

## Coronavirus (COVID-19): Analysis

### State of the Epidemic in Scotland – 22 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 21 October 2021 on Covid-19 in Scotland. This updates the previous publication published on 15 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 5 October, is estimated as being between 0.8 and 1.0. This is unchanged from last week.
- An average of 2,541 cases were reported per day in the 7 days to 21 October. This is a 6% increase from the daily average (2,405) recorded on 14 October.
- There were 325 weekly cases per 100,000 in the week to 18 October (by specimen date). This is lower than the most recent peak (825 weekly cases per 100,000 on 6 September) and lower than the peak in July (425 weekly cases per 100,000 recorded on 3 July). 7 day

<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)

case rates have been fluctuating in recent weeks and have increased slightly in the recent days.

- Case rates have decreased for 0-19 year olds and have fluctuated, or increased slightly, for all other age groups in the week to 18 October. As of 18 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 percentage of the population living in private residential households testing positive for SARS-CoV-2 in Scotland has continued to decrease in the last week (week ending 16 October 2021).
- Latest modelled estimates suggest that as of 5 October there were between 77 and 114 new daily infections per 100,000 people in Scotland. This is a decrease in the lower and upper limits since last week.
- There were 139 deaths registered in Scotland where coronavirus was mentioned on the death certificate in the week ending 17 October.
- Average hospital admissions (3-week rolling average) related to Covid-19 in children have decreased in most age groups compared to the previous three-week period.
- Clackmannanshire currently has the highest weekly case rate in Scotland reporting 491 weekly cases per 100,000 in the week to 18 October, followed by West Lothian with 472 weekly cases per 100,000, Stirling with 462 weekly cases per 100,000 and Falkirk with 460 weekly cases per 100,000 population. All local authorities reported over 100 weekly cases per 100,000 population in the last week, except for Shetland. Shetland reported the lowest case rate with 74 weekly cases per 100,000 in the same period.
- Nationwide, after the decrease observed last week (5 to 11 October 2021), levels of Covid-19 in wastewater have remained consistent.
- Hospital and ICU occupancy continue to fluctuate up and down. There 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, almost 3.9 million have received a second dose, and over 400,000 people have received a booster dose by 21 October.
- The Delta variant remains the dominant strain in Scotland.

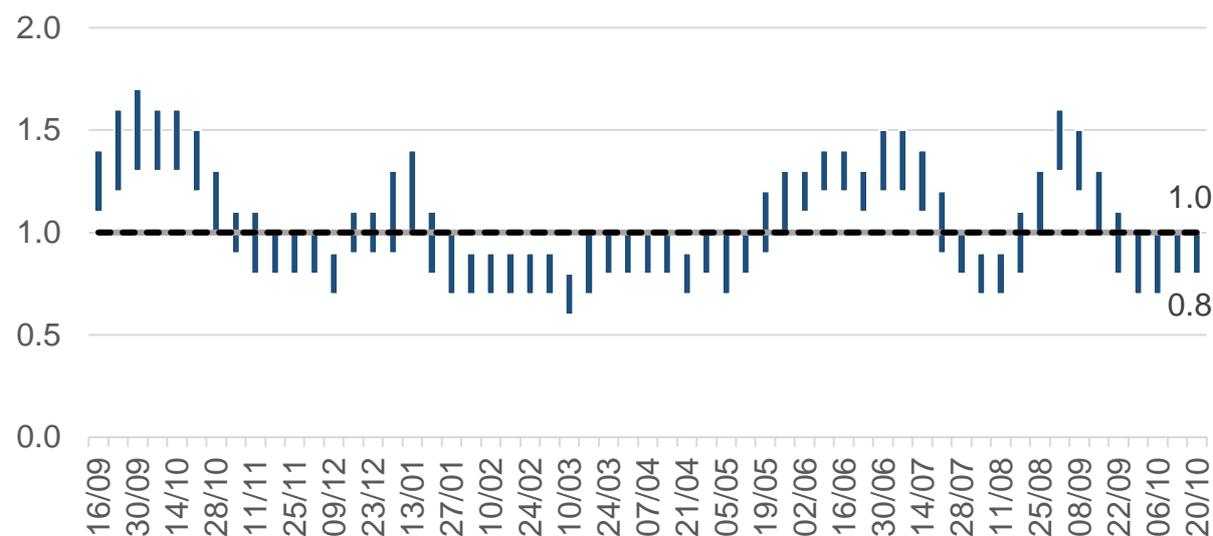
## Method

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 5 October (using data to 18 October)<sup>2</sup>, was between 0.8 and 1.0 (Figure 1), with a growth rate of between -3% and 0%. This is unchanged from last week.

