Science for Communities

2020 ANNUAL INFLUENZA SUMMARY

This report provides an overview of the influenza season in New Zealand in 2020.

Influenza surveillance in New Zealand in 2020 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 and other non-pharmaceutical interventions.

In 2020, indicators of influenza like illness in the community reflected the COVID-19 situation in New Zealand; ILI rates increased as COVID-19 notifications increased in March followed by a sharp decline in April. ILI rates increased again in early June following the easing of social distancing restrictions, and again in early August following the detection of COVID-19 cases in the Auckland region.

Influenza virus circulation in New Zealand was almost non-existent during the 2020 winter season. Throughout the surveillance period hospital based severe acute respiratory illness (SARI) incidence rates also remained very low compared to historical rates

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 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 in 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 2020 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 2020 influenza activity data and any comparisons with previous years must take into account

the impact of social distancing 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 establishment of community based assessment centres and COVID-19 testing centres).

In 2020, both ILI related calls to HealthLine and ILI consultation rates reported by HealthStat reflected the COVID-19 situation in New Zealand:

- Rates increased dramatically in March as national COVID-19 case notifications increased followed by a sharp decline in April.
- Rates increased again in early June, following the easing of social distancing restrictions and the start of the winter season, this was followed by a decline starting in late June and continuing through July.
- Rates increased again in early August 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.

HOSPITAL ADMISSIONS FOR SEVERE ACUTE RESPIRATORY INFECTIONS (SARI)

Severe Acute Respiratory Infection (SARI) surveillance began slightly earlier in 2020 (from 16 March), expanding early from the sentinel ICU SARI surveillance which runs year-round.

During the 2020 respiratory virus season both the SARI hospitalisation rates and influenza-positive SARI hospitalisation rates remained well below historical averages and below the seasonal threshold levels throughout the season.

Of the 568 hospitalised SARI cases in 2020, 468 (82.4%) were tested for influenza, of which three (0.6%) were positive. The most recent influenza positive case was detected in early April.

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

CIRCULATING RESPIRATORY VIRUSES IN 2020

In the community, collection of virological specimens for surveillance was reduced as a result of the COVID-19 pandemic. Of the 230 specimens collected from patients presenting to general practices with ILI symptoms, zero (0%) were influenza positive, 20 were enterovirus positive; 76 were rhinovirus positive (one swab had both enterovirus and rhinovirus detected); one was human metapneumovirus positive; and one was adenovirus positive. For comparison, during the 2019 surveillance period, 1617 specimens were tested of which 919 (56.8%) were influenza positive.

Rhinovirus was the most frequently detected non-influenza respiratory virus circulating in 2020. Monitoring non-influenza respiratory viruses not only provides a more accurate understanding of when influenza is 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 2020 season, given the very low number of influenza associated hospitalisations, it was not possible to assess the severity of the 2020 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 low number of influenza associated hospital admissions in 2020 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 2020 influenza season a quadrivalent vaccine was funded for those eligible for free seasonal influenza vaccine.

The 2020 publically funded vaccine contained the following four components:

- A(H1N1): an A/Brisbane/02/2018 (H1N1)pdm09-like virus
- A(H3N2): an A/South Australia/34/2019 (H3N2)-like virus
- B: a B/Washington/02/2019-like virus (belonging to B/Victoria lineage)
- B: a B/Phuket/3073/2013-like virus (belonging to B/Yamagata lineage)

To date in 2020, 1,775 million doses of influenza vaccine have been distributed in New Zealand. This was higher than the number of doses distributed in previous years.

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 low case numbers of influenza in 2020, it is difficult to assess vaccine match and effectiveness.

No resistance to oseltamivir or zanamivir was detected in influenza viruses tested in 2020.

VACCINE COMPOSITION FOR NEXT SEASON (2021)

The World Health Organization has recommended the following composition for influenza virus vaccines for the 2021 southern hemisphere influenza season:

Egg-based quadrivalent influenza vaccines:

- 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.

Cell-based quadrivalent influenza vaccines:

- an A/Wisconsin/588/2019 (H1N1)pdm09-like virus
- an A/Hong Kong/45/2019 (H3N2)-like virus
- a B/Washington/02/2019 (B/Victoria lineage)-like virus and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.