

State of the Epidemic in Scotland – 26 May 2022

Scottish Government Central Analysis Division

Background

This report summarises the current situation of 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 updates the previous publication published on 13 May 2022¹. 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.

This week, the State of the Epidemic report is published on Thursday 26 May 2022, rather than on the usual publication day of Friday, to accommodate The Queen's Official Birthday holiday in Edinburgh and Dundee.

The State of the Epidemic report this week will summarise the situation up to and including 24 May 2022. Due to changes in reporting and testing, certain data sources will have earlier cut-off dates than 24 May. This is highlighted throughout the report in the footnotes of the relevant sections. In addition, to accommodate the earlier State of the Epidemic report publication this week, we present the Covid-19 Infection Survey results released last Friday, 20 May 2022, relating to the week 7 to 13 May 2022. These are the latest available results at the time of publication. The next release of results remains at the usual time of 12:00 noon on Friday 27 May 2022, when an article will be published on the Scottish Government website².

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

² Scottish Government: [Coronavirus \(COVID-19\): ONS infection survey - Headline Results](https://www.gov.scot/Coronavirus-COVID-19-ONS-infection-survey-Headline-Results)

We are currently considering the appropriate frequency and content of this report, if you have any feedback please contact sgcentralanalysisdivision@gov.scot.

Changes to Testing Policy in Scotland

Please note that patient testing requirements changed on 1 April 2022, which may mean a reduction in asymptomatic cases of Covid detected and a corresponding decrease in Covid related occupancy and admissions. Following the publication of the Test and Protect Transition Plan, the LFD Universal Offer for asymptomatic testing came to an end on 18 April 2022. In addition, on 1 May 2022 the purpose of COVID-19 testing shifted from population-wide testing to reduce transmission, to targeted testing and surveillance. Reported cases will no longer be representative of all COVID-19 cases in Scotland, and caution is advised when comparing trends in cases over time. This has reduced the availability and reliability of Covid-19 data and indicators that rely on testing, including cases data, hospital admissions and occupancy data. In this publication, affected indicators have been marked out and highlighted throughout the report.

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Please note that State of the Epidemic report no longer includes a section on LFD testing or reinfection cases (commentary on this can still be found in the Reported Covid-19 Cases section), and no commentary on Covid-19 cases in different age groups, cases among care home residents, or case rates in Scottish local authorities. This is due to data availability following the implementation of testing policy changes in Scotland.

Summary

Since the last publication, the UKHSA consensus estimate of R has remained unchanged and is estimated to remain below one as at 10 May. The positivity estimate from the Covid-19 Infection Survey (CIS) for Scotland continued to decrease in the most recent week to 13 May. Over the past two weeks to 24 May, overall wastewater Covid-19 levels have remained at a similar level in Scotland. According to the CIS, the estimated percentage of people testing positive has decreased among all ages in recent weeks.

Both Covid-19 related daily hospital and ICU occupancy appears to have continued to decline in the most recent week to 22 May, after reaching the highest levels seen throughout the pandemic at the start of April 2022. Weekly numbers of Covid-19 admissions to hospital have continued to decrease in the week to 3 May, after reaching the highest levels seen throughout the pandemic in the week to 18 March. However, there appears to be an increase in the number of new Covid-19 patients admitted to ICU in the week to 8 May. Trends in hospital admissions and occupancy data are to be interpreted with caution due to recent changes in testing. There were 52 deaths where Covid-19 was mentioned on the death certificate in the latest week, a decrease from the week before.

Key Points

- The UK Health Security Agency's (UKHSA) consensus estimate for R in Scotland as at 10 May is between 0.7 and 0.9. The lower and upper limits of the R value are unchanged since the previous publication.
- UKHSA was unable to form a consensus view on the incidence of new daily infections in Scotland as at 10 May.
- The latest estimated growth rate for Scotland as at 10 May was between -5% and -2%. The upper and lower growth limits have both increased since the previous publication.
- As determined through the latest weekly ONS Covid-19 Infection Survey (CIS), in Scotland, the percentage of people living in private residential households testing positive for Covid-19 continued to decrease in the week ending 13 May 2022. In the latest week, the estimated percentage of people testing positive was 2.32% (95% credible interval: 1.98% to 2.70%)³, equating to around 1 in 45 people (95% credible interval: 1 in 50 to 1 in 35).
- In the most recent week (7 to 13 May 2022), estimates for the percentage of people testing positive were similar for all CIS Regions in Scotland and ranged from 2.27% in CIS Region 126 (NHS Lothian) (95% credible interval: 1.81% to 2.85%) to 2.65% in CIS Region 123 (NHS Grampian, NHS Highland, NHS

³ A **credible interval** gives an indication of the uncertainty of an estimate from data analysis based on a sample population. 95% credible intervals are calculated so that there is a 95% probability of the true value lying in the interval.

Orkney, NHS Shetland and NHS Western Isles) (95% credible interval: 2.13% to 3.36%).

- Nationwide, wastewater Covid-19 RNA levels in the past two weeks have had a similar average level as in our previous report. In the two weeks from 11 to 24 May, the medial level of Covid-19 in wastewater was 76 million gene copies per person per day (Mgc/p/d), compared to 82 Mgc/p/d previously. There is no significant difference between the two weeks.
- Please note that due to testing policy changes, reported cases will no longer be representative of all COVID-19 cases in Scotland, and caution is advised when comparing trends in cases over time. By specimen date, there were 114 weekly combined PCR and LFD cases (including reinfections) per 100,000 population in the week to 20 May.
- In the week to 22 May, daily Covid-19 hospital occupancy in Scotland appears to be on a decline; however, this is to be interpreted with caution due to latest changes in testing. NHS boards reported 663 patients in hospital or in short stay ICU on 22 May with recently confirmed Covid-19, compared to 845 on 15 May.
- In the week to 3 May, Covid-19 admissions to hospital in Scotland appear to be on a decline; NHS boards reported 600 admissions on 3 May, compared to 735 admissions the previous week ending 26 April. In the week to 8 May, there appears to be an increase in the number of new Covid-19 patients admitted to ICU; there were 21 new admissions in the week to 8 May, compared to 17 in the week to 1 May. These figures are to be interpreted with caution due to recent testing changes, and data continues to be lagged by two weeks from the latest available date due to high numbers of revisions.
- The overall number of Covid-19 deaths has decreased by 15%, or 9 deaths, to a total of 52 deaths in the week leading up to 22 May, compared to 61 in the week leading up to 15 May.
- In the week ending 22 May, the total number of deaths registered in Scotland was 1,191. This was 13% above the five-year average for this week.
- Omicron sub-lineage BA.2 remains dominant in the United Kingdom (UK) and Scotland based on sequencing data. Some diversity is developing within this variant, and also two Omicron sub-lineages BA.4 and BA.5 have been elevated to variants of concern (VOCs) due to their apparent growth advantage over Omicron BA.2. Small numbers of BA.4 and BA.5 sequences continue to be detected in the UK and Scotland.

Method

This report brings together a wide range of publicly 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 monthly YouGov polling surveys and fortnightly information from the Scottish Contact Survey.

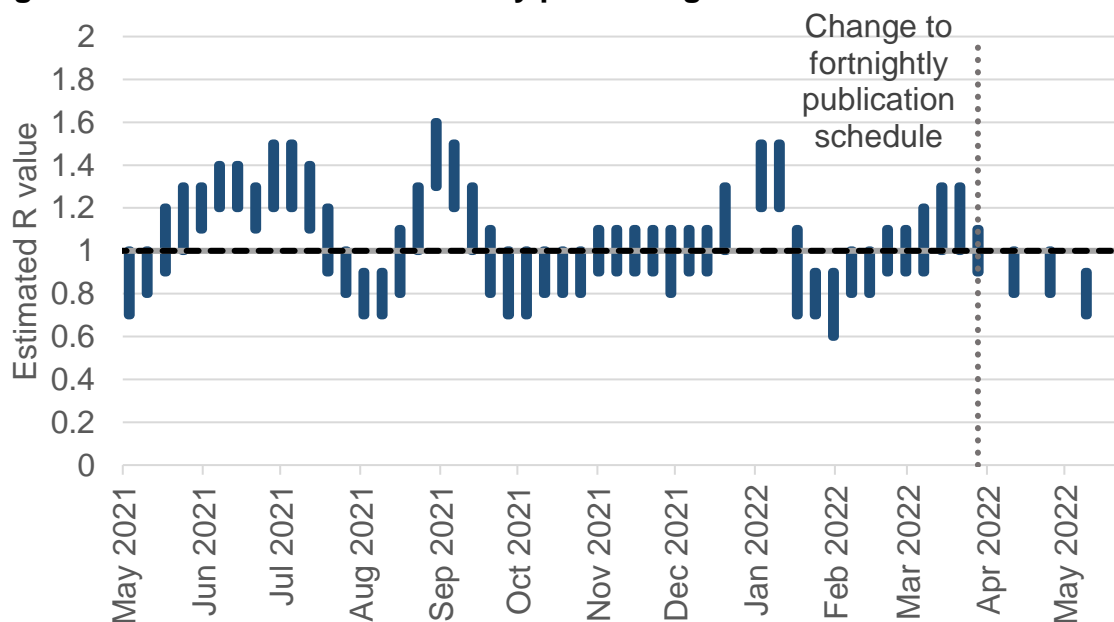
Covid-19 Prevalence

R value, Growth Rate and Estimated New Daily Infections

The reproduction number (R) is the average number of secondary infections produced by a single infected person. If R is greater than one the epidemic is growing, if R is less than one the epidemic is shrinking. The higher R is above one, the more people one infectious person might further infect and so the faster the epidemic grows. **Please note that R is an indicator that lags by two or three weeks.** For more information please visit [the UK government website](#).

