

## Coronavirus (COVID-19): Analysis

### State of the Epidemic in Scotland – 8 October 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 7 October 2021 on Covid-19 in Scotland. This updates the previous publication published on 1 October<sup>1</sup>. The information in this document helps the Scottish Government, the health service and the wider public sector respond to the epidemic and put in place what is needed to keep us safe and treat people who have the virus.

This edition of the State of the Epidemic summarises current data on Covid-19 at a national and local level, and how Scotland currently compares to the rest of the UK. It looks at the vaccination program in Scotland and its impact. 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, as of 21 September, is estimated as being between 0.7 and 1.0. This is unchanged from last week.
- An average of 2,401 cases were reported per day in the 7 days to 7 October, which is a 15% decrease in reported cases since 30 September.
- There were 309 weekly cases per 100,000 in the week to 4 October (by specimen date), which is a decrease since last week. This is now lower than the most recent peak (825 weekly cases per 100,000 on 6

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

September) and lower than the peak in July (425 weekly cases per 100,000 recorded on 3 July).

- Case rates have decreased across all age bands in the week to 4 October. As of 4 October, the highest case rates were observed amongst under 20s, followed by 40-59, 20-39, 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 decreased in the last week (week ending 2 October 2021).
- Latest modelled estimates suggest that as of 21 September there were between 103 and 155 new daily infections per 100,000 people in Scotland. This is a decrease in the lower and upper limits since last week.
- There were 141 deaths registered in Scotland where coronavirus was mentioned on the death certificate in the week ending 3 October.
- Average hospital admissions (3-week rolling average) related to Covid-19 in children have decreased in all age groups compared to the previous three-week period.
- West Lothian currently has the highest weekly case rate in Scotland reporting 468 weekly cases per 100,000 in the week to 4 October, followed by North Lanarkshire with 412 weekly cases per 100,000, and Dundee with 395 weekly cases per 100,000 population. All local authorities reported over 100 weekly cases per 100,000 population in the last week, except for Orkney. Orkney reported the lowest case rate with 63 weekly cases per 100,000 in the same period.
- Nationwide, the fall in levels of wastewater following the September peak appeared to halt this week, with significant variability in levels from observation to observation. In contrast, case rates continue to decline.
- There is a slight decline in hospital and ICU occupancies, which appear to be fluctuating up and down and may have started to plateau. There therefore continues to be uncertainty over hospital occupancy and intensive care in the next three weeks.
- Over 4.2 million people in Scotland have been given a first vaccine against SARS-CoV-2, and almost 3.9 million have received a second dose by 7 October.
- The Delta variant remains the dominant strain in Scotland.

## Method

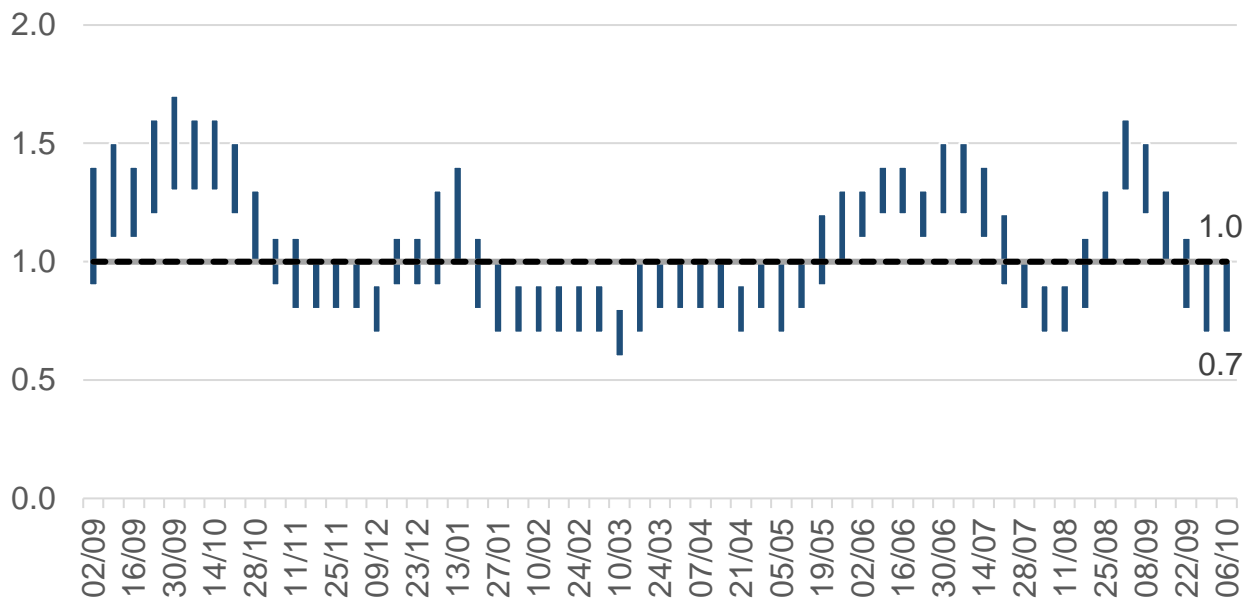
This report brings together a wide range of publically available figures from a range of data sources. These include publications by Scottish

Government, Public Health Scotland, National Records of Scotland and Office for National Statistics along with scientific publications and SAGE and UKHSA 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, as of 21 September (published on 7 October and using data to 4 October)<sup>2</sup>, was between 0.7 and 1.0 (Figure 1), with a growth rate of between -5% and -1%. The R value is unchanged from last week.

