

Coronavirus (COVID-19): Analysis

State of the Epidemic in Scotland – 25th 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 24 June 2021 on Covid-19 in Scotland. This updates the previous publication published on 18 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 1.1 and 1.3. This is based on data up until the 21st June which is prior to the rise in cases in recent days.
- An average of 1,821 cases were reported per day in the 7 days to 24 June, which is a 73% increase in reported cases since the 17 June.
- There were 193 weekly cases per 100,000 in the week to 21 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 19 January.

- Case rates saw a rise amongst all age bands over the last week. The highest case rates were observed 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 most recent week. Scotland is currently above England, Wales and Northern Ireland.
- Latest modelled estimates suggest there are currently between 50 and 63 new daily infections per 100,000 people in Scotland.
- There were 13 deaths registered in Scotland where coronavirus was mentioned on the death certificate in the week ending 20 June. Deaths have increased in those aged 45-64 (from 2 to 3 deaths), 65-74 (from 1 to 2 deaths), 75-84 (from 4 to 5 deaths) and 85+ (from 1 to 3 deaths) over the 3 weeks to 20 June.
- Average daily deaths per 100,000 population in Scotland (0.05) are above England (0.02), Wales and Northern Ireland (0.00 each).
- East Lothian currently has the highest weekly case rate in Scotland reporting 391 cases per 100,000 in the week to 21 June, followed by Dundee with 381 cases per 100,000, Edinburgh with 336 cases per 100,000 and Midlothian with 302 weekly cases per 100,000. There were 21 other local authorities reporting over a 100 weekly cases per 100,000 population in the last week. Na h-Eileanan Siar reported no weekly cases per 100,000 in the same period.
- Hospital beds and intensive care unit occupancy are projected to continue to rise unless transmission rate falls by a significant amount. This is based on data up until the 24th June which is based on date reported.
- Over 3.6 million people in Scotland have been given a first vaccine against SARS-CoV-2, and over 2.6 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

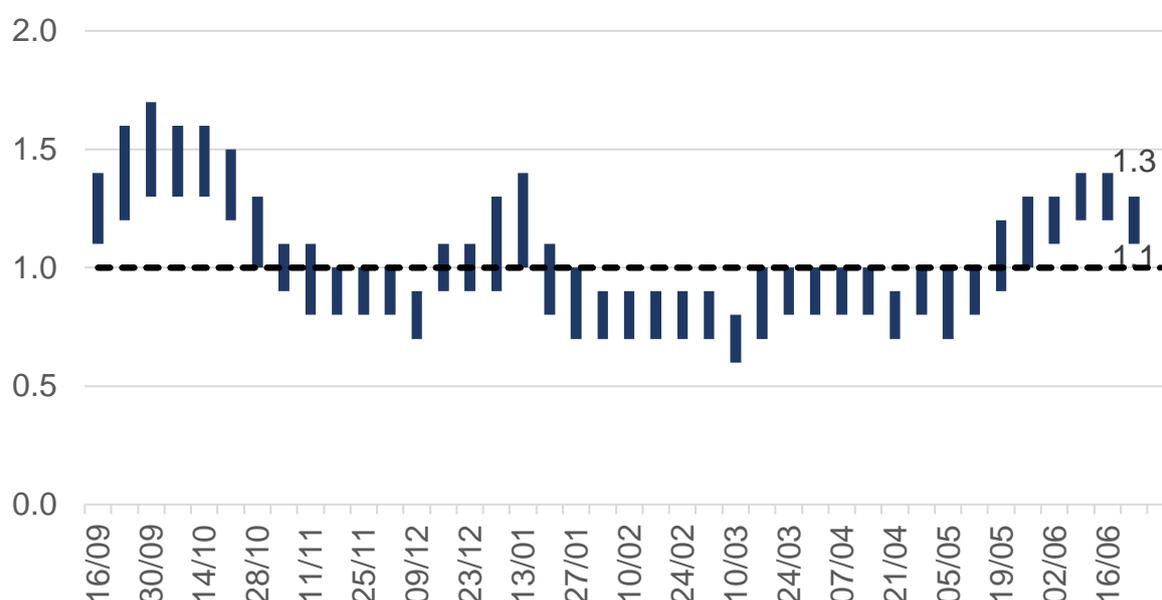
This report brings together a wide range of publically available figures from a range of data sources. These include publications by Scottish Government, Public Health Scotland, National Records of Scotland and Office for National Statistics along with scientific publications and SAGE summaries where 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 25 June)² was between 1.1 and 1.3 (Figure 1), with a growth rate of between 2% and 4%. This is based on data up until the 21st of June which is prior to the rise in cases in recent days.

Figure 1. R in Scotland over time.



An average of 1,821 cases were reported per day in the 7 days to 24 June. This is a 73% increase from the daily average cases recorded a week earlier to 17 June³. Average daily cases reported are over three quarters of the peak of 2,323 in the week to 7 January. Our current position is 193 weekly cases per 100,000 in the week to 21 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 19 January⁴.

The number of locations where the levels of Covid in wastewater are monitored has increased to 110 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

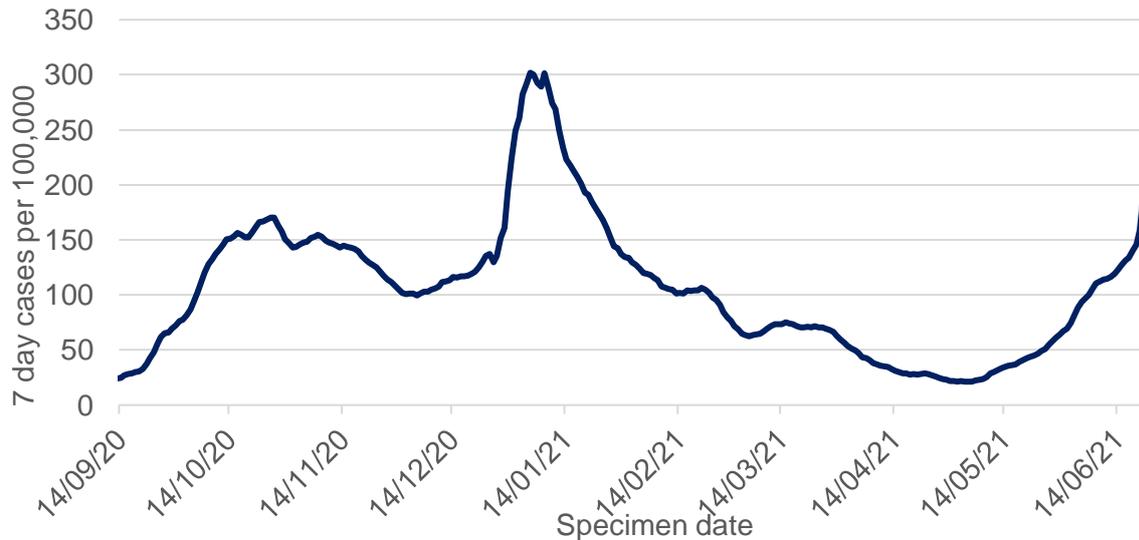
² Scottish Government: [Coronavirus \(COVID-19\): modelling the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/)

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

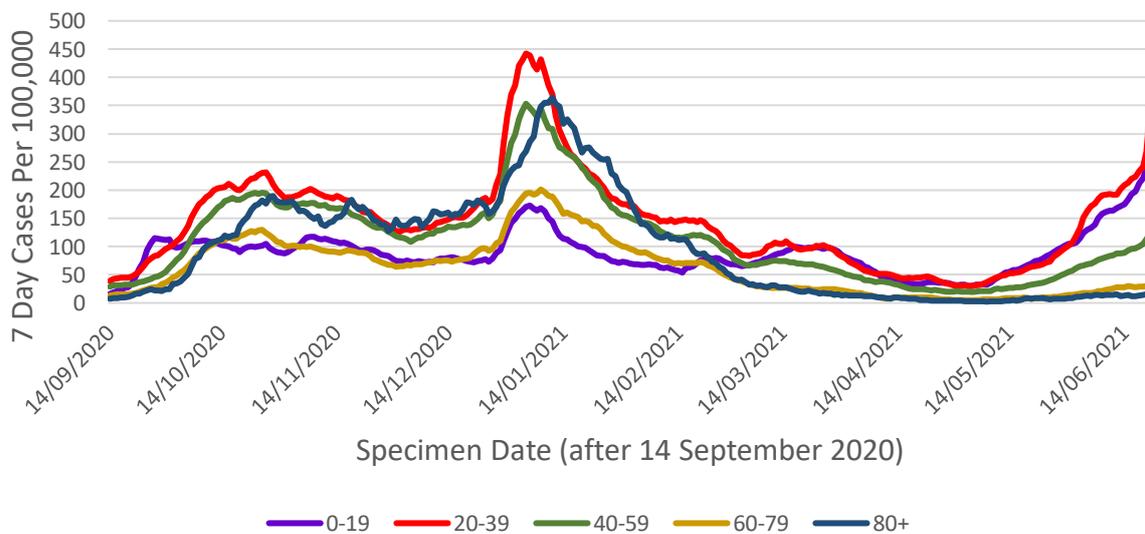
impact whether testing is done. The level of wastewater Covid-19 shows a continued increase up until the 17th June, however the recent step change showing a pronounced increase in cases is not currently presented in this analysis due to the date of samples. The impact of this will be shown next week when more data is available.

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, based on data from 21st June, suggest there are currently anywhere between 2,700 and 3,400 people infected in Scotland each day². This means that as of 23 June (as per data of 21 June) there were between 50 and 63 new daily infections per 100,000 people.

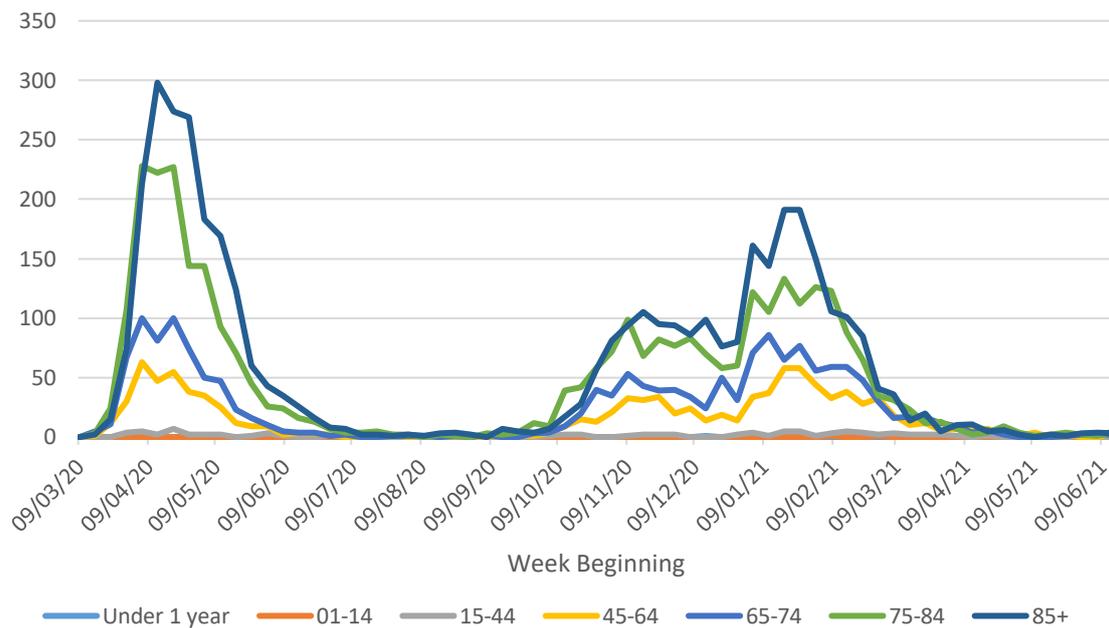
The number of people in hospital with confirmed Covid for less than 28 days has started to increase. After peaking at 2,053 on 22 January, this figure decreased to a low of 58 on 6 May. This has since increased and as of 24 June there were 177 patients in hospital with Covid-19. Daily hospital admissions 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 to 28 on 20 June⁶.

There were 13 deaths registered where Covid was mentioned on the death certificate in the week to 20 June. This is slightly higher than the 7 deaths the week before, and 98% lower than the peak in April 2020 (663 deaths). The proportion of deaths in care homes decreased from 60% in April 2020 to between 0% and 25% of Covid deaths from 3 May to 6 June 2021. In the most recent week ending 20 June, 8% (1 of 13 deaths) occurred in care homes. Deaths involving coronavirus have increased in those aged 45-64 (from 2 to 3 deaths), 65-74 (from 1 to 2 deaths), 75-84 (from 4 to 5 deaths) and 85+ (from 1 to 3 deaths) over the 3 weeks to 20 June⁷ (Figure 4). However, this variation in age and location is expected when death numbers are low.

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>

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



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 (0.46% of people currently testing positive for Covid-19 from 13 to 19 June) has increased in the most recent week. The estimation is above England (0.22%), Northern Ireland (0.14%) and Wales (0.12%). In the week to 19 June the estimated rate of community infection was 1 in 220 people in Scotland, compared to 1 in 440 for England, 1 in 720 for Northern Ireland and 1 in 830 for Wales⁸. Average daily deaths in Scotland (0.05 per 100,000 in the week to 24 June) are above England (0.02), Wales and Northern Ireland (0.00 each). The Coronavirus Infection Survey estimated that in the week beginning 7 June 2021, 79.1% 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 86.6% in England, 88.7% in Wales and 85.4% in Northern Ireland⁹.

⁸ Office for National Statistics:

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveyypilot/previousReleases>

⁹ Office for National

Statistics: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveyantibodyandvaccinationdatafortheuk/22june2021>

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.

Following the ONS analysis of new positive infection after COVID-19 vaccination at the UK level, 0.5% of those who had been vaccinated had a new infection after vaccination to 31 May 2021. A lower proportion (0.1%) tested positive after two vaccinations¹¹.

Situation by local authority within Scotland

East Lothian currently has the highest case rate in Scotland with 391 weekly cases reported per 100,000 in the week to 21 June, which is a 145% increase from the week to 14 June⁴. It is followed by Dundee with 381 weekly cases per 100,000, Edinburgh with 336 cases per 100,000 population and Midlothian with 302 weekly cases per 100,000. In the week to 21 June there were 21 other local authorities reporting over a 100 weekly cases per 100,000 population (Table 1). There are mostly high and very high levels of cases across Scotland (Figure 5). 29 local authorities recorded an increase in cases per 100,000 population over the last week. Na h-Eileanan Siar has the lowest case rate in Scotland, reporting no weekly cases to 21 June⁴.

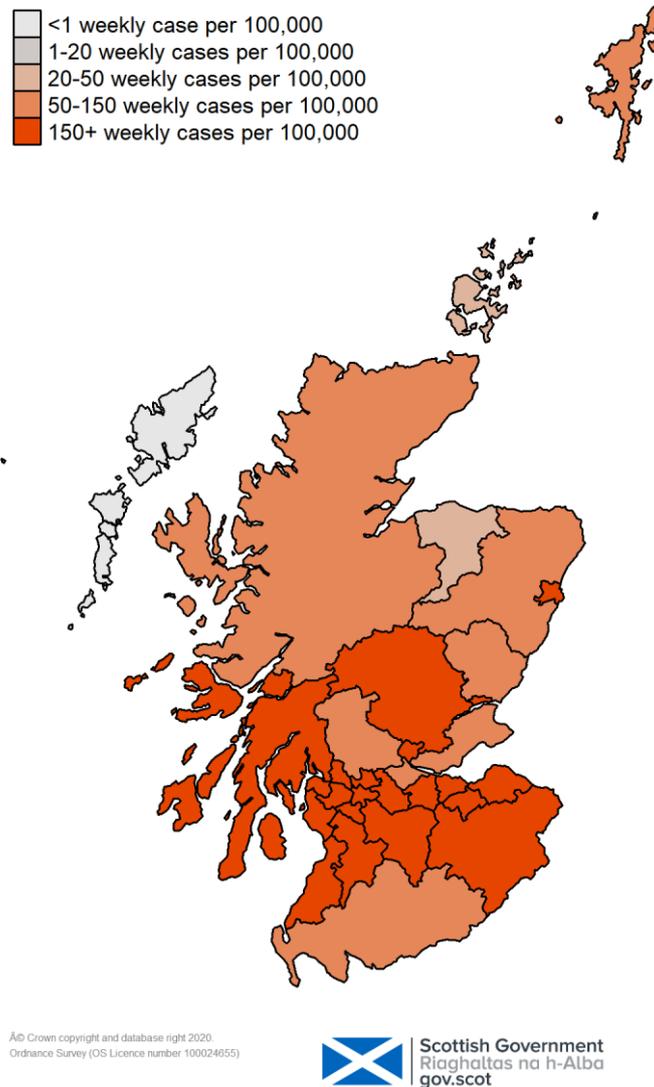
¹⁰ Office for National Statistics: [Prevalence of ongoing symptoms following coronavirus \(COVID-19\) infection in the UK - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/coronavirus/articles/prevalence-of-ongoing-symptoms-following-coronavirus-covid-19-infection-in-the-uk)

¹¹ Office for National Statistics: [Coronavirus \(COVID-19\) Infection Survey technical article: analysis of positivity r](https://www.ons.gov.uk/coronavirus/articles/coronavirus-covid-19-infection-survey-technical-article-analysis-of-positivity-r)
[accination data - Office for National Statistics](https://www.ons.gov.uk/coronavirus/articles/coronavirus-covid-19-infection-survey-technical-article-analysis-of-positivity-r)

Table 1. Total new weekly cases per 100,000 population, in order of prevalence.

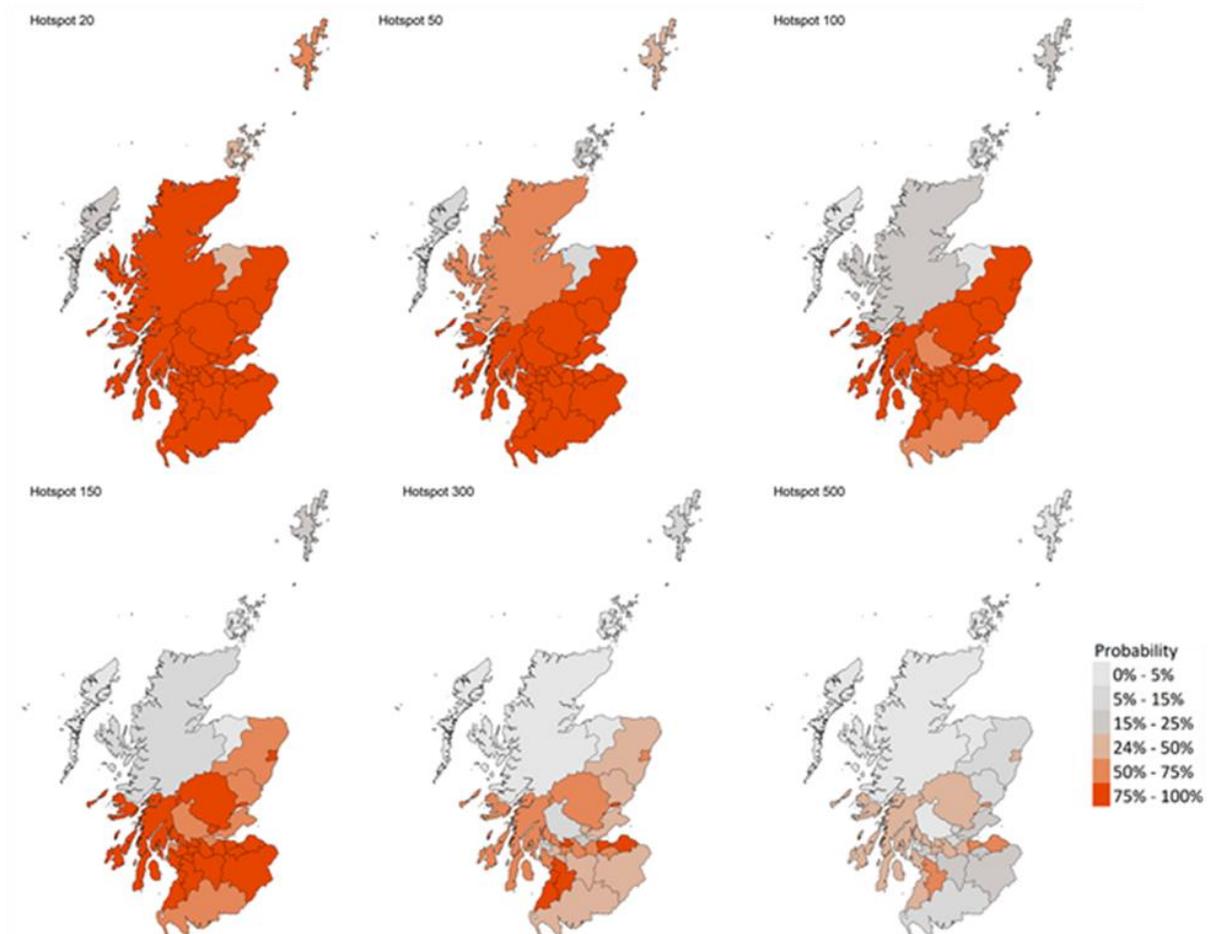
Local authority	Total new weekly cases per 100,000 population (21 June)	Change since previous week (14 June)
East Lothian	391	+232
Dundee City	381	+62
City of Edinburgh	336	+129
Midlothian	302	+119
East Ayrshire	278	+119
West Dunbartonshire	253	+116
East Dunbartonshire	235	+80
Perth and Kinross	219	+65
Glasgow City	215	+61
North Ayrshire	214	+79
East Renfrewshire	207	+36
Argyll and Bute	199	+126
South Lanarkshire	197	+99
Renfrewshire	193	+56
Scottish Borders	188	+119
North Lanarkshire	177	+52
Aberdeen City	172	+77
South Ayrshire	169	-85
West Lothian	163	+39
Clackmannanshire	163	-19
Inverclyde	150	+102
Angus	137	+13
Falkirk	122	+68
Fife	117	+48
Stirling	106	+19
Aberdeenshire	93	+68
Dumfries and Galloway	71	+30
Shetland Islands	57	+57
Highland	50	+36
Orkney Islands	22	+22
Moray	21	+10
Na h-Eileanan Siar	0	-7
Scotland	193	+70

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



The most recent modelling predicts, based on data from 21st June which was prior the most recent rise in cases, that for the week ending 10 July there are 27 local authorities that have at least a 75% probability of exceeding 50 cases per 100,000 population. Of those, 25 local authorities have at least a 75% probability of exceeding 100 cases, 6 have at least 75% probability of exceeding 300 cases (Dundee, East Ayrshire, East Dunbartonshire, East Lothian, Edinburgh and South Ayrshire), and no local authorities 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 20, 50, 100, 150, 300 and 500 cases per 100,000 population in the period 4-10 July 2021. Data used to 21 June.



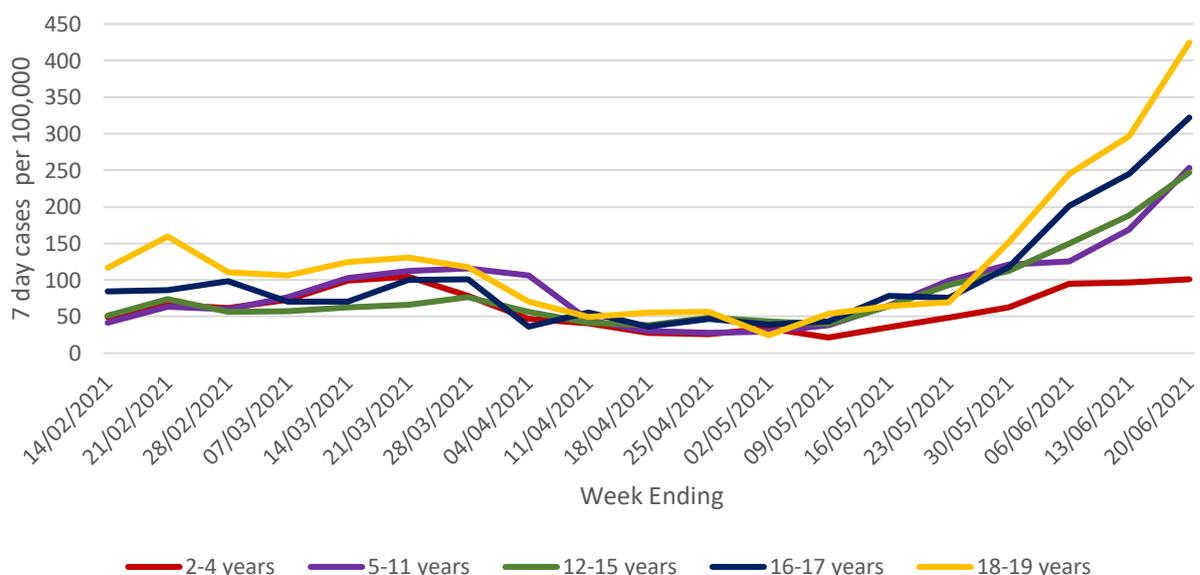
Children and Education

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 1,920 cases in the week to 13 June to 2,651 cases in the week ending 20 June. 7 day cases per 100,000 have also increased in all age groups in the week ending 20 June (Figure 7). The percentage of cases made up of children under 12 was just under 47% (1,237 cases) compared to just under 46% (875 cases) in the previous week¹².

¹² 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 20 June. Test positivity rates increased amongst all age groups in the same period, except among 2-4 year olds which has decreased slightly¹². 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 gone up to 18.9% in week ending 20 June, from 18.4% of positive cases in the previous week. Hospital admissions amongst children continue to increase, with a 3-week rolling average of 3.7 admissions for 2-4 year olds, 3.7 for 5-11 year olds, and 3.3 for 12-17 year olds up to 16 June¹². These are now higher than levels seen in early December and late January and compares to 3.7 among 2-4 year olds, 3.0 among 5-11 year olds and 3.0 among 12-17 year olds in the period ending 9 June.

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



Looking ahead

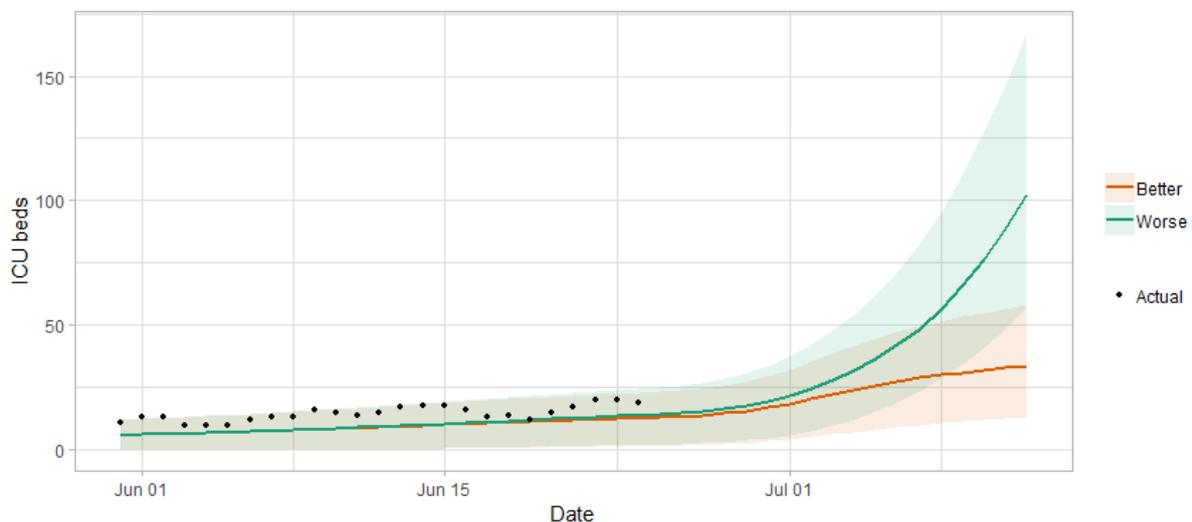
Changes in patterns of mixing and adherence to restrictions will impact on future case numbers. The Scottish Contact Survey measures times and settings that people mix where they could potentially spread Covid². From this survey we can say that average contacts have remained at a similar level in the last two weeks (comparing surveys pertaining to 27th May - 2nd June and 10th June - 16th June) with a current level of 4.3 daily contacts. Contacts within the work setting have decreased in the last two weeks by 18% whereas contacts within the school setting have increased by 78%. Contacts within the home and other setting (contacts

outside of home, school and work) have remained at similar levels over the same period. Those aged under 40 increased their overall contacts. This was largely driven by a rise in contacts within the other and school setting for those aged between 18-29 and by a rise in contacts within the other and work setting for those aged between 30-39. The biggest increase in interactions is seen with those aged between 18-39 with those aged under 18 whereas those aged between 40-49 have reported the biggest reductions in interactions with those under 18.

Self-reported compliance with the current regulations and guidance has decreased since January but remains at a high level. On 15-16 June, 66% of people reported 'complete' or 'almost complete' compliance¹³.

Hospital beds and intensive care unit occupancy is projected to continue to rise during the period unless transmission rate falls by a significant amount (Figure 8²). Projections used data to 24th June 2021, based on reporting date.

Figure 8. Medium term projections of modelled ICU bed demand, from Scottish Government modelling¹⁴.

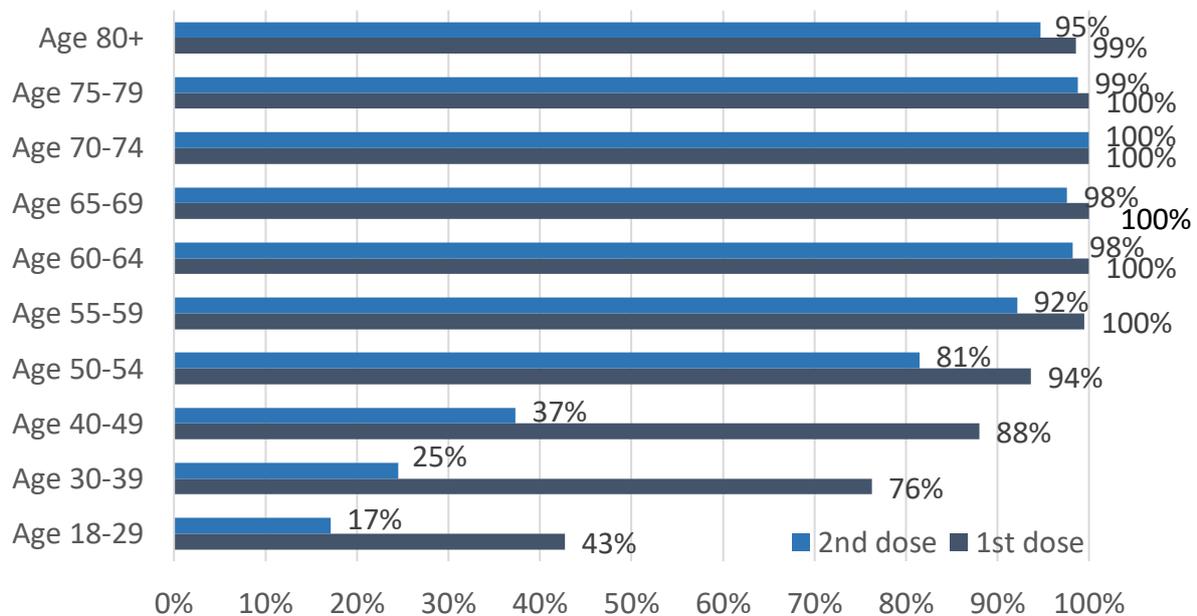


¹³ Results are taken from questions run on behalf of Scottish Government on the YouGov online omnibus survey. The sample is demographically and geographically representative of adults 18+ across Scotland, with c.1000 responses each week. Fieldwork took place on 15-16 June with a total sample size of 1,005 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?*

¹⁴ The difference between the Better and Worse scenarios: 'Worse' is based on a sustained increase in transmission rate at a level that could have caused the recent increase in cases. 'Better' is based on that increase being short-lived, and transmission rate drops to last week's levels..

Vaccinations are continuing across the priority groups and 83.0% of the adult population in Scotland has now been vaccinated with the first dose⁶. The first vaccines were administered on Tuesday 8 December and 3,695,303 people had received their first dose by 24 June 2021, a 3% increase from 17 June³. By age group, almost 100% of individuals aged 55+, 94% of those aged 50-54, 88% of those aged 40-49, 76% of those aged 30-39 have received their first vaccination (Figure 9). 95% of the over 80s, 99% of those aged 75-79, 100% of those aged 70-74, 98% of those aged 65-69 and 60-64, 92% of those aged 55-59 and 81% of those aged 50-54 have received their second dose. Overall, 2,631,533 people (59.2% of those aged 18 and over) had received their second dose by 24 June⁶. There remains low levels of hospitalisations and deaths among those groups vaccinated first (Figure 4).

Figure 9. Estimated percentage of adults vaccinated by 24 June 2021.



The proportion of people surveyed who said they would be likely to be vaccinated for Covid-19 remains relatively high. 81% of all respondents have already received at least their first vaccine dose. Of those not vaccinated, 61% report they are likely to be vaccinated when a vaccine becomes available to them¹⁵.

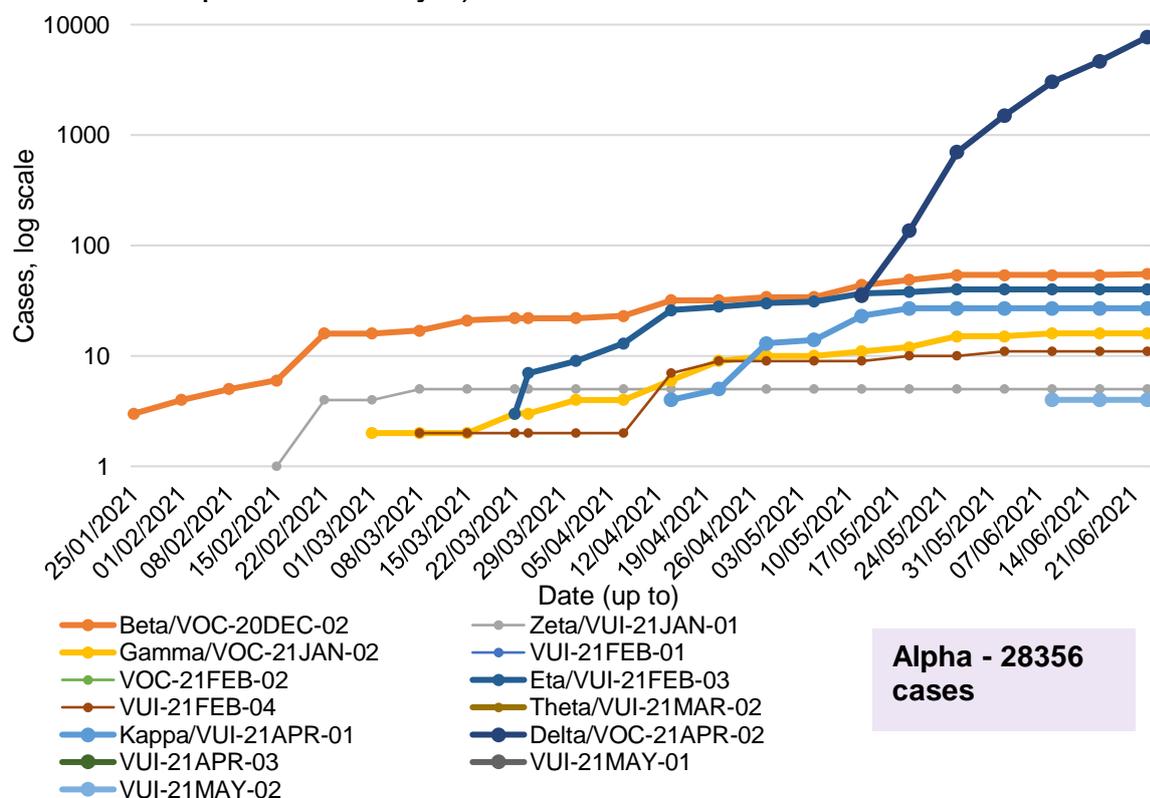
¹⁵ Total sample size on 15-16 June was 1,005 adults. Sample size for those who have not yet received their first vaccine was 132 adults. 'Likely' to be vaccinated refers to respondents who rated themselves 8 to 10 on a scale of 0-10 for the question: How likely or unlikely are you to be vaccinated for 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 7,738 cases have now been sequenced as Delta to 23 June 2021.

To date there are five ‘variants of concern’ (VOCs) and nine ‘variants under investigation’ (VUIs)¹⁶. 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^{17 18 19}. Up to 23 June there have been 55 genomically confirmed cases of the variant Beta/VOC-20DEC-02 (first seen in South Africa) in Scotland, an increase of 1 since last week. Genomically confirmed cases of other VOCs and VUIs remains low, there have been no new cases of VOCs or VUIs in the last week (Figure 10).

Figure 10. Variants detected in Scotland by sequencing (data up to 23 June and reported weekly²⁰).



¹⁶ [Variants: distribution of cases data - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/variants-distribution-of-cases-data)

¹⁷ [Brief note on SARS-CoV-2 variants \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/publications/brief-note-on-sars-cov-2-variants)

¹⁸ [Brief note on SARS-CoV-2 B.1.351 - 27 January 2021 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/publications/brief-note-on-sars-cov-2-b.1.351-27-january-2021)

¹⁹ [Brief note on SARS-CoV-2 variant of concern P.1 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/publications/brief-note-on-sars-cov-2-variant-of-concern-p.1)

²⁰ [Variants: distribution of cases data - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/variants-distribution-of-cases-data)

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^{21 22}. R is currently estimated to be 40–80% higher for delta than for alpha (B.1.1.7), although this is highly uncertain²³. 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-01²⁴. Public Health England preliminary analysis of vaccine effectiveness 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. Public Health England preliminary analysis also shows that vaccines highly effective against hospitalisation from Delta variant²⁶. EAVE II data from Scotland also shows that both the Oxford–AstraZeneca and Pfizer–BioNTech COVID-19 vaccines are effective in reducing the risk of SARS-CoV-2 infection and COVID-19 hospitalisation in people with the Delta VOC, but these effects on infection appeared to be diminished when compared to those with the Alpha VOC²⁷.

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 Alpha²⁸. Current data from the EAVEII project shows that compared to the Alpha variant, the Delta variant is associated with an increase in the risk of Covid-19 hospitalisation in Scotland by 85% (95% CI 39-147)²⁹. As more data is analysed we shall become more certain of the impact of Delta on hospitalisations and disease severity.

²¹ [S1236_Eighty-nineth_SAGE.pdf \(publishing.service.gov.uk\)](#)

²² [Risk assessment for SARS-CoV-2 variant: VOC-21APR-02 \(B.1.617.2\) \(publishing.service.gov.uk\)](#)

²³ [S1284_SAGE_92_minutes.pdf \(publishing.service.gov.uk\)](#)

²⁴ [SARS-CoV-2 variants of concern and variants under investigation \(publishing.service.gov.uk\)](#)

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

²⁶ [Vaccines highly effective against hospitalisation from Delta variant - GOV.UK \(www.gov.uk\)](#)

²⁷ [SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness - The Lancet](#)

²⁸ [Risk assessment for SARS-CoV-2 variant: VOC-21APR-02 \(B.1.617.2\) \(publishing.service.gov.uk\)](#)

²⁹ [SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness - The Lancet](#)

Next steps

The Scottish Government continues to work closely with Public Health Scotland and modelling groups to monitor what happens following the high number of cases in Scotland this week and how this effects the course of the epidemic.

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.

This publication will be available in accessible HTML on the [gov.scot](http://www.gov.scot) website

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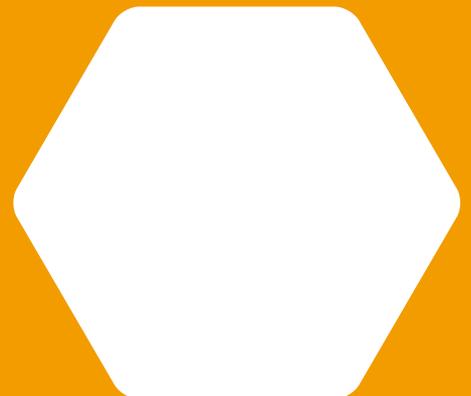
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