The UK Health Security Agency's (UKHSA) consensus estimate for R in Scotland as at 10 May is between 0.7 and 0.9. The lower and upper limits of the R value are unchanged since the previous publication (Figure 1)^{4 5}.

Figure 1: R in Scotland over time by publishing week⁶.



UKHSA was unable to form a consensus view on the incidence of new daily infections in Scotland as at 10 May⁷.

⁴ Scottish Government: [Coronavirus \(Covid-19\): modelling the epidemic](#) (Issue 100, published 26 May 2022)

⁵ Using data to 23 May 2022.

⁶ No R value was published for the week beginning 27 December 2021 (as publications were paused over the festive period). The most recent data point for the R value is dated 25 May 2022, reflecting the R value as at 10 May 2022.

⁷ Scottish Government: [Coronavirus \(Covid-19\): modelling the epidemic](#) (Issue 100, published 26 May 2022)

The growth rate reflects how quickly the numbers of infections are changing day by day. It is an approximation of the percentage change in the number of new infections each day. More information can be found on [the UK government website](#).

The latest growth rate for Scotland as at 10 May was between -5% and -2%. The upper growth and lower growth limit have both increased since the last published figure^{8 9}.

Covid-19 Infection Survey – Headline Estimates

The Covid-19 Infection Survey is a UK wide study carried out by the Office for National Statistics (ONS) and the University of Oxford. The survey invites people living in private households to test whether they have the infection, regardless of whether they have symptoms, using a PCR test. This means the study is unaffected by testing policy changes. Participants are also asked to provide a blood sample to test for antibodies.

To accommodate the earlier State of the Epidemic report publication this week, we present the Covid-19 Infection Survey results released last Friday, 20 May 2022, relating to the week 7 to 13 May 2022. These are the latest available results at the time of publication.

In Scotland, the percentage of people living in private households testing positive for Covid-19, as estimated by the Covid-19 Infection Survey, continued to decrease in the most recent week (7 to 13 May), as seen in Figure 2¹⁰. The estimated percentage of people testing positive in Scotland has been decreasing since late-March. This follows a peak in the week 14 to 20 March 2022 which saw the highest estimate for Scotland since the survey began. The estimated percentage of people testing positive for Covid-19 in the week 7 to 13 May in Scotland is 2.32% (95% credible interval: 1.98% to 2.70%)¹¹, equating to around 1 in 45 people (95% credible interval: 1 in 50 to 1 in 35).

In the week 7 to 13 May 2022, estimates for the other nations of the UK are as follows and can be seen in Figure 2:

⁸ Using data to 23 May 2022.

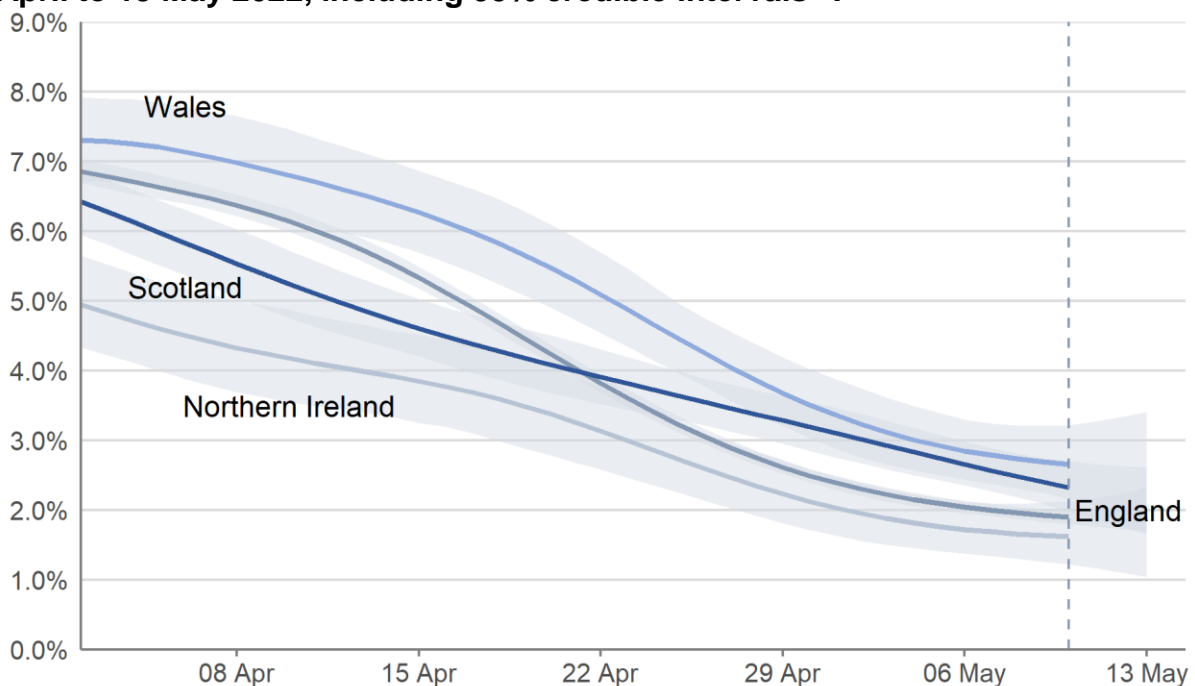
⁹ Scottish Government: [Coronavirus \(Covid-19\): modelling the epidemic](#) (Issue 100, published 26 May 2022)

¹⁰ Scottish Government: [Coronavirus \(COVID-19\): ONS infection survey - Headline Results](#) (published 20 May 2022)

¹¹ A **credible interval** gives an indication of the uncertainty of an estimate from data analysis based on a sample population. 95% credible intervals are calculated so that there is a 95% probability of the true value lying in the interval.

- In England, the percentage of people testing positive continued to decrease: 1.90% (95% credible interval: 1.80% to 2.00%), equating to around 1 in 55 people (95% credible interval: 1 in 55 to 1 in 50).
- In Wales, the percentage of people testing positive continued to decrease: 2.66% (95% credible interval: 2.16% to 3.22%), equating to around 1 in 40 people (95% credible interval: 1 in 45 to 1 in 30).
- In Northern Ireland, the percentage of people testing positive continued to decrease: 1.62% (95% credible interval: 1.22% to 2.13%), equating to around 1 in 60 people (95% credible interval: 1 in 80 to 1 in 45).

Figure 2: Modelled daily estimates of the percentage of people living in private households testing positive for COVID-19 in the four UK nations, between 2 April to 13 May 2022, including 95% credible intervals¹².



The estimated percentage of people living in private households in Scotland testing positive for Covid-19 has decreased for all age groups in recent weeks¹³.

¹² Scottish Government: [Coronavirus \(COVID-19\): ONS infection survey - Headline Results](#) (published 20 May 2022)

¹³ Scottish Government: [Coronavirus \(COVID-19\): ONS infection survey - Headline Results](#) (published 20 May 2022)

Covid-19 Infection Survey – Regional Analysis

The ONS have created sub-regions across the UK for the purposes of providing Covid-19 positivity estimates for the residential populations on a lower level than the four nations. In Scotland, these sub-regions are comprised of Health Boards (for an overview on how these align with local authorities, please see Table 1 in the Technical Annex).

