

Public Health Scotland COVID-19 & Winter Statistical Report

As at 10 January 2022

Publication date: 12 January 2022

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This is a Management Information publication

Published management information are non-official statistics. They may not comply with the UK Statistics Authority's Code of Practice with regard to high data quality or high public value but there is a public interest or a specific interest by a specialist user group in accessing these statistics as there are no associated official statistics available.

Users should therefore be aware of the aspects of data quality and caveats surrounding these data, all of which are listed in this document. Therefore, the data presented are subject to change.

Introduction

Since the start of the Coronavirus-19 (COVID-19) outbreak Public Health Scotland (PHS) has been working closely with Scottish Government and health and care colleagues in supporting the surveillance and monitoring of COVID-19 amongst the population. As part of our continuous review of reporting, as of 08 December 2021 Public Health Scotland has implemented changes to the COVID-19 Weekly Report to support the reader in drawing insights from a wider range of existing metrics around COVID-19 and winter pressures.

Caution should be used when making comparisons between metrics; each metric is calculated independently and may cover different time periods or cohorts of the population. The consolidated report will include the following content weekly:

COVID-19

- Summary of tests and cases
- Contact Tracing
- Hospital and ICU admissions
- Testing in care homes
- COVID-19 vaccination status cases, hospitalisations and deaths
- Covid-19 vaccination uptake summary
- Adhoc reporting on topics such as: Covid-19 and Vaccination in pregnancy, Equality reporting etc.

Hospital/ Wider System Pressures

- Unscheduled Care
- Waiting Times
- Delayed Discharges

Additional charts for a number of variables related to COVID-19 service use in the NHS, including some metrics previously presented in the weekly COVID-19 report, are available to view in our [interactive dashboard](#). These include breakdowns by age, sex and deprivation. The variables currently available on the dashboard include:

- Positive cases per day and cumulative total
- COVID-19 hospital admissions
- COVID-19 patients admitted to ICU admissions
- COVID-19 related contacts to NHS24 and the Coronavirus Helpline
- Community Hubs and Assessment Centres
- Scottish Ambulance Service incidents
- Contact tracing
- Health care workers
- Care homes
- Targeted community testing
- Travel outside of Scotland
- Quarantine Statistics
- NHS Protect Scotland App
- Lateral Flow Device (LFD) Testing

The Public Health Scotland [COVID-19 Daily Dashboard](#) publishes daily updates on the number of positive cases of COVID-19 in Scotland, with charts showing the trend since the start of the outbreak. From 26 February 2021 the Daily Dashboard also includes daily updates on vaccinations for COVID-19 in Scotland.

There is a large amount of data being regularly published regarding COVID-19 (for example, [Coronavirus in Scotland – Scottish Government](#) and [Deaths involving coronavirus in Scotland – National Records of Scotland](#)). This report complements the range of existing data currently available.

Main Points

- As at 09 January 2022, there have been 1,056,835 confirmed COVID-19 cases; 68,081 of these were recorded in the most recent week, a decrease of 40.4% from the previous week.
- There has been a 4.3% decrease in the number of Lateral Flow Device (LFD) asymptomatic tests carried out in the last week. There have been 19,303,280 LFD tests carried out in Scotland since 19 November 2020, of which 189,514 were positive (1.0%).
- In the week ending 02 January 2022, 126,737 individuals were recorded in the contact tracing software, from which 96,436 unique contacts have been traced.
- In the week ending 04 January 2022, there were 1,003 admissions to hospital with a laboratory confirmed test of COVID-19, an increase of 43% from the previous week. The highest number of new admissions are now in those aged 80+.
- The proportion of all people who were admitted to hospital within 14 days of a laboratory confirmed COVID-19 positive test has declined, from 12% in the week ending 31 January 2021, to 1% in the most recent week ending 26 December 2021.
- In the week ending 09 January 2022 there were 45 new admissions to Intensive Care Units (ICUs) for confirmed COVID-19. This is an increase of 80.0% from the week ending 02 January 2022.

Incidence of Variants of Concern and Variants Under Investigation

In the latest week, Omicron now accounts for in excess of 90% of COVID cases. The new Omicron variant was originally detected in South Africa and now represents the dominant variant in Scotland.

The statistics presented below will be the last update related to Omicron.

As at 09 January 2022 there were:

- 32,305 confirmed Omicron cases
- 337 confirmed Omicron related hospital admissions
- 9 confirmed Omicron related ICU/HDU admissions
- 15 confirmed Omicron related deaths

COVID-19 confirmed definition of hospitalisation is within 14 days of a diagnosis; ICU/HDU is within 21 days of a diagnosis. Hospitalisations and ICU/HDU patients, as well as deaths, may be due to or coincidental with a COVID-19 infection

Further information on previous Omicron reporting can be found [here](#).

Public Health Scotland (PHS) continues to monitor COVID-19 Variants of Concern, in collaboration with other Public Health Agencies in the UK.

The latest [information on the number of such variants detected by genomic analyses across the UK](#) is published by UK Health Security Agency (UKHSA).

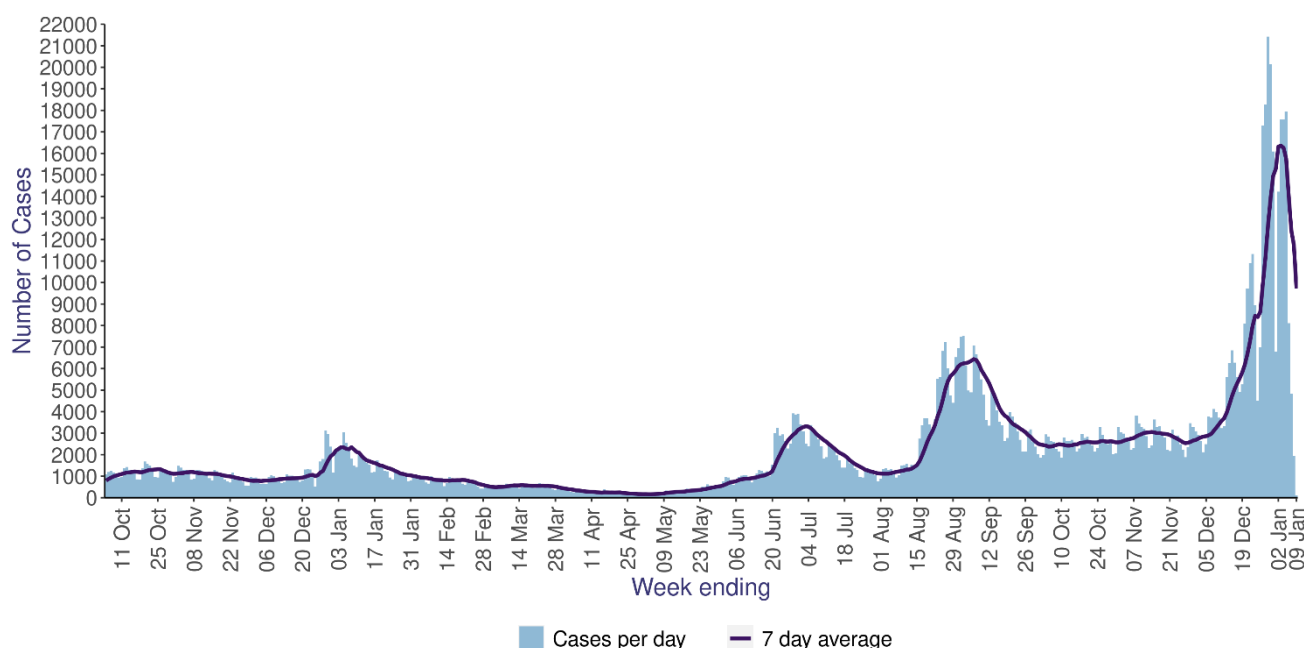
COVID-19 Daily Data

The Public Health Scotland [COVID-19 Daily Dashboard](#) publishes daily updates (5-days per week, Monday to Friday) on the number of positive cases of COVID-19 in Scotland, with charts showing the trend since the start of the outbreak.

The total number of people within Scotland who have, or have had COVID-19, since the coronavirus outbreak began is unknown. The number of confirmed cases is likely to be an underestimate of the total number who have, or have had, COVID-19. A person can have multiple tests but will only ever be counted once. The drop in the number of confirmed cases at weekends likely reflects that laboratories are doing fewer tests at the weekend.

- There have been 1,056,835 people in Scotland who have tested positive, at any site in Scotland (NHS and UK Government Regional Testing centres), for COVID-19 up to 09 January 2022
- In the week ending 09 January 2022 there were 68,081 confirmed COVID-19 cases, with a seven-day rolling average of 9,726 cases.¹

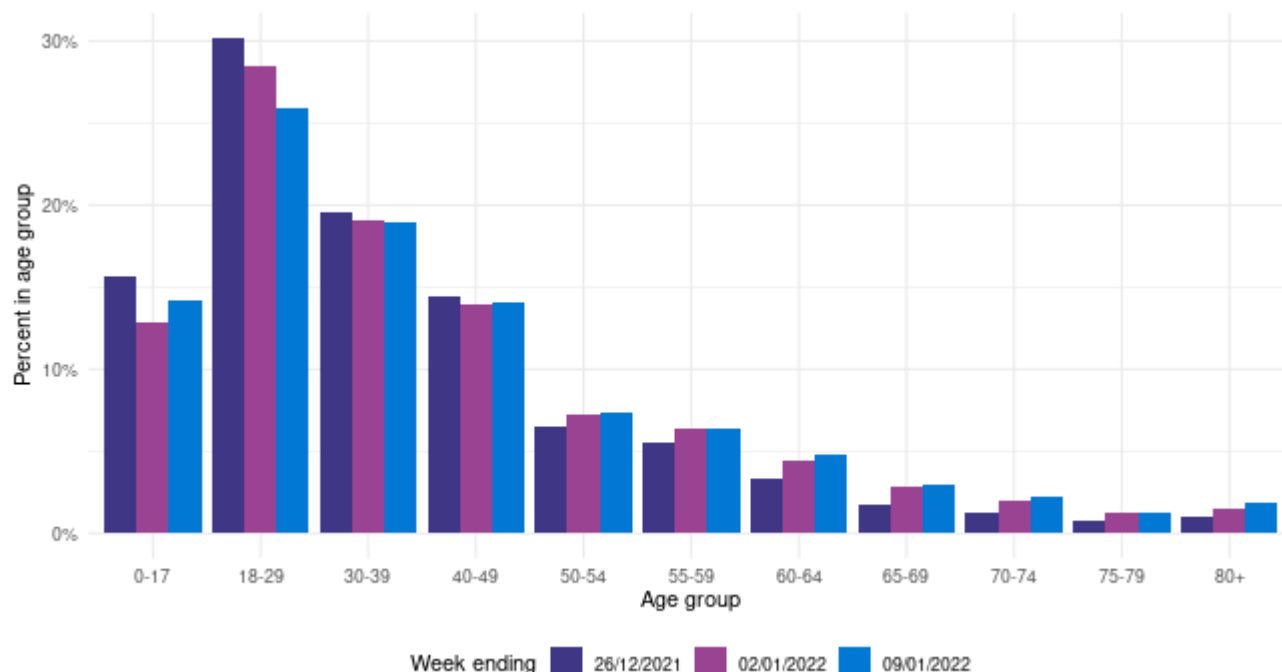
Figure 1: Number of Positive Cases per day with 7 Day Average



1. Correct as at 10 January, may differ from more recently published data in the previous week's report and on the [COVID-19 Daily Dashboard](#).

Figure 2 below shows the proportion of confirmed COVID-19 cases by age group for the most recent three weeks.

Figure 2: Proportion of confirmed COVID-19 cases by age group, weeks ending 19 December 2021 – 09 January 2022

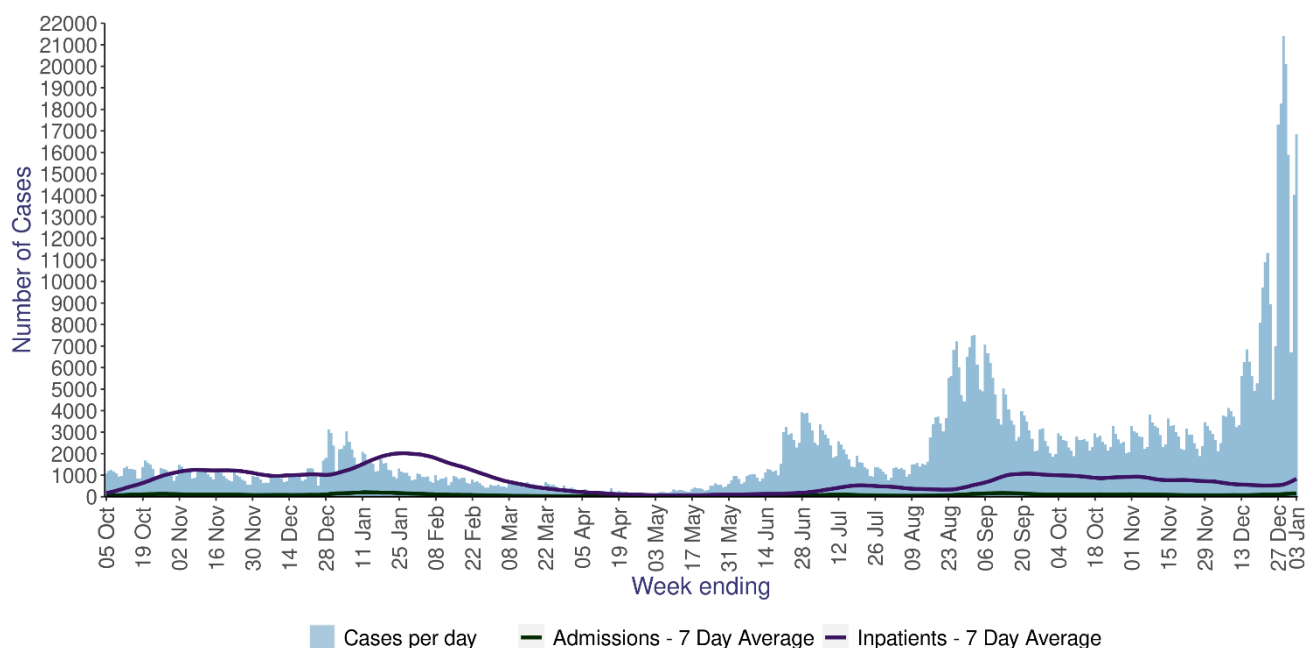


The [daily dashboard](#) also includes data on Hospital Admissions and ICU admissions for patients with COVID-19:

- In the week ending 04 January 2022, there were 1,003 admissions to hospital with a laboratory confirmed test of COVID-19.
- In the week ending 09 January 2022 there were 45 new admissions to Intensive Care Units (ICUs) for confirmed COVID-19 patients.

