

Coronavirus (COVID-19): Analysis

State of the Epidemic in Scotland – 23rd July 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 22 July 2021 on Covid-19 in Scotland. This updates the previous publication published on 16 July 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 0.9 and 1.2, based on data up until the 19th July. This is lower than last week. The R and growth rate indicators lag by two to three weeks, as a result the estimates cannot fully reflect the change in daily cases seen over the past weeks.
- An average of 1,811 cases were reported per day in the 7 days to 22 July, which is a 25% decrease in reported cases since 15 July.
- There were 243 weekly cases per 100,000 in the week to 19 July, which is a decrease since last week. This compares to 302 weekly cases per 100,000 on 8 January.

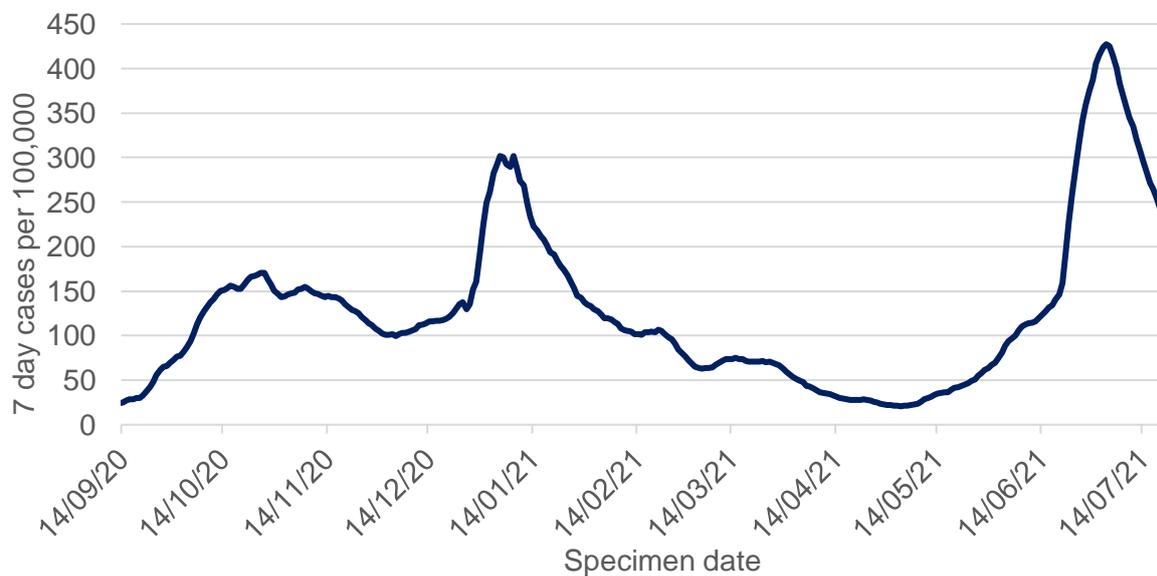
¹ Scottish Government: [Coronavirus \(COVID-19\): state of the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/Coronavirus-(COVID-19)-state-of-the-epidemic)

- Case rates have gone down across 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+.
- 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 (week ending 17 July 2021), however the trend is uncertain in the most recent week. Scotland is currently below England, but above Wales and Northern Ireland.
- Latest modelled estimates suggest there are currently between 119 and 227 new daily infections per 100,000 people in Scotland.
- There were 47 deaths registered in Scotland where coronavirus was mentioned on the death certificate in the week ending 18 July. Deaths have increased in those aged 15-44 (from 1 to 2 deaths), 45-64 (from 1 to 9 deaths), 65-74 (from 5 to 7 deaths), 75-84 (from 8 to 14 deaths) and 85+ (from 2 to 15 deaths) over the 3 weeks to 18 July.
- Average daily deaths per 100,000 population in Scotland (0.13) are above England (0.08), Wales (0.06) and Northern Ireland (0.05).
- Midlothian currently has the highest weekly case rate in Scotland reporting 385 cases per 100,000 in the week to 19 July, followed by Dundee with 318 weekly cases per 100,000. There were 28 other local authorities reporting over a 100 weekly cases per 100,000 population in the last week. Na h-Eileanan Siar reported 97 and Orkney reported 31 weekly cases per 100,000 in the same period.
- Modelled rates of positive tests per 100,000 population using data to 19 July indicate that for the week commencing 1st August 2021, there are 26 local authorities with at least a 75% probability of exceeding 100 cases per 100,000. Of these, 20 local authorities have at least a 75% probability of exceeding 150 cases per 100,000 and 1 local authority (Renfrewshire) has at least a 75% probability of exceeding 300 cases per 100,000.
- Overall, relative to the peak reported in the previous report, wastewater Covid-19 levels declined nationally. This general trend is not followed at all sites (as of 20 July), with some showing more static levels. This will be monitored closely over the next few weeks.
- Following the upsurge in cases at the end of June, case numbers have started to decrease. There is considerable uncertainty about what this means to projections for future weeks.
- Over 3.9 million people in Scotland have been given a first vaccine against SARS-CoV-2, and over 3.0 million have now received a second dose.
- The Delta variant of concern (VOC-21APR-02, first identified in India), remains the dominant strain in Scotland.

