

## Coronavirus (COVID-19): Analysis

### State of the Epidemic in Scotland – 4<sup>th</sup> June 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 3 June 2021 on Covid-19 in Scotland. This updates the previous publication published on 27 May 2021<sup>1</sup>. 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 and local level, and how Scotland currently compares to the rest of the UK. It looks at the vaccination program in Scotland and the effects that 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 between 1.1 and 1.3. The lower limit is higher than last week.
- An average of 604 cases were reported per day in the 7 days to 3 June, which is a 51% increase in reported cases since the 27 May.
- There were 70 weekly cases per 100,000 in the week to 31 May, which is an increase since last week. This compares to 302 weekly

<sup>1</sup> Scottish Government: [Coronavirus \(COVID-19\): state of the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/coronavirus-covid-19/state-of-the-epidemic/)

cases per 100,000 on 8 January and is similar to the weekly case rate observed on 26 March.

- Case rates saw a rise amongst all age bands with the highest case rates amongst 20-39, followed by 0-19, 40-59, 60-79 and 80+ this week.
- As determined through the latest weekly ONS survey, the estimated proportion of people becoming infected with Covid in Scotland has increased in the last two weeks, however the trend is uncertain in the latest week. Scotland is currently above Wales and Northern Ireland but below England.
- Latest modelled estimates suggest there are currently between 9 and 23 new daily infections per 100,000 people in Scotland.
- Deaths involving coronavirus have declined in those aged 85+ over the 3 weeks to 30 May, having gone down by 50% (from 2 to 1 deaths).
- Average daily deaths per 100,000 population in Scotland (0.01) are in line with Wales, England and Northern Ireland (0.01 each).
- East Renfrewshire currently has the highest weekly case rate in Scotland reporting 163 cases per 100,000 in the last week, followed by Renfrewshire with 150 cases per 100,000, Glasgow with 128 cases per 100,000, South Ayrshire (126 cases per 100,000), Edinburgh (105 cases per 100,000) and Dundee with 104 cases per 100,000. Aberdeenshire, Dumfries and Galloway, Moray, Na h-Eileanan Siar and Scottish Borders each reported fewer than 10 weekly cases per 100,000, and Orkney and Shetland reported no weekly cases per 100,000 in the same period.
- At a national level hospital bed and ICU occupancy are projected to plateau or rise over the next few weeks, as a result of relaxations of non-pharmaceutical interventions.
- Over 3.3 million people in Scotland have been given a first vaccine against SARS-CoV-2, and over 2.1 million have now received a second dose.
- The Delta variant of concern, (VOC-21APR-02, first identified in India), is now the dominant strain in Scotland.

## **Method**

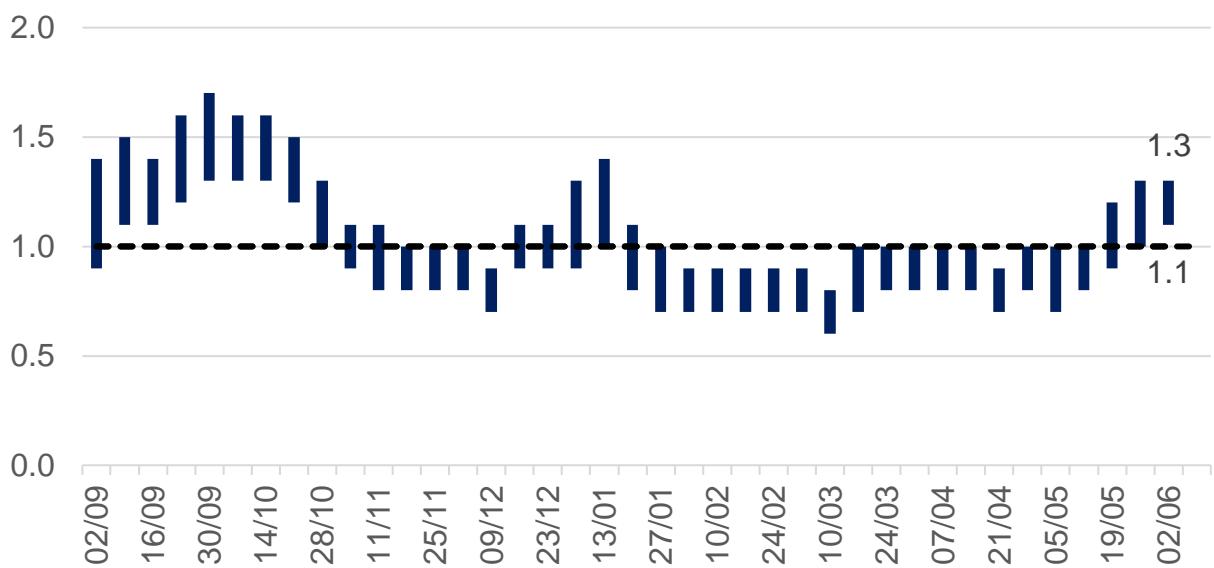
This report brings together a wide range of publically available figures from a range of data sources. These include publications by Scottish Government, Public Health Scotland, National Records of Scotland and Office for National Statistics along with scientific publications and SAGE summaries where 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 YouGov polling surveys.

