

Coronavirus (COVID-19): Analysis

State of the Epidemic in Scotland – 20th August 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 19 August 2021 on Covid-19 in Scotland. This updates the previous publication published on 13 August 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 0.8 and 1.1, based on data up until the 16 August. This is an increase in the lower and upper limits from last week.
- An average of 1,958 cases were reported per day in the 7 days to 19 August, which is a 56% increase in reported cases since 12 August.
- There were 216 weekly cases per 100,000 in the week to 16 August, which is an increase since last week. This compares to 425 weekly cases per 100,000 on 3 July, the latest peak in cases.

¹ Scottish Government: <u>Coronavirus (COVID-19): state of the epidemic - gov.scot (www.gov.scot)</u>

- Case rates have gone up 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 SARS-CoV-2 in the community in Scotland continued to decrease in the last week (week ending 14 August 2021). Scotland is currently below England, Northern Ireland and Wales.
- Latest modelled estimates suggest there are currently between 34 and 64 new daily infections per 100,000 people in Scotland.
- There were 41 deaths registered in Scotland where coronavirus was mentioned on the death certificate in the week ending 15 August.
- Dumfries and Galloway currently has the highest weekly case rate in Scotland reporting 382 cases per 100,000 in the week to 16 August, followed by West Dunbartonshire with 295 weekly cases per 100,000, North Ayrshire with 289 weekly cases per 100,000, North Lanarkshire with 288 weekly cases per 100,000 and Inverclyde with 274 weekly cases per 100,000.
- There were 24 other local authorities reporting over 100 weekly cases per 100,000 population in the last week. Shetland reported 26 weekly cases per 100,000 in the same period.
- Overall, wastewater SARS-CoV-2 RNA concentrations rose from the previous week similar to the observed rise in the rate of new cases. However, levels were rising substantially at the end of the period at many sites.
- Hospital and ICU occupancies have stopped falling, and the future increase or decrease in hospital occupancy and intensive care use is highly uncertain, and depends on both current infection levels and the impact of the relaxation of restrictions.
- Over 4 million people in Scotland have been given a first vaccine against SARS-CoV-2, and over 3.5 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.

Method

This report brings together a wide range of publically available figures from a range of data sources. These include publications by Scottish Government, Public Heath Scotland, National Records of Scotland 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 20 August and based on data up to 16 August)² was between 0.8 and 1.1 (Figure 1), with a growth rate of between -3% and 1%. R is an indicator that lags by 2 to 3 weeks and therefore should not be expected to reflect recent fluctuations, such as the increase in reported cases that has been seen in the last week.



Figure 1. R in Scotland over time

An average of 1,958 cases were reported per day in the 7 days to 19 August. This is a 56% increase from the daily average cases recorded a week earlier to 12 August³. Average daily cases reported are 43% lower than the peak of 3,454 in the week to 4 July. In the 4 week period from 17 July to 13 August 2021, 47.7% of cases (PCR testing only) were in

² Scottish Government: <u>Coronavirus (COVID-19): modelling the epidemic - gov.scot (www.gov.scot)</u>

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

unvaccinated individuals⁴. Our current position is 216 weekly cases per 100,000 in the week to 16 August⁵. This compares to 425 weekly cases per 100,000 on 3 July (see Figure 2).

The number of locations where the levels of SARS-CoV-2 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, wastewater SARS-CoV-2 RNA concentrations rose from the previous week similar to the observed rise in the rate of new cases. However, levels were rising substantially at the end of the period at many sites.

Comparing the last two days of wastewater measurements (since 13 August) to measurements immediately prior, an increase in wastewater viral RNA is seen in 19 out of the 22 sites with available data. The increase is of a large magnitude, doubling or tripling the level in many sites.

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



⁴ Public Health Scotland COVID19 statistical report

⁵ Public Health Scotland Covid dashboard: <u>https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-</u> 19DailyDashboard_15960160643010/Overview

Case rates have gone up 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).





Not everyone who has the virus will be tested, as many people do not realise they have Covid-19, or they have mild symptoms and do not come forward. Latest modelled estimates, based on data up to 16 August, suggest there are currently between 1,900 and 3,500 people becoming infected in Scotland each day⁷. This means that as of 16 August there were between 34 and 64 new daily infections per 100,000 people.

The number of people in hospital with confirmed Covid-19 for less than 28 days peaked at 2,053 on 22 January and decreased to a low of 58 on 6 May⁸. This has since increased and as of 19 August there were 317 patients in hospital with Covid-19. This compares to 356 people in hospital on 12 August. Daily hospital admissions for people with Covid-19 have increased from a low of 5 on 15 May to 102 on 13 July, and has since gone down to 26 on 15 August⁹. This compares to 36 admissions

⁶ Source: Public Health Scotland

⁷ Scottish Government: <u>Coronavirus (COVID-19): modelling the epidemic - gov.scot (www.gov.scot)</u>

⁸ Scottish Government: <u>https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/</u>

⁹ Public Health Scotland dashboard: COVID-19 Daily Dashboard - PHS COVID-19 | Tableau Public

to hospital on 1 August. In the 4 weeks to 13 August 46.5% of acute Covid-19 hospital admissions were in the unvaccinated individuals¹⁰.

There were 41 deaths registered where Covid-19 was mentioned on the death certificate in the week to 15 August. This is lower than the 53 deaths the week before (-23%), and 94% lower than the peak in April 2020 (663 deaths). The proportion of deaths in care homes decreased from 60% in April 2020 to 17% in the week to 15 August, with 7 deaths occurring in care homes. Deaths involving coronavirus have increased in those aged 15-44 (from 0 to 1 deaths) compared to three weeks previous. Deaths decreased in those aged 45-64 (from 15 to 12 deaths), 65-74 (14 to 8 deaths), 75-84 (14 to 8 deaths) and 85+ (13 to 12) in the same period¹¹ (Figure 4). From 29 December 2020 to 5 August 2021, 86.5% of Covid-19 deaths were in the unvaccinated individuals¹².



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 (0.49% of people currently testing positive for SARS-CoV-2 from 8 to 14 August) continued to decrease in the last week. The estimation is below England (1.28%), Northern Ireland (1.92%) and Wales (0.77%). In the week to 14 August the

¹¹ NRS Scotland: <u>https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-</u>

events/general-publications/weekly-and-monthly-data-on-births-and-deaths/deaths-involving-coronavirus-covid-19-in-scotland

¹⁰ Public Health Scotland COVID19 statistical report

¹² Public Health Scotland COVID19 statistical report

estimated rate of community infection was 1 in 200 people in Scotland, compared to 1 in 80 in England, 1 in 50 in Northern Ireland, and 1 in 130 for Wales¹³. Average daily deaths in Scotland (0.10 per 100,000) in the week to 19 August are below Northern Ireland (0.32) and England (0.15) but above Wales (0.07)¹⁴. Average daily cases in Scotland (35.8 per 100,000) in the week to 19 August are below Northern Ireland (77.6), England (46.1) and Wales (36.9).

The Coronavirus Infection Survey estimated that in the week beginning 08 August 2021, 93.5% of the adult population in Scotland would have tested positive for antibodies against SARS-CoV-2, as a result of having the infection in the past or being vaccinated. This compares to 94.2% in England, 93.2% in Wales and 89.1% in Northern Ireland¹⁵.

An estimated 1.46% of the population in the UK were experiencing selfreported 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) in the 4 weeks ending 4 July 2021. In Scotland, 75,000 people (1.43% of the respective population) living in private households self-reported long Covid symptoms for this period. This compares to 1.61% in Wales, 1.47% in England and 0.89% in Northern Ireland¹⁶.

Situation by local authority within Scotland

Dumfries and Galloway currently has the highest case rate in Scotland with 382 weekly cases reported per 100,000 in the week to 16 August. It is followed by West Dunbartonshire with 295 weekly cases per 100,000 population, North Ayrshire with 289 weekly cases per 100,000, North Lanarkshire with 288 weekly cases per 100,000 and Inverclyde with 274 weekly cases per 100,000. In the week to 16 August there were 24 other local authorities reporting over 100 weekly cases per 100,000 population (Table 1). Case rates have increased across most local authorities over the last week and there are mostly high or very high levels of case rates

¹³ Office for National Statistics:

¹⁶ Office for National Statistics:

https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/cor onaviruscovid19infectionsurveypilot/previousReleases

¹⁴ UK Government: <u>Deaths in the UK | Coronavirus in the UK (data.gov.uk)</u>

¹⁵ Office for National Statistics: <u>Coronavirus (COVID-19) Infection Survey</u>, antibody and vaccination data, UK -<u>Office for National Statistics</u>

https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/5august2021

across Scotland (Figure 5). Shetland has the lowest case rate in Scotland, reporting 26 weekly cases per 100,000 to 16 August¹⁷.

¹⁷ Public Health Scotland Covid dashboard: <u>https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview</u>

Table 1. Total new weekly cases per 100,000 population to 16 August 2021, in order of prevalence

Local authority	Total new cases in the week, per 100,000 population	Change since previous week
Dumfries and Galloway	382	201
West Dunbartonshire	295	77
North Ayrshire	289	68
North Lanarkshire	288	74
Inverclyde	274	117
East Dunbartonshire	269	143
South Lanarkshire	267	41
East Renfrewshire	265	98
Argyll and Bute	260	135
Renfrewshire	259	104
East Lothian	256	-10
Clackmannanshire	255	129
Glasgow City	232	77
West Lothian	221	79
City of Edinburgh	221	63
East Ayrshire	219	70
Fife	215	20
Falkirk	194	69
Scottish Borders	189	43
Midlothian	180	17
South Ayrshire	180	36
Dundee City	166	47
Perth and Kinross	159	61
Highland	155	4
Stirling	152	7
Angus	140	49
Na h-Eileanan Siar	121	68
Aberdeen City	119	9
Aberdeenshire	116	-14
Moray	88	7
Orkney Islands	49	0
Shetland Islands	26	-39
Scotland	216	57

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



The most recent modelling predicts, based on data up to 16 August, that for the week ending 4 September there are 28 local authorities that have at least a 75% probability of exceeding 50 cases per 100,000 population. Of these, there are eight local authorities (Dumfries & Galloway, Fife, Glasgow, Inverclyde, North Ayrshire, North Lanarkshire, Renfrewshire and South Lanarkshire) with at least a 75% probability of exceeding 100 cases per 100,000 (Figure 6)¹⁸.

¹⁸ Scottish Government: <u>Coronavirus (COVID-19): modelling the epidemic - gov.scot (www.gov.scot)</u>

Figure 6. Maps of probability of Local Authorities exceeding 50, 100, 300 and 500 cases per 100,000 population in the period 29 August -4 September 2021. Data used to 16 August.



Children and Education

Schools have resumed in Scotland with the majority of local authorities returning this week.

Over the last week there was a further increase in the total number of Covid-19 cases in young people aged under 20, which has gone up from 2,266 cases in the week to 8 August to 3,087 cases in the week ending 15 August. 7 day cases per 100,000 have also increased in all age groups apart from 0-1 years in the week ending 15 August (Figure 7). The percentage of cases made up of children under 12 was just over 38% (1,187 cases) compared to just over 42% (963 cases) in the previous week¹⁹.

The rate of testing increased amongst all age groups in the week ending 15 August apart from 2-4 years. Test positivity rates have decreased in age groups 0-1 year olds, 5-11 year olds and 12-15 year olds. Age groups 2-4 year olds, 16-17 year olds and 18-19 year olds have increased. 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 increased to 2.9% in week ending 15 August, from 1.7% of positive cases in the previous week. Hospital admissions amongst children are decreasing, with a 3-week rolling average of 10.7 for 0-1 year olds, 1.7 admissions for 2-4 year olds, 6.0 for 5-11 year olds, and 11.0 for 12-17 year olds up to 11 August. This compares to 11.3 among 0-1 year olds, 2.0 among 2-4 year olds, 6.0 among 5-11 year olds and 10.0 among 12-17 year olds in the period ending 4 August.



Figure 7. Seven day case rate in Scotland by age group by specimen date for children (week ending 15 August). Refers to PCR testing only.

¹⁹ Public Health Scotland: PHS COVID-19 Education report (shinyapps.io)

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-19²⁰. Average contacts have remained at a similar level in the last two weeks (comparing surveys pertaining to 22 July - 28 July and 5 August -11 August) with a current level of 4.1 daily contacts.

Contacts within the work and home setting have decreased compared to two weeks prior, by 9% and 8% respectively, whereas contacts within the other setting (contacts outside of the work, school and home) have increased slightly by 5%. The biggest increase in interactions in the last two weeks is seen between those aged 18-29 with those under 18. Visits to a non-essential shop have increased from approximately 40% to 44% with individuals attending a hairdressers/beautician increasing from 10% to 14% in the last two weeks. The proportion of contacts reported to have been indoors only has increased within the last two weeks whereas the proportion of contacts occurring outside only has shown a decrease over the same period.

Self-reported compliance with the current regulations and guidance has decreased since January but remains at a high level. On 10-11 August, 66% of people reported 'complete' or 'almost complete' compliance²¹.

Hospital and ICU occupancies have stopped falling, and the future increase or decrease in hospital occupancy and intensive care use is highly uncertain, and depends on both current infection levels and the impact of the relaxation of restrictions (Figure 8)²².

²⁰ Scottish Government: <u>Coronavirus (COVID-19): modelling the epidemic - gov.scot (www.gov.scot)</u>

²¹ 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 10-11 August with a total sample size of 1012 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?*²² Scottish Government: <u>Coronavirus (COVID-19): modelling the epidemic - gov.scot (www.gov.scot)</u>



Figure 8. Medium term projections of modelled ICU bed demand, from Scottish Government modelling²³

Vaccinations are continuing across the priority groups and 90.8% of the adult population in Scotland has now been vaccinated with the first dose²⁴. The first vaccines were administered on Tuesday 8 December and 4,068,806 people had received their first dose by 19 August 2021²⁵. By age group, almost 100% of individuals aged 55+, 96% of those aged 50-54, 91% of those aged 40-49, 82% of those aged 30-39 and 73% of those aged 18-29 have received their first vaccination (Figure 9). 100% of the over 80s, 100% of those aged 75-79, 99% of those aged 70-74, 100% of those aged 60-69, 96% of those aged 55-59, 92% of those aged 50-54, 83% of those aged 40-49, 67% of those aged 30-39 and 36% of those aged 18-29 have received their second dose. Overall, 3,512,673 people (78.9% of those aged 18 and over) had received their second dose by 19 August²⁶. There remains a low level of hospitalisations and deaths among those groups vaccinated first (Figure 4).

²⁶ Public Health Scotland Covid dashboard: <u>https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview</u>

²³ The difference between the Better and Worse scenarios: 'Worse' assumes that increasing transmission continues for the next two weeks. 'Better' assumes transmission remains at the current level after the recent uptick in cases. 'No uptick' projects forward at the previous level of transmission from before the recent uptick. ²⁴ Scottish Government: <u>Coronavirus (COVID-19): modelling the epidemic - gov.scot (www.gov.scot)</u>

²⁵ Scottish Government: https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/





The proportion of people surveyed who said they have been vaccinated for Covid-19 is high. 89% of all respondents have already received at least their first vaccine dose. Of those not vaccinated (and small base must be noted), 13% report they are likely to be vaccinated when a vaccine becomes available to them²⁷.

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 ²⁸ ²⁹ ³⁰. It quickly replaced Alpha (VOC-20DEC-01), first identified in the UK, as the dominant strain in Scotland, and 46,901 cases have now been identified as Delta to 18 August 2021.

To date there are five 'variants of concern' (VOCs) and eleven 'variants under investigation' (VUIs)³¹. 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^{32 33 34}. Up to 18 August there have been 62 genomically

²⁷ Source: YouGov online survey. Total sample size on 10-11 August was 1012 adults. Sample size for those who have not yet received their first vaccine was 65 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')*

²⁸ S1236_Eighty-nineth_SAGE.pdf (publishing.service.gov.uk)

²⁹ Risk assessment for SARS-CoV-2 variant: VOC-21APR-02 (B.1.617.2) (publishing.service.gov.uk)

³⁰ S1284 SAGE 92 minutes.pdf (publishing.service.gov.uk)

³¹ Variants: distribution of cases data - GOV.UK (www.gov.uk)

³² Brief note on SARS-CoV-2 variants (publishing.service.gov.uk)

³³ Brief note on SARS-CoV-2 B.1.351 - 27 January 2021 (publishing.service.gov.uk)

³⁴ 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 22 cases of Gamma, an increase of one from the previous week, 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 10).



Figure 10. Variants detected in Scotland by sequencing (data up to 18 August and reported weekly³⁵)

Vaccines are effective against the Delta variant. Public Health England analysis shows that vaccines are highly effective against hospitalisation from Delta variant with similar vaccine effectiveness against hospitalisation seen with the Alpha and Delta variants at 93% and 96% respectively after two doses of vaccine. There was a 14% absolute reduction in vaccine effectiveness against symptomatic disease after a single vaccine dose with Delta compared to Alpha, and a smaller 10% reduction in effectiveness after 2 doses ³⁶, which is in line with previous studies ^{37 38}. Vaccine effectiveness against symptomatic disease is high

³⁵ Variants: distribution of cases data - GOV.UK (www.gov.uk)

³⁶ COVID-19 vaccine surveillance report - week 31 (publishing.service.gov.uk)

³⁷ COVID-19 vaccine surveillance report - week 28 (publishing.service.gov.uk)

³⁸ COVID-19 vaccine surveillance report - week 23 (publishing.service.gov.uk)

for both Alpha (89%) and Delta after two doses (79%). 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 VOC³⁹.

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 SARS-CoV-2 is associated with approximately double the risk of hospitalisation compared with the Alpha variant, but the vaccine continues to protect⁴⁰. As more data is analysed we shall become more certain of the impact of Delta on infections, hospitalisations and disease severity and long term vaccine protection effects.

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.

³⁹ SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness -The Lancet

⁴⁰ SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness -The Lancet

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