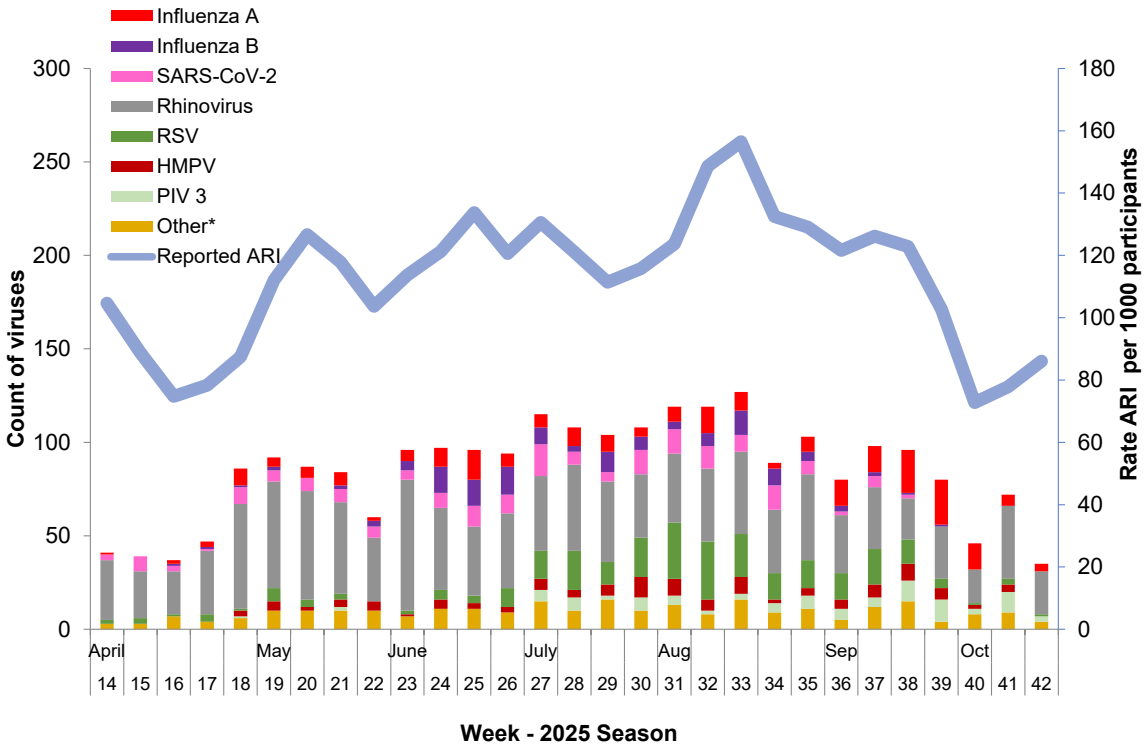
WellKiwis weekly report on influenza-like illness and associated viruses

Week 42 ending 19 October 2025

The surveillance for community cohort-based influenza-like illness (ILI) provides evidence to inform public health and clinical practice and to reduce the impact of influenza virus infection and other important respiratory pathogens such as SARS-CoV-2 (causing COVID-19 infection). As part of the WellKiwis influenza study, this weekly report summarises data obtained from the WellKiwis cohorts in Wellington. The report includes incidence and viruses for community cohort ILI cases for the past week as well as the cumulative period since 31 March 2025.

Figure 1 shows the weekly rate of influenza like illness (ILI) and associated viruses detected among the WellKiwis cohort participants during the study period.



Note: other viruses include enterovirus, adenovirus and parainfluenza virus types 1 and 2. The left axis indicates number of respiratory viruses detected among participants each week. The different coloured bars on the graph represent the count of the different respiratory viruses detected. The right axis shows weekly ILI rates - the blue line is the weekly rate of ILI reported by participants (per 1000). (Note: The case definition[1] in 2020–2025 has been widened compared to previous years, 2018–2019. This is to increase the sensitivity to detecting influenza as well as SARS-CoV-2 that causes COVID-19 infection). X-axis is based on the date of symptom onset.

The case definition in 2020–25: acute respiratory illness with fever or feverishness and/or one of following symptoms (cough, running nose, wheezing, sore throat, shortness of breath, loss of sense of smell/taste) with onset in the past 10 days). And a clinician's judgement that the illness is due to an infection. The case definition in 2018 and 2019: acute respiratory illness with cough and fever/measured fever of ≥38°C and onset within the past 10 days).

The WellKiwis cohort is an excellent platform to understand incidence, risk factors and household transmission caused by influenza in our community.

Tables 1 and 2 below indicate all swabs tested for influenza and other non-influenza respiratory viruses from week 14 (starting 31 March) to this week.

Table 1. Non-influenza respiratory viruses among ILI cases, since 31 March 2025

Non-influenza respiratory viruses	WellKiwis Households	Wellkiwis Adults	WellKiwis Infants	Total
No. of specimens tested	**2276**	**387**	**1425**	**4088**
No. of positive specimens (%)[1]	982 (43.1)	176 (45.5)	788 (55.3)	1946 (47.6)
Respiratory syncytial virus (RSV)	110	14	160	284
Parainfluenza 1 (PIV1)	6	0	19	25
Parainfluenza 2 (PIV2)	17	0	19	36
Parainfluenza 3 (PIV3)	49	7	44	100
Rhinovirus (RV)	587	100	462	1149
Adenovirus (AdV)	61	1	68	130
Human metapneumovirus (HMPV)	56	10	56	122
Enterovirus	52	5	25	82
SARS-CoV-2	116	41	34	191
Single virus detection (% of positives)	915 (93.2)	174 (98.9)	693 (87.9)	1782 (91.6)
Multiple virus detection (% of positives)	67 (6.8)	2 (1.1)	95 (12.1)	164 (8.4)

[1] Positive specimens may be positive for more than one virus

Table 2. Influenza respiratory viruses among ILI cases, since 31 March 2025

Influenza viruses	WellKiwis Households	Wellkiwis Adults	WellKiwis Infants	Total
No. of specimens tested	**2280**	**387**	**1427**	**4094**
No. of positive specimens (%)[1]	227 (10.0)	33 (8.5)	122 (8.5)	382 (9.3)
Influenza A	135	30	84	249
A (not subtyped)	10	2	4	16
A(H1N1)pdm09	73	22	55	150
A(H1N1)pdm09 by PCR	73	22	55	150
A/Victoria/4897/2022 (H1N1)pdm09 - like	0	0	0	0
A(H3N2)	52	6	25	83
A(H3N2) by PCR	52	6	25	83
A/Croatia/10136RV/2023 (H3N2)-like	0	0	0	0
Influenza B	92	3	38	133
B (lineage not determined)	0	0	0	0
B/Yamagata lineage	0	0	0	0
B/Yamagata lineage by PCR	0	0	0	0
B/Phuket/3073/2013 - like	0	0	0	0
B/Victoria lineage	92	3	38	133
B/Victoria lineage by PCR	92	3	38	133
B/Austria/1359417/2021-like virus	0	0	0	0
Influenza and non-influenza co-detection (% +ve)	15 (6.6)	2 (6.1)	7 (5.7)	24 (6.3)

[1] Positive specimens may be positive for more than one virus
Note: The PCR positive cases only include those participants with acute respiratory illnesses.

Table 3 below indicates the demographic status of ARI and influenza infection among WellKiwis participants.

Table 3. Demographic status of ARI and influenza infection

Characteristics	ARI cases among WellKiwis participants		Influenza cases among WellKiwis participants	
	ARI Cases	ARI incidence (per 100)	Influenza Cases	Influenza incidence (per 100)
Overall	**8064**	**265.2 (259.7, 270.7)**	**382**	**12.6 (11.3, 13.9)**
Age group (years)				
<1	558	1860.0 (1764.6, 1952.6)	15	50.0 (28.1, 82.0)
1–4	2820	367.2 (354.6, 380.1)	129	16.8 (14.0, 19.9)
5–19	1082	249.3 (235.3, 263.9)	97	22.4 (18.1, 27.2)
20–34	628	244.4 (226.3, 263.3)	18	7.0 (4.2, 11.1)
35–49	2087	271.0 (260.1, 282.3)	88	11.4 (9.2, 14.1)
50–64	625	122.5 (113.3, 132.3)	21	4.1 (2.5, 6.3)
≥65	264	97.1 (85.9, 109.3)	14	5.1 (2.8, 8.6)
Ethnicity				
Māori	812	274.3 (256.6, 292.8)	42	14.2 (10.2, 19.2)
Pacific peoples	294	255.7 (228.4, 285.1)	14	12.2 (6.7, 20.4)
Asian	776	287.4 (268.5, 307.2)	36	13.3 (9.3, 18.4)
European and Other	6182	261.9 (255.8, 268.2)	290	12.3 (10.9, 13.8)
Sex				
Female	4503	261.3 (254.1, 268.7)	205	11.9 (10.3, 13.6)
Male	3539	270.2 (261.7, 278.8)	175	13.4 (11.5, 15.5)
Other	22	275.0 (175.1, 406.1)	2	25.0 (3.0, 89.3)

APPENDIX

The WellKiwis influenza study is funded by the US National Institutes of Allergy and Infectious Diseases (NIAID) (HHSN272201400006C and U01 AI 144616) through the St Jude Children's Research Hospital, Memphis, Tennessee. The study aims to understand how an adult's prior (or a child's first) flu exposure influences immunity to subsequent flu exposures with the ultimate goal of developing a longer-lasting and broad-protective universal influenza vaccine.

The WellKiwis adult cohort (i.e. SHIVERS-II) follows a group of ~2000 Wellington adults aged 20–72 years. It was established in Wellington in 2018 and is ongoing till 2025. It focuses on adults' immune responses to the flu and flu vaccinations. The study follows participants who provide one annual blood sample each year. During the influenza surveillance period (May-September), the study follows participants weekly and collects respiratory specimens from those who report influenza-like illness (ILI). These specimens are then tested for influenza, SARS-CoV-2 and non-influenza respiratory viruses. Additional samples (blood or swab) are needed only if the participant has a flu infection or vaccination.

The WellKiwis infant cohort (i.e SHIVERS-III) is a study about influenza immunity in children. The study is to follow new-borns over seven years to see how a child's first encounter to the flu virus or vaccine shapes their immune responses to subsequent exposures to flu as the child grows between 2019 and 2026. The aim is to enrol 600 wellington mother-infant pairs (200 pairs a year for three years). Once enrolled, study staff monitor the child's flu-like Illness during the winter period through regular surveys and ILI swab collection and testing. A cord blood is needed and one annual blood from the child each year. Additional samples (blood or swab) are needed only if the child has a flu infection or vaccination.

The WellKiwis household cohort (i.e SHIVERS-IV) study follows ~450 families for up to seven years (2021–2028). In addition to understand how their prior flu exposures shape their immunity to subsequent flu exposures, it also aims to understand how the flu virus spreads from an infected person to others in a household setting. Once enrolled, study staff monitor the household's flu-like Illness during the winter period through regular surveys and ILI swab collection and testing. A once-only baseline blood is needed and one annual blood from each household member each year. Additional samples (blood or swab) are needed only if a household member has a flu infection or vaccination.

The WellKiwis study is the second, third and fourth iterations of research programmes into influenza viruses and vaccines called SHIVERS (Southern Hemisphere Influenza and Vaccine Effectiveness Research and Surveillance). PHF Science (formerly ESR) has a long history of influenza research and led the SHIVERS-I study during 2012–2017 through the funding from the US Centre for Disease Control.

Led by PHF Science, WellKiwis is a multi-centre and multi-disciplinary collaboration between PHF Science, Hutt Valley District Health Board, Regional Public Health, Capital & Coast District Health Board, University of Otago, University of Auckland, Malaghan Institute of Medical Research, participating general practices, Primary Health Organisations, Wellington Maternity Health Professionals and St Jude Children's Hospital in Memphis, USA.

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