## The national picture

The latest R value for Scotland (published on 3 June)<sup>2</sup> was between 1.1 and 1.3 (Figure 1), with a growth rate of between 2% and 5%.

Figure 1. R in Scotland over time.



As Scotland continues to move out of national-level stay at home measures, an average of 604 cases were reported per day in the 7 days to 3 June. This is a 51% increase from the daily average cases recorded a week earlier to 27 May<sup>3</sup>. Average daily cases reported are around a quarter of the peak of 2,323 in the week to 7 January. Our current position is 70 weekly cases per 100,000 in the week to 31 May<sup>4</sup>. This compares to 302 weekly cases per 100,000 on 8 January (see Figure 2) and is similar to the weekly case rate observed on 26 March<sup>4</sup>.

The number of locations where the levels of Covid in wastewater are monitored has increased to 103 sites around Scotland. In contrast to Covid-19 case records, virus shedding into wastewater is a biological process. This means that wastewater data is unaffected by factors that impact whether testing is done. The overall level of wastewater Covid-19

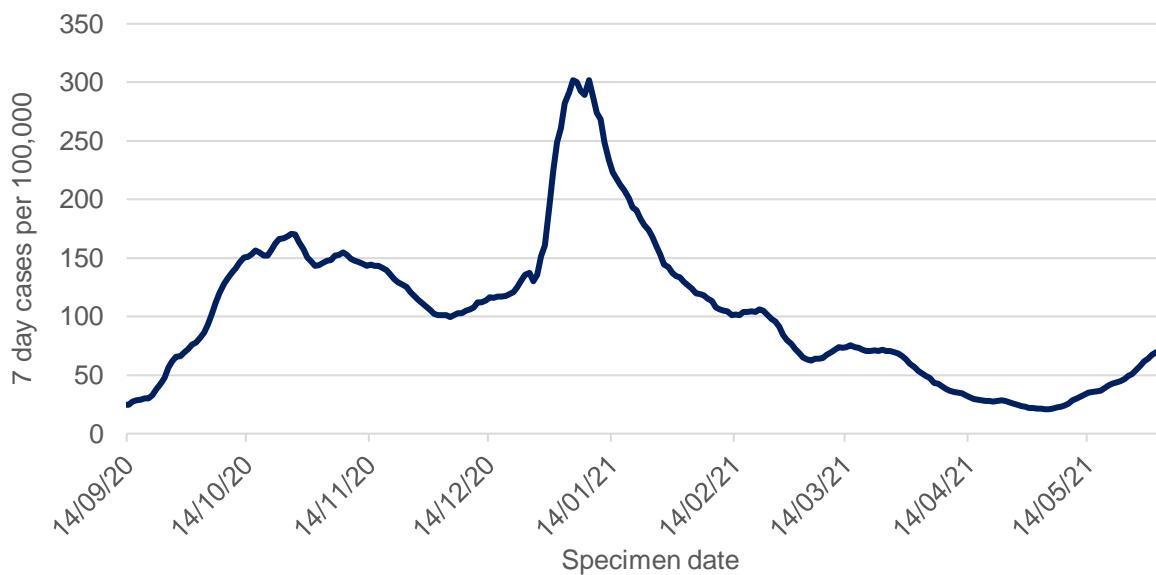
<sup>2</sup> Scottish Government: [Coronavirus \(COVID-19\): modelling the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/coronavirus-(COVID-19)/modelling-the-epidemic/)

<sup>3</sup> Scottish Government: <https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/>

<sup>4</sup> Public Health Scotland Covid dashboard: [https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard\\_15960160643010/Overview](https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview)

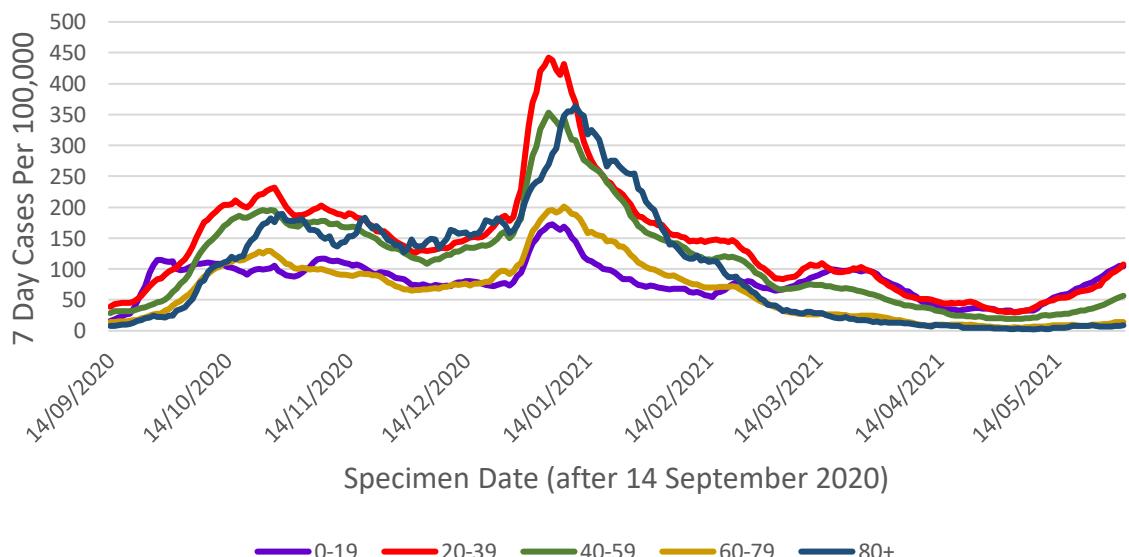
has risen substantially since last week, similar to levels seen in March 2021. In addition to continued high levels of wastewater Covid-19 near Glasgow, levels also rose near Edinburgh and Dundee.