Figure 1: R in Scotland over time



An average of 2,541 cases were reported per day in the 7 days to 21 October. This is a 6% increase from the daily average (2,405) reported a week earlier on 14 October<sup>3</sup>. In the week 9-15 October 2021, there were 370 cases (PCR testing only) per 100,000 amongst the unvaccinated individuals, compared to 258 cases per 100,000 for those that had been vaccinated with two doses<sup>4</sup>. Our current position is 325 weekly cases per 100,000 in the week to 18 October (by specimen date)<sup>5</sup>. This is lower

<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/>

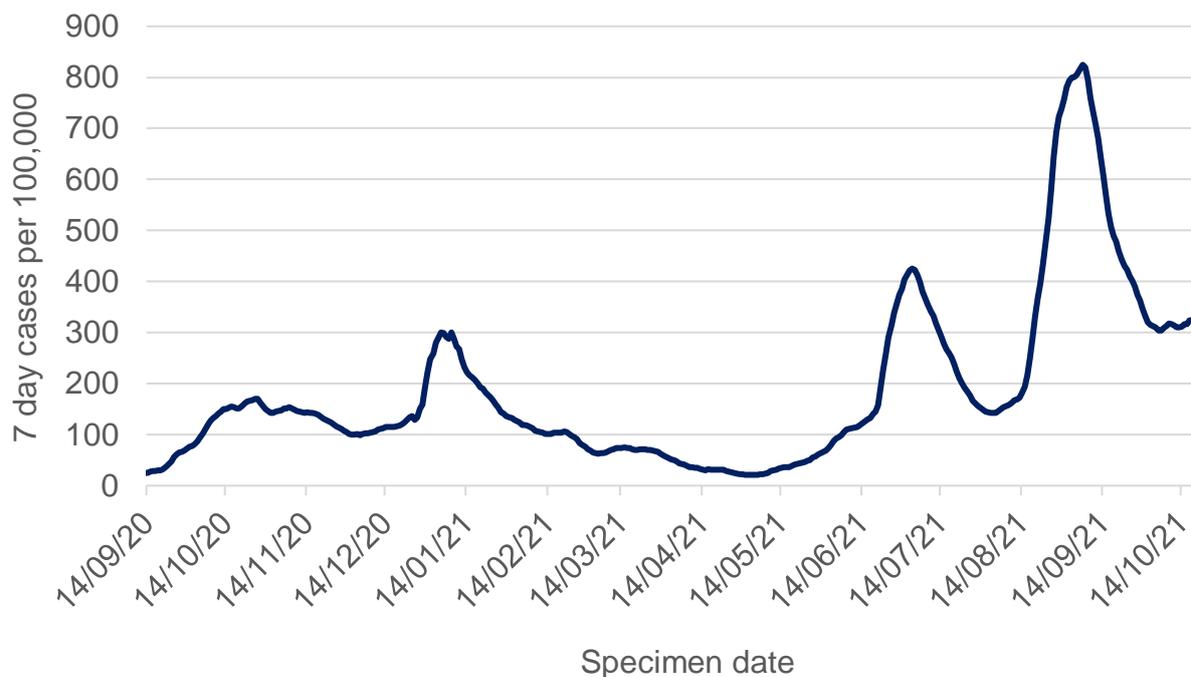
<sup>4</sup> [Public Health Scotland COVID-19 statistical report](https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/)

<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)

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). 7 day case rates have been fluctuating in recent weeks and have increased slightly in the recent days.

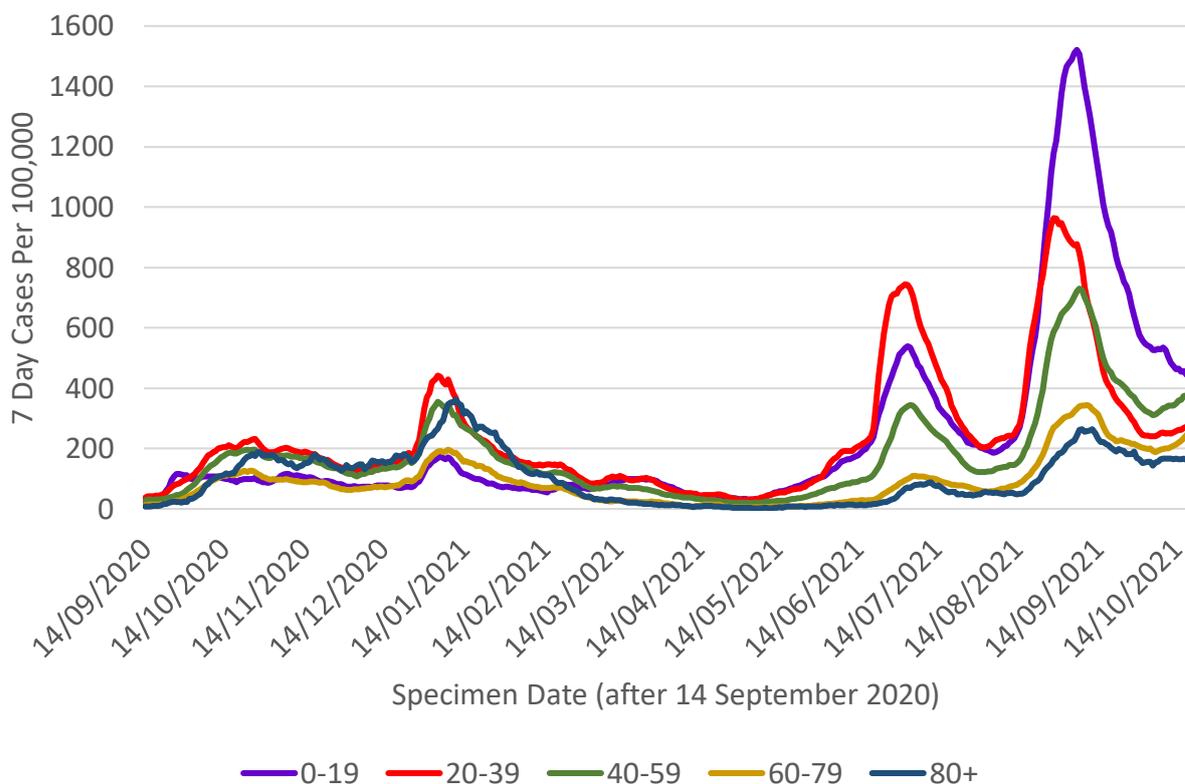
The number of locations where the levels of SARS-CoV-2 in wastewater are monitored has increased to 110 sites around Scotland. In contrast to Covid-19 case records, virus shedding into wastewater is a biological process. This means that wastewater data is unaffected by factors that impact whether testing is done. Nationwide, after the decrease observed last week (5 to 11 October 2021), levels of Covid-19 in wastewater have remained consistent.