The number of confirmed daily COVID-19 cases decreased from 18,262 to 16,839 between 28 December 2021 and 03 January 2022. During this same time period, the daily COVID-19 confirmed hospital admissions has increased from 115 to 149 (seven-day rolling average). The seven-day average of inpatients in hospital has increased by 53.0% (from 544 to 833).

Figure 3: Number of Positive Cases, Admissions and Inpatients, as at 03 January 2022²



2. Please refer to [Appendix 3 - Hospital Admissions Notes](#) for definitions of hospital admissions and inpatients.

Additional charts and data are available to view in the [interactive dashboard](#) accompanying this report.

Data is also monitored and published daily on the [Scottish Government Coronavirus website](#).

COVID-19 Hospital Admissions

Hospital Admissions 'with' COVID-19

Since the start of the pandemic Public Health Scotland have been reporting on the number of people in acute hospitals with recently confirmed COVID-19. These admissions are identified from Rapid and Preliminary Inpatient Data (RAPID) and defined as the following: A patient's first positive PCR test for COVID 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 PCR test is after their date of discharge from hospital, they are not included in the analysis.

It is important to note, that the figures presented below may include patients being admitted and treated in hospital for reasons other than COVID-19. Supplementary analysis on COVID-19 related acute hospital admissions by vaccine status is also available within the [COVID-19 cases, acute hospitalisations, and deaths by vaccine status](#) section of this report.

Figure 4 below shows the weekly trend of hospital admissions with COVID-19 from week ending 05 January 2021 to 04 January 2022.

Figure 4: Trend of hospital admissions 'with' COVID-19 in Scotland

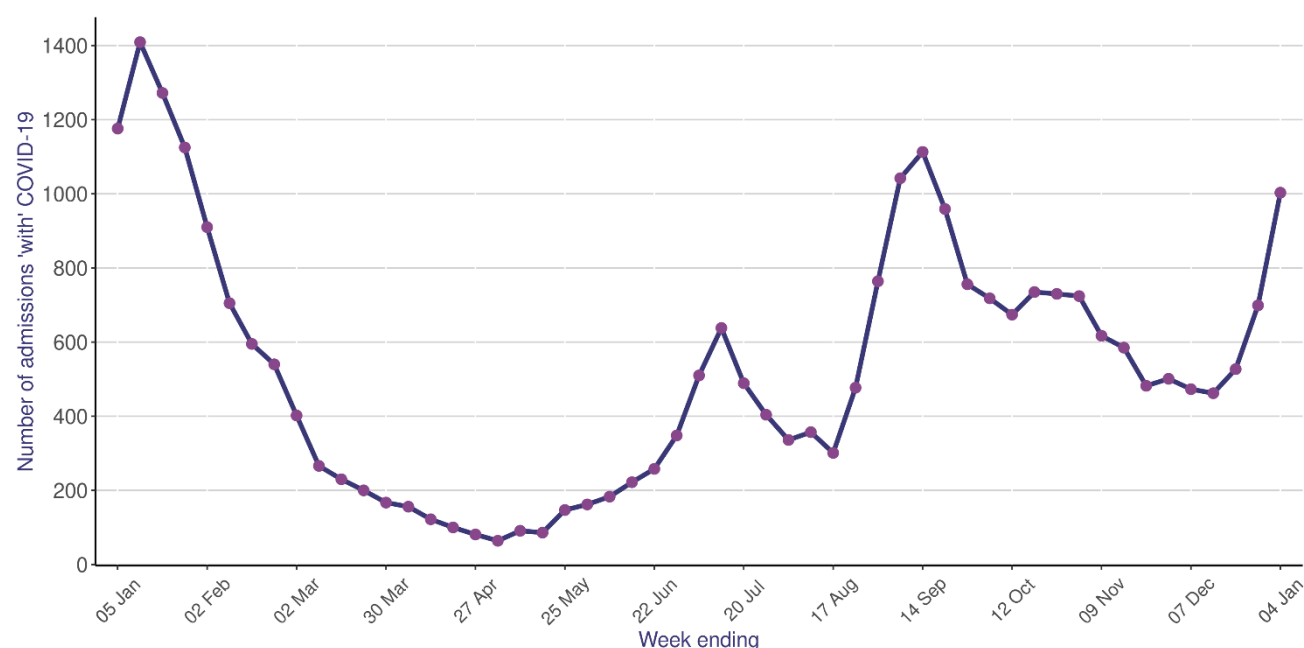


Table 1 below shows a breakdown of people admitted to hospital across all ages and by age group for the most recent four weeks. Data from March 2021 is available on the [Covid Statistical Report website](#).

Table 1: COVID-19 hospital admissions by age as at 04 January 2022³

Age Band	08 December – 14 December	15 December – 21 December	22 December – 28 December	29 December – 04 January
Under 18	40	58	77	118
18-29	28	21	62	76
30-39	46	53	69	84
40-49	60	60	67	84
50-54	41	46	50	53
55-59	44	49	51	63
60-64	45	43	29	81
65-69	27	30	38	74
70-74	47	31	57	68
75-79	22	43	41	82
80+	62	93	158	220
Total	462	527	699	1,003

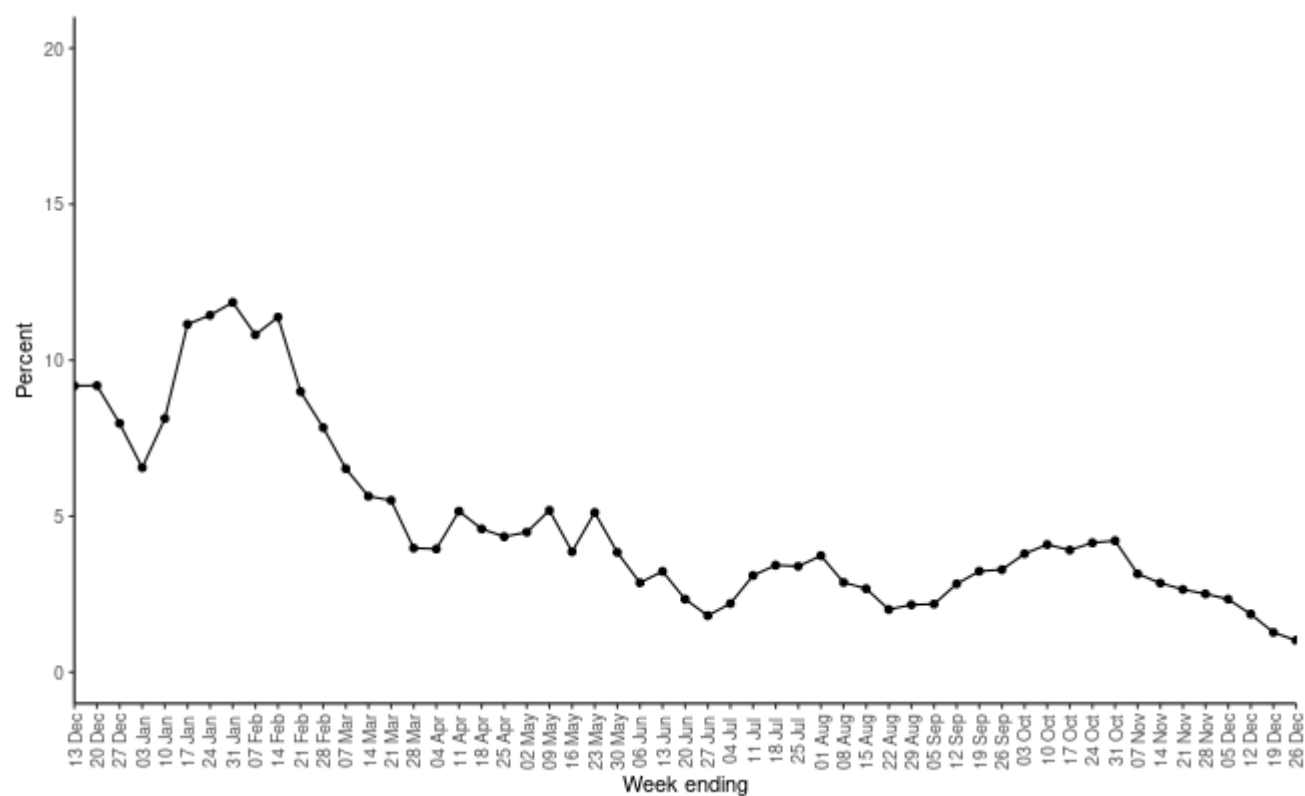
Source: RAPID (Rapid and Preliminary Inpatient Data)

3. Please refer to [Appendix 3 – Hospital Admissions Notes](#) for explanatory notes regarding RAPID Hospital Admissions.

In the latest week, there has been a 43% increase in the number of new admissions compared to the previous week, with those aged 80+ years having the highest number of admissions. Also, in the latest week approximately 52% of the hospital admissions related to patients aged 60+.

In recent months, the proportion of all people who were admitted to hospital within 14 days of a laboratory confirmed COVID-19 positive test has also declined, from 12% in the week ending 31 January 2021 to 1% in the most recent week ending 26 December 2021 (Figure 5).

Figure 5: Proportion of weekly cases admitted to hospital within 14 days of a first positive test



Test and Protect

Scotland's approach to contact tracing has continued to adapt throughout the pandemic to reflect changing circumstances, variability in cases, and increasing proportion of the population fully vaccinated since the roll out of the vaccination programme. The most recent [Strategic Framework](#) issued by the Scottish Government in November 2021 sets out how Scotland will continue to adapt now that we are in the phase described as "beyond level zero". That will require a constant review of the associated management information compiled in the weekly report. The information we produce will change over time to reflect the most critical information to help understand, plan and deliver contact tracing at any given point in time.

World Health Organisation (WHO) current guidance on "[Contact tracing in the context of COVID-19](#)" focuses on targeted approaches to contact tracing based on transmission patterns, engaging communities, and prioritising follow-up of high risk cases when it is not possible to identify, monitor and quarantine all contacts. For further information please refer to [Appendix 2](#).

Please note, PHS has moved to weekly reporting of this data and cumulative data is available in the [interactive dashboard](#). Data for the most recent week, previously included as provisional, is no longer included as this is variable due to cases which are still open (either because contact tracing is still underway or the NHS Board is still managing the case for a particular reason). Only finalised data will be included within the report going forward.

Further background information and definitions are available in [Appendix 4](#).

There continues to be large volumes of tests being processed by labs affecting turnaround times, which impacts the start of the contact tracing process.

Index cases

An **index case** is generated for each positive result with a test date on or after 28 May 2020. This includes tests derived from Scottish laboratories and from UK Government laboratories.

An **individual** is a unique person who has had a positive test. An individual can have multiple positive tests which results in multiple cases within the test and protect system. In these figures, each person is only counted once.

Contact Tracing figures for the week ending 02 January 2022 (based on test date), are detailed in Table 2 below, which provides a recent time trend. A longer time trend is available on the [interactive dashboard](#).

Table 3 provides details of the status of the index cases for each week.

In the week ending 02 January 2022, there were 132,044 Index Cases, of which 57,542 (43.6%) had completed contact tracing by telephone or other digital methods, and a further 733 are in progress (0.6%).

There is a technical issue extracting at source (CMS) the status (New/Not yet started and In progress) of cases for week ending 02 January 2022. A solution is currently being applied and further work is under way to implement this for future publications.

Table 2: Contact Tracing trend information, by week ending

	28 Nov	05 Dec	12 Dec	19 Dec	26 Dec	02 Jan
Total Index Cases ¹	18,469	20,648	27,053	43,721	69,421	132,044
Individuals ²	17,634	19,736	25,940	41,627	66,186	126,737

1. Does not include "Excluded" cases which are those where a decision has been made that the case should not have been created within the contact tracing system.
2. A count of unique individuals with a positive test. An individual can have multiple positive tests which results in multiple cases within the contact tracing system.

Table 3: Contact Tracing trend information by status, by week ending

Status of cases	28 Nov	05 Dec	12 Dec	19 Dec	26 Dec	02 Jan	Cumulative (from May 2020)
New/ Not yet started ¹	0	1	0	3	87	2,063	2,206
% New/ Not yet started	0	0	0	0	0.1	1.6	
In progress ²	0	1	0	6	9	733	752
% In progress	0	0	0	0	0	0.6	
Complete ³	16,359	18,087	22,728	35,946	43,396	57,542	817,955
% Complete	88.6	87.6	84	82.2	62.5	43.6	
Incomplete ⁴	2,110	2,559	4,325	7,766	25,929	71,706	198,887
% Incomplete	11.4	12.4	16	17.8	37.4	54.3	

1. New – New/not yet started cases within the contact tracing system.
2. In progress – The case is still in progress with either the case interview to be completed, or contacts related to the case to be followed up.
3. Complete - The case is complete and all achievable contact tracing has been carried out.
4. Incomplete - Unsuccessful attempts to reach or carry out a case interview via the telephone, or for the index case to provide contacts via digital contact tracing (SMS)

Method of Contacting Index Cases

The data within this section are based on the number of **completed cases** which are recorded in the contact tracing software, these figures are preliminary and may be updated in subsequent publications.

Public Health Scotland works closely with National Services Scotland (NSS) and the Scottish Government to enable local NHS Boards and the National Contact Centre (NCC) to carry out COVID-19 contact tracing effectively. The approach to contact tracing has adapted as restrictions and policy have changed throughout the pandemic in order to best meet the needs of the Scottish population. As numbers of new

cases have increased, the method has changed from attempting to phone all new cases and contacts - to prioritising the highest risk situations for telephone calls and sending public health advice by SMS text to all others, who have tested positive for COVID-19 and their close contacts.

