

## 2021 ANNUAL INFLUENZA SUMMARY

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This report provides an overview of the influenza season in New Zealand in 2021.

Influenza surveillance in New Zealand in 2021 was impacted by the COVID-19 pandemic and results and comparisons with previous seasons should be interpreted with caution. Interpretation must take into consideration changes to the surveillance system as well as the impact of social distancing, border closures and other non-pharmaceutical interventions.

In 2021, influenza-like illness rates in the community increased as a significant respiratory syncytial virus (RSV) outbreak began in July, rates had decreased shortly before increasing rapidly again as the COVID-19 Delta outbreak began in August.

Influenza virus circulation in the community in New Zealand was non-existent during the 2021 winter season. Throughout the surveillance period hospital-based severe acute respiratory illness (SARI) incidence rates also remained very low compared to historical rates seen prior to the COVID-19 pandemic.

Further information and figures are available [here](#).

Information on the influenza surveillance systems in New Zealand is available [here](#).

### NATIONAL INFLUENZA SURVEILLANCE OBJECTIVES AND SYSTEMS

Influenza surveillance systems are in place to monitor influenza and other respiratory virus activity, detect influenza epidemics/pandemics, inform vaccination policy and vaccine strain selection and guide public health control measures in [New Zealand](#) and [globally](#).

New Zealand conducts surveillance in community and hospital settings to capture disease presentations at different levels of severity. Due to differences in healthcare access, the combination of these systems allows for a better representation of the burden of influenza in New Zealand. For example, the very young (under five years old), older adults (65 years or older), and those of Māori or Pacific ethnicities are more likely to be admitted to hospital than other age and ethnic groups.

For further details on the design of each system, please click [here](#). Data collected from each system is collated, analysed, interpreted and presented weekly throughout the winter surveillance period (roughly May to October) by ESR on behalf of the Ministry of Health.

### INFLUENZA-LIKE ILLNESS (ILI) IN THE COMMUNITY

During the 2021 respiratory virus season, rates of Influenza-like illness (ILI) activity were heavily impacted by the New Zealand response to the COVID-19 pandemic. Interpretation of 2021 influenza activity data and any comparisons with previous years must take into account the impact of social distancing, border closures and other non-pharmaceutical measures as

well as changes impacting health seeking behaviour (for example, advice to call HealthLine for COVID-19 assessment and the ongoing use of community based COVID-19 testing centres).

In 2021, both ILI related calls to HealthLine and ILI consultation rates reported by HealthStat reflected the COVID-19 situation in New Zealand:

- Rates increased slightly in February with a decline in the following three weeks, following the identification of COVID-19 cases in the Auckland region and subsequent changes in alert levels.
- Rates increased sharply in July, coinciding with an outbreak of RSV.
- Rates increased again in mid-August with a decline in the following month, following the identification of COVID-19 cases in the Auckland region and subsequent changes in alert levels.

ILI symptoms, specifically fever and cough, recorded by New Zealand volunteers using the Flutracking system, remained very low overall throughout 2021, with only 2 weeks in July when slightly more than 1% of participants reported ILI symptoms. The proportion of participants reporting ILI symptoms in 2021 mirrored the low 2020 ILI proportions as captured by Flutracking and were substantially lower than the proportions captured in 2019, which peaked nearly at 4%.

## HOSPITAL ADMISSIONS FOR SEVERE ACUTE RESPIRATORY INFECTIONS (SARI)

In 2021, severe Acute Respiratory Infection (SARI) surveillance expanded early (from 26 April) from the sentinel ICU SARI surveillance which runs year-round.

During the 2021 respiratory virus season the SARI hospitalisation rates remained well below historical averages and below the seasonal threshold levels throughout the season, with the exception of a peak in weekly hospitalisation rates for SARI in early July coinciding with an outbreak of RSV. There were no SARI hospitalisations due to influenza.

Of the 1118 hospitalised SARI cases in 2021, 833 (74.5%) were tested for influenza, of which none (0.0%) were positive.

(Note: SARI data is reported from Auckland and Counties Manukau DHBs only)

## CIRCULATING RESPIRATORY VIRUSES IN 2021

In 2021, as in 2020, overall there was a reduction in respiratory illnesses in the community. Collection of virological specimens for surveillance in the community has been impacted by the COVID-19 pandemic, though additional virological sampling was possible in 2021 compared to 2020 as a result of a pilot system involving co-testing of samples collected for COVID-19 testing from voluntary general practices. In 2021, of the 1374 specimens collected from patients presenting to general practices with ILI symptoms, zero (0%) were influenza positive, 278 (20.2%) were RSV positive; 193 (14.0%) were rhinovirus positive; and 83 (6.0%) were parainfluenza 3 positive. For comparison, during the 2020 surveillance period, 166 specimens were tested of which zero (0.0%) were influenza positive, zero (0.0%) were RSV positive, zero (0.0%) were parainfluenza positive, and 61 (37%) were rhinovirus positive. In the 2019 surveillance period, 2063 specimens were tested of which 1156 (56.0%) were influenza positive.

Monitoring non-influenza respiratory viruses not only provides a more accurate understanding of when influenza or COVID-19 are not responsible for GP ILI visits or SARI hospitalisations trends, but also helps to identify clusters of these viruses and could help inform decisions on the potential use of new vaccines and treatments in New Zealand as these become available.

## SEVERITY OF INFLUENZA ILLNESS AND POPULATIONS AT INCREASED RISK

Severity represents the extent to which individuals get sick when infected with the influenza virus (as measured by the ratio of influenza associated intensive care unit admissions compared with influenza associated hospitalisations). In the 2021 season, given the absence of influenza associated hospitalisations, it was not possible to assess the severity of the 2021 influenza season.

## INFLUENZA IN POPULATIONS AT ELEVATED RISK

Groups at increased risk for influenza infection or poor outcomes resulting from influenza infection are a particular focus of influenza surveillance and public health interventions. In New Zealand, pregnant women, adults with specific underlying medical conditions, and children under five years old who have been hospitalised for respiratory illness or have a history of significant respiratory illness are all [eligible for free seasonal influenza vaccine](#).

The absence of detected influenza associated hospital admissions in 2021 means it is not possible to assess the impact on populations at elevated risk this season.

## VACCINE COVERAGE, VACCINE EFFECTIVENESS AND ANTIVIRAL RESISTANCE

Influenza viruses are continually changing, making the selection and development of an effective vaccine a challenge each year. For the 2021 influenza season a quadrivalent vaccine was funded for those eligible for free seasonal influenza vaccine.

The 2021 publicly funded vaccine contained the following four components:

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus
- an A/Hong Kong/2671/2019 (H3N2)-like virus
- a B/Washington/02/2019 (B/Victoria lineage)-like virus and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

To 24 September 2021, 1,432 million doses of influenza vaccine have been distributed in New Zealand.

Annual influenza vaccination remains the most effective way to prevent influenza illness and even in seasons with only moderate vaccine effectiveness, influenza vaccine can still attenuate disease symptoms and therefore reduce the likelihood of severe outcomes, including influenza associated hospitalisation and death. Influenza vaccination not only helps protect those who are vaccinated but can also help protect their close contacts from getting ill with influenza (<http://www.cdc.gov/flu/about/qa/vaccineeffect.htm>).

Given the absence of influenza in 2021, it is difficult to assess vaccine match and effectiveness.

## VACCINE COMPOSITION FOR NEXT SEASON (2021)

The [World Health Organization](#) has recommended the following composition for influenza virus vaccines for the 2022 southern hemisphere influenza season:

### Egg-based vaccines

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus;
- an A/Darwin/9/2021 (H3N2)-like virus;
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

### Cell- or recombinant-based vaccines

- an A/Wisconsin/588/2019 (H1N1)pdm09-like virus;
- an A/Darwin/6/2021 (H3N2)-like virus;
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.