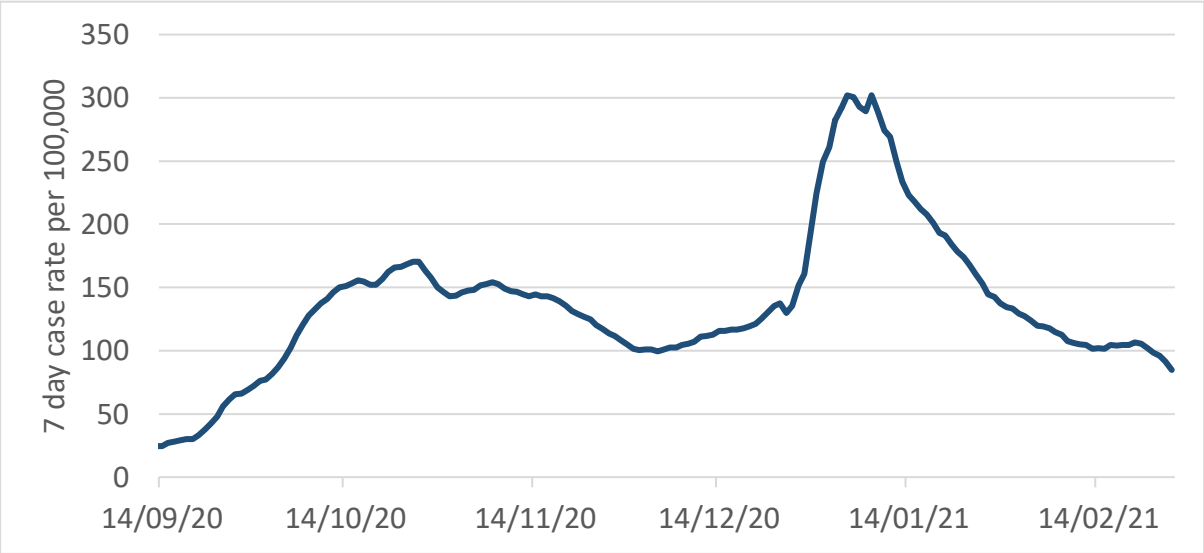


Since they were introduced in early January at a national level we have seen the impact of stay at home measures in reducing the level of SARS-CoV-2 in Scotland. After a period of plateau there has been a decrease in the average number of cases reported daily. An average of 521 cases were reported per day in the 7 days to 4 March, which is a 33% decrease in reported cases since the 25 February[3]. Average daily cases reported have reduced by three fourths since the peak of 2,323 in the week to 7 January. Our current position is 72 weekly cases per 100,000 in the week to 1 March[4]. This compares to 302 weekly cases per 100,000 on 8 January and is now similar to the weekly case rate observed at the end of September (see Figure 2). Test positivity has

[2] Scottish Government: https://www.gov.scot/publications/?term=modelling&cat=filter&topics=Coronavirus%20in%20Scotland&publicationTypes=research-and-analysis&page=1
[3] Scottish Government: https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/
[4] Public Health Scotland Covid dashboard: https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview

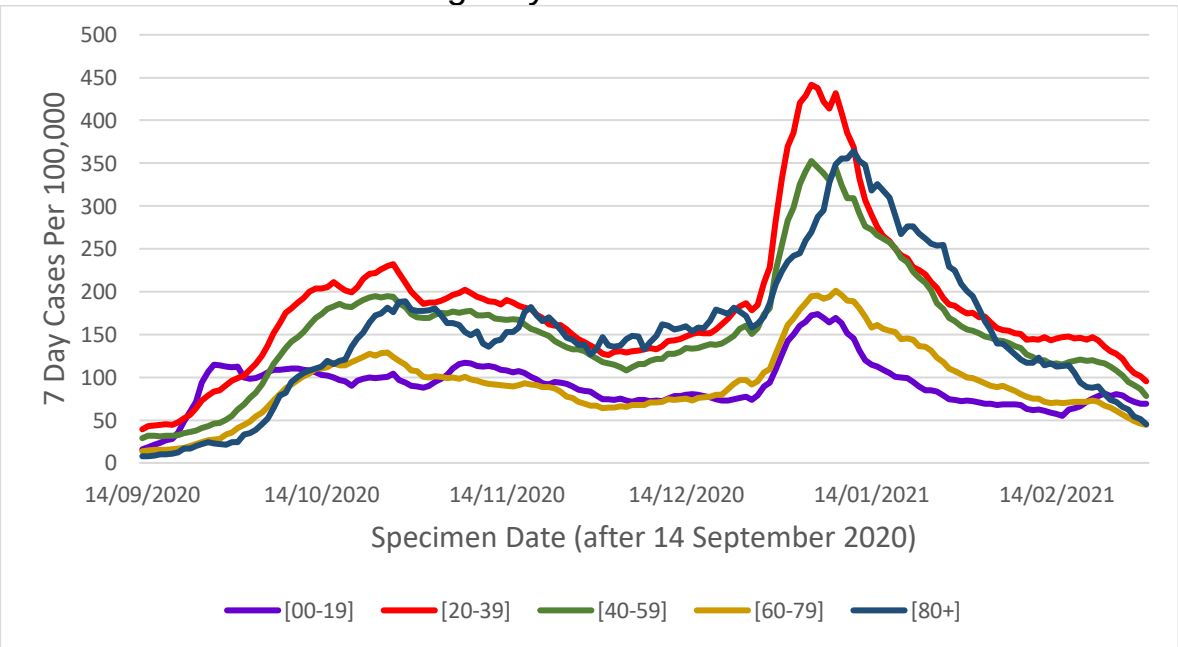
decreased since stay at home measures were introduced, and is now at 3.6% on average over the past week (to 1 March)[5].

Figure 2. Seven day case rate for Scotland. Refers to PCR testing only.



Two weeks ago we saw a sharp decline in the case rate in the over 80s, and there has been a further sharp drop in cases in this age group this week. Cases in those under 20 years old have plateaued, with case rates falling in other age groups this week (Figure 3).

Figure 3. Seven day case rate in Scotland by age group by specimen date[6]. Refers to PCR testing only.



[5] Scottish Government: https://www.gov.scot/publications/coronavirus-covid-19-trends-in-daily-data/
[6] Source: Public Health Scotland

Not everyone who has the virus will be tested, as many people do not realise they have COVID, or have mild symptoms and do not come forward. Latest modelled estimates suggest there are currently anywhere between 800 and 1,700 people infected in Scotland each day[2]. This means that as of 3 March there were between 14 and 32 new daily infections per 100,000 people.

The number of people in hospital with confirmed Covid for less than 28 days is declining. After peaking at 2,053 on 22 January, this figure has decreased and as of 3 March there were 750 patients in hospital with COVID-19. In addition, there was a fall in daily hospital admissions for people with Covid from a peak of 240 on 11 January to 58 on 23 February[7].

There were 227 deaths registered where Covid was mentioned on the death certificate in the week to 28 February. This is a 22% decrease on the week before (291 deaths), and 66% lower than the peak in April (662 deaths). The proportion of deaths in care home has been gradually decreasing from 36% since mid-December to 11% of total deaths in the week to 28 February. Deaths involving coronavirus have declined most in those aged 75-84 and have gone down by 49% over the 3 weeks to 28 February[8]. Deaths in those aged 85+ have declined by 44% over the same time.

How Scotland compares with the rest of the UK

The recent ONS survey estimates that proportion of the population infected in the community in Scotland (0.30% people currently testing positive for Covid-19 on 21 – 27 Feb) is below England (0.45%), Wales (0.35%) and Northern Ireland (0.31%). In the week to the 19 February the estimated rate of community infection was 1 in 335 people in Scotland, compared to 1 in 220 for England, 1 in 285 for Wales and 1 in 325 for Northern Ireland[9]. Average daily deaths in Scotland (0.4 per 100,000 in the week to 3 March) are above Northern Ireland (0.2 per 100,000) and in line with Wales (0.4 per 100,000), and England (0.4 per 100,000).