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



Case rates have risen across all age bands this week, the highest case rates are currently in those aged 20-39 followed by 0-19, 40-59, 60-79 and 80+ (Figure 3).

Figure 3. Seven day case rate in Scotland by age group by specimen date<sup>5</sup>. Refers to PCR testing only.



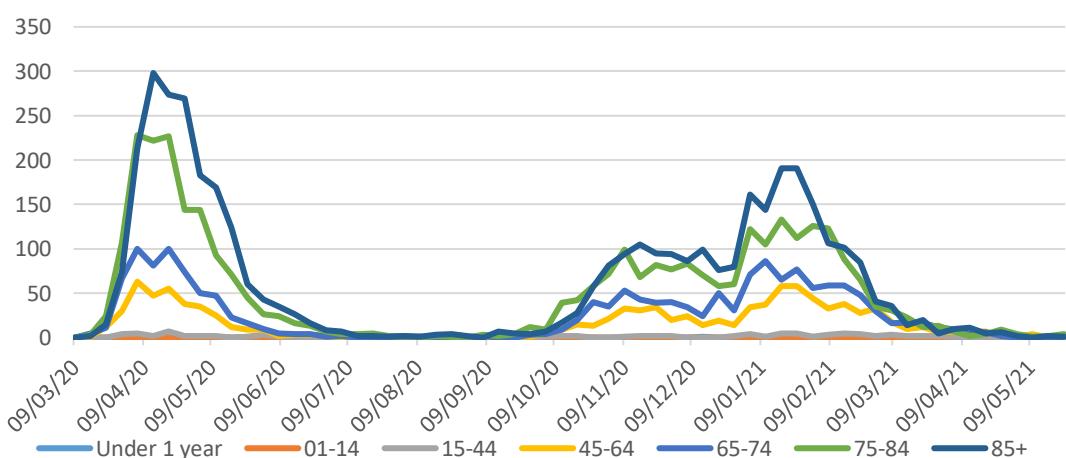
<sup>5</sup> Source: Public Health Scotland

Not everyone who has the virus will be tested, as many people do not realise they have Covid, or they have mild symptoms and do not come forward. Latest modelled estimates suggest there are currently anywhere between 500 and 1,300 people infected in Scotland each day<sup>2</sup>. This means that as of 2 June there were between 9 and 23 new daily infections per 100,000 people.

The number of people in hospital with confirmed Covid for less than 28 days has started to increase. After peaking at 2,053 on 22 January, this figure decreased to a low of 58 on 6 May. This has since increased and as of 3 June there were 110 patients in hospital with Covid-19. Daily hospital admissions for people with Covid follow a similar pattern, having decreased from a peak of 241 on 11 January to a low of 4 on 28 April, and have since increased slightly to 18 on 30 May<sup>6</sup>.

There were 8 deaths registered where Covid was mentioned on the death certificate in the week to 30 May. This is an increase from 4 deaths the week before, and 99% lower than the peak in April 2020 (663 deaths). The proportion of deaths in care homes has decreased from 60% in April 2020 to 0% of Covid deaths in the week to 30 May 2021. Deaths involving coronavirus have declined in those aged 85+ and have gone down by 50% (from 2 to 1) in this age group over the 3 weeks to 30 May<sup>7</sup> (Figure 4). Deaths increased slightly in those aged 45-64 (from 1 to 2 deaths) and 65-74 (from 0 to 1 death) over this period. However, this variation is expected when death numbers are low.

Figure 4. Deaths by age group (weekly total by week beginning, NRS)<sup>7</sup>.



<sup>6</sup> Public Health Scotland dashboard: [COVID-19 Daily Dashboard - PHS COVID-19 | Tableau Public](https://www.gov.scot/coronavirus-covid-19/covid-19-daily-data/)

<sup>7</sup> 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>

## How Scotland compares with the rest of the UK

The latest ONS survey estimates that the proportion of the population infected in the community in Scotland (0.15% of people currently testing positive for Covid-19 from 23-29 May) has increased in the last two weeks, however the trend is uncertain in the latest week. This is still above Wales (0.10%), and Northern Ireland (0.12%), but below England (0.16%). In the week to 23 May the estimated rate of community infection was 1 in 680 people in Scotland, compared to 1 in 640 for England, 1 in 1,050 for Wales and 1 in 800 for Northern Ireland<sup>8</sup>.

