

Coronavirus (COVID-19): Analysis

State of the Epidemic in Scotland – 11th 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 10 June 2021 on Covid-19 in Scotland. This updates the previous publication published on 4 June 2021¹. 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 1.2 and 1.4. This is higher than last week.
- An average of 816 cases were reported per day in the 7 days to 10 June, which is a 35% increase in reported cases since the 3 June.
- There were 106 weekly cases per 100,000 in the week to 7 June, which is an increase since last week. This compares to 302 weekly

¹ 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 20 February.

- 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 the community in Scotland has increased in the last two weeks, however the trend is uncertain in the latest week. Scotland is currently in line with England, but above Wales and Northern Ireland.
- Latest modelled estimates suggest there are currently between 16 and 41 new daily infections per 100,000 people in Scotland.
- Deaths involving coronavirus have declined in those aged 45-64 over the 3 weeks to 6 June, having gone down from 4 to 0 deaths.
- Average daily deaths per 100,000 population in Scotland (0.01) are in line with England and Wales (0.01 each), but above Northern Ireland (0.00).
- Dundee currently has the highest weekly case rate in Scotland reporting 247 cases per 100,000 in the week to 7 June, followed by Clackmannanshire with 229 cases per 100,000, and South Ayrshire with 201 cases per 100,000. There were 9 other local authorities reporting over a 100 weekly cases per 100,000 population in the last week. Na h-Eileanan Siar and Orkney each reported fewer than 10 weekly cases per 100,000 in the same period.
- At a national level hospital bed and ICU occupancy are projected to rise over the next few weeks.
- Over 3.4 million people in Scotland have been given a first vaccine against SARS-CoV-2, and over 2.3 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.

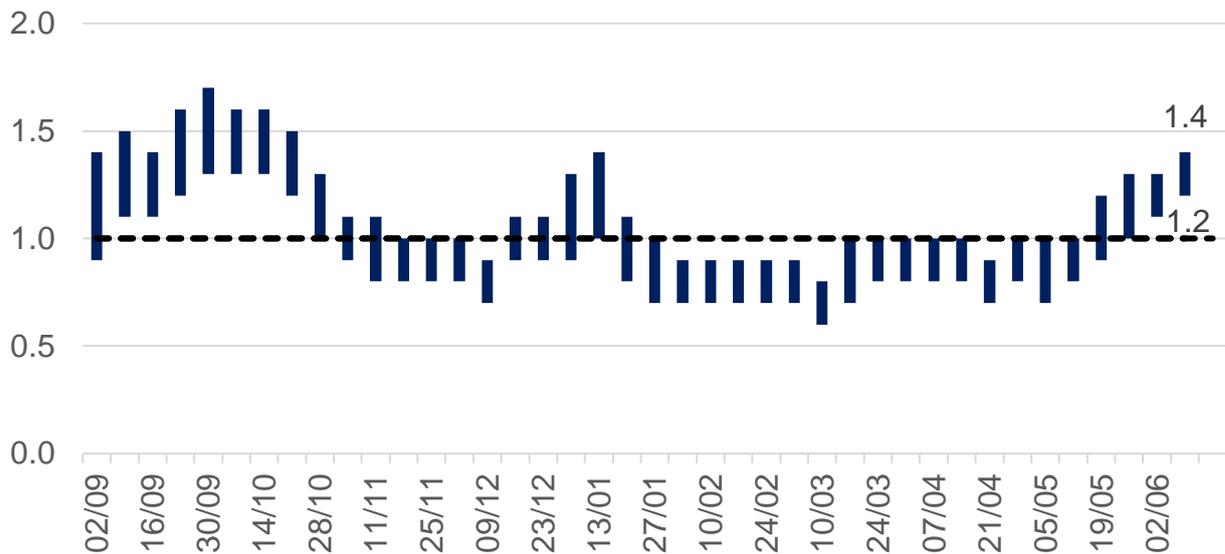
Method

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 10 June)² was between 1.2 and 1.4 (Figure 1), with a growth rate of between 3% and 6%.

Figure 1. R in Scotland over time.



As Scotland continues to move out of national-level stay at home measures, an average of 816 cases were reported per day in the 7 days to 10 June. This is a 35% increase from the daily average cases recorded a week earlier to 3 June³. Average daily cases reported are around a third of the peak of 2,323 in the week to 7 January. Our current position is 106 weekly cases per 100,000 in the week to 7 June⁴. 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 20 February⁴.