To accommodate the earlier State of the Epidemic report publication this week, we present the Covid-19 Infection Survey results released last Friday 20 May 2022, relating to the week 7 to 13 May 2022. These are the latest available results at the time of publication.

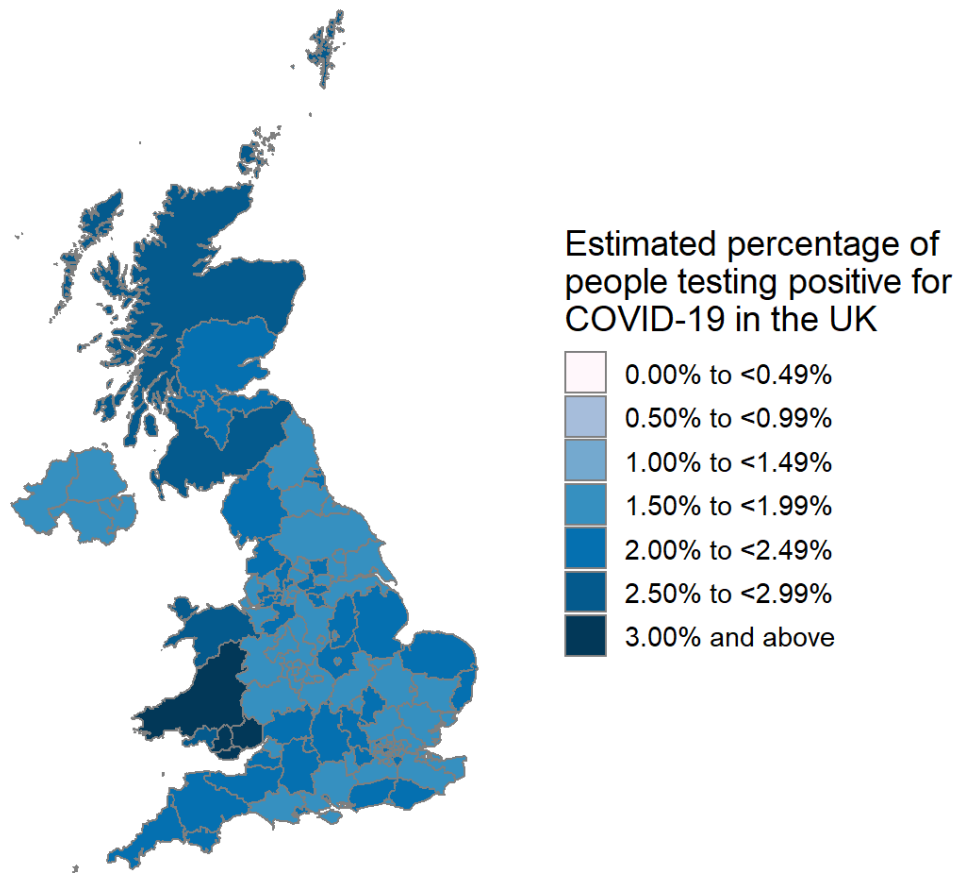
In the most recent week (7 to 13 May 2022), estimates for the percentage of people testing positive were similar for all CIS Regions in Scotland and ranged from 2.27% in CIS Region 126 (NHS Lothian) (95% credible interval: 1.81% to 2.85%) to 2.65% in CIS Region 123 (NHS Grampian, NHS Highland, NHS Orkney, NHS Shetland and NHS Western Isles) (95% credible interval: 2.13% to 3.36%).

Overlapping credible intervals indicate that there may not be a true difference between the estimates (Figure 3)^{14 15}. Figure 3 is also available as a [dynamic map](#).

¹⁴ Scottish Government: [Coronavirus \(COVID-19\): ONS infection survey - Headline Results](#) (published 20 May 2022)

¹⁵ Sub-regional estimates are based on a different model to the national headline estimates, and should not be compared to headline positivity estimates. The sub-regional figures may differ from the headline estimates because they are averaged over a longer time period. The number of people sampled in each sub-regional area who tested positive for COVID-19 is lower relative to the respective overall national samples. This means there is a higher degree of uncertainty in these estimates; caution should be taken, and the uncertainty of the estimates and wide credible intervals taken into account, when interpreting or ranking them.

Figure 3: Modelled estimates of the percentage of people living in private households within each CIS sub-region who would have tested positive for COVID-19 in the week 7 to 13 May 2022¹⁶.



Source: ONS COVID-19 Infection Survey, 2022.
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(OS Licence number 100024655)

¹⁶ Scottish Government: [Coronavirus \(COVID-19\): ONS infection survey - Headline Results](#) (published 20 May 2022)

Covid-19 Wastewater Estimates

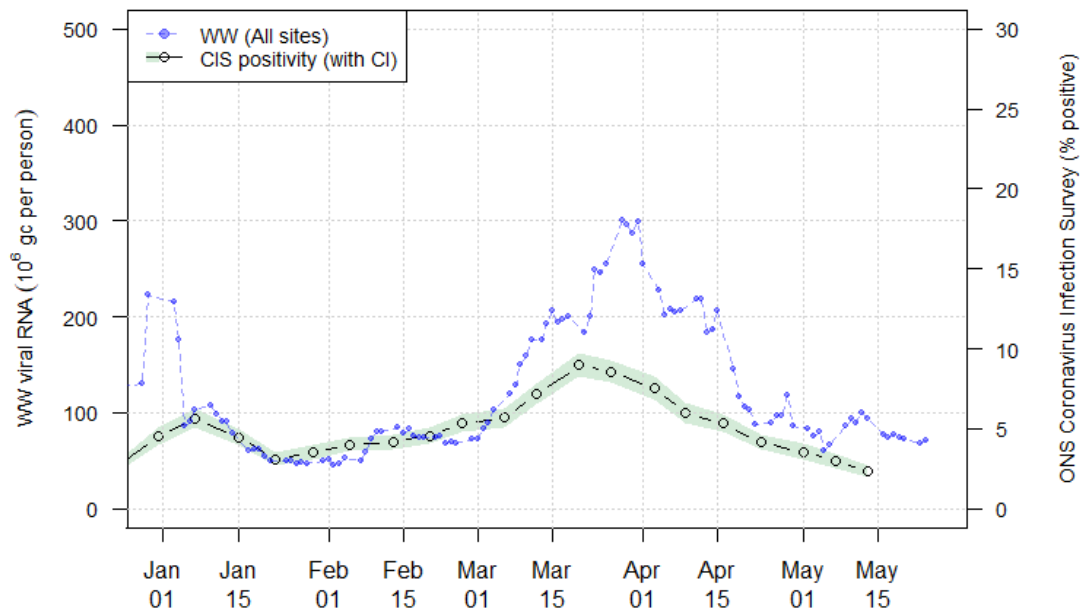
The Scottish Government has been working with the Scottish Environment Protection Agency (SEPA) to detect and analyse fragments of Covid-19 virus RNA in wastewater. The levels of SARS-CoV-2 in wastewater are monitored at 141 sites around Scotland. In contrast to Covid-19 case records, virus shedding into wastewater is a biological process. This means that wastewater data is unaffected by factors that impact whether testing is done.

Nationwide, wastewater Covid-19 RNA levels in the past two weeks have had a similar average level as in our previous report. In the two weeks from 11 to 24 May, the medial level of Covid-19 in wastewater was 76 million gene copies per person per day (Mgc/p/d), compared to 82 Mgc/p/d previously. There is no significant difference between the two weeks (Figure 4)¹⁷.

Although overall wastewater Covid-19 levels have remained at a similar level in Scotland over the last two weeks, 16 local authorities have increased their levels over the past week. Increases were reported in Aberdeen City, Angus, Argyll and Bute, Clackmannanshire, Dumfries and Galloway, East Lothian, East Renfrewshire, Fife, Midlothian, Moray, North Lanarkshire, Perth and Kinross, Scottish Borders, South Lanarkshire, Stirling and West Lothian. Please note that comparisons for Na h-Eileanan Siar and Orkney are not possible due to sampling coverage.

¹⁷ Scottish Government: [Coronavirus \(Covid-19\): modelling the epidemic](#) (Issue 100, published 26 May 2022)

Figure 4: National running average trends in wastewater Covid-19 from 31 December 2021 to 24 May 2022, and CIS positivity estimates from 31 December to 13 May 2022^{18 19 20}.



