Public Health Scotland COVID-19 Statistical Report

As at 20 September 2021

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A Management Information release for Scotland

Contents

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.

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.

This report provides additional information not found in the Daily Dashboard on topics such as Test and Protect and Quarantining Statistics.

The accompanying interactive dashboard contains charts and data on the following topics:

- Hospital and unscheduled care
- Healthcare for cardiovascular disease
- Healthcare for mental health
- New cancer diagnoses
- Uptake of pre-school immunisations
- Coverage of health visitor child health reviews
- Infant feeding
- Child development
- Women booking for antenatal care
- Terminations of pregnancy
- Births and babies
- Excess deaths

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.

The coronavirus pandemic is a rapidly evolving situation. Future reports will provide further data and analysis to contribute to the evidence base around the outbreak.

Main Points

- As at 19 September 2021, there have been 535,955 confirmed COVID-19 cases; 23,254 of these were recorded in the most recent week, a decrease of 37.5% from the previous week.
- In the week ending 19 September 2021, 23,380 individuals were recorded in the contact tracing software, from which 27,178 unique contacts have been traced.
- In the week ending 19 September 2021, under the Community Testing Programme 18.8% of symptomatic and 8.9% of asymptomatic tests for COVID-19 were positive.
- In the week ending 14 September 2021, there were 1,030 admissions to hospital with a laboratory confirmed test of COVID-19. 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 2% in the most recent week ending 05 September 2021.
- The number of new admissions to Intensive Care Units (ICUs) for confirmed COVID-19 patients has reduced from 82 in the week ending 11 September 2021, to 75 in the week ending 18 September 2021.
- In the week ending 19 September 2021 there were 57,467 people who arrived in Scotland from outside the UK, of which 7,170 were required to quarantine (with 667 quarantined in a hotel).

Results and Commentary

Incidence of Variants of Concern and Variants Under Investigation

Since early May 2021, there has been a rapid increase in the Delta variant detected through whole genome sequencing (WGS) in Scotland. The Delta variant has been the dominant COVID-19 variant in Scotland since 31 May 2021.

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 Public Health England.

COVID-19 Daily Data

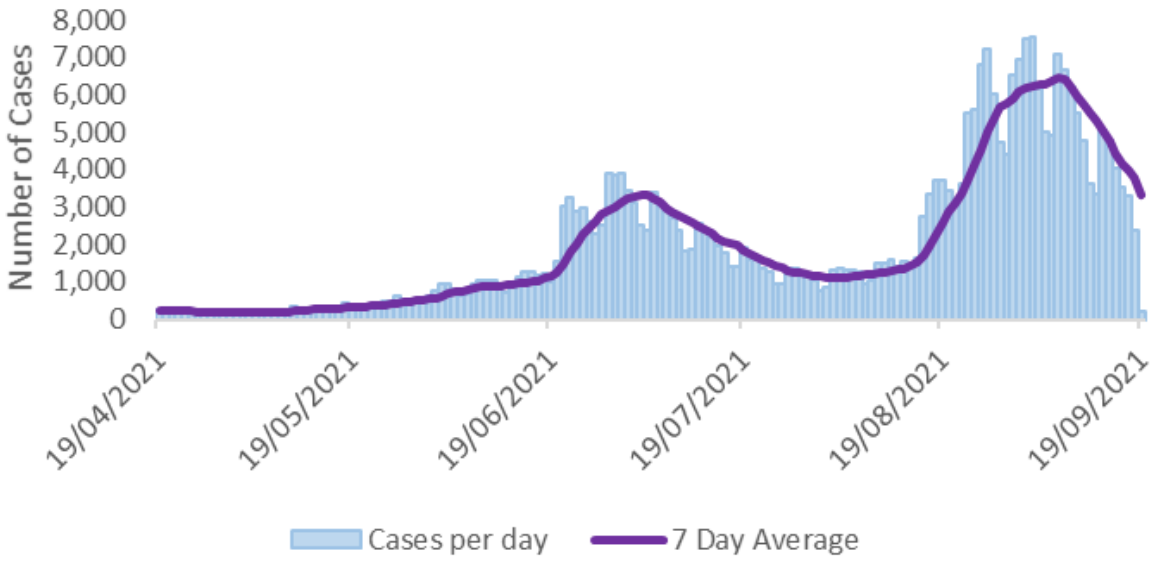
The Public Health Scotland COVID-19 Daily Dashboard publishes daily updates on the number of positive cases of COVID-19 in Scotland, with charts showing the trend since the start of the outbreak.

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 535,955 people in Scotland who have tested positive, at any site in Scotland (NHS and UK Government Regional Testing centres), for COVID-19 up to 19 September 2021.
- In the week ending 19 September 2021 there were 23,254 confirmed COVID-19 cases.[1]

1. Correct as at 19 September, may differ from more recently published data in the previous week's report and on the COVID-19 Daily Dashboard.

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

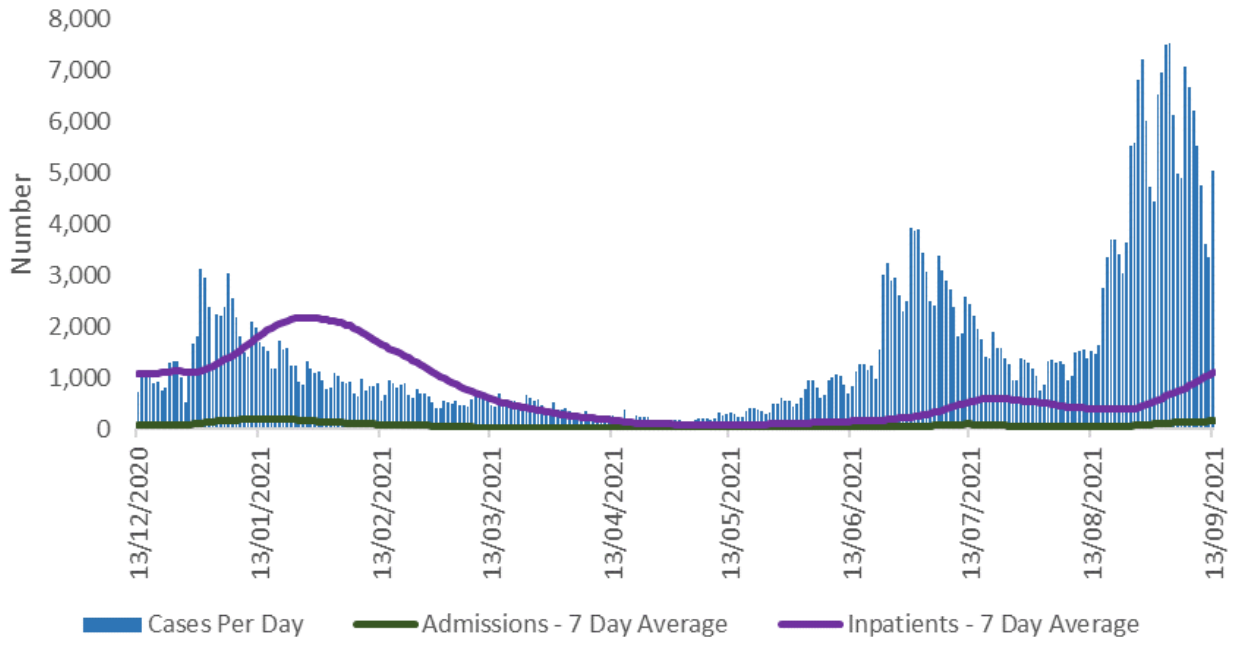


The daily dashboard also now includes data on Hospital Admissions and ICU admissions for patients with COVID-19:

- In the week ending 14 September 2021, there were 1,030 admissions to hospital with a laboratory confirmed test of COVID-19.
- In the week ending 18 September 2021 there were 75 new admissions to Intensive Care Units (ICUs) for confirmed COVID-19 patients.

The number of confirmed daily COVID-19 cases reduced from 7,084 to 5,036 between 06 September 2021 and 13 September 2021. During this same time period, the daily COVID-19 confirmed hospital admissions has increased from 141 to 157 (seven-day rolling average). The seven-day average of inpatients in hospital has increased by 36% (from 696 to 950).

Figure 2: Number of Positive Cases, Admissions and Inpatients, as at 13 September 2021[2]



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

There is increasing interest in whether or not the age of people admitted to hospital who have a laboratory confirmed case of COVID-19 is changing over time. The table below shows a breakdown across all ages and by age group for the most recent four weeks. Data from 03 March 2021 is available on the Covid Statistical Report website.

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.

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.

Table 1: COVID-19 hospital admissions by age as at 14 September 2021[3]

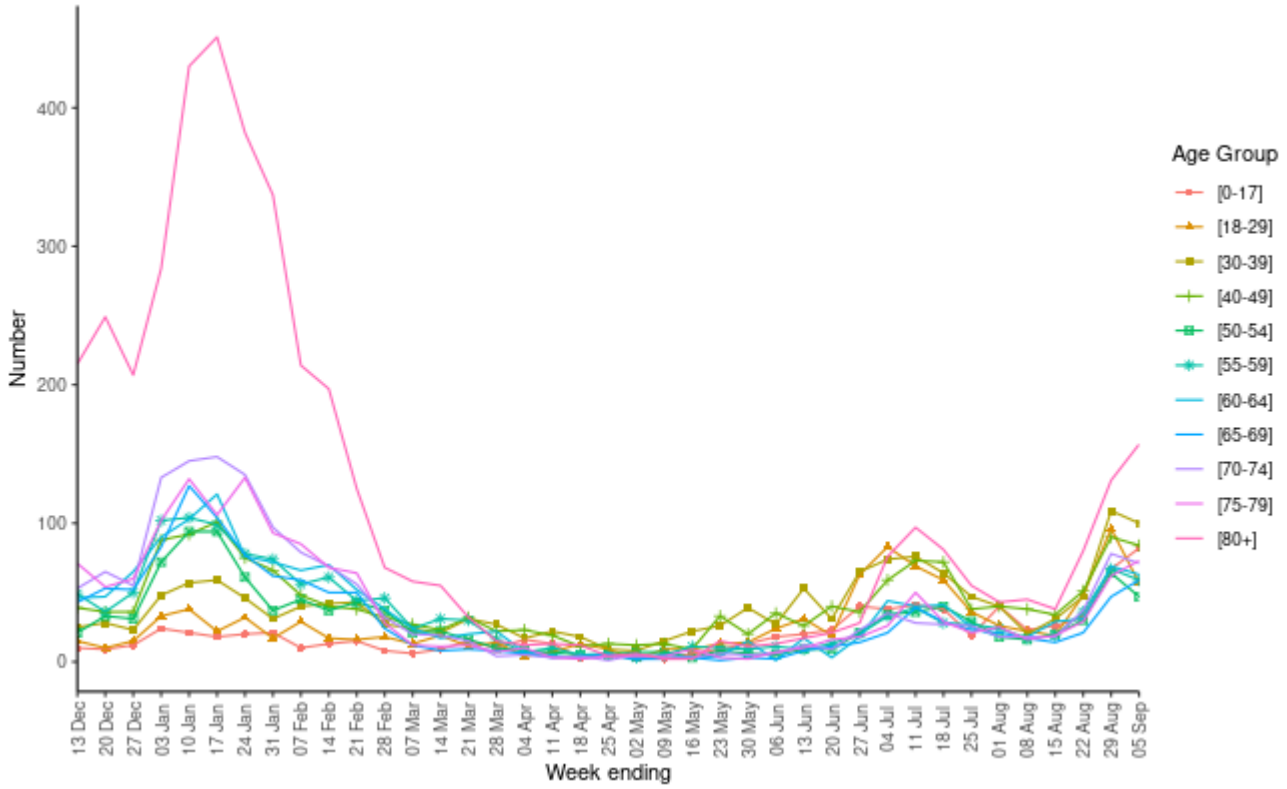
Age Band	18 August – 24 August	25 August – 31 August	01 September – 07 September	08 September – 14 September
Under 18	37	69	82	76
18-29	41	69	77	55
30-39	45	80	98	110
40-49	41	60	103	103
50-54	29	46	57	69
55-59	38	55	64	67
60-64	32	55	72	96
65-69	26	37	57	75
70-74	40	71	84	81
75-79	29	47	90	85
80+	70	120	188	213
Total	428	709	972	1,030

Source: RAPID (Rapid and Preliminary Inpatient Data)

3. Please refer to Appendix 4 – RAPID Hospital Admissions for explanatory notes regarding RAPID Hospital Admissions.

In the latest week there has been a 6% increase in the number of new admissions, with those aged 80+ years having the highest number admissions.