Average daily deaths in Scotland (0.01 per 100,000 in the week to 2 June) are in line with England, Northern Ireland and Wales (0.01 each). The Coronavirus Infection Survey estimated that in the week to 9 May, 68.6% of the adult population in Scotland would have tested positive for antibodies against Covid-19, as a result of having the infection in the past or being vaccinated. This compares to 75.9% in England, 76.6% in Wales and 75.0% in Northern Ireland<sup>9</sup>.

## Situation by local authority within Scotland

East Renfrewshire currently has the highest case rate in Scotland with 163 weekly cases reported per 100,000 in the week to 31 May, which is a 56% increase from the week to 24 May<sup>4</sup>. It is followed by Renfrewshire with 150 weekly cases per 100,000, which is a 54% increase from the previous week; Glasgow with 128 cases per 100,000 (12% decrease); South Ayrshire with 126 cases per 100,000 (446% increase); Edinburgh with 105 cases per 100,000 (122% increase) and Dundee with 104 cases per 100,000 (68% increase). There are mostly high and moderate levels of cases across Scotland (Figure 5). Nearly all local authorities recorded an increase in cases per 100,000 population over the last week. A decrease in cases per 100,000 in the week to 31 May was recorded in:

- Aberdeenshire,
- Clackmannanshire,
- Glasgow,
- Midlothian and
- Moray.

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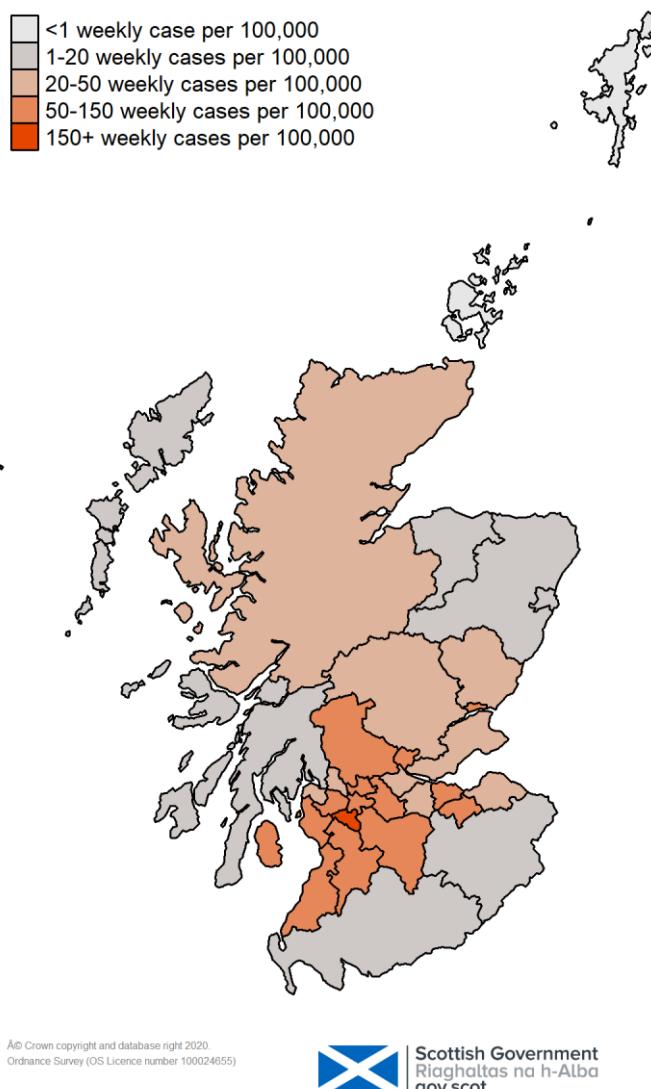
<sup>8</sup> Office for National Statistics:

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionssurveypilot/previousReleases>

<sup>9</sup> Office for National Statistics: [Coronavirus \(COVID-19\) Infection Survey, antibody and vaccination data for the UK - Office for National Statistics](https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionssurveypilot/previousReleases)

Aberdeenshire, Dumfries and Galloway, Moray, Na h-Eileanan Siar and Scottish Borders each had fewer than 10 weekly cases per 100,000 in the week to 31 May<sup>4</sup>. Orkney and Shetland reported no weekly cases per 100,000 in this period.

Figure 5. Map of weekly new positive cases per 100,000 people in Scotland.