Figure 1: R in Scotland over time



An average of 2,401 cases were reported per day in the 7 days to 7 October. This is a 15% decrease from the daily average cases recorded a week earlier to 30 September<sup>3</sup>. In the week 25 September – 1 October 2021, there were 421 cases (PCR testing only) per 100,000 amongst the unvaccinated individuals, compared to 227 cases per 100,000 for those that had been vaccinated with two doses<sup>4</sup>. Our current position is 309

<sup>2</sup> 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/)

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

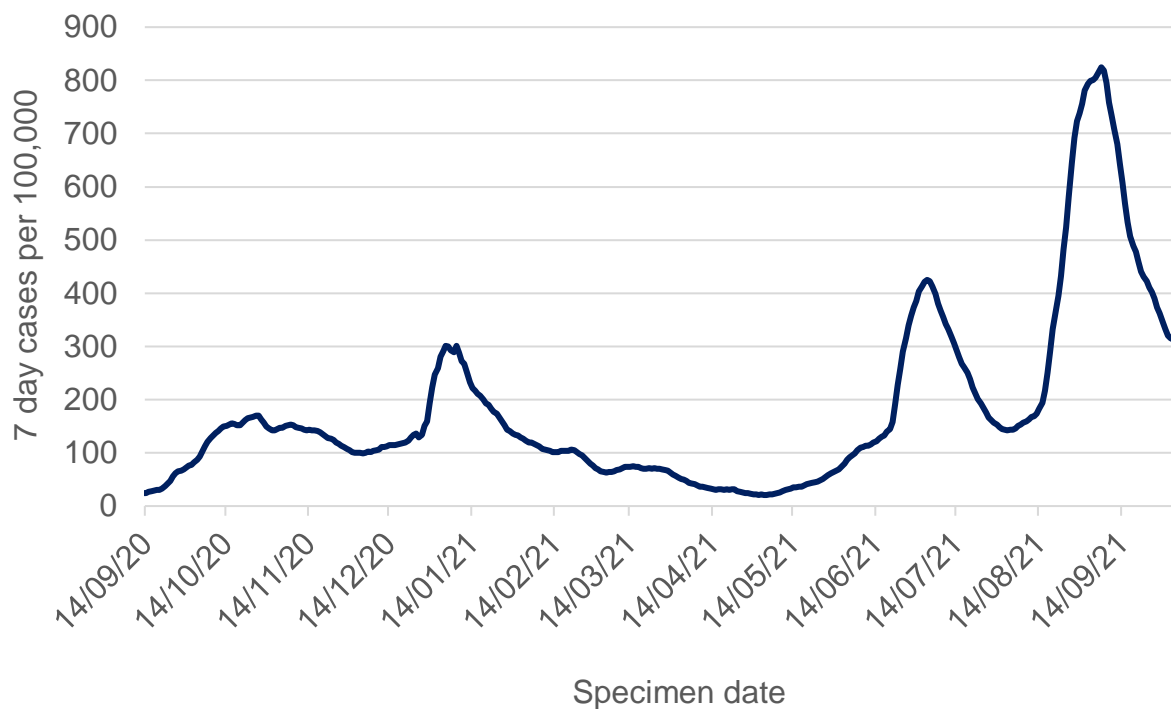
Due to technical issues data was not available on 16 September and figures provided on 17, 18 and 19 September are not directly comparable to other dates, therefore, users should exercise caution when making week on week comparisons between the period 17-23 September and 24 -30 September. For more information see <https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/>

<sup>4</sup> [Public Health Scotland COVID-19 statistical report](#)

weekly cases per 100,000 in the week to 4 October (by specimen date)<sup>5</sup>. This is lower than the most recent peak of 825 weekly cases per 100,000 on 6 September and lower than the previous peak of 425 weekly cases recorded 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. Nationwide, the fall in levels of wastewater following the September peak appeared to halt this week, with significant variability in levels from observation to observation. In contrast, case rates continue to decline.

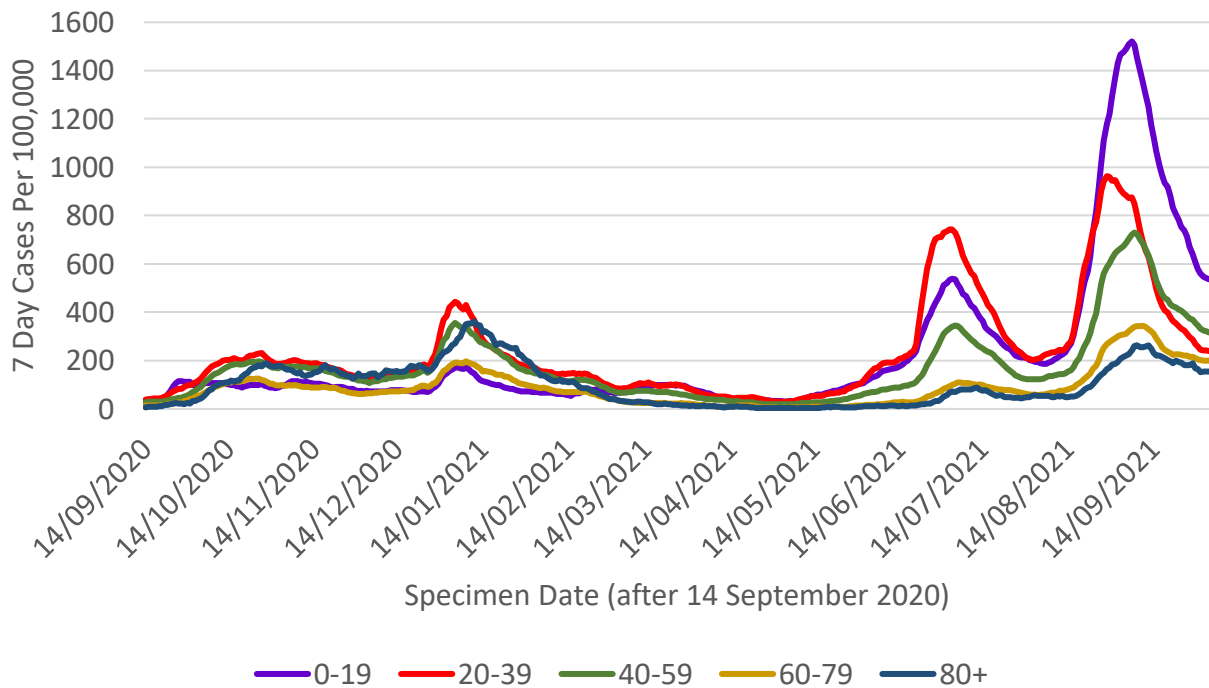
Figure 2: Seven day case rate for Scotland by specimen date. Refers to PCR testing only.