Figure 3: Trend in Hospital Admissions, who have tested positive for COVID-19 within 14 days, by age



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 2% in the most recent week ending 05 September 2021 (Figure 4).

This reduction can be explained by a change in the age profile of people acquiring COVID-19. Although those over 60 with COVID-19 are more likely to be admitted to hospital than younger age groups (Figure 5), the proportion of newly reported cases in the over 60s has reduced in recent months (Figure 6).

Figure 4: Proportion of weekly cases admitted to hospital within 14 days of a first positive test

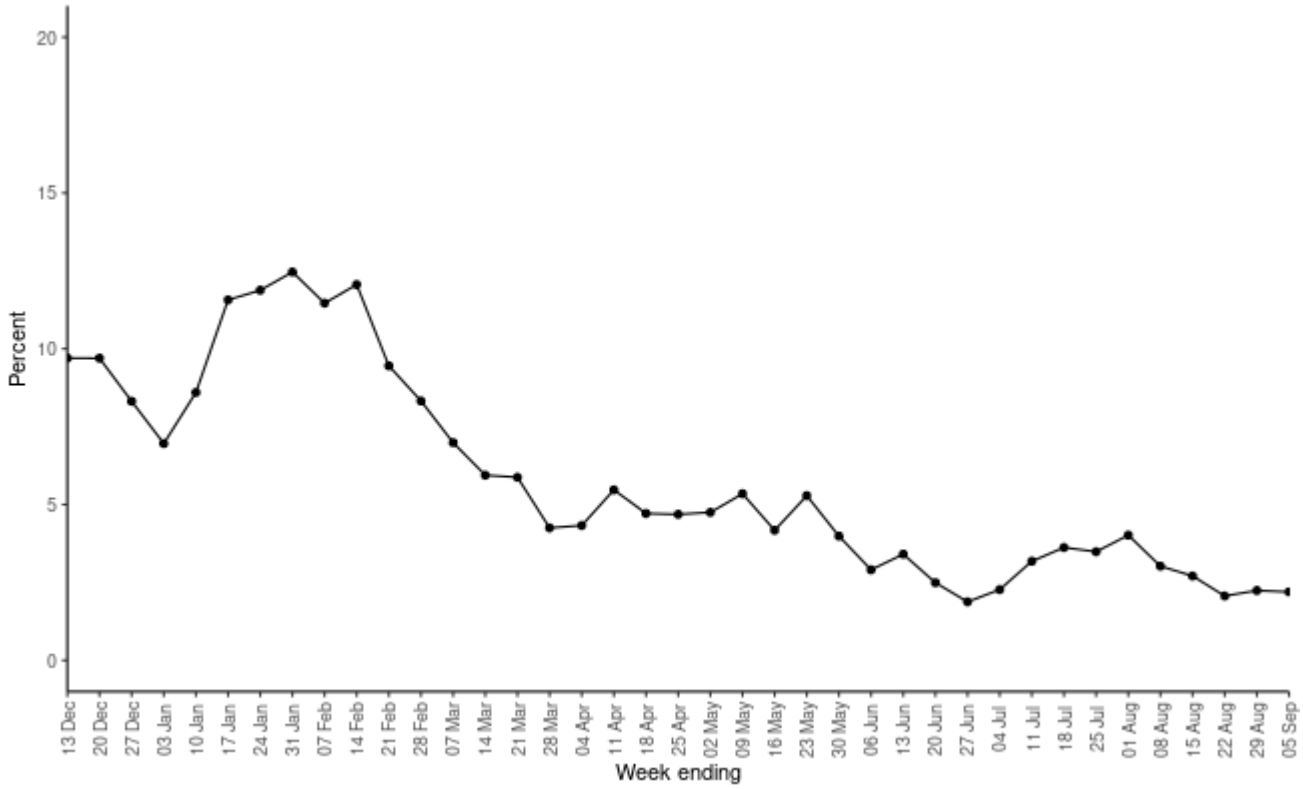


Figure 5: Proportion of weekly cases admitted to hospital within 14 days of a first positive test by age group

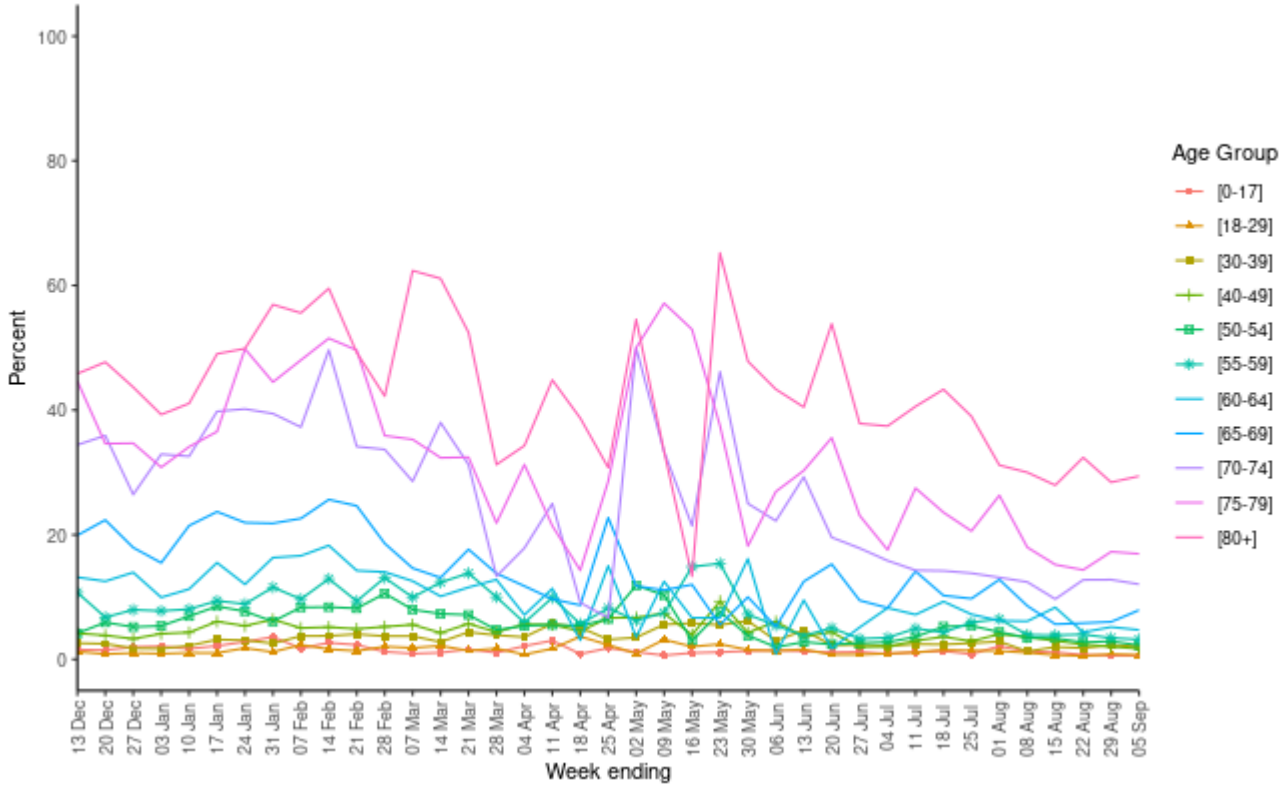
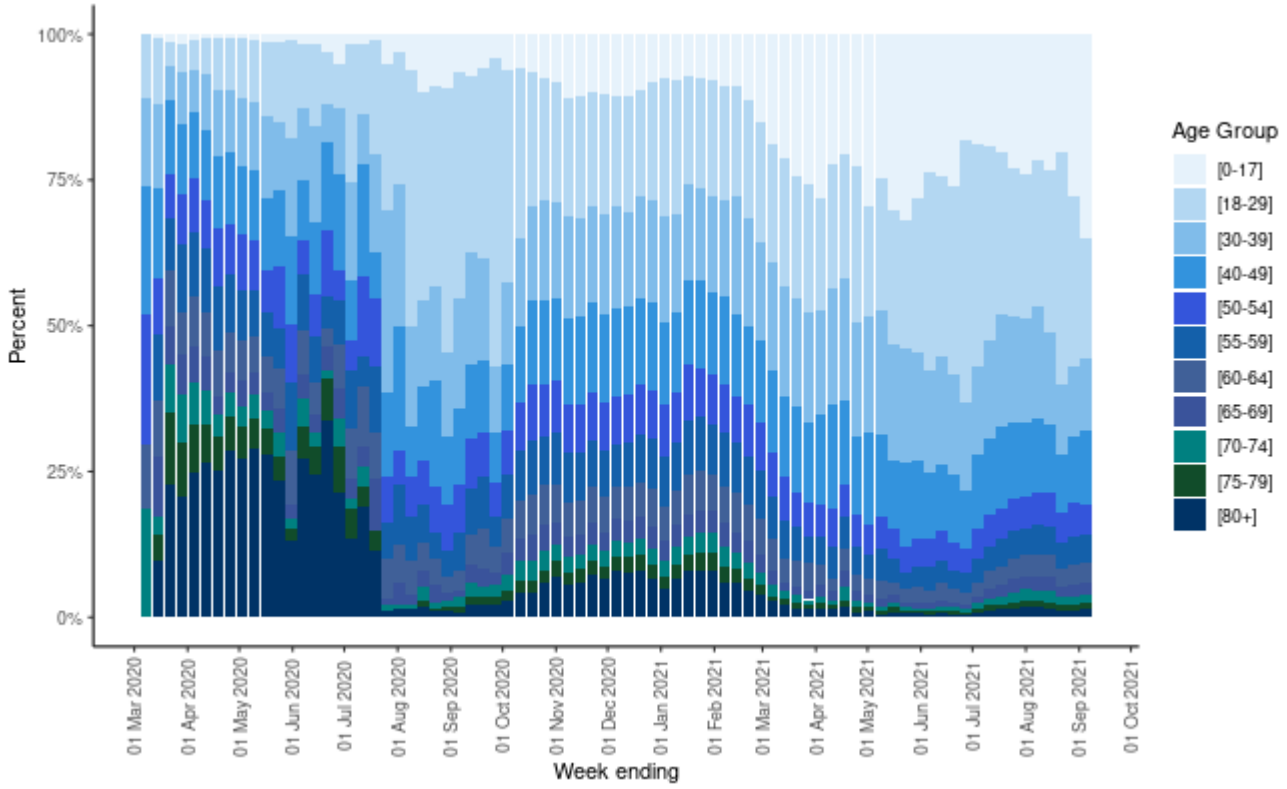


Figure 6: Distribution of confirmed COVID-19 cases by age group



COVID-19 Testing in Adult Care Home in Scotland

As of 20 January 2021, Public Health Scotland took over reporting of weekly testing data on COVID-19 in adult Care Homes in Scotland – data prior to 11 January 2021 can be found on the Scottish Government website.