The introduction of SMS messaging was designed to get the best public health advice about isolation to cases and contacts as quickly as possible, this is especially pertinent when daily case numbers are very high. The approach was part of a deliberate decision to manage resources through an agreed framework and is in keeping with the evidence-informed advice of the European Centre for Disease Control.

All index cases will receive an initial SMS containing Public Health information and advice, which will then be followed by contact either by telephone or additional SMS messages containing further Public Health information and advice.

Table 4 below shows a breakdown of the methods used to contact **completed** index cases over time.

Table 4: Contact method used for contact tracing of completed index cases trend information

	28 Nov	05 Dec	12 Dec	19 Dec	26 Dec	02 Jan
Telephone	11,152	12,357	15,559	16,342	18,184	14,816
% Telephone	68.2	68.3	68.5	45.5	41.9	25.7
SMS	5,207	5,730	7,169	19,604	25,212	42,726
% SMS	31.8	31.7	31.5	54.5	58.1	74.3

1. SMS includes those cases deemed low risk and have completed the Co3 online form, every other completed case is categorised as Telephone

In the week ending 02 January 2022, 25.7% of index cases received a telephone call.

Time for a Positive Index Case to be Contact Traced

The data within this section are based on the number of **completed cases** which are recorded in the contact tracing software, these figures are preliminary and may be updated in subsequent publications.

The three measures shown are;

- the time between a sample being taken and the positive individual being contacted (i.e. interviewed by a contact tracer or completing the online tracing form)
- the time between the record appearing in the CMS and the positive individual being contacted (i.e. interviewed by a contact tracer or completing the online tracing form)
- the time between the record appearing in the CMS and contact tracing being closed (i.e. contacts have been interviewed, attempted to be interviewed or contacted digitally).

These figures are now weekly measures, data are available for previous weeks within the [interactive dashboard](#).

Table 5 and Figure 6 below describes the timeliness of contact tracing by calculating the hours between a test sample being taken and the index case being contacted by Test and Protect either by phone or SMS.

Table 5: Time (hours) between date test sample taken (specimen date) and the positive index case being contacted, for cases completed⁵

Hours taken	Week Ending 02 January 2022		
	Number of Complete Index Cases	% of Total Complete Cases	% of Total Complete & Incomplete Cases
0-24	6,492	11.3	5.0
24-48	18,381	31.9	14.2
48-72	9,406	16.4	7.3
Over 72	7,993	13.9	6.2
Not recorded* - SMS	11,544	20.1	8.9
Not recorded* – Phone	3,726	6.5	2.9
Total Complete Cases	57,542	100	
Incomplete Cases	71,706		55.5
Total Complete & Incomplete Cases	129,248		100

5 For further information and additional notes on Contact Tracing, please see [Appendix 4 – Contact Tracing](#)

*Improvements into recording of times and dates are being investigated and technical solutions will be identified to reduce the proportion of ‘Not recorded’ cases. This will be implemented February 2022.

Figure 6: Trend in time (hours) between date test sample taken (specimen date) and the positive individual being called for cases completed; by week

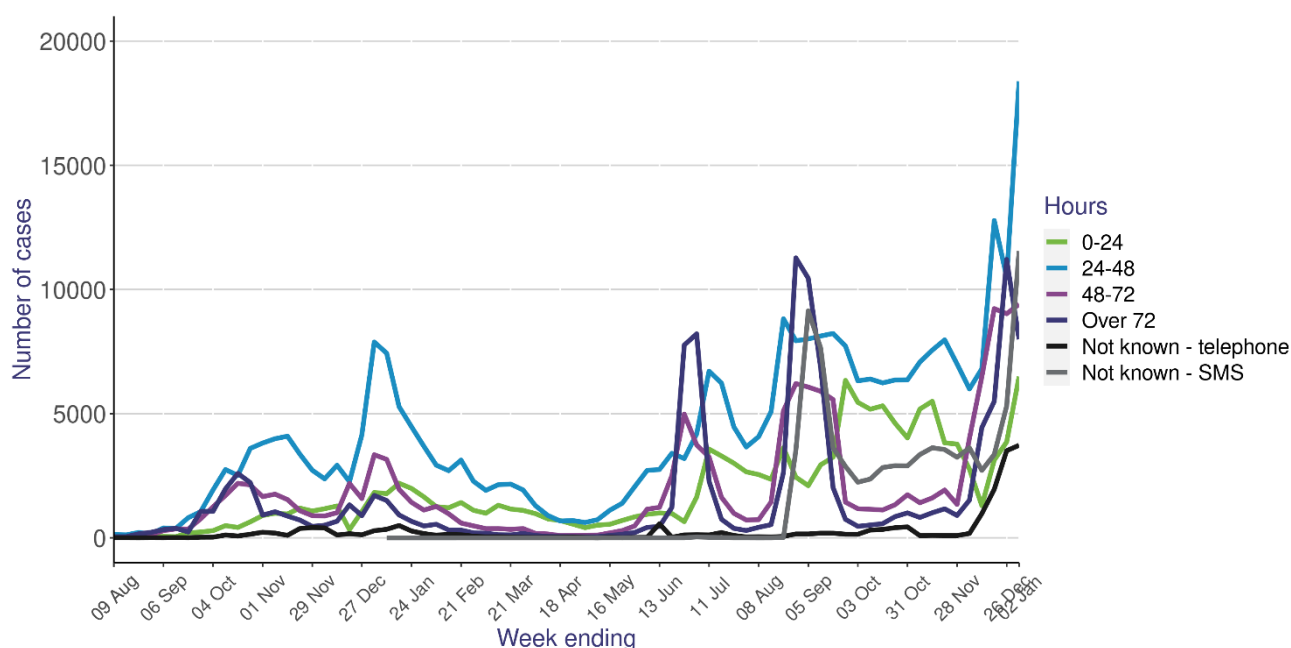


Figure 6 shows that more positive cases were contacted over 72 hours after their test sample was taken in June 2021, August 2021 and December 2021, which corresponds with a rise in cases over the same periods.

Table 6: Time (hours) between case created in CMS and the positive individual being contacted^{5, 6}

Hours taken	Week Ending 02 January 2022		
	Number of Complete Index Cases	% of Total Complete Cases	% of Total Complete & Incomplete Cases
0-24	33,336	57.9	25.8
24-48	4,569	7.9	3.5
48-72	2,225	3.9	1.7
Over 72	2,145	3.7	1.7
Not recorded* – SMS	11,542	20.1	8.9
Not recorded* - Phone	3,725	6.5	2.9
Total Complete Cases	57,542	100	
Incomplete Cases	71,706		55.5
Total Complete & Incomplete Cases	129,248		100

⁵ For further information and additional notes on Contact Tracing, please see [Appendix 4 – Contact Tracing](#)

⁶ Includes being interviewed by a contact tracer or submitting preliminary information via a CO3 form

*Improvements into recording of times and dates are being investigated and technical solutions will be identified to reduce the proportion of 'Not recorded' cases. This will be implemented February 2022.

Table 7: Time (hours) between case created in CMS to its closure^{5, 7}

Hours taken	Week Ending 02 January 2022		
	Number of Complete Index Cases	% of Total Complete Cases	% of Total Complete & Incomplete Cases
0-24	31,896	55.4	24.7
24-48	6,258	10.9	4.8
48-72	8,342	14.5	6.5
Over 72	7,671	13.3	5.9
Not recorded* – SMS	3,134	5.5	2.4
Not recorded* - Phone	241	0.4	0.2
Total Complete Cases	57,542	100	
Incomplete Cases	71,706		55.5
Total Complete & Incomplete Cases	129,248		100

⁵ For further information and additional notes on Contact Tracing, please see [Appendix 4 – Contact Tracing](#)

⁷ Measured by the time taken to complete the final contact interview for high risk settings/contacts and those completed via SMS

*Improvements into recording of times and dates are being investigated and technical solutions will be identified to reduce the proportion of ‘Not recorded’ cases. This will be implemented February 2022.

Incomplete index cases

Table 8 and Figure 7 below show the different reasons why an index case is categorised as incomplete (previously referred to as failed) within the contact tracing system.

Incomplete cases are defined as: unsuccessful attempts to carry out a case interview via the telephone, or for the index case to provide contacts via digital contact tracing. This would include scenarios where the mobile/home phone/email address provided by the case was incorrect and no other method of contact could be established; where multiple SMS/telephone call attempts to the case had been made but not been successful in eliciting a response from the index case; where the index case has failed to pass relevant data protection identity checks and where the index case has refused to participate in the contact tracing process.

For operational purposes some index cases are categorised as incomplete because the telephone process has started, but does not complete for the reasons outlined in Table 8 below. Public Health information is typically sent by SMS to 99% of the incomplete index cases.

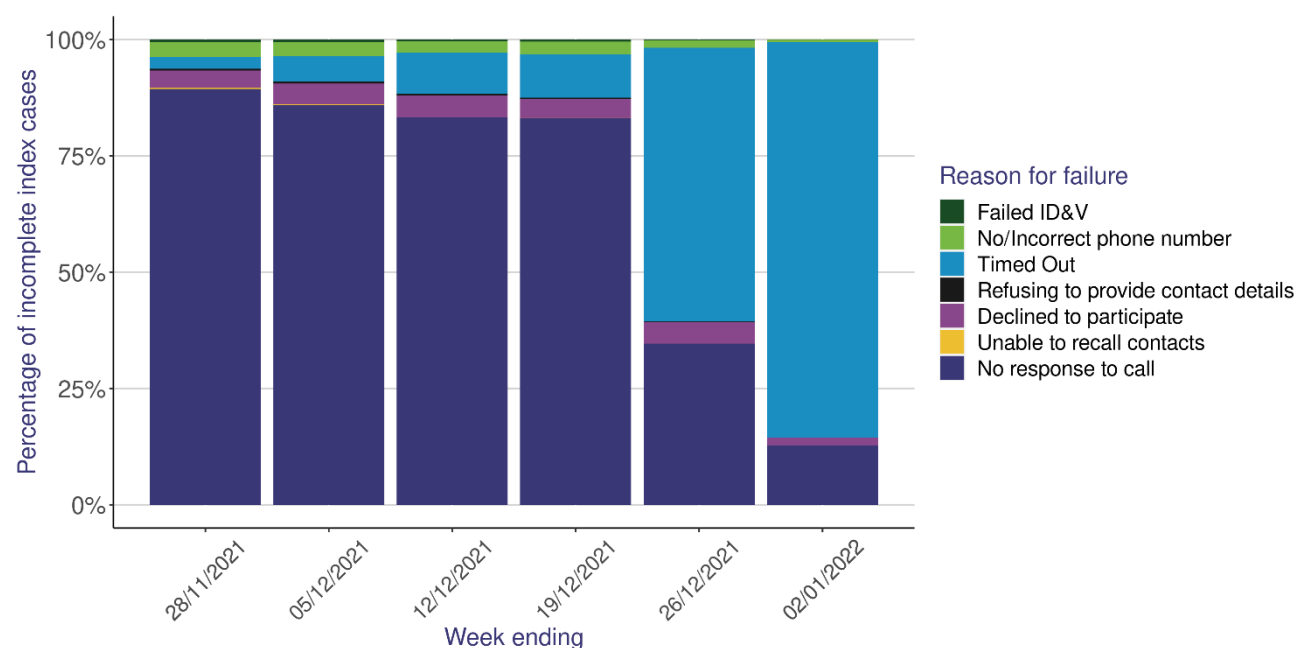
Table 8: Number of incomplete index cases by reason

Reason for Incompletion	Week Ending 02 January 2022	
	Number of Index Cases	% of Incomplete Index Cases
Failed ID & verification	47	0.1
No response to call	9,170	12.8
No/incorrect phone number	340	0.5
Refused to provide contact details	22	0.0
Declined to participate / unable to recall contacts	1,155	1.6
Timed out ¹	60,972	85.0
Total incomplete cases	71,706	100.0
% incomplete as proportion of all index cases		54.3

1. Timed out includes individuals contacted by SMS and asked to complete an online contact tracing form, but haven't completed the form within 5 days.

In week ending 02 January 2022, 12.8% of incomplete index cases were due to the index case not responding to the multiple calls from Test and Protect.

Figure 7: Proportion of reasons for incomplete index cases



Contacts

The Test and Protect system ensures all positive index cases are asked to identify their close contacts, whether they were contacted by telephone and/or SMS. Table 9 below shows the recent trend information of contacts reported to Test and Protect by the index case.

Table 9: Contact Tracing contacts trend information, by week ending

	28 Nov	05 Dec	12 Dec	19 Dec	26 Dec	02 Jan
Total Primary Contacts ¹	35,909	42,567	59,629	66,709	75,732	106,555
Unique Primary Contacts ²	25,584	31,208	45,989	56,068	65,565	96,436
Average number of primary contacts per case	1.9	2.1	2.2	1.5	1.1	0.8

1. Total number of primary contacts recorded in the contact tracing system.

2. Unique number of primary contacts each week. A contact may have been in close contact with multiple index cases.

The average number of primary contacts per case has remained stable over recent weeks.

Contacts not required to self-isolate

It is worth noting that from 09 August 2021 under 18's do not need to be reported as close contacts. Revised isolation and contact tracing guidance for children and young people under 18 split contacts into 'high' and 'low' risk. High risk contacts are reported through Test and protect with low risk contacts identified by schools and issued with public health guidance locally. Test and Protect does not gather the details of low risk contacts and this is not contained in these figures.

Since the beginning of contact tracing, a small proportion of primary contacts who were successfully contacted were advised they did not need to isolate. Up to 02 January 2022, a total of **3,453** cumulative primary contacts, pertaining to completed index cases, were not advised to self-isolate. This represents **1.1%** of the total **303,633** cumulative primary contacts for which this information is known. Some reasons why contacts do not need to isolate include; children under the age of 16, contact was wearing PPE or did not come into close contact with a positive case.

In the week ending 02 January 2022, of the **96,436** unique contacts recorded, **6,973** (7.2%) went on to test positive within ten days of their contact with an index case.

Lateral Flow Device Testing

Across Scotland, there are numerous testing pathways being rolled out using Lateral Flow Devices (LFD) - a clinically validated swab antigen test taken that does not require a laboratory for processing. This test can produce rapid results within 45 minutes at the location of the test.