<sup>5</sup> Public Health Scotland Covid-19 dashboard: [https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard\\_15960160643010/Overview](https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview)

Case rates have decreased across all age bands in the week to 4 October. As of 4 October, the highest case rates were observed amongst under 20s, followed by 40-59, 20-39, 60-79 and 80+ (Figure 3).

Figure 3: Seven day case rate in Scotland by age group by specimen date<sup>6</sup>. Refers to PCR testing only.



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 suggest that, as at 21 September, the incidence of new daily infections in Scotland was between 103 and 155 new infections per 100,000<sup>7</sup>. This equates to between 5,600 and 8,500 people becoming infected each day in Scotland. This is a decrease in the lower and upper limits since last week.

There is a slight decline in hospital and ICU occupancies, which appear to be fluctuating up and down and may have started to plateau. 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 May<sup>8</sup>. This has since increased and as of 7 October there were 980 patients in hospital with Covid-19. This compares to 998 people in hospital on 30 September (Figure 4). The latest data from PHS shows

<sup>6</sup> Source: Public Health Scotland

<sup>7</sup> 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/)

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

516 admissions to hospital for people with confirmed Covid-19 in the week to 2 October compared to 746 in the week to 25 September<sup>9</sup>. In the 4 weeks to 1 October 32.8% of acute Covid-19 hospital admissions were in unvaccinated individuals<sup>10</sup>. For context, as of 7 October, 92.0% of adults aged 18+ (91.5% of adults aged 16+) have had at least one dose of the vaccine and vaccinated figures include the elderly and vulnerable groups. Overall, individuals in the oldest age groups were most likely to be hospitalised. In all age groups, the rate of admissions per 100,000 was higher in unvaccinated individuals compared to fully vaccinated individuals in the week to 1 October. Unvaccinated individuals were 2 to 3 times more likely to be in hospital with Covid-19 compared to fully vaccinated individuals (depending on age) in the period 25 September – 1 October<sup>11</sup>.

As the population is increasingly vaccinated more of the patients in hospital will be fully or partially vaccinated. Therefore, it is important that we can differentiate between patients in hospital because of COVID-19 rather than with COVID-19. Public Health Scotland estimates that as at June 2021 72% of acute hospital admissions have a primary diagnosis of COVID-19. The trend has been decreasing since January 2021, and has fluctuated between 66% and 78%<sup>12</sup>.

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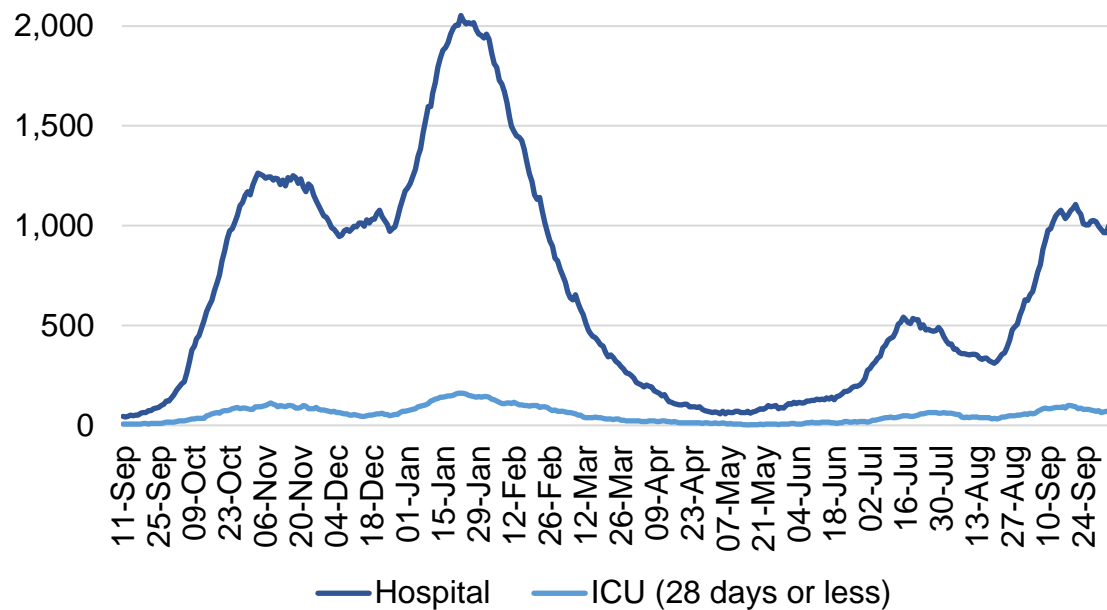
<sup>9</sup> Public Health Scotland dashboard: [COVID-19 Daily Dashboard - PHS COVID-19 | Tableau Public](#) Please note that the hospital admissions data may be lower than expected due to system upgrades in NHS Boards. Upgrades are due to be completed this week.

<sup>10</sup> [Public Health Scotland COVID-19 statistical report](#) Data for acute hospital admissions are incomplete from 30 September 2021.

<sup>11</sup> *ibid*

<sup>12</sup> [Public Health Scotland COVID-19 Statistical Report](#)

Figure 4: Patients in hospital (including those in ICU) (with length of stay 28 days or less) and ICU<sup>13</sup> with recently confirmed Covid-19



There were 141 deaths registered where Covid-19 was mentioned on the death certificate in the week to 3 October. This is a decrease of 26 (-16%) in the number of deaths from the previous week, and 79% lower than the peak in April 2020 (663 deaths). The proportion of deaths in care homes decreased from 60% in April 2020 to 16% in the week to 3 October, with 23 deaths occurring in care homes<sup>14</sup>. In the week ending 3 October, deaths involving coronavirus have increased in those aged 15-44 (from 1 to 4 deaths), 45-64 (from 11 to 18 deaths), 65-74 (from 13 to 30 deaths), 75-84 (from 32 to 48 deaths) and among those aged 85+ (from 21 to 41) compared to week ending 12 September. Deaths remained at 0 in those aged under 15 in the same period<sup>15</sup> (Figure 5). From 29 December 2020 to 24 September 2021, 78.8% of Covid-19 deaths were in unvaccinated individuals<sup>16</sup>. Amongst those individuals who have been vaccinated with two doses of Covid-19 vaccine, 80.4% of the confirmed Covid-19 deaths occurred in the 70+ age group<sup>17</sup>.