This data is provisional management information submitted to the Turas Care Home Management system by Care Homes, and details numbers of people (i.e. staff and residents) tested in the last week. The numbers capture both those tests undertaken via NHS routes and those done via the Scottish Social Care portal.

Figures are an undercount in some cases as complete data was not collected for all Care Homes.

It is the responsibility of Boards to work with care homes as part of their oversight arrangements to quality assure this data. The role of PHS is to collate and publish only. Please use this information with caution.

Table 2: Adult care home testing for week ending 19 September 2021

Further information on COVID-19 testing in Adult Care Homes can be found at Coronavirus (COVID-19): trends in daily data - gov.scot (www.gov.scot).

NHS Board	Care Home with confirmed COVID-19		Care Homes with no confirmed COVID-19
	Staff tested	Residents tested	Staff tested
Ayrshire and Arran	1,014	145	2,087
Borders	9	11	682
Dumfries & Galloway	46	0	1,063
Fife	745	411	2,576
Forth Valley	530	165	1,915
Grampian	963	495	3,980
Greater Glasgow & Clyde	2,309	1,158	5,410
Highland	352	301	1,923
Lanarkshire	866	318	3,000
Lothian	1,381	505	4,543
Orkney	0	0	110
Shetland	0	0	263
Tayside	989	264	2,278
Western Isles	0	0	320
Scotland	**9,204**	**3,773**	**30,150**

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

Healthcare workers – COVID-19 Testing

In July 2020, the Scottish Government expanded COVID-19 testing (PCR) to include key healthcare workers in oncology and haemato-oncology in wards and day patient areas including radiotherapy; staffing wards caring for people over 65 years of age where the length of stay for the area is over three months, and wards within mental health services where the anticipated length of stay is also over three months. A data collection was initially set up to monitor the expansion of testing starting in July 2020. Weekly trend data, broken down by health board, is available on the interactive dashboard.

Work was undertaken with Boards to improve the quality of the data and this collection has moved over to Public Health Scotland. This management information must be treated with caution as it may be subject to change as the quality of the data improves. Public Health Scotland is working closely with SG and Boards to improve data definitions and quality to ensure consistency across Scotland. As a result, data may be revised in subsequent weeks and any changes will be clearly signposted.

Table 3: Number of COVID-19 tests and positive results for healthcare workers for week ending 16 September 2021

Area	Total Eligible Staff	Total Staff tested	Number of positive tests[4]	Number of Staff not tested - declined to test	Number of Staff not tested for operational reasons	Number of Staff not tested for other reasons
Specialist Cancer Wards and Treatment Areas	2,552	2,488	*	22	*	34
Long Stay Care of the Elderly	744	694	*	31	*	16
Long Stay Old Age Psychiatry and Learning Disability Wards	2,436	2,298	9	51	62	25
Scotland	**5,732**	**5,480**	**18**	**104**	**73**	**75**

4. Please note some of the data is suppressed due to disclosure methodology being applied to protect staff confidentiality. See Appendix 5 – Healthcare Worker Testing for notes on staff not tested.

Test and Protect

On 26 May 2020, the Scottish Government set out the strategy for Test and Protect - Scotland's approach to implementing the 'test, trace, isolate, support' strategy. This strategy is designed to minimise the spread of COVID-19.

Public Health Scotland is working closely with the Scottish Government and all local NHS Boards to implement 'Test and Protect'. Since 28 May 2020, once an individual receives a positive result, a team of contact tracers will then gather details on individuals who have been in contact with the person who tested positive. The contact tracers will then proceed to contact these individuals and advise them to isolate. In some cases close contacts will receive an SMS message advising them to isolate.

A case is generated by a positive test. However, an individual can have multiple tests, and all positive results are reported to the contact tracing system so that each result can be assessed by the contact tracer and followed up as required. In many cases, there is no follow up for a repeat positive test (because the person was already contact traced when their first positive result was reported). To reflect this, test and protect data now includes details on the number of individuals whose positive test resulted in contact tracing being undertaken. The number of individuals who tested positive is also more comparable with the figures given in the COVID-19 Confirmed Cases section of this report, which reports on new positive cases.

Please note PHS has moved to weekly reporting of this data and cumulative data is available in the interactive dashboard.

On September 15, 2021, there was a technical issue which affected the availability of Test & Protect data and prevented PHS from publishing daily figures of confirmed COVID-19 cases and test positivity. This also caused operational delays for the contact tracing service initiating communication with some index cases by up to 24 hours. This issue was rapidly addressed and has subsequently been resolved. All public health measures, including contact tracing of individuals with positive tests, have been carried out and are no longer impacted by this technical issue.

Contact Tracing figures for the week ending 19 September 2021 (based on test date), are detailed in Table 4 below, which provides a recent time trend, a longer time trend is available on the interactive dashboard.

Table 4: Contact Tracing Scotland Trend Information[5]

	08 Aug	15 Aug	22 Aug	29 Aug	05 Sep	12 Sep	19 Sep[p]
Cases	8,897	11,027	24,712	41,935	46,056	38,231	23,892
Complete Cases	7,856	9,480	20,807	34,728	38,599	32,106	17,317
% Complete	88.3	86	84.2	82.8	83.8	84	72.5
Individuals	8,790	10,932	24,373	40,481	44,524	36,864	23,380
Total Primary Contacts	29,847	37,372	68,105	79,562	67,822	56,754	37,946
Unique Primary Contacts	19,383	24,657	50,345	59,153	51,929	42,111	27,178
Average number of primary contacts per case [6]	3.3	3.4	2.8	1.9	1.5	1.5	1.6

[p] – Please treat as provisional as data is still being collected for the latest reported week and index/contacts being traced.

5 For further information and additional notes on Contact Tracing, please see Appendix 6 – Contact Tracing.

6 Scottish Government published research findings on modelling the Covid19 epidemic and reported an average of 3.8 contacts per primary case in its report Coronavirus (COVID-19): modelling the epidemic in Scotland (Issue No. 60) here. The Scottish Contact Survey (SCS) used a representative sample of the Scottish adult population, with information collected on all direct contacts. Whereas Public Health Scotland primary contacts include those who are tested and reported to Test and Protect.

In the week ending 19 September 2021, there were 23,892 Index Cases, of which 17,317 had completed contact tracing. The average number of primary contacts per case has remained stable over recent weeks. Test and Protect continues to request all positive cases to report their close contacts, whether they were contacted digitally or by phone.

The following information relates only to the portion of these cases which are complete. Note that contact tracing is ongoing for the remainder of these cases, the outcome of which will be reported in future publications.

There are a small proportion of primary contacts who were successfully contacted but advised they did not need to isolate. Since contact tracing began, 3,368 primary contacts were not advised to self-isolate, this represents 1.2% of the total 288,852 primary contacts for which this information is known. Some of these primary contacts are children under the age of 16. Other reasons may include that the contact was wearing PPE or did not come into close contact with a positive case.

Data by NHS Board are presented in the below table for the most recent two weeks. This shows the number of individuals and the number of primary contacts by NHS Board. Comparisons between NHS Board figures should be treated with caution due to the variation in complexity of cases which the Boards are dealing with at any point in time (e.g. some cases will be straight-forward with a low number of primary contacts to be traced; others will

be more complex with a higher number to be traced). These figures will be updated in subsequent weeks to incorporate any additional primary contacts who had not had their tracing completed by the time the analysis was undertaken.

In the week prior, of the 42,111 unique contacts recorded, 7,434 (17.7%) went on to test positive within ten days of their contact with an index case.

Table 5: Number of individuals and the number of primary contacts by NHS Board

	Week of first positive result			
	Week ending 12 September 2021		Week ending 19 September 2021	
NHS Board	Individual	Unique Primary Contacts within Health Board	Individual	Unique Primary Contacts within Health Board
Ayrshire & Arran	2,767	3,800	1,965	2,369
Borders	509	896	317	519
Dumfries & Galloway	668	1,066	463	738
Fife	2,747	3,333	1,741	2,015
Forth Valley	2,061	2,601	1,406	1,590
Grampian	3,034	4,573	2,012	2,946
Greater Glasgow & Clyde	9,696	9,399	5,859	5,696
Highland	1,561	1,347	947	808
Lanarkshire	5,396	5,744	3,497	4,538
Lothian	5,651	5,846	3,331	3,692
Orkney	53	131	24	18
Shetland	58	149	29	85
Tayside	2,274	2,847	1,463	1,856
Western Isles	35	154	37	158
Unknown Health Board	354	255	289	180

Contact tracers, within the National Contact Tracing Centre and NHS Boards, were unable to contact a proportion of individuals with a positive test and their primary contacts:

- 56,859 individuals with a positive test were unable to be contacted since the (Case Management System (CMS) went live (11.0% of all individuals).
- 26,695 contacts were unable to be contacted since the CMS went live (1.7% of all contacts).

These figures continue to be monitored by Test and Protect teams.

Completed Index cases

The data within this report are the number of completed cases which are recorded in the contact tracing software. The figures presented below are preliminary and may be updated in subsequent publications.

Since 03 August 2020, the use of some fields within the Contact Tracing Case Management System has become mandatory – this allows for improvement in data recording and other measures to be explored as to how Test and Protect in Scotland is responding to the number of positives cases. The measures below are the initial exploratory analysis to describe the timeliness of contact tracing. Please note these are preliminary statistics and ongoing work is in place to improve recording and use of fields within the CMS to increase accuracy. The three measures 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.

Please note, data for week ending 19 September in tables 6, 7 and 8 relate to index cases recorded up to 17 September 2021. Data relates only to Monday – Friday due to completeness for the most recent week - Data are provisional and will be updated in future releases.

Please note, 0-24 category includes cases that have been contacted digitally via SMS and completed the online contacts form (Co3 form) that enables digital contact tracing.

As the Test & Protect digital service evolves, we will review how we report these cases in future publication releases.