Some of the areas using LFD tests are: schools, health and social care workers, care homes and more. Public Health Scotland has collected the information on the number of LFD tests carried out across Scotland and will now publish this information weekly. This section is the totality of LFD across Scotland and across strategies. Sections focussing in on specific topics such as Schools, Higher Education and Community testing can be found later in the report.

On 05 January 2022, the Scottish Government announced that people who do not have symptoms will no longer be asked to take a polymerase chain reaction (PCR) test to confirm a positive Lateral Flow Device (LFD) result. Instead, anyone with a positive LFD, who does not have symptoms, should report the result online as soon as the test is done. In order to ensure that we continue to provide the most accurate information, changes have been made to the national COVID-19 case definition to reflect this revised testing strategy. At present, we report on PCR tests only. Next week's publication will report on the number of people with a COVID-19 infection confirmed by either a first LFD or PCR positive test.

Since 19 November 2020, there have been 19,303,280 LFD tests carried out in Scotland, of which 189,514 were positive (1.0%). Figure 8 below shows the weekly trend of tests carried out from week ending 29 November 2020 to 09 January 2022.

There has been a 4.3% decrease in the number of tests carried out from the week ending 02 January 2022 to the week ending 09 January 2022. Table 10 shows the number of LFD tests carried out in Scotland by testing group.

More detailed information can be found within the LFD section on our [interactive dashboard](#).

For additional details on Lateral Flow Device Tests, please see - [Appendix 5 – Lateral Flow Device Testing](#)

Figure 8: Trend of LFD tests carried out in Scotland from 29 November 2020 to 09 Jan 2022



Table 10: Number of LFD¹⁰ tests by Test group 19 November 2020 – 09 January 2022

Test Group	Test Reason	Number of tests	Number of positive tests	% LFT positive
Care Home Testing	Care Home - Visiting Professional	60,885	121	0.2%
	Care Home - Visitor	812,724	863	0.1%
	Care Home Staff	1,874,889	2,743	0.1%
Community Testing	Community Testing	104,143	946	0.9%
Education Testing	Combined School Staff	57,936	194	0.3%
	ELC Staff	333,254	1,810	0.5%
	Primary School Staff	1,576,751	5,990	0.4%
	Secondary School Pupils	972,334	9,948	1.0%
	Secondary School Staff	891,519	3,335	0.4%
	University Staff	12,625	113	0.9%
	University Students	47,104	510	1.1%
Healthcare Testing	University Testing Site	97,073	387	0.4%
	Healthcare Worker	3,050,797	8,191	0.3%
Social Care Testing	Primary Care And Independent Contractors	227,283	581	0.3%
	Children, Young People and Mental Health	1,041	0	0.0%
	NSS Portal Social Care	747,498	1,817	0.2%
	Residential Homes	16,033	42	0.3%
Universal Offer	Support Services	34,361	428	1.2%
	Attend An Event	895,946	3,411	0.4%
	High Cases In Local Area	612,413	14,058	2.3%
	Lives With Someone Who Is Shielding	78,224	1,709	2.2%
	Travel Within UK	238,818	1,547	0.6%
	Universal Offer	3,251,274	88,977	2.7%
Workplace Testing	Private Sector	26,829	111	0.4%
	Public Sector	78,424	348	0.4%
	Quarantine Hotel Staff/Security Personnel	5,172	128	2.5%
	Third Sector	3,977	24	0.6%
	UK Gov Other	2,452,043	32,783	1.3%
Other	Other	741,910	8,399	1.1%
Total	Total	19,303,280	189,514	1.0%

Data extracted: 12 January 2022

Please note some of the data is suppressed due to disclosure methodology being applied to protect staff confidentiality.

COVID-19 Vaccine

On 08 December 2020, a COVID-19 vaccine developed by Pfizer BioNTech was first used in the UK as part of national immunisation programmes. The AstraZeneca (Vaxzevria) vaccine was also [approved for use](#) in the national programme, and rollout of this vaccine began on 04 January 2021. Moderna (Spikevax) vaccine was approved for use on 08 January 2021 and rollout of this vaccine began on 07 April 2021. These vaccines have met strict standards of safety, quality and effectiveness set out by the independent Medicines and Healthcare Products Regulatory Agency (MHRA).

For most people, a 2-dose schedule is advised for the vaccines. For the Pfizer BioNTech (Comirnaty) vaccine, the second vaccine dose can be offered between 3 to 12 weeks after the first dose. For the AstraZeneca (Vaxzevria) and Moderna (Spikevax) vaccine, the second dose can be offered 4 to 12 weeks after the first dose.

Information on uptake across the vaccine programme is available on a daily basis via the PHS [COVID-19 Daily Dashboard](#), 5 days a week at 2pm (Monday to Friday). This provides a cumulative picture of the position nationally and locally.

The dashboard provides total uptake nationally with breakdowns by [Joint Committee on Vaccination and Immunisation \(JCVI\)](#) age based cohorts and non age based cohorts for priority groups 1-9.

The vaccination content of this weekly publication is kept under continual review and specific editions have contained more in-depth analyses of uptake by particular groups or characteristics, including uptake by ethnicity and deprivation category, for teachers, for prisoners and for pregnant women.

COVID-19 Vaccination Uptake

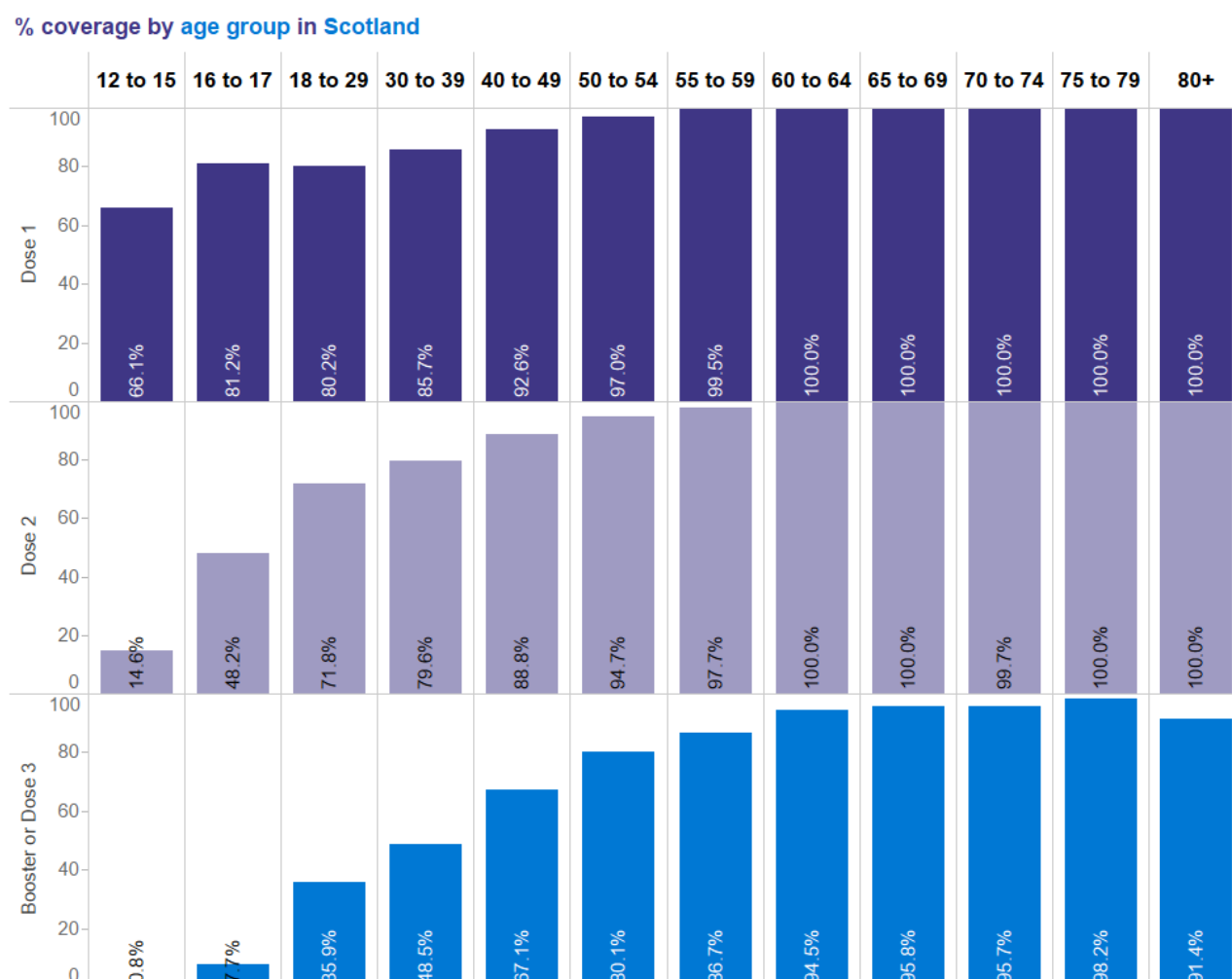
As of 10 January 2022, there has been over 11.6 million Covid-19 vaccine doses administered in Scotland, since the programme began on 08 December 2020.

- 4.39 million people protected through their first dose of the COVID-19 vaccination; 93.2% of those aged 18 and over and 91.6% of those aged 12 and over.
- 4.05 million people provided with further protection by receiving their second dose, of these, 89.2% are aged 18 and over and 84.6% of those aged 12 and over.
- 3.12 million people have received their booster/dose 3, of these, 69.9% are aged over 18 and over and 65.1% of those aged 12 and over.

More detailed age information can be in Figure 9.

Daily Vaccination uptake information is available via the [PHS Covid Daily Dashboard](#).

Figure 9: Covid-19 Vaccine uptake – percentage coverage by age group in Scotland



COVID-19 Vaccine Certification

To show COVID-19 vaccine status, there are a number of options and individuals can choose to use one or more of these:

- Use the NHS Covid Status App
- Request a paper copy of your COVID-19 Status
- Download a PDF copy of your COVID-19 Status

The NHS Covid Status App was launched on 30 September 2021. It is free and offers digital proof of vaccination via a QR code for each vaccination received. You can request a vaccine certificate if you're aged 12 and over and have been vaccinated in Scotland. The record will not show any vaccinations given outside of Scotland.

- As of midnight 08 January 2022 the NHS Covid Status App has been downloaded 2,372,616 times. It is important to note a single user may choose to download the App on multiple devices, so this figure does not represent unique individuals
- Between 03 September 2021 (introduction of QR codes) and midnight 08 January 2022
 - 684,417 paper copies of COVID-19 Status have been requested. This may not represent unique users if an individual requests a second copy (for example if they have lost their paper copy)
 - 1,680,223* PDF versions of COVID-19 Status have been downloaded. This provides a measure of the total number of times a new QR code has been generated via PDF. An individual can generate more than one successful QR code so the figure does not represent unique users

*01, 02 and 03 October data for PDFs is missing due to a technical error, we can reasonably estimate that there were 35,000 – 45,000 PDFs successfully generated PDFs in total for those three days.

COVID-19 Cases, Hospitalisations, and Deaths by Vaccine Status: Key Results and Methods

Vaccine Surveillance

Public Health Scotland has a [COVID-19 vaccine surveillance strategy](#) to monitor the effectiveness, safety and impact of all approved COVID-19 vaccines in Scotland. The key measure of the success of the vaccination programme in preventing infection, hospitalisations and deaths is vaccine effectiveness.

The summary data presented in this chapter record the total number of COVID-19 cases, COVID-19 related acute hospital admissions and confirmed COVID-19 deaths by their vaccination status and does not assess the effectiveness of the vaccine or whether the vaccine has worked in these individuals. The latter requires a careful examination of each case to explore possible reasons, which could be related to the test, virus or the person (e.g. pre-existing conditions).

Please note that this section only includes PCR confirmed COVID-19 cases, hospitalisations and deaths.

There continues to be large volumes of tests being processed by labs; this has impacted turnaround times resulting in delays between specimen's being taken and results being received and reported. The most recent data presented in this report may be incomplete and subject to change.

Summary of key results

- In the last four weeks from 10 December 2021 to 07 January 2022, the case rates have increased across all vaccine statuses.
- Age-standardised hospitalisation rates for COVID-19 are lower for people who have received a booster or 3rd dose of a COVID-19 vaccine compared to individuals that are unvaccinated or have received one or two doses of a COVID-19 vaccine.
- Age-standardised mortality rates for COVID-19 deaths are lower for people who have received a booster or 3rd dose of a COVID-19 vaccine compared to individuals that are unvaccinated or have received one or two doses of a COVID-19 vaccine.

Overall results of COVID-19 Cases and Hospitalisations, and Deaths by Vaccination Status

COVID-19 cases by vaccination status

[Recent studies](#) have been released by the UK Health Security Agency, formerly Public Health England (PHE), looking into the effect of vaccination against mild and severe COVID-19. [UKHSA analyses](#) show vaccine effectiveness against symptomatic disease with the Delta variant to be approximately 65 to 70% with AstraZeneca (Vaxzevria) and 80 to 95% with the Pfizer-BioNTech (Comirnaty) and Moderna (Spikevax) vaccines. [Data from the UKHSA](#) shows that vaccine effectiveness is waning after two doses, but remains high, against hospitalisation and death.

The [first real world results](#) of the effectiveness of the booster vaccination against symptomatic disease shows very high vaccine effectiveness, higher than for the primary course, at 93-94%. [Analyses from Scotland](#) show that the booster and 3rd dose of the COVID-19 vaccines are associated with 57% reduced risk of symptomatic infection with the Omicron variant compared to those who are more than 25 weeks post-second dose of COVID-19 vaccine.

[Initial analysis](#) of vaccine effectiveness against symptomatic disease with the Omicron variant have been shown to be lower than compared to the Delta variant, with estimates of vaccine effectiveness of between 70 to 75% in the early period after the booster dose. Although lower, this is still a substantial vaccine effect, and is higher than after one or two doses of vaccine.