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



Case rates have decreased for 0-19 year olds and have fluctuated, or increased slightly, for all other age groups in the week to 18 October. As of 18 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 5 October, the incidence of new daily infections in Scotland was between 77 and 114 new infections per 100,000<sup>7</sup>. This equates to between 4,200 and 6,200 people becoming infected each day in Scotland. This is a decrease in the lower and upper limits since last week.

Hospital and ICU occupancy continue to fluctuate up and down. 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 21 October there were 917 patients in hospital with Covid-19. This compares to 908 people in hospital on 14 October (Figure 4). The latest data from PHS shows 573 admissions to hospital for people with confirmed Covid-19 in the week to 17 October compared to 661 in the week to 10 October<sup>9</sup>. In the 4 weeks to 15 October 28.1% of acute Covid-19 hospital admissions were in

<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/)

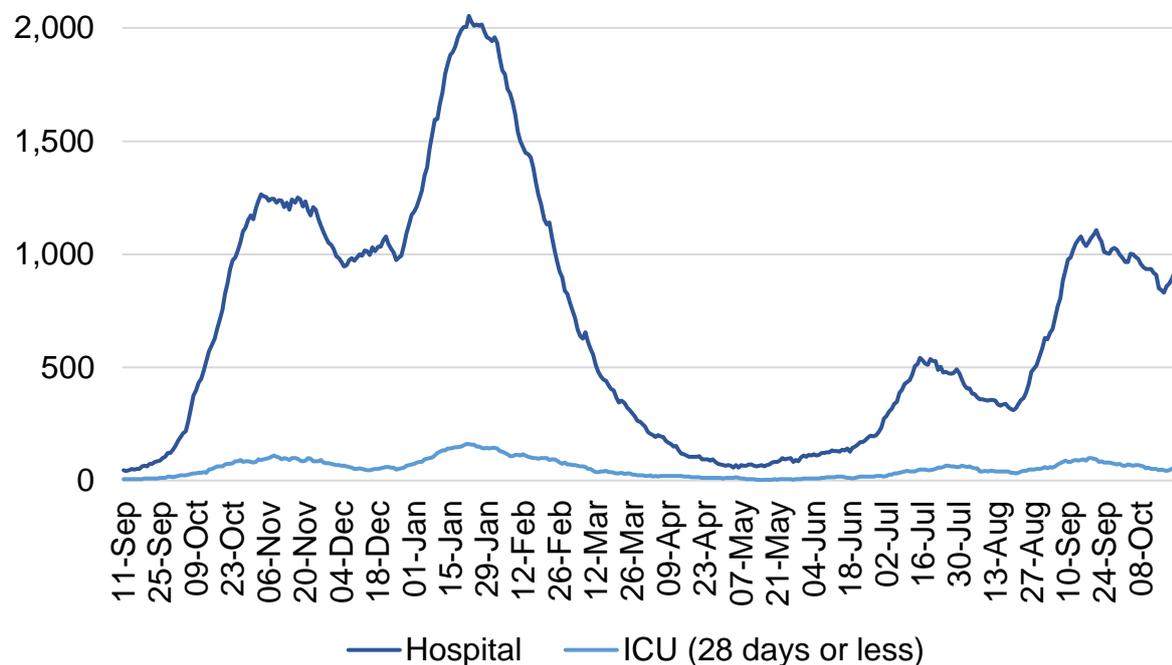
<sup>8</sup> Scottish Government: <https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/>

<sup>9</sup> Public Health Scotland dashboard: [COVID-19 Daily Dashboard - PHS COVID-19 | Tableau Public.](https://phs.scot.nhs.uk/covid-19/)

unvaccinated individuals<sup>10</sup>. For context, as of 21 October, 92.3% of adults aged 18+ (91.8% of adults aged 16+) have had at least one dose of the vaccine. 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 15 October. Unvaccinated individuals were 1.8 to 5 times more likely to be in hospital with Covid-19 compared to fully vaccinated individuals (depending on age) in the period 9-15 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>.

