December 2018

TARRANT VIRAL WATCH

IN THIS ISSUE

Season's Greetings from the TARRANT Team!

Winter is here again and we hope all our sentinels are staying warm. We wish to thank all our sentinels for their continued participation and support in the Vaccine Effectiveness (VE) and TARRANT weekly ILI surveillance program.

We had an early onset influenza season this year with more samples being submitted than this time last season. As Influenza activity continues to increase within all zones in Alberta, the emerging picture is of an Influenza A (H1N1) predominant season.

We wish all of our sentinels and stakeholders a wonderful holiday season filled with health, wealth and happiness. All the best to you, your staff & your families.

James Dickinson, Kim Le, Dylan Kendrick, Yvonne Efegoma and Sarah MacDonald

Sentinel Compensation

We are in the payment process for the influenza reporting and vaccine effectiveness programs to all of our sentinels for the period covering April 1st, 2018 – December 31st, 2018. We aim to issue payment in January 2019. We process payments twice per year. Payouts depend on our workload and the processing time of the accounting department. Invoices are provided for your own records but you do not need to send signed copies back. If you notice a discrepancy in your invoice please contact us. New sentinels need to provide personal or professional information (whichever is being elected for payment) for successful payment. Existing sentinels are encouraged to contact us as soon as possible should they wish to update their information. Sentinels who are employees of the University of Calgary will need to provide their UCID to receive payment through payroll.

As a reminder, we pay you $5.00 per TARRANT Weekly Incident Report (WIR) received on time (Tuesdays by 2:00pm) and $10.00 for each VE submission that is completed correctly.
However, we are unable to compensate for late WIRs or VE study submissions completed incorrectly that have to be excluded from the study. Exclusions occur when:

* Specimens were submitted on an old form or with no consent
* Patient does not meet ILI case definition.
* > 7 days between ILI symptom onset date and sample collection date
* Vaccine history left blank

NOTE:
We have compiled a list of 'common mistakes' which we hope will help guide our sentinels and avoid specimen processing issues in the future. Please take a moment to view this list on page 4 of this newsletter.
Any other information regarding our study can be found at our website, with news and articles added regularly at www.calgaryfamilymedicine.ca/tarrant

TARRANT Viral Watch Bulletin

Surveillance Dates: October 1st, 2018 (Week 40) - December 8th, 2018 (Week 49)

TARRANT Viral Watch is a sentinel-based infectious respiratory disease surveillance program for the province of Alberta and provincial partner for the national influenza vaccine effectiveness study. This bulletin focuses on peak influenza weeks of the influenza-monitoring season. The TARRANT Viral Watch Bulletin will be published regularly from December until April 2019 and will be available on our website (calgaryfamilymedicine.ca/tarrant/). Additional bulletins outside of this reporting period will be provided as warranted by unusual infectious respiratory disease activity.

Program Notes:

- Our calendars have been sent out, please look out for it in your mail
- We expect that a mid season analysis will be published in February 2019

Staff updates

We welcome Sarah MacDonald as our new research assistant. She recently completed her Master of Public Health degree at Western University. Sarah will be joining Yvonne Efegoma and Dylan Kendrick as we continue our influenza surveillance for the 2018-2019 season.

Summary of Key Findings for the Reporting Period:

- During reporting weeks 40-49, TARRANT sentinels submitted 329 specimens of which 164 (49.8%) tested positive for influenza. Influenza A (H1N1) made up all but two of the positive cases.
- Typically, influenza season begins with Flu A, followed by a late Flu B outbreak. Last season, began with large numbers of both A(H3N2) and B, which was unusual, and there were many B isolates through the whole season. This season appears to be showing the expected trend of predominantly influenza A, specifically A(H1N1) in Alberta, though there are some H3N2 elsewhere in Canada

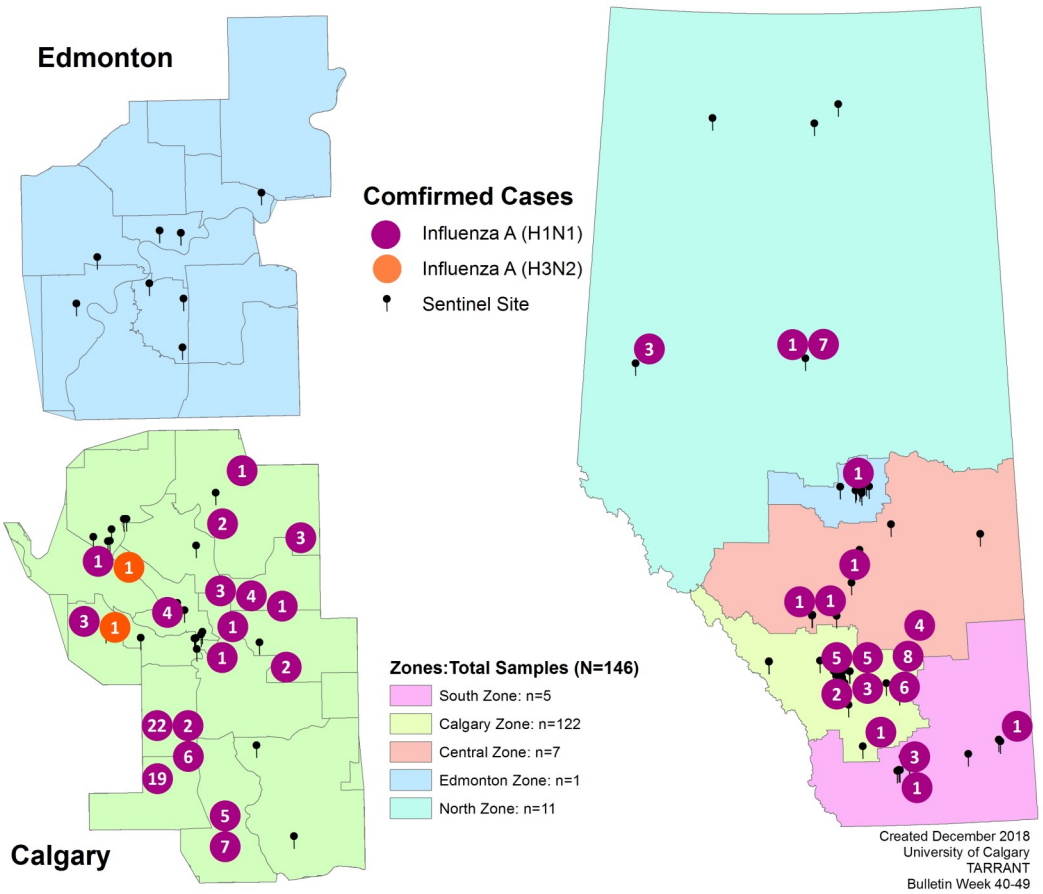