Table 11: Age-standardised case rate per 100,000 individuals by week and vaccination status, 11 December 2021 to 07 January 2022

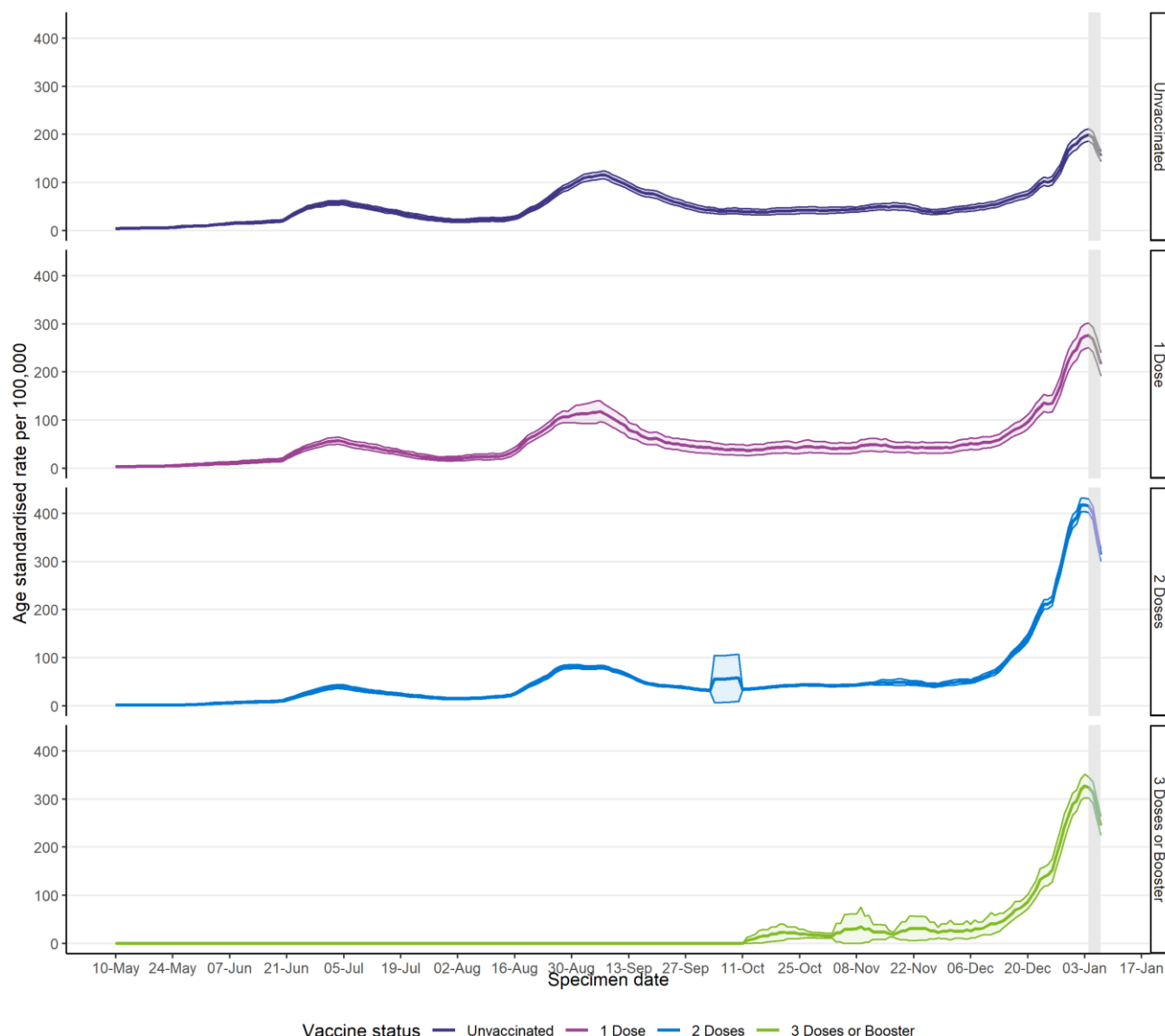
	Unvaccinated		1 Dose	
Week	No. tested positive by PCR	Age Standardised case rate per 100,000 with 95% confidence intervals	No. tested positive by PCR	Age Standardised case rate per 100,000 with 95% confidence intervals
11 December - 17 December 2021	6,545	482.87 (464.41 - 501.34)	2,952	574.16 (538.46 - 609.85)
18 December - 24 December 2021	9,070	721.39 (698.44 - 744.34)	4,639	958.62 (911.03 - 1,006.20)
25 December - 31 December 2021	14,465	1,242.10 (1,209.27 - 1,274.94)	7,657	1,693.71 (1,631.31 - 1,756.11)
01 January 2022 – 07 January 2022	12,485	1,092.80 (1,063.90 - 1,121.71)	6,702	1,527.57 (1,462.52 - 1,592.63)
	2 Doses		Booster or 3rd Dose	
Week	No. tested positive by PCR	Age Standardised case rate per 100,000 with 95% confidence intervals	No. tested positive by PCR	Age Standardised case rate per 100,000 with 95% confidence intervals
11 December - 17 December 2021	20,788	826.49 (809.83 - 843.16)	3,926	458.39 (400.49 - 516.29)
18 December - 24 December 2021	35,123	1,527.87 (1,501.86 - 1,553.88)	10,193	902.02 (841.06 - 962.98)
25 December - 31 December 2021	54,860	2,897.58 (2,859.92 - 2,935.23)	30,327	1,755.69 (1,701.98 - 1,809.40)
01 January 2022 – 07 January 2022	35,119	2,499.52 (2,462.50 - 2,536.53)	33,415	1,466.76 (1,418.18 - 1,515.33)

Date are only based on PCR results. Vaccination status is determined as at the date of positive PCR test according to the definitions described in Appendix 6. The data displayed within the greyed-out section are considered preliminary and are subject to change as more data is updated. Age-standardised case rates are per 100,000 people per week, standardised to the 2013 European Standard Population (see Appendix 6). On average, unvaccinated individuals are younger than individuals with two or more doses of COVID-19 vaccine. To compare across vaccination statuses (unvaccinated, 1 dose, 2 doses or booster/3 doses), age-standardised case rates are calculated to adjust for differences in age distribution. COVID-19 cases included in this table for the *age-standardised rates only includes individuals 10 years old and over. Although the majority of 10 and 11 year olds are currently not eligible for vaccination, the five-year age band standardised to the 2013 European Standard Population used in this analysis ranges from 10-14 years and therefore cases and denominators for these age groups are included.*

Due to the inclusion of age-standardised case rates these number may appear different from previous weeks' reports.

There has been an increase in the COVID-19 case rates in the last four weeks from 11 December 2021 to 07 January 2022.

Figure 10: COVID-19 age-standardised case rate per 100,000 individuals by vaccine status, seven-day rolling average from 10 May 2021 to 07 January 2022



Vaccination status is determined as at the date of PCR specimen date according to the definitions described in Appendix 6. The data displayed within the greyed-out section are considered preliminary and are subject to change as more data is updated. Age-standardised case rates are per 100,000 people per week, standardised to the 2013 European Standard Population (see Appendix 6). On average, unvaccinated individuals are younger than individuals with two or more doses of COVID-19 vaccine. To compare across vaccination statuses (unvaccinated, 1 dose, 2 doses or booster/3 doses), age-standardised case rates are calculated to adjust for differences in age distribution. COVID-19 cases included in this figure for the age-standardised rates only includes individuals 10 years old and over. Although the majority of 10 and 11 year olds are currently not eligible for vaccination, the five-year age band standardised to the 2013 European Standard Population used in this analysis ranges from 10-14 years and therefore cases and denominators for these age groups are included.

Age standardised rates are adjusted to only include individuals 10 years old and over and are calculated by combining rates from different age groups relative to the European standard age distribution population. These calculations have associated 95% confidence intervals shown in the shaded areas of the figure. Smaller populations have wider associated confidence intervals (see 1 dose Age-standardised rate (ASR)) whereas larger populations have narrower associated confidence intervals (see 3 doses or booster ASR).

In the last four weeks from 10 December 2021 to 07 January 2022, the case rates have increased across all vaccine statuses.

Note that the peak in the 2nd dose category around the 11 October 2021 is likely due to a small number of individuals vaccinated within the younger age group at this time.

COVID-19 related acute hospital admissions by vaccine status

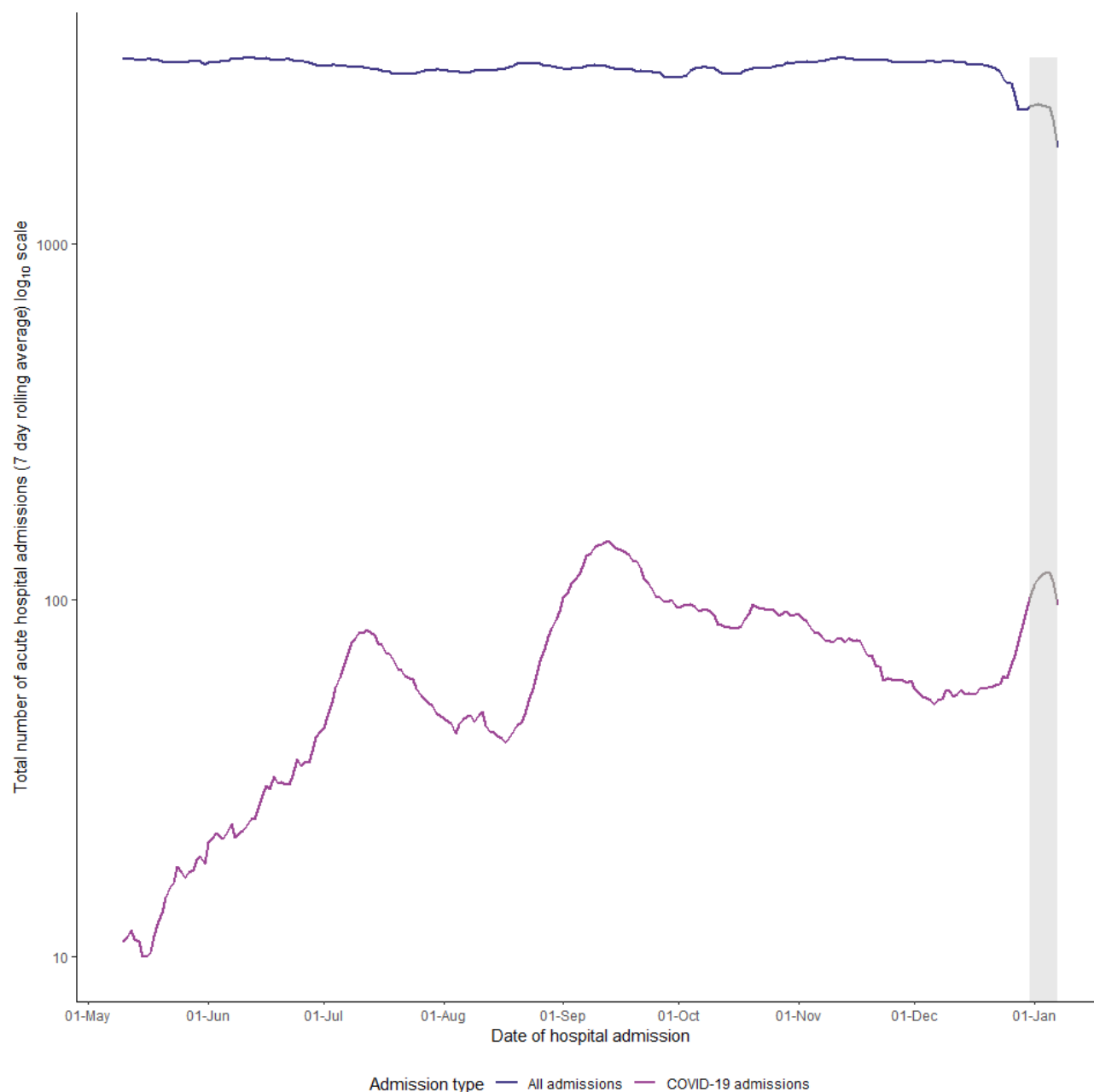
[A number of studies](#) have estimated vaccine effectiveness against hospitalisation and have found high levels of protection against hospitalisation with all vaccines against the Alpha variant. [A paper](#) observed effectiveness against hospitalisation of over 90% with the Delta variant with all three COVID-19 vaccines including AstraZeneca (Vaxzevria), Pfizer-BioNTech (Comirnaty), and Moderna (Spikevax). In most groups there is relatively limited waning of protection against hospitalisation over a period of at least five months after the second dose.

[A recent pre-print](#) suggests that risk of hospitalisation is approximately 68% lower with the Omicron variant than the Delta variant. However, these are initial findings - hospitalisation numbers are still small and the majority of Omicron cases were in younger people.

Please note that COVID-19 related acute hospital admissions data in this section only includes individuals 16 years old and over.

From 01 September 2020 to 07 January 2022, there were a total of 1,459,930 acute hospital admissions for any cause, of which 34,270 were associated with a COVID-19 PCR positive test 14 days prior, on admission, the day after admission or during their stay. Using the 90-day exclusion criteria between positive COVID-19 PCR tests associated with an acute hospital admission, 16,200 individuals were admitted to hospital, of which 115 were readmitted more than 90 days after their first admission.

Figure 11: Seven-day rolling average on a $\log_{10}$ scale: acute hospital admissions where the individual had a COVID-19 positive PCR test 14 days prior, on admission or during their stay in hospital, compared to all acute hospital admissions, 10 May 2021 to 07 January 2022



Data displayed are on a $\log_{10}$ scale. The data displayed within the greyed-out section are considered preliminary and are subject to change as more data is updated.

COVID-19 related hospital admissions are small relative to all acute hospitalisations.

