

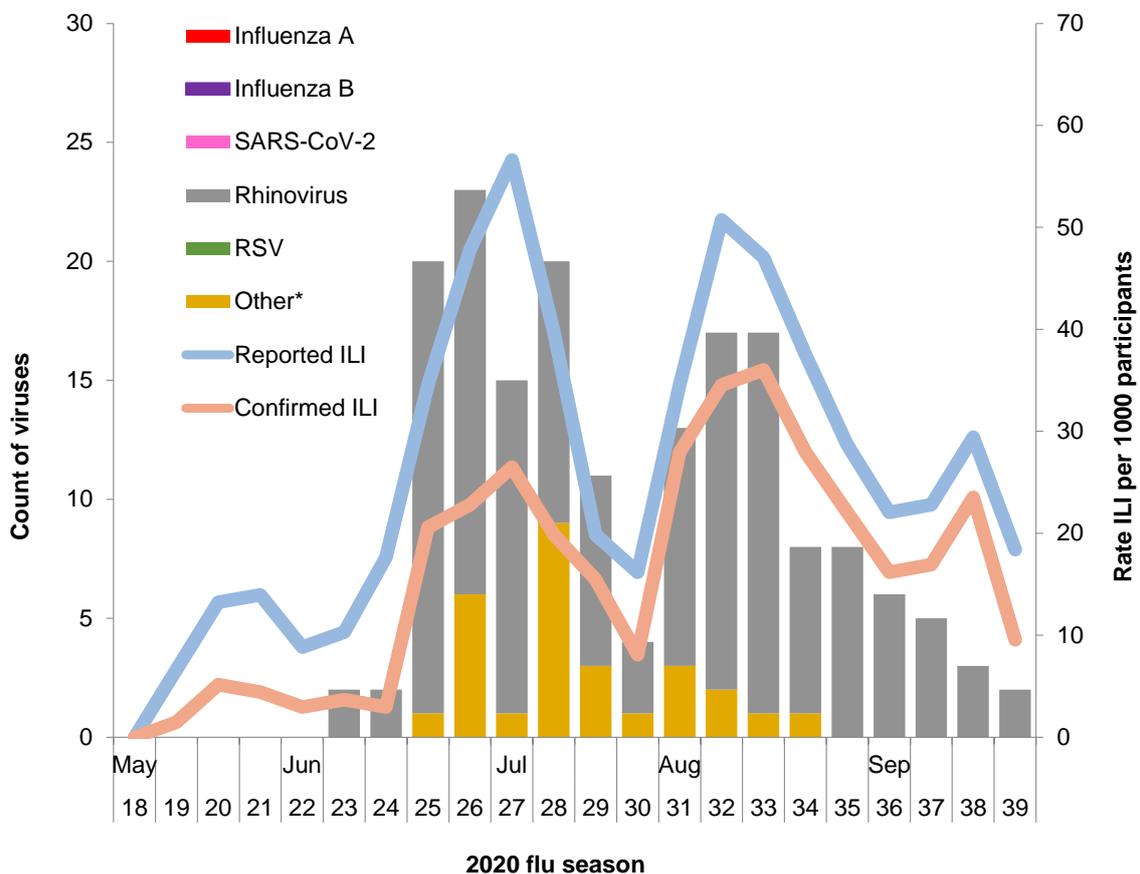
## SHIVERS-II weekly report on influenza-like illness and associated viruses

Week 39 ending 27 September, 2020

The surveillance for community cohort based influenza-like illness (ILI) provides evidence to inform public health and clinical practice to reduce the impact of influenza virus infection and other important respiratory pathogens. As part of the Southern Hemisphere Influenza and Vaccine Effectiveness Research & Surveillance (SHIVERS)-II project, this weekly report summarises data obtained from this Wellington cohort in New Zealand. The report includes incidence and viruses for community cohort ILI cases for the past week as well as the cumulative period since 27 April 2020.

Figure 1 shows the weekly rate of influenza like illness (ILI) and associated viruses detected among SHIVERS-II participants during the winter surveillance period.