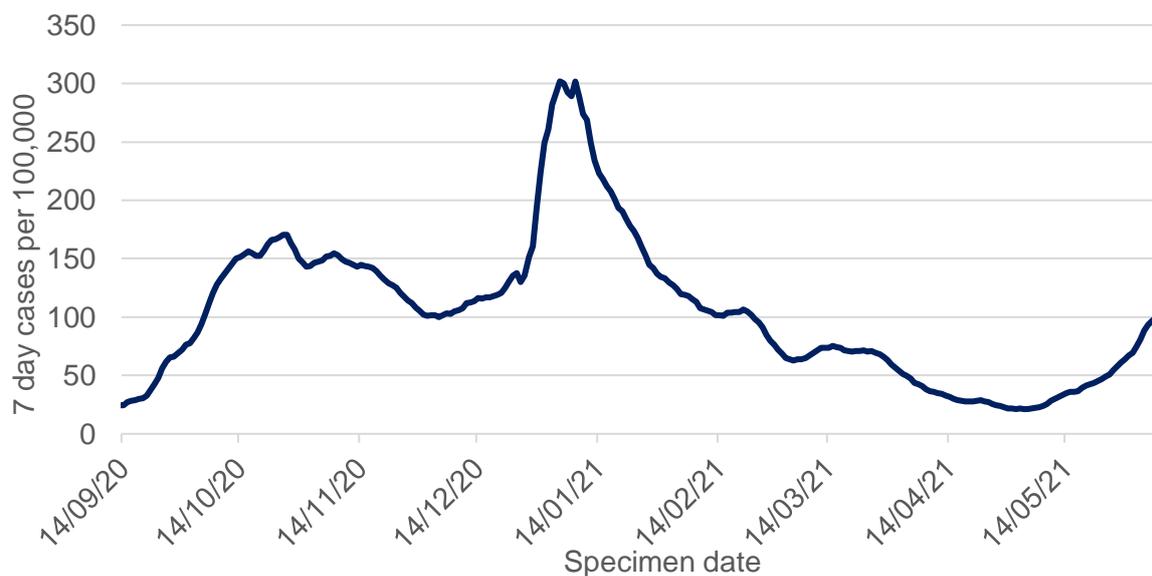
The number of locations where the levels of Covid in wastewater are monitored has increased to 108 sites around Scotland. In contrast to Covid-19 case records, virus shedding into wastewater is a biological process. This means that wastewater data is unaffected by factors that impact whether testing is done. The overall level of wastewater Covid-19 continues to rise, matching the increase seen in case rates. As well as continued high levels in and around Glasgow, Edinburgh and Dundee, levels of COVID-19 in wastewater are increasing across a broadening range of sites.

² Scottish Government: [Coronavirus \(COVID-19\): modelling the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/)

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

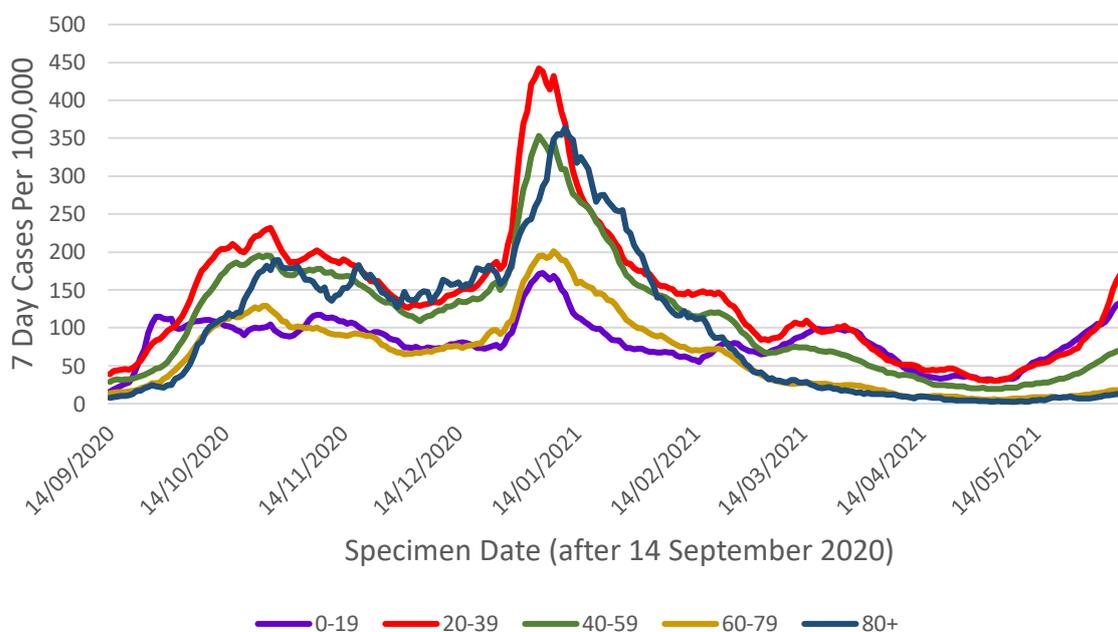
⁴ Public Health Scotland Covid dashboard: https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview

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, with the highest case rates similarly to last week currently being reported 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 date⁵. Refers to PCR testing only.