Table 12: Age-standardised rate of acute hospital admissions where an individual had a COVID-19 positive PCR test up to 14 days prior, on admission, or during their stay in hospital, by week and vaccination status, 11 December 2021 to 07 January 2022

	Unvaccinated		1 Dose	
Week	No. hospitalised	Age Standardised hospitalisation Rate per 100,000 with 95% confidence intervals	No. hospitalised	Age Standardised hospitalisation Rate per 100,000 with 95% confidence intervals
11 December - 17 December 2021	98	43.94 (24.34 - 63.54)	20	37.48 (8.44 - 66.53)
18 December - 24 December 2021	134	64.55 (38.00 - 91.11)	14	14.06 (-4.71 - 32.83)
25 December - 31 December 2021	168	84.17 (56.69 - 111.65)	43	53.62 (19.11 - 88.12)
01 January 2022 – 07 January 2022	145	59.17 (26.42 - 91.92)	46	63.78 (12.51 - 115.04)
	2 Doses		Booster or 3rd Dose	
Week	No. hospitalised	Age Standardised hospitalisation Rate per 100,000 with 95% confidence intervals	No. hospitalised	Age Standardised hospitalisation Rate per 100,000 with 95% confidence intervals
11 December - 17 December 2021	189	46.46 (25.71 - 67.21)	75	4.29 (3.07 - 5.50)
18 December - 24 December 2021	165	45.21 (32.10 - 58.33)	116	6.94 (5.36 - 8.53)
25 December - 31 December 2021	225	78.91 (58.05 - 99.76)	273	20.54 (15.80 - 25.28)
01 January 2022 – 07 January 2022	184	130.14 (81.50 - 178.79)	298	14.82 (12.12 - 17.53)

Vaccination status is determined as at the date of positive PCR test according to the definitions described in Appendix 6. The data displayed within the greyed-out section are considered preliminary and are subject to change as more data is updated. Age-standardised hospitalisation rates are per 100,000 people per week, standardised to the 2013 European Standard Population adjusted to only include individuals 16 years old and over (see Appendix 6).

On average, unvaccinated individuals are younger than individuals with two or more doses of COVID-19 vaccine. Older individuals are more likely to be hospitalised than younger individuals. To account for the different age distribution of individuals in each vaccine status, age-standardised hospitalisation rates are reported in Table 12 and Figure 12.

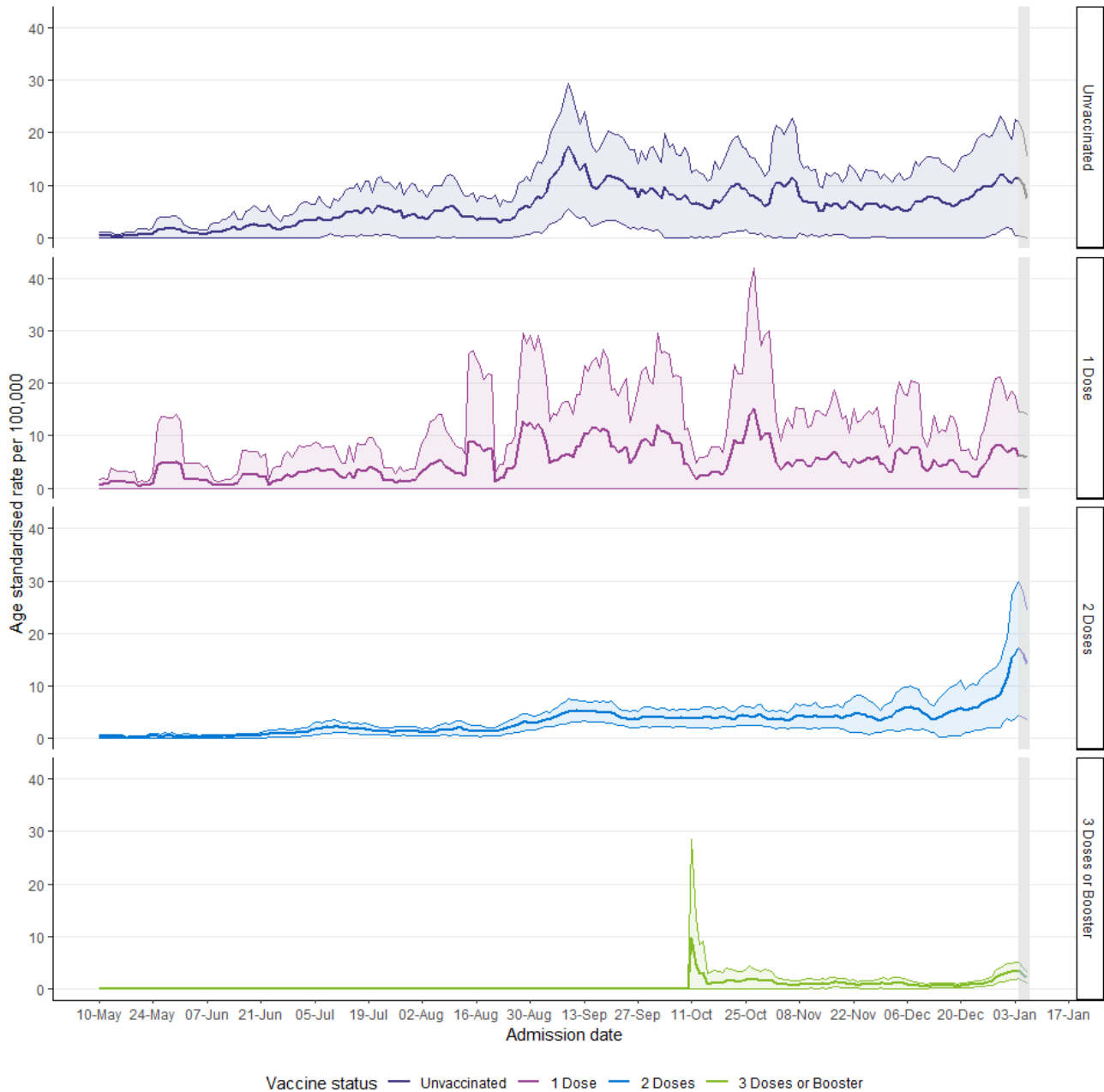
In the past four weeks, from 11 December 2021 to 07 January 2022, the age-standardised rate of hospital admissions per 100,000 were higher in unvaccinated individuals compared to individuals with their 3rd dose or booster dose of vaccine. In the last week in an age-standardised population, individuals were 4 times more likely to have a COVID-19 related acute hospital admission if they were unvaccinated compared to individuals that had received a booster or 3rd dose of vaccine.

The higher age-standardised rate for individuals with two doses is a reflection of increasing hospitalisation rates for those aged 70+ (see figure 4). In other age groups the rates remain lower for those with two doses compared to those with one dose or unvaccinated. This group of individuals aged 70+ who have had two doses of vaccine but have not yet had a booster may include some very vulnerable individuals.

Please note that these statistics do not differentiate between individuals in hospital with COVID-19 illness requiring hospitalisation compared to those in hospital for other reasons (e.g. routine operations) for whom COVID-19 was identified incidentally through testing but they are not requiring hospitalisation because of their COVID-19 symptoms.

The [PHS Weekly Statistical Report](#), published 07 January 2022, provides an analysis of hospital admissions 'because of' COVID-19 (where COVID-19 is the primary cause of admission) in comparison to admissions 'with' COVID-19 (where COVID-19 is not the primary reason for admission, but the individual has tested positive by PCR). Based on a clinical audit of hospital admission records in NHS Greater Glasgow and Clyde and NHS Grampian in late December 2021 and early January 2022, 60% of acute hospital admissions were determined to be 'because of' COVID-19 (assuming either a definite or probably attribution).

Figure 12: Age-standardised hospitalisation rate of acute hospital admissions where an individual had a COVID-19 positive PCR test up to 14 days prior, on admission, or during their stay in hospital, per 100,000 individuals by vaccination status, seven-day rolling average from 10 May 2021 to 07 January 2022



Vaccination status is determined as at the date of positive PCR test according to the definitions described in Appendix 6. The data displayed within the greyed-out section are considered preliminary and are subject to change as more data is updated. 95% confidence intervals are shown as the shaded regions. Age-standardised hospitalisation rates are per 100,000 people per week, standardised to the 2013 European Standard Population adjusted to only include individuals 16 years old and over (see Appendix 6).

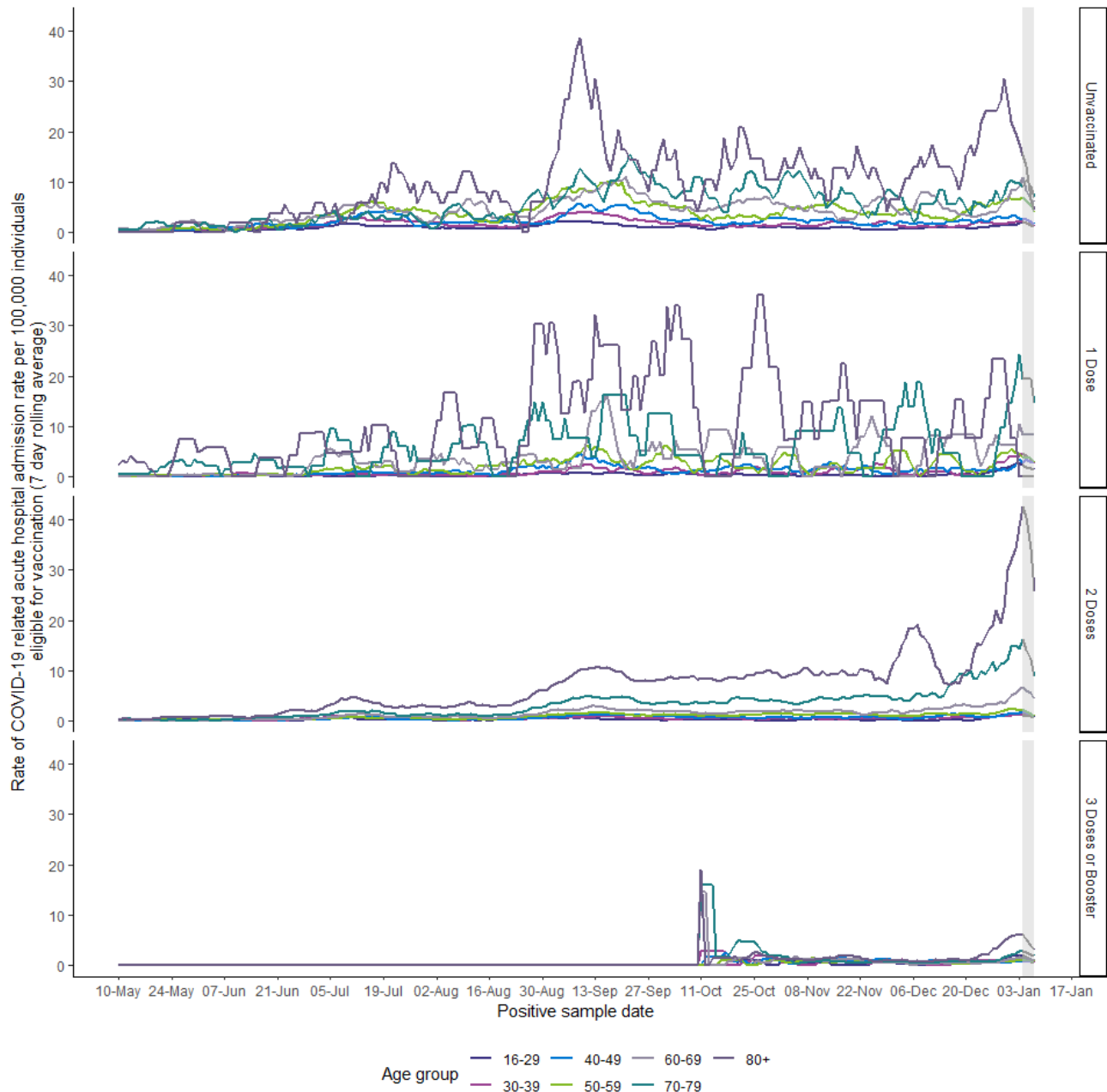
Age standardised rates are adjusted to only include individuals 16 years old and over and are calculated values by combining rates from different age groups relative to the European standard age distribution population. These calculations have associated 95% confidence intervals shown in the shaded areas of the figure. Smaller populations have wider

associated confidence intervals (see 1 dose Age-standardised rate (ASR)) whereas larger populations have narrower associated confidence intervals (see 3 doses or booster ASR).

The age standardised rate of acute hospital admissions for individuals with a booster or 3rd dose remains lower than that in unvaccinated individuals.

Note that the peak in the booster or 3rd dose category around the 11 October 2021 is likely due to a small number of individuals vaccinated at the beginning of the booster programme and the prioritisation of the booster/3rd dose to the clinically extremely vulnerable.

Figure 13: Seven-day rolling average COVID-19 related acute hospital admissions by vaccination status and by age group, 10 May 2021 to 07 January 2022



Vaccination status is determined as at the date of positive PCR test according to the definitions described in Appendix 6. Patient age is determined as their age the date of admission. The data displayed within the greyed-out section are considered preliminary and are subject to change as more data is updated.

Overall, the highest rates of acute hospital admissions were in the oldest age groups. In groups where a very large proportion of individuals have been vaccinated (such as individuals over age 80), any small changes in COVID-19 related acute hospital admissions will result in a larger change shown in the graph, for example in the over 80 partially vaccinated group. These changes tend to be more ‘step like’ and less smooth.

Confirmed COVID-19 deaths by vaccination status

COVID-19 vaccines are estimated to significantly reduce the risk of mortality for COVID-19, however a small number of COVID-19 deaths are still expected in vaccinated people, especially in vulnerable individuals where the vaccine or the immune response may not have been effective. Evidence has shown that vaccination is highly effective in protecting against death from coronavirus (COVID-19). [Data published by UKHSA](#) have shown high levels of protection (over 90%) against mortality with all three COVID-19 vaccines including AstraZeneca (Vaxzevria), Pfizer-BioNTech (Comirnaty), and Moderna (Spikevax), and against both the Alpha and Delta variants. [Research from Public Health Scotland, University of Edinburgh and University of Strathclyde](#), have shown two vaccine doses, whether the AstraZeneca (Vaxzevria) or the Pfizer-BioNTech (Comirnaty) vaccine, are over 90 per cent effective at preventing deaths from the Delta variant of COVID-19.

Findings from [a Scottish study](#), show that people who have received two doses of COVID-19 vaccine are far better protected against death from the virus than those who are unvaccinated. However, there are certain characteristics which can make people more vulnerable, including being aged 80 or over, having multiple underlying health conditions, and being male. [Results](#) show that adults aged 18-64 who are double vaccinated have almost four times increased protection against dying from COVID-19 compared to those who are unvaccinated. The figures are even more stark for those who are older, with double vaccinated adults aged 65-79 experiencing 15.5 times greater protection against death than their unvaccinated peers, and for adults over 80, this increased to 30 times higher.