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



<sup>10</sup> [Public Health Scotland COVID-19 statistical report](#)

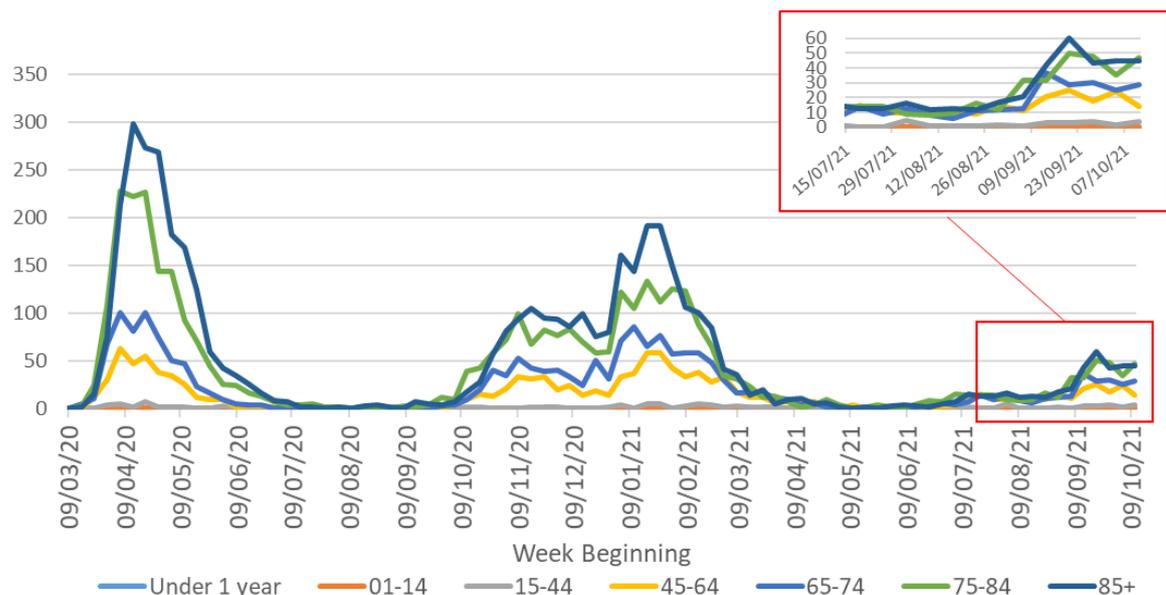
<sup>11</sup> *ibid*

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

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

There were 139 deaths registered where Covid-19 was mentioned on the death certificate in the week to 17 October. This is an increase of 8 (+6%) 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 14% in the week to 17 October, with 19 deaths occurring in care homes<sup>14</sup>. In the week ending 17 October, deaths involving coronavirus have increased in those aged 15-44 (from 3 to 4 deaths) compared to week ending 26 September. Deaths decreased in those aged 45-64 (from 25 to 14 deaths), 75-84 (from 50 to 47 deaths), and those aged 85+ (from 60 to 45 deaths), and remained unchanged for adults aged 65-74 (29 deaths). Deaths remained at 0 in those aged under 15 in the same period<sup>15</sup> (Figure 5). From 29 December 2020 to 8 October 2021, 75.2% 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, 79.2% of the confirmed Covid-19 deaths occurred in the 70+ age group<sup>17</sup>.

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



<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*

## How Scotland compares with the rest of the UK

The ONS Covid-19 Infection Survey estimates that in the week 10 to 16 October 2021 the estimated percentage of the population living in private residential households testing positive for Covid-19 in Scotland was 1.14% (95% credible interval: 0.90% to 1.41%). The percentage of people testing positive for Covid-19 in the private residential population has continued to decrease in the most recent week. Estimates for the same week in the other UK nations are as follows: 1.79% (95% credible interval: 1.70% to 1.89%) for England, 2.31% (95% credible interval: 1.90% to 2.78%) for Wales and 0.76% (95% credible interval: 0.50% to 1.07%) for Northern Ireland. This equates to around 1 in 90 people in Scotland, 1 in 55 in England, 1 in 45 in Wales and 1 in 130 in Northern Ireland<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 population living in private residential households 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>.

An estimated 1.7% of the population living in private residential households 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 21 October are above Wales (3 per 1 million), England and Northern Ireland (2 per 1 million each)<sup>21</sup>. Average daily cases in Scotland (465 per

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<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](#)

<sup>20</sup> Office for National Statistics: [Prevalence of ongoing symptoms following coronavirus \(COVID-19\) infection in the UK - Office for National Statistics \(ons.gov.uk\)](#)

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

1 million) in the week to 21 October are below Wales (1,054 per 1 million), England (702 per 1 million) and Northern Ireland (638 per 1 million)<sup>22</sup>.

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

Clackmannanshire currently has the highest weekly case rate in Scotland reporting 491 weekly cases per 100,000 in the week to 18 October, followed by West Lothian with 472 weekly cases per 100,000, Stirling with 462 weekly cases per 100,000, Falkirk with 460 weekly cases per 100,000, East Ayrshire with 442 weekly cases per 100,000, and Fife with 434 weekly cases per 100,000 population. All local authorities reported over 100 weekly cases per 100,000 population in the last week, except for Shetland (Table 1). Case rates have decreased in Aberdeenshire, Edinburgh, Dumfries and Galloway, Dundee, East Renfrewshire, Glasgow, Highland, Midlothian, Moray, North Ayrshire, Perth and Kinross, Shetland Islands, Stirling and West Dunbartonshire over the last week. However, there are still very high levels (150+ weekly cases per 100,000) of case rates across Scotland (Figure 6). Shetland has the lowest case rate in Scotland, reporting 74 weekly cases per 100,000 in the week to 18 October<sup>23</sup>.