<sup>13</sup> ICU or combined ICU/HDU (with length of stay 28 days or less)

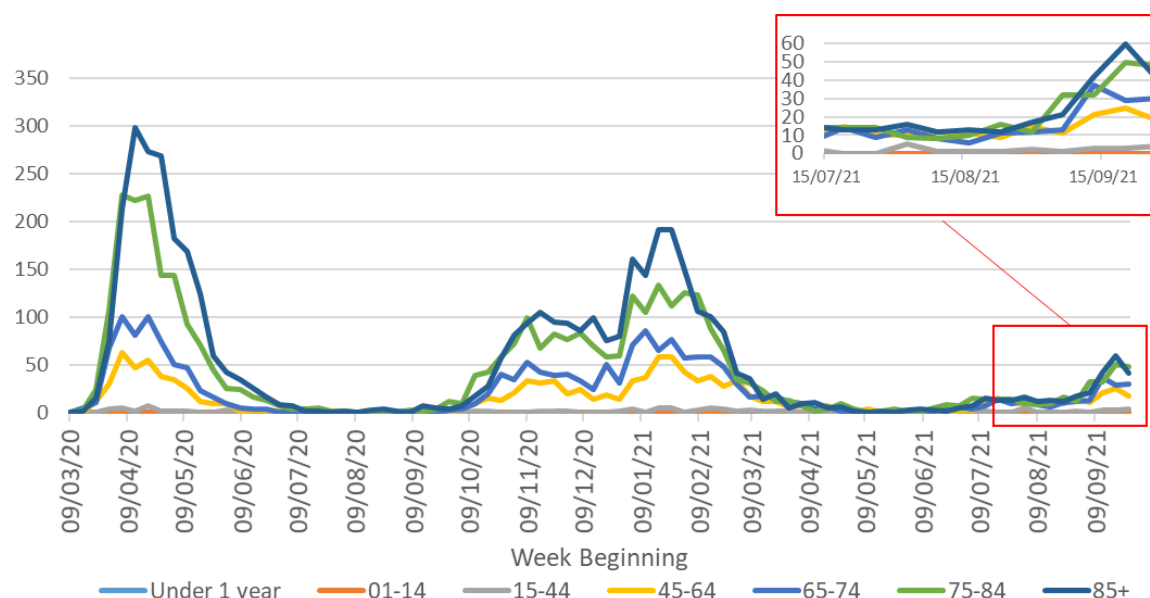
<sup>14</sup> NRS Scotland: <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/weekly-and-monthly-data-on-births-and-deaths/deaths-involving-coronavirus-covid-19-in-scotland>

<sup>15</sup> ibid

<sup>16</sup> [Public Health Scotland COVID19 statistical report](#)

<sup>17</sup> ibid

Figure 5: Deaths by age group (weekly total by week beginning, NRS)<sup>12</sup>



## How Scotland compares with the rest of the UK

The ONS Covid-19 Infection Survey estimates that in the week 26 September to 2 October 2021, the estimated percentage of the population living in private residential households testing positive for Covid-19 in Scotland was 1.61% (95% credible interval: 1.33% to 1.92%). The percentage of the population living in private residential households testing positive for Covid-19 has decreased in the most recent week. Estimates for the same week in the other UK nations are as follows: 1.44% (95% credible interval: 1.35% to 1.53%) for England, 1.87% (95% credible interval: 1.50% to 2.28%) for Wales and 0.79% (95% credible interval: 0.51% to 1.14%) for Northern Ireland. This equates to around 1 in 60 people in Scotland, 1 in 70 in England, 1 in 130 in Northern Ireland and 1 in 55 in Wales<sup>18</sup>.

The ONS Covid-19 Infection Survey estimated that in the week beginning 23 August 2021, 93.3% (95% CI: 91.9% to 94.4%) of the adult community 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 93.6% in England (95% CI: 92.5% to 94.5%), 91.2% in Wales (95% CI: 89.5% to 92.7%) and 91.9% in Northern Ireland (95% CI: 88.4% to 94.0%)<sup>19</sup>.

<sup>18</sup> Office for National Statistics: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurvey/pilot/previousReleases>

<sup>19</sup> Office for National Statistics: [Coronavirus \(COVID-19\) Infection Survey, antibody and vaccination data, UK - Office for National Statistics](https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurvey/antibodyandvaccinationdata)



An estimated 1.7% of the community 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) in the 4 weeks ending 5 September 2021. In Scotland, 79,000 people (1.5% of the respective population) living in private households self-reported long Covid symptoms for this period. This compares to 1.73% in England, 1.38% in Wales and 1.03% in Northern Ireland<sup>20</sup>.

Average daily deaths in Scotland (4 per 1 million population) in the week to 7 October are above England (1 per 1 million), Wales and Northern Ireland (2 per 1 million each)<sup>21</sup>. Average daily cases in Scotland (439 per 1 million) in the week to 7 October are below Wales (743 per 1 million), Northern Ireland (592 per 1 million) and England (517 per 1 million)<sup>22</sup>.

## **Situation by local authority within Scotland**

West Lothian currently has the highest weekly case rate in Scotland reporting 468 weekly cases per 100,000 in the week to 4 October, followed by North Lanarkshire with 412 weekly cases per 100,000, Dundee City with 395 weekly cases per 100,000, Falkirk with 383 weekly cases per 100,000, East Ayrshire with 376 weekly cases per 100,000, and East Dunbartonshire with 369 weekly cases per 100,000 population. All local authorities reported over 100 weekly cases per 100,000 population in the last week, except for Orkney (Table 1). Case rates have decreased across most local authorities over the last week however there are still very high levels of case rates across Scotland (Figure 6). Orkney has the lowest case rate in Scotland, reporting 63 weekly cases per 100,000 in the week to 4 October<sup>23</sup>.