Reported Covid-19 Cases

The LFD Universal Offer for asymptomatic testing came to an end on 18 April 2022. In addition, on 1 May 2022 the purpose of COVID-19 testing shifted from population-wide testing to reduce transmission, to targeted testing and surveillance. **Reported cases will no longer be representative of all COVID-19 cases in Scotland, and caution is advised when comparing trends in cases over time. For more information, see the Scottish Government [Covid-19 Test and Protect Transition Plan](#).**

Please note that due to testing policy changes, reported cases will no longer be representative of all COVID-19 cases in Scotland, and caution is advised when comparing trends in cases over time. The regular analyses on case rates in different age groups and among care home residents are no longer included in this report. By

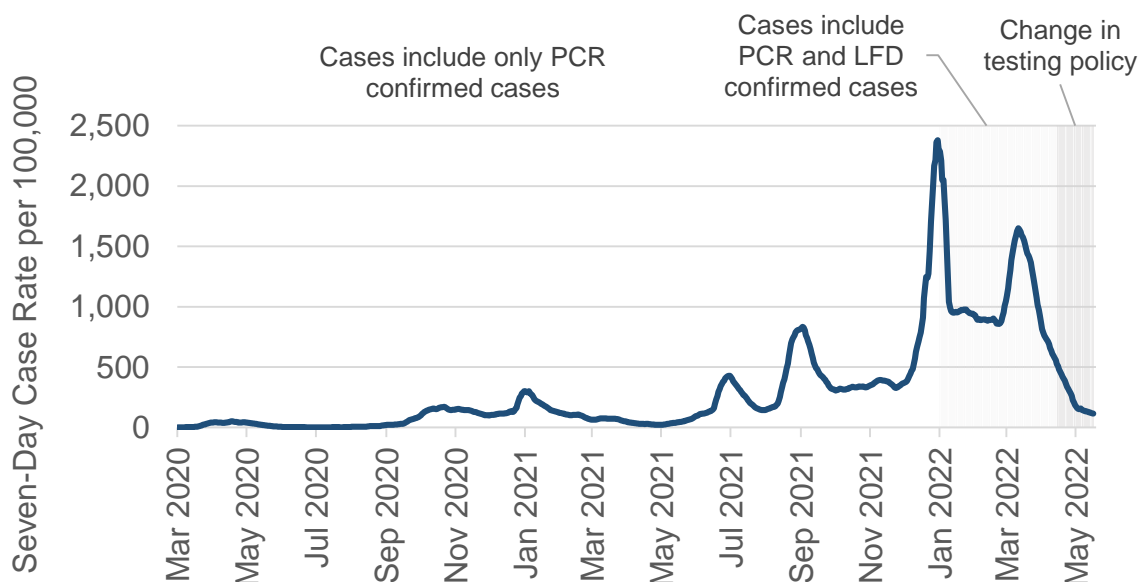
¹⁸ Scottish Government: [Coronavirus \(Covid-19\): modelling the epidemic](#) (Issue 100, published 26 May 2022)

¹⁹ The Omicron variant emerged in Scotland around mid-December 2021. After the end of 2021, S-gene dropout testing data suggest that nearly all cases are from the Omicron variant. During the period of change in the dominant variant, a change in the relationship between the wastewater SARS-CoV-2 RNA levels and case numbers was observed and postulated to be due to different levels of virus shed by the two variants. If this assumption is true, and there is no further change in shedding following the emergence of the Omicron variant BA.2, then from early January 2022, wastewater SARS-CoV-2 RNA levels should have a consistent relationship with the underlying Covid-19 prevalence.

²⁰ Figure 4 uses the latest CIS estimates available at the time the chart was produced, relating to the week ending 13 May 2022.

specimen date, there were 114 weekly combined PCR and LFD cases (including reinfections) per 100,000 population in the week to 20 May (Figure 5)²¹.

Figure 5: Seven-day combined PCR and LFD case rate (including reinfections) per 100,000 for Scotland by specimen date. Data to 20 May 2022^{22 23}.



The proportion of reinfections among the total weekly cases has increased in the most recent week. By specimen date, there was a total number of 870 reinfection cases confirmed by either a PCR or LFD test in the week leading up to 20 May. This represents 13.9% of reported cases, which is an increase from 13.4% in the week leading up to 13 May²⁴. However, this number is likely affected by testing changes and this figure may no longer be comparable over time. The proportion of reinfections have increased rapidly since December 2021 and the emergence of the Omicron variant.

While the LFD Universal Offer for asymptomatic testing came to an end on 18 April 2022 in Scotland, 103,956 LFD tests were reported in the week to 22 May. This is a 10% decrease from the week previously (week to 15 May), when 114,918 LFD tests were reported. This compared to a peak of 865,561 tests being reported in the week to 26 December 2021, while the LFD Universal Offer was still in place²⁵.

²¹ Public Health Scotland: [Covid-19 Daily Dashboard](#) (accessed 23 May 2022)

²² Public Health Scotland: [Covid-19 Daily Dashboard](#) (accessed 23 May 2022)

²³ Before 5 January 2022, the case rate includes only positive laboratory confirmed PCR tests. After 5 January 2022, the case rate includes PCR and LFD confirmed cases. From 18 April 2022, the Universal LFD Offer for asymptomatic testing is no longer available. In addition, on 1 May 2022 the purpose of COVID-19 testing shifted from population-wide testing to reduce transmission, to targeted testing and surveillance. Reported cases will no longer be representative of all COVID-19 cases in Scotland, and caution is advised when comparing trends in cases over time.

²⁴ Public Health Scotland: [Covid-19 Daily Dashboard](#) (accessed 23 May 2022)

²⁵ Public Health Scotland: [Covid-19 Statistical Report Dashboard](#) (published 25 May 2022)

The Scottish Contact Survey²⁶ continues to ask whether people use LFD tests and if so how often. Approximately 40% of individuals had taken at least one lateral flow test within the last 7 days for the survey pertaining to the period 12 May to 18 May, decreasing from 51% two weeks prior²⁷.

Antimicrobial Resistance and Healthcare Associated Infection Scotland (ARHAI Scotland) provide analyses on hospital onset acquired Covid-19 infections, where patients are likely to have been infected after being admitted to hospital, based on the date when the sample was collected for a first positive Covid-19 test. Cases where the sample was collected before a hospital admission are considered community onset cases, while samples collected on day eight or later are considered nosocomial cases, or cases likely to have been acquired in a hospital setting. For more information, see this ARHAI [weekly publication](#).

According to data from ARHAI Scotland, 96.8% of the 14,210 Covid-19 cases reported in the week ending 1 May 2022 were reported as community onset cases. 180 cases in the same period were reported as nosocomial cases²⁸; this is a 33% decrease from the previous week ending 24 April (269 nosocomial cases). The number of nosocomial cases peaked in early-January and again in late-March, and has since been decreasing. The number of cases in all categories of inpatient diagnosed COVID-19 cases have shown similar trends during the same time period, including those diagnosed on day one or two, reflecting the high levels of transmission in the community²⁹.

In line with recent changes to testing policy and transitions to long term strategies in the four UK nations, cases comparison between countries will no longer be included in the report. For more information see following links for [England](#), [Scotland](#), [Wales](#), and [Northern Ireland](#).

To compare trends in estimated infection levels in private residential households across the UK, please see the previous section on the **Covid-19 Infection Survey**.

²⁶ The sample is demographically representative of adults aged 18 and older across Scotland, with circa 3000 responses over two alternating panels. This is modelled to represent the Scottish population.

²⁷ Scottish Government: [Coronavirus \(Covid-19\): modelling the epidemic](#) (Issue 100, published 26 May 2022)

²⁸ Nosocomial cases include cases where the onset is either probable or definite hospital onset (where the sample was collected on day eight of hospital cases or later).

²⁹ ARHAI: [Hospital onset COVID-19 cases in Scotland](#) (published 25 May 2022)

Covid-19 Related Severe Illness and Death

Please note that patient testing requirements changed on 1 April 2022, which will mean a reduction in asymptomatic cases of Covid detected and a corresponding decrease in ascertained Covid-19 related occupancy and admissions. In addition, from 1 May 2022, testing changed from asymptomatic population-wide testing, to targeted testing for clinical care and surveillance. Therefore data should be interpreted with caution and over time comparison should be avoided. For more information, please see this [resource from the NHS](#).

Please note that hospital admissions data in Scotland is dynamic and subject to daily revisions. We continue to see a large number of mostly upward revisions which is likely due to infections being identified after patients have been admitted to hospital. As the greatest revisions are likely to impact the latest two weeks of data, we have moved to reporting with a two-week lag. You can still see the latest data in Figure 7 but we advise caution in interpreting the latest trends.

Covid-19 occupancy and admissions figures presented in this section may include patients being admitted and treated in hospital or ICU for reasons other than COVID-19.