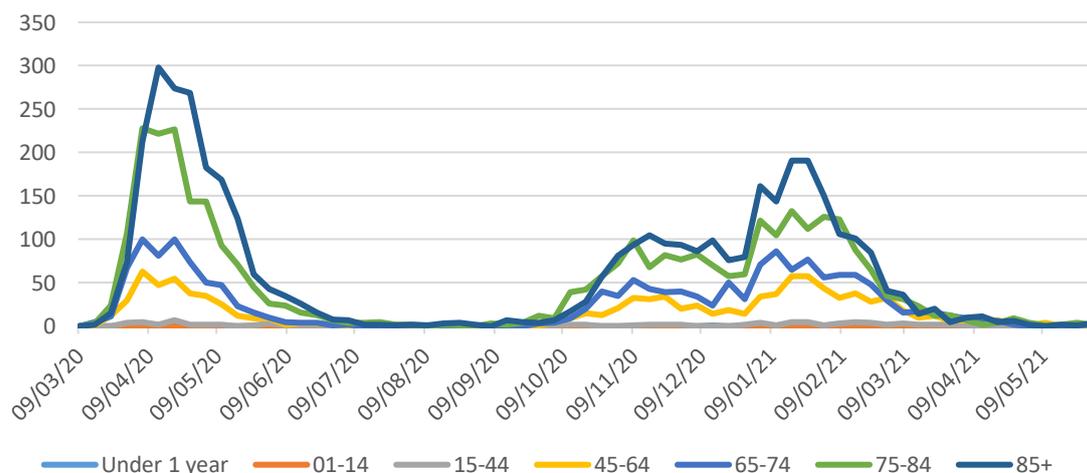
⁵ Source: Public Health Scotland

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 900 and 2,200 people infected in Scotland each day². This means that as of 9 June there were between 16 and 41 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 10 June there were 124 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 27 on 6 June⁶.

There were 8 deaths registered where Covid was mentioned on the death certificate in the week to 6 June. This is unchanged from 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 13% (1 death) of Covid deaths in the week to 6 June 2021. Deaths involving coronavirus have declined in those aged 45-64 down from 4 to 0 deaths over the 3 weeks to 6 June⁷ (Figure 4). Deaths increased slightly in those aged 65-74 (from 0 to 2 deaths), 75-84 (from 1 to 2 deaths) and 85+ (from 0 to 3 deaths) 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)⁷.



⁶ Public Health Scotland dashboard: [COVID-19 Daily Dashboard - PHS COVID-19 | Tableau Public](#)

⁷ 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 (0.18% of people currently testing positive for Covid-19 from 30 May to 5 June) has increased in the last two weeks, however the trend is uncertain in the latest week. This is in line with England (0.18%) and still above Northern Ireland (0.14%) and Wales (0.08%). In the week to 5 June the estimated rate of community infection was 1 in 540 people in Scotland, compared to 1 in 560 for England, 1 in 1,300 for Wales and 1 in 700 for Northern Ireland⁸. Average daily deaths in Scotland (0.01 per 100,000 in the week to 10 June) are in line with England and Wales (0.01 each), but above Northern Ireland (0.00). The Coronavirus Infection Survey estimated that in the week to 23 May, 72.6% 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 80.3% in England, 82.7% in Wales and 79.9% in Northern Ireland⁹.

87,000 people in Scotland (1.7% of the respective population) living in private households were experiencing self-reported long COVID symptoms for any duration as of 2 May 2021. This compares to 1.6% in England, 1.7% in Wales and 1.2% in Northern Ireland¹⁰.

Situation by local authority within Scotland

Dundee currently has the highest case rate in Scotland with 247 weekly cases reported per 100,000 in the week to 7 June, which is a 137% increase from the week to 31 May⁴. It is followed by Clackmannanshire with 229 weekly cases per 100,000, and South Ayrshire with 201 cases per 100,000 population. In the week to 7 June there were 9 other local authorities reporting over a 100 weekly cases per 100,000 population (Table 1). There are mostly high levels of cases across Scotland (Figure 5). Nearly all local authorities recorded an increase in cases per 100,000 population over the last week. Na h-Eileanan Siar and Orkney have the lowest case rates in Scotland, each reporting fewer than 10 weekly cases per 100,000 in the week to 7 June⁴.

⁸ Office for National Statistics:

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurvey/pilot/previousReleases>

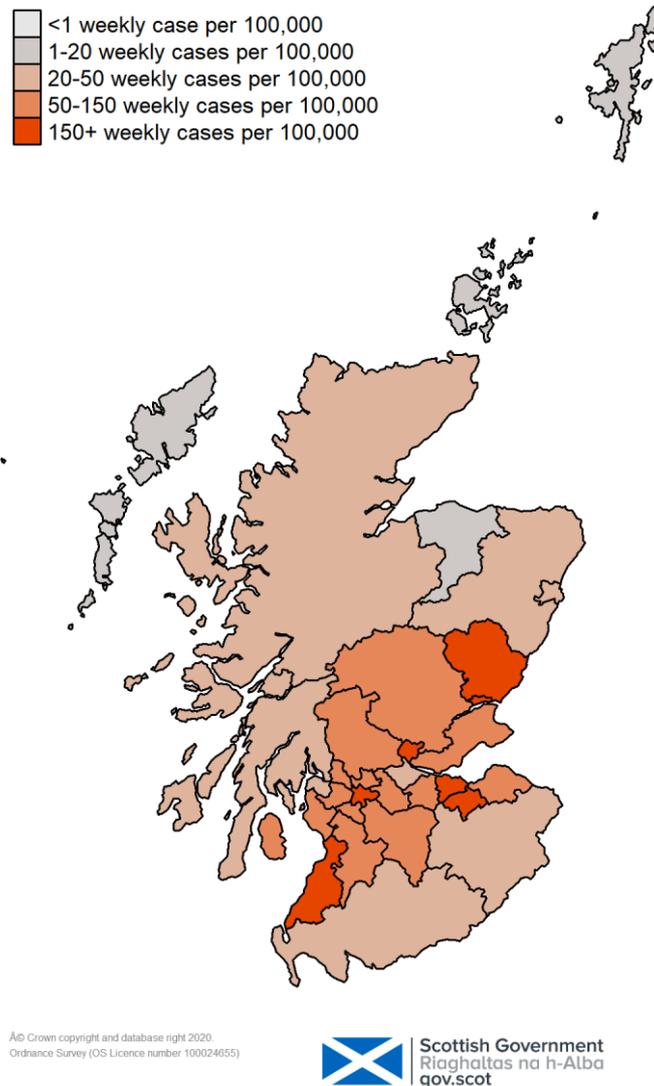
⁹ Office for National Statistics: [Coronavirus \(COVID-19\) Infection Survey, antibody and vaccination data for the UK - Office for National Statistics](#)

¹⁰ Office for National Statistics: [Prevalence of ongoing symptoms following coronavirus \(COVID-19\) infection in the UK - Office for National Statistics \(ons.gov.uk\)](#)

Table 1. Total new weekly cases per 100,000 population.

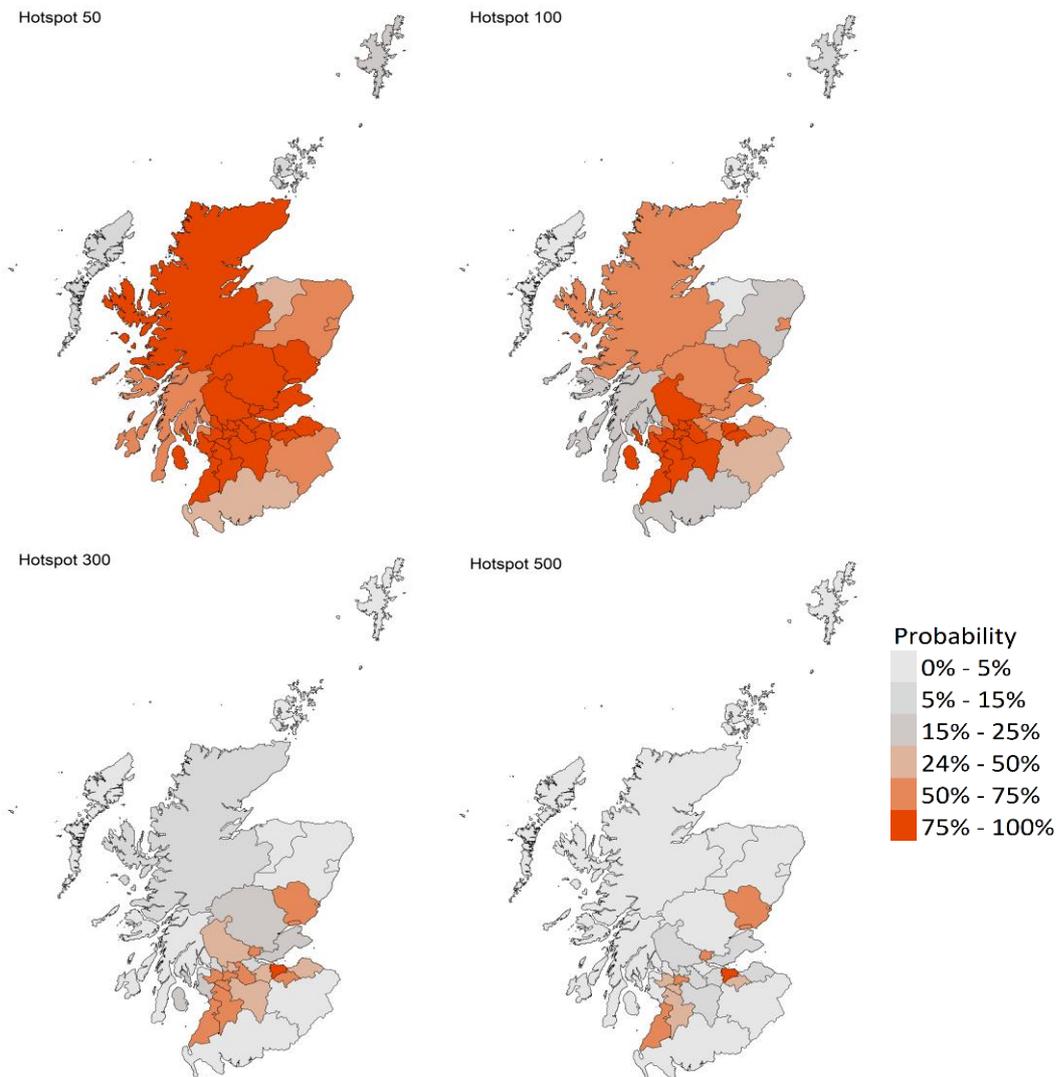
Local authority	Total new weekly cases per 100,000 population (7 June)	Change since previous week (31 May)
Dundee City	247	+143
Clackmannanshire	229	+175
South Ayrshire	201	+75
City of Edinburgh	187	+82
Angus	182	+146
Glasgow City	165	+36
Midlothian	162	+78
East Ayrshire	140	+61
Renfrewshire	137	-12
Perth and Kinross	128	+89
East Renfrewshire	127	-37
East Dunbartonshire	122	+44
South Lanarkshire	96	+17
West Dunbartonshire	96	+63
West Lothian	94	+56
East Lothian	92	+63
North Lanarkshire	92	+6
North Ayrshire	82	+13
Stirling	74	+8
Fife	53	+8
Falkirk	48	0
Aberdeen City	43	+28
Scottish Borders	33	+25
Inverclyde	28	-4
Dumfries and Galloway	27	+19
Argyll and Bute	24	+8
Aberdeenshire	24	+15
Highland	21	-17
Shetland Islands	17	+17
Moray	16	+6
Orkney Islands	9	+9
Na h-Eileanan Siar	4	0
Scotland	106	+37

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



The most recent modelling predicts that for the week ending 26 June there are 22 local authorities that have at least a 75% probability of exceeding 50 cases per 100,000 population. Of those, 13 local authorities have at least a 75% probability of exceeding 100 cases (Dundee, East Ayrshire, East Dunbartonshire, East Renfrewshire, Edinburgh, Glasgow, Midlothian, North Ayrshire, North Lanarkshire, Renfrewshire, South Ayrshire, South Lanarkshire and Stirling), and Edinburgh is the only local authority with at least a 75% probability of exceeding 500 cases in this period (Figure 6)².

Figure 6. Maps of probability of Local Authorities exceeding 50, 100, 300 and 500 cases per 100,000 population in the period 20 June – 26 June 2021.



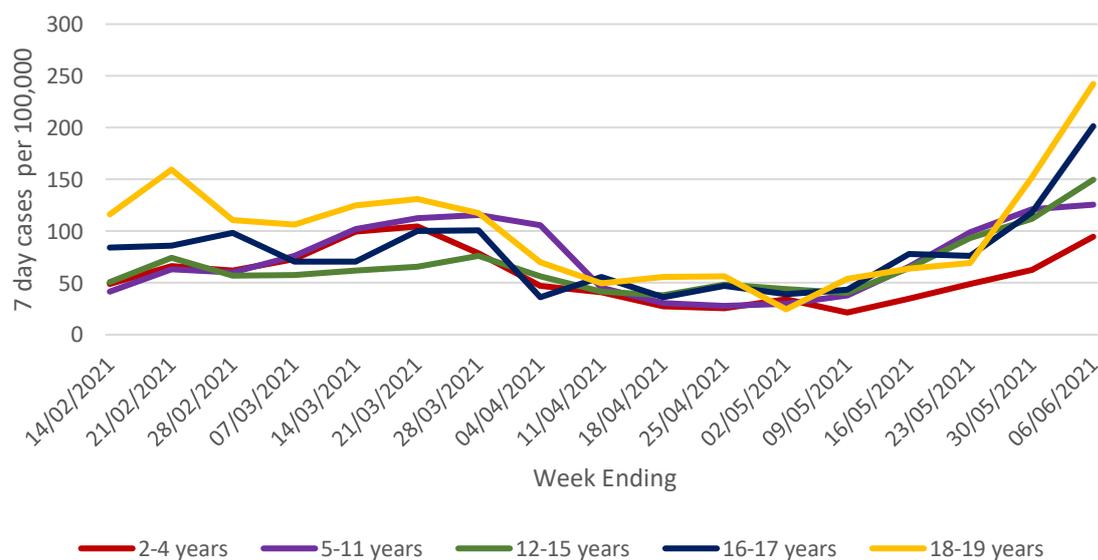
Children and Education

Over the last week there was a further increase in the total number of COVID-19 cases in young people, which has gone up from 1,179 cases in the week to 30 May to 1,534 cases in the week ending 6 June. 7 day cases per 100,000 have increased in all age groups in the week ending 6 June (Figure 7). The percentage of cases made up of children under 12 was just under 45% (688 cases) compared to just over 52% (616 cases) in the previous week¹¹.

¹¹ Public Health Scotland: [PHS COVID-19 Education report \(shinyapps.io\)](https://shinyapps.io)

The rate of testing increased amongst all age groups in the week ending 6 June. Test positivity rates increased amongst all age groups except among 5-11 year olds in the same period¹. The proportion of positive cases who report having been in an education setting in the 7 day period prior to the onset of symptoms has decreased to 17.3% in week ending 6 June compared to 22.3% of positive cases in the previous week. Hospital admissions amongst children are increasing, with the 3 week rolling average of 2.7 for 2-4 year olds, 2.3 for 5-11 year olds, and 2.3 for 12-17 year olds up to 2 June¹. This compares to 1.7 among 2-4 year olds, 2.0 among 5-11 year olds and 1.0 among 12-17 year olds in the period ending 28 May. 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

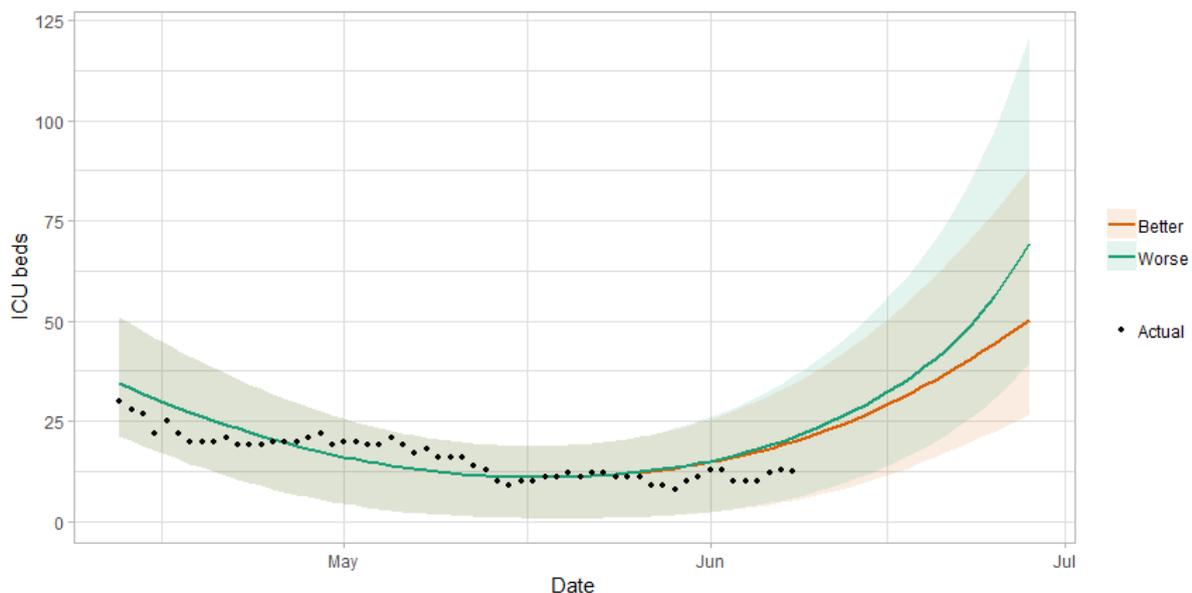
Changes in patterns of mixing and adherence to restrictions will impact on future case numbers. The Scottish Contact Survey measures times and settings that people mix where they could potentially spread Covid². From this survey we can say that average contacts have increased by 10% in the last two weeks (comparing surveys pertaining to 13 – 19 May and 27 May - 2 June) with a current level of 4.6 daily contacts. Contacts within the work and school setting have increased by 22% and 20% respectively in comparison to two weeks prior and contacts within the other setting (contacts outside of those in the home, school and work) have increased slightly by 8%. All age groups have increased their

contacts or remained at a similar level compared to two weeks prior. The increases were largely driven by contacts within the work setting for those aged under 50 and by contacts within the home or other setting for those over 50. There has been a rise in interactions with those aged between 18-29 with all other age groups, with the biggest increase in interactions seen between those aged 18-29 with each other.

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' compliance¹².

Hospital bed and ICU occupancy are projected to rise over the next few weeks (Figure 8²).

Figure 8. Medium term projections of modelled ICU bed demand, from Scottish Government modelling¹³.



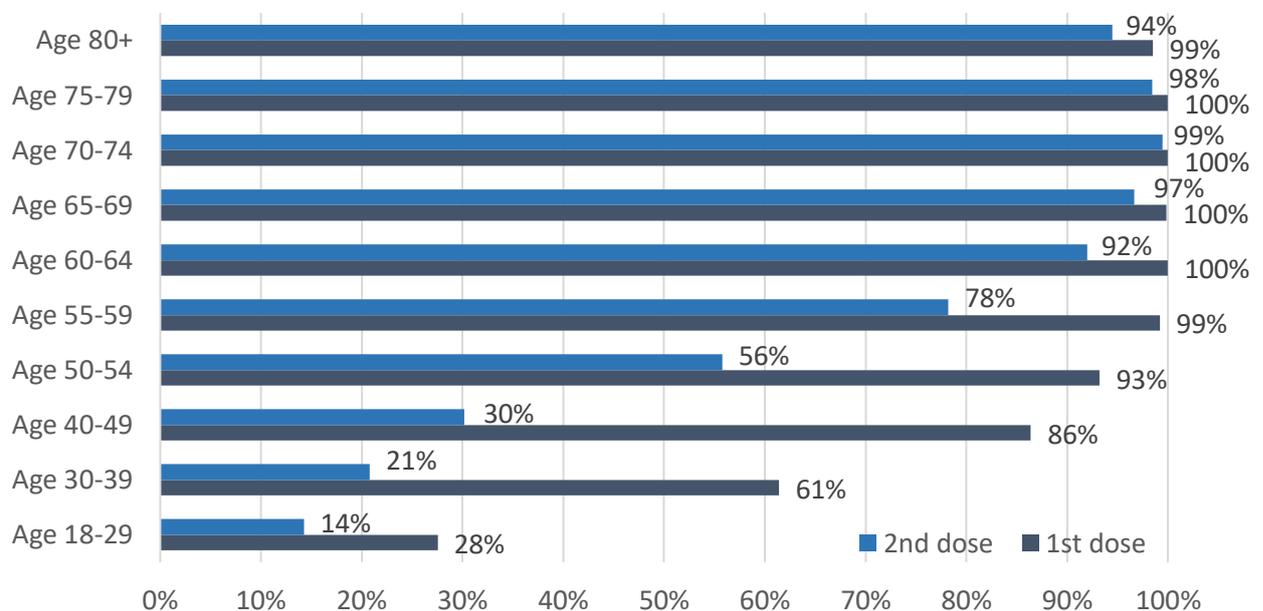
Vaccinations are continuing across the priority groups and 77.3% of the adult population in Scotland has now been vaccinated with the first dose⁶. The first vaccines were administered on Tuesday 8 December and 3,441,217 people had received their first dose by 10 June 2021, a

¹² 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?*

¹³ 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.

4% increase from 3 June³. By 10 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 93.5% 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 97% of those aged 65-69 and 92% of those aged 60-64 have received their second dose. Overall, 2,345,181 (52.8%) of those aged 18 and over had received their second dose by 10 June⁶. There remains low levels of hospitalisations and deaths among those groups vaccinated first (Figure 4).

Figure 9. Estimated percentage of adults vaccinated by 10 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 them¹⁴.

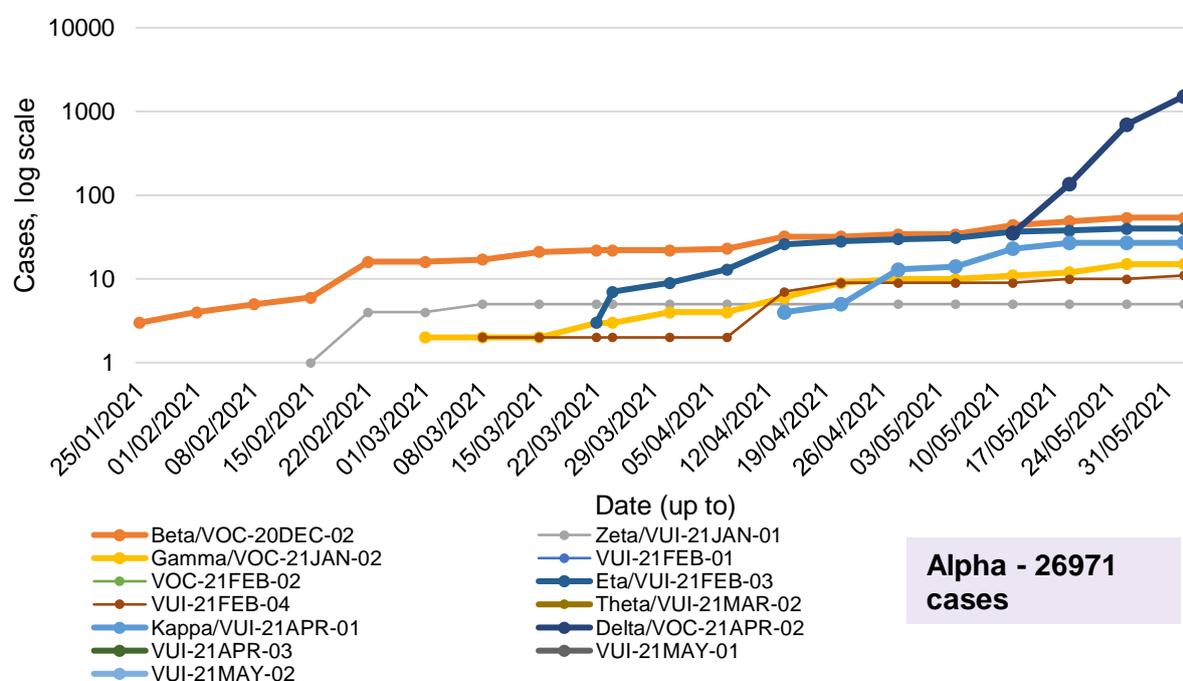
¹⁴ Total sample size on 1-2 June was 1,026 adults. Sample size for those who have not yet received their first vaccine was 182 adults. 'Likely' to be vaccinated refers to respondents who rated themselves 8 to 10 on a scale of 0-10 for the question: 'How likely or unlikely are you to be vaccinated for 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 the UK) as the dominant strain in Scotland, and 3,035 cases have now been sequenced as Delta to 9 June 2021.

To date there are five VOCs and nine variants under investigation¹⁵. As reported in last week's issue, up to 9 June there have been 54 genomically confirmed cases of the variant Beta/VOC-20DEC-02 (first seen in South Africa) in Scotland. There have been 16 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 a 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^{16 17 18}.

Figure 10. Variants detected in Scotland by sequencing (data up to 9 June and reported weekly¹⁹).



Alpha - 26971 cases

¹⁵ [Variants: distribution of cases data - GOV.UK \(www.gov.uk\)](http://www.gov.uk)
¹⁶ [Brief note on SARS-CoV-2 variants \(publishing.service.gov.uk\)](http://publishing.service.gov.uk)
¹⁷ [Brief note on SARS-CoV-2 B.1.351 - 27 January 2021 \(publishing.service.gov.uk\)](http://publishing.service.gov.uk)
¹⁸ [Brief note on SARS-CoV-2 variant of concern P.1 \(publishing.service.gov.uk\)](http://publishing.service.gov.uk)
¹⁹ [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^{20 21}. 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-01²². 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^{23 24}.

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 small²⁵.

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.

²⁰ [S1236_Eighty-nineth_SAGE.pdf \(publishing.service.gov.uk\)](#)

²¹ [Risk assessment for SARS-CoV-2 variant: VOC-21APR-02 \(B.1.617.2\) \(publishing.service.gov.uk\)](#)

²² [SARS-CoV-2 variants of concern and variants under investigation \(publishing.service.gov.uk\)](#)

²³ [Confirmed cases of COVID-19 variants identified in UK - GOV.UK \(www.gov.uk\)](#)

²⁴ [Risk assessment for SARS-CoV-2 variant: VOC-21APR-02 \(B.1.617.2\) \(publishing.service.gov.uk\)](#)

²⁵ [COVID-19 vaccine surveillance report - week 23 \(publishing.service.gov.uk\)](#)

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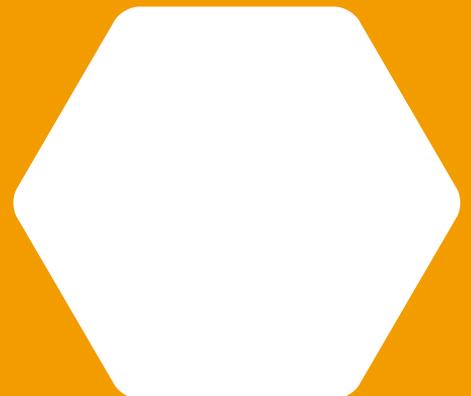
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