**Figure 1 Weekly ILI and virus positive cases among SHIVERS-II participants since 27 April 2020**



\*Note: other viruses include enterovirus, adenovirus, parainfluenza virus types 1-3 and human metapneumovirus

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), and the orange line the rate of nurse-confirmed ILI meeting the case definition.

New Zealand's lockdown has eliminated COVID-19 infection during our first wave. It has also reduced influenza and non-influenza respiratory virus transmission. The tables 1&2 below indicate all swabs tested for influenza and non-influenza respiratory viruses from week 18 (starting 27 April) to this week.

**Table 1 Non-influenza respiratory viruses among ILI cases, since 27 April 2020**

<i>Non-influenza respiratory viruses</i>	SHIVERS-II	SHIVERS-II Household	Total
No. of specimens tested	412	117	529
No. of positive specimens (%) <sup>1</sup>	176 (42.7)	59 (50.4)	235
Respiratory syncytial virus (RSV)	0	0	0
Parainfluenza 1 (PIV1)	0	1	1
Parainfluenza 2 (PIV2)	0	0	0
Parainfluenza 3 (PIV3)	0	0	0
Rhinovirus (RV)	149	55	204
Adenovirus (AdV)	2	3	5
Human metapneumovirus (hMPV)	0	0	0
Enterovirus	27	2	29
SARS-CoV-2	0	0	0
Single virus detection (% of positives)	174 (98.9)	57 (96.6)	231
Multiple virus detection (% of positives)	2 (1.1)	2 (3.4)	4

**Table 2 Influenza respiratory viruses among ILI cases, since 27 April 2020**

<i>Influenza viruses</i>	SHIVERS-II	SHIVERS-II Household	Total
No. of specimens tested	412	117	529
No. of positive specimens (%) <sup>1</sup>	0 (0.0)	0 (0.0)	0
<b>Influenza A</b>			<b>0</b>
A (not subtyped)			0
A(H1N1)pdm09			0
A(H1N1)pdm09 by PCR			0
A/Brisbane/02/2018 (H1N1)pdm09 - like			0
A(H3N2)			0
A(H3N2) by PCR			0
A/South Australia/34/2019 (H3N2)-like			0
<b>Influenza B</b>			<b>0</b>
B (lineage not determined)			0
B/Yamagata lineage			0
B/Yamagata lineage by PCR			0
B/Phuket/3073/2013 - like			0
B/Victoria lineage			0
B/Victoria lineage by PCR			0
B/Washington/02/2019-like			0
<b>Influenza and non-influenza co-detection (% +ve)</b>			<b>0</b>

## APPENDIX

The Southern Hemisphere Influenza and Vaccine Effectiveness Research & Surveillance (SHIVERS)-II project is funded by the US National Institutes of Allergy and Infectious Diseases (NIAID) (HHSN272201400006C) through the St Jude Children's Research Hospital, Memphis, Tennessee. The SHIVERS-II project is a study about influenza and COVID-19 immunity in adults. It aims to understand how an adult's prior flu/SARS-CoV-2 exposure influences immunity to subsequent flu/SARS-CoV-2 exposures with the ultimate goal of developing a longer-lasting and broad-protective universal influenza vaccine and effective SARS-CoV-2 vaccine.

The SHIVERS-II study follows a group of ~2000 Wellington adults aged 20-69 years. The cohort was established in Wellington in 2018 and is ongoing till 2021. 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. Additionally, study staff collected paired blood from those with influenza-PCR-confirmed or SARS-CoV-2-PCR-confirmed ILI, as well as a once-only blood sample from those who had annual influenza vaccinations.

The ILI case definition in 2020: 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  $\geq 38^{\circ}\text{C}$  and onset within the past 7 days)

Led by ESR, the SHIVERS-II project is a multi-centre and multi-disciplinary collaboration between ESR, 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.

This weekly report is compiled by ESR. For more information please contact:

Tim Wood: T:+64 4 529 0611; E: Tim.Wood@esr.cri.nz

Sue Huang: T:+64 4 529 0606; E: Sue.Huang@esr.cri.nz