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[7] Public Health Scotland weekly trends dashboard: https://beta.isdscotland.org/find-publications-and-data/population-health/covid-19/covid-19-statistical-report/27-january-2021/dashboard/

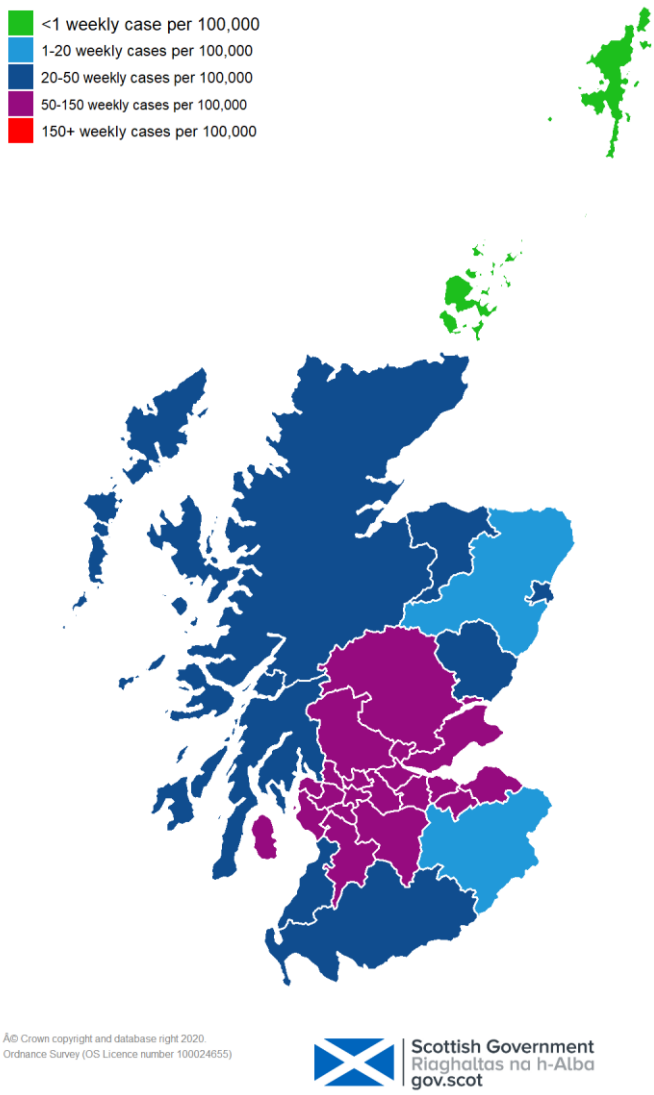
[8]NRS Scotland: https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/weekly-and-monthly-data-on-births-and-deaths/deaths-involving-coronavirus-covid-19-in-scotland

[9] Office for National Statistics: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveypilot/previousReleases

Situation by local authority within Scotland

Falkirk currently has the highest case rates in Scotland with 144 weekly cases being reported per 100,000 in the week to 1 March. This is a decrease of 35% in the week 22 Feb – 1 Mar[4]. There remains high levels of cases across large areas of Scotland (Figure 4). The only Local Authorities which have recorded an increase in cases per 100,000 over the past week are Aberdeen, Dundee, and Inverclyde. Case rates have fallen or remained stable in most other parts of Scotland. Over the past week the case rate per 100,000 has remained at 0 in Orkney and Shetland[4].

Figure 4. Map of weekly new positive cases per 100,000 people in Scotland



Looking ahead

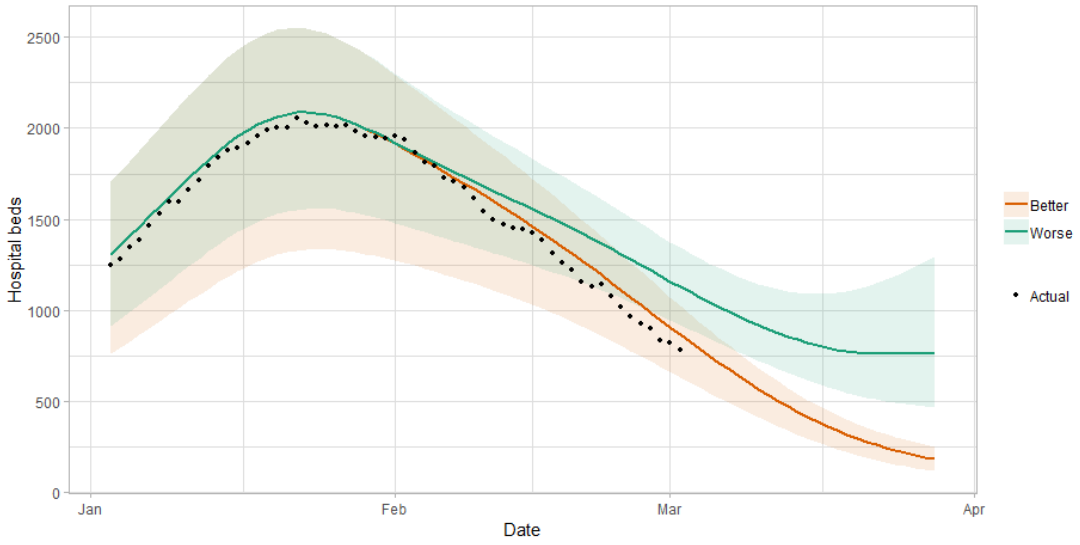
Changes in patterns of mixing and adherence to restrictions will impact on future case numbers. The Scottish Contact Survey measures times and settings that people mix where they could potentially spread Covid. From this survey we can say that interactions has remained low throughout January and February (currently 3.1 average daily contacts)[2].