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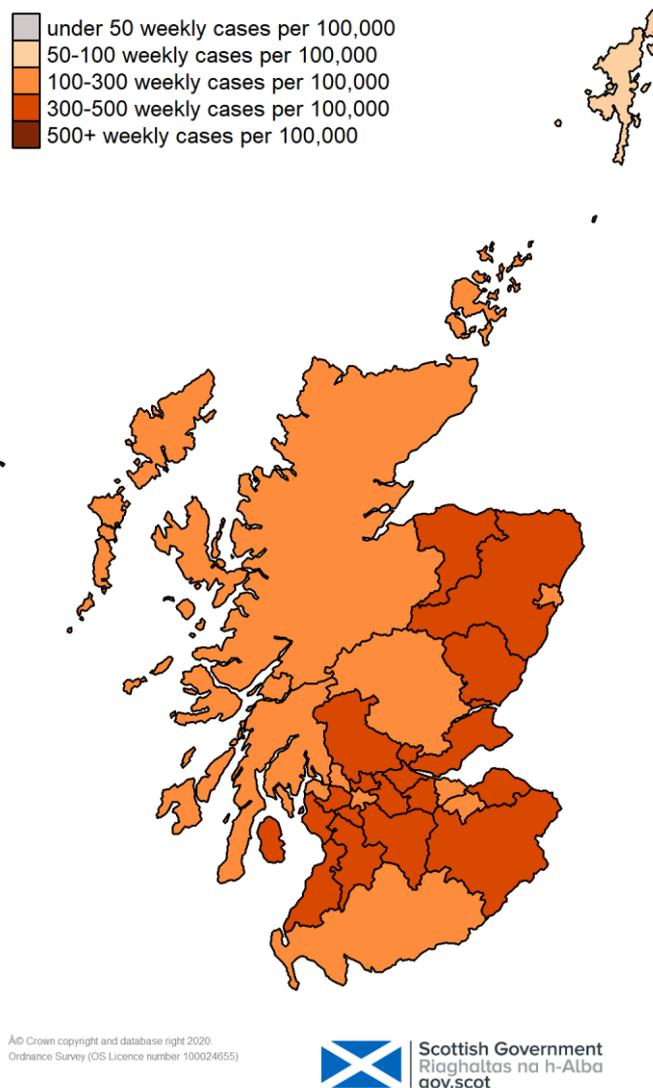
<sup>22</sup> *ibid*

<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 18 October 2021, in order of prevalence

Local authority	Total new cases in the week, per 100,000 population	Change since previous week
Clackmannanshire	491	168
West Lothian	472	28
Stirling	462	-9
Falkirk	460	92
East Ayrshire	442	63
Fife	434	38
East Dunbartonshire	394	103
South Lanarkshire	393	74
North Lanarkshire	383	28
Scottish Borders	357	32
North Ayrshire	352	-10
Dundee City	346	-91
East Renfrewshire	339	-49
Aberdeenshire	339	-52
Renfrewshire	334	24
Angus	329	28
Moray	319	-17
South Ayrshire	311	65
East Lothian	303	11
West Dunbartonshire	291	-17
Argyll and Bute	268	18
Inverclyde	265	9
Perth and Kinross	263	-26
Aberdeen City	262	4
Dumfries and Galloway	250	-28
Midlothian	245	-2
Glasgow City	242	-14
City of Edinburgh	230	-16
Highland	220	-2
Na h-Eileanan Siar	208	83
Orkney Islands	125	54
Shetland Islands	74	-39
Scotland	325	11

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



The most recent modelling predicts, based on data up to 18 October, that for the week commencing 31 October 2021, there are 28 local authorities which are expected to exceed 50 cases per 100,000 population with at least 75% probability. There are 23 local authorities which are expected to exceed 100 cases per 100,000 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 universities resumed by end of September. The majority of children and young people have returned to full time education. However, throughout October, schools will be on holiday, with term times varying across Scotland. This may have an effect on testing.

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 6,219 cases in the week to 10 October to 5,387 cases in the week ending 17 October. 7 day case rates per 100,000 have continued to decrease or have plateaued amongst those aged 2-4, 5-11, 12-15, and 20-21, whereas weekly case rates increased amongst those aged 0-1, 16-17, and 18-19, in the week ending 17 October (Figure 7). The percentage of cases made up of children under 12 was 57% (3,047 cases) in the week to 17 October, unchanged from the previous week<sup>25</sup>. The percentage of cases made up of 18-21 year olds was 7% (387 cases) in the week to 17 October compared to 6% (398 cases) in the week ending 10 October. 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 17 October. Test positivity rates have increased in all age groups in the same period. In the week ending 17 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 decreased to 7.6% compared to 21.3% in the week ending 10 October. Hospital admissions (3 week rolling average) in children and young adults decreased amongst all age groups, except for 20-21 year olds, in the period 23 September – 13 October compared to the previous three-week period (16 September – 6 October).