From 29 December 2020 (21 days after the start of the vaccination programme in Scotland to account for protection to develop after the first dose) to 31 December 2021, there have been 5,728 confirmed COVID-19 related deaths with a positive PCR result and where COVID-19 was recorded as an underlying or contributory cause on the death certificate.

Of these, 62.7% (n = 3,594) were in unvaccinated individuals, 6.0% (n = 344) had received one dose of COVID-19 vaccine, 29.9% (n = 1,715) had received two doses of COVID-19 vaccine and 1.3% (n = 75) had received a booster or 3rd dose of a COVID-19 vaccine of COVID-19 vaccine. The risk of death from COVID-19 is strongly linked to age, with the most vulnerable being in the over 70s age group.

In Scotland, over 2.4 million individuals have received an effective booster or 3rd dose of a COVID-19 vaccine (more than 14 days post-booster or 3rd dose). Of these, 75 individuals (0.003%) tested positive by PCR for SARS-CoV-2 more than fourteen days after receiving their booster or 3rd dose of COVID-19 vaccine and subsequently died with COVID-19 recorded as underlying or contributory cause of death. The median age was 81 years old and of the confirmed COVID-19 related deaths, 98.7% (n=74) had at least one other contributory cause of death listed alongside COVID-19 on the death certificate.

To account for differences in population size and age of the vaccination status groups over time, age-standardised mortality rates were calculated for deaths where COVID-19 was listed as an underlying or contributory cause of death on the death certificate (Table 13).

Table 13: Number of confirmed COVID-19 related deaths by vaccination status at time of test and age-standardised mortality rate per 100,000, 04 December 2021 to 31 December 2021

	Unvaccinated		1 Dose	
Week	No. of deaths	Age Standardised Mortality Rate per 100,000 with 95% confidence intervals	No. of deaths	Age Standardised Mortality Rate per 100,000 with 95% confidence intervals
04 December - 10 December 2021	14	5.56 (1.60 - 9.53)	6	17.24 (3.36 - 31.12)
11 December - 17 December 2021	18	7.13 (2.68 - 11.58)	3	3.93 (0.00 - 9.22)
18 December - 24 December 2021	6	1.72 (0.22 - 3.22)	7	15.27 (2.87 - 27.66)
25 December - 31 December 2021	8	4.79 (0.58 - 8.99)	1	0.36 (0.00 - 1.05)
	2 Doses		Booster or 3rd Dose	
Week	No. of deaths	Age Standardised Mortality Rate per 100,000 with 95% confidence intervals	No. of deaths	Age Standardised Mortality Rate per 100,000 with 95% confidence intervals
04 December - 10 December 2021	56	9.44 (6.78 - 12.10)	8	0.26 (0.05 - 0.46)
11 December - 17 December 2021	36	7.66 (5.03 - 10.28)	8	0.20 (0.06 - 0.33)
18 December - 24 December 2021	24	6.52 (3.78 - 9.25)	15	0.33 (0.16 - 0.49)
25 December - 31 December 2021	21	7.06 (3.82 - 10.30)	9	0.21 (0.07 - 0.34)

Vaccination status is determined as at the date of positive PCR test according to the definitions described in Appendix 6. A confirmed COVID-19 related death is defined as an individual who has tested positive by PCR for SARS-CoV-2 at any time point and has COVID-19 listed as an underlying or contributory cause of death on the death certificate. Age-standardised mortality rates per 100,000 people per week, standardised to the 2013 European Standard Population (see Appendix 6). This definition is for the purposes of evaluating the impact of the COVID-19 vaccine on confirmed COVID-19 deaths. The numbers reported in this section may differ from other published COVID-19 death data. Data are based on date of registration. In Scotland deaths must be registered within 8 days although in practice, the average time between death and registration is around 3 days. More information on days between occurrence and registration can be found on the NRS website.

Age-standardised mortality rates for COVID-19 deaths shown in Table 3 are significantly lower for people who have received a booster or third dose of a COVID-19 vaccine compared to individuals that are unvaccinated or have received one or two dose of a COVID-19 vaccine.

Hospital/ Wider System Pressures

NHS services across NHS Scotland are subject to increased demand during the winter period. The information presented in this section aims to support the reader in drawing insights from a wider range of existing metrics around COVID-19 and winter pressures.

Unscheduled Care

As individuals in Scotland make contact with Unscheduled Care Services, data about who they are, where they have come from, what is wrong with them and what happens to them are collected, mainly to inform their care. This provides a good picture of the potential unscheduled care journeys that an individual may travel through.

Pressures on unscheduled care services are a familiar sight during the winter. Increased incidence of respiratory infections, alongside an increased acuity of illness and demands on primary care leads to increased demand on unscheduled care.

NHS inform is Scotland's digital health and care resource, providing the up to date standardised information on COVID-19 from a health perspective. Information is provided in a range of languages and alternative formats (www.nhsinform.scot/coronavirus).

Additional information can be found on the [wider impacts dashboard](#) and also in our [interactive dashboard](#).

NHS 24

During COVID-19 there has been a rapid reconfiguration of primary and community care services. As part of this NHS 24's 111 service has been reconfigured as an in-hours (as well as out-of-hours) route for COVID-19 triage for rapid access to care via local COVID-19 assessment hubs. In addition to this, from 1st December 2020, the national Redesign of Urgent Care Programme introduced new pathways from NHS 24 to Flow Navigation Centres, with the aim of reducing the numbers of people attending A&E and diverting to more appropriate care closer to home. This is available as part of a 24/7 service, further increasing NHS 24 in-hours activity (Monday to Friday, 8am to 6pm).

Information on COVID-19 related contacts to NHS24 and the Coronavirus Helpline are presented in our [interactive dashboard](#) which supplements this report.

Primary Care Out of Hours (OOH)

Across Scotland, NHS Boards provide Primary Care Out of Hours (OOH) services for patients' when their registered GP practice is closed. Information is available via the [Wider Impacts](#) dashboard.

Scottish Ambulance Service (SAS)

Key statistics on unscheduled care operational measures across Scotland, including trends in the number of unscheduled care incidents, responses, conveyances to hospital, response times and hospital turnaround times is available from the [Scottish Ambulance Service \(SAS\)](#) weekly unscheduled care operational statistics release.

Accident & Emergency (A&E) Activity

Additional information on Accident and Emergency (A&E) performance is available via the weekly [A&E activity and Waiting Times](#) publication, which provides an update of key statistics on attendances at Accident and Emergency (A&E) services across Scotland. Accident and Emergency waiting times and activity reporting on performance against the 4 hour waiting time standard, and the target to reduce attendances at Emergency Departments.

Large decreases in attendances at A&E services in NHS Scotland were observed in spring 2020 winter 2020/21 due to the measures put in place to respond to COVID-19. Since spring 2021 attendances at A&E have been rising and are getting closer to the pre-COVID levels. However, from the summer of 2021 performance against the four hour standard has dropped below 80% and has remained at this rate for a prolonged period of time.

Emergency Admissions

The information presented in this section aims to provide a better understanding of the underlying trends in emergency admissions during this period.

Figure 14 below shows the overall weekly trend of emergency acute hospital admissions (including COVID-19) from week ending 05 January 2021 to 04 January 2022. The number of emergency admissions have generally been decreasing since week ending 09 November 2021.

Figure 14: Trend of all Emergency Acute Hospital Admissions in Scotland

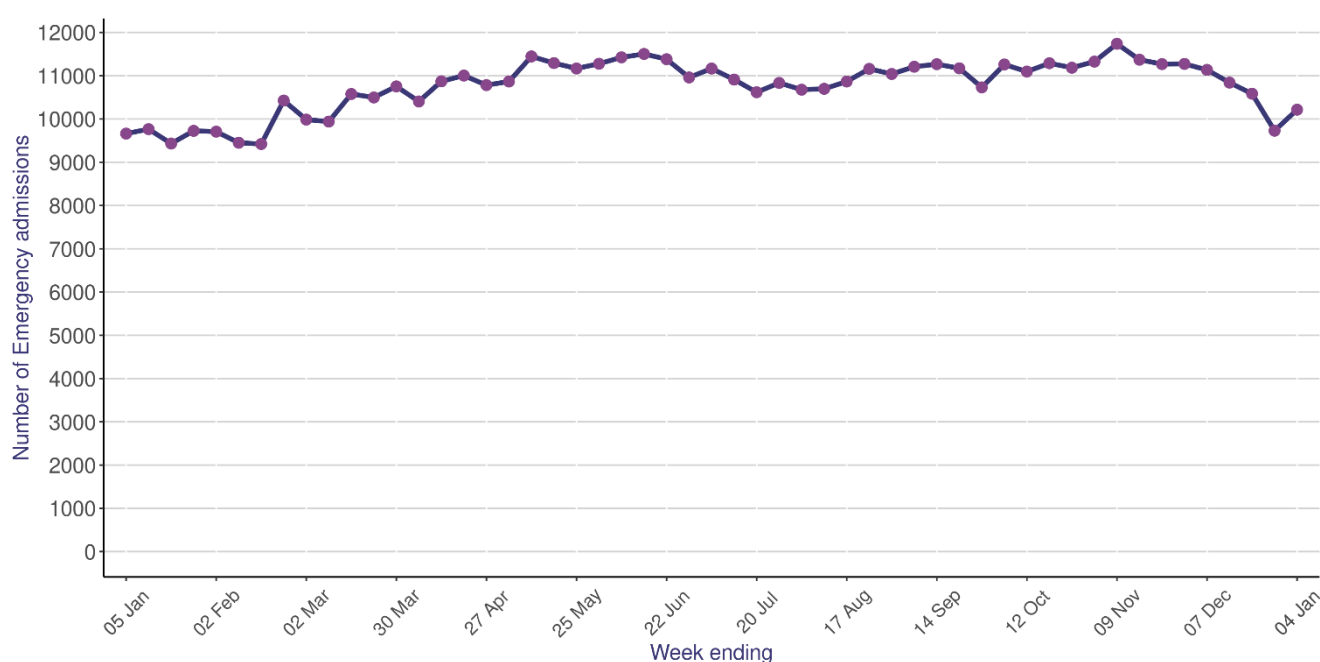


Table 14 below shows a breakdown of Emergency Admissions to acute hospital across all ages and by age group for the period 08 December 2021 to 04 January 2022.

Table 14: Emergency Hospital Admissions by age as at 04 January 2022³

Age Band	08 December – 14 December	15 December – 21 December	22 December – 28 December	29 December – 04 January
Under 18	1,427	1,336	1,082	1,042
18-29	707	689	600	677
30-39	816	790	649	714
40-49	837	862	762	806
50-54	592	594	513	528
55-59	698	690	656	663
60-64	746	752	699	763
65-69	801	765	733	802
70-74	985	997	929	991
75-79	940	939	947	980
80+	2,292	2,170	2,159	2,249
Total	10,841	10,584	9,729	10,215

Source: RAPID (Rapid and Preliminary Inpatient Data)

3. Please refer to [Appendix 3 – Hospital Admissions Notes](#) for explanatory notes regarding RAPID Hospital Admissions.

In the latest week there has been a 5.0% increase in the number of emergency admissions, with those aged 80+ years having the highest number of admissions. Also, in the latest week 56.6% of the hospital admissions related to patients aged 60+.

Waiting Times

Waiting times are important to patients and are a measure of how the NHS is responding to demands for services. Measuring and regular reporting of waiting times highlights where there are delays in the system and enables monitoring of the effectiveness of NHS performance throughout the country.

Public Health Scotland routinely publish a range of statistics on [Waiting Times](#), including: waiting times for diagnostic tests, new outpatient appointments, inpatient and day case treatments.

These statistics continue to be affected by the COVID-19 (Coronavirus) pandemic. At the start of the outbreak, many services were paused or reduced and there were fewer referrals. Boards started to resume relevant services, from June 2020. However, as a second wave of COVID-19 cases emerged through the Autumn and winter months, many Boards had to temporarily pause non-urgent diagnostic tests during the months of January and February 2021. Access to services has generally increased since then but some Boards may have been temporarily impacted by a return to high infection rates in recent months as lockdown restrictions eased.

Delayed Discharges

Timely discharge from hospital is an important indicator of quality. It is a marker for person-centred, effective, integrated and harm free care.

For most patients, following completion of health and social care assessments, the necessary care, support and accommodation arrangements are put in place in the community without any delay and the patient is appropriately discharged from hospital.

A delayed discharge occurs when a patient aged 18 years and over, clinically ready for discharge, cannot leave hospital because the other necessary care, support or accommodation for them is not readily accessible and/or funding is not available, for example to purchase a care home place.

Public Health Scotland publish monthly statistics on [Delayed Discharges](#) in Scotland. These figures provide the number of hospital bed days associated with delayed discharges and the number of discharges from hospital following a period of delay. Information is also provided on the number of people experiencing a delay in discharge from hospital at the monthly census point.

Delayed Discharge figures in NHS Scotland have been affected by measures put in place to respond to COVID-19. The marked fall in delayed discharges during 2020 is likely due to patients being moved out of hospital to increase capacity.

Wider Impact of COVID-19

The COVID-19 pandemic has direct impacts on health as a result of illness, hospitalisations and deaths due to COVID-19. However, the pandemic also has wider impacts on health, healthcare, and health inequalities. Reasons for this may include:

- Individuals being reluctant to use health services because they do not want to burden the NHS or are anxious about the risk of infection.
- The health service delaying preventative and non-urgent care such as some screening services and planned surgery.
- Other indirect effects of interventions to control COVID-19, such as changes to employment and income, changes in access to education, social isolation, family violence and abuse, changes in the accessibility and use of food, alcohol, drugs and gambling, or changes in physical activity and transport patterns.

More detailed background information on these potential impacts is provided by the Scottish Public Health Observatory in a section on [Covid-19 wider impacts](#).