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<sup>20</sup> 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/health-and-life-expectancy/articles/prevalence-of-ongoing-symptoms-following-coronavirus-covid-19-infection-in-the-uk)

<sup>21</sup> UK Government: <https://coronavirus.data.gov.uk/>

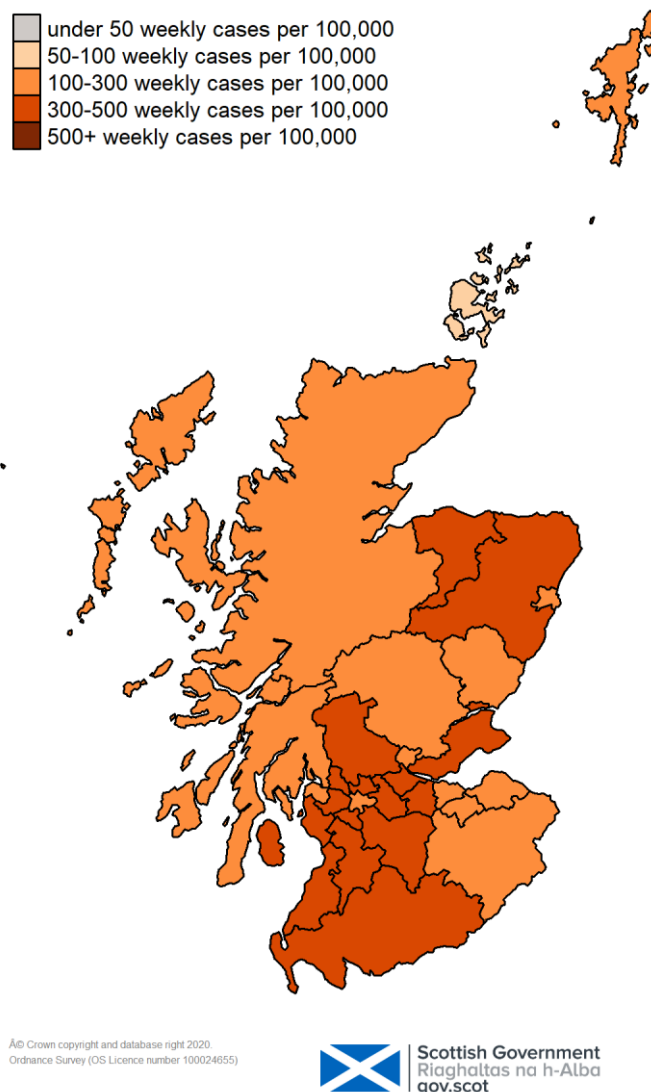
<sup>22</sup> *ibid*

<sup>23</sup> Public Health Scotland Covid dashboard: [https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard\\_15960160643010/Overview](https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview)

Table 1: Total new weekly cases per 100,000 population to 4 October 2021, in order of prevalence

Local authority	Total new cases in the week, per 100,000 population	Change since previous week
West Lothian	468	-56
North Lanarkshire	412	-62
Dundee City	395	-76
Falkirk	383	-69
East Ayrshire	376	-183
East Dunbartonshire	369	-25
South Lanarkshire	359	-29
East Renfrewshire	358	0
Aberdeenshire	357	-4
Stirling	355	-34
West Dunbartonshire	351	-169
Fife	350	-102
Moray	336	118
North Ayrshire	335	-133
Dumfries and Galloway	312	-44
Renfrewshire	312	-89
South Ayrshire	309	-270
Glasgow City	299	-58
Aberdeen City	280	-18
Scottish Borders	274	70
Clackmannanshire	263	-156
Midlothian	262	-133
Perth and Kinross	251	-120
Argyll and Bute	243	-66
Na h-Eileanan Siar	242	11
Inverclyde	234	-157
East Lothian	213	-50
Angus	212	-51
City of Edinburgh	196	-78
Highland	169	-8
Shetland Islands	118	66
Orkney Islands	63	-22
Scotland	309	-65

Figure 6: Map of weekly new positive cases per 100,000 people in Scotland



The most recent modelling predicts, based on data up to 4 October, that for the week commencing 17 October 2021, there are 29 local authorities which are expected to exceed 50 cases per 100,000 population with at least 75% probability. There are no local authorities which are expected to exceed 300 cases per 100,000 population with at least 75% probability<sup>24</sup>.

<sup>24</sup> Scottish Government: [Coronavirus \(COVID-19\): modelling the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/resources/documents/2021/10/Coronavirus_COVID-19_modelling_the_epidemic.pdf)

## Children and Education

Schools resumed in Scotland by the week ending 20 August and most universities resumed by end of September. The majority of children and young people have returned to full time education.

Over the last week there was a decrease in the total number of Covid-19 cases in young people aged under 22, which has decreased from 8,510 cases in the week to 26 September to 6,395 cases in the week ending 3 October. 7 day case rates per 100,000 have also decreased in all age groups in the week ending 3 October (Figure 7). The percentage of cases made up of children under 12 was just under 53% (3,381 cases) compared to just under 48% (4,051 cases) in the previous week<sup>25</sup>. The percentage of cases made up of 18-21 year olds was 7% (455 cases) in the week to 3 October compared to 9% (787 cases) in the week ending 26 September. Following the return of universities, there is no evidence of an uptick in cases in the 18-21 year age group.

The rate of testing decreased amongst all age groups in the week ending 3 October. Test positivity rates have decreased in all age groups in the same period. In the week ending 3 October, 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 remained at similar levels to the previous week (20.5%). Hospital admissions (3 week rolling average) in children and young adults decreased amongst all age groups in the period 9 – 29 September compared to the previous three-week period (2-22 September).

Vaccine uptake in 17-21 year olds as at 27 September was 77.2% for the first dose and 54.3% for the second dose<sup>26</sup>. Please note that under half of Scottish students are in this age category and only Scottish students (i.e. registered with a GP in Scotland) are included in the figures. Covid-19 infection survey estimated that up to the week beginning 23 August 2021, the percentage of 16-24 year olds in the community population in Scotland testing positive for antibodies increased to 88.7%<sup>27</sup>.