In the last two weeks however increases in contacts have been reported for those aged over 50. Individuals 65 and over who have been vaccinated have a higher level of contacts in comparison to those who have not. We will continue to monitor changes in behaviour as the vaccine roll out continues.

There is high level of reported compliance with the Stay at Home regulations that came into effect on 5 January. On 2-4 March, 75% of people reported 'complete' or 'almost complete' compliance[10].

Hospital bed and ICU occupancy are projected to fall over the next few weeks, but with the potential to plateau or increase as a result of schools reopening (Figure 5)[2].

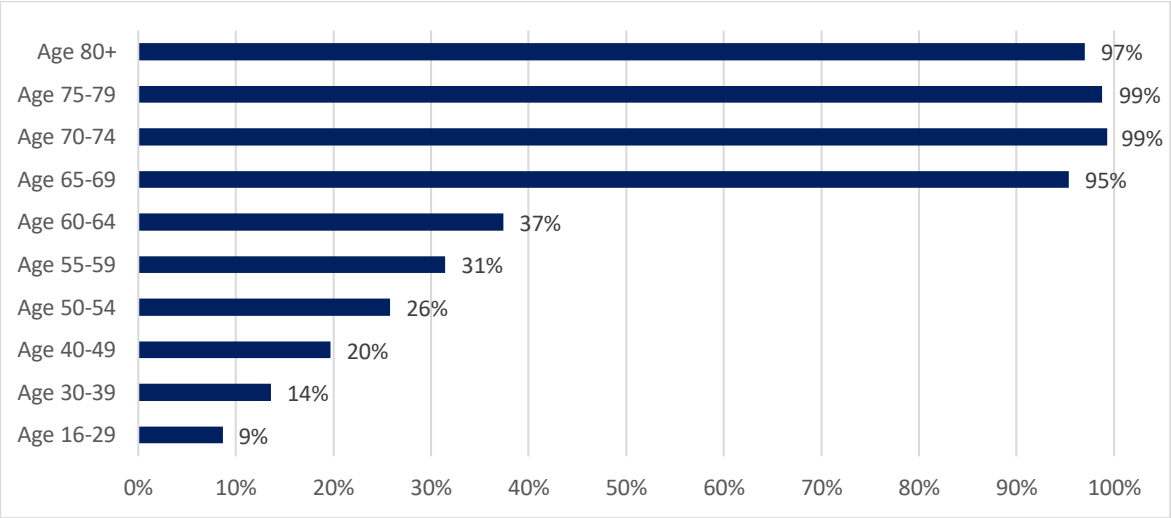
Figure 5. Medium term projections of modelled hospital bed demand, from Scottish Government modelling.