Vaccine uptake in 17-21 year olds as at 18 October was 78.9% for the first dose and 58.5 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

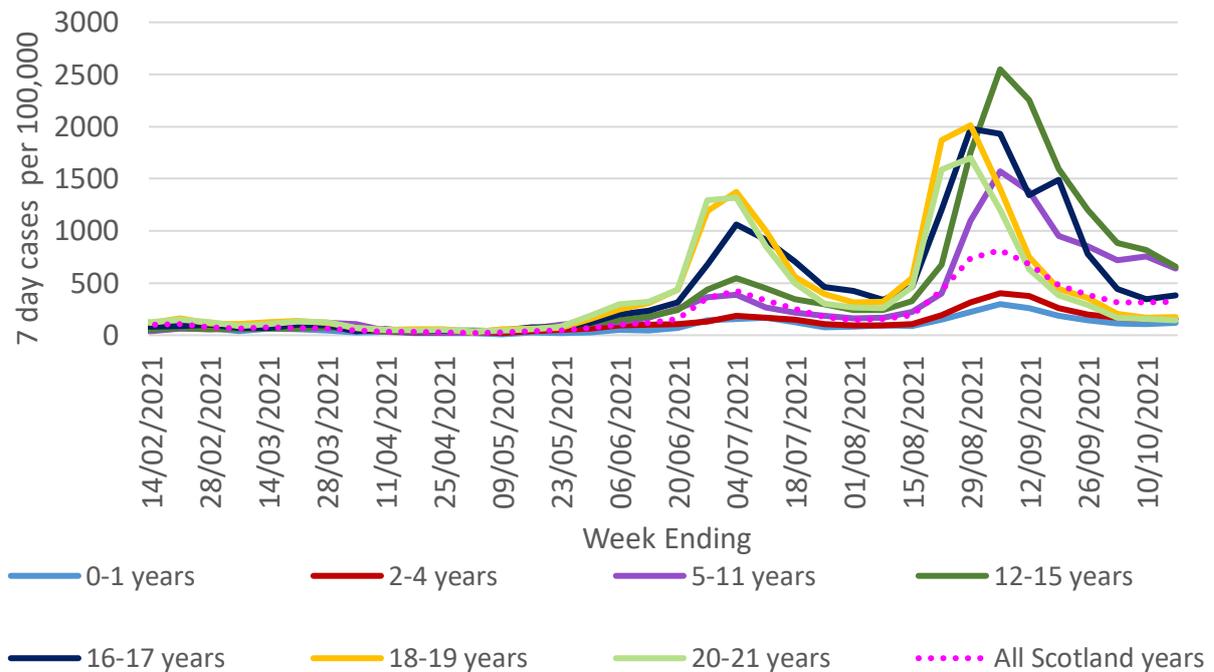
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<sup>25</sup> Public Health Scotland: [PHS COVID-19 Education report \(shinyapps.io\)](https://shinyapps.io)

<sup>26</sup> Public Health Scotland

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>.

Figure 7: Seven day case rate in Scotland by age group by specimen date for children and young people (week ending 17 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.

Average contacts have decreased by approximately 14% in the last two weeks (comparing surveys pertaining to 23rd September - 29th September and 7 October - 13 October) with a current level of 4.7 daily contacts.

Mean contacts within the work setting have decreased by around 48% whereas contacts in the other setting (contacts outside home, school and work) have increased by 11% in the last two weeks. Contacts within the home have remained at a similar level over the same period.

<sup>27</sup> Office for National Statistics: [Coronavirus \(COVID-19\) Infection Survey, antibody and vaccination data, UK - Office for National Statistics](#)

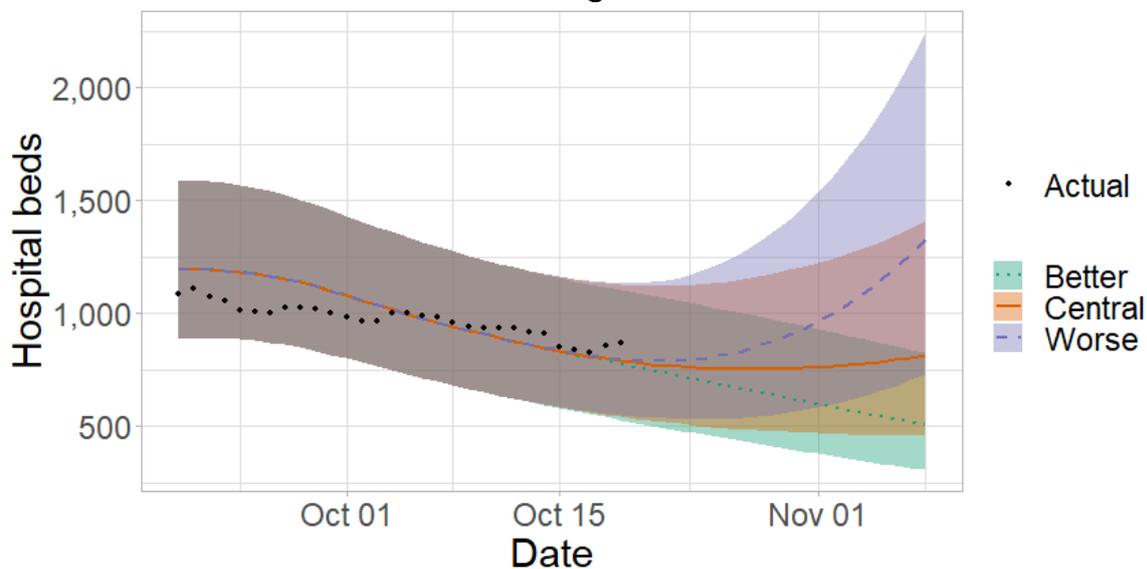
Those aged between 30-39 have reported the biggest decrease in interactions with those aged under 18 in the last two weeks whereas interactions between the 18-29 age group with those under 18 has shown the biggest increase.