Following changes in the Covid-19 Case definition and changing testing policies on 5 January 2022, hospital and ICU occupancy figures include patients with Covid-19 cases confirmed by either PCR or LFD from 9 February and onwards. Prior to this date, it only included cases confirmed by a PCR test. Hospital and ICU occupancy include reinfection cases.

Covid-19 admissions to hospital (including for children and young people) include patients with Covid-19 cases confirmed either by PCR or LFD from 5 January and onwards. Prior to this date, it only included cases confirmed by a PCR test. Hospital admissions include reinfection cases. Admissions to ICU only include PCR confirmed Covid-19 cases.

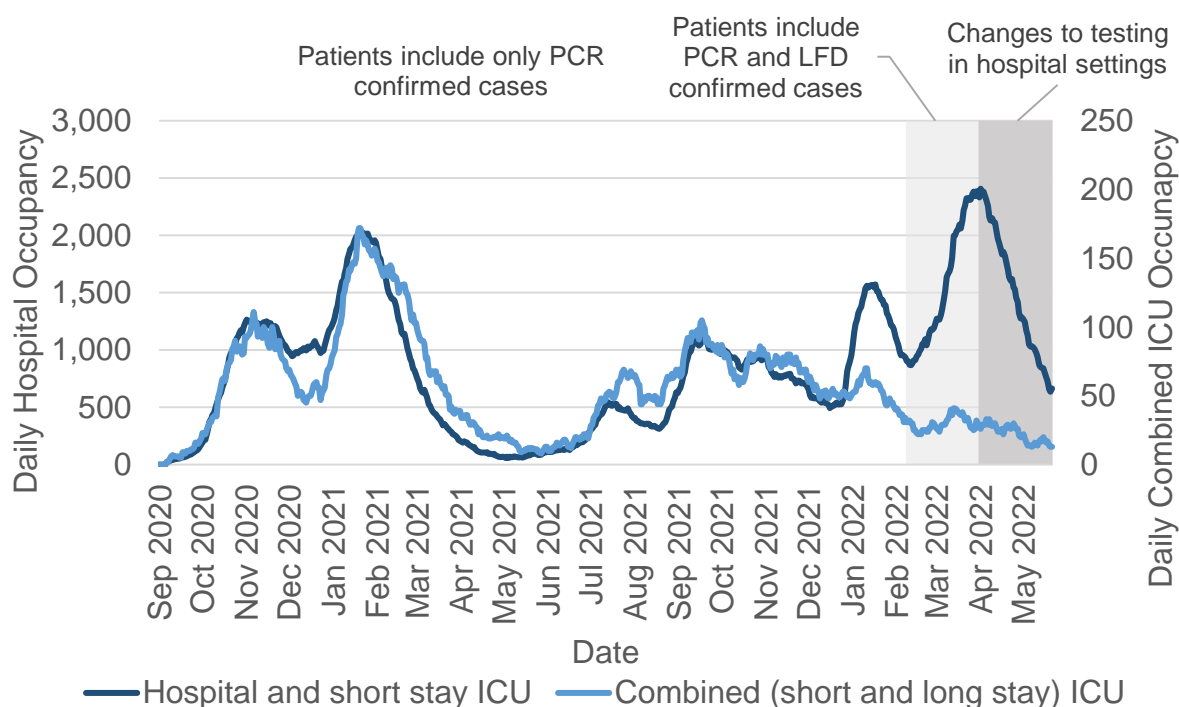
Hospital and ICU Occupancy

In the week to 22 May, daily Covid-19 hospital occupancy in Scotland appears to be on a decline; however, this is to be interpreted with caution due to recent testing changes. NHS boards reported 663 patients in hospital or in short stay ICU on 22 May with recently confirmed Covid-19, compared to 845 on 15 May. This follows a period of sharply increasing hospital occupancy numbers which peaked on 2 April with the highest figure seen throughout the pandemic at 2,406 patients (Figure 6)³⁰.

³⁰ Public Health Scotland: [Covid-19 Daily Dashboard](#) (accessed 23 May 2022)

NHS boards also reported 13 patients in short-stay or long-stay ICU on 22 May, compared to 17 on 15 May. Due to the changes in testing policy, any interpretations of trends need to be made with caution (Figure 6).

Figure 6: Patients in hospital (including short stay ICU), and patients in combined ICU with recently confirmed Covid-19, data up to 22 May 2022^{31 32}.



Hospital and ICU Admissions

In the week to 3 May, Covid-19 admissions to hospital³³ in Scotland appear to be on a decline; however, this is to be interpreted with caution due to recent testing changes. NHS boards reported 600 admissions on 3 May, compared to 735 admissions the previous week ending 26 April. This follows a period of sharply increasing numbers of Covid-19 related hospital admissions, reaching the highest levels seen throughout the pandemic in the week to 18 March 2022 (1,677

³¹ ICU includes combined ICU/HDU figures and both patients with length of stay 28 days or less and with length of stay more than 28 days. Please note that only patients with length of stay 28 days or less in ICU were recorded until 20 January 2021. From 20 January 2021 ICU short and long stay includes both ICU or combined ICU/HDU with length of stay 28 days or less and with length of stay more than 28 days.

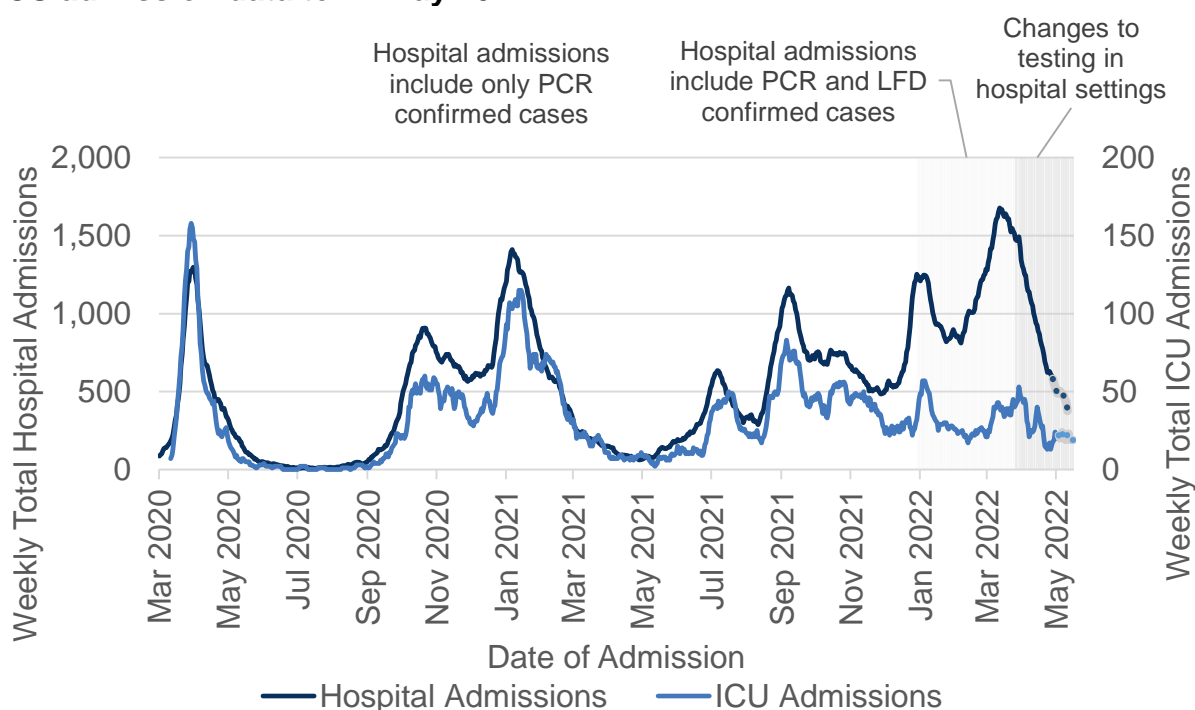
³² Before 9 February 2022, patients were only included if they had a recent positive laboratory confirmed PCR test. Hospital and ICU occupancy includes reinfections from 7 March 2022 onwards. Patient testing requirements changed on the 1 April 2022 and population wide testing policy changed on 1 May 2022, which may mean a reduction in asymptomatic cases of Covid-19 detected and a corresponding decrease in Covid-19 related occupancy.