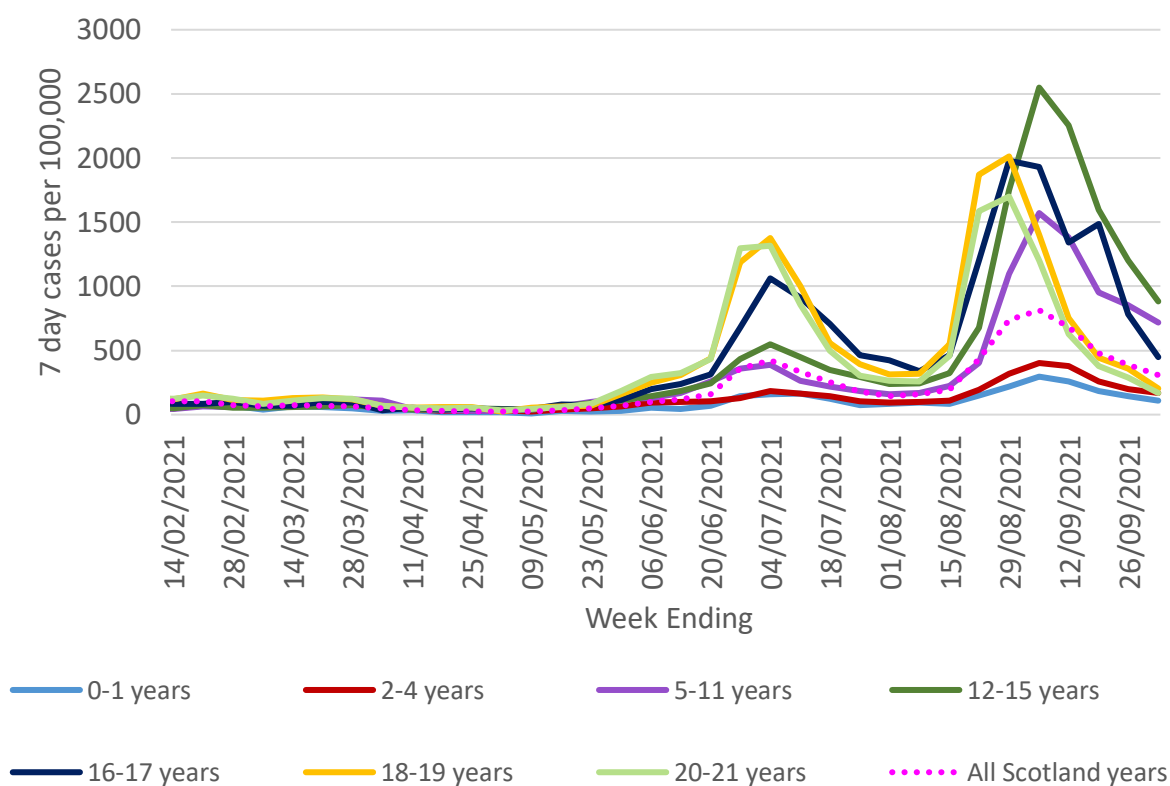
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<sup>25</sup> Public Health Scotland: [PHS COVID-19 Education report \(shinyapps.io\)](https://shinyapps.io)

<sup>26</sup> Public Health Scotland

<sup>27</sup> Office for National Statistics: [Coronavirus \(COVID-19\) Infection Survey, antibody and vaccination data, UK - Office for National Statistics](https://www.ons.gov.uk/coronavirus)

Figure 7: Seven day case rate in Scotland by age group by specimen date for children and young people (week ending 3 October). Refers to PCR testing only.



## Looking ahead

Changes in patterns of mixing and adherence to restrictions will impact on future case numbers. The Scottish Contact Survey measures times and settings that people mix where they could potentially spread Covid-19. An update to the Contact Survey will be provided next week.

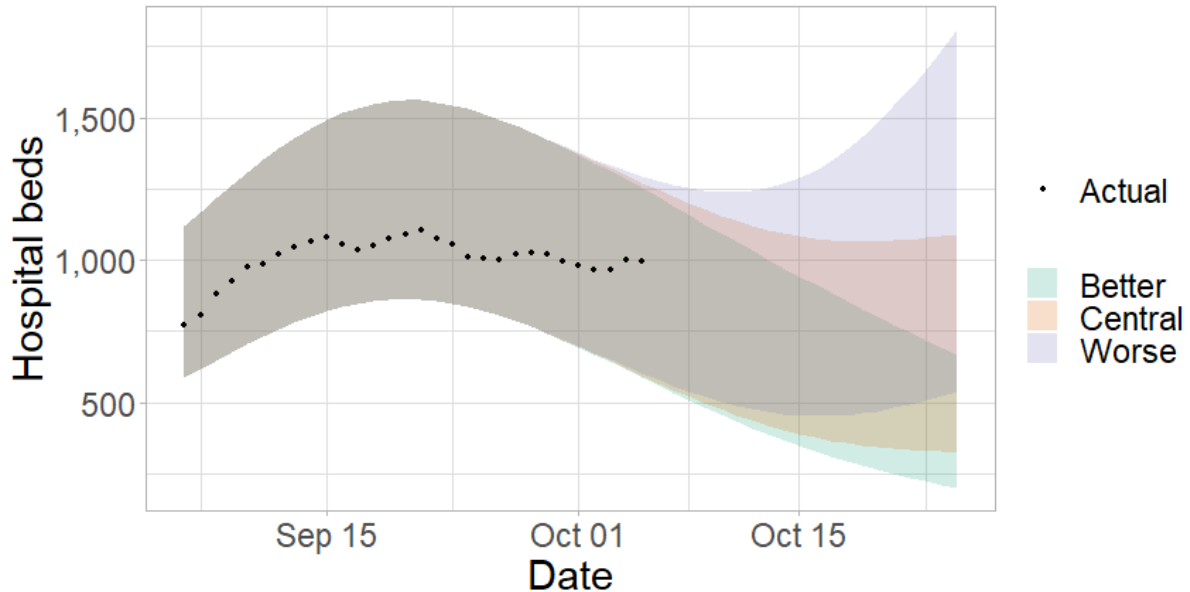
Self-reported compliance with the current regulations and guidance has decreased since January but remains at a high level. On 5-6 October, 70% of people reported 'complete' or 'almost complete' compliance<sup>28</sup>.