Table 6: Time (hours) between date test sample taken (specimen date) and the positive individual being contacted [5,7]

Hours taken	Week Ending 12 September 2021		Week Ending 19 September 2021	
	Number of Index Cases	% of Total Index Cases	Number of Index Cases	% of Total Index Cases
0-24	10,524	33.3	3,727	30.3
24-48	8,061	25.5	4,308	35.0
48-72	5,828	18.4	3,600	29.2
Over 72	6,584	20.8	682	5.5
Timed out	604	1.9	-	-
Not known	11	0.0	-	-

Timed out includes individuals contacted digitally via SMS and asked to complete the Co3 (online contact tracing form), but haven't completed this form within 5 days.

5 For further information and additional notes on Contact Tracing, please see Appendix 6 – Contact Tracing

Table 7: Time (hours) between case created in CMS and the positive individual being contacted [5,7]

Hours taken	Week Ending 12 September 2021		Week Ending 19 September 2021	
	Number of Index Cases	% of Total Index Cases	Number of Index Cases	% of Total Index Cases
0-24	17,823	56.4	10,365	84.2
24-48	6,466	20.5	1,631	13.2
48-72	3,344	10.6	269	2.2
Over 72	3,365	10.6	52	0.4
Timed out	604	1.9	-	-
Not known	10	0.0	-	-

Timed out includes individuals contacted digitally via SMS and asked to complete the Co3 (online contact tracing form), but haven't completed this form within 5 days.

5 For further information and additional notes on Contact Tracing, please see Appendix 6 – Contact Tracing

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

Table 8: Time (hours) between case created in CMS to its closure[5,8]

Hours taken	Week Ending 12 September 2021		Week Ending 19 September 2021	
	Number of Index Cases	% of Total Index Cases	Number of Index Cases	% of Total Index Cases
0-24	15,942	50.4	8,481	68.9
24-48	5,811	18.4	2,761	22.4
48-72	3,855	12.2	832	6.8
Over 72	5,976	18.9	236	1.9
Not known	28	0.1	7	0.1

5 For further information and additional notes on Contact Tracing, please see Appendix 6 – Contact Tracing

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

Travel outside of Scotland cases

Since 28 September 2020 fields have been available to record information about whether a case has travelled outside of Scotland. In the week ending 19 September 2021, 23,892 index cases were newly created on CMS, of which 12,997 had a fully completed index case interview. Of those interviewed, **410** travelled to the UK (excluding Scotland), **142** travelled to Europe and **21** to the rest of the world.

This information is collected on the contact tracing interview and is where outside of Scotland travel information is recorded. Please note we are aware of an undercount for those travelled outside Scotland. This is a data quality issue due to recording of the travel information, Public Health Scotland is working closely with contact tracing leads to improve this recording.

Protect Scotland App

The Protect Scotland App from NHS Scotland's Test and Protect was launched on 10 September 2020 and is a free, mobile phone app designed to protect individuals and reduce the spread of coronavirus. The app alerts individuals if they have been in close contact with another app user who tests positive for coronavirus. If they test positive, it can help in determining contacts that may have otherwise been missed while keeping individual's information private and anonymous. As of 20 September 2021 the total number of people who have downloaded the app is **2,230,659** with the number of contact notifications at **87,931**.

Event and Settings Cases

Public Health Scotland has been able to present a table of settings and events that index cases have attended over the previous 7 days. This is based on interviews conducted with cases identified in the CMS and involves cases recalling where they have been in the 7 days prior to symptom onset (or date of test if asymptomatic).

These figures are now updated in Settings tab of the interactive dashboard accompanying this report. Please note that Public Health Scotland cannot infer from the figures whether a specific setting or an event indicates where the COVID-19 transmission took place. This is because cases may have attended multiple settings or events within a short space of time. In addition, it is possible that even though a case visited a few settings and events, transmission may have taken place elsewhere.

More information on event groupings can be found in the accompanying metadata document available on the COVID-19 Statistical Report website.

Please note that this section has not been updated since 28th August 2021 due to changes in contact tracing.

Quarantining Statistics

These statistics provide a summary of the number of people entering Scotland from outside the UK, those required to quarantine, and the numbers contacted by the National Contact Centre (NCC). Passenger arrivals into Scotland are provided by the Home Office to PHS. PHS take a sample of those who are required to quarantine and pass the data to NHS National Services Scotland, which runs the NCC on PHS's behalf.

Those arriving into Scotland who have been in a country on the red list (high risk) at any point in the 10 days before arriving in Scotland are required to quarantine in a hotel for a minimum of 10 days (further information available on the Scottish Government website). Those arriving in Scotland who have been in a country on the amber list (non-high risk) are required to quarantine at home.

Up to 23 June 2021, a sample of those individuals quarantining at home were contacted by the NCC. These calls were paused in order to prioritise contact tracing. Since 13 July 2021, these call have resumed. All travellers (except those exempt and those under 18 years of age) will receive an email, providing them with appropriate public health information on self-isolation and testing. Unvaccinated travellers arriving from an Amber country are also called by the NCC. Fully vaccinated travellers arriving from an Amber country, or travellers arriving from a Green country, receive a SMS and email. Arrivals from a Red country receive an email and continue to be managed via quarantine. Travellers under the age of 18 are not contacted.

Table 9 – Quarantine Statistics by date (22 June 2020 to 19 September 2021) [9]

	Week Ending 19 September 2021	Cumulative
Number of people arriving in Scotland	57,467	1,067,941
Number of people requiring to quarantine in a hotel (anywhere in the UK)	667	21,335
Number of people requiring to quarantine at home	6,503	457,224
Number of people contacted by National Centre	2,760	123,344

Of the total number of people contacted by the National Centre, the below table shows the breakdown of these contacts.

Table 10: Number of people contacted by National Centre by status (22 June 2020 to 19 September 2021) [9]

	Week Ending 19 September 2021	Cumulative
Successful contacts made	2,191	113,696
Unable to contact individual	131	9,210
In progress	438	438

9 For further information and additional notes on Contact Tracing, please see Appendix 7 – Quarantine Statistics.

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.

Since 19 November 2020, there have been 11,171,112 LFD tests carried out in Scotland, of which 67,151 were positive (0.6%). Table 11 shows the number of LFD tests carried out in Scotland by testing group, and Table 12 shows the number of LFD tests by Health Board of residence of the individual taking the test.

Any individual who receives a positive test result using a Lateral Flow Device is advised to self-isolate and arrange for a confirmatory PCR test. The PCR result will determine the number of cases of COVID-19 in Scotland.

For additional details on Lateral Flow Device Tests, please see - Appendix 8 – Lateral Flow Device Testing

Table 11: Number of LFD[10] tests by Test group 19 November 2020 – 19 September 2021

Test Group	Test Reason	Number of tests	Number of positive tests	% LFT positive
Care Home Testing	Care Home - Visiting Professional	43,437	51	0.1%
	Care Home - Visitor	425,422	256	0.1%
	Care Home Staff	1,287,122	985	0.1%
Community Testing	Community Testing	83,891	762	0.9%
Education Testing	Combined School Staff	39,635	66	0.2%
	ELC Staff	235,847	796	0.3%
	Primary School Staff	1,146,732	2,426	0.2%
	Secondary School Pupils	695,787	5,401	0.8%
	Secondary School Staff	617,243	1,242	0.2%
	University Staff	6,535	27	0.4%
	University Students	11,806	113	1%
	University Testing Site	96,289	380	0.4%
Healthcare Testing	Healthcare Worker	2,299,384	3,379	0.1%
	Primary Care And Independent Contractors	148,773	165	0.1%
Social Care Testing	Children, Young People and Mental Health	821	0	0%
	NSS Portal Social Care	520,947	607	0.1%
	Residential Homes	12,262	11	0.1%
	Support Services	9,695	58	0.6%
Universal Offer	Attend An Event	280,951	827	0.3%
	High Cases In Local Area	108,584	2,754	2.5%
	Lives With Someone Who Is Shielding	16,339	411	2.5%
	Travel Within UK	60,805	325	0.5%
	Universal Offer	780,158	20,995	2.7%
Workplace Testing	Emergency Control Room Staff	46,806	105	0.2%
	Food Processing	9,038	9	0.1%
	Quarantine Hotel Staff/Security Personnel	3,227	27	0.8%
	UK Gov Other	1,776,302	22,006	1.2%
Other	Other	407,274	2,967	0.7%
Total	**Total**	**11,171,112**	**67,151**	**0.6%**

Data extracted: 20 September 2021

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

Table 12: Number of LFD[10] tests, up until 19 September 2021, by NHS Board of Residence (based on the postcode provided by the individual taking the test)

Board of Residence	Number of tests	Number of positive tests	% LFD positive
NHS Ayrshire & Arran	829,883	4,735	0.6%
NHS Borders	233,818	1,063	0.5%
NHS Dumfries & Galloway	321,369	1,487	0.5%
NHS Fife	687,473	4,848	0.7%
NHS Forth Valley	615,490	3,466	0.6%
NHS Grampian	1,381,339	5,430	0.4%
NHS Greater Glasgow & Clyde	2,055,249	16,400	0.8%
NHS Highland	737,023	2,968	0.4%
NHS Lanarkshire	1,175,992	8,494	0.7%
NHS Lothian	1,761,542	12,063	0.7%
NHS Orkney	48,916	96	0.2%
NHS Shetland	68,338	191	0.3%
NHS Tayside	922,386	4,690	0.5%
NHS Western Isles	80,820	113	0.1%
Unknown	251,474	1,107	0.4%
Total	**11,171,112**	**67,151**	**0.6%**

Data extracted: 20 September 2021

10 For additional details on Lateral Flow Device Tests, please see - Appendix 8 – Lateral Flow Device Testing.

Targeted Community Testing

The Community Testing Programme is ongoing across Scotland. This programme is a mixture of LFD and PCR tests. This is targeted at areas where there are concerns around community transmission levels, and offer testing to any member of that community. Further information is available within the interactive dashboard.

Table 13: Targeted Community Testing (18 January 2021 to 19 September 2021)

Symptoms	Week Ending 19 September 2021			Cumulative		
	Number of Tests	Number Positive	% positive	Number of Tests	Number Positive	% positive
Asymptomatic	19,819	1,762	8.9	373,363	27,497	7.4
Symptomatic[11]	18,962	3,558	18.8	263,449	55,810	21.2
All[12]	**39,986**	**5,572**	**13.9**	**654,598**	**87,194**	**13.3**

11 Symptomatic - the individual has selected on the booking website they have symptoms.

12 In week ending 19 September 2021, 1,205 tests were of unknown symptomatic status of which 252 were positive.

Table 14: Targeted Community Testing by Health Board (Week to 19 September 2021)

Health Board (of site)	Number of Tests	Number of Positive Test Results	% positive
NHS Ayrshire and Arran	2,202	326	14.8
NHS Borders	663	76	11.5
NHS Dumfries and Galloway	1,434	161	11.2
NHS Fife	1,779	274	15.4
NHS Forth Valley	2,557	409	16.0
NHS Grampian	1,665	161	9.7
NHS Greater Glasgow and Clyde	4,499	614	13.7
NHS Highland	829	83	10.0
NHS Lanarkshire	14,352	2,233	15.6
NHS Lothian	9,233	1,174	12.7
NHS Tayside	755	61	8.1
Unknown Health Board	18	0	0.0
Total	**39,986**	**5,572**	**13.9**

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, 7 days a week at 2pm. 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. We also include weekly information on vaccine effectiveness and COVID-19 cases, acute hospitalisations, and deaths by vaccine status.