[10] Results are taken from questions run on behalf of Scottish Government on the YouGov online omnibus survey. The sample is demographically and geographically representative of adults 18+ across Scotland, with c.1000 responses each week. Total sample size on 2-4 March was 1024 adults. 'Complete' or 'almost complete' compliance refers to respondents who rated themselves 6 or 7 on a scale of 0-7 for the question: *Thinking about ALL of the guidance from the Scottish Government on what to do and what not to do during the Coronavirus pandemic (including distancing, protection measures and all restrictions)...On a scale of 1-7, where 1 is 'Not at all' and 7 is 'Completely', to what extent do you feel you are following the regulations and guidance?*

Vaccinations are continuing across the priority groups. The first vaccines were administered on Tuesday 8 of December and 1,688,608 had received their first dose by 4 March 2021, a 11% increase from the 25 February[5]. By the 4 of March over 31,000 residents in older adult care homes had received their first vaccination along with over 45,000 older adult care home staff . 97% of individuals aged 80 or over had received their first vaccination (Figure 6). It is anticipated that vaccination will reduce infection levels in the most vulnerable in the coming weeks and months. There are now indications of decreasing case rates and deaths among those groups vaccinated first.

Figure 6. Estimated percentage of people vaccinated by 4 March 2021



The proportion of people surveyed who said they would be likely to be vaccinated for COVID-19 remains high. 39% of all respondents have already received their first vaccine and of those not 81% report they are likely to be vaccinated when a vaccine becomes available to them.[11]

How the virus is changing

Variant VOC-202012/01 commonly known as the UK variant has been increasing its share of confirmed cases since it was first detected in Scotland in mid-December and is now the dominant strain[12]. This new variant of Covid is more transmissible, however the age and sex

[11] Total sample size on 2-4 March was 1024 adults. Sample size for those who have not yet received their first vaccine was 583 adults. *'Likely' to be vaccinated refers to respondents who rated themselves 8 to 10 on a scale of 0-10 for the question: How likely or unlikely are you to be vaccinated for COVID-19 when a vaccine becomes available to you? (Please select a number between 0 and 10, where 0 means 'extremely unlikely' and 10 means 'extremely likely')*

[12] Public Health Scotland: https://beta.isdscotland.org/find-publications-and-data/population-health/covid-19/covid-19-statistical-report/9-september-2020/dashboard/

distribution appears similar to other variants[13]. It is likely that infection with VOC 202012/01 is associated with an increased risk of hospitalisation and death compared to infection with non-VOC viruses.[14]

Other variants of concern (VOCs) are being monitored, to date there are four VOCs and four variants under investigation. Up to 3 March, there have been 17 confirmed cases and 2 probable cases of the variant VOC-202012/02 (first seen in South Africa) detected in Scotland, and five cases of variant VUI-202101/01 (first seen in Brazil). In addition, this week for the first time cases of the VOC-202101/02 and VUI-202102/03 have been found in Scotland; 2 confirmed and 1 probable case of VOC-202101/02 and two confirmed cases of VUI-202102/03[15]. There is some concern, mainly based on laboratory analysis that these variants may partially escape immunity, from both natural infection and from vaccines currently being deployed, and we are monitoring the evidence on this[16] [17] [18].

Next steps

The Scottish Government continues to work closely with Public Health Scotland to monitor the course of the epidemic using several data sources. Each week this report will provide an overview of current COVID-19 situation in Scotland. This will include real time data on case rates, hospitalisations and deaths and how Scotland's figures compare to those from the rest of the UK. Modelling can tell us where the epidemic is likely to be heading. Local data and data by age group can highlight where problem arise, which can help in addressing some of these issues. In the coming weeks the roll out of the vaccine will continue to be monitored along with the impact of this on case rates and deaths among different age cohorts. Investigations are ongoing by NERVTAG, SPI-M, SAGE, Public Health England and Public Health Scotland regarding the impact of new variants and of vaccination, this will be reflected here as work is undertaken.

[13] Investigation of novel SARS-CoV-2 variant - Variant of Concern 202012/01 (publishing.service.gov.uk)
[14] S1095_NERVTAG_update_note_on_B.1.1.7_severity_20210211.pdf (publishing.service.gov.uk)
[15] Variants: distribution of cases data - GOV.UK (www.gov.uk)
[16] Brief note on SARS-CoV-2 variants (publishing.service.gov.uk)
[17] Brief note on SARS-CoV-2 B.1.351 - 27 January 2021 (publishing.service.gov.uk)
[18] Brief note on SARS-CoV-2 variant of concern P.1 (publishing.service.gov.uk)

This publication will be available in accessible HTML on the gov.scot website

The views expressed in this report are those of the researcher and do not necessarily represent those of the Scottish Government or Scottish Ministers.

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The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

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