The surveillance work stream of the Public Health Scotland social and systems recovery cell aims to provide information and intelligence on the wider impacts of COVID-19 on health, healthcare, and health inequalities that are not directly due to COVID-19. The [wider impact dashboard](#) can be viewed online and includes the following topics:

- Hospital and unscheduled care
- Accident and Emergency attendances
- NHS 24 completed contacts
- Out of hours cases
- Scottish Ambulance Service
- Excess deaths
- Outpatient appointments
- Healthcare for cardiovascular disease
- Healthcare for mental health
- Women booking antenatal care
- Healthcare for birth and babies
- Termination of pregnancy
- Child health
- Cancer
- Substance use
- Injuries

These analyses are based on a selected range of data sources that are available to describe changes in health service use in Scotland during the COVID-19 pandemic. More detailed information is available at NHS Board and Health and Social Care Partnership (HSCP) level.

Contact

Public Health Scotland

phs.covid19data&analytics@phs.scot

Further Information

COVID surveillance in Scotland

[Scottish Government](#)

[Daily Dashboard by Public Health Scotland](#) [National Records of Scotland](#)

UK and international COVID reports

[Public Health England](#)

[European Centre for Disease Prevention and Control](#)

[WHO](#)

Weekly National Seasonal Respiratory Report

[Weekly national seasonal respiratory report - Week 52 2021 - Weekly national seasonal respiratory report - Publications - Public Health Scotland](#)

The next release of this publication will be 19 January 2022.

Open Data

Data from this publication is available to download from the [Scottish Health and Social Care Open Data Portal](#).

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Let us know what you think about this publication via the link at the bottom of this [publication page](#) on the PHS website.

Early access details

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", PHS is obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). Shown below are details of those receiving standard Pre-Release Access.

Standard Pre-Release Access:

Scottish Government Health Department
NHS Board Chief Executives
NHS Board Communication leads

Appendices

Appendix 1: Background information

In late December 2019, the People's Republic of China reported an outbreak of pneumonia due to unknown cause in Wuhan City, Hubei Province.

In early January 2020, the cause of the outbreak was identified as a new coronavirus. While early cases were likely infected by an animal source in a 'wet market' in Wuhan, ongoing human-to-human transmission is now occurring.

There are a number of coronaviruses that are transmitted from human-to-human which are not of public health concern. However, COVID-19 can cause respiratory illness of varying severity.

On the 30 January 2020 the World Health Organization [declared that the outbreak constitutes a Public Health Emergency of International Concern](#).

Extensive measures have been implemented across many countries to slow the spread of COVID-19.

Further information for the public on COVID-19 can be found on [NHS Inform](#).

Appendix 2: World Health Organisation (WHO): Contact tracing in the context of COVID-19

The WHO initially produced guidance on "*enhanced criteria to adjust public health and social measures in the context of Covid-19*" in May 2020. The relevant extract from the criteria about the effectiveness of contact tracing within the context of public health surveillance at that time was:

At least 80% of new cases have their close contacts traced and in quarantine within 72 hours of case confirmation	These indicate that the capacity to conduct contact tracing is sufficient for the number of cases and contacts
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Source: <https://apps.who.int/iris/rest/bitstreams/1277773/retrieve>

In response to questions about whether the Scottish Government had been incorrectly comparing Scottish performance with the WHO "standard" (on the basis that counting in Scotland might start at the wrong point in the process), an assessment was undertaken at the start of 2020, and is available within Appendix 2 of the [Weekly Covid-19 Statistical report \(publication date 27 January 2021\)](#).

Please note this "standard" has subsequently been replaced with further [WHO guidance](#) issued in February 2021, reflecting the evolution of the state of the pandemic. This revised guidance now focuses on targeted approaches to contact tracing based on transmission patterns, engaging communities, and prioritising follow-up of high risk cases when it is not possible to identify, monitor and quarantine all contacts.

Appendix 3: Hospital Admissions Notes

Hospital Admissions

RAPID (Rapid and Preliminary Inpatient Data)

COVID-19 related admissions have been identified as the following: A patient's first positive PCR test for COVID 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 PCR test is after their date of discharge from hospital, they are not included in the analysis.

The number reported does not take into account the reason for hospitalisation. Therefore, people that were admitted for a non COVID-19 related reason (and tested positive upon admission) may be included.

RAPID is a daily submission of people who have been admitted and discharged to hospital. These data include admissions to acute hospitals only and do not include psychiatric or maternity/obstetrics specialties. Figures are subject to change as hospital records are updated. It can take 6-8 weeks or longer before a record is finalised, particularly discharge details.

In the data presented here, an admission is defined as a period of stay in a single hospital. There may be multiple admissions for a single patient if they have moved between locations during a continuous inpatient stay (CIS), or if they have been admitted to hospital on separate occasions.

Hospital Inpatients (Scottish Government Data)

Number of patients in hospital with recently confirmed COVID-19

This measure (available from 11 September 2020 and first published 15 September 2020) includes patients who first tested positive in hospital or in the 14 days before admission. Patients stop being included after 28 days in hospital (or 28 days after first testing positive if this is after admission). Further background on this new approach is provided in [this Scottish Government blog](#).

This is based on the number of patients in beds at 8am the day prior to reporting, with the data extract taken at 8am on the day of reporting to allow 24 hours for test results to become available. Where a patient has not yet received a positive test result they will not be included in this figure. Patients who have been in hospital for more than 28 days and still being treated for COVID-19 will stop being included in this figure after 28 days. All patients in hospital, including in intensive care, and community, mental health and long stay hospitals are included in this figure.

Appendix 4: Contact Tracing

Definitions

An **index case** is generated for each positive result with a test date on or after 28 May 2020. This includes tests derived from Scottish laboratories and from UK Government laboratories. An **individual** is a unique person who has had a positive test. An individual can have multiple positive tests which results in multiple cases within the test and protect system. In these figures, each person is only counted once.

A **contact** may be contacted more than once if multiple positive cases list them as a contact.

Completed cases are cases which are marked as completed in the case management system, which means that all contacts have been followed up and completed. It excludes cases marked as failed, excluded, in progress or new. In the latest weeks there will be cases which are still open either because contact tracing is still underway (particularly for the latest week) or the NHS Board is still managing the case as part of an open outbreak. Weekly data presented from Monday to Sunday in order to be consistent. Figures are provisional and may change as the test and protect tool is updated by contact tracers.

Individuals unable to be contacted

This information is only available for index cases that have been recorded on the CMS. The CMS went live on 22 June 2020 with NHS Boards migrating on a phased approach with all Boards using CMS from 21 July 2020. Prior to a Board migrating to CMS, data was recorded in a Simple Tracing Tool which did not give the level of granularity required to report on these measures. These data are developmental and an extensive data quality assurance exercise is underway and data may be revised in subsequent publications. Please note the methodology has changed as of 1 November 2020, a refined method has now been applied to identify unique indexes.

Contact tracers will contact index cases by telephone, and by default all close contacts will receive an automated SMS. This approach ensures high quality calls can continue to be prioritised for index cases. Even when SMS is defaulted to, in these scenarios, a number of close contacts are still telephoned, following clinical risk assessment, particularly if they are linked to complex cases. When close contacts of index cases are contacted via SMS text message, the GOV.UK Notify Service is used which means it is known if the SMS has been received by the mobile phone, not just that it has been sent. Where the SMS is not received, a contact tracer will attempt to contact the individual through other means. The case will not be marked as complete unless someone has spoken to the individual.

Appendix 5: Lateral Flow Device Testing

UK Gov other includes any LFD result which has come through the UK Government route (NHS Digital) which has the test site code "Other". Please note the universal offer results up to 28 July 2021 are reported via this method. From 28 July 2021 onwards, universal offer results are reported separately as Universal Offer.

The Attend An Event, High Cases In Local Area, Lives With Someone Who Is Shielding, Travel Within UK and Universal Offer categories only include data from 28 July 2021 onwards. From this date these categories are now options when entering a non-work LFD result via the UK Gov portal. Please note that it is up to the user to select the Attend An Event, High Cases In Local Area, Lives With Someone Who Is Shielding or Travel Within UK category, these are not part of any defined testing programme such as Community Testing or University Testing.

University Testing Site tests are tests which took place at a university testing site, generally in the 2020/21 academic year, though there are still a small number of tests each week in this category. Tests in the university students and university staff categories are tests via the UK Gov portal for someone entering a test to attend their place of work/education, these tests are from 28th July 2021 onwards and will be for the 2021/22 academic year.

For information regarding LFD testing during term time as part of the Schools Asymptomatic Testing Programme, please visit the [COVID-19 Education Surveillance Report](#).

Please note bulk uploading functionality is not yet available so data is likely to be an undercount. Data will be update and revised in future publications.

Other is any result entered via the [gov.uk website](#) where “none of the above” has been selected. Please note anyone requesting a LFD test via the general population offer, will currently report their results via this category.

Appendix 6: Data Sources and Limitations

Due to delays in reporting, figures are subject to change as records are updated. A marker (greyed-out block) has been applied where data is preliminary and caution should be taken in their interpretation.

The definitions described below are being used for the purposes of evaluating the impact of the COVID-19 vaccine on COVID-19 cases, COVID-19 related acute hospital admissions and confirmed COVID-19 deaths. The numbers reported in this section use test data, accounting for potential reinfections, and may differ from other sections and elsewhere which only count the number of new COVID-19 cases.

COVID-19 PCR test results

All positive COVID-19 PCR test results and associated demographics of an individual are extracted from the Test and Protect database (Corporate Data Warehouse) which contains test results from ECOSS. Data included in this analysis is reported up until the Friday of the previous week. Non-Scottish residents are excluded from the dataset.

COVID-19 cases are identified as the following: An individual that has tested positive for COVID-19 by PCR. If an individual tests positive more than once, the repeat positive PCR test is only counted if the positive PCR test is more than 90 days apart. Records with missing CHI numbers are excluded as these data cannot be linked to vaccination status.

Denominators for the 16 and over population are taken from the COVID-19 vaccination database. The denominator for under 16 year olds is from the NRS mid-2020 population estimates. Population data are extracted from Community Health Index (CHI) dataset representing all those currently registered with a GP practice in Scotland. These are different denominators than those in the Public Health Scotland COVID-19 Daily Dashboard and may over-estimate the population size as they will include, for example, some individuals who are no longer residents in Scotland. This is a particular issue for the denominator for the unvaccinated cohort, because for vaccinated individuals we know they were resident in Scotland at the time of their vaccination whereas for the unvaccinated cohort there will be a mixture of people who have chosen not to have the vaccine and those who are no longer resident in Scotland. This means that the rates of COVID infection and harm for the unvaccinated groups will be underestimated, whereas the rates for the vaccinated groups will be more accurate.

Vaccination status for all individuals who test positive for COVID-19 by PCR is extracted from the data used to produce the PHS vaccine uptake/daily dashboard. Vaccine records include the number of doses and date of vaccination. Individuals are listed as unvaccinated if there is no vaccination record linked to their unique CHI identifier at the time of analysis.

Vaccination status is taken at date of specimen for COVID-19 cases, acute hospital admissions, or death and assigned to number of doses according to the case definitions described below.

COVID-19 vaccination status is defined as per the following:

- **Unvaccinated:** An individual that has had no doses of COVID-19 vaccine and has tested positive for COVID-19 by PCR or has had one dose of COVID-19 vaccine and has tested positive less than or equal to 21 days after their 1st dose of COVID-19 vaccine.
- **Dose 1:** An individual that has had one dose of COVID-19 vaccine and has tested positive for COVID-19 by PCR more than 21 days after their 1st dose of COVID-19 vaccine or less than or equal to 14 days after their second dose of COVID-19 vaccine.
- **Dose 2:** An individual that has had two doses of COVID-19 vaccine and has tested positive for COVID-19 by PCR more than 14 days after their 2nd dose of COVID-19 vaccine.
- **Booster or 3rd dose:** An individual that has had a booster or 3rd dose of COVID-19 vaccine and has tested positive for COVID-19 by PCR more than 14 days after their booster or 3rd dose of COVID-19 vaccine.

COVID-19 related acute hospital admissions have been identified as the following: An individual that has tested positive for COVID-19 by PCR:

- Up to 14 days prior to hospital admission
- On the day of, or day following admission (if no discharge date is available)
- In between hospital admission and discharge (if there is a valid discharge date available).

Where an individual has more than one PCR positive test, positive results are only included for the first PCR positive test associated with a hospitalisation, or if the positive PCR test is more than 90 days after the previous PCR positive test that was eligible for inclusion. Using these criterion, all records of hospitalisation occurring within 90 days of a previous positive test are excluded. Therefore, if a positive PCR test result for an individual meets these criteria for multiple hospital stays, for example, an individual is admitted twice within a week, only the earliest hospital admission is included in the analysis.

If a patient tested positive after their date of discharge from hospital, they are not included in the analysis unless they are readmitted to hospital and meet the criteria described above.

The number of reported acute hospitalisations does not take into account the reason for hospitalisation, Therefore, people that were admitted for a non-COVID-19 related reason (and tested positive upon admission) may be included and result in an overestimation of COVID-19 related acute hospitalisations.

Hospital admission data is extracted from the Rapid and Preliminary Inpatient Data (RAPID) dataset on Monday 10 January 2022. RAPID is a daily submission of people who have been admitted and discharged to hospital. Figures are subject to change as hospital records are updated. Data included in this analysis is reported up until the Friday of the previous week.

In the data presented here, 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. Therefore, there may be multiple admissions for a single patient if they have moved between locations during a continuous inpatient stay (CIS), or if they have been admitted to hospital on separate occasions.

Confirmed COVID-19 deaths Death data were extracted from the SMRA dataset on Thursday 16 December 2021. Data included in these analysis are reported up until the last date of death registration for the previous week.

A confirmed COVID-19 related death is defined as an individual who has tested positive by PCR for SARS-CoV-2 at any time point and has COVID-19 listed as an underlying or contributory cause of death on the death certificate. Vaccine status is determined at time of most recent specimen date.

Age standardised hospitalisation and mortality rates are used to allow comparisons of hospitalisation and mortality rates between populations that have different age distributions. The 2013 European Standard Population is used to standardise rates. Age-standardised rates for COVID-19 related hospital admissions are standardised to the 2013 European Standard Population and are adjusted to only include individuals 16 years old and over. For more information see [the ONS methods](#). Denominators used to calculate age-standardised mortality rates are the same as the cases and hospitalisations rate figures and tables described above.