The proportion of individuals visiting another’s home decreased from approximately 51% to 44% whilst individuals visiting a pub or restaurant rose from 45% to 47% in the last two weeks.

Self-reported compliance with the current regulations and guidance has decreased since January but remains at a high level. On 19-20 October, 71% of people reported ‘complete’ or ‘almost complete’ compliance<sup>28</sup>.

Hospital and ICU occupancy continue to fluctuate up and down. There 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>



<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 19-20 October with a total sample size of 1003 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?*

<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)

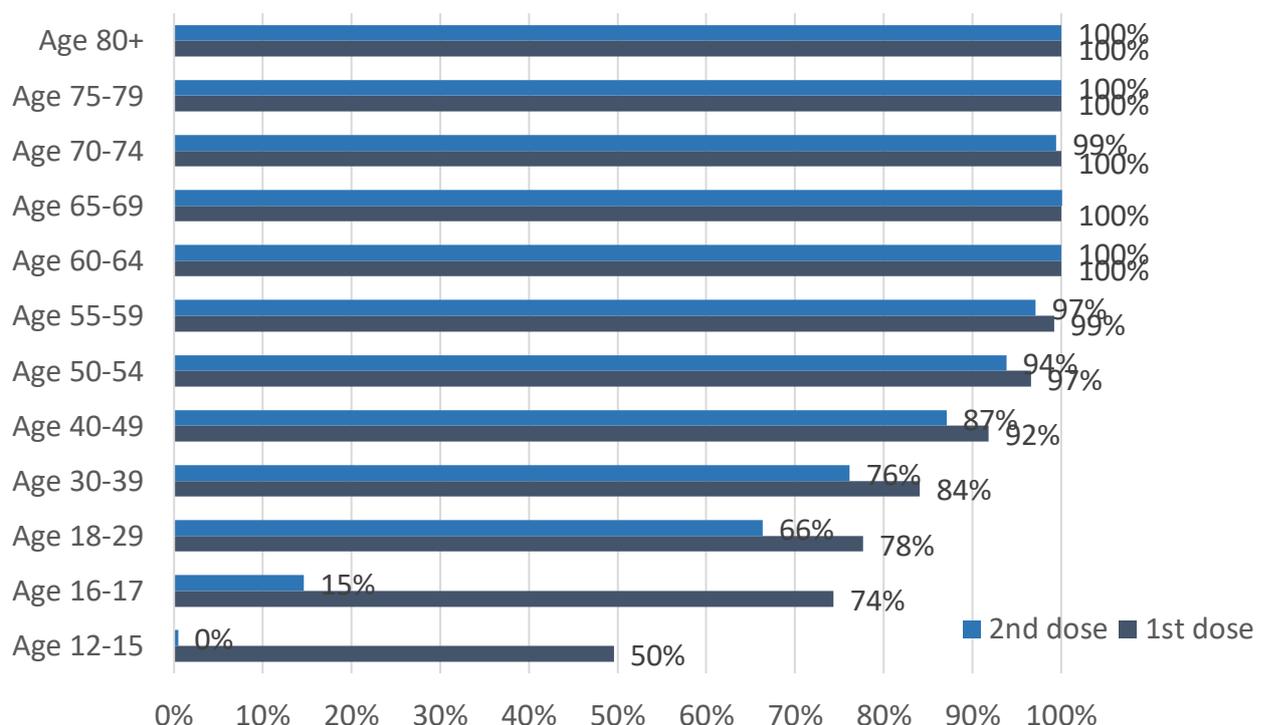
<sup>30</sup> The difference between the scenarios: ‘Worse’ assumes a rise in transmission similar to that seen in June and August. ‘Central’ assumes that infections will plateau at the current level. ‘Better’ assumes that infections will fall. All scenarios are based on current vaccine roll-out plans and efficacy assumptions. All three scenarios assume a small number of infections resulting from the COP 26 conference beginning in Glasgow 31 October. However, there is a large amount of uncertainty as to the potential impact on infections.

Vaccinations are continuing and 91.8% 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 4,297,028 people had received their first dose by 21 October 2021<sup>32</sup>.

By age group, almost 100% of individuals aged 55+, 97% of those aged 50-54, 92% of those aged 40-49, 84% of those aged 30-39, 78% of those aged 18-29, 74% of those aged 16-17 and 50% 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, 76% of those aged 30-39, 66% of those aged 18-29, 15% of those aged 16-17 and 0% of those aged 12-15 have received their second dose. Overall, 3,886,176 people (85.4% of those aged 16 and over) had received their second dose and 400,511 people have received their booster vaccine by 21 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 21 October 2021



<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

<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)

The proportion of people surveyed who said they have been vaccinated for Covid-19 is high. 92% of all respondents have already received at least their first vaccine dose. Of those not vaccinated (and small base must be noted), 5% report they are likely to be vaccinated when a vaccine becomes available to them<sup>34</sup>.