COVID-19 cases, acute hospitalisations, and deaths by vaccine status

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 to assess 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).

Summary of key results

- In the last four weeks from 21 August 2021 to 17 September 2021, COVID-19 cases increased and surpassed the peak that was seen in early July but are now declining. The rate of increase in cases was less among fully vaccinated individuals compared to partially or unvaccinated individuals.
- In the last week, from 04 September to 11 September, the seven-day rolling average of COVID-19 related acute hospital hospitalisation rates have decreased from 137.14 to 126.17 admissions per day.
- In the last four weeks, 34.1% of COVID-19 related acute hospital admissions were in unvaccinated individuals. This is within the context of 91.7% of adults aged 18+ having had at least one dose of vaccine and vaccinated figures including the elderly and vulnerable groups.
- From the 29 December 2020 to 10 September, 394 individuals tested positive for SARS-CoV-2 by PCR more than 14 days after receiving their second dose of COVID-19 vaccine and subsequently died with COVID-19 recorded as an underlying or contributory cause of death. This equates to 0.01% of those who have received two doses of COVID-19 vaccines.
- Age-standardised mortality rates for COVID-19 deaths are lower for people who have received two doses of a COVID-19 vaccine compared to individuals that are unvaccinated or have received one dose of a COVID-19 vaccine.

Data Sources and Limitations

13 For further information, please see - Appendix 9 – Data Sources and Limitations

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 Public Health England (PHE) looking into the effect of vaccination against mild and severe COVID-19. PHE 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.

In the weeks following vaccination, a recent Scottish study has observed that effectiveness is waning against infection for all vaccine types (45 to 50% effectiveness with AstraZeneca Vaxzevria and 68 to 71% effectiveness with Pfizer-BioNTech Comirnaty), but remains high against hospitalisation and death. This study is not yet peer-reviewed.

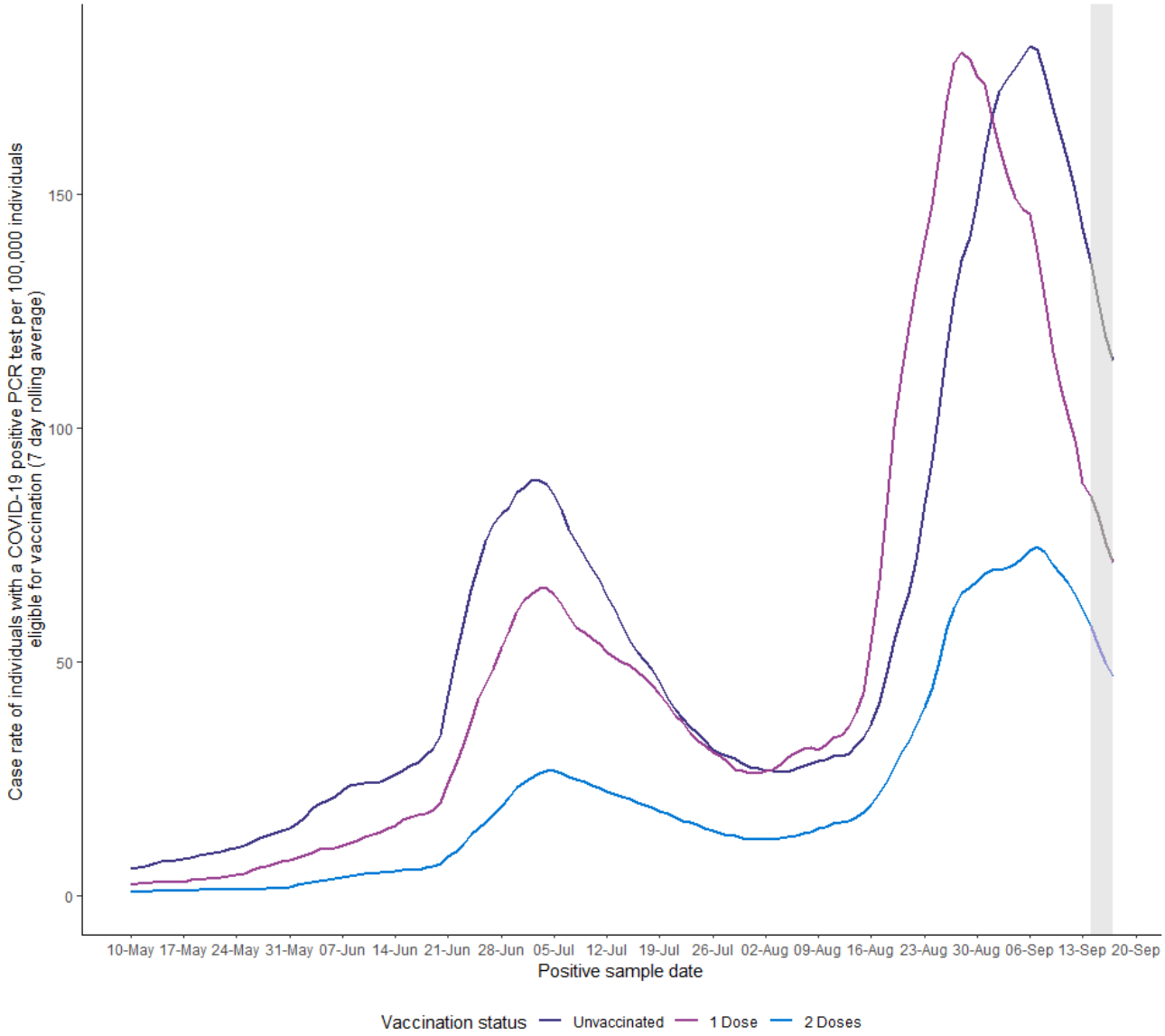
Table 15: Number of COVID-19 positive cases individuals by week and vaccination status, 14 August 2021 to 10 September 2021

Week/Vaccination Status	Unvaccinated			1 Dose			2 Doses		
	No. of Cases	Eligible or Vaccinated	% Cases	No. of Cases	Eligible or Vaccinated	% Cases	No. of Cases	Eligible or Vaccinated	% Cases
21 August - 27 August 2021	15,639	1,744,508	0.90%	7,719	578,010	1.34%	14,527	3,417,551	0.43%
28 August - 03 September 2021	21,165	1,717,504	1.23%	5,615	495,054	1.13%	17,092	3,527,511	0.48%
04 September - 10 September 2021	19,390	1,692,416	1.15%	3,433	421,646	0.81%	17,286	3,626,007	0.48%
11 September - 17 September 2021	13,443	1,671,094	0.80%	1,923	366,938	0.52%	12,018	3,702,037	0.32%

Vaccination status is determined as at the date of PCR specimen date according to the definitions described in Appendix 9. The data displayed within the greyed-out section (3 days) are considered preliminary and are subject to change as more data is updated. The denominators have been updated to include under 16s denominators from NRS mid-2020 population estimates.

In the last week, the case rate in unvaccinated populations was 804 COVID-19 cases per 100,000 individuals, compared to 325 COVID-19 cases per 100,000 individuals vaccinated with two doses.

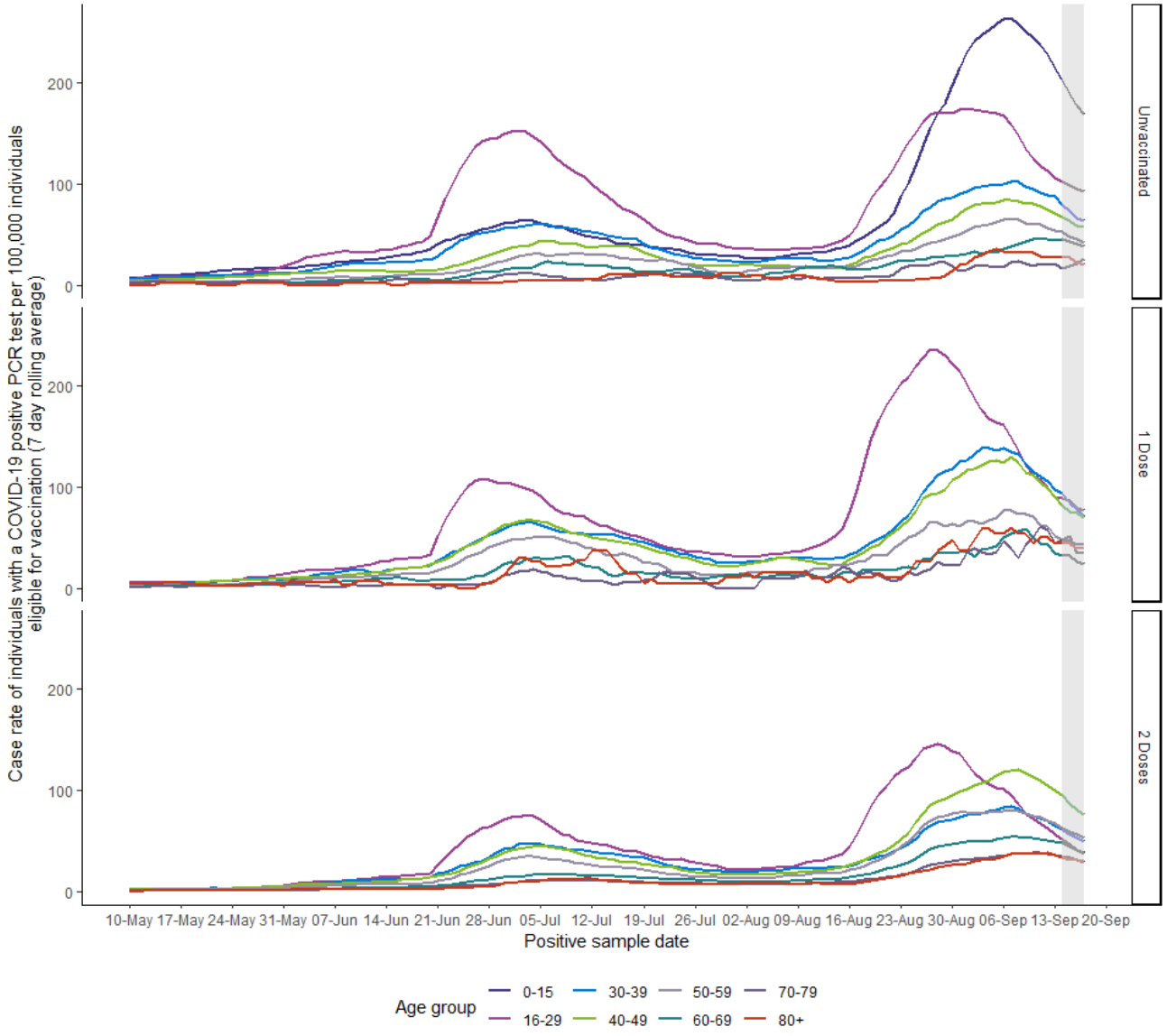
Figure 7: COVID-19 rate per 100,000 individuals eligible for vaccination by vaccination status, 7-day rolling average from 10 May 2021 to 17 September 2021



Vaccination status is determined as at the date of PCR specimen date according to the definitions described in Appendix 9. The data displayed within the greyed-out section (3 days) are considered preliminary and are subject to change as more data is updated. The denominators have been updated to include under 16s denominators from NRS mid-2020 population estimates.