³³ Covid-19 related admissions have been identified as the following: A patient's first positive test for Covid-19 up to 14 days prior to admission to hospital, on the day of their admission or during their stay in hospital. If a patient's first positive test is after their date of discharge from hospital, they are not included in the analysis. An admission is defined as a period of stay in a single hospital. If the patient has been transferred to another hospital during treatment, each transfer will create a new admission record.

admissions)³⁴. As noted above, we are continuing to see a large number of daily revisions, so comparisons for the latest two weeks of data have not been made³⁵.

In the week to 8 May, there appears to be an increase in the number of new Covid-19 patients admitted to ICU; however, this is to be interpreted with caution due to recent testing changes. There were 21 new Covid-19 patients admitted to ICU in the week to 8 May, compared to 17 in the week to 1 May. This compares to 57 weekly ICU admissions during the most recent peak in early January 2022. As noted above we are currently seeing a large number of daily revisions, so the number of admissions to ICU for the latest two weeks are likely to change (**Figure 7**)³⁶.

Figure 7: Weekly total of Covid-19 admissions to hospital and ICU with a positive Covid test in Scotland. Hospital admission data to 17 May 2022 and ICU admission data to 22 May 2022^{37 38}.



³⁴ The State of the Epidemic report incorporates hospital admissions data published on 23 May 2022, so any revisions since then will not be included in this report.

³⁵ Public Health Scotland: [Covid-19 Daily Dashboard](#) (accessed 23 May 2022)

³⁶ Public Health Scotland: [Covid-19 Daily Dashboard](#) (accessed 23 May 2022)

³⁷ Before 5 January 2022, hospital admissions were only included if the patient had a recent positive laboratory confirmed PCR test. **ICU admissions rely on PCR testing only.** Hospital admissions data in the chart now includes reinfections and has been updated to include this methodology retrospectively to the start of the pandemic. Patient testing requirements changed on the 1 April 2022 and population wide testing policy changed on 1 May 2022, which may mean a reduction in asymptomatic cases of Covid-19 detected and a corresponding decrease in Covid-19 related admissions.

³⁸ Public Health Scotland: [Covid-19 Daily Dashboard](#) (accessed 23 May 2022)

The highest number of hospital admissions in the week to 10 May were among those aged 80 and over. In the same week, approximately 68% of the hospital admissions related to patients aged 60 or older. This remains similar to 65% of admissions in the week to 26 April. According to the latest data, 61% of the hospital admissions in the week to 17 May related to patients aged 60 or older. However, the latest data does not have a lag applied to account for revisions³⁹.

Average hospital admissions related to Covid-19 in children and young adults data are no longer updated in the PHS Education Dashboard⁴⁰ due to a reduction in the quantity and quality of data available. The last update to the dashboard was on 6 May 2022 and the latest data was summarised in the [State of the Epidemic report](#) published on 13 May 2022.

In the period 27 April to 10 May 2022, 62% of Covid-19 hospital admissions stayed longer than 48 hours after being admitted. Analysis from Public Health Scotland on the same time period shows that length of stay tends to increase with age, as 58% of hospital stays for those aged 17 or younger had a length of stay of less than 24 hours, while 77% of hospital stays for those aged 80 or older had a length of stay of over 48 hours⁴¹. Please note that length of stay can be influenced by a variety of factors, and that the figures above may be subject to future revisions due to the completeness of discharge summary information. For more information, please see the [PHS Weekly report](#).

Please note that patient testing requirements in Scotland and England started changing from 1 April 2022, with further changes implemented in Scotland on 1 May 2022. Changes covering policies for testing general population and patients in Wales were set out to start the transition from the end of March. In Northern Ireland, testing changes in the general population are being phased out from 22 April, with no immediate change to public health advice. For more information see the following links for [England](#), [Wales](#) and [Northern Ireland](#).

Due to the testing differences across the four nations mentioned above, we have removed the four nations comparisons on hospital admissions and occupancy. From 20 May 2022, Department of Health Northern Ireland stopped reporting data on cases, deaths and testing. **As a result, the four nation comparison will not be included in future reports.**

Covid-19 Related Deaths and Excess Mortality

There were 52 deaths where Covid-19 was mentioned on the death certificate in the week to 22 May. Out of these, there were 29 deaths where Covid-19 was the underlying cause. The number of deaths where Covid-19 was mentioned on the

³⁹ Public Health Scotland: [COVID-19 Statistical Report](#) (published 25 May 2022)

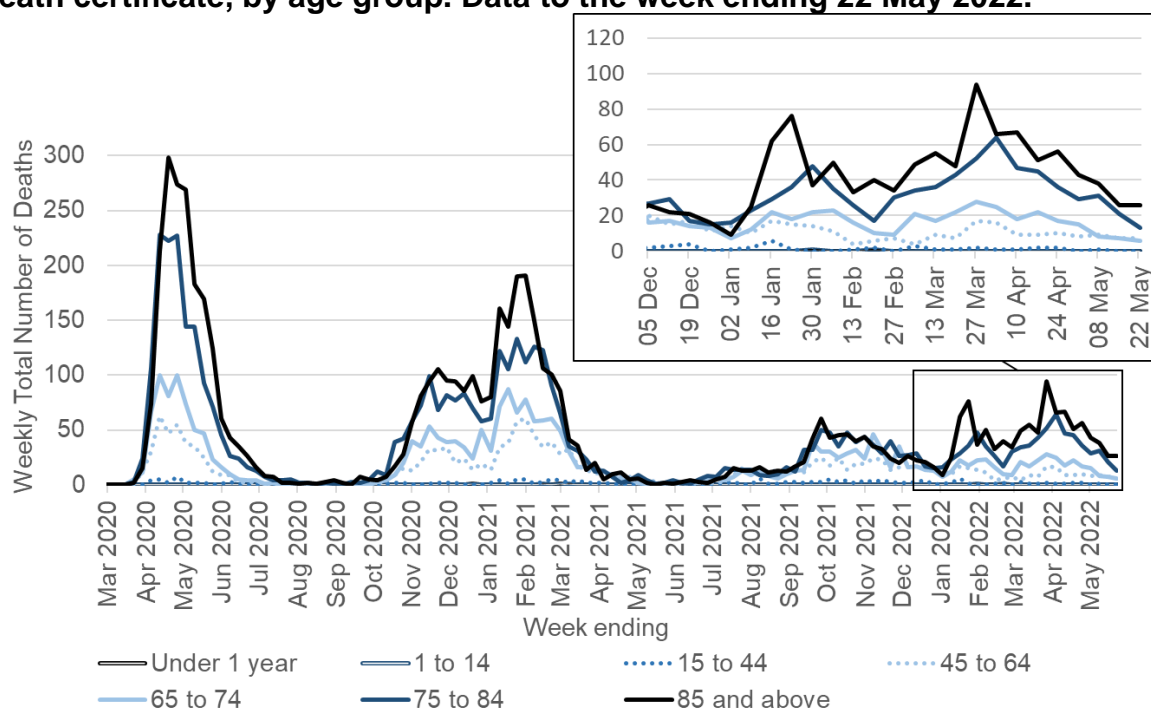
⁴⁰ Public Health Scotland: [COVID-19 Education report](#) (published 6 May 2022)

⁴¹ Public Health Scotland: [COVID-19 Statistical Report](#) (published 25 May 2022)

death certificate decreased by 15%, or 9 deaths, compared to the previous week (61 deaths in the week to 15 May).

The 52 deaths where Covid-19 was mentioned on the death certificate in the week to 22 May 2022 is 92% lower than the peak in 2020, when the week ending 26 April 2020 saw a total of 663 deaths where Covid-19 was mentioned on the death certificate⁴². The number of deaths is higher among those aged 45 and older but is fluctuating on a weekly basis. Covid-19 deaths among younger age groups have remained at low levels throughout the pandemic (Figure 8). National Records of Scotland publish a detailed analysis on deaths involving Covid-19 in Scotland in their weekly data releases and monthly report⁴³.

Figure 8: Weekly total number of deaths where Covid-19 was mentioned on the death certificate, by age group. Data to the week ending 22 May 2022.



Excess deaths are the total number of deaths registered in a week minus the average number of deaths registered in the same week over the previous five years (excluding 2020). Measuring excess deaths allows us to track seasonal influenza, pandemics and other public health threats. Excess deaths include deaths caused by Covid-19 and those resulting from other causes.