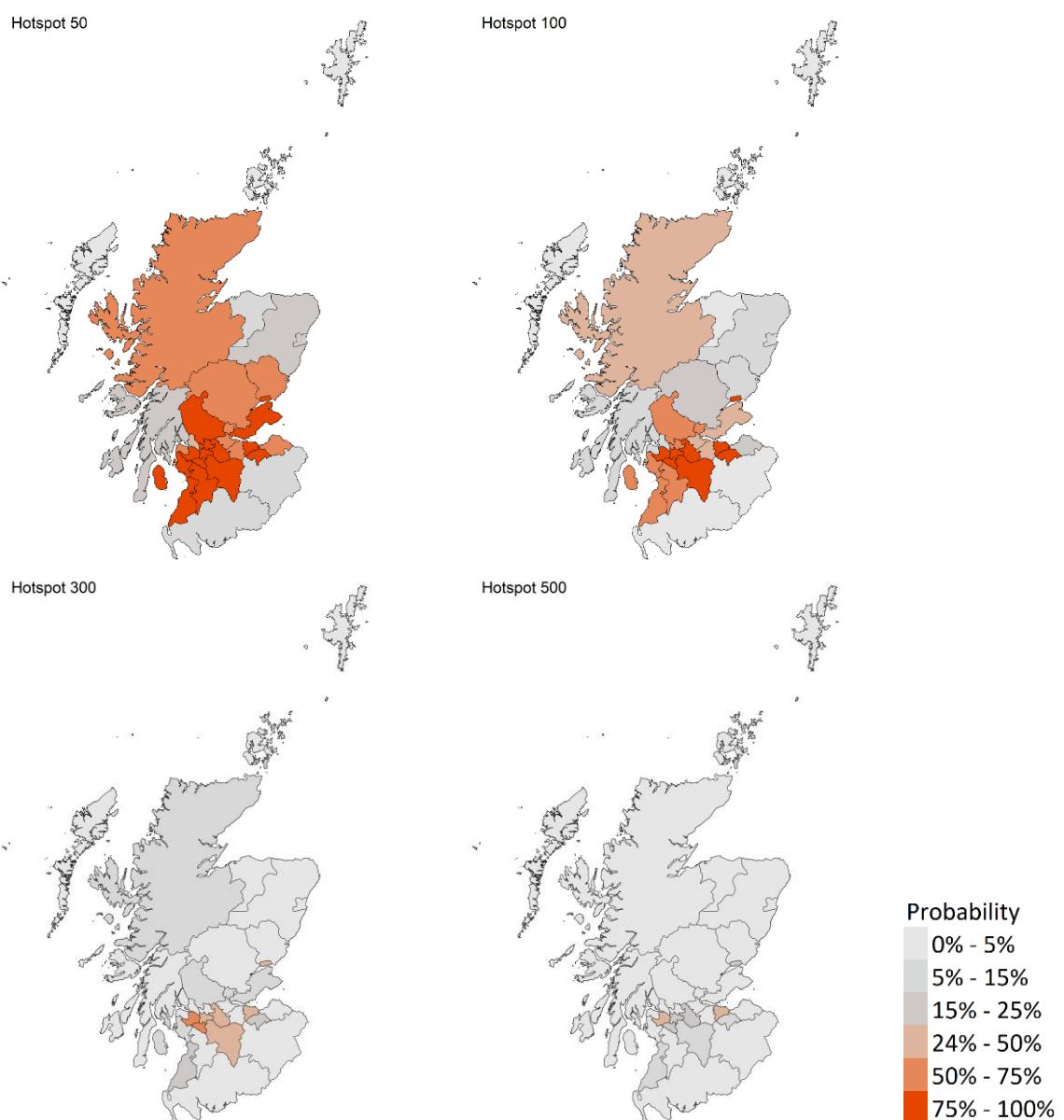
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The most recent modelling predicts that for the week ending 19 June Dundee, East Ayrshire, East Dunbartonshire, East Renfrewshire, Edinburgh, Fife, Glasgow, Midlothian, North Ayrshire, North Lanarkshire, Renfrewshire, South Ayrshire, South Lanarkshire and Stirling have at least a 75% probability of exceeding 50 cases per 100,000 population. Of those, 8 local authorities have at least a 75% probability of exceeding 100 cases (Dundee, East Renfrewshire, Edinburgh, Glasgow,

Midlothian, North Lanarkshire, Renfrewshire and South Lanarkshire) (Figure 6)<sup>2</sup>.

Figure 6. Maps of probability of Local Authorities exceeding 50, 100, 300 and 500 cases per 100,000 population in the period 13 June – 19 June 2021.

