Weekly Report on Severe Acute Respiratory Infection (SARI), Week 8 2024 (week ending 25/02/2024)

This report includes data on SARI hospitalised cases, aged 15 years and older who were admitted to St. Vincent's University Hospital (SVUH), Dublin, up to week 8 2024. Please note that this report pertains to one hospital site only, data are not nationally representative. Therefore, caution is advised when interpreting rates and trends outlined in this report, as these may fluctuate due to the low case numbers.

Key points

Week 8 2024 (week ending 25/02/2024):

- **Number of cases:** 24 SARI cases admitted to the SARI hospital site, compared to 9 cases in week 7 2024 (166.7% increase).
- **Incidence rate per hospital catchment population:** 7.6 per 100,000 population aged 15 years and older, compared to 2.8 per 100,000 in week 7 2024.
- **Incidence rate per emergency hospitalisations:** 71.9 per 1,000 compared to 32.4 per 1,000 in week 7 2024 (121.9 % increase).
- **Age profile:** 17 (70.8%) SARI cases aged ≥65 years; Median age: 74 years; IQR: 62-84 years.
- **Underlying medical conditions:** 21 (87.5%) SARI cases reported having underlying medical conditions.
- **PCR testing:** Of those tested, one (4.2%) tested positive for SARS-CoV-2; seven (29.2%) tested positive for influenza A (not subtyped), and no cases tested positive for RSV.

Last four weeks (weeks 5 2024 - 8 2024)

- **Number of cases:** 72 SARI cases admitted to the SARI hospital site.
- **Age profile:** 53 (73.6%) SARI cases were aged ≥65 years; Median age: 73 years; IQR: 62-82 years.
- **Underlying medical conditions:** 65 (90.3%) SARI cases reported having underlying medical conditions.
- **PCR testing:** Of those tested, three (4.2%) tested positive for SARS-CoV-2; 22 (31%) tested positive for influenza (11 A(not subtyped); 6 A(H3); 5 A(H1)pdm09); and one (1.4%) tested positive for RSV.
- **SARS-CoV-2 whole genome sequencing (WGS):** *There can be a lag-time before WGS results are available.* No SARS-CoV-2 positive SARI cases (n=3) have been sequenced in the last four weeks.

Season 2023/2024 to date (weeks 40 2023 - 8 2024)

Collection of discharge data is a manual process, there is a significant lag time between discharge and data collection. Vaccination data is available approximately one week after cases are notified.

- **Number of cases:** 335 SARI cases admitted to the SARI hospital site.
- **PCR testing:** Of those tested, 40 (12.4%) tested positive for SARS-CoV-2; 49 (15.2%) tested positive for influenza (14 A(not subtyped); 21 A(H3); 14 A(H1)pdm09); and 19 (5.9%) tested positive for RSV.
- **Vaccination status:** Of those who tested positive for SARS-CoV-2 with known vaccination status (n=33), 17 (51.5%) had not received a COVID vaccine dose within 180 days prior to their episode of illness.
  Of those who tested positive for influenza with known vaccination status (n=39), 16 (41%) had not received this season's influenza vaccine prior to their episode of illness.
- **ICU admissions:** Among those for whom admission to ICU and/or respiratory status is known (n=324), 134 (41.4%) reported admission to ICU and/or required respiratory support.
- **Outcome:** Of those discharged, with known outcome (n=186), 10 (5.4%) SARI cases died in hospital.

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Background

Severe acute respiratory infection (SARI) is of major relevance to public health worldwide. Surveillance of SARI is essential to monitor the (co-) circulation of respiratory pathogens and to assess disease severity. Data collected as part of SARI surveillance can provide important early warning information in the context of respiratory disease outbreaks and pandemics. SARI data can also be used as a platform to measure vaccine and antiviral effectiveness and impact. The objectives of SARI surveillance are:

- To describe the number and incidence of SARI cases by aetiology, time, place and person
- To describe and monitor trends, intensity of activity and severity of SARI infections
- To identify groups at risk of severe disease
- To detect unusual and unexpected events
- To assess the SARI burden of disease in the participating hospital
- To assess and monitor vaccine effectiveness

Methods

SARI surveillance was implemented in one tertiary care adult hospital; St. Vincent's University Hospital (SVUH), Dublin. Surveillance commenced on the 5th of July 2021. The SARI surveillance system includes people who are aged 15 years or older.

Case definition

SARI cases are identified from new admissions through the Emergency Department, based on clinical symptoms. Patients that develop SARI during their admission, or are admitted through alternate routes, are not included.

Clinical SARI case:

The European Centre for Disease Prevention and Control (ECDC) clinical SARI case definition is used for SARI surveillance in Ireland since week 34 2021:

- ECDC SARI definition: A hospitalised[1] person with acute respiratory infection, with at least one of the following symptoms: cough, fever, shortness of breath OR sudden onset of anosmia, ageusia or dysgeusia with onset of symptoms within 14 days prior to hospital admission.

[1] Hospitalised for at least 24 hours

Denominator data

Denominator data for the hospital catchment area are based on the Census of Population, 2022. The hospital catchment data were prepared and provided by the Health Intelligence Unit (HIU) of the Health Service Executive (HSE) and were extracted from Health Atlas Ireland on 15/12/2023.

Weekly denominator data on all-cause hospital admissions, through the Emergency Department, are provided by the SVUH Statistics Department.

Laboratory testing

SARS-CoV-2, influenza, and RSV PCR testing is carried out on admission.

SARI samples that are positive for SARS-CoV-2 and that have a cycle threshold (Ct) value <25 are referred for whole genome sequencing (WGS). All WGS testing was performed in the NVRL up to week 44 2022. The molecular laboratory in SVUH has been identified as a spoke WGS testing site as part of the national SARS-CoV-2 WGS surveillance programme. From week 45 2022, SARI WGS testing has been performed on-site at SVUH.

Samples that are PCR positive for influenza are sent to the National Virus Reference Laboratory (NVRL) for influenza typing/subtyping/genetic and antigenic characterisation.

Data collection and reporting

Clinical data are collected and managed using REDCap electronic data capture tools hosted at University College Dublin. Laboratory data are extracted from APEX, the laboratory information management system (LIMS), using IBM Cognos software hosted at SVUH.

Case-based data are reported by SVUH to the HSE Health Protection Surveillance Centre (HPSC) on a weekly basis. Data are also reported by HPSC to ECDC via The European Surveillance System (TESSy) on weekly basis as part of European level SARI surveillance.

COVID-19 vaccination data are obtained from the National COVID-19 Vaccination Management System (COVAX) and linked to SARI cases by the HSE-Integrated Information Service (IIS), where data are available.

The influenza season

The influenza surveillance season runs from week 40 (early October) to week 20 (end of May). During this time, seasonal viruses usually circulate at higher levels, compared to the summer period (weeks 21 to 39). The seasonal comparisons used in this report refer to the influenza surveillance season.

Reference dates

05/07/2021 (Week 27 2021) – commencement of SARI surveillance project
27/09/2021 (Week 39 2021) – rollout of the first COVID-19 booster vaccination campaign
22/04/2022 (Week 16 2022) – rollout of the second COVID-19 booster vaccination campaign
03/10/2022 (Week 40 2022) – rollout of the third COVID-19 booster vaccination campaign
28/04/2023 (Week 17 2023) – rollout of the fourth COVID-19 booster vaccination campaign
02/10/2023 (Week 40 2023) – rollout of the fifth COVID-19 booster vaccination campaign
04/10/2021 (Week 40 2021) - start of the 2021/2022 season
03/10/2022 (Week 40 2022) - start of the 2022/2023 season
02/10/2023 (Week 40 2023) - start of the 2023/2024 season

Week number refers to the week of hospital admission. Weeks are from Monday to Sunday, as per the international ISO week[2].

[2] Monday to Sunday (ISO week) used as per ECDC/WHO/International reporting protocol.

Results

Data were extracted from the HPSC SARI surveillance database on **28/02/2024**. Data are provisional and subject to ongoing review, validation and update. As a result, figures presented in this report may differ from previously published figures.

SARI cases and incidence rates

In total, 335 SARI cases were admitted to St. Vincent's University Hospital (SVUH) during the current season (weeks 40 2023 - 8 2024), 395 SARI cases were admitted during the same period in the 2022/2023 season (weeks 40 2022 - 8 2023).

In week 8 2024:

- 24 SARI cases were reported, a 166.7% increase compared to 9[3] SARI cases reported in week 7 2024 (Figure 1)
- The SARI incidence rate was 7.6 per 100,000 hospital catchment population aged 15 years and older, compared to the rate of 2.8 per 100,000 in week 7 2024.
- The incidence rate per emergency hospitalisations was 71.9 per 1,000 emergency admissions, a 121.9 % increase compared to the rate of 32.4 per 1,000 emergency admissions in week 7 2024.

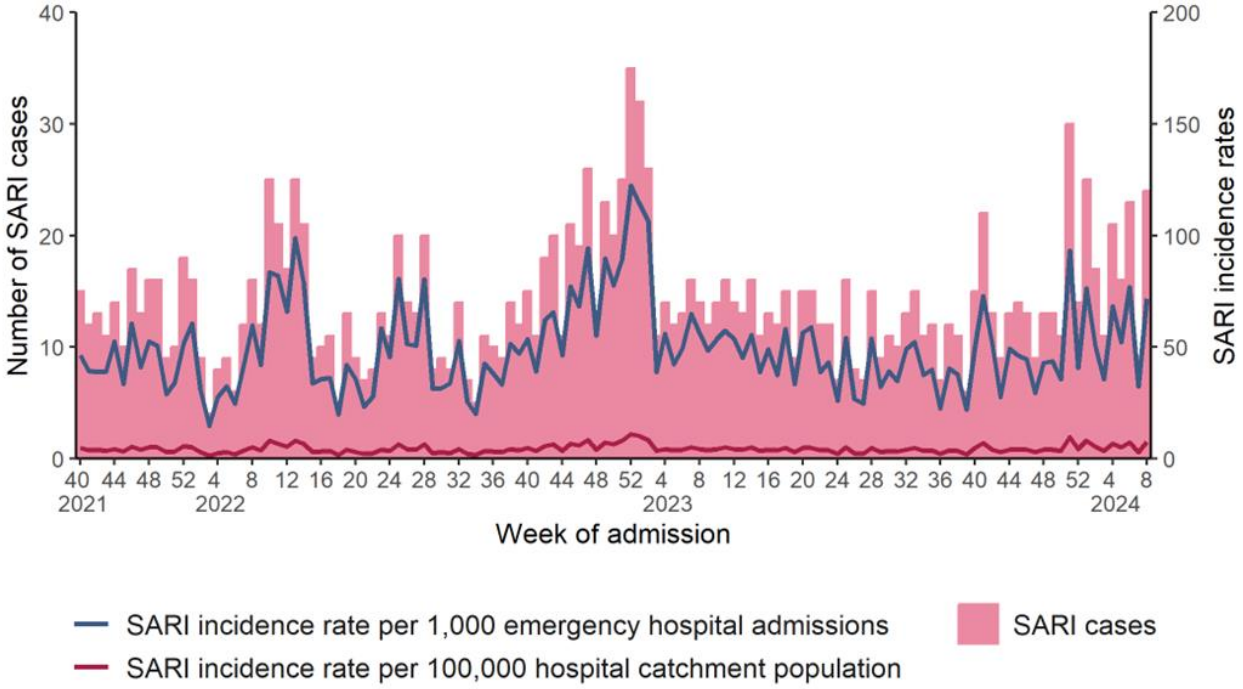

Figure 1: Number and incidence of SARI hospitalised cases (emergency admissions) by week of hospital admission, week 40 2021 to week 8 2024 (n=1744)

[3] On review, one SARI case notified in week 7 2024, was denotified in week 8 2024

Demographics

In week 8 2024, of the 24 SARI cases reported:

- Males accounted for a higher proportion of SARI cases, n=13 (54.2%) (Table 1)
- Median age of SARI cases admitted was 74 years (interquartile range: 62-84 years)
- Age specific incidence rate amongst those aged 65 years and older was 27.1 per 100,000 compared to 14.3 per 100,000 in week 7 2024.

The incidence rate per 100,000 hospital catchment population by age group is shown in Figure 2.

Table 1: Number and proportion of SARI cases by sex and age, for the current week, last four weeks (weeks 5 - 8 2024), current 2023/2024 season (weeks 40 2023 - 8 2024) and the previous 2022/2023 season (weeks 40 2022 - 8 2023).

Season	Current week		Last four weeks		Current season		Previous season	
Week/Year	W8 2024		W5 2024-W8 2024		W40 2023-W8 2024		W40 2022-W8 2023	
	n	(%)	n	(%)	n	(%)	n	(%)
All SARI cases	**24**		**72**		**335**		**395**	
Gender								
Male	13	54.2	43	59.7	169	50.4	188	47.6
Female	11	45.8	29	40.3	166	49.6	207	52.4
Age (years)								
Mean	72		70		72		71	
Median	74		73		77		74	
IQR	62-84		62-82		66-84		63-83	
Range	40-94		19-94		18-99		17-101	
Age groups (years)								
15-24	0	0.0	1	1.4	6	1.8	9	2.3
25-34	0	0.0	1	1.4	11	3.3	10	2.5
35-44	2	8.3	7	9.7	20	6.0	15	3.8
45-54	1	4.2	4	5.6	17	5.1	19	4.8
55-64	4	16.7	6	8.3	23	6.9	58	14.7
65-74	5	20.8	18	25.0	72	21.5	89	22.5
75-84	7	29.2	24	33.3	112	33.4	127	32.2
85+	5	20.8	11	15.3	74	22.1	68	17.2

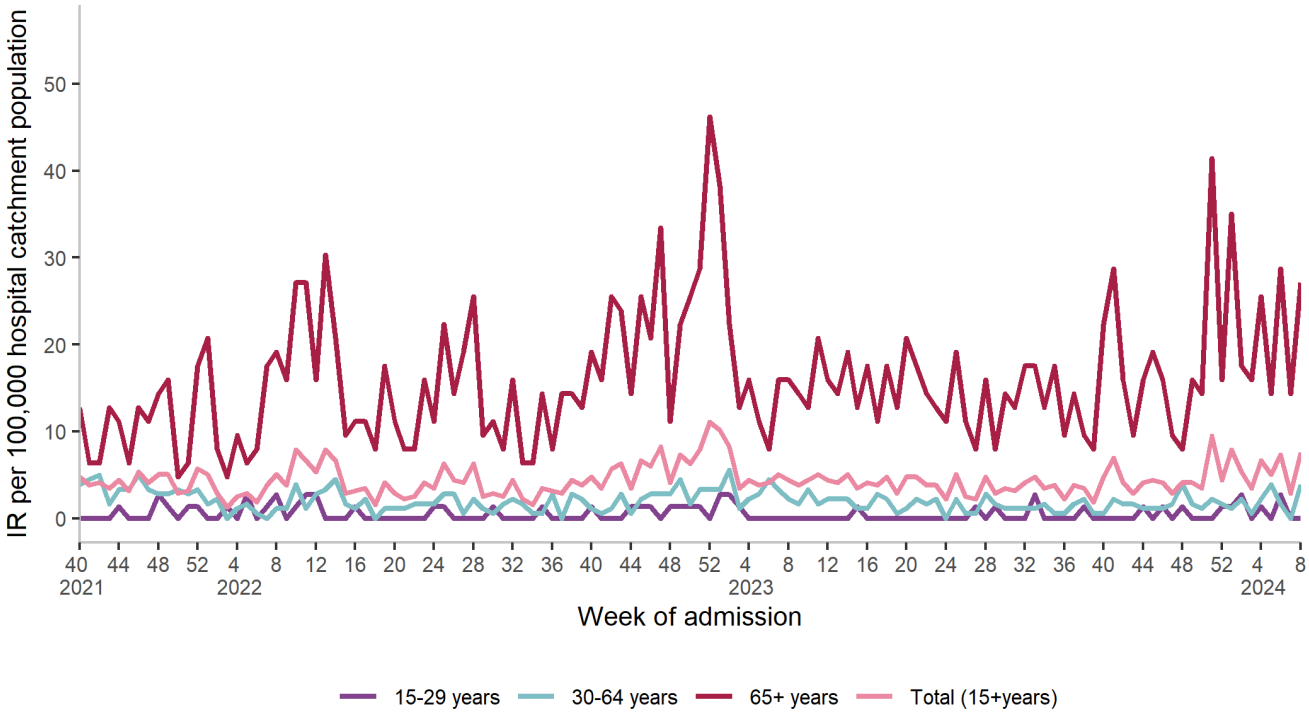

Figure 2: SARI incidence rate per 100,000 hospital catchment population by age group and week of hospital admission, from week 40 2021 to week 8 2024 (n=1744)

Underlying medical conditions and risk factors

The number and proportion of individuals with underlying medical conditions, where known, among those that reported having underlying medical conditions are displayed in Table 2.

Weekly proportions can be based on small numbers and vary from week to week, caution is therefore advised when interpreting changes in weekly proportions.

Table 2: Number and proportion of SARI cases with underlying medical conditions, reported on hospital admission, for the current week, last four weeks (weeks 5 - 8 2024), current 2023/2024 season (weeks 40 2023 - 8 2024) and the previous 2022/2023 season (weeks 40 2022 - 8 2023).

Period	Current week		Last four weeks		Current season		Previous season	
Weeks	W8 2024		W5 2024-W8 2024		W40 2023-W8 2024		W40 2022-W8 2023	
Medical conditions*	n	%	n	%	n	%	n	%
Total cases*	**21**		**65**		**308**		**370**	
Heart disease	11	52.4	33	50.8	125	40.6	141	38.1
Hypertension	9	42.9	22	33.8	107	34.7	152	41.1
Lung disease	7	33.3	24	36.9	99	32.1	139	37.6
Cancer	4	19.0	14	21.5	61	19.8	60	16.2
Neurological disease	2	9.5	4	6.2	46	14.9	80	21.6
Asthma	3	14.3	6	9.2	41	13.3	61	16.5
Diabetes	4	19.0	11	16.9	53	17.2	61	16.5
Kidney disease	6	28.6	13	20.0	41	13.3	25	6.8
Intellectual disability	0	0.0	0	0.0	4	1.3	15	4.1
Immunocompromised	0	0.0	0	0.0	4	1.3	3	0.8
Obesity	0	0.0	0	0.0	2	0.6	10	2.7
Cystic fibrosis	0	0.0	2	3.1	4	1.3	1	0.3
Asplenia**	0	0.0	0	0.0	0	0.0	-	-
Dementia**	1	4.8	6	9.2	29	9.4	-	-
Down syndrome**	0	0.0	0	0.0	0	0.0	-	-
Long COVID**	0	0.0	0	0.0	0	0.0	-	-
Tuberculosis**	0	0.0	0	0.0	0	0.0	-	-
Rheumatological disease**	0	0.0	0	0.0	2	0.6	-	-
Other chronic conditions***	9	42.9	24	36.9	119	38.6	189	51.1

*SARI cases could be reported with one or more underlying medical conditions, only cases where underlying medical conditions are reported are included.
**Data collection for these underlying medical conditions began in week 49 2023.
***Data reported on other chronic conditions may include some of the chronic conditions listed above, these data are under review and may change over time

Among female SARI cases aged 15-49 years admitted during the 2023/2024 season (weeks 40 2023 - 8 2024), one (3.7%) case was reported as being pregnant at the time of admission. During the same period in the 2022/2023 season (weeks 40 2022 - 8 2023), three (12.5%) SARI cases were reported as being pregnant at the time of admission.

Among those admitted during the 2023/2024 season for whom healthcare worker status is known, six (1.8%) cases were reported as being healthcare workers at the time of admission. During the same period in the 2022/2023 season, four (1%) SARI cases were reported as being healthcare workers.

Symptoms

Information on clinical symptoms, either at or prior to hospital admission, was reported for all SARI cases. The most common symptoms reported were cough and shortness of breath (Table 3).

Table 3: Number and proportion of SARI cases with clinical symptoms, either at or prior to hospital admission, for the current week, last four weeks (weeks 5 - 8 2024), current 2023/2024 season (weeks 40 2023 - 8 2024) and the previous 2022/2023 season (weeks 40 2022 - 8 2023).

Period	Current week		Last four weeks		Current season		Previous season	
Weeks	W8 2024		W5 2024-W8 2024		W40 2023-W8 2024		W40 2022-W8 2023	
Clinical symptoms*	n	%	n	%	n	%	n	%
Total cases	**24**		**72**		**335**		**395**	
Cough	21	87.5	56	77.8	244	72.8	321	81.3
Shortness of breath	17	70.8	55	76.4	243	72.5	299	75.7
Fever	8	33.3	33	45.8	153	45.7	194	49.1
General deterioration	9	37.5	23	31.9	107	31.9	186	47.1
Malaise	1	4.2	4	5.6	58	17.3	32	8.1
Headache	1	4.2	6	8.3	15	4.5	19	4.8
Muscular pain	0	0.0	2	2.8	17	5.1	25	6.3
Sore throat	0	0.0	6	8.3	23	6.9	22	5.6
Ageusia	0	0.0	0	0.0	1	0.3	1	0.3
Anosmia	0	0.0	0	0.0	1	0.3	2	0.5
Dysgeusia	0	0.0	0	0.0	1	0.3	0	0.0
Sepsis**	3	12.5	8	11.1	15	4.5	-	-
Apnoea**	0	0.0	1	1.4	1	0.3	-	-

*SARI cases could be reported with one or more clinical symptoms
**Data collection for these symptoms began in week 49 2023.

Severe clinical course during hospitalisation

Information on the clinical course during hospitalisation is only available after discharge, and there may be a delay between discharge and data collection, due to the manual data collection methods required. Among those for whom discharge information is available the most common complication reported was pneumonia (Table 4).

Information on ICU admission and respiratory support may be available prior to discharge, see Table 5. However, length of stay in ICU is only available after discharge, therefore, data on ICU length of stay for the current season are not included, due to the small numbers involved.

Data collection is ongoing for those not yet discharged from hospital.

Table 4: Number and proportion of SARI cases by complication, for the current 2023/2024 season (weeks 40 2023 - 8 2024), the previous 2022/2023 season (weeks 40 2022 - 8 2023), and cases admitted between week 40 2022 and week 8 2024.

Season(s)	Current season		Previous season		Since W40 2022	
Week/Year	W40 2023-W8 2024		W40 2022-W8 2023		W40 2022-W8 2024	
Complications*	n	%	n	%	n	%
Total discharged cases	**186**		**395**		**940**	
Pneumonia	11	5.9	24	6.1	107	11.4
ARDS	7	3.8	7	1.8	44	4.7
Sepsis	8	4.3	10	2.5	26	2.8
Multiorgan failure	0	0.0	3	0.8	8	0.9
Myocarditis	1	0.5	0	0.0	1	0.1
Encephalitis	0	0.0	0	0.0	0	0.0
Bronchiolitis	0	0.0	0	0.0	1	0.1
Acute kidney injury**	7	3.8	-	-	8	0.9
Heart failure**	1	0.5	-	-	1	0.1
Secondary bacterial infection**	0	0.0	-	-	0	0.0
Other complications***	41	22.0	106	26.8	231	24.6
No complications	122	65.6	261	66.1	569	60.5

*SARI cases could be reported with one or more complications.
**Data collection for these complications began in week 49 2023.
***Data reported on “other complications” may include some of the complications listed above, these data are under review and may change over time.

Table 5: Number and proportion of SARI cases by respiratory support and ICU admission, for the current 2023/2024 season (weeks 40 2023 - 8 2024), the previous 2022/2023 season (weeks 40 2022 - 8 2023), and cases admitted between week 40 2022 and week 8 2024.

Season(s)	Current season		Previous season		Since W40 2022	
Week/Year	W40 2023-W8 2024		W40 2022-W8 2023		W40 2022-W8 2024	
	n	%	n	%	n	%
Respiratory support status known	**189**		**395**		**943**	
High-flow oxygen therapy*	126	66.7	246	62.3	593	62.9
Invasive ventilation	2	1.1	14	3.5	20	1.5
No respiratory support	61	32.3	135	34.2	330	35.0
ICU status known	**324**		**395**		**1083**	
ICU/ventilated**	134	41.4	260	65.8	620	57.2
Admitted to ICU	8	2.5	24	6.1	48	4.4
Admitted and discharged	4	1.2	24	6.1	44	4.1
ICU length of stay (days)						
Mean	-		9		8	
Median	-		6		5	
Interquartile range	-		3-12		3-10	
Range	-		1-42		<1-42	

*Non-invasive ventilation
**SARI cases which required invasive and/or non-invasive ventilation and/or ICU admission

Laboratory testing for SARS-CoV-2, Influenza and RSV

PCR testing

SARI cases are tested by PCR for SARS-CoV-2, influenza and RSV on admission.

In week 8 2024:

- SARS-CoV-2 PCR testing was carried out on all SARI cases, one (4.2%) tested positive, compared to one (11.1%) SARS-CoV-2 positive case in week 7 2024.
- Influenza PCR testing was carried out on all SARI cases, 7 (29.2%) tested positive, compared to 3 (33.3%) influenza positive cases in week 7 2024.
- Respiratory syncytial virus (RSV) PCR testing was carried out on all SARI cases, no cases tested positive for RSV in weeks 7 and 8 2024.

The weekly positivity rate of SARI cases for the three acute respiratory pathogens are presented in Figure 3. Table 6 displays the number and proportion of SARI cases tested by PCR and positive for SARS-CoV-2, influenza and RSV, and the type/subtype for all influenza PCR positive test results.

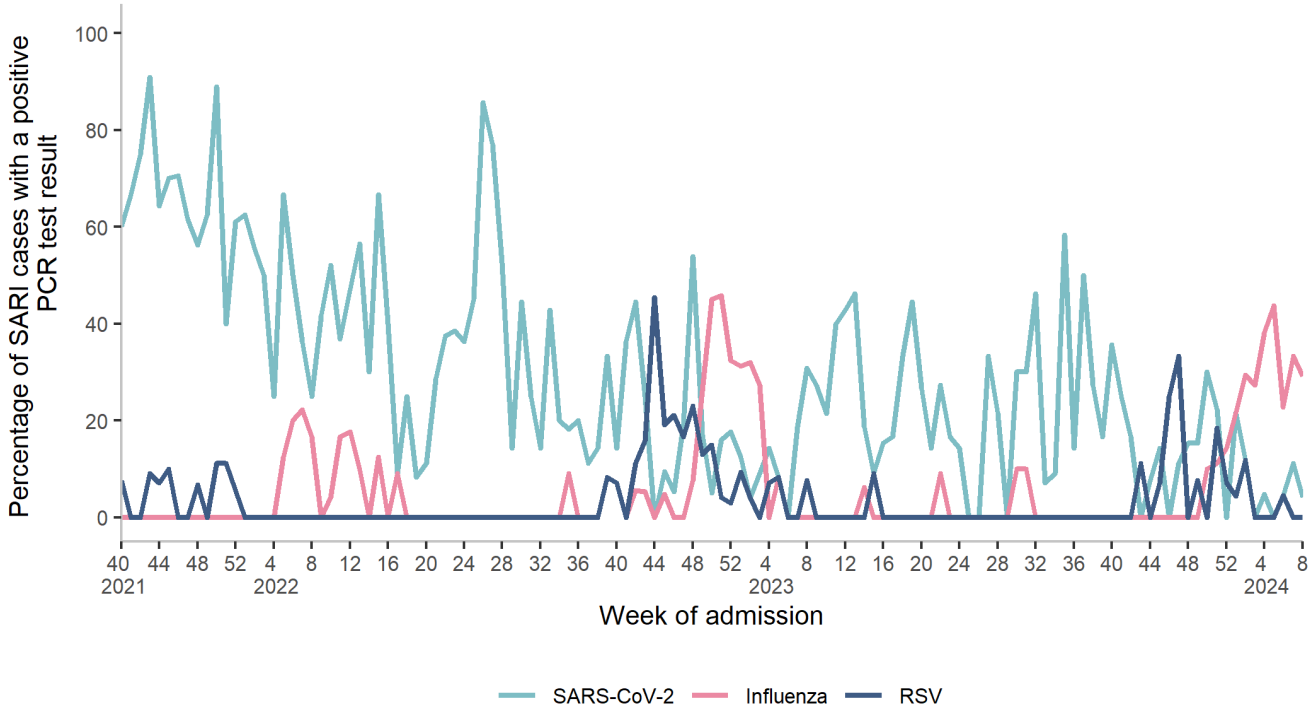

Figure 3: Percentage of SARI cases with a positive laboratory test result for SARS-CoV-2, influenza and RSV by week, from week 40 2021 to week 8 2024

Table 6: Number of positive SARS-CoV-2, influenza, and RSV SARI cases, and influenza type/subtype for the current week, previous two weeks (week 7 2024, week 6 2024), current 2023/2024 season (weeks 40 2023 - 8 2024), and the 2022/2023 season (weeks 40 2022 - 8 2023).

Period	Individual weeks						Current season		Previous season	
Weeks	W8 2024		W7 2024		W6 2024		W40 2023-W8 2024		W40 2022-W8 2023	
Test result	n	%	n	%	n	%	n	%	n	%
SARS-CoV-2										
Total tested	24		9		22		323		391	
Positive	1	4.2	1	11.1	1	4.5	40	12.4	65	20.1
RSV										
Total tested	24		9		22		323		387	
Positive	0	0.0	0	0.0	1	4.5	19	5.9	41	12.7
Influenza										
Total tested	24		9		22		323		387	
Positive	7	29.2	3	33.3	5	22.7	49	15.2	66	20.4
Influenza A (H3)	0	0.0	1	11.1	2	9.1	21	6.5	31	9.6
Influenza A (H1)pdm09	0	0.0	0	0.0	3	13.6	14	4.3	29	9.0
Influenza A (not subtyped)	7	29.2	2	22.2	0	0.0	14	4.3	4	1.2
Influenza B (Victoria)	0	0.0	0	0.0	0	0.0	0	0.0	2	0.6
Influenza B (no lineage)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

In the current season (weeks 40 2023 – 8 2024), two cases with co-infections were reported; one case tested positive for SARS CoV-2 and influenza A(H3), and one case tested positive for SARS CoV-2 and RSV.

SARS-CoV-2 Genomic analysis

There can be a lag-time before WGS results are available. The WGS data presented is up to week 2 2024

Sequencing results have been received for 369 SARS-CoV-2 SARI cases admitted between week 40 2021 and week 2 2024 (Figure 4).

BA.2.86 sub-lineage JN.1 is the dominant variant circulating among SARI cases admitted to the hospital site in the current season. Among SARS-CoV-2 positive SARI cases admitted during the current season (weeks 40 2023 - 8 2024), for whom WGS data are available, 17 (51.5%) were variant

BA.2.86 sub-lineage JN.1, 9 (27.3%) were XBB.1.5-like lineages, and 7 (21.2%) were XBB.1.5-like+F456L mutation.

Further information on SARI variants is available in the appendix (Table A1 and A2). For further information on circulating variants in Ireland, see the COVID-19 virus variants reports on the HPSC website[4].

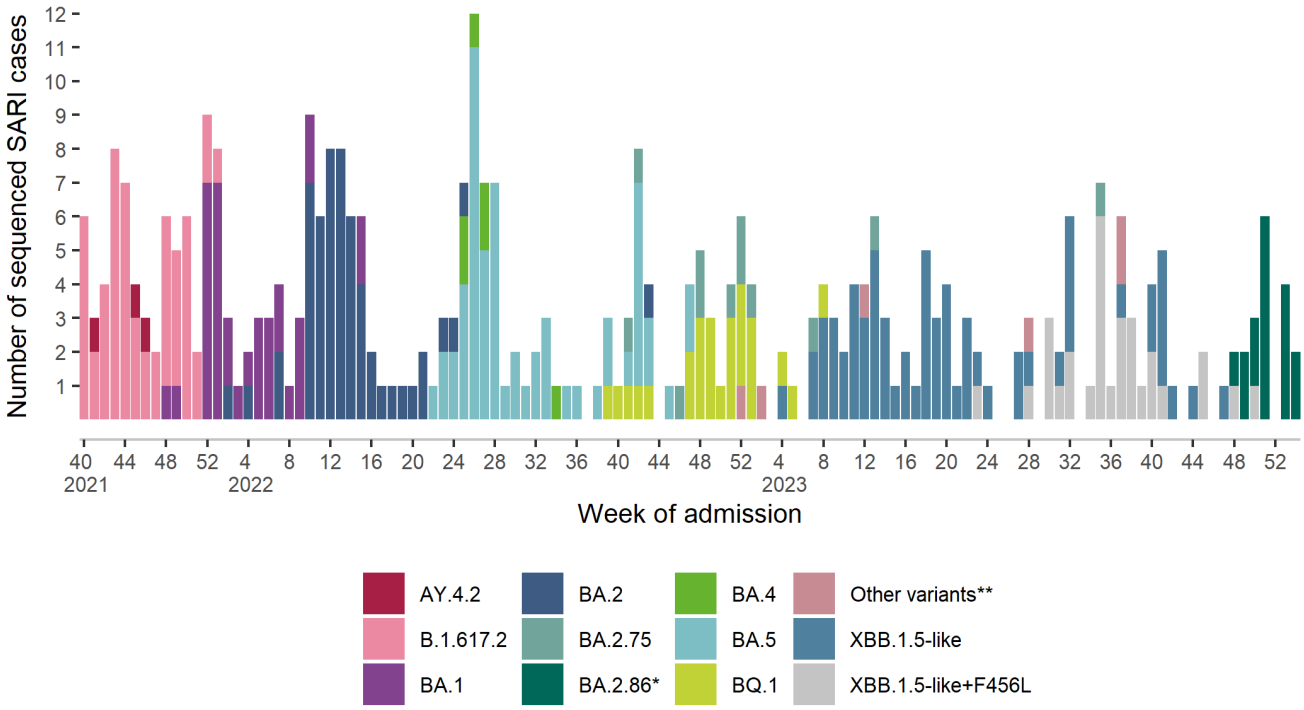

Figure 4: Number of SARI cases sequenced and reported, by week of hospitalisation, week 40 2021 to week 2 2024 (n=369)

*Includes sub-lineage JN.1
**All other variants
Note: As described by the ECDC, 'XBB.1.5-like' and 'XBB.1.5-like + F456L' refer to groupings of lineages that share sets of spike protein mutations

[4] https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/surveillance/summaryofcovid-19virusvariantsinireland/

Outcome

Collection of discharge data is a manual process, therefore there is a significant lag time between patient discharge and data collection.

Of the 335 SARI cases admitted to the SARI hospital site during the current 2023/2024 season (weeks 40 2023 - 8 2024), 186 (55.5%) have discharge data available. Of those admitted during the same period in the 2022/2023 season (weeks 40 2022 - 8 2023), 395 (100%) cases have been discharged (Table 7).

Among SARI cases admitted during the current 2023/2024 season (weeks 40 2023 - 8 2024) and discharged with known outcome, 10 (5.4%) deaths have been reported, 6 (60%) were male and 4 (40%) were female. The median age was 83 years (IQR: 74-88 years).

Among SARI cases admitted during the 2022/2023 season (weeks 40 2022 - 8 2023) and discharged with known outcome, 46 (11.6%) died in hospital, 22 (47.8%) were male and 24 (52.2%) were female. The median age was 78.5 years (IQR: 74-86 years).

Table 7: Number and proportion of discharged SARI cases by outcome and hospital length of stay, for the current 2023/2024 season (weeks 40 2023 - 8 2024), the previous 2022/2023 season (weeks 40 2022 - 8 2023), and cases admitted between week 40 2022 and week 8 2024.

Season(s)	Current season		Previous season		Since W40 2022	
Week/Year	W40 2023-W8 2024		W40 2022-W8 2023		W40 2022-W8 2024	
	n	%	n	%	n	%
Known outcome	**186**		**395**		**940**	
Discharged alive	176	94.6	345	87.3	858	91.3
Transferred*	0	0.0	4	1.0	8	0.9
Died in hospital	10	5.4	46	11.6	74	7.9
Hospital length of stay (days)						
Mean	10		13		12	
Median	5		6		5	
Interquartile range	3-11		3-12		3-12	
Range	1-53		1-271		1-271	

*Transferred to another hospital

Vaccination status

Vaccination data are available approximately one week after cases are notified to HPSC, therefore the vaccination status for the current week's SARI cases is recorded as unknown.

COVID-19 Vaccination status

Amongst SARI cases, admitted in the current season (weeks 40 2023 - 8 2024) who were PCR positive for SARS-CoV-2 and with known COVID-19 vaccination status, 17 (51.5%) had not received a vaccine dose within the six months prior to their episode of illness (Table 8).
Characteristics of **all** SARI cases by time since last COVID-19 vaccine dose and symptom onset during the current season are presented in the Appendix (Table A3).

Please refer to the technical notes for the full list of definitions on COVID-19 vaccination status.

Table 8: Characteristics of SARS-CoV-2 positive SARI cases by time since last COVID-19 vaccine dose and symptom onset during the current season (weeks 40 2023-7 2024).
Note: SARS-CoV-2 positive SARI cases with unknown vaccination status, n=7 (17.5%) are excluded.

Weeks	Week 40 2023 - 7 2024		
Characteristic	**<180 days, N = 16[1]**	**>=180 days, N = 17[1]**	**Not vaccinated, N = 0[1]**
Total	**16 (48.5%)**	**17 (51.5%)**	**0 (0.0%)**
Age(years)			
Mean	77	73	-
Median	78	74	-
IQR	73 - 82	68 - 82	-
Range	65 - 91	33 - 92	-
Gender			
Female	5 (45.5%)	6 (54.5%)	0 (0.0%)
Male	11 (50.0%)	11 (50.0%)	0 (0.0%)
Age groups (years)			
15-49	0 (0.0%)	1 (100.0%)	0 (0.0%)
50-69	3 (42.9%)	4 (57.1%)	0 (0.0%)
70+	13 (52.0%)	12 (48.0%)	0 (0.0%)
Patient residence			
Residential care facility	5 (100.0%)	0 (0.0%)	0 (0.0%)
Private residence/home	11 (45.8%)	13 (54.2%)	0 (0.0%)
Patient residence not known	0 (0.0%)	4 (100.0%)	0 (0.0%)
Underlying medical conditions			
Yes	16 (48.5%)	17 (51.5%)	0 (0.0%)
No	0 (0.0%)	0 (0.0%)	0 (0.0%)

[1]n (%)

Influenza vaccination status

Amongst the SARI cases, admitted in the current season (weeks 40 2023 - 8 2024) with known vaccination status, who were PCR positive for influenza, 16 (41%) had not received a vaccine dose within the six months prior to their episode of illness (Table 9).

Table 9: Characteristics of influenza positive SARI cases by influenza vaccination status during the current season (weeks 40 2023-8 2024).
Note: Influenza positive SARI cases with unknown vaccination status, n=10, (20.4%) are excluded.

Weeks	Week 40 2023 - 8 2024	
Characteristic	**Vaccinated, N = 23[1]**	**Not vaccinated, N = 16[1]**
Total	**23 (59.0%)**	**16 (41.0%)**
Age(years)		
Mean	76	68
Median	81	70
IQR	73 - 85	58 - 76
Range	39 - 90	50 - 90
Gender		
Female	12 (54.5%)	10 (45.5%)
Male	11 (64.7%)	6 (35.3%)
Age groups (years)		
15-49	2 (66.7%)	1 (33.3%)
50-69	1 (12.5%)	7 (87.5%)
70+	20 (71.4%)	8 (28.6%)
Patient residence		
Residential care facility	4 (50.0%)	4 (50.0%)
Private residence/home	19 (63.3%)	11 (36.7%)
Patient residence not known	0 (0.0%)	1 (100.0%)
Underlying medical conditions		
Yes	21 (60.0%)	14 (40.0%)
No	2 (50.0%)	2 (50.0%)

[1]n (%)

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This report was produced using R studio software.

Technical notes

1. SARI case
   - A SARI case refers to an individual patient episode of care.
2. Vaccination status
   - For the purposes of SARI surveillance, vaccination status of cases is as follows:

Vaccinated[5]: A case who received their last primary COVID-19 vaccine dose ≥ 14 days prior to the date of symptom onset or their last booster COVID-19 vaccine dose ≥7 days prior to the date of symptom onset.

Time since vaccination: For vaccinated cases, time since vaccination is calculated by subtracting the date of vaccination from the date of symptom onset and categorised as <180 days or ≥180 days since vaccination.

Not vaccinated, if the following applies:

- Vaccination record on the National COVID-19 Immunisation system indicates the person was vaccinated after the date of symptom onset.
- The SARI patient was reported as not vaccinated on the SARI hospital clinical questionnaire, and there is no identifiable linked record of COVID-19 vaccination on the National COVID-19 Immunisation system.

Vaccine status unknown, if:

- The SARI patient is reported on the SARI hospital clinical questionnaire as vaccinated, however there is no identifiable linked record of COVID-19 vaccination on the National COVID-19 Immunisation system. Vaccination status is reported as unknown, until verified on the National COVID-19 Immunisation system.
- The SARI patient is reported on the SARI hospital clinical questionnaire as vaccination status unknown, AND there is no identifiable linked record of COVID-19 vaccination on the National COVID-19 Immunisation system

[5] Refer to www.hse.ie for further information on the COVID-19 vaccination rollout

Appendix

Table A1

Number and proportion of SARI cases sequenced and reported, by pango lineage and variant, admitted during the 2023/2024 season, weeks 40 2023 – 8 2024 (n=33)

Virus Variant	Pango Lineage	Number of cases	Sequenced cases %
BA.2.86 lineages	JN.1	17	51.5
XBB.1.5like+F456L	EG.5.1	1	3.0
	EG.5.1.1	1	3.0
	EG.5.1.3	1	3.0
	HK.3	1	3.0
	HV.1	1	3.0
	XBB.1.16.6	2	6.1
XBB.1.5-like lineages	FL.15	1	3.0
	FL.9	1	3.0
	GE.1	2	6.1
	XBB.1.5	2	6.1
	XBB.2.3	1	3.0
	XBB.2.3.11	1	3.0
	XBB.2.3.13	1	3.0
Total		**33**	

Table A2

Number of SARI cases sequenced and reported by pango lineage and week of admission for the previous five weeks data for which sequencing data are available (weeks 50 2023 - 2 2024).

Virus variant	Pango lineage	2023-W50	2023-W51	2023-W52	2024-W01	2024-W02	Total
XBB.1.5-like+F456L	EG.5.1.3	1	0	0	0	0	1
BA.2.86	JN.1	2	6	0	4	2	14
Total	**-**	**3**	**6**	**0**	**4**	**2**	**15**

Table A3

Characteristics of **all** SARI cases by COVID-19 vaccination status by time since last COVID-19 vaccine dose and symptom onset during the current influenza season (weeks 40 2023-8 2024).

Note: SARI cases with unknown vaccination status are excluded, n=87 (26.0%)

Weeks	Week 40 2023 - 7 2024		
Characteristic	**<180 days, N = 141[1]**	**>=180 days, N = 105[1]**	**Not vaccinated, N = 2[1]**
Total	**141 (56.9%)**	**105 (42.3%)**	**2 (0.8%)**
Age(years)			
Mean	76	69	-
Median	79	73	-
IQR	72 - 84	61 - 82	-
Range	18 - 99	18 - 94	-
Gender			
Female	71 (50.4%)	51 (48.6%)	0 (0.0%)
Male	70 (49.6%)	54 (51.4%)	2 (100.0%)
Age groups (years)			
15-49	11 (7.8%)	17 (16.2%)	2 (100.0%)
50-69	16 (11.3%)	27 (25.7%)	0 (0.0%)
70+	114 (80.9%)	61 (58.1%)	0 (0.0%)
Patient residence			
Residential care facility	36 (25.5%)	3 (2.9%)	0 (0.0%)
Private residence/home	97 (68.8%)	87 (82.9%)	2 (100.0%)
Patient residence not known	8 (5.7%)	15 (14.3%)	0 (0.0%)
Underlying medical conditions			
Yes	136 (96.5%)	98 (93.3%)	0 (0.0%)
No	5 (3.5%)	7 (6.7%)	2 (100.0%)

[1]n (%)