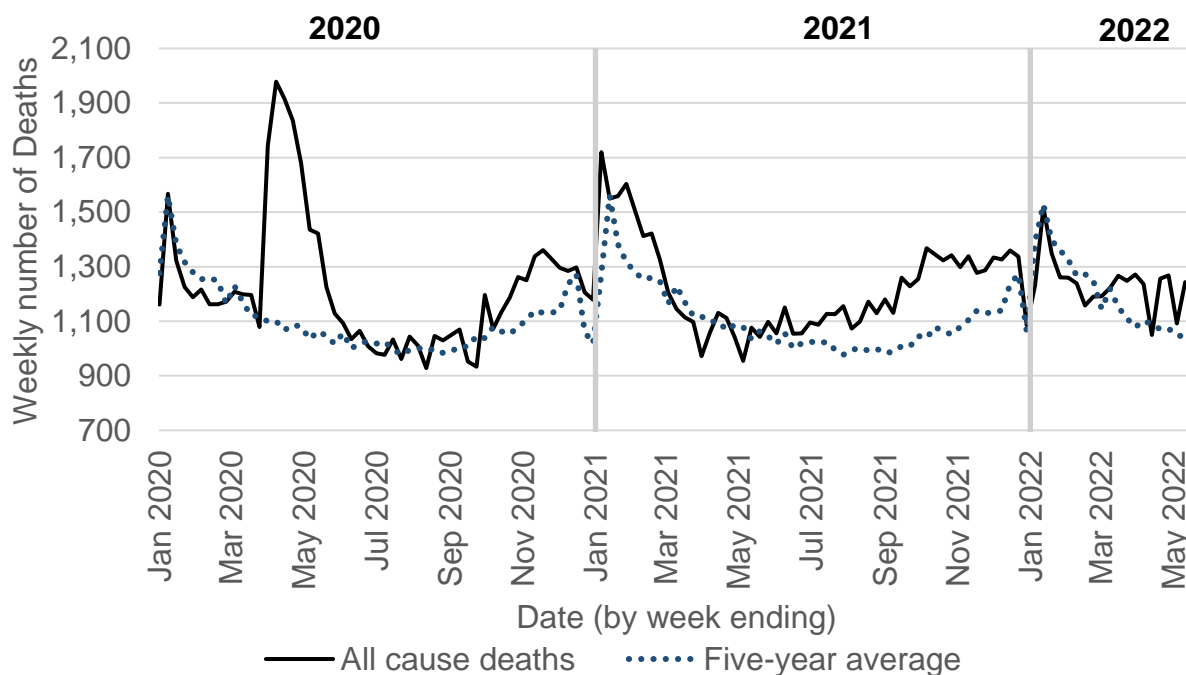
In the week ending 22 May, the total number of deaths registered in Scotland was 1,191. This was 13%, or 139 deaths, above the five-year average for this week (Figure 9)

⁴² NRS Scotland: Deaths involving coronavirus (Covid-19) in Scotland (published 26 May 2022)

⁴³ NRS Scotland: Deaths involving coronavirus (Covid-19) in Scotland (published 26 May 2022)

Figure 9)^{44 45}. In the same week, the number of deaths from Dementia and Alzheimer’s disease were 9 above the previous five-year average for this week, the number of deaths from cancer diseases were 42 above the average, and deaths from circulatory diseases were 29 above the average. Deaths from respiratory disease (not including Covid-19) were 12 below the average. There were 43 excess deaths from other causes⁴⁶.

Figure 9: Weekly deaths from all causes and five-year average weekly deaths in Scotland. Data to week ending 22 May 2022⁴⁷.



Recent changes to reporting mean that the number of deaths where Covid-19 was mentioned on the death certificate can no longer be compared across the four nations. In addition, from 20 May 2022, Department of Health Northern Ireland stopped reporting data on cases, deaths and testing. **Therefore, we have removed the four nations comparisons of death figures.** For more information see the [Coronavirus \(COVID-19\) in the UK dashboard](#).

⁴⁴ NRS Scotland: [Deaths involving coronavirus \(Covid-19\) in Scotland](#) (published 26 May 2022)

⁴⁵ Please note that due to unusual numbers of mortality in 2020, the excess deaths calculation for 2021 use the average from the years 2015 – 2019. Year 2022 uses data from 2016, 2017, 2018, 2019 and 2021 to calculate average 5-year period.

⁴⁶ Please note that Covid-19 deaths are included in all cause deaths, and are counted towards all cause excess deaths. However, Covid-19 does not yet have a separate category for excess deaths calculation as excess deaths are compared against a 5 year average. The separate categories of causes of death do not sum to the total excess due to the omission of a Covid-19 category, and it would not make sense to use the number of COVID deaths in the previous 5 years as a baseline.

⁴⁷ NRS Scotland: [Deaths involving coronavirus \(Covid-19\) in Scotland](#) (published 26 May 2022)

Resilience: Vaccine Uptake, Antibody Estimates, and Vaccine Effectiveness

Vaccine Uptake

Vaccinations started in Scotland on 8 December 2020 and there has been a very high uptake. Covid-19 vaccines protect most people against severe outcomes of a Covid-19 infection, but some people will still get sick because no vaccine is 100% effective. The current evidence suggests that you may test positive for Covid-19 or be reinfected even if you are vaccinated, especially since the emergence of the Omicron variant in the UK. The major benefit of vaccination against Omicron is to protect from severe disease. More information is available on the [PHS website](#).

By 23 May, almost 4.4 million people had received their first dose, an estimated 90.3% of the population in Scotland aged 12 and older. Over 4.1 million people had received their second dose, an estimated 85.9% of the population aged 12 and older. Additionally, almost 3.5 million people in Scotland had received a third vaccine dose, which is an estimated 73.0% of the population aged 12 and older⁴⁸.

The JCVI now advise a spring booster dose of the Covid-19 vaccine for: adults aged 75 years and over (or who will turn 75 by 30 June 2022), residents in care homes for older adults, and individuals aged 12 years and over who have a weakened immune system⁴⁹. By 23 May, 488,710 fourth dose vaccinations had been administered, with 79.8% of all care home residents having received their fourth dose. It is also estimated that 85.2% of those aged 75 or older have received their fourth dose⁵⁰.

Equality of Covid-19 Vaccination Uptake

Public Health Scotland (PHS) publish analysis on the equality of Covid-19 Vaccination uptake. The latest analysis is summarised in the [State of the Epidemic report](#) published on 13 May 2022.

For more information on the analysis, methodology, current processes and data sources, please see the PHS Weekly report published on 11 May 2022. **Please note that the vaccine uptake rates in this analysis use different denominators than those in the Vaccine Uptake section, so the figures are not directly comparable.**

⁴⁸ Public Health Scotland: [Covid-19 Daily Dashboard](#) (accessed 23 May 2022)

⁴⁹ [Coronavirus \(COVID-19\) booster vaccination | The coronavirus \(COVID-19\) vaccine \(nhsinform.scot\)](#)

⁵⁰ Public Health Scotland: [Covid-19 Daily Dashboard](#) (accessed 23 May 2022)

Covid-19 Antibody Estimates

The analysis of antibody prevalence can be used to identify individuals who have had Covid-19 in the past or who have developed antibodies as a result of vaccination. As [detailed by the ONS](#), there is a clear pattern between vaccination and testing positive for Covid-19 antibodies but the detection of antibodies alone is not a precise measure of the immunity protection given by vaccination.

According to the ONS Covid-19 Infection Survey, the estimated percentage of adults (aged 16 years and above) living in private households in Scotland who had antibodies against COVID-19 at the 179 ng/mL threshold remained high, at 99.1% (95% credible interval: 98.7% to 99.3%), in the week beginning 2 May 2022. This suggests that they had the infection in the past or have been vaccinated⁵¹. This compares to:

- 99.1% in England (95% credible interval: 98.8% to 99.3%),
- 98.9% in Wales (95% credible interval: 98.4% to 99.2%),
- 98.9% in Northern Ireland (95% credible interval: 97.9% to 99.4%)⁵².

The estimated percentage of adults (aged 16 years and above) living in private households in Scotland who had antibodies against COVID-19 at the 179 ng/mL threshold remained high across all age groups, in the week beginning 2 May 2022.

The antibody series based on the 800 ng/mL level, and antibody estimates for those aged under 16 years in Scotland, were not updated in the latest release from the ONS as they are undergoing additional quality assurance.