There is a slight decline in hospital and ICU occupancies, which may have plateaued and appear to be fluctuating up and down. There

<sup>28</sup> Results are taken from questions run on behalf of Scottish Government on the YouGov online omnibus survey. The sample is demographically and geographically representative of adults 18+ across Scotland, with c. 1000 responses each week. Fieldwork took place on 5-6 October with a total sample size of 1044 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?*

therefore continues to be uncertainty over hospital occupancy and intensive care in the next three weeks. (Figure 8)<sup>29</sup>.

Figure 8: Medium term projections of modelled hospital bed demand, from Scottish Government modelling<sup>30</sup>



Vaccinations are continuing across the priority groups and 91.5% of the 16+ population in Scotland has now been vaccinated with the first dose<sup>31</sup>. The first vaccines were administered on Tuesday 8 December and 4,235,075 people had received their first dose by 7 October 2021<sup>32</sup>. By age group, almost 100% of individuals aged 55+, 96% of those aged 50-54, 92% of those aged 40-49, 84% of those aged 30-39, 77% of those aged 18-29, 73% of those aged 16-17 and 30% of those aged 12-15 have received their first vaccination (Figure 9).

Almost 100% of individuals aged 60+, 97% of those aged 55-59, 94% of those aged 50-54, 87% of those aged 40-49, 75% of those aged 30-39, 65% of those aged 18-29, 12% of those aged 16-17 and 0% of those aged 12-15 have received their second dose. Overall, 3,854,847 people (84.7% of those aged 16 and over) had received their second dose by 7

<sup>29</sup> Scottish Government: [Coronavirus \(COVID-19\): modelling the epidemic - gov.scot \(www.gov.scot\)](https://www.gov.scot/Coronavirus-(COVID-19):-modelling-the-epidemic)

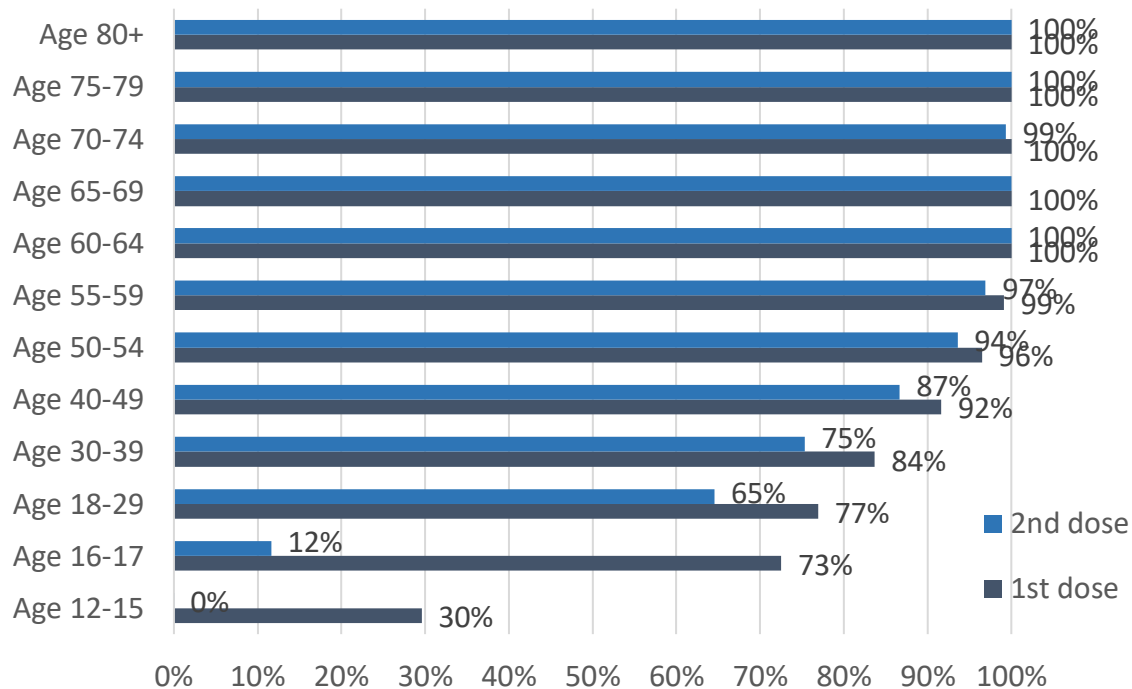
<sup>30</sup> The difference between the scenarios: 'Worse' assumes a rise in transmission similar to that seen in June and August. 'Central' assumes that infections will plateau at the current level. 'Better' assumes that infections will continue to fall. 'Worse' scenario has been included this week in response to the increase of Covid-19 in wastewater (a rise of appx 17%). All scenarios are based on current vaccine roll-out plans and efficacy assumptions.

<sup>31</sup> Public Health Scotland Covid-19 dashboard: [https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard\\_15960160643010/Overview](https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview)

<sup>32</sup> ibid

October<sup>33</sup>. There remains a low level of deaths amongst the vaccinated individuals (Figure 5).

Figure 9: Estimated percentage of adults vaccinated by 7 October 2021



The proportion of people surveyed who said they have been vaccinated for Covid-19 is high. 93% of all respondents have already received at least their first vaccine dose. Of those not vaccinated (and small base must be noted), 6% report they are likely to be vaccinated when a vaccine becomes available to them<sup>34</sup>.

## 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<sup>35 36 37</sup>. It quickly replaced Alpha (VOC-20DEC-01), first identified in the UK, as the dominant strain in Scotland, and 84,969 cases have now been identified as Delta to 6 October 2021.

<sup>33</sup> Public Health Scotland Covid-19 dashboard: [https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard\\_15960160643010/Overview](https://public.tableau.com/profile/phs.covid.19#!/vizhome/COVID-19DailyDashboard_15960160643010/Overview)

<sup>34</sup> Source: YouGov online survey. Total sample size on 5-6 October was 1044 adults. Sample size for those who have not yet received their first vaccine was 41 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')

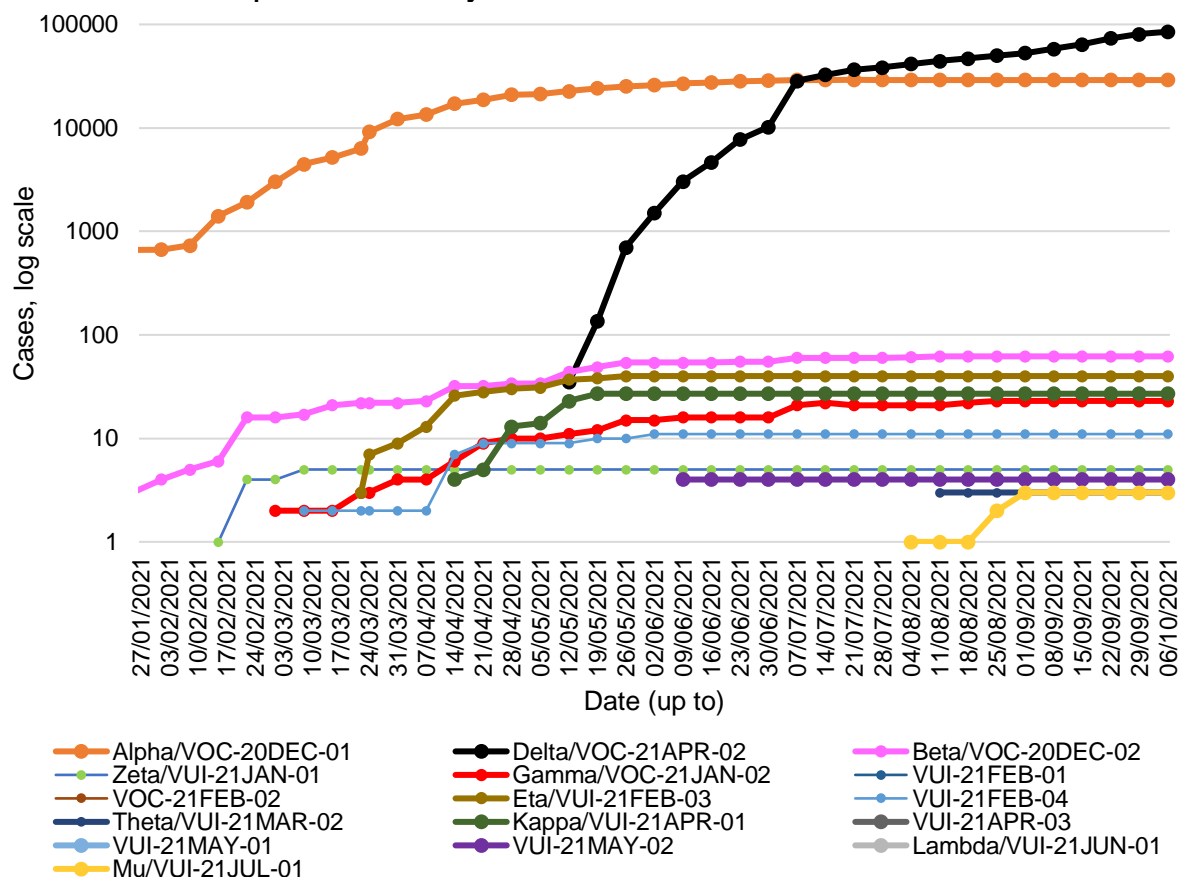
<sup>35</sup> [S1236 Eighty-ninth\\_SAGE.pdf \(publishing.service.gov.uk\)](#)

<sup>36</sup> [Risk assessment for SARS-CoV-2 variant: VOC-21APR-02 \(B.1.617.2\) \(publishing.service.gov.uk\)](#)

<sup>37</sup> [S1284\\_SAGE\\_92\\_minutes.pdf \(publishing.service.gov.uk\)](#)

To date there are five ‘variants of concern’ (VOCs) and eleven ‘variants under investigation’ (VUIs)<sup>38</sup>. 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<sup>39 40 41</sup>. Up to 6 October there have been 62 genomically confirmed cases of the variant Beta/VOC-20DEC-02 (first detected in South Africa), and 23 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 10). There remains uncertainty regarding the impact of the Delta variant on severity of illness, treatment or reinfections. 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.

Figure 10: Variants detected in Scotland by sequencing (data up to 6 October and reported weekly)<sup>42</sup>



<sup>38</sup> [Variants: distribution of cases data - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

<sup>39</sup> [Brief note on SARS-CoV-2 variants \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

<sup>40</sup> [Brief note on SARS-CoV-2 B.1.351 - 27 January 2021 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

<sup>41</sup> [Brief note on SARS-CoV-2 variant of concern P.1 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

<sup>42</sup> [Variants: distribution of cases data - GOV.UK \(www.gov.uk\)](http://www.gov.uk)



## The effectiveness of vaccines

A large study from the University of Oxford and Office of National Statistics shows that with Delta, Pfizer-BioNTech and Oxford-AstraZeneca vaccines still offer good protection against new infections, but effectiveness is reduced compared with Alpha<sup>43</sup>. 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. Vaccine effectiveness against symptomatic disease is high for both Alpha (89%) and Delta after two doses (79%)<sup>44</sup>. 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 effectiveness against infection appeared to be diminished when compared to those with Alpha<sup>45</sup>. The vaccine effectiveness expert committee recently published their consensus view on the effectiveness of different vaccines on infections, symptomatic disease, and severe disease<sup>46</sup>. The protective effects of vaccines wanes over time, and recently the Joint Committee on Vaccination and Immunisation (JCVI) gave advice on a booster programme to re-vaccinate adults against COVID in the UK<sup>47</sup>.

## 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.

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<sup>43</sup> [New studies — Nuffield Department of Medicine \(ox.ac.uk\)](#)

<sup>44</sup> [COVID-19 vaccine surveillance report - week 34 \(publishing.service.gov.uk\)](#)

<sup>45</sup> [SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness - The Lancet](#)

<sup>46</sup> [VEEP: Vaccine effectiveness table, 27 August 2021 - GOV.UK \(www.gov.uk\)](#)

<sup>47</sup> [JCVI statement, September 2021: COVID-19 booster vaccine programme for winter 2021 to 2022 - GOV.UK \(www.gov.uk\)](#)

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, UKHSA, 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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