2025 ACUTE RESPIRATORY ILLNESS SURVEILLANCE REPORT

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2025 Acute Respiratory Illness Surveillance Report

Porirua, New Zealand

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EXECUTIVE SUMMARY

PHF Science conducts surveillance of acute respiratory illness (ARI) in New Zealand to support public health planning, policy related activities and to inform clinical practice, with the aim of reducing the burden of respiratory disease. This report provides a summary of priority viral respiratory illnesses in New Zealand in 2025, including influenza, respiratory syncytial virus (RSV) and COVID-19.

The main findings from this report include the following:

- Overall, 2025 was a moderate year for influenza like illness (ILI). Most of the 2025 community-based ILI activity was due to influenza, followed by rhinovirus/enterovirus and RSV. Severe Acute Respiratory Illness (SARI) activity was similar to 2024 for the first half of the year, but increased again from September 2025 associated with the emergence of influenza A(H3N2) subclade K.
- The percentages of FluTracking participants reporting fever and cough symptoms in the previous week in 2025 were similar to 2023 and 2024, but lower than in 2019 and 2022. The percentages for 2025 peaked in early September (week 37).
- Hospital-based surveillance in the Auckland region showed that SARI (any cause) admissions in 2025 were similar to 2024 with rates peaking between early-to-mid July and early August, though a second peak in 2025 occurred in early September. Those under 5 years of age, those 65 years or older, Pacific peoples and Māori were hospitalised for SARI at higher rates than people of other age groups and ethnicities.
- SARI admissions in 2025 were driven by the detection of multiple viruses at different times throughout the year. Influenza was detected throughout 2025, initially with influenza A(H1N1) predominance and then changing to influenza A(H3N2) predominance from September. Influenza B was detected throughout 2025, with a peak in mid- to late-July. Both rhinovirus and RSV were detected from the beginning of the year, with RSV peaking mid-July. Human metapneumovirus and Parainfluenza virus peaked in mid-September, whilst SARS-CoV-2 detections were low but consistent throughout 2025.
- Among the 837 influenza-positive specimens, 611 (73.0%) were influenza A and 178 (21.3%) were influenza B (and 48 were unknown). Among the influenza A-positive specimens, 476 (77.9%) were further subtyped, of which 309 (64.9%) were A(H1N1)pdm09 and 167 (35.1%) were A(H3N2).
- Cumulative influenza-positive SARI rates and RSV-positive SARI rates in 2025 were higher than previous years, owing to elevated activity lasting later toward the end of the year
- Pacific peoples and Māori experienced the highest crude rates for all-cause SARI hospitalisation. Additionally, Pacific and Māori had significantly higher age-standardised rates of SARI influenza than European/other (RR=2.76 and RR=1.53, respectively). Age standardised rates for SARS-CoV-2 positive SARI hospitalisations were higher for Pacific peoples (RR=1.96).
- Relative to pre-COVID pandemic years, the severity of influenza illness (measured by the proportion of influenza-associated SARI admissions that were admitted to intensive care unit (ICU)) was lower than or similar to most pre-pandemic years for both children under 5 years and adults over 65 years.
- The GP ILI data yielded an overall influenza vaccine effectiveness (VE) estimate of 66.5%, which indicates good VE against medically-attended illness in 2025. The SARI hospital

surveillance influenza VE estimates ranged between 33.1% for older adults aged 65 years or older, and 96.0% for children aged 0–17 years.

- Most of the COVID-19 indicators monitored as part of the PHF Science acute respiratory surveillance system show low activity in 2025. During the winter months, the “Nimbus” variant (NB.1.8.1) contributed to a noticeable increase in cases. Later in the year, the globally dominant XFG variant was unable to establish itself here, and PE.1.4 became common in Australia and New Zealand but rare elsewhere. Please note that SARI surveillance excludes non-febrile presentations of COVID-19. More information on COVID-19 trends is published here: https://www.healthnz.govt.nz/about-us/health-data/data-sets-and-collections/covid-19-data-and-statistics/covid-19-reporting#covid-19-reporting-dashboard-21928.

NATIONAL ACUTE RESPIRATORY ILLNESS SURVEILLANCE OBJECTIVES

The overarching goal of ARI surveillance is to minimise the impact and health inequities of these illnesses, by providing useful information to public health authorities and communities, so that they may better plan appropriate health promotion, disease protection and control measures.

The specific objectives of acute respiratory illness surveillance are to:

1. Actively monitor and better understand the patterns of activity (e.g., seasonality, severity) of influenza, SARS-CoV-2 and other respiratory viruses.
2. Describe the burden of ILI and SARI-associated influenza, SARS-CoV-2 and other respiratory viruses in New Zealand, including among priority populations.
3. Describe characteristics of locally circulating influenza, SARS-CoV-2 and other respiratory viruses.
4. Inform influenza and COVID-19 vaccination policy and treatment decisions to reduce the burden of disease and support equitable outcomes.
5. Facilitate decision-making for pandemic influenza risk management, both nationally and globally.

NATIONAL ACUTE RESPIRATORY ILLNESS SURVEILLANCE SYSTEMS

ARI surveillance systems collect information that together build a picture of the burden of disease from influenza and other acute respiratory illnesses in New Zealand. These surveillance systems operate in the community, primary care, hospitals and laboratories to capture disease presentations at different levels of severity and are detailed below:

HealthLine – monitors the number and characteristics of people calling HealthLine (the free, national, 24-hour telephone health service) for ARI advice each week. Calls are triaged using electronic clinical decision support software. Those coded as cold/flu, cough, croup, fever, general aches, headache and/or sore throat are counted as ILI. Non-symptomatic calls (30% of HealthLine calls) are excluded.

FluTracking –voluntary public participants self-report illness in an online weekly survey. FluTracking operated in New Zealand from 2018 until 19th December 2025 and was used to monitor community-level ILI trends. In 2025, there were just over 42,000 people who completed at least one FluTracking survey, and an average of 29,055 responses were received each week. Participants were given the option to opt-out outside of the influenza season (October to April); accordingly, the sample size was smaller at this time. Those who recorded experiencing a fever and cough were counted as having an ILI. More information about FluTracking is available here: https://info.flutracking.net/about/.

Sentinel GP virological surveillance – PHF Science works with a network of sentinel GP clinics around the country that take a respiratory swab from a subset of patients presenting to clinics each week with ILI symptoms. These patients are tested for a range of respiratory viruses at the PHF Science laboratory. This system provides information on the different viruses causing illness in the community.

Sentinel hospital surveillance – This system monitors patients admitted to hospital overnight who meet the WHO (2013) case definition for SARI in the four public hospitals in Counties Manukau and Auckland districts. The case definition is an ARI with a history of fever or measured fever of ≥38°C, a cough, and onset within the past 10 days, requiring inpatient hospitalisation. Research nurses collect information on SARI patients in general wards and intensive care units (ICUs). Nasopharyngeal swabs are taken as part of clinical care or by SARI surveillance nurses while in hospital. The swabs are tested for respiratory viruses including influenza, RSV and SARS-CoV-2. A proportion of swabs are also tested for rhinovirus, enterovirus, adenovirus, human metapneumovirus and parainfluenza virus (PIV). The viruses that are tested for vary and are dependent on several factors, including clinical decision making, laboratory capacity and patient characteristics. However, they usually include influenza, RSV and COVID-19.

COVID-19 notifiable disease reporting – COVID-19 is a notifiable disease in New Zealand with cases reported through EpiSurv, New Zealand's notifiable disease reporting system. PHF Science undertakes whole genome sequencing on viruses sampled from COVID-19 patients to monitor new strains/variants (changes in the circulating viruses). Since 25 February 2022, most testing has been through self-administered rapid antigen test (RAT), which requires self-reporting of results. Funding for RAT testing ended on 30 September 2024. Therefore, it is likely that many infections are not detected or reported, and case ascertainment may differ by age, ethnicity, deprivation, or other demographic factors. Health New Zealand reports COVID-19 trends here: https://tewhatuora.shinyapps.io/covid19/.

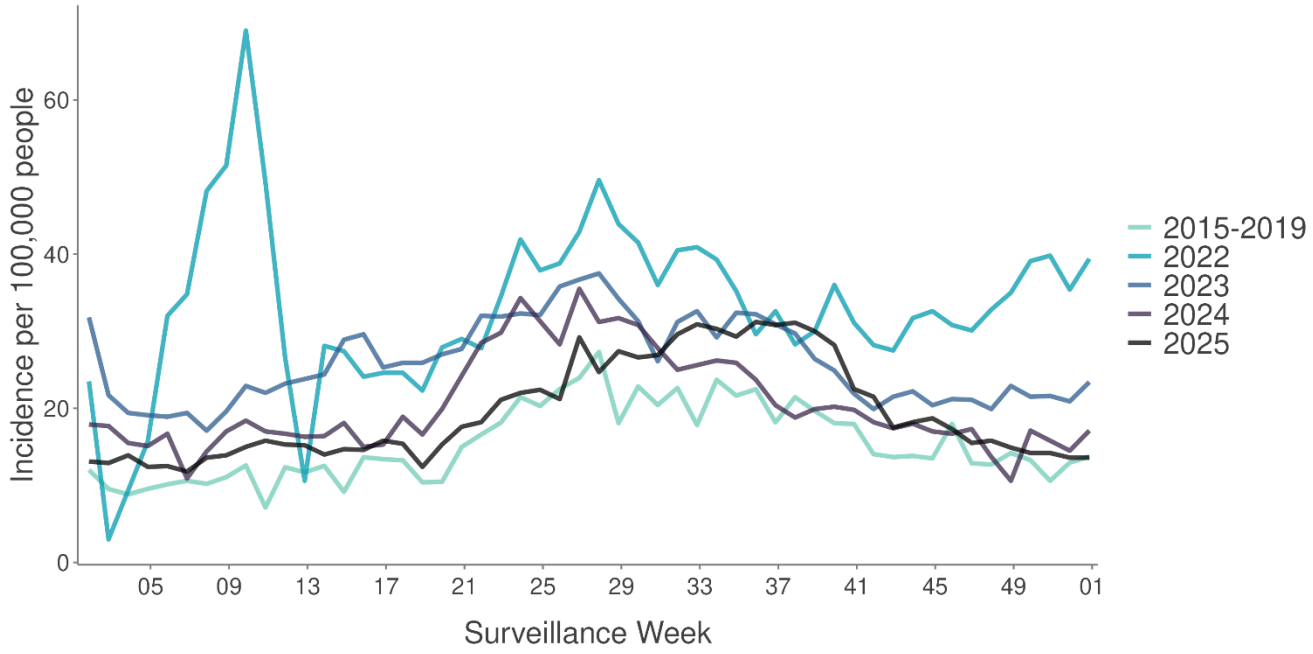
COMMUNITY-BASED SURVEILLANCE

HEALTHLINE ILI-RELATED CALLS

There were 54,395 ILI-related calls to HealthLine in 2025, with an average of 1,046 calls a week. ILI-related call rates were markedly lower for the first half of the year compared with other years post the COVID-19 pandemic (Figure 1). In 2025, call rates to HealthLine peaked in late August (week 35) and remained elevated through to late-September (week 39), in line with the spring wave of influenza activity seen in other surveillance data.

The higher call rates observed in the post-pandemic period (2022–2025) compared with the 2015–2019 average may reflect an increased awareness and use of telehealth services, which began during the pandemic.

Figure 1: Weekly HealthLine ILI-related call rates



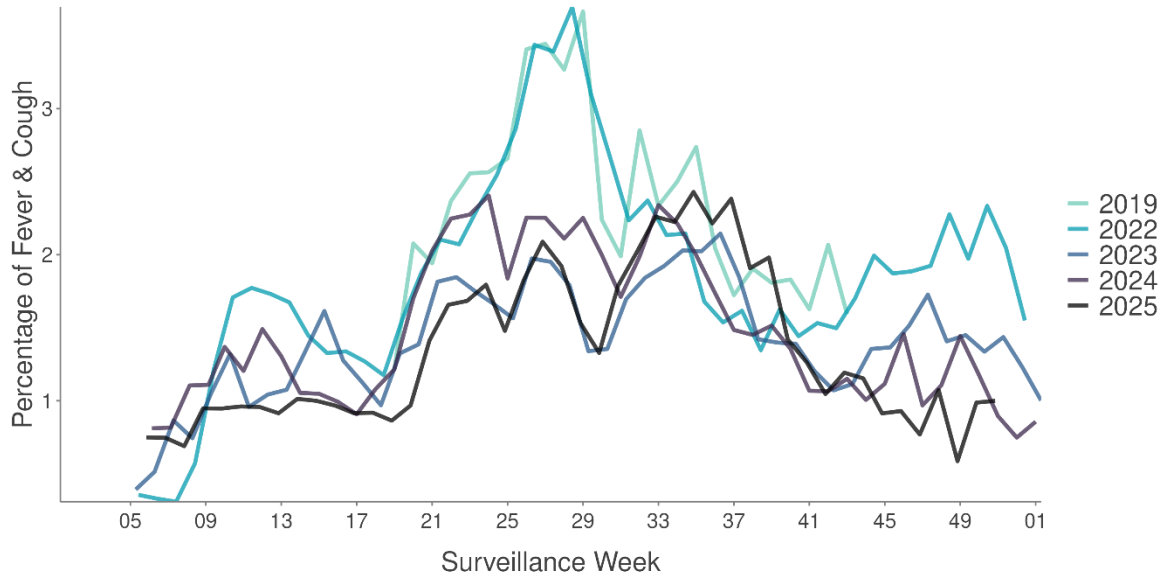
Source: HealthLine as of 30 January 2026.
Note: Excludes the pandemic years 2020 and 2021

FLUTRACKING

The percentages of FluTracking participants reporting new fever and cough symptoms in the previous week in 2025 were similar to the percentages reported in 2024 and 2023, but lower than the percentages reported in 2019 and 2022 (Figure 2). The percentages for 2025 increased abruptly from mid-May (week 19), dropped and again rose to a peak in early September (week 37).

Note, there was a steady decrease in participation in the weekly FluTracking survey between 2022 and 2025.

Figure 2: Percentage of FluTracking participants with ILI symptoms in the previous week



Source: FluTracking as of 19 January 2026.
Note: Excludes the pandemic years 2020 and 2021

About 18% of survey participants in 2025 with ILI symptoms reported seeking medical attention from a general practitioner for their ILI symptoms (Table 1). There was a steady decline in the percentage seeking medical attention from a general practitioner between 2018 (30.4%) and 2025.

In 2025, about three-quarters (73.9%) of survey participants with ILI symptoms in the previous week reported taking time off work or normal duties due to their symptoms. This was slightly lower than the rates observed pre-pandemic (2018–2019) and in 2023–2024. The rate for 2022 was slightly higher and may reflect COVID-19 related recommendations and measures in place at the time; these included recommendations to self-isolate and pandemic supports such as the Leave Support Scheme[1].

Table 1: Actions taken in the previous week by FluTracking participants with ILI symptoms

	2018	2019	2022	2023	2024	2025
Contacted a GP due to symptoms	30.4%	26.2%	20.7%	21.3%	18.9%	17.7%
Took time off work/normal duties due to symptoms	74.2%	75.0%	81.2%	75.5%	74.7%	73.9%

Source: FluTracking as of 19 January 2026.

COMMUNITY-BASED VIROLOGIC SURVEILLANCE

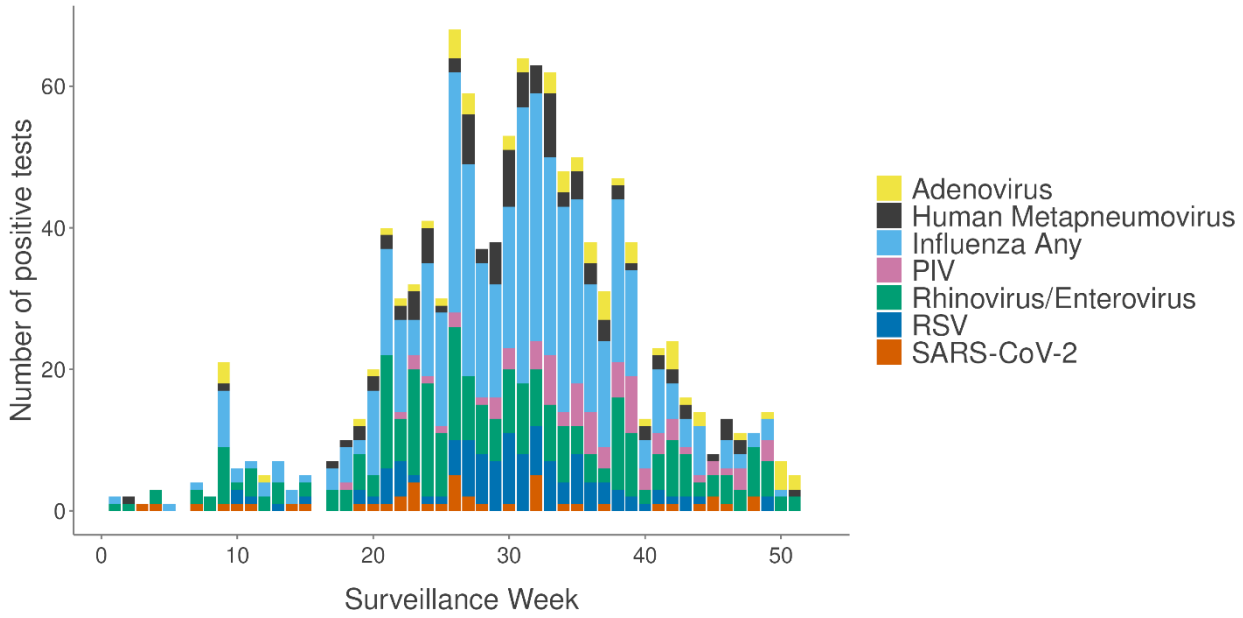
Influenza detections (Figure 3) increased from mid-May (week 20) through to a peak in late-July (week 31), remaining high into September, before decreasing gradually through to November and tailing off towards the end of the year. Influenza test-positivity (Figure 4) also increased from early-May through to a peak in late July/early August, before decreasing rapidly thereafter. An early spike in influenza test positivity in March (week 9) was an artefact of small numbers.

[1] The COVID-19 Leave Support Scheme was designed to help employers (and self-employed people), pay employees who had to self-isolate due to COVID-19. It was available between 6 April 2020 and 15 August 2023.

Influenza B was detected in 46% of influenza-positive samples and influenza A was detected in 54%. Almost all (98%) of the influenza A samples were subtyped. Nearly three-quarters (74%) of the subtyped influenza A viruses were A/H1 and 26% were A/H3. Influenza A/H1 was the predominant influenza A subtype initially in 2025, before A/H3 became predominant from September onwards.

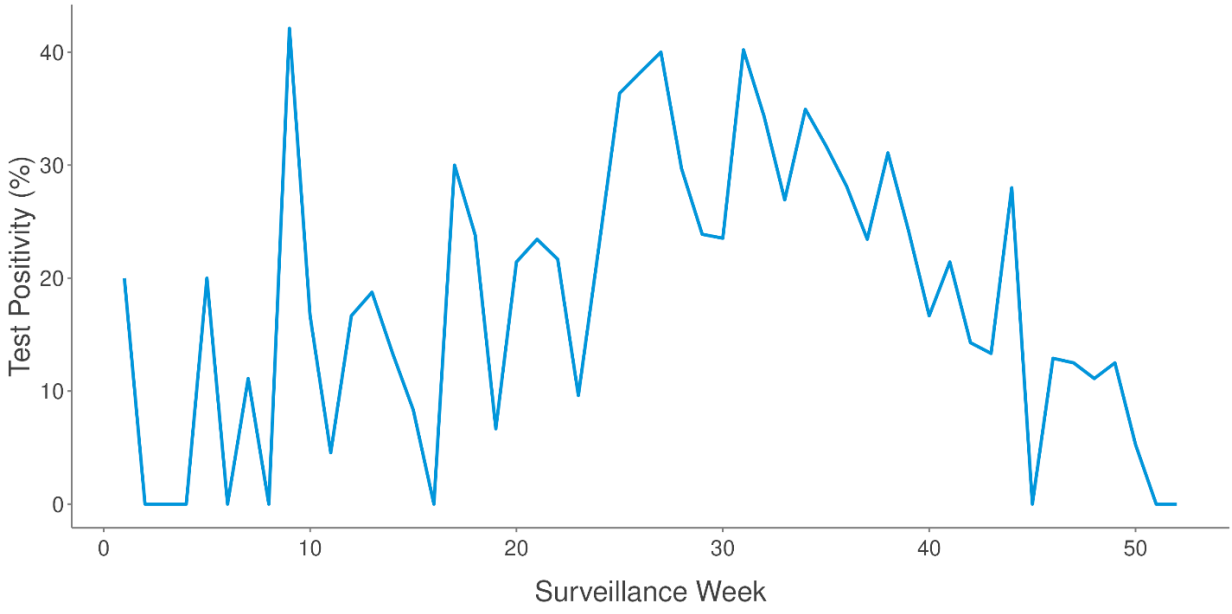
Rhinovirus/enterovirus was detected from mid-March through to the end of the year. RSV was sporadically detected from early April through to October. Similarly, adenovirus and parainfluenza viruses (PIV) were sporadically detected in ILI patients throughout the season. Human metapneumovirus was also sporadically detected throughout the season, though its peak detection was early August. SARS-CoV-2 was detected in small numbers throughout 2025.

Figure 3: Weekly viruses detected through sentinel GP sampling



Source: STARLIMS and HealthLink as of 20 June 2026.

Figure 4: Weekly influenza test positivity at sentinel GP sites

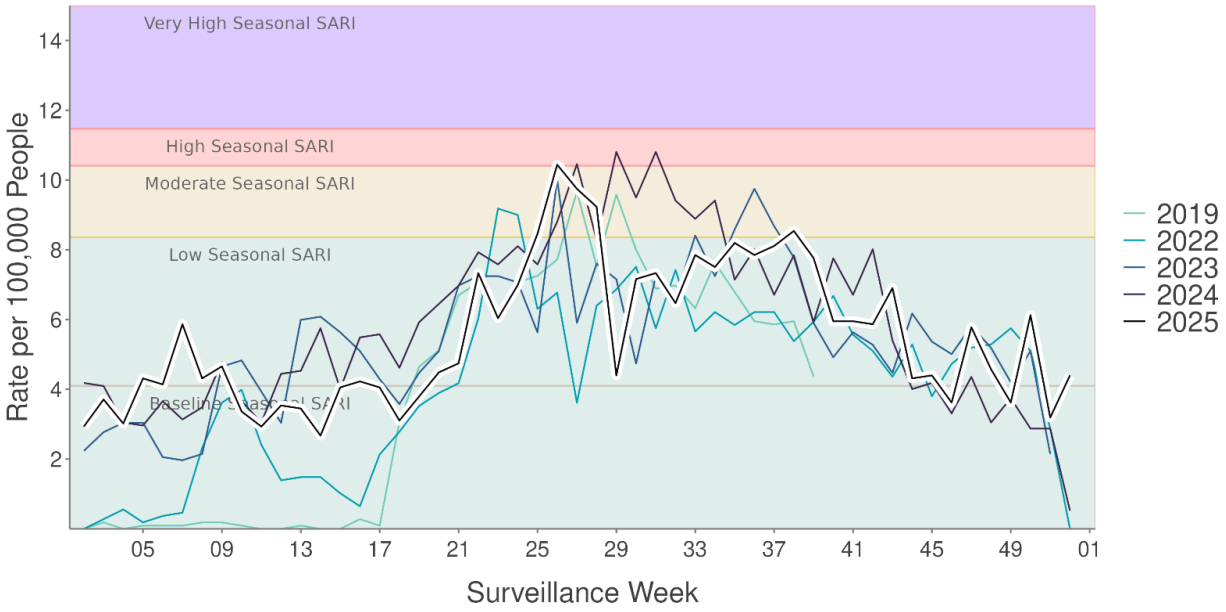


Source: STARLIMS and HealthLink, 20 June 2026.

HOSPITAL-BASED SARI SURVEILLANCE

Auckland regional hospital SARI rates in 2025 peaked around mid-June (week 26) in the high seasonal range when both seasonal influenza A subtypes were widely co-circulating (Figure 5).

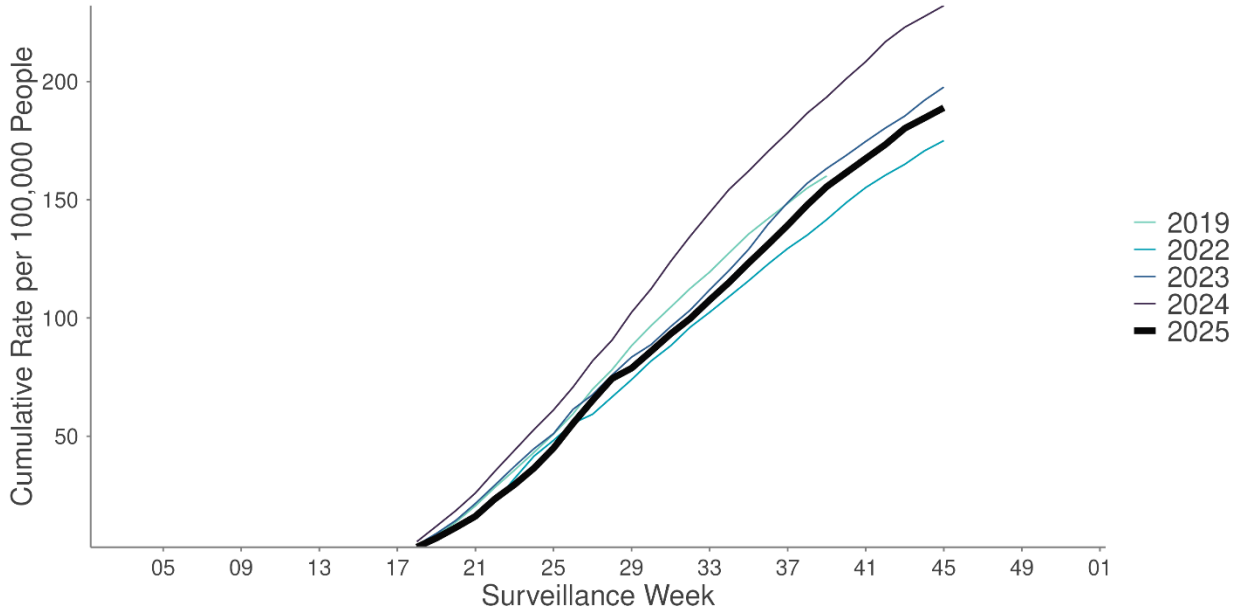
Figure 5: Weekly SARI all-cause hospitalisation rates



Source: Redcap SARI Surveillance as of 20 June 2026.
Data include SARI hospitalisations from Kidz First, Starship, Middlemore and Auckland City hospitals.
Note: Excludes the pandemic years 2020 and 2021

The cumulative incidence rate for all-cause SARI hospitalisations in 2025 was lower than 2024 and in line with most other years since 2019 (Figure 6).

Figure 6: Cumulative rate of all-cause SARI hospitalisations



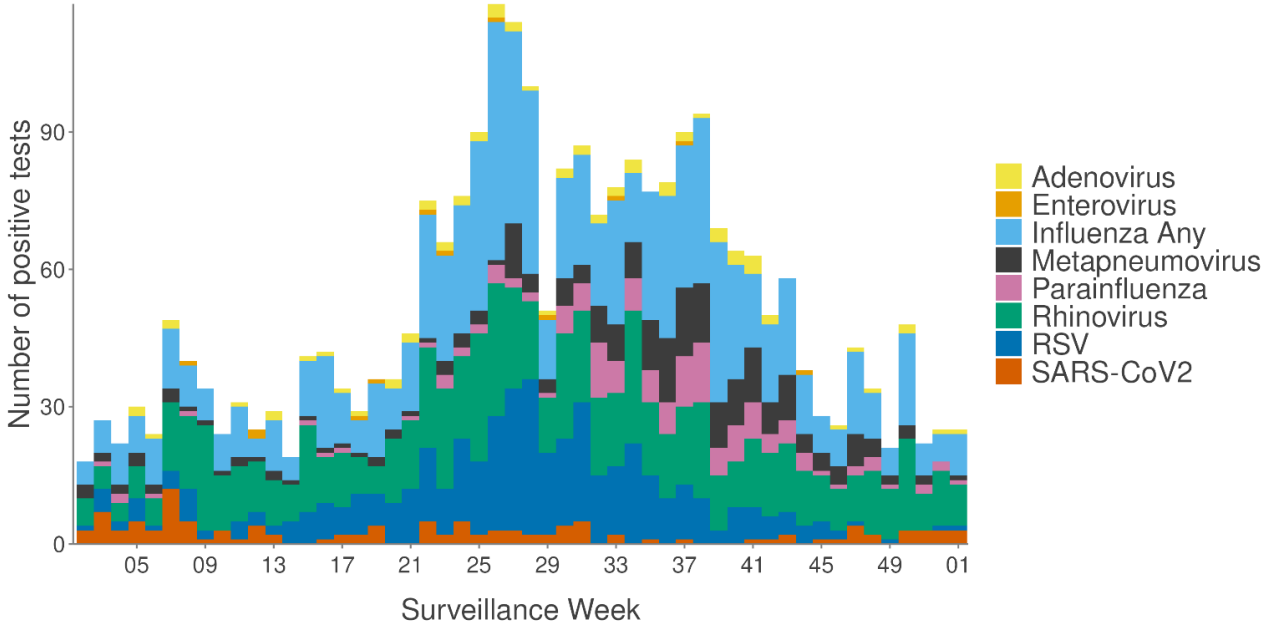
Source: Redcap SARI Surveillance as of 20 June 2026. Note: Excludes the pandemic years 2020 and 2021.
Data include SARI hospitalisations from Kidz First, Starship, Middlemore and Auckland City hospitals. Pathogen-specific rates were adjusted for testing history-patient records without test results were adjusted based on test positivity.

SARI VIROLOGY

SARI hospitalisations were associated with multiple viruses throughout 2025, with influenza, RSV and rhinovirus predominating (Figure 7). Influenza was detected all year, beginning with influenza A(H1N1) predominance and then changing to influenza A(H3N2) predominance from mid-September. Most detections occurring in the cooler months from the beginning of June (week 24), though detections were elevated through to the end of September (week 40). Influenza B was detected throughout 2025, with early detections in late February, before consistent reporting from early May (week 19) and a peak in mid- to late-July (week 31).

Peak RSV activity was observed in mid-July (week 28), followed by a gradual decrease to the end of October. Rhinovirus was detected consistently throughout the year. Human metapneumovirus and parainfluenza virus (PIV) were detected sporadically in SARI patients until the end of July when detections began to increase, peaking in September (week 38) and tailing off thereafter. SARS-CoV-2 detections were low but relatively stable throughout the 2025 winter season.

Figure 7: Weekly viruses detected through sentinel hospital SARI sampling

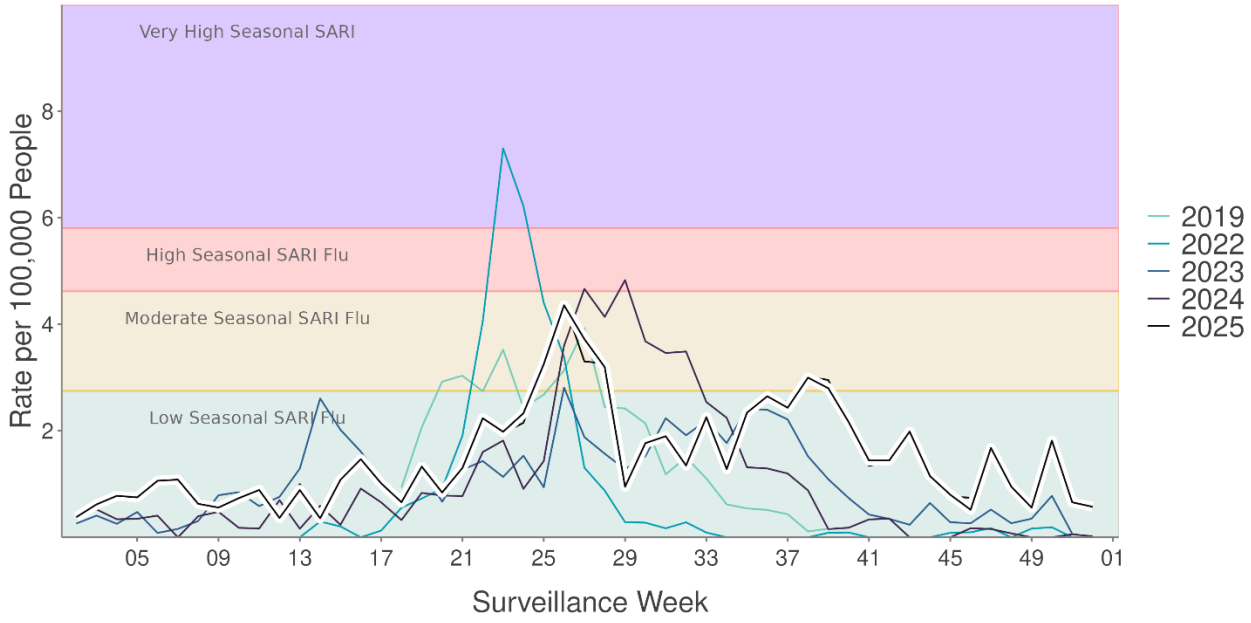


Source: Auckland City and Middlemore Hospital virology as of 20 June 2026.

Influenza-positive SARI hospitalisation rates peaked in the moderate seasonal range in late June 2025 (week 26) (Figure 8), decreased to the low seasonal range before rising to a second peak in the moderate seasonal range in September (week 38), driven by A(H3N2) subclade K (J.2.4.1) (see Influenza Virus Characterisation section).

Influenza A was frequently detected among influenza-positive SARI patients throughout 2025. Among the 837 influenza-positive specimens, 611 (73.0%) were influenza A , 178 (21.3%) were influenza B, and 48 were unknown (PHF Science, 2026a). Among the influenza A-positive specimens, 476 (77.9%) were further subtyped, of which 309 (64.9%) were A(H1N1)pdm09 and 167 (35.1%) were A(H3N2).

Figure 8: Weekly influenza-positive SARI hospitalisation rates

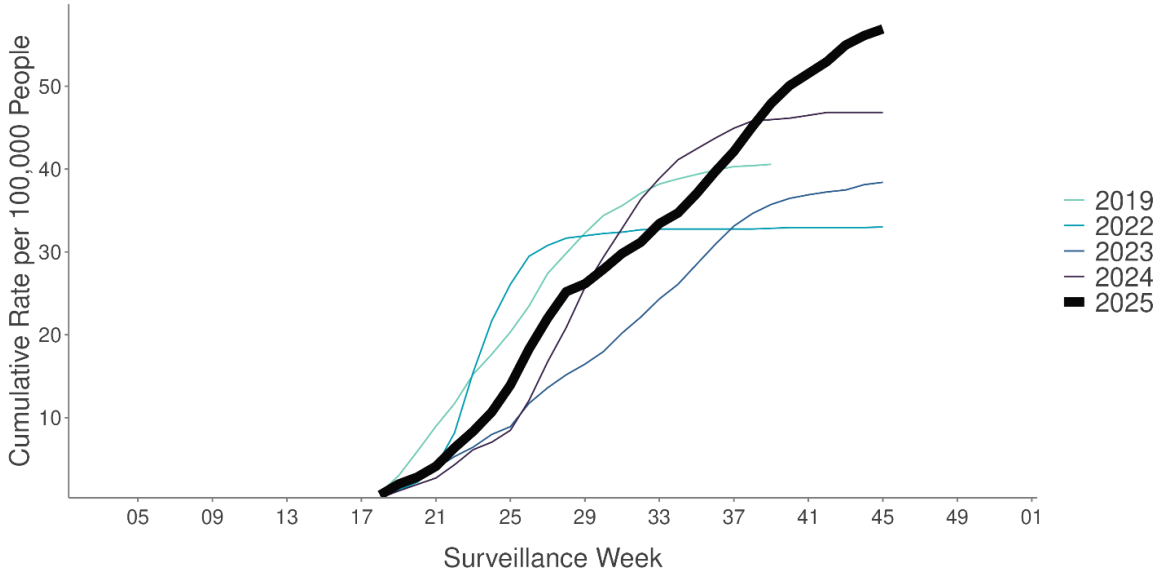


Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026.

There were no influenza-positive SARI hospitalisations in 2020 and 2021. Pathogen-specific rates were adjusted for testing history--patient records without test results were adjusted based on test positivity.

Neither of the peaks in influenza-positive rates during 2025 were as high as the peak observed in June 2022, which is thought to have been due to reduced baseline immunity following an absence in circulation of respiratory viruses during the pandemic (Institute of Environmental Science and Research Ltd., 2023). However, the cumulative incidence rate (through surveillance week 45) for influenza-positive SARI hospitalisations in 2025 was higher than in 2019 and 2022-24 (Figure 9).

Figure 9: Cumulative rate of influenza-positive SARI hospitalisations



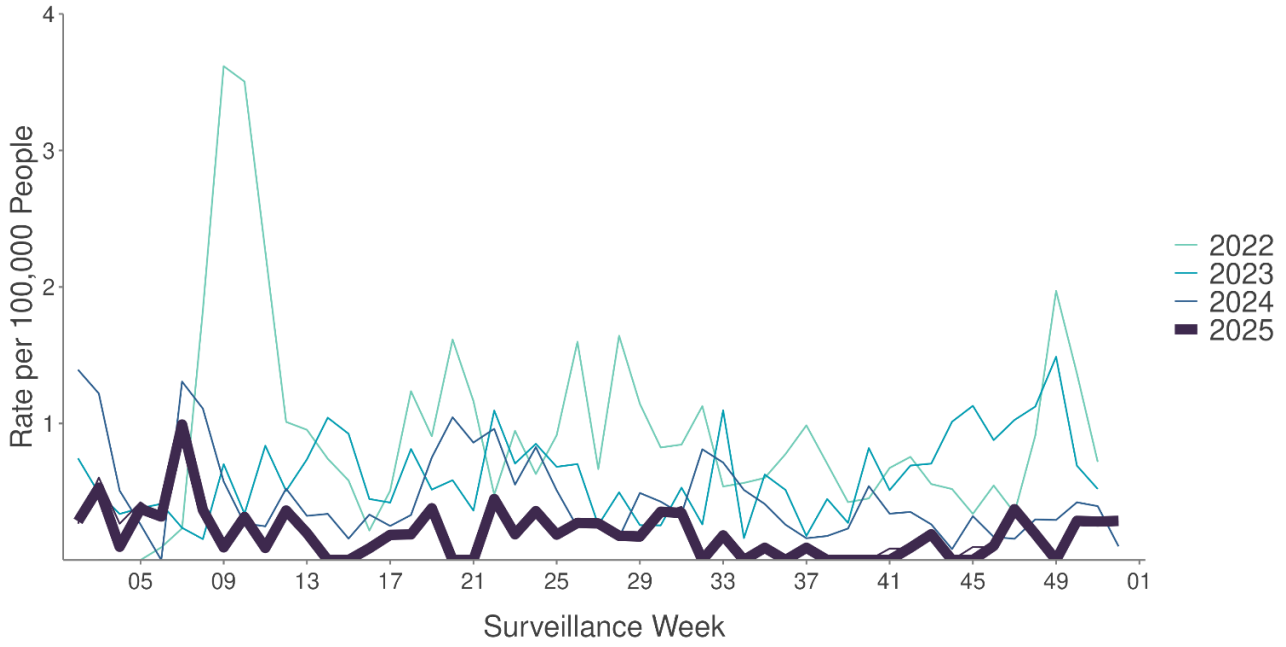
Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026.

There were no influenza-positive SARI hospitalisations in 2020 and 2021. Pathogen-specific rates were adjusted for testing history-patient records without test results were adjusted based on test positivity.

SARS-CoV-2-positive SARI hospitalisation rates were low in 2025, when compared to the rates in 2022 (Figure 10Figure 10). The large peak observed around late February in 2022 was due to the Omicron variant (Institute of Environmental Science and Research Ltd., 2023).

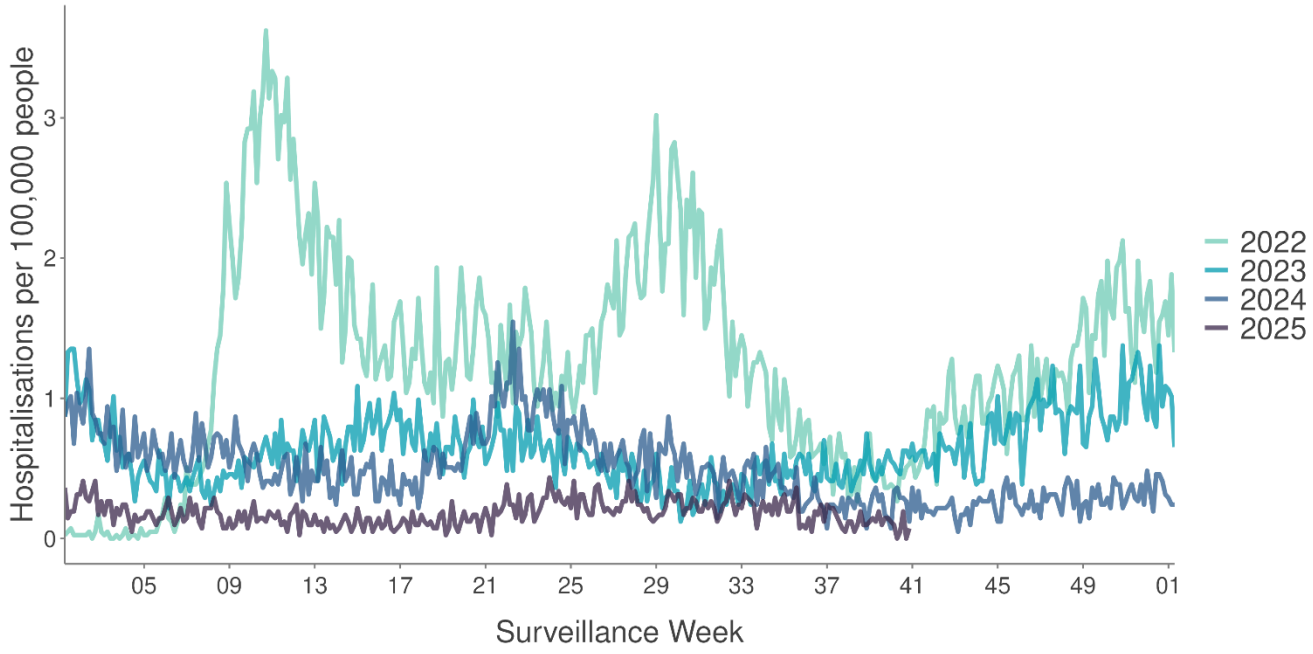
Figure 11 shows the national weekly COVID-19 hospitalisation rate which peaked in early August 2025 (week 32). This figure includes all hospitalisations due to COVID-19 based on Health New Zealand data.

Figure 10: Weekly SARS-CoV-2-positive SARI hospitalisation rates



Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026.

Figure 11: Weekly hospital admissions for COVID-19



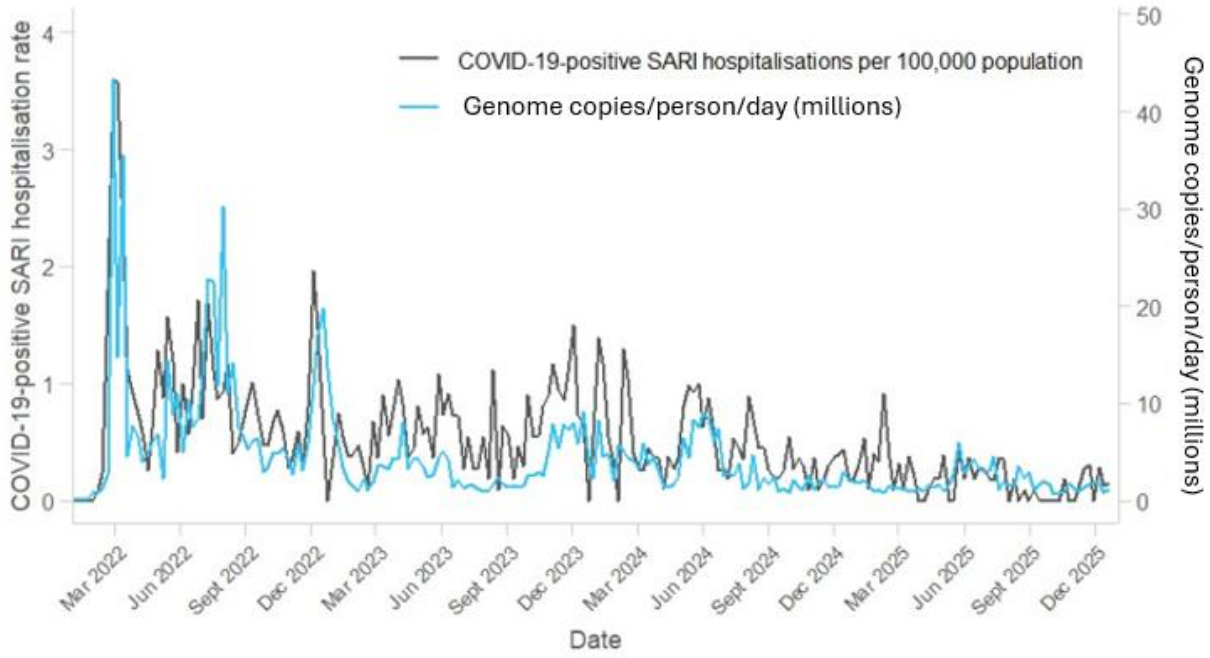
Data source: (Health New Zealand - Te Whatu Ora, 2025).
The data include all admissions with a COVID-19 diagnosis from hospitals in the Northland, Waitemata, Auckland, Counties Manukau, Waikato, Capital & Coast, Hutt, Nelson Marlborough, Canterbury, West Coast and Southern Districts. Data after week 40 in 2025 were not readily available at the time of publication.

COVID-19 WASTEWATER SURVEILLANCE

Figure 12 presents trends in COVID-19-positive SARI hospitalisation rates and SARS-CoV-2 wastewater concentrations from 2022 to 2025. The figure shows relatively consistent temporal alignment between wastewater concentrations and hospitalisation trends over this period (r=0.68, p < 0.001). The peak observed in early 2022 corresponds to the first Omicron wave in New Zealand and reflects the highest level of activity during the period. During this time, and for the duration of 2022, sharp increases in wastewater viral concentrations coincided with marked rises in hospitalisation rates, reflecting widespread community transmission and the severe disease burden.

From 2023 onwards, both indicators show smaller and more frequent waves with lower peaks. By 2025, activity remained at relatively low levels with only minor fluctuations.

Figure 12: COVID-19-positive SARI hospitalisation rate and SARS-CoV-2 in wastewater (Auckland Region), 2022–2025



Source: PHF Science, 2026a; 2026b.

The wastewater series in the figure was linearly rescaled by multiplying it by the ratio of the maximum SARI rate to the maximum wastewater value to enable comparison on the secondary y-axis. The scaling retains the temporal trends while adjusting the size, so it lines up visually. Cross-correlation analysis showed that wastewater levels and hospitalisations were most closely aligned in the same week, with no clear lag between them (r=0.68, p <0.001).

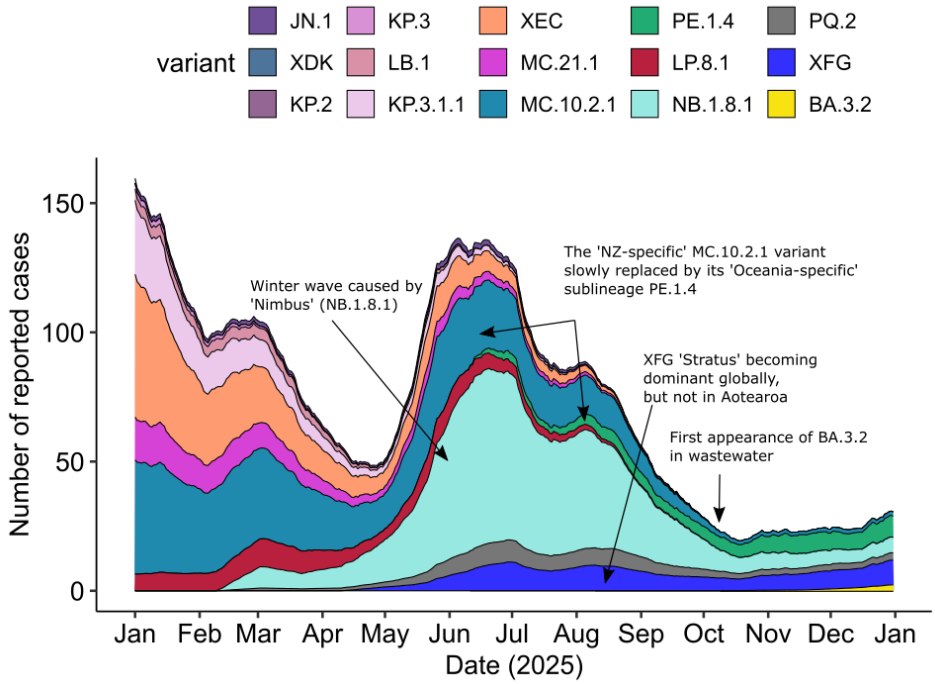
COVID-19 VIROLOGY

PHF Science undertakes SARS-CoV-2 genomic surveillance across New Zealand. A proportion of swabs taken by health professionals for SARS-CoV-2 diagnostic PCR testing are sent to PHF Science for testing.

Figure 13 shows the number of COVID-19 cases reported to Health New Zealand[2] in 2025 and the distribution of genomic variants, by month. The figure shows that there were two peaks during the year with the first at the very beginning of the year. There were multiple established variants circulating but none clearly dominant over any other. This changed during the winter months, when the “Nimbus” variant (NB.1.8.1) gained a foothold and contributed to a noticeable

increase in cases. While the Nimbus' variant rise mirrored a global trend, our local patterns diverged in the latter half of the year. The globally dominant XFG variant was unable to establish itself here, and PE.1.4 became common in Australia and New Zealand but rare elsewhere. These local differences highlight the importance of ongoing genomic surveillance in New Zealand, as international trends alone do not always predict SARS-CoV-2 dynamics in our region.

Figure 13: COVID-19 cases by genomic variant 2025



Source: (Genomics and Bioinformatics, Institute of Environmental Science and Research Ltd., 2025).

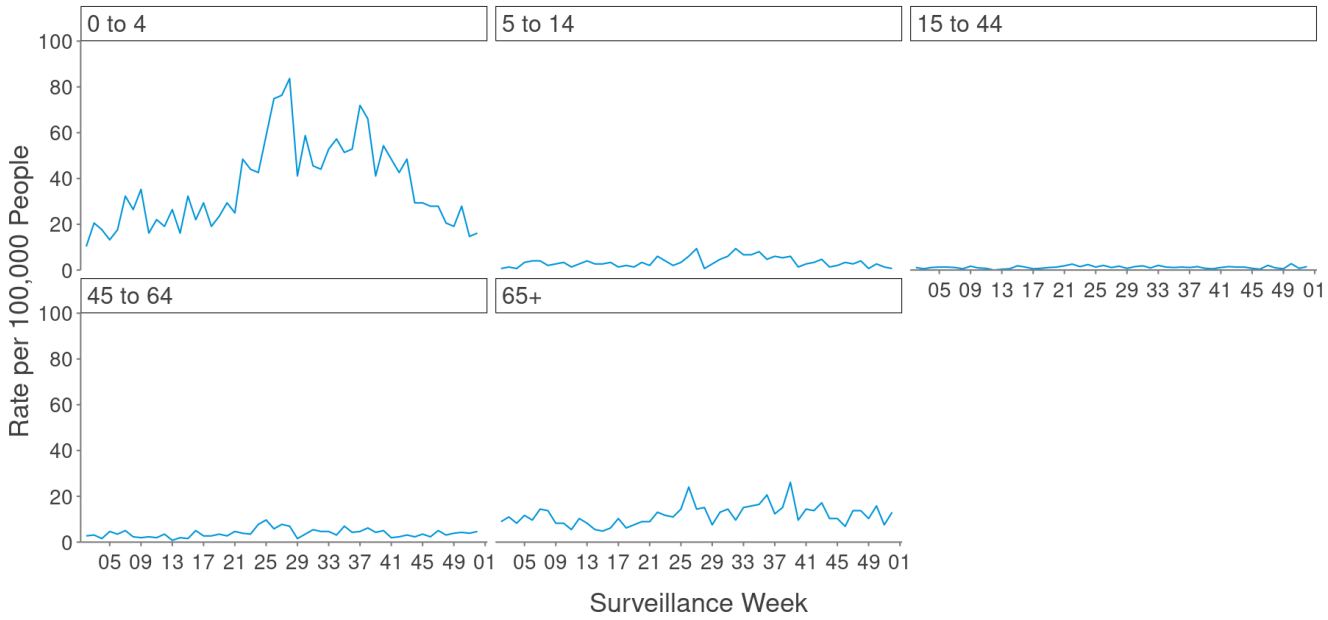
Genomic variants were modelled for cases identified via a positive RAT and all data were subject to smoothing techniques.

SARI CASES BY AGE

Children under 5 years of age experienced high SARI hospitalisation rates throughout 2025, with a peak in the rates observed in July (week 28) and in September (week 37) (Figure 14). These rates were fuelled primarily by influenza A and B in July. Influenza A was dominant during the second peak (Figure 15).

Although the SARI hospitalisation rates for people 65 years or older were markedly lower than the rates observed for young children, the rates were consistently higher than for other age groups throughout the year.

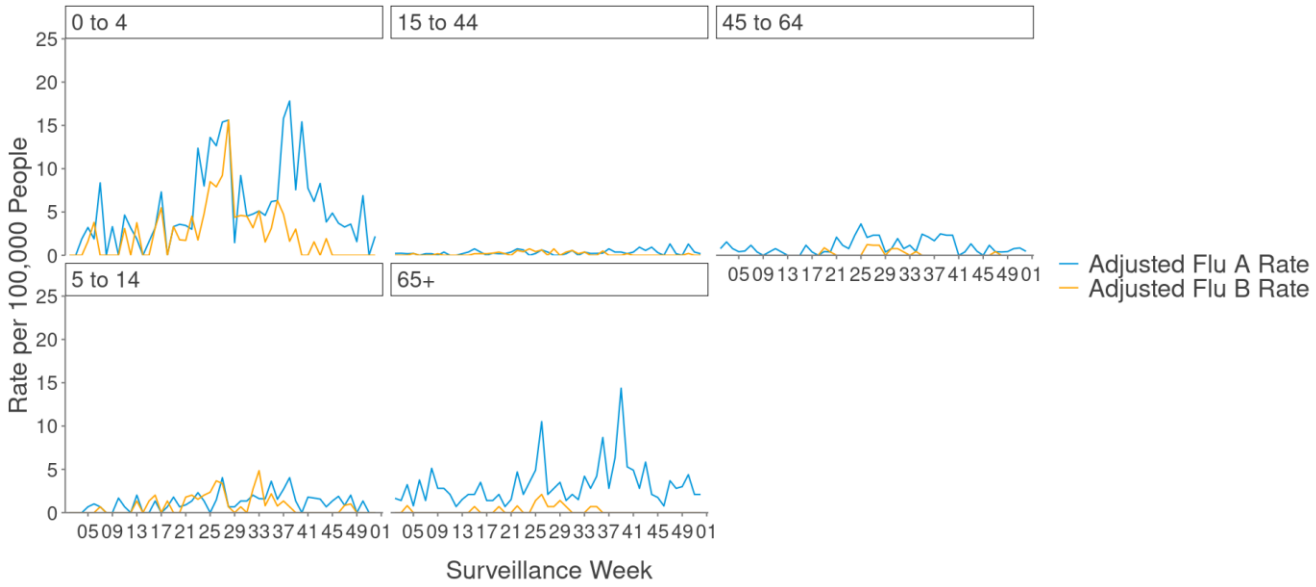
Figure 14: Weekly SARI (any cause) hospitalisation rates, by age group



Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026.

The highest rates of influenza A and B were observed in young children aged 0-4 years. Adults 65 years or older also experienced higher rates of influenza A, particularly later in the year. (Figure 15). Influenza A/H1 was the predominant influenza A strain detected for all age groups in 2025.

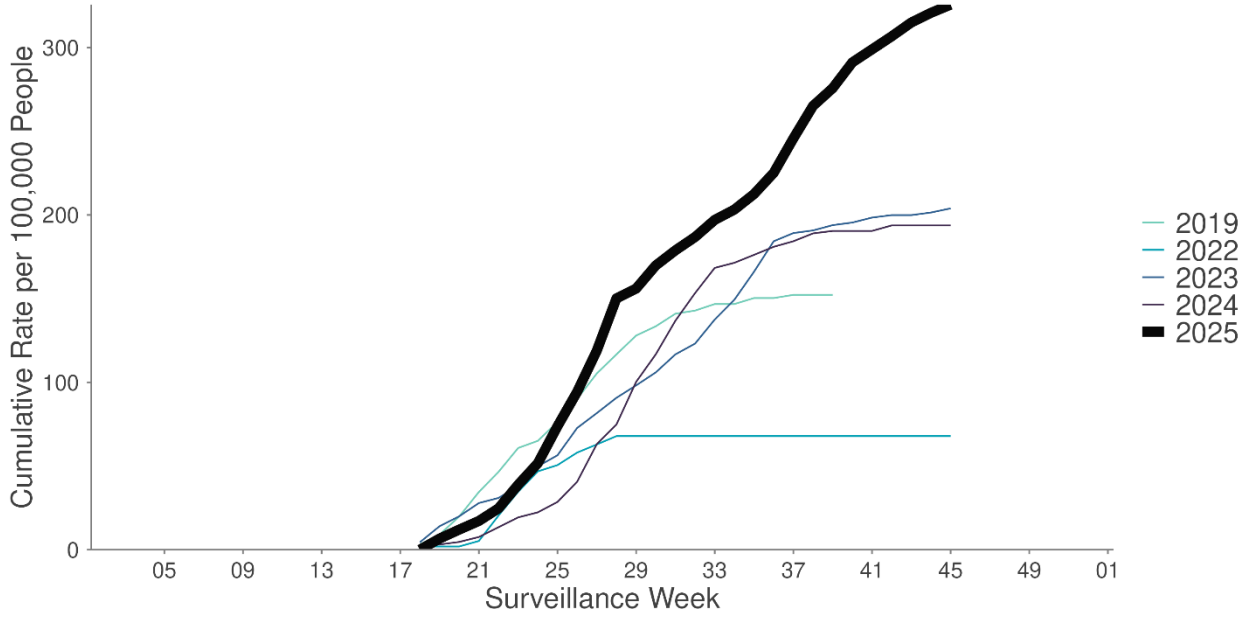
Figure 15: Weekly influenza-positive SARI hospitalisation rates, by age group and influenza type



Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026.
Pathogen-specific rates were adjusted for testing history--patient records without test results were adjusted based on test positivity.

The cumulative incidence rate for influenza-positive SARI hospitalisations among young children 0–4 years was higher in 2025 than any previous year since 2020 (Figure 16), likely partly driven by the high incidence of influenza B in 2025 compared to previous years and the prolonged influenza season with dual influenza A peaks.

Figure 16: Cumulative rate of influenza-positive SARI hospitalisations, children 0–4 years

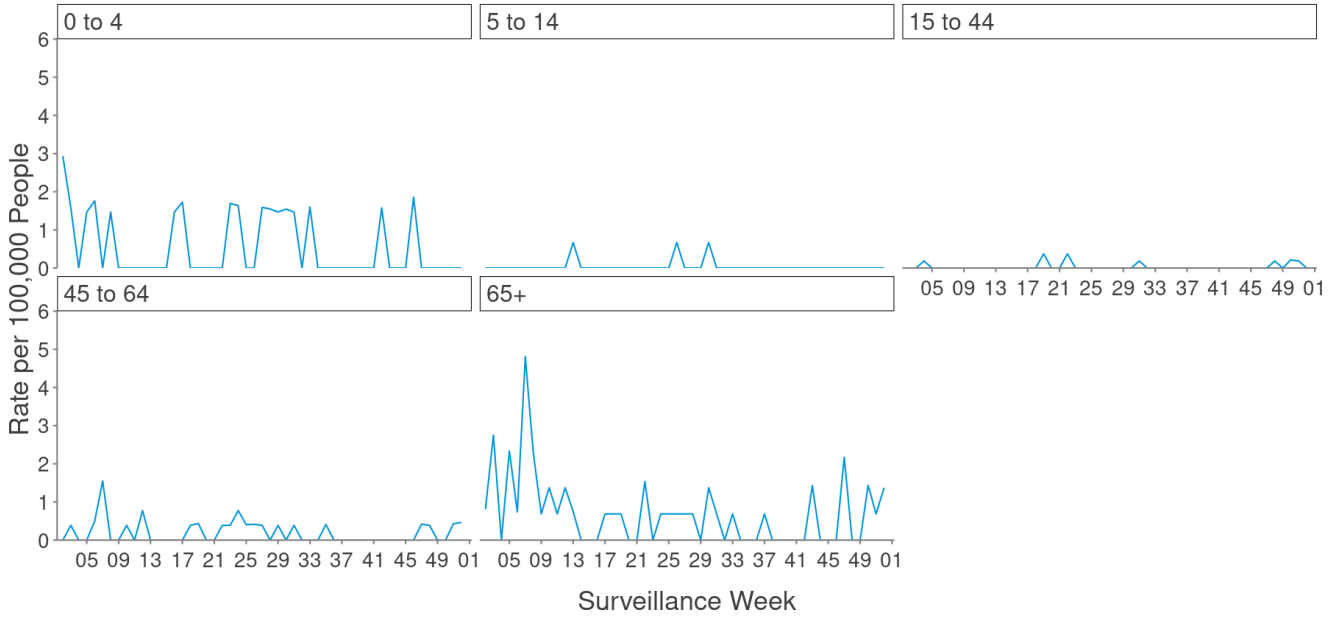


Sources: Auckland City and Middlemore Hospital virology as of 30 January 2026. Redcap SARI Surveillance Lite Project as of 30 January 2026.

There were no influenza-positive SARI hospitalisations in 2020 and 2021 for children 0–4 years. Pathogen-specific rates were adjusted for testing history--patient records without test results were adjusted based on test positivity.

The highest rates of SARS-CoV-2-positive SARI throughout the year were observed among those 65 years or older, followed by those under 5 years (Figure 17). SARS-CoV-2-positive SARI rates for children 5–14 years and adults 15–44 years were very low throughout the year.

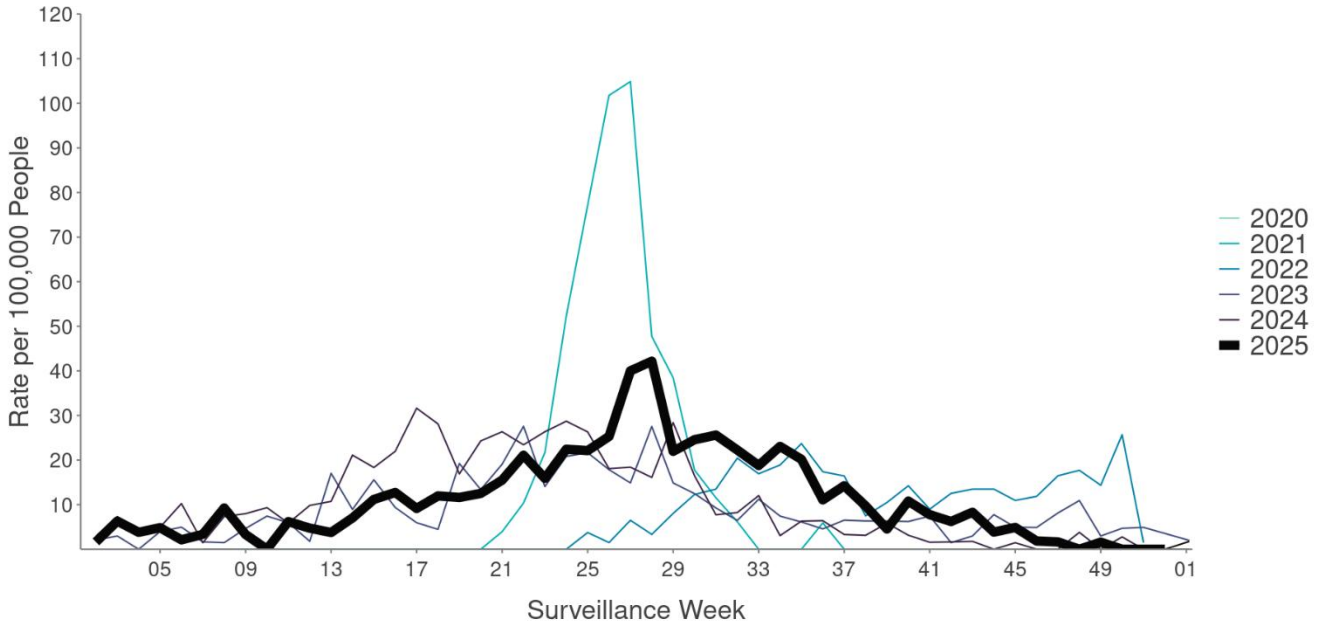
Figure 17: Weekly SARS-CoV-2-positive SARI hospitalisation rates, by age group



Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026. Pathogen-specific rates were adjusted for testing history-patient records without test results were adjusted based on test positivity.

Sustained, moderate rates of RSV were observed for SARI patients aged 0–4 years in 2025 (Figure 18), the peak of activity occurred over the winter months. The peak was modest in comparison to the peak observed during a severe RSV season in 2021.

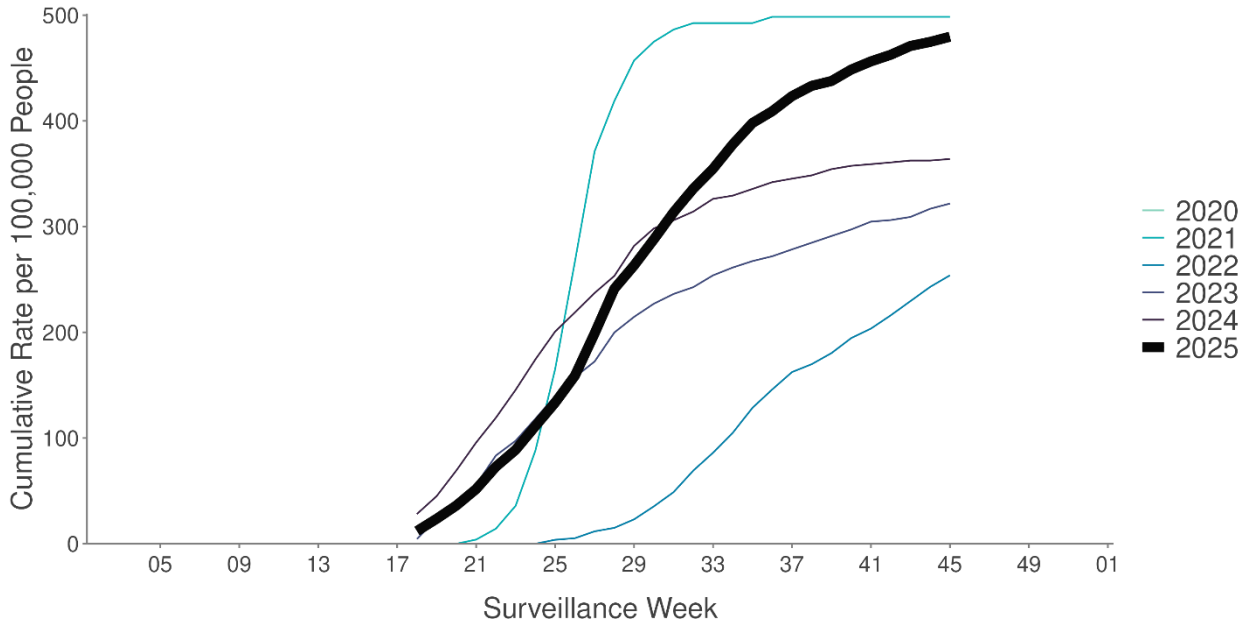
Figure 18: Weekly RSV-positive SARI hospitalisation rates, children 0–4 years



Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026.
There were no RSV-positive SARI hospitalisations in 2020 for children 0–4 years. Pathogen-specific rates were adjusted for testing history-patient records without test results were adjusted based on test positivity.

The sustained RSV activity observed over 2025 results in the cumulative incidence of RSV-positive SARI hospitalisations for young children (0–4 years) in 2025 being the second highest since 2020 (Figure 19).

Figure 19: Cumulative rates of RSV-positive SARI hospitalisations, children 0–4 years

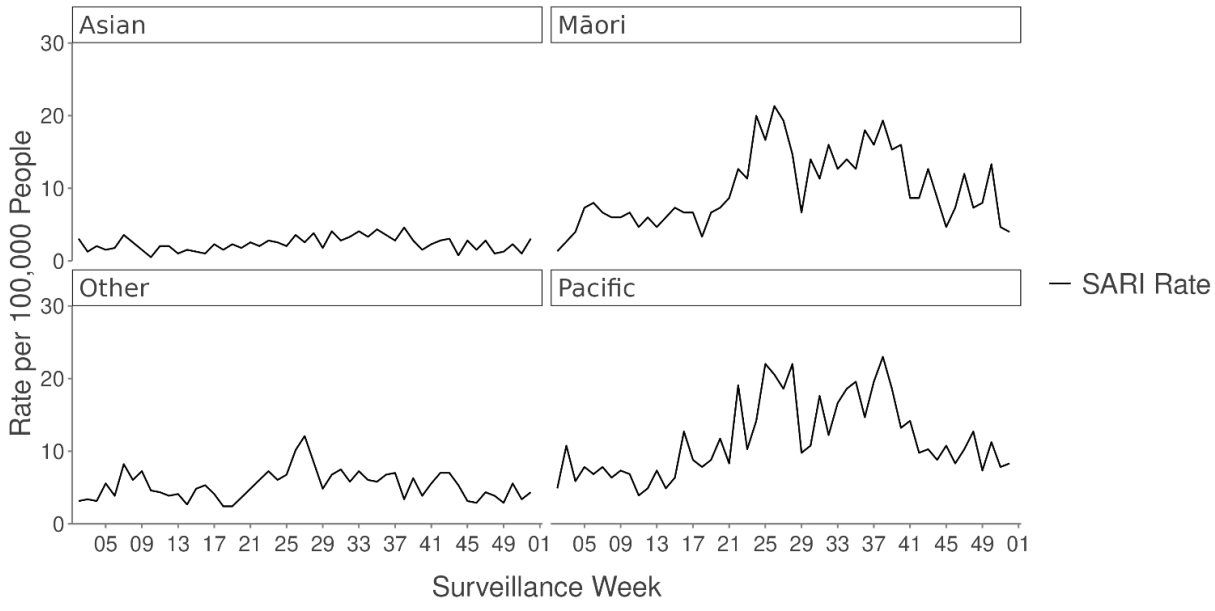


Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026.
There were no RSV-positive SARI hospitalisations in 2020 for children 0–4 years. Pathogen-specific rates were adjusted for testing history-patient records without test results were adjusted based on test positivity.

SARI CASES BY ETHNICITY

In 2025, Auckland-based SARI (any cause) hospitalisation crude rates for Asian peoples were low in comparison to all other ethnic groups, whilst Pacific and Māori peoples had the highest SARI hospitalisation rates (Figure 20).

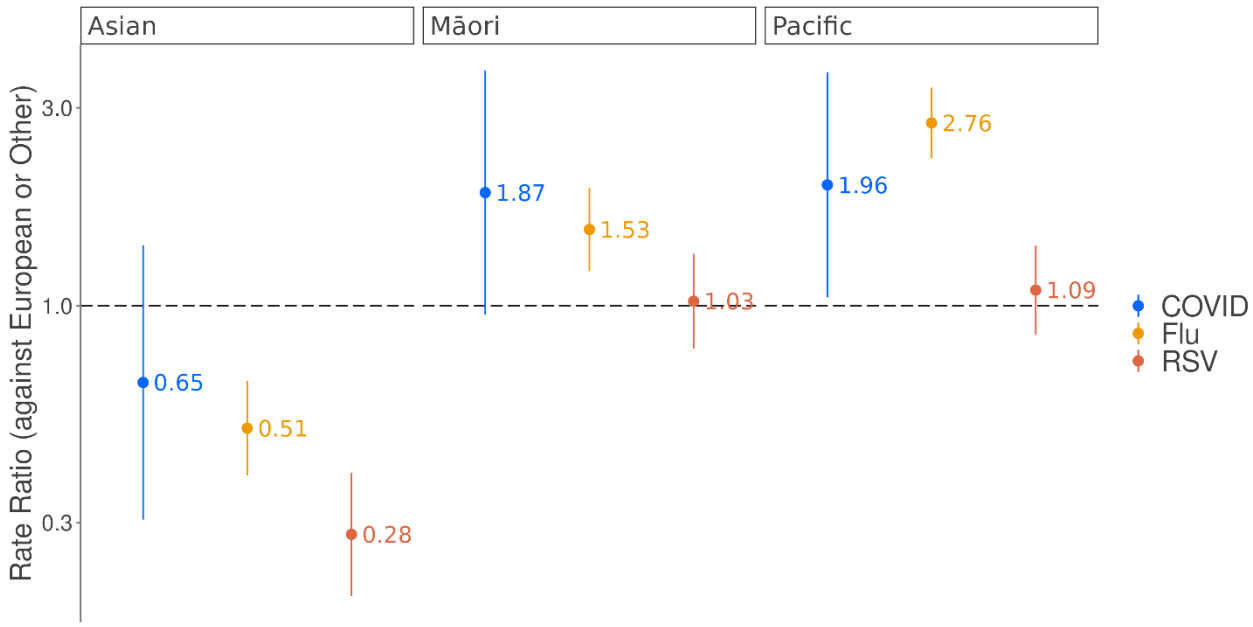
Figure 20: Weekly SARI hospitalisation rates (any cause), by ethnicity



Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026.

When considering age standardised rates, Pacific and Māori peoples had significantly higher risk for influenza and COVID-19 when compared to European/Other in 2025, while Asian peoples had significantly lower risk for influenza and RSV when compared to European/Other (Figure 21).

Figure 21: Cumulative age standardised and testing adjusted rate ratios, by respiratory virus and ethnic group



Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026.
Pathogen-specific rates were adjusted for testing history-patient records without test results were adjusted based on test positivity. These rates were standardised using the 2025 Māori population.

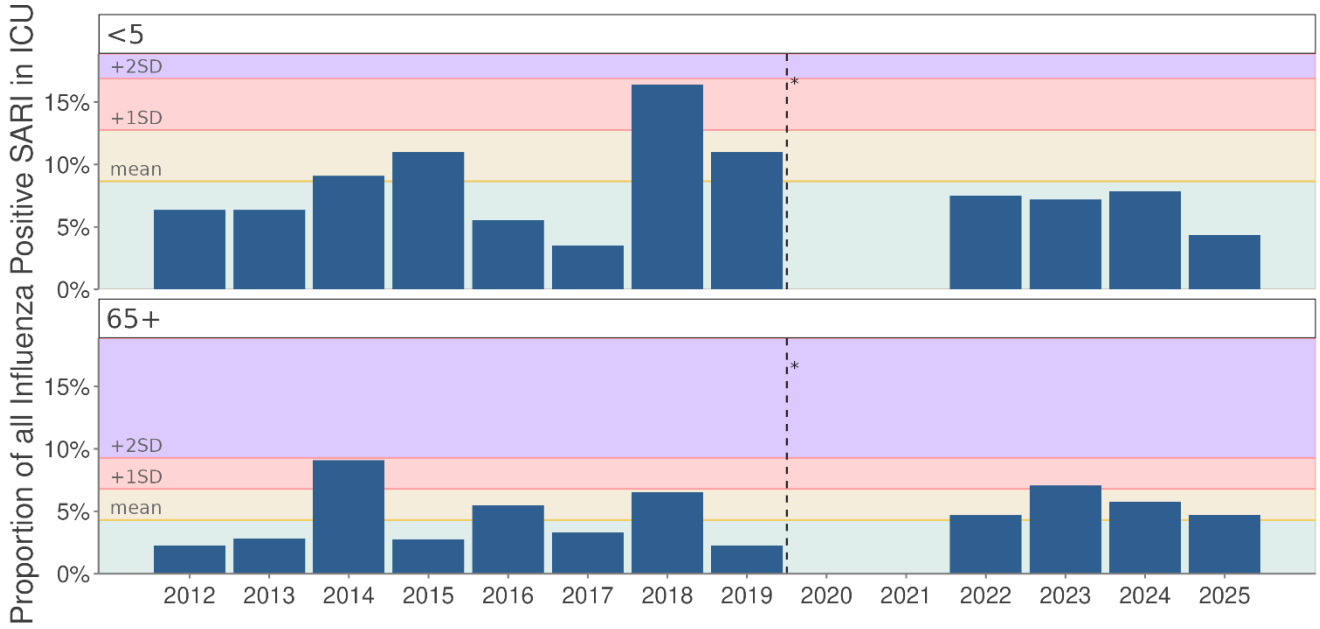
SEVERITY OF ILLNESS AMONG SARI PATIENTS

As part of the Pandemic Influenza Severity Assessment developed by WHO, one of the four core indicators of severity is the seriousness of disease (WHO 2025). In Figure 22, we describe the severity of influenza illness by comparing the proportion of influenza-positive SARI patients in ICU relative to all influenza-positive SARI patients admitted to hospital between 2012 and 2025, expressed as a percentage. The severity of influenza illness in 2025 for both children <5 years and adults 65 years and older was similar to other post-COVID emergence years (2022–2024).

Changes in the indicator over time should be interpreted with caution as factors other than patient severity may impact results, such as access to other health services and changing hospital care practice.

Figure 22 shows the proportion of influenza-associated SARI admissions to ICU among influenza-associated SARI hospitalisations, expressed as a percentage, between 2012 and 2025. The figure indicates that the severity of influenza illness in 2025 for both children <5 years and adults 65 years and older was similar to other years post-COVID-19 emergence (2022-24).

Figure 22: Seriousness of disease indicator in 2025 compared to 2012-2024



Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026.
Note: The thresholds are derived from SARI surveillance data from 2012-2019, only from active surveillance weeks 18-39. From 2021, the seriousness of disease indicator each year is calculated for full calendar year. * Line marks start of year-round surveillance. There was no Influenza positive SARI in 2020 or 2021.

Among all SARI patients hospitalised in 2025 (n=3583), 6.3% (n=224) were admitted to ICU.

Among 48 SARI influenza patients in ICU, 70.8% (n=34) were on high flow oxygen and 43.8% (n=21) were given inotrope/vasopressors during their hospitalisation (Table 2).

Among 23 SARI RSV patients in ICU, 91.3% (n=21) were on high flow oxygen and 39.1% (n=9) were on CPAP/BiPAP.

ECMO and dialysis were uncommonly reported therapies among ICU SARI admissions with any respiratory pathogen.

In 2025, there were 47 in-hospital deaths among SARI patients. Of these, 72.3% (n=34) were among patients 65 years of age or older, and 25.5% (n=12) were among patients 15-64 years of age. The most common pathogen identified among the deaths was influenza (n=11). Of the 47 deaths, 20 occurred in ICU, and 11 of these were associated with influenza.

Table 2: Therapy and Outcomes for SARI patients in ICU, by Pathogen

Pathogen	In hospital death	Therapies						
		Inotrope/ Vasopressor	High Flow O_2	CPAP/ BiPAP	Mechanical Ventilation	ECMO	Dialysis	No Therapy
Influenza (n=48)	11	21 (43.8)	34 (70.8)	6 (12.5)	12 (25.0)	1 (2.1)	2 (4.2)	8 (16.7)
SARS-CoV-2 (n=8)	3	2 (25.0)	5 (62.5)	2 (25.0)	1 (12.5)	0 (0.0)	0 (0.0)	3 (37.5)
RSV (n=23)	1	1 (4.3)	21 (91.3)	9 (39.1)	5 (21.7)	0 (0.0)	1 (4.3)	1 (4.3)
Rhinovirus (n=63)	1	12 (19.0)	42 (66.7)	15 (23.8)	9 (14.3)	1 (1.6)	0 (0.0)	17 (27.0)
hMPV (n=21)	2	7 (33.3)	18 (85.7)	7 (33.3)	7 (33.3)	1 (4.8)	0 (0.0)	1 (4.8)
Adenovirus (n=6)	0	3 (50.0)	5 (83.3)	3 (50.0)	4 (66.7)	2 (33.3)	0 (0.0)	0 (0.0)
PIV (n=8)	2	2 (25.0)	6 (75.0)	4 (50.0)	4 (50.0)	0 (0.0)	0 (0.0)	2 (25.0)

Sources: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026. RSV, respiratory syncytial virus; hMPV, human metapneumovirus; PIV, parainfluenza virus.

INFLUENZA VACCINE COVERAGE AND VACCINE EFFECTIVENESS

INFLUENZA VACCINE COVERAGE

The influenza vaccine is available from the beginning of April each year in New Zealand and is recommended for everyone over the age of 6 months. The vaccine is funded for people at higher risk of becoming seriously ill, and in 2025 the following groups were eligible for free influenza vaccines:

- People aged 65 years or older.
- People aged 6 months or older with underlying health conditions, including heart disease, cancer, diabetes, and serious asthma.
- Pregnant women.
- Children aged 4 years and under who have been hospitalised for respiratory illness or have a history of significant respiratory illness.
- People with mental health conditions, including schizophrenia, major depressive disorder, bipolar disorder, or schizoaffective disorder.
- People who are currently accessing secondary or tertiary mental health and addiction services.

Additionally, some people may receive a voucher from their employer for a free influenza vaccine.

Table 3 provides estimates for free vaccine uptake by eligible people aged 65 and over in 2025. Over 60% of adults 65 years or older received a vaccine in 2025.

Table 3: Influenza vaccination coverage data for people aged 65 and over

Measure	65 years+
People who received a vaccine	572,471
Number of eligible people	946,928
HSU coverage rate	60.5%

Source: Aotearoa Immunisation Register (AIR) as of June 20, 2026.

Coverage statistics are based on the Ministry of Health's Health Service User (HSU) data for the 2024/25 financial year.

Data may exclude some privately funded influenza vaccinations.

VACCINE EFFECTIVENESS ESTIMATES

Studies of vaccine effectiveness (VE) assess how well a vaccine protects a population from disease. Although vaccines are assessed for efficacy during the clinical trial phase of development, trials do not replicate real world populations and real-life situations, which can vary considerably from a study group environment. The VE for the 2025 seasonal quadrivalent influenza vaccine was assessed using a test-negative design.

VE from GP ILI surveillance data was 66.5% (95% CI 56.2–74.6%) for all ages, 70.1% (95% CI 43.0–85.6%) for 0-17 year-olds, and 65.6% (95% CI 50.9-76.4) for 18–64-year-olds, representing good VE for a seasonal vaccine (Table 4). For older age groups, small sample sizes yielded poor statistical precision. Patients were determined to be vaccinated if they had received the seasonal influenza vaccine at least two weeks before consultation date.

Table 4: GP ILI-based seasonal influenza vaccine effectiveness estimates

	Influenza positive		Influenza negative		VE (%)
	Vaccinated-Yes	Vaccinated-No	Vaccinated-Yes	Vaccinated-No	VE % (95% CI)
All ages	78	419	526	946	66.5 (95% CI 56.2–74.6)
0–17 years	12	167	81	336	70.1 (95% CI 43.0–85.6)
18–64 years	44	241	300	564	65.6 (95% CI 50.9–76.4)
65 years+	22	11	145	46	NS

Source: Aotearoa Immunisation Register (AIR) as of July 1, 2026.

With few observations in some strata, VE estimates will provide unreliable and non-significant (NS) estimates.

VE was also assessed using SARI hospital surveillance data. Patients were determined to be vaccinated if they had received the seasonal influenza vaccine at least two weeks before their hospital admission date.

VE was 47.0% (95% CI 34.1–57.6%) across all ages (Table 5), 96.0% (95% CI 85.0–99.5%) for patients 0–17 years, 51.8% (95% CI 25.6-69.4%) for patients 18-64 years, and 33.1% (95% CI 5.2–52.8%) for patients 65 years or older. The results indicate very good VE for younger people.

Table 5: Hospital SARI-related seasonal influenza vaccine effectiveness estimates

	Influenza positive		Influenza negative		VE (%)
	Vaccinated-Yes	Vaccinated-No	Vaccinated-Yes	Vaccinated-No	VE % (95% CI)
All ages	130	635	520	1346	47.0 (95% CI 34.1–57.6)
0–17 years	2	349	118	827	96.0 (95% CI 85.0–99.5)
18–64 years	34	185	121	317	51.8 (95% CI 25.6–69.4)
65 years+	94	101	281	202	33.1 (95% CI 5.2–52.8)

Source: Auckland City and Middlemore Hospital virology as of 20 June 2026. Redcap SARI Surveillance Lite Project as of 20 June 2026.

INFLUENZA VIRUS CHARACTERISATION

Laboratory-based surveillance for influenza is conducted all-year-around by the New Zealand virus laboratory network, consisting of the WHO National Influenza Centre (NIC) at PHF Science and six hospital laboratories at Auckland, Waikato, Wellington, Christchurch, and Dunedin, serving 70% of the population. This laboratory network tests specimens ordered by clinicians for hospital in-patients and outpatients during routine clinical care. In addition, the network conducts testing for public health surveillance including hospital-based SARI and sentinel GP-based surveillance (Institute of Environmental Science and Research Ltd., 2024a).

The WHO NIC at PHF Science receives samples from local hospital laboratories for further typing from active surveillance (sentinel ILI and SARI) as well as passive surveillance (i.e. a subset of samples taken as part of clinical care are referred by diagnostic hospital laboratories).

The information included in this section is based on the antigenic typing of influenza virus isolates and vaccine matching undertaken to provide recommendations to the Australian Influenza Vaccine Committee (AIVC) for the southern hemisphere seasonal influenza vaccine. The recommendations are provided in September each year.

INFLUENZA VIRUS IDENTIFICATIONS BY SUBTYPE AND LINEAGE

Between 1 Jan and 24 August 2025, a total of 5887 influenza viruses were detected and reported through any surveillance system, with influenza A representing 63.6% (3743/5887) and influenza B 36.4% (2144/5887) of all influenza viruses. Among 2011 subtyped and lineage-typed viruses, 61.1% (1230/2011) were A(H1N1)pdm09 viruses, 16.0% (321/2011) were A(H3N2) viruses, and 22.9% (460/2011) were B/Victoria lineage viruses (note: several viruses not referred to PHF Science for testing; the national virology weekly report is compiled from received hospital labs' weekly virology reports).

VIRUS-VACCINE MATCHING

A(H1N1)pdm09 viruses circulated globally and predominated in most regions since February 2025. While viruses expressing HA genes from 5a.2a and 5a.2a.1 clades previously co-circulated, 5a.2a.1 viruses from subclade D.3.1 (e.g., A/Missouri/11/2025) have largely displaced 5a.2a and other subclades of 5a.2a.1 viruses over the reporting period and now predominate in all regions. Post-infection ferret antisera raised against the SH 2025 and NH 2025-26 A(H1N1)pdm09 vaccine viruses (cell culture-propagated A/Wisconsin/67/2022 and egg propagated A/Victoria/4897/2022) from the 5a.2a.1 clade recognized most 5a.2a and 5a.2a.1 viruses well. However post-infection ferret antisera raised against viruses from HA subclade D.3.1 (e.g., A/Missouri/11/2025) better recognized recently circulating viruses from both 5a.2a and 5a.2a.1 clades compared to post-infection ferret antisera raised against recent viruses from HA subclades C.1.9 and C.1.9.3. Additionally, when compared to the responses to cell culture-propagated A/Wisconsin/67/2022 (H1N1)pdm09-like vaccine reference viruses, human post-vaccination GMTs were significantly reduced for some recently circulating viruses from across the genetic diversity.

Phylogenetic analysis of the HA gene sequences of A(H3N2) viruses collected since February 2025 showed that the vast majority of viruses belonged to clade 2a.3a.1. HA genes diversified within clade 2a.3a.1 into subclades J.1-J.4, and viruses expressing HA N122D and K276E substitutions (J.2) predominated globally during this reporting period. Ongoing evolution in the HA gene of J.2 viruses observed globally necessitated the creation of J.2 subclades (J.2.1-J.2.5) to track the emerging viruses. Viruses expressing HA from subclade J.2.1 (sharing substitutions F79L and P239S) were detected in very low numbers. Viruses expressing HA

subclade J.2.2 (sharing an S124N substitution) circulated globally and were detected in higher proportions in parts of Africa and Asia. Small numbers of viruses expressing HA subclade J.2.3 (sharing substitutions N158K, K189R and S378N) circulated globally with higher proportions detected in South America. Viruses expressing HA subclade J.2.4 (sharing T135K (potential loss of an N glycosylation site) and K189R substitutions) continue to circulate, and a new group of J.2.4 viruses (subclade K) has emerged recently and expanded rapidly in nearly all regions. Globally, small numbers of viruses expressing HA subclade J.2.5 (sharing substitutions D104N, S145N and N158K) circulated, with higher proportions observed in North America.

Influenza B viruses circulated at lower levels than influenza A viruses globally, predominating in only a few regions since February 2025. All circulating influenza B viruses characterized belonged to B/Victoria lineage. All recent viruses expressed HA genes belonging to clade 3a.2. The majority of circulating viruses were recognized well by post-infection ferret antisera raised against SH 2025 and NH 2025-2026 B/Victoria lineage vaccine viruses (cell culture- and egg-propagated B/Austria/1359417/2021) except for a small number of viruses expressing HA from subclades C.3.1 and C.3.2 which were recognized poorly. Human serology assays showed that post-vaccination GMTs against nearly all representative B/Victoria lineage viruses expressing 3a.2 HA genes were not significantly reduced compared to titres against cell culture-propagated B/Austria/1359417/2021-like vaccine reference viruses, apart from viruses from subclade C.3.1 which showed significantly reduced titres in most assays.

ANTIVIRAL RESISTANCE DATA

The WHO National Influenza Centre at PHF Science employed a phenotypic method (fluorometric neuraminidase inhibition assay) for the surveillance of anti-viral drug resistance in influenza viruses. In addition, NIC at PHF Science employed a molecular method (PCR and sequencing) to monitor the H275Y mutation (histidine-to-tyrosine mutation at the codon of 275 in N1 numbering) which is known to confer resistance to oseltamivir.

In 2025, fluorometric neuraminidase inhibition assay was used to test 172 influenza viruses against oseltamivir and zanamivir. The preliminary results showed that all were sensitive to both oseltamivir and zanamivir.

INFLUENZA VACCINE COMPOSITION FOR 2026 SEASON

The Australian Influenza Vaccine Committee (AIVC) met with a New Zealand representative in Canberra on 8 October 2025 to consult on the influenza vaccine composition for 2026 for New Zealand, Australia and South Africa. The following vaccine composition was recommended for 2026:

Egg-based influenza vaccines:

- an A/Missouri/11/2025 (H1N1)pdm09-like virus;
- an A/Singapore/GP20238/2024 (H3N2)-like virus; and
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus.

Cell-based or recombinant-based or nucleic acid-based influenza vaccines:

- an A/Missouri/11/2025 (H1N1)pdm09-like virus;
- an A/Sydney/1359/2024 (H3N2)-like virus; and
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus.

The continued absence of confirmed detection of naturally occurring B/Yamagata lineage viruses after March 2020 is indicative of a very low risk of infection by B/Yamagata lineage viruses. Consistent with previous recommendations, it remains the opinion of the WHO influenza vaccine composition advisory committee that inclusion of a B/Yamagata lineage antigen is no longer warranted. There will no longer be updated recommendations for the B/Yamagata lineage component. The AIVC noted this position and supports the WHO committee's views.

Quadrivalent vaccines, where the transition to trivalent vaccines is not yet complete, contain a 4th component-a B/Yamagata lineage virus.

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