

Influenza disease

Influenza is caused by different strains of influenza viruses. Symptoms may vary with age, immune status and health of the individual, and include fever, sore throat, muscle aches, headache, cough and severe fatigue. The fever and body aches can last 3–5 days and the cough and fatigue may last for two or more weeks.

During seasonal increases, most influenza diagnoses are based on symptoms. The definitive diagnosis of influenza can only be made in the laboratory, usually from PCR testing of secretions from a nasopharyngeal swab. Samples should be collected within the first four days of illness.

A recent meta-analysis of influenza disease found that approximately 20% of children and 10% of adults who did not receive an influenza vaccination were infected annually, around half of those infected were asymptomatic.

Transmission

The influenza virus is transmitted among people by direct contact, touching contaminated objects or by the inhalation of aerosols containing the virus. Influenza virus can be aerosolised without sneezing or coughing. Sneezing is more likely to contribute to contaminated surfaces and objects. Symptomatic and asymptomatic influenza cases can transmit the virus and infect others at home, in the community, at work and in healthcare institutions. Healthy adults with influenza are infectious for up to five days, and children for up to two weeks. Not everyone with influenza has symptoms or feels unwell. However, asymptomatic individuals can still transmit the virus to others.

Influenza data 2015–2020

The Southern Hemisphere Influenza and Vaccine Effectiveness, Research and Surveillance (SHIVERS) Serosurvey, in 2015, provided information about the immunity that people in the community have against influenza. Data identified around one in four people were infected with influenza during the 2015 influenza season and that four out of five children and adults (80%) with influenza did not have symptoms.

When the results were applied to the New Zealand population in 2015, around 1.1 million people (26%) would have been infected with influenza. Around 880,000 (80%) of these people were asymptomatic carriers who could have spread the virus among their family, co-workers, classmates and patients without ever realising it.

In an earlier study following the 2009 New Zealand influenza season, almost one quarter of adults who reported that they had not had influenza in 2009 had serological evidence of prior infection (21% [95% confidence interval 13–30%]). Conversely, almost one quarter of adults who reported having had influenza during 2009 had no serological evidence of prior infection (23% [95% confidence interval 12–35%]).

During 2019, hospital-based surveillance for severe acute respiratory infections in Auckland identified that infants aged under one year had the highest severe acute influenza respiratory infection hospitalisation rate of all age groups. There were 326 cases per 100,000 people in infants aged under one year compared with 216 cases/100,000 for adults aged 80 years or older, 98 cases/100,000 for children aged 1–4 years, and 77 cases/100,000 for adults aged 65–79 years. Māori and Pacific peoples had higher hospitalisation rates for severe acute influenza respiratory infection than Asian, European and other ethnicities at 46 cases and 88 cases per 100,000 people respectively.

Influenza data 2020–2021

During 2020 and 2021, patterns of influenza-like illness, severe acute respiratory infections, and confirmed influenza illnesses substantially differed to previous years in New Zealand due to international border restrictions.

Surveillance systems in Australia, New Zealand and other Southern Hemisphere populations showed curtailed spread of seasonal respiratory viruses, with New Zealand reporting no annual laboratory-confirmed influenza outbreaks or epidemic during the 2020 and 2021 winter seasons. Similar patterns of reduced disease incidence were observed in the United Kingdom, U.S., and Europe, with minimal respiratory illnesses reported during the 2020–2021 Northern Hemisphere winter season.

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Influenza data 2022

Virological surveillance commenced in May 2022 and was extended through the summer of 2023. Influenza detections in patients presenting with influenza-like illness (ILI) increased rapidly from mid-May, peaking at the beginning of June, with sporadic influenza cases detected from the end of July.

Severe acute respiratory infection (SARI) hospitalisation rates had an initial increase in late February due to COVID-19, and subsequently decreased before rising rapidly in mid-May, peaking before June. These cases were mostly driven by influenza. Influenza-positive SARI hospitalisations reached the highest levels observed since surveillance began in 2012, peaking in June, and decreasing by mid-July.

In Auckland, 2022 influenza-associated SARI hospitalisations peaked in June at a rate roughly two times higher than observed in 2018 and 2019.

Influenza data 2023

Although data from ESR show that the levels of influenza activity were lower in 2023, some groups continue to carry a greater burden from influenza compared to others. For example, of those hospitalised for Severe Acute Respiratory Illness (SARI) in Auckland in 2023, influenza-associated hospitalisation rates were higher in young children (0–4 years) and the elderly (≥ 65 years) compared to other age groups, and also higher in Pacific Peoples and Māori ethnic groups compared to other ethnic groups.

For up-to-date influenza surveillance data, visit: <https://www.esr.cri.nz/our-research/nga-kete/infectious-disease-intelligence/influenza-and-respiratory-surveillance/>

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