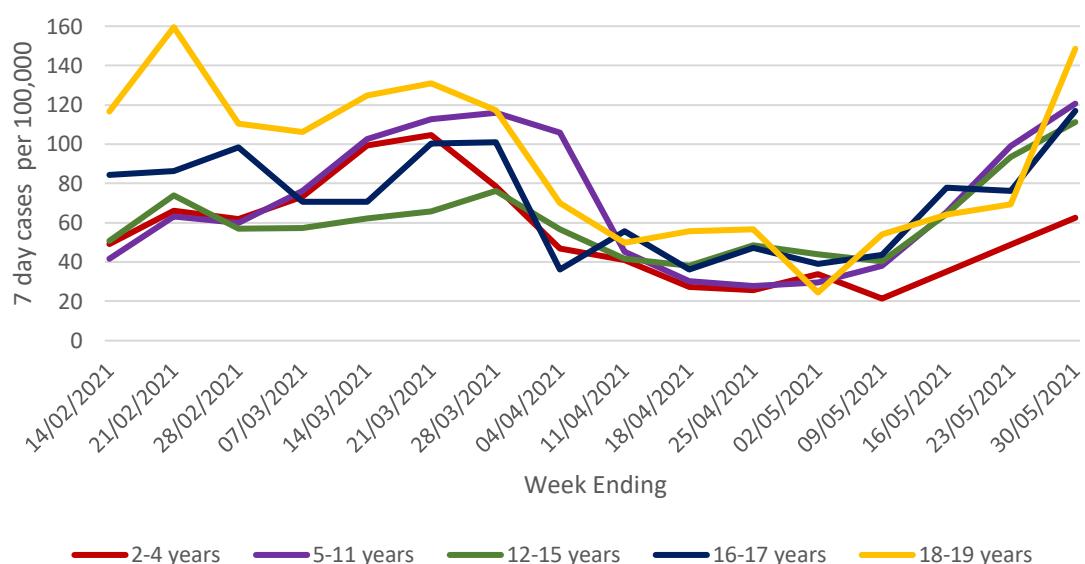


## Children and Education

Over the last week there was an increase in the total number of COVID-19 cases in young people, which has gone up from 876 cases in the week to 23 May to 1,169 cases in the week ending 30 May. 7 day cases per 100,000 have increased in all age groups in the week ending 30 May (Figure 7), and the highest proportion of cases is still observed in those under 12 (613 cases)<sup>10</sup>.

The rate of testing increased amongst 2-4 year olds, 16-17 year olds and 18-19 year olds. Test positivity rates increased amongst all age groups in the week ending 30 May<sup>10</sup>. Overall, the proportion of school, early learning and childcare settings with incidents remains low.

Figure 7. Seven day case rate in Scotland by age group by specimen date for children. Refers to PCR testing only.



## 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<sup>2</sup>. From this survey we can say that average contacts have remained at a similar level in the last two weeks (comparing surveys pertaining to 6th – 12th May and 20th - 26th May) with a current level of 4.4 daily contacts. Contacts within the work and home setting have increased slightly, 6% and 7% respectively in comparison to two weeks prior and contacts

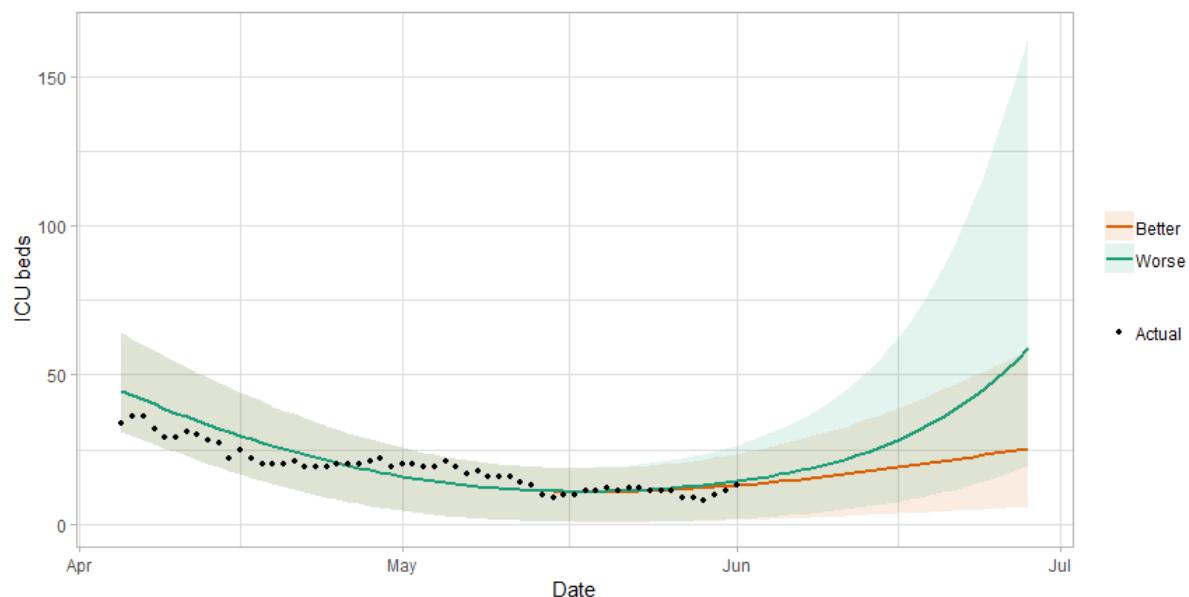
<sup>10</sup> Public Health Scotland: [PHS COVID-19 Education report \(shinyapps.io\)](https://shinyapps.io/PHS_COVID-19_Education_report/)

within the school setting have increased by 31%. There has been a slight decrease in contacts within the other setting (contacts outside of those in the home, school and work), decreasing by 6%. Individuals aged under 49 increased their contacts whereas those aged over 49 reported a decrease in average daily contacts. The increases were largely driven by contacts within the work setting.

Self-reported compliance with the current regulations and guidance has decreased since January but remains at a high level. On 1-2 June May, 69% of people reported ‘complete’ or ‘almost complete’ compliance<sup>11</sup>.

Hospital bed and ICU occupancy are projected to plateau or rise over the next few weeks, as a result of relaxations of non-pharmaceutical interventions (Figure 8<sup>2</sup>).

Figure 8. Medium term projections of modelled ICU bed demand, from Scottish Government modelling<sup>12</sup>.