There are lower rates of cases in fully vaccinated individuals compared to unvaccinated individuals.

Figure 8: COVID-19 case rate per 100,000 individuals eligible for vaccination by vaccination status and age group, 7-day rolling average from 10 May 2021 to 17 September 2021

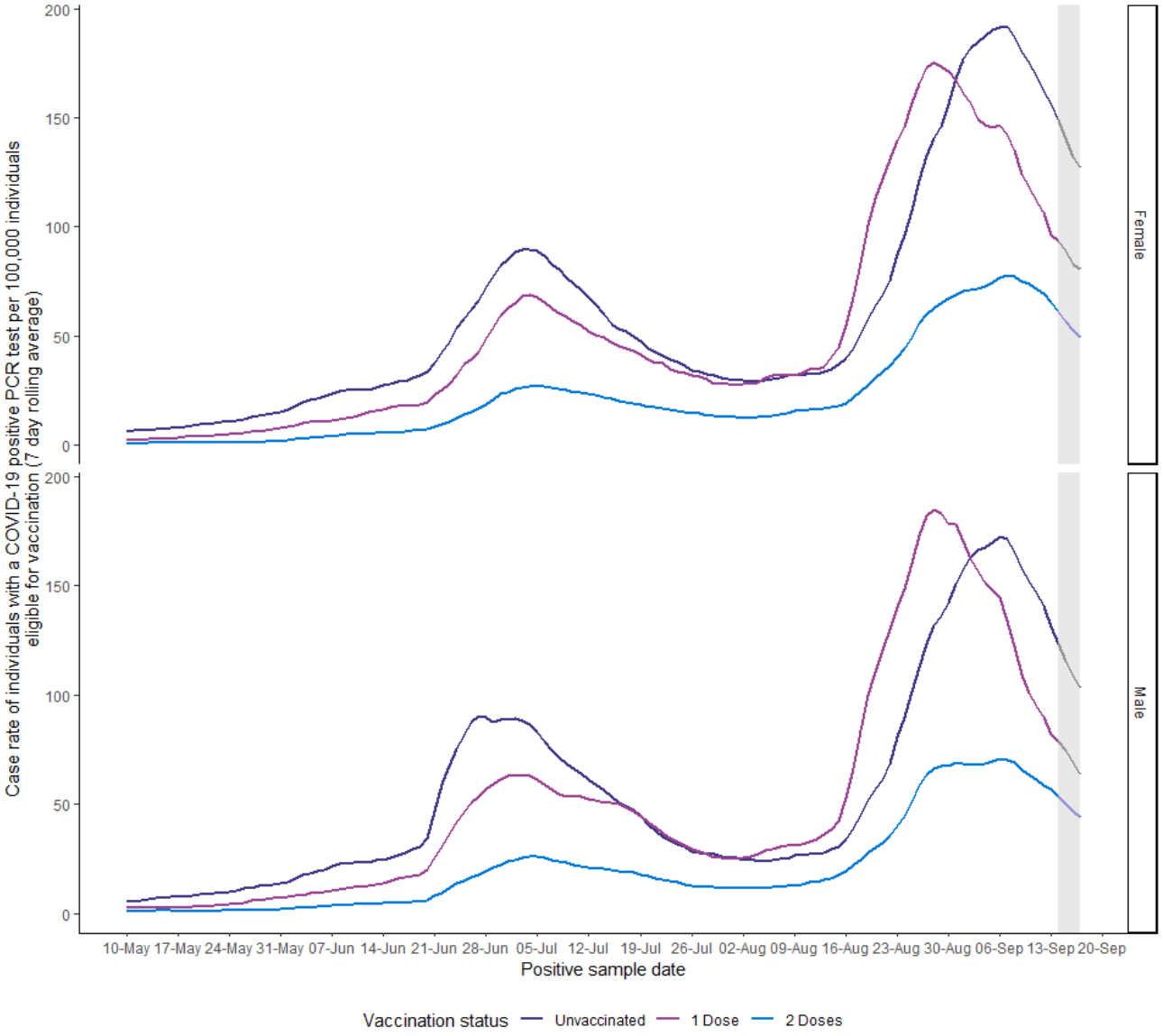


Vaccination status is determined as at the date of PCR specimen date according to the definitions described in Appendix 9. Patient age is determined as their age the date of admission. The data displayed within the greyed-out section (3 days) are considered preliminary and are subject to change as more data is updated. The denominators have been updated to include under 16s denominators from NRS mid-2020 population estimates.

Since 10 May 2021, a higher and increasing proportion of COVID-19 positive PCR cases have been in individuals under the age of 30 years, although rates in those aged under 30 are now declining rapidly.

Please note that for the 16–29-year age group, the 2 dose group contains more individuals who are part of regular testing programme (e.g. health and social care workers) compared to the unvaccinated group, which may influence the figures.

Figure 9: COVID-19 rate per 100,000 individuals eligible for vaccination by sex and vaccine status, 7-day rolling average from 10 May 2021 to 17 September 2021



Vaccination status is determined as at the date of PCR specimen date according to the definitions described in Appendix 9. The data displayed within the greyed-out section (3 days) are considered preliminary and are subject to change as more data is updated. The denominators have been updated to include under 16s denominators from NRS mid-2020 population estimates.

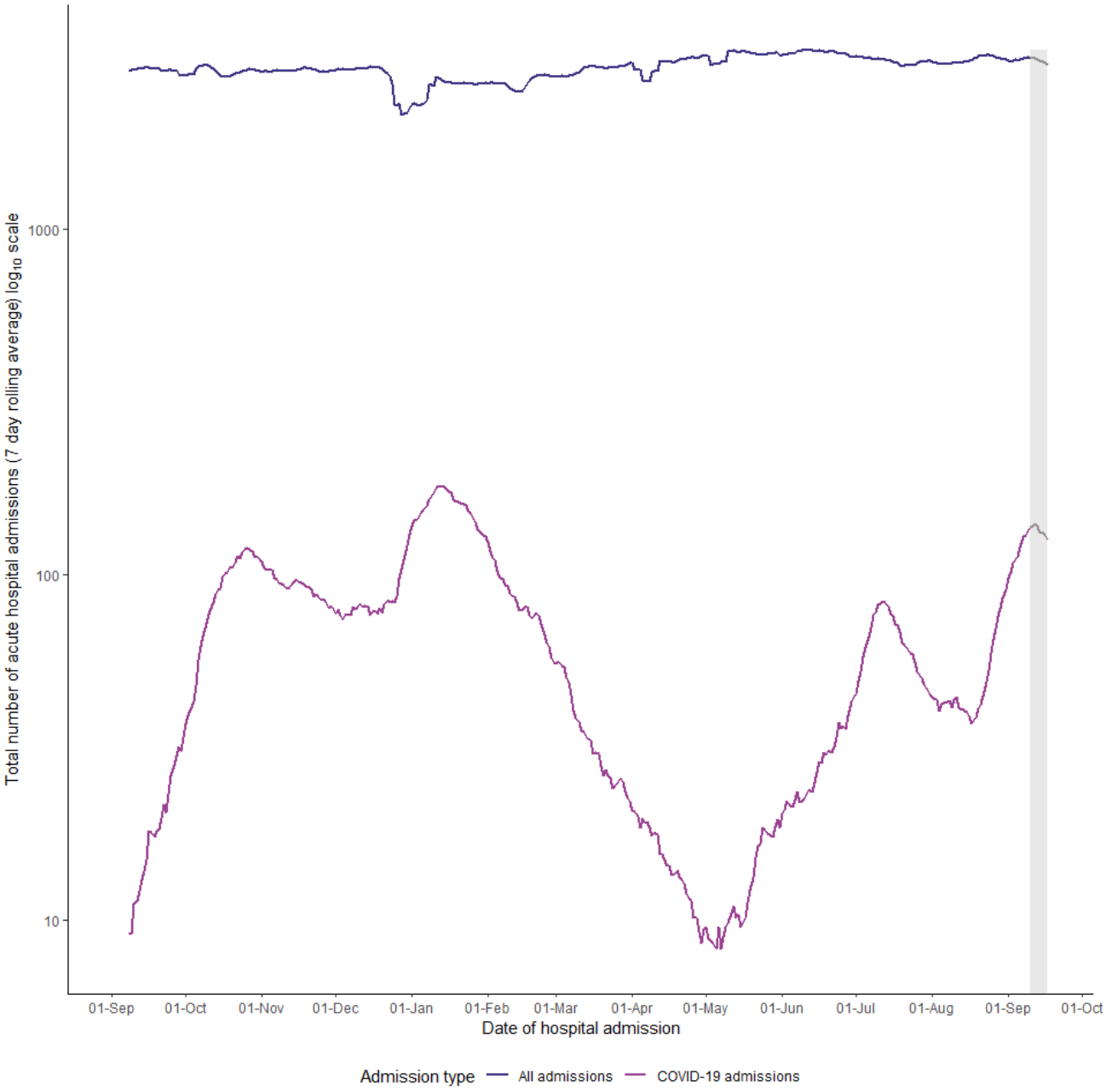
COVID-19 case rates are similar between females and males.

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 recent paper observed effectiveness against hospitalisation of over 90% with the Delta variant with all three COVID-19 vaccines (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.

From 01 September 2020 to 17 September 2021, there were a total of 1,121,944 acute hospital admissions for any cause, of which 24,847 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, 24,711 individuals were admitted to hospital, of which 81 were readmitted more than 90 days after their first admission.

Figure 10: 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, 01 September 2020 to 17 September 2021



Data displayed are on a log_{10} scale. The data displayed within the greyed-out section (1 week) are considered preliminary and are subject to change as more data is updated.

In the last month, the number of COVID-19 related hospital admissions have increased and have surpassed the peak that was seen in early July but are small relative to all acute hospitalisations.

Table 16: Number of acute hospital admissions where individual had a COVID-19 positive PCR test 14 days prior, on admission or during their stay in hospital, by week and vaccination status, 21 August 2021 to 17 September 2021

Week/Vaccination Status	Unvaccinated			1 Dose			2 Doses		
	No. of Admissions	Eligible or Vaccinated	% Admissions	No. of Admissions	Eligible or Vaccinated	% Admissions	No. of Cases	Eligible or Vaccinated	% Admissions
60 years and over									
21 August - 27 August 2021	22	68,935	0.032%	8	17,843	0.045%	191	1,392,402	0.014%
28 August - 03 September 2021	37	68,694	0.054%	7	17,276	0.041%	310	1,393,210	0.022%
04 September - 10 September 2021	53	68,488	0.077%	7	16,726	0.042%	407	1,393,966	0.029%
11 September - 17 September 2021	45	68,314	0.066%	13	16,295	0.080%	382	1,394,571	0.027%
30 to 59 year olds									
21 August - 27 August 2021	69	495,911	0.014%	18	205,781	0.009%	89	1,765,097	0.005%
28 August - 03 September 2021	127	491,143	0.026%	19	169,206	0.011%	118	1,806,440	0.007%
04 September - 10 September 2021	158	487,011	0.032%	31	150,720	0.021%	161	1,829,058	0.009%
11 September - 17 September 2021	156	483,123	0.032%	17	137,610	0.012%	153	1,846,056	0.008%
16 to 29 year olds									
21 August - 27 August 2021	37	430,164	0.009%	14	354,166	0.004%	11	260,019	0.004%
28 August - 03 September 2021	61	409,878	0.015%	17	306,643	0.006%	11	327,828	0.003%
04 September - 10 September 2021	52	391,040	0.013%	12	250,365	0.005%	16	402,944	0.004%
11 September - 17 September 2021	43	376,705	0.011%	12	206,274	0.006%	10	461,370	0.002%
Under 16 year olds									

Week/Vaccination Status	Unvaccinated			1 Dose			2 Doses		
	No. of Admissions	Eligible or Vaccinated	% Admissions	No. of Admissions	Eligible or Vaccinated	% Admissions	No. of Cases	Eligible or Vaccinated	% Admissions
21 August - 27 August 2021	28	749,498	0.004%	0	220	0%	0	33	0%
28 August - 03 September 2021	49	747,789	0.007%	0	1,929	0%	0	33	0%
04 September - 10 September 2021	62	745,877	0.008%	1	3,835	0.026%	0	39	0%
11 September - 17 September 2021	52	742,952	0.007%	0	6,759	0%	0	40	0%

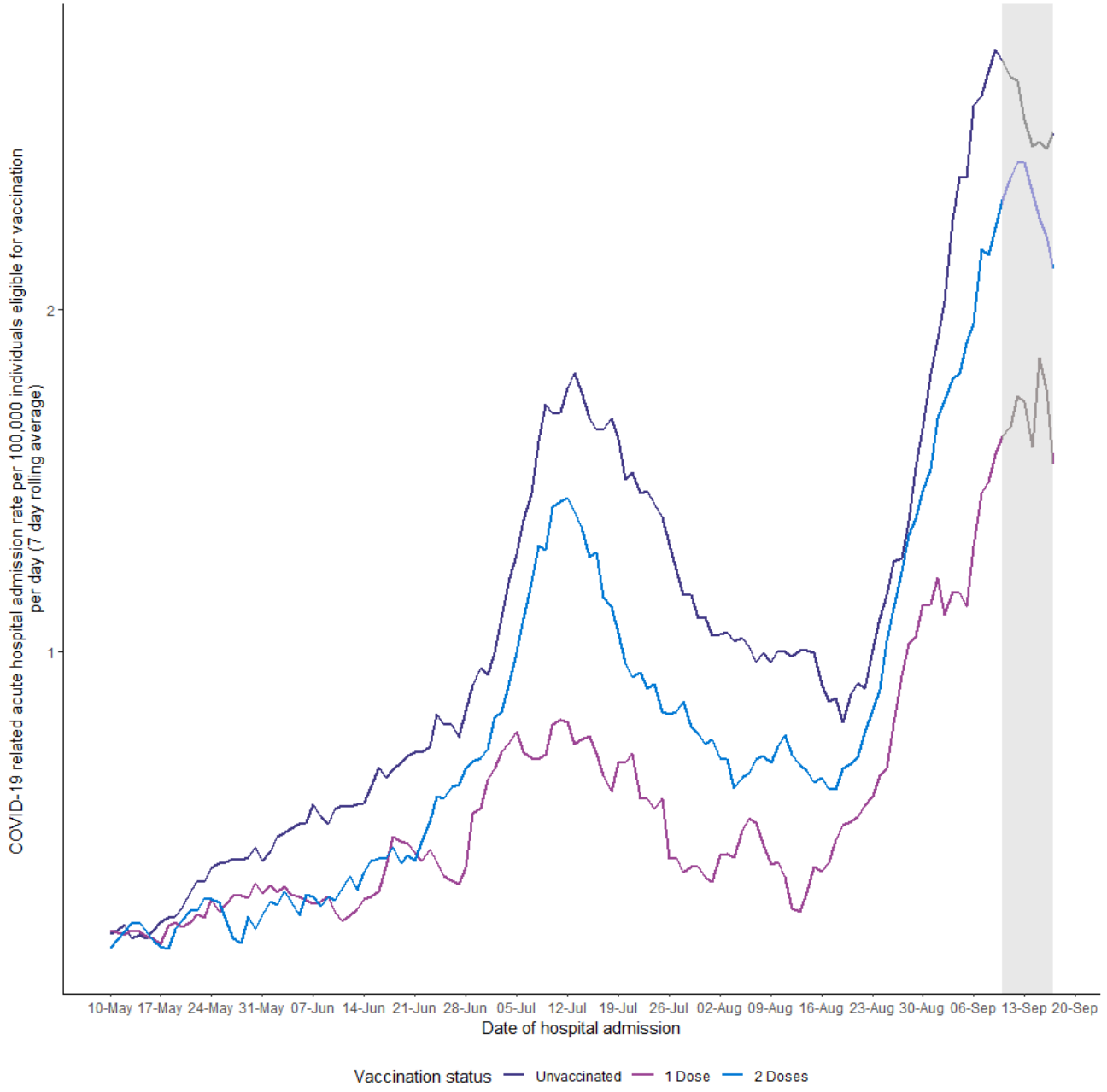
Vaccination status is determined as at the date of PCR specimen date according to the definitions described in Appendix 9. The data displayed within the greyed-out section (1 week) are considered preliminary and are subject to change as more data is updated. The denominators have been updated to include under 16s denominators from NRS mid-2020 population estimates.

In all age groups, the rate of admissions per 100,000 were higher in unvaccinated individuals compared to vaccinated individuals.

For example, in the last week for individuals ages 60 and over, 27 out of every 100,000 fully vaccinated individuals were admitted to hospital and had a COVID-19 positive PCR test 14 days prior, on admission or during their stay in hospital, compared to 66 out of every 100,000 unvaccinated individuals in that age group. For 30-59 year olds, there were eight admissions for every 100,000 fully vaccinated individuals compared to 32 per 100,000 unvaccinated individuals. Therefore, last week, individuals were 3 to 4 times more likely to be in hospital with COVID-19 if they were unvaccinated compared to fully vaccinated .

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.

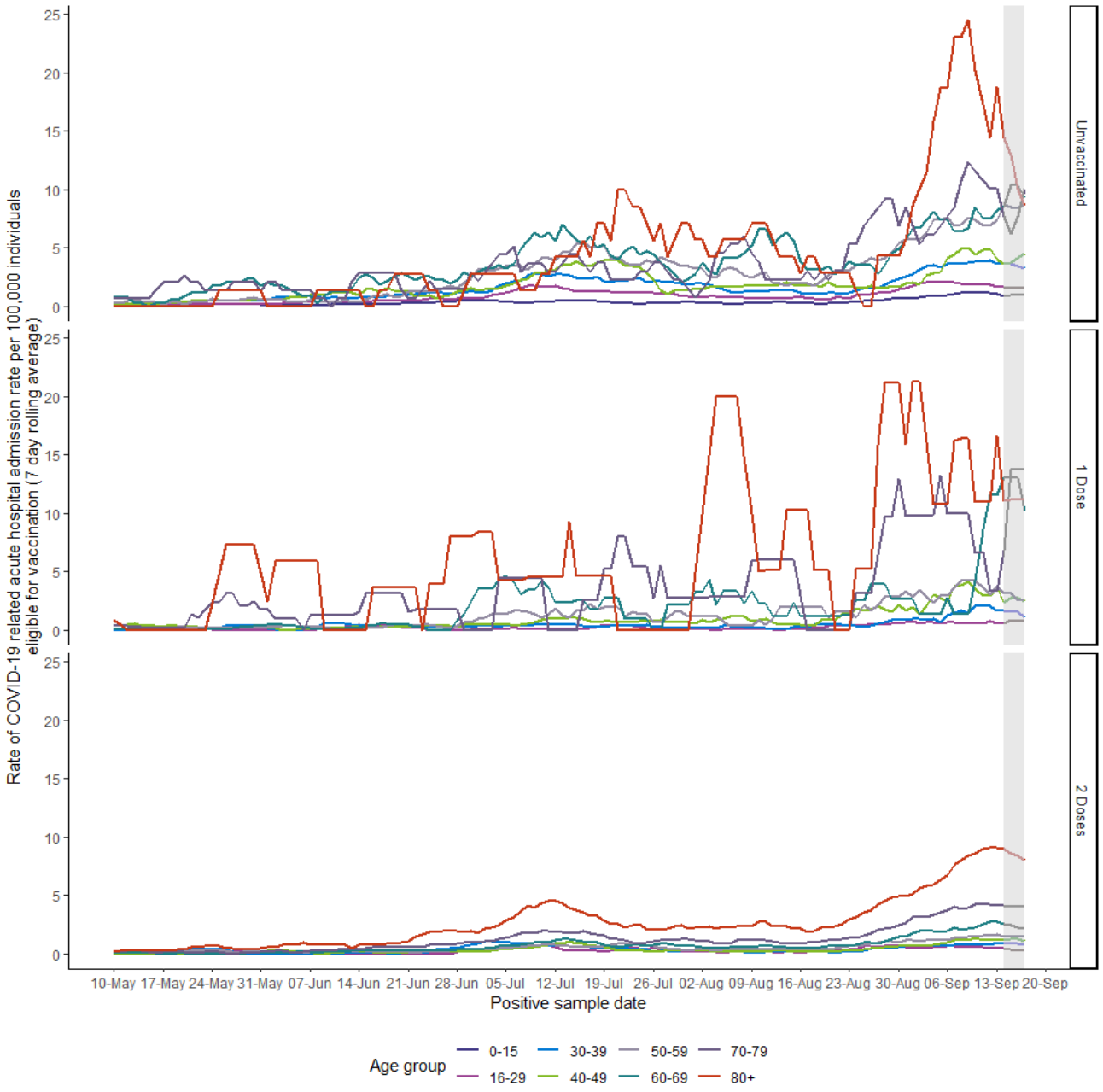
Figure 11: Rate of acute hospital admissions where individual had a COVID-19 positive PCR test 14 days prior, on admission or during their stay in hospital, per 100,000 individuals eligible for COVID-19 vaccination by vaccination status, seven-day rolling average from 01 September 2020 to 17 September 2021



Vaccination status is determined as at the date of PCR specimen date according to the definitions described in Appendix 9. The data displayed within the greyed-out section (1 week) are considered preliminary and are subject to change as more data is updated. The denominators have been updated to include under 16s denominators from NRS mid-2020 population estimates..

Since 10 May, a larger proportion of acute hospital admissions for individuals with a COVID-19 positive PCR test 14 days prior, on admission or during their stay in hospital have occurred in unvaccinated populations, in comparison to populations with one or two doses of the COVID-19 vaccine. As seen in Table 2, those with two doses who are hospitalised are more likely to be aged 60 years or over. Whereas hospitalised unvaccinated individuals are more likely to be aged 30-59 years.

Figure 12: Seven-day rolling average COVID-19 related acute hospital admission rates by vaccination status and by age group, 10 May 2021 to 17 September 2021



Vaccination status is determined as at the date of PCR specimen date according to the definitions described in Appendix 9. Patient age is determined as their age the date of admission. The data displayed within the greyed-out section (1 week) are considered preliminary and are subject to change as more data is updated. The denominators have been updated to include under 16s denominators from NRS mid-2020 population estimates

From the 21 August 2021 to 17 September 2021, 34.1% of COVID-19 related acute hospital admissions were in unvaccinated individuals. Overall, individuals in the oldest age groups were most likely to be hospitalised.

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 Public Health England (PHE) have shown high levels of protection (over 90%) against mortality with all three COVID-19 vaccines (AstraZeneca Vaxzevria, Pfizer-BioNTech Comirnaty, and Moderna Spikevax), and against both the Alpha and Delta variants. Modelling analysis from PHE estimates that 112,300 deaths have been prevented in England as a result of the COVID-19 vaccination programme, up to 27 August 2021.

Please note the date of death registration is now used in this section.

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 10 September 2021, there have been 4,014 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, 83.1% were in unvaccinated individuals, 7.1% had received one dose of COVID-19 vaccine and 9.8% had received two doses. 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, from the beginning of the COVID-19 vaccination programme over 3.6 million individuals had been fully vaccinated with two doses of COVID-19 vaccine. Of these, 394 individuals (0.01%) tested positive by PCR for SARS-CoV-2 more than 14 days after receiving their second dose of COVID-19 vaccine and subsequently died with COVID-19 recorded as an underlying or contributory cause of death. These individuals had several comorbidities which contributed to their deaths. Of the confirmed COVID-19 related deaths, in individuals that have received two doses of COVID-19 vaccine, 79.4% were in the 70 and over age group.

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 17).

Table 17: Number of confirmed COVID-19 related deaths and age-standardised mortality rate per 100,000 population by week and vaccination status at time of test, 14 August 2021 to 10 September 2021

Week	Unvaccinated		1 Dose		2 Doses	
	No. of deaths	Age Standardised Mortality Rate per 100,000 with 95% confidence limits	No. of deaths	Age Standardised Mortality Rate per 100,000 with 95% confidence limits	No. of deaths	Age Standardised Mortality Rate per 100,000 with 95% confidence limits
14 August - 20 August 2021	9	**2.70** (0.80-4.60)	3	**3.74** (1.40-8.89)	28	**0.53** (0.33-0.73)
21 August - 27 August 2021	7	**1.63** (0.17-3.08)	2	**2.66** (1.23-6.55)	35	**0.68** (0.45-0.91)
28 August - 03 September 2021	12	**3.57** (1.24-5.89)	2	**2.33** (1.37-6.02)	39	**0.75** (0.51-0.99)
04 September - 10 September 2021	13	**4.61** (1.83-7.39)	2	**4.48** (1.74-10.69)	56	**1.09** (0.80-1.38)

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. Vaccination status is determined as at the date of PCR specimen date according to the definitions described in Appendix 9. Age-standardised mortality rates per 100,000 people per week, standardised to the 2013 European Standard Population (see Appendix 9). 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 17 are lower for people who have received two doses of a COVID-19 vaccine compared to individuals that are unvaccinated or have received one dose of a COVID-19 vaccine. This is comparable with data published by the Office for National Statistics which showed the risk of death involving COVID-19 was consistently lower for people who had received two vaccinations compared to one or no vaccination, as shown by the weekly age-standardised mortality rates for deaths involving COVID-19.

COVID-19 across the NHS

Charts for a number of measures related to COVID-19 service use in the NHS were presented in the report up until 15 July 2020. Up to date data for these measures are available to view in our interactive dashboard.

This includes:

- Number of positive confirmed cases per day and cumulative total
- Positive cases by age, sex and SIMD
- COVID-19 admissions to hospital
- COVID-19 patients admitted to ICU
- COVID19 Hub and Assessment Consultations
- COVID-19 related contacts to NHS 24 and calls to Coronavirus helpline
- SAS (Scottish Ambulance Service) Incidents related to COVID-19

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
- Healthcare for cardiovascular disease
- Healthcare for mental health
- New cancer diagnoses
- Uptake of pre-school immunisations
- Coverage of health visitor child health reviews
- Infant feeding
- Child development
- Women booking for antenatal care
- Terminations of pregnancy
- Births and babies
- Excess deaths

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.

Weekly National Seasonal Respiratory Report

Since 14 October 2020 Public Health Scotland has also published a weekly report on epidemiological information on seasonal influenza activity in Scotland. Due to COVID health care services are functioning differently now compared to previous flu seasons so the consultation rates are not directly comparable to historical data.

This is available to view here:

Weekly national seasonal respiratory report - Week 36 2021 - Weekly national seasonal respiratory report - Publications - Public Health Scotland

Surveillance of influenza infection is a key public health activity as it is associated with significant morbidity and mortality during the winter months, particularly in those at risk of complications of flu e.g. the elderly, those with chronic health problems and pregnant women.

The spectrum of influenza illness varies from asymptomatic illness to mild/moderate symptoms to severe complications including death. In light of the spectrum of influenza illness there is a need to have individual surveillance components which provide information on each aspect of the illness. There is no single flu surveillance component that can describe the onset, severity and impact of influenza or the success of its control measures each season across a community. To do so requires a number of complimentary surveillance components which are either specific to influenza or its control, or which are derived from data streams providing information of utility for other HPS specialities (corporate surveillance data). Together, the influenza surveillance components provide a comprehensive and coherent picture on a timely basis throughout the flu season. Please see the influenza page on the HPS website for more details.

Contact

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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

The next release of this publication will be 29 September 2021.

Open data

Data from this publication is available to download from the Scottish Health and Social Care Open Data Portal.

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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) Standard for Contact Tracing and Scotland Wide Performance Reporting

Details for this standard were previously published and are available within the Weekly Covid-19 Statistical report (publication date 27 January 2021).

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.

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.
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. It can take 6-8 weeks or longer before a record is finalised, particularly discharge details.

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 – RAPID Hospital Admissions

COVID-19 related admissions have been identified as the following: A patient may have tested positive 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 has tested positive 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.

Total specimen dates may not equal reported new cases due to denotifications.

These data include admissions to acute hospitals only and do not include psychiatric or maternity/obstetrics specialties.

RAPID – Please note a three-day time lag is applied to recent records being incomplete. Data are updated daily and figures are subject to change.

Total figures for COVID-19 related admissions published by PHS are updated daily and figures are subject to change, and so total figures presented here will not match data published elsewhere.

Appendix 5 – Healthcare Worker Testing

Number of Staff not tested – declined a test
The number of staff who were offered a test and actively declined to take it.
Staff not tested for operational reasons
The number of staff who were not able to be tested for operational/capacity reasons e.g. issues with test availability, staff unable to be tested due to work pressures etc.
Number of Staff not tested for other reasons
The number of the staff present on wards in the reporting week who were not tested. They were eligible for testing (excluding those who declined and those who were not tested for operation reasons). This should be the remainder of eligible staff not recorded in the other groupings.

Appendix 6 – Contact Tracing

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.

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

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.

Figures for **Unknown Health Board** in the ***Number of individuals and the number of primary contacts by NHS Board*** table includes individuals with no information on their Health Board of residence and from elsewhere in the UK.

While a close contact of multiple index cases within a Health Board is only counted once, please note that a contact may be included in more than one Health Board as the data is related to the positive case Health Board and a contact may have been in close contact with multiple index cases located in different Health Boards.

Figures for the most recent week are provisional and will be updated in next week's publication. Data are extracted Sunday 19 September 2021 at 8pm. Data relate to tests up to 17 September 2021. 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.

Not known data in the following tables

- **Time (hours) between date test sample taken (specimen date) and the positive individual being interviewed by a contact tracer (Table 6)**
- **Time (hours) between case created in CMS and the positive individual being interviewed by a contact tracer (Table 7)**
- **Time between case created in CMS to its closure, measured by the time taken to complete the final contact interview (Table 8)**

records where dates cannot be identified to calculate the difference. Data quality assurance work is taking place to improve this recording.

Data in the above tables relate to index cases recorded up to 17 September 2021. Data relates only to Monday – Friday due to completeness for the most recent week - Data are provisional and will be updated in future releases.

Appendix 7 – Quarantine Statistics

Number of people arriving in Scotland
Number of Passenger Locator Forms received, as notified to Public Health Scotland by the Home Office. Passenger Locator Forms indicate intention to travel; passengers may not have actually arrived in the UK. Multiple forms for the same traveller may also be counted

Number of people requiring to quarantine in a hotel (anywhere in the UK)
From 15 February 2021 any person arriving directly from a high risk country into the UK with a Scottish residence or any arriving directly into Scotland from a non high-risk listed country. Count is based on Passenger Locator Form data received from Home Office.

Number of people requiring to quarantine at home
From 30 June 2020 – 14 February 2021. Any persons who are required to quarantine in Scotland (all countries prior to 30 June 2020; high risk countries from 30 June 2020), adults aged 18 and over only. From 15 February 2021 this is anyone arriving from a non-high risk country and did not arrive directly into Scotland. Count is based on Passenger Locator Form data received from Home Office.

Number of people contacted by National Contact Centre (NCC)
Sample of people who are passed to NCC for follow-up to provide advice and support. Some contacts made relate to arrivals from the previous week; therefore contacts can sometimes exceed arrivals.

Up to the 23 June 2021, a sample of those individuals quarantining at home were contacted by the NCC. These calls, along with any in progress, have now been paused in order to prioritise contact tracing. Since 13 July 2021, these call have resumed.

Successful contacts made
People who were successfully contacted by NCC

Unable to contact individual
Calls could not be completed because the individual could not be contacted (invalid phone number or no response to call). Where appropriate details of individuals are passed to Police Scotland for further follow up. Includes not completed due to quarantine ending before NCC could contact individual.

Appendix 8 – 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 us 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.

Those within **Unknown** in the table reporting tests by **NHS Board of Residence** (Table 12) is any test that had an invalid or missing postcode.

Appendix 9 – Data Sources and Limitations

Date of extraction and analysis

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 used are from the COVID-19 vaccination data that provides information on vaccine eligibility for the 16 and over population, and for vaccinated individuals under the age of 18. Given the small number of individuals eligible for vaccination under 16, the denominator for unvaccinated under 16s 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.

Vaccination status:

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.

Acute hospital admissions

Hospital admission data is extracted from the RAPID dataset at 16:00 on Monday 13 September 2021. 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.

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.

Confirmed COVID-19 deaths Death data were extracted from the SMRA dataset at 16:00 on Wednesday 08 September 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 mortality rates are used to allow comparisons of mortality rates between populations that have different age distributions. The 2013 European Standard Population is used to standardise rates. For more information see https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/methodolo

gies/weeklycovid19agestandardisedmortalityratesbyvaccinationstatusenglandmethodology.
Denominators used to calculate age-standardised mortality rates are the same as the cases and hospitalisations rate figures and tables described above.