Vaccine Effectiveness Against Omicron

The UKHSA reported that vaccine effectiveness against symptomatic disease, hospitalisation, or mortality with the Omicron variant is lower compared to the Delta variant and that it wanes rapidly. High vaccine effectiveness against all outcomes is restored after the booster dose, with effectiveness against symptomatic disease ranging initially from around 60% to 75% and dropping to around 25% to 40% after 15 weeks; however, from 20 or more weeks after the booster dose vaccine, effectiveness against symptomatic disease has almost no effect. Vaccine effectiveness against hospitalisation ranged from 85% to 95% up to six months after the booster dose with little variation between the type of vaccine used for priming or boost. High levels of protection against mortality were also restored after the booster dose, with a vaccine effectiveness of 94% two or more weeks following vaccination,

⁵¹ Scottish Government: [Coronavirus \(COVID-19\): ONS Infection Survey - Antibody Data for Scotland](#) (Published 18 May 2022)

⁵² Office For National Statistics: [Coronavirus \(COVID-19\) Infection Survey, antibody data, UK](#) (Published 18 May 2022)

and dropping to around 88% from 10 weeks after the vaccination for those aged 50 and older⁵³.

More data on vaccine effectiveness against the Omicron variant can be found in the [UKHSA vaccine surveillance reports](#). There is a reduced overall risk of hospitalisation for Omicron compared to Delta^{54 55}, with the most recent estimate of the risk of presentation to emergency care or hospital admission with Omicron approximately half of that for Delta⁵⁶. A non-peer reviewed UK study revealed that risk of Covid-19 related death was 67% lower for Omicron when compared with Delta⁵⁷.

Looking ahead

New Variants

VOC-22JAN-01 (Omicron sub-lineage BA.2) remains dominant in the United Kingdom (UK) and Scotland based on sequencing data. There is some diversity developing within this variant. The UKHSA has elevated classification of two Omicron sub-lineages BA.4 and BA.5 to variants of concern (VOCs) naming them VOC-22APR-03 and VOC-22APR-04 respectively⁵⁸. This change was introduced on the basis of the growth advantage of BA.4 and BA.5 over currently dominant Omicron BA.2. There can be several reasons for growth advantage, but in the case of BA.4 and BA.5, laboratory data suggests a degree of immune escape is likely to contribute⁵⁹. Small numbers of BA.4 and BA.5 sequences continue to be detected in the UK⁶⁰. There is currently insufficient data to draw conclusions on the disease severity of BA.4 and BA.5⁶¹.

Scottish Contact Survey

Changes in patterns of mixing will likely impact on future Covid-19 prevalence. The Scottish Contact Survey measures the times and settings in which people mix where they could potentially spread Covid-19⁶². Average contacts from the most recent wave of the Scottish Contact Survey (12 to 18 May) indicate an average of 5.0

⁵³ [COVID-19 vaccine surveillance report: week 19 \(publishing.service.gov.uk\)](#)

⁵⁴ [University of Edinburgh: Severity of Omicron variant of concern and vaccine effectiveness against symptomatic disease](#)

⁵⁵ [Imperial College Covid-19 response team: Report 50: Hospitalisation risk for Omicron cases in England](#)

⁵⁶ [UK Health Security Agency: SARS-CoV-2 variants of concern and variants under investigation](#)

⁵⁷ [Risk of COVID-19 related deaths for SARS-CoV-2 Omicron \(B.1.1.529\) compared with Delta \(B.1.617.2\) | medRxiv](#)

⁵⁸ [SARS-CoV-2 variants of concern and variants under investigation \(publishing.service.gov.uk\)](#)

⁵⁹ [SARS-CoV-2 variants of concern and variants under investigation \(publishing.service.gov.uk\)](#)

⁶⁰ [UK Health Security Agency: Variants: distribution of case data, 20 May 2022](#) (published 20 May 2022)

⁶¹ [Risk assessment for SARS-CoV-2 variants V-22APR-03 and V-22APR-04 \(publishing.service.gov.uk\)](#)

⁶² From the 31 March 2022, panels A and B have been merged into one survey and are now run fortnightly. These data points are reported as at the first day of the survey week. Further details of this are presented in the Scottish Government: [Coronavirus \(Covid-19\): modelling the epidemic](#) (Issue 100, published 26 May 2022)

contacts. This has remained at a similar level compared to the previous wave of the survey (28 April to 4 May).

Mean contacts within the work setting have decreased in the last two weeks by 26% whereas contacts within the other setting (contacts outside home, school and work) have increased by 33%. Contacts within the home have remained at a similar level over the same period.

Those within the 18-29 age group have reported the biggest increase in contacts, by approximately 40%. This increase is largely driven by a rise in contacts within the other setting. Those within the 30-39 and 50-59 age group reported a decrease in contacts, by at least 12%.

Modelling the Epidemic

Scottish Government medium-term projections on infections, and hospital and ICU occupancy are not included in this edition of the report, or the Modelling the Epidemic Report this week.

Long Covid-19

According to the Office for National Statistics (ONS), long Covid is defined as symptoms persisting more than four weeks after the first suspected coronavirus (Covid-19) episode that are not explained by something else.

Estimates of the proportion of people living in private households in Scotland who experience long Covid symptoms are published by the ONS Covid-19 Infection Survey on a monthly basis. The next scheduled release of long Covid data from the Covid-19 Infection Survey is expected to be summarised in this report on 10 June. For information on the most recent estimates, see the State of the Epidemic report published on 13 May 2022.

Fortnightly modelled estimates for Scotland are also usually published in the Modelling the Epidemic report. However, a report on the rate of long Covid-19 has not been included this week. This will resume again once updated estimates of self-reported long Covid-19 prevalence amongst those infected with the less severe Omicron variant become available.

Additional data sources

State of the Epidemic report has predominantly focused on the direct impact that Covid-19 has had on Scotland including infection levels, cases, hospitalisations and hospital occupancy, deaths, vaccinations, situation across the four nations, as well as local authorities in Scotland. There are additional sources of data which monitor wider impacts of Covid-19 on health, societal issues and the economy, which can be

found at the links below. **However, please note that these data do not solely reflect the impact of the Covid-19 epidemic.**

- PHS wider impacts dashboard. Information presented in the dashboard covers wider planned and emergency hospital admissions, Accident and Emergency attendances, NHS 24 contacts, out of hours and Scottish Ambulance Services, outpatient appointments, as well as various aspects of cardiovascular, cancer, injuries, mental health, substance use, pregnancy, births and children health.
- NHS Education for Scotland publish weekly data on NHS staff reported as absent due to COVID-19.
- The Care Inspectorate produce weekly data on staff in adult care homes reported as absent due to COVID-19.
- The Scottish Government has published a collection of reports relating to public attitudes to Covid-19. In addition, school attendance and absence figures are published here every Thursday afternoon.
- The Scottish Government also publish statistics on Scottish Welfare Fund and Self-Isolation Support Grants, as well as quarterly Scottish Welfare Fund publication.
- Transport Scotland previously published a range of COVID-19 analysis on the impact on transport and are continuing to monitor transport demand. Additionally, an annual publication on transport and travel in Scotland is available here.
- For a summary of statistics relating to the economy, please refer to the Monthly Economic Brief and State of the Economy Reports.

Next steps

The Scottish Government continues to work closely with Public Health Scotland, modelling groups, the Office for National Statistics (ONS), the Scottish Environment Protection Agency (SEPA) and YouGov to monitor what is happening across Scotland.

This report will continue to provide a fortnightly overview of the current Covid-19 situation in Scotland incorporating a variety of data sources including estimates of the prevalence of Covid-19, hospitalisations and deaths and how Scotland's figures compare to those from the rest of the UK, where possible.

Investigations are ongoing by NERVTAG, SPI-M, SAGE, UK Health Security Agency (UKHSA), and Public Health Scotland regarding the impact of new variants and of vaccination; this will be reflected here as work is undertaken.

Technical Annex

Table 1: The composition of each CIS region in Scotland, by Health Board and Local Authority area. Local Authority areas map to the Health Board areas.

CIS Region Code	Health Boards	Local Authority Areas
123	NHS Grampian, NHS Highland, NHS Orkney, NHS Shetland and NHS Western Isles	Aberdeen City, Aberdeenshire, Argyll & Bute, Highland, Moray, Na h-Eileanan Siar, Orkney Islands, Shetland Islands
124	NHS Fife, NHS Forth Valley and NHS Tayside	Angus, Clackmannanshire, Dundee City, Falkirk, Fife, Perth & Kinross, Stirling
125	NHS Greater Glasgow & Clyde	East Dunbartonshire, East Renfrewshire, Glasgow City, Inverclyde, Renfrewshire, West Dunbartonshire
126	NHS Lothian	City of Edinburgh, East Lothian, Midlothian, West Lothian
127	NHS Lanarkshire	North Lanarkshire, South Lanarkshire
128	NHS Ayrshire & Arran, NHS Borders and NHS Dumfries & Galloway	Dumfries & Galloway, East Ayrshire, North Ayrshire, Scottish Borders, South Ayrshire

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