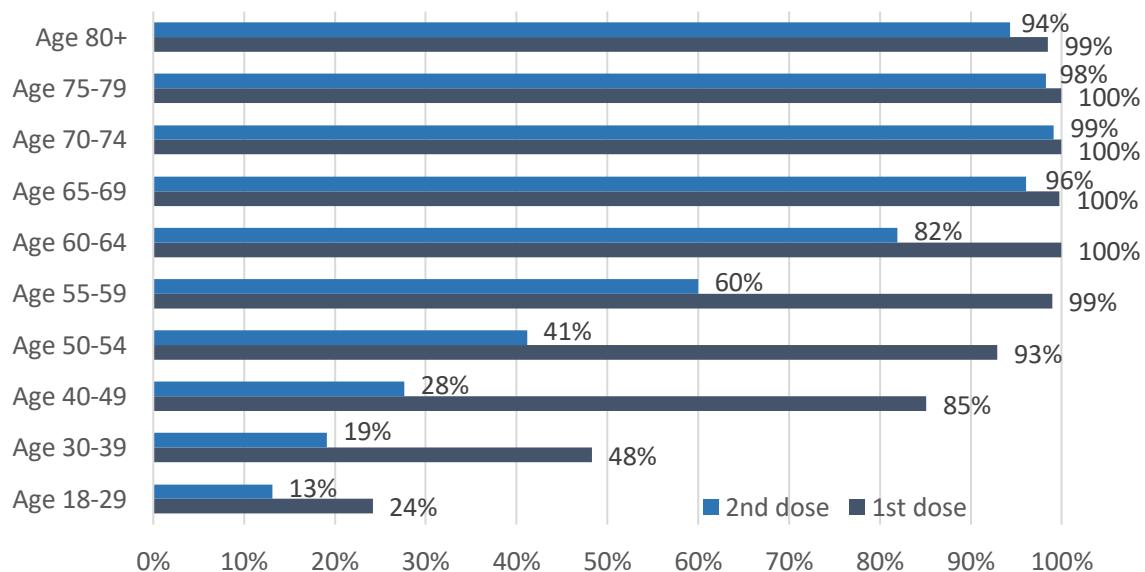
<sup>11</sup> Results are taken from questions run on behalf of Scottish Government on the YouGov online omnibus survey. The sample is demographically and geographically representative of adults 18+ across Scotland, with c.1000 responses each week. Fieldwork took place on 1-2 June with a total sample size of 1,026 adults.

‘Complete’ or ‘almost complete’ compliance refers to respondents who rated themselves 6 or 7 on a scale of 1-7 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?*

<sup>12</sup> Both scenarios are based on current vaccine roll-out plans and efficacy assumptions. Actual data does not include full numbers of CPAP. ICU bed actuals include all ICU patients being treated for Covid-19 including those over 28 days.

Vaccinations are continuing across the priority groups and 74.3% of the adult population in Scotland has now been vaccinated with the first dose<sup>6</sup>. The first vaccines were administered on Tuesday 8 December and 3,305,812 people had received their first dose by 3 June 2021, a 4% increase from 27 May<sup>3</sup>. By 3 June over 35,000 residents in care homes had received their first vaccination along with over 53,000 care home staff. In older adult care homes 93% of residents have now received their second dose. By age group, almost 100% of individuals aged 55+ and 93% of those aged 50-54 have received their first vaccination (Figure 9). 94% of the over 80s, 98% of those aged 75-79, 99% of those aged 70-74, and 96% of those aged 65-69 have received their second dose. Overall, 2,137,618 (48.1%) of those aged 18 and over had received their second dose by 3 June<sup>6</sup>. There remains low levels of hospitalisations and deaths among those groups vaccinated first (Figure 4).

Figure 9. Estimated percentage of adults vaccinated by 3 June 2021.



The proportion of people surveyed who said they would be likely to be vaccinated for Covid-19 remains relatively high. 76% of all respondents have already received at least their first vaccine dose. Of those not vaccinated, 66% report they are likely to be vaccinated when a vaccine becomes available to them<sup>13</sup>.

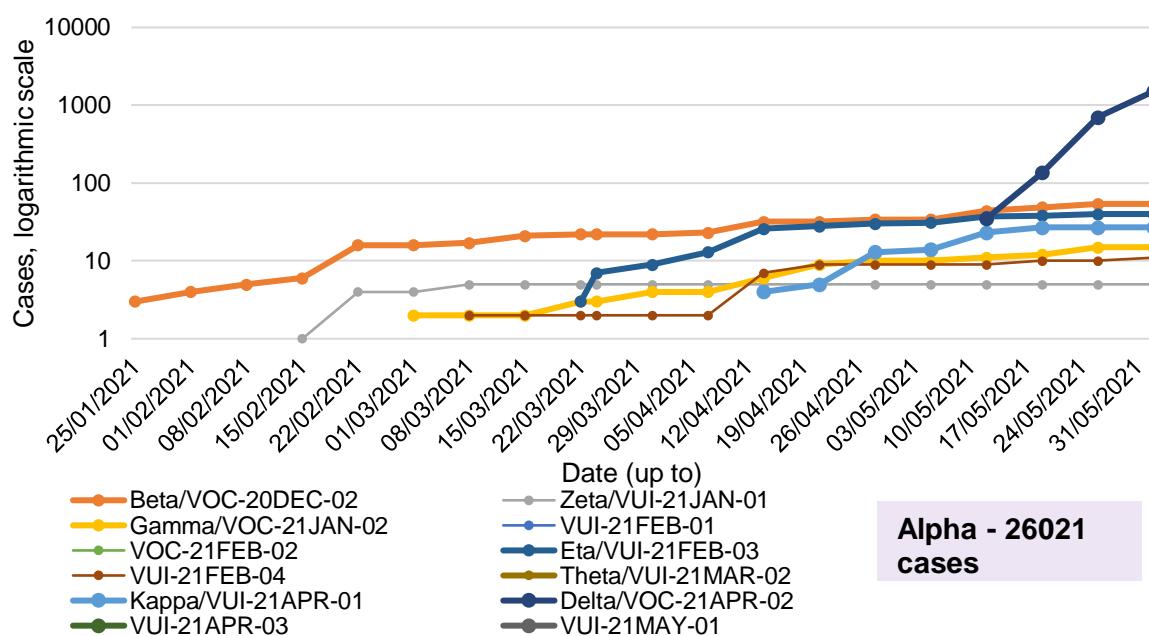
<sup>13</sup> Total sample size on 1-2 June was 1,026 adults. Sample size for those who have not yet received their first vaccine was 182 adults. 'Likely' to be vaccinated refers to respondents who rated themselves 8 to 10 on a scale of 0-10 for the question: How likely or unlikely are you to be vaccinated 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')

## How the virus is changing

The variant of concern Delta, also referred to as VOC-21APR-02 (first identified in India) is spreading rapidly and has fast replaced Alpha (VOC-20DEC-01, first identified in UK) as the dominant strain in Scotland, with 1,511 cases sequenced as Delta to 2 June.

To date there are five VOCs and nine variants under investigation<sup>14</sup>. As reported in last week's issue, up to 2 June there have been 54 genotypically confirmed cases of the variant Beta/VOC-20DEC-02 (first seen in South Africa) in Scotland. There have been 15 confirmed cases of the variant Gamma/VOC-21JAN-02 (first identified from Brazil). There have also been a number of cases of other variants which are currently under investigation, including 40 cases of Eta/VUI-21FEB-03 (first seen in Nigeria) (no change from the week before) and 27 cases of Kappa/VUI-21APR-01 (first identified in India), no increase from the week before (Figure 10). There is concern that some of these new variants may partially escape immunity, from both natural infection and from vaccines currently being deployed, and we are monitoring the evidence on this<sup>15 16 17</sup>.

Figure 10. Variants detected in Scotland by sequencing (data up to 2 June and reported weekly<sup>18</sup>).



<sup>14</sup> Variants: distribution of cases data - GOV.UK ([www.gov.uk](http://www.gov.uk))

<sup>15</sup> Brief note on SARS-CoV-2 variants ([publishing.service.gov.uk](http://publishing.service.gov.uk))

<sup>16</sup> Brief note on SARS-CoV-2 B.1.351 - 27 January 2021 ([publishing.service.gov.uk](http://publishing.service.gov.uk))

<sup>17</sup> Brief note on SARS-CoV-2 variant of concern P.1 ([publishing.service.gov.uk](http://publishing.service.gov.uk))

<sup>18</sup> Variants: distribution of cases data - GOV.UK ([www.gov.uk](http://www.gov.uk))

It is highly likely that Delta/VOC-21APR-02 variant is more transmissible than Alpha/VOC-20DEC-01, and it is a realistic possibility that it is as much as 50% more transmissible<sup>19</sup>. The secondary attack rates for contacts of cases with Delta/VOC-21APR-02 and no travel history are higher than those for contacts of non-travel cases with Alpha/VOC-20DEC-01<sup>20</sup>. There remains uncertainty regarding the impact of the Delta variant on severity of illness, treatment or reinfections. Early evidence suggests there may be an increased risk of hospitalisation for Delta compared to Alpha, although more data is needed to have more confidence in that finding<sup>21</sup>.

Public Health England preliminary analysis of vaccine effectiveness against symptomatic disease with Delta suggests that while vaccine effectiveness against symptomatic disease is lower in Delta cases compared to Alpha cases after one dose, any difference in vaccine effectiveness after 2 doses of vaccine is likely to be small<sup>22</sup>.

## 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 the 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 problems 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.

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<sup>19</sup> [S1236\\_Eighty-nineth\\_SAGE.pdf \(publishing.service.gov.uk\)](#)

<sup>20</sup> [SARS-CoV-2 variants of concern and variants under investigation \(publishing.service.gov.uk\)](#)

<sup>21</sup> [Confirmed cases of COVID-19 variants identified in UK - GOV.UK \(www.gov.uk\)](#)

<sup>22</sup> [COVID-19 vaccine surveillance report - week 22 \(publishing.service.gov.uk\)](#)

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