## How the virus is changing

Please note that this section contains last week's figures. An update will be provided next week.

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 91,372 cases have now been identified as Delta to 13 October 2021.

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 13 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.

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<sup>34</sup> Source: YouGov online survey. Total sample size on 19-20 October was 1003 adults. Sample size for those who have not yet received their first vaccine was 51 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 \(publishing.service.gov.uk\)](#)

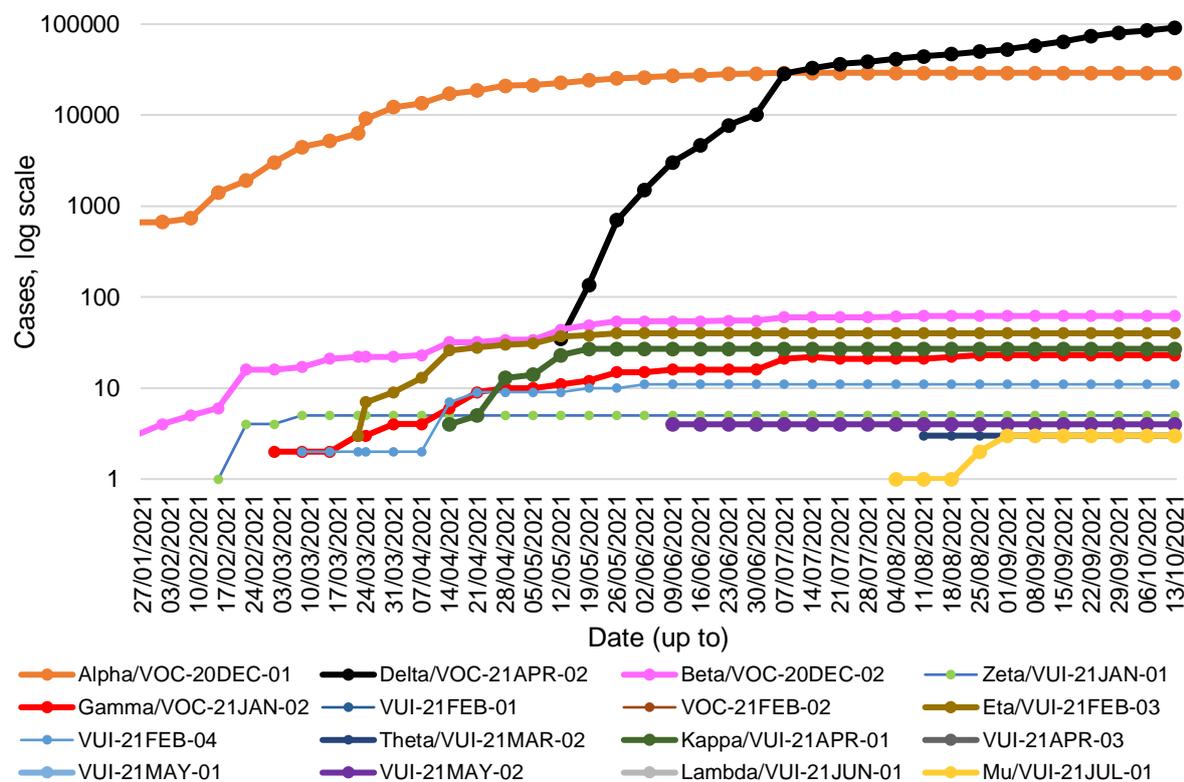
<sup>38</sup> [Variants: distribution of cases data - GOV.UK \(www.gov.uk\)](#)

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

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

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

Figure 10: Variants detected in Scotland by sequencing (data up to 13 October and reported weekly)<sup>42</sup>



## 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

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

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

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

infection appeared to be diminished when compared to those with Alpha<sup>45</sup>. The latest data released from the EAVE II study revealed that vaccination is over 90% effective at preventing deaths from the Delta variant of Covid-19 (Pfizer-BioNTech 90% effective, Oxford-AstraZeneca 91%)<sup>46</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>47</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>48</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.

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.

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

<sup>46</sup> [Vaccines give protection against death from Delta | The University of Edinburgh](#)

<sup>47</sup> [VEEP: Vaccine effectiveness table, 27 August 2021 - GOV.UK \(www.gov.uk\)](#)

<sup>48</sup> [JCVI statement, September 2021: COVID-19 booster vaccine programme for winter 2021 to 2022 - GOV.UK \(www.gov.uk\)](#)

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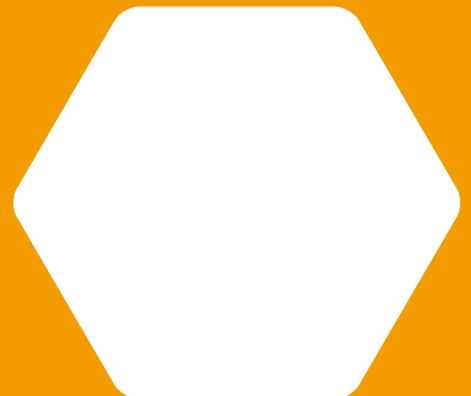
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