An average of 1,811 cases were reported per day in the 7 days to 22 July. This is a 25% decrease from the daily average cases recorded a week earlier to 15 July³. Average daily cases reported are 22% lower than the peak of 2,323 in the week to 7 January. Our current position is 243 weekly cases per 100,000 in the week to 19 July⁴. This compares to 302 weekly cases per 100,000 on 8 January (see Figure 2).

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 impact whether testing is done. Overall, relative to the peak reported in the previous report, wastewater Covid-19 levels declined nationally. This general trend is not followed at all sites (as of 20 July), with some showing more static levels. This will be monitored closely over the next few weeks.

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

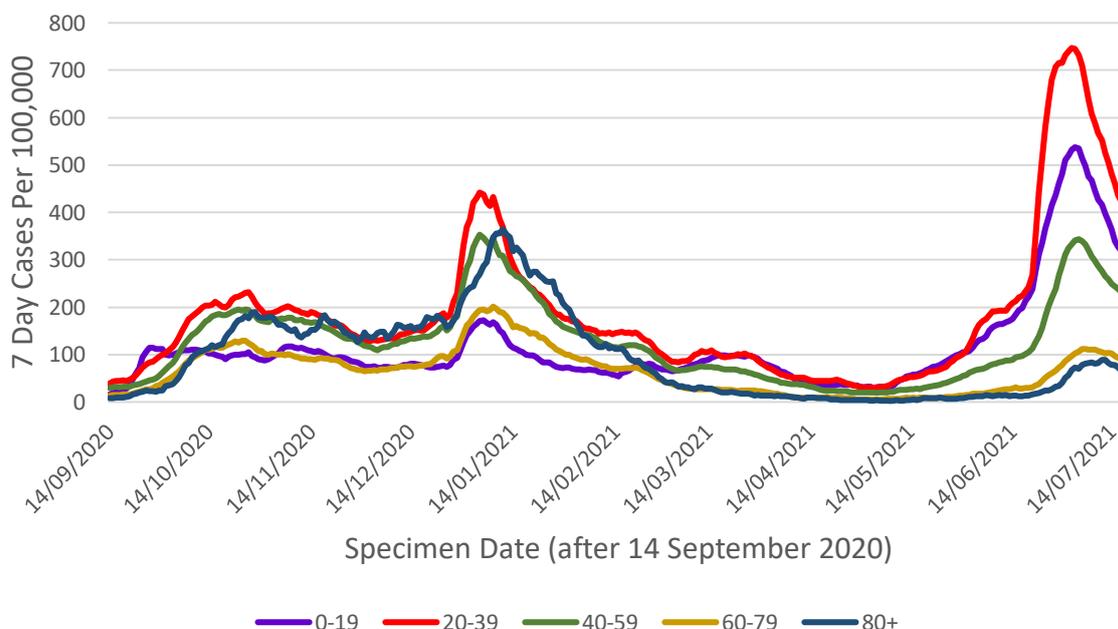


³ Scottish Government: <https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/>

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

Case rates have gone down across all age bands this week. The highest case rates are 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.



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 up to 19 July, suggest there are currently anywhere between 6,500 and 12,400 people infected in Scotland each day⁶. This means that as of 21 July there were between 119 and 227 new daily infections per 100,000 people.

The number of people in hospital with confirmed Covid for less than 28 days peaked at 2,053 on 22 January, and decreased to a low of 58 on 6 May. This has since increased and as of 22 July there were 488 patients in hospital with Covid-19. This compares to 543 people in hospital on 15 July. 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 61 on 18 July⁷. This compares to 64 admissions to hospital on 11 July.

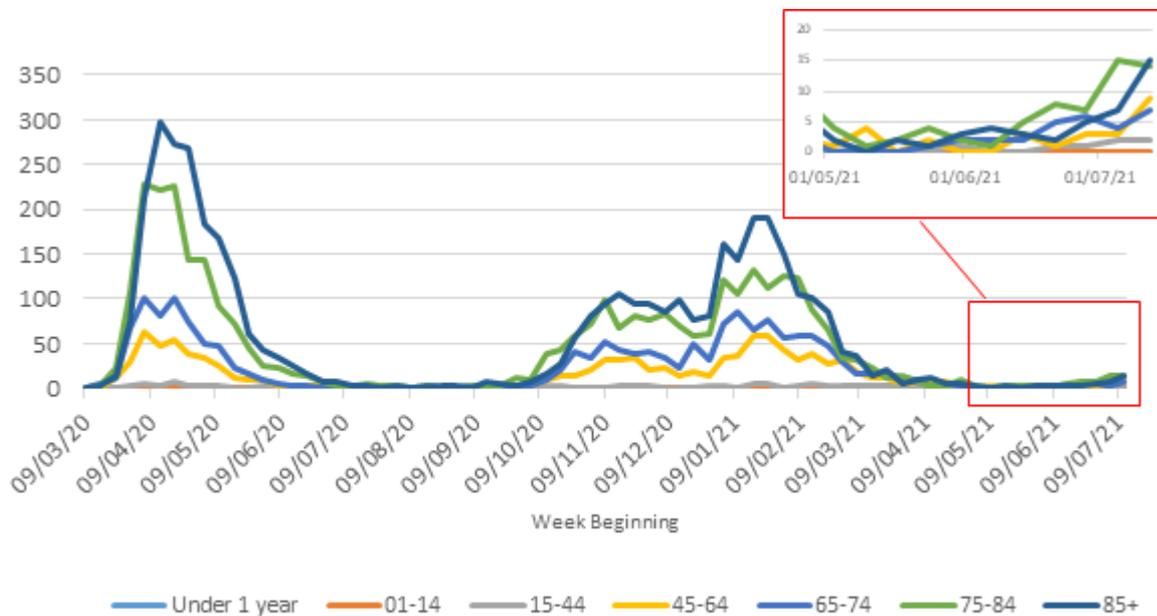
⁵ Source: Public Health Scotland

⁶ Scottish Government: [Coronavirus \(COVID-19\): modelling the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/topics/health/coronavirus/covid-19/modelling-the-epidemic)

⁷ Public Health Scotland dashboard: [COVID-19 Daily Dashboard - PHS COVID-19 | Tableau Public](https://phs.scot.nhs.uk/covid-19/)

There were 47 deaths registered where Covid was mentioned on the death certificate in the week to 18 July. This is higher than the 31 deaths the week before (+52%), and 93% lower than the peak in April 2020 (663 deaths). The proportion of deaths in care homes decreased from 60% in April 2020 to 9% in the week to 18 July, with 4 deaths occurring in care homes. Deaths involving coronavirus have increased in those aged 15-44 (from 1 to 2 deaths), 45-64 (from 1 to 9 deaths), 65-74 (from 5 to 7 deaths), 75-84 (from 8 to 14 deaths) and 85+ (from 2 to 15 deaths) over the 3 weeks to 18 July⁸ (Figure 4).

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



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>

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 (1.24% of people currently testing positive for Covid-19 from 11 to 17 July) has continued to increase in the last 2 weeks, however the trend is uncertain in the most recent week. The estimation is below England (1.36%), but above Northern Ireland (0.59%) and Wales (0.47%). In the week to 10 July the estimated rate of community infection was 1 in 80 people in Scotland, compared to 1 in 75 for England, 1 in 170 for Northern Ireland and 1 in 210 for Wales⁹. Average daily deaths in Scotland (0.13 per 100,000 in the week to 22 July) are above England (0.08), Wales (0.06) and Northern Ireland (0.05). The Coronavirus Infection Survey estimated that in the week beginning 28 June 2021, 88.6% 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 91.9% in England, 92.6% in Wales and 90.0% in Northern Ireland¹⁰.

An estimated 1.5% of the population in the UK were experiencing self-reported long COVID symptoms (symptoms persisting for more than four weeks after the first suspected coronavirus (COVID-19) infection that were not explained by something else) as of 6 June 2021. 81,000 people in Scotland (1.53% of the respective population) living in private households self-reported long COVID symptoms for this period. This compares to 1.51% in England, 1.41% in Wales and 0.97% in Northern Ireland¹¹.

Situation by local authority within Scotland

Midlothian currently has the highest case rate in Scotland with 385 weekly cases reported per 100,000 in the week to 19 July, which is a 40% decrease from the week to 12 July¹². It is followed by Dundee with 318 weekly cases per 100,000 population. In the week to 19 July there were 28 other local authorities reporting over a 100 weekly cases per

⁹ Office for National Statistics:

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveyipilot/previousReleases>

¹⁰ Office for National Statistics:

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveyantibodyandvaccinationdatafortheuk/21july2021>

¹¹ 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/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveyantibodyandvaccinationdatafortheuk/21july2021)

¹² Public Health Scotland Covid dashboard: https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview

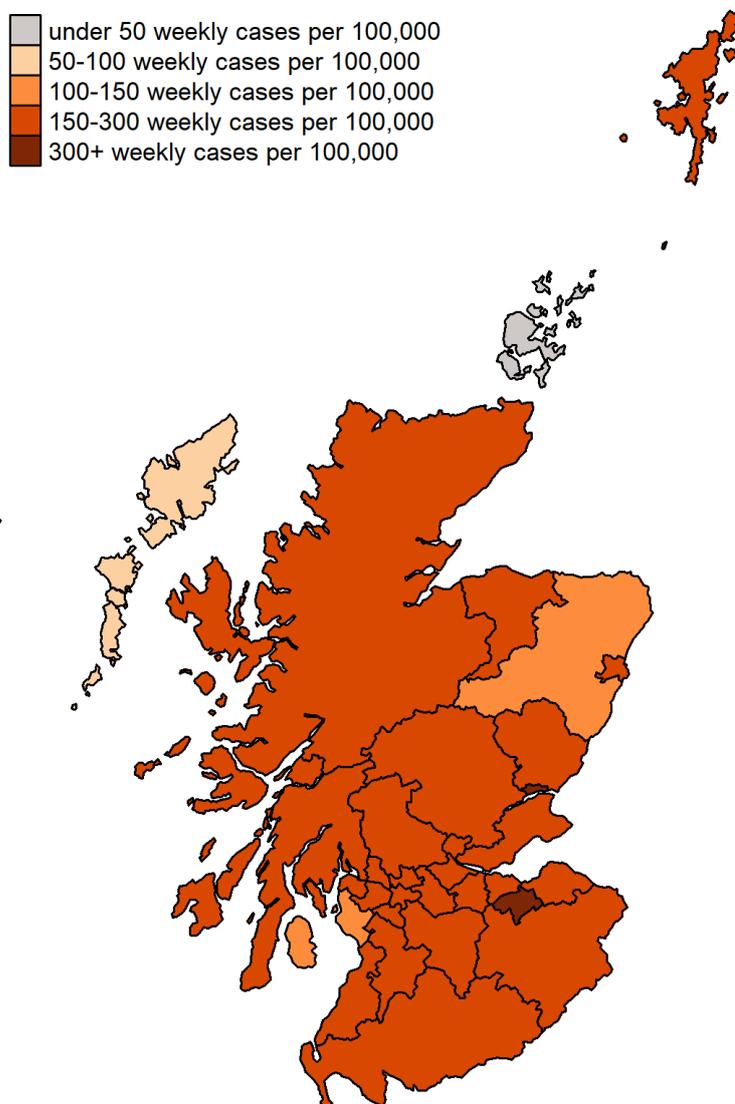
100,000 population (Table 1). Case rates have started to decrease however there are still mostly very high levels of cases across Scotland (Figure 5). Local authorities that recorded an increase in case rates over the last week were Clackmannanshire, South Ayrshire, Dumfries and Galloway, East Ayrshire, Argyll and Bute, and Na h-Eileanan Siar. Orkney has the lowest case rate in Scotland, reporting 31 weekly cases to 19 July¹³.

¹³ Public Health Scotland Covid dashboard: https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview

Table 1. Total new weekly cases per 100,000 population to 19 July 2021, in order of prevalence

Local Authority	Total new cases in the week, per 100,000 population (19 th July)	Change since previous week (12 th July)
Midlothian	385	-254
Dundee City	318	-198
City of Edinburgh	299	-133
East Lothian	298	-122
North Lanarkshire	291	-77
Glasgow City	276	-98
East Renfrewshire	273	-110
Fife	271	-62
Renfrewshire	267	-78
West Lothian	257	-82
Inverclyde	247	-184
Angus	240	-203
Perth and Kinross	240	-95
East Dunbartonshire	237	-58
Falkirk	231	-83
South Lanarkshire	226	-17
West Dunbartonshire	225	-139
Clackmannanshire	221	+54
Aberdeen City	209	-111
South Ayrshire	194	+11
Scottish Borders	187	-33
Highland	184	-17
Dumfries and Galloway	182	+70
East Ayrshire	176	-12
Shetland Islands	175	+61
Stirling	174	-71
Argyll and Bute	171	+16
Moray	151	+5
Aberdeenshire	147	-56
North Ayrshire	131	-76
Na h-Eileanan Siar	97	+30
Orkney Islands	31	-112
Scotland	243	-78

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



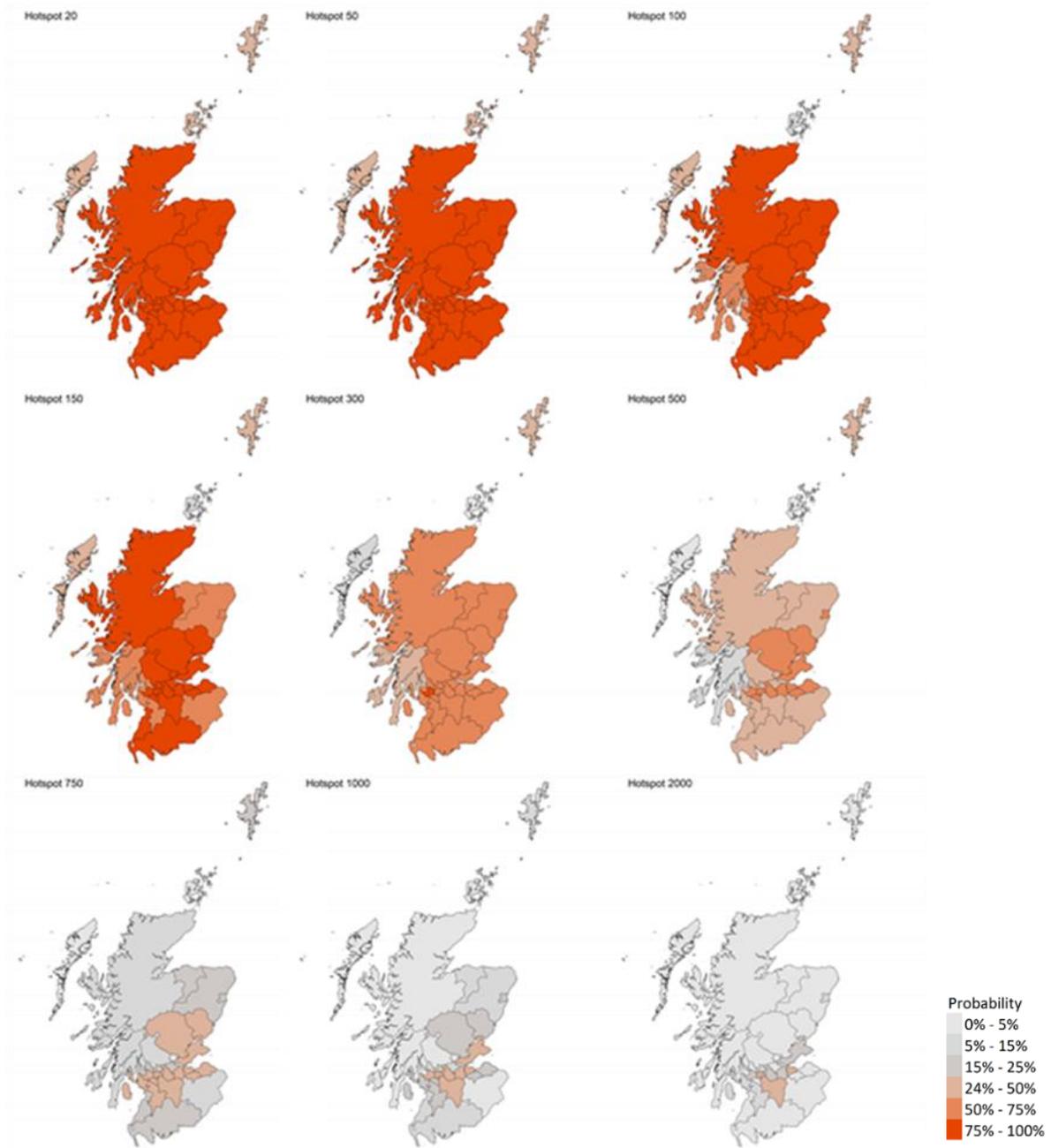
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Ordnance Survey (OS Licence number 100024655)



The most recent modelling predicts, based on data up to 19th July, that for the week ending 7 August there are 26 local authorities that have at least a 75% probability of exceeding 100 cases per 100,000 population. Of those, 20 local authorities have at least a 75% probability of exceeding 150 cases per 100,000, and one local authority (Renfrewshire) has at least a 75% probability of exceeding 300 cases per 100,000 (Figure 6)¹⁴.

¹⁴ Scottish Government: [Coronavirus \(COVID-19\): modelling the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/Coronavirus-(COVID-19)-modelling-the-epidemic)

Figure 6. Maps of probability of Local Authorities exceeding 20, 50, 100, 150, 300, 500, 750, 1000 and 2000 cases per 100,000 population in the period 1-7 August 2021. Data used to 19 July.



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 Covid¹⁵. From this survey we can say that average contacts have remained at a similar level in the last two weeks (comparing surveys pertaining to 24 June - 30 June and 8 July - 14 July) with a current level of 4.0 daily contacts. Contacts within work have decreased compared to two weeks prior by 19% whereas there has been a slight rise in contacts had within the home setting, increasing by 6%. Average contacts within the other setting (contacts had outside of the work, school and home) have remained at similar levels over the same period. Mean contacts across all age groups have either remained stable or shown a reduction in comparison to two weeks prior with the exception of those aged between 18-29 reporting an increase of 17%. The highest number of interactions are reported between those aged 18-29 with each other. The biggest decrease in the total number of contacts between age groups in the last two weeks is seen amongst those aged 30-49 with those under 18, decreasing by at least 43%.

Self-reported compliance with the current regulations and guidance has decreased since January but remains at a high level. On 13-14 July, 65% of people reported 'complete' or 'almost complete' compliance¹⁶.

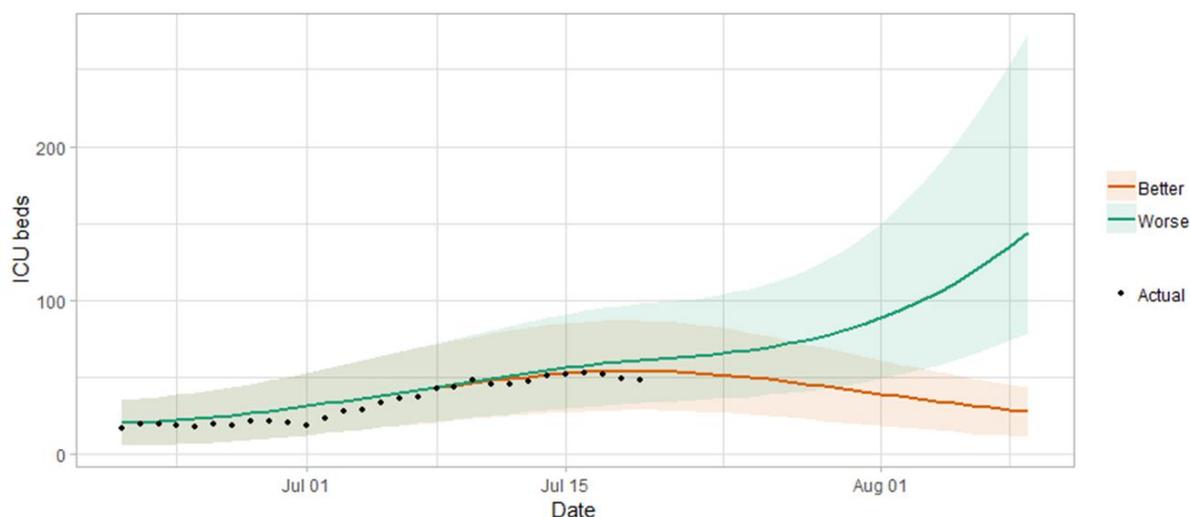
Following the upsurge in cases at the end of June, case numbers have started to decrease. There is considerable uncertainty about what this means to projections for future weeks (Figure 7)¹⁷.

¹⁵ Scottish Government: [Coronavirus \(COVID-19\): modelling the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/Coronavirus-(COVID-19):-modelling-the-epidemic)

¹⁶ 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 13-14 July with a total sample size of 1,001 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 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?*

¹⁷ Scottish Government: [Coronavirus \(COVID-19\): modelling the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/Coronavirus-(COVID-19):-modelling-the-epidemic)

Figure 7. Medium term projections of modelled ICU bed demand, from Scottish Government modelling¹⁸



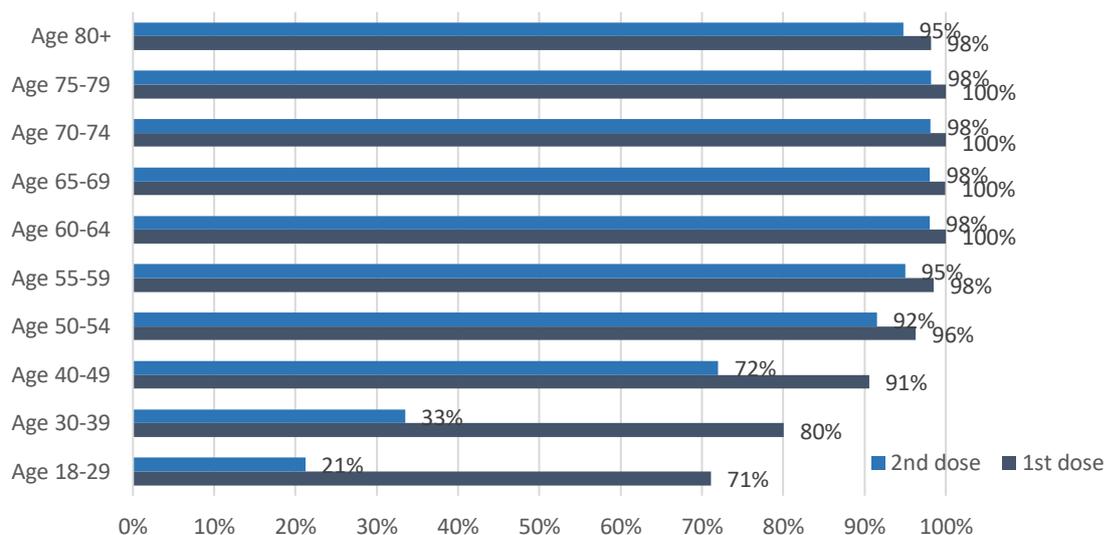
Vaccinations are continuing across the priority groups and 89.3% of the adult population in Scotland has now been vaccinated with the first dose¹⁹. The first vaccines were administered on Tuesday 8 December and 3,989,927 people had received their first dose by 22 July 2021²⁰. By age group, almost 100% of individuals aged 55+, 96% of those aged 50-54, 91% of those aged 40-49, 80% of those aged 30-39 and 71% of those aged 18-29 have received their first vaccination (Figure 8). 95% of the over 80s, 98% of those aged 75-79, 70-74, 65-69, and 60-64, 95% of those aged 55-59, 92% of those aged 50-54 and 72% of those aged 40-49 have received their second dose. Overall, 3,028,271 people (68.0% of those aged 18 and over) had received their second dose by 22 July⁶. There remains a low level of hospitalisations and deaths among those groups vaccinated first (Figure 4).

¹⁸ The difference between the Better and Worse scenarios: Both scenarios are based on current vaccine roll-out plans and efficacy assumptions. 'Worse' assumes that infections have remained at a plateau for the last few weeks, and that behaviour changes instantaneously after the whole of Scotland moves to Level 0 on 19th July. 'Better' assumes that infections have fallen at the same rate as confirmed cases and that behaviour changes gradually over a period of months.

¹⁹ 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/)

²⁰ Scottish Government: <https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/>

Figure 8. Estimated percentage of adults vaccinated by 22 July 2021



The proportion of people surveyed who said they have been vaccinated for Covid-19 is high. 88% of all respondents have already received at least their first vaccine dose. Of those not vaccinated, 29% report they are likely to be vaccinated when a vaccine becomes available to them²¹.

How the virus is changing

The variant of concern Delta, also referred to as VOC-21APR-02 (first identified in India) is more transmissible than Alpha variant^{22 23 24}, and has fast replaced Alpha (VOC-20DEC-01, first identified in the UK) as the dominant strain in Scotland, and 36,419 cases have now been sequenced as Delta to 21 July 2021.

To date there are five 'variants of concern' (VOCs) and ten 'variants under investigation' (VUIs)²⁵. 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^{26 27 28}. Up to 21 July there have been 60 genomically

²¹ Source: YouGov online survey. Total sample size on 13-14 July June was 1,001 adults. Sample size for those who have not yet received their first vaccine was 80 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')

²² [S1236 Eighty-ninth SAGE.pdf \(publishing.service.gov.uk\)](#)

²³ [Risk assessment for SARS-CoV-2 variant: VOC-21APR-02 \(B.1.617.2\) \(publishing.service.gov.uk\)](#)

²⁴ [S1284 SAGE 92 minutes.pdf \(publishing.service.gov.uk\)](#)

²⁵ [Variants: distribution of cases data - GOV.UK \(www.gov.uk\)](#)

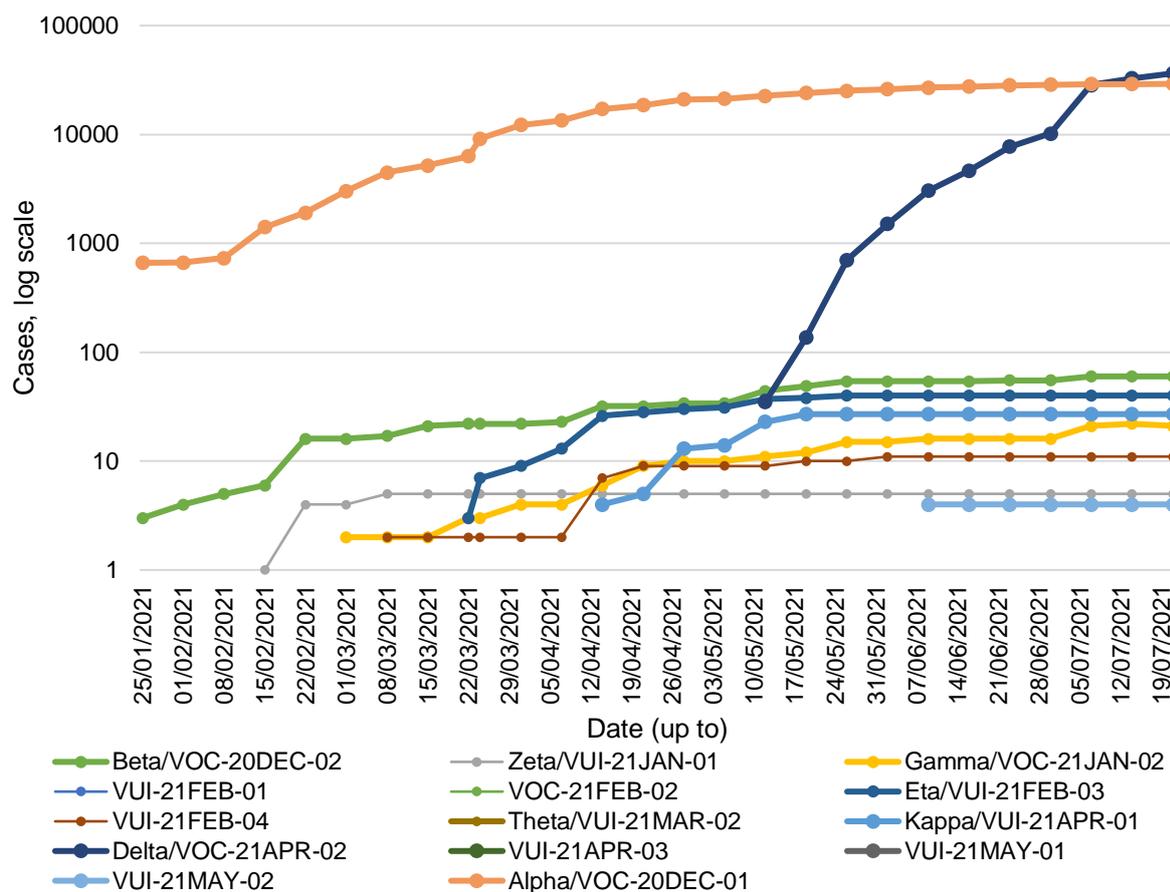
²⁶ [Brief note on SARS-CoV-2 variants \(publishing.service.gov.uk\)](#)

²⁷ [Brief note on SARS-CoV-2 B.1.351 - 27 January 2021 \(publishing.service.gov.uk\)](#)

²⁸ [Brief note on SARS-CoV-2 variant of concern P.1 \(publishing.service.gov.uk\)](#)

confirmed cases of the variant Beta/VOC-20DEC-02 (first detected in South Africa) and 21 cases of Gamma in Scotland. Genomically confirmed cases of other VOCs and VUIs remain low, there have been no new cases of other VOCs or VUIs in the last week (Figure 9).

Figure 9. Variants detected in Scotland by sequencing (data up to 21 July and reported weekly²⁹)



Vaccines are effective against Delta, Public Health England preliminary analysis shows that vaccines are highly effective against hospitalisation from Delta variant³⁰ with similar vaccine effectiveness against hospitalisation seen with the Alpha and Delta variants³¹. A recent study from Public Health England shows that after a single vaccine dose there was a 14% absolute reduction in vaccine effectiveness against symptomatic disease with Delta compared to Alpha, and a smaller 10% reduction in effectiveness after 2 doses³², which is in line with previous

²⁹ Variants: distribution of cases data - GOV.UK (www.gov.uk)

³⁰ Vaccines highly effective against hospitalisation from Delta variant - GOV.UK (www.gov.uk)

³¹ COVID-19 vaccine surveillance report - week 28 (publishing.service.gov.uk)

³² COVID-19 vaccine surveillance report - week 28 (publishing.service.gov.uk)

studies³³. 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 variant, but these effects on infection appeared to be diminished when compared to those with the Alpha VOC³⁴.

There remains uncertainty regarding the impact of the Delta variant on severity of illness, treatment or reinfections. There is EAVEII data indicating the Delta variant of COVID-19 is associated with approximately double the risk of hospitalisation compared with the Alpha variant, but the vaccine continues to protect³⁵. As more data is analysed we shall become more certain of the impact of Delta on hospitalisations and disease severity.

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.

³³ [COVID-19 vaccine surveillance report - week 23 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

³⁴ [SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness - The Lancet](#)

³⁵ [SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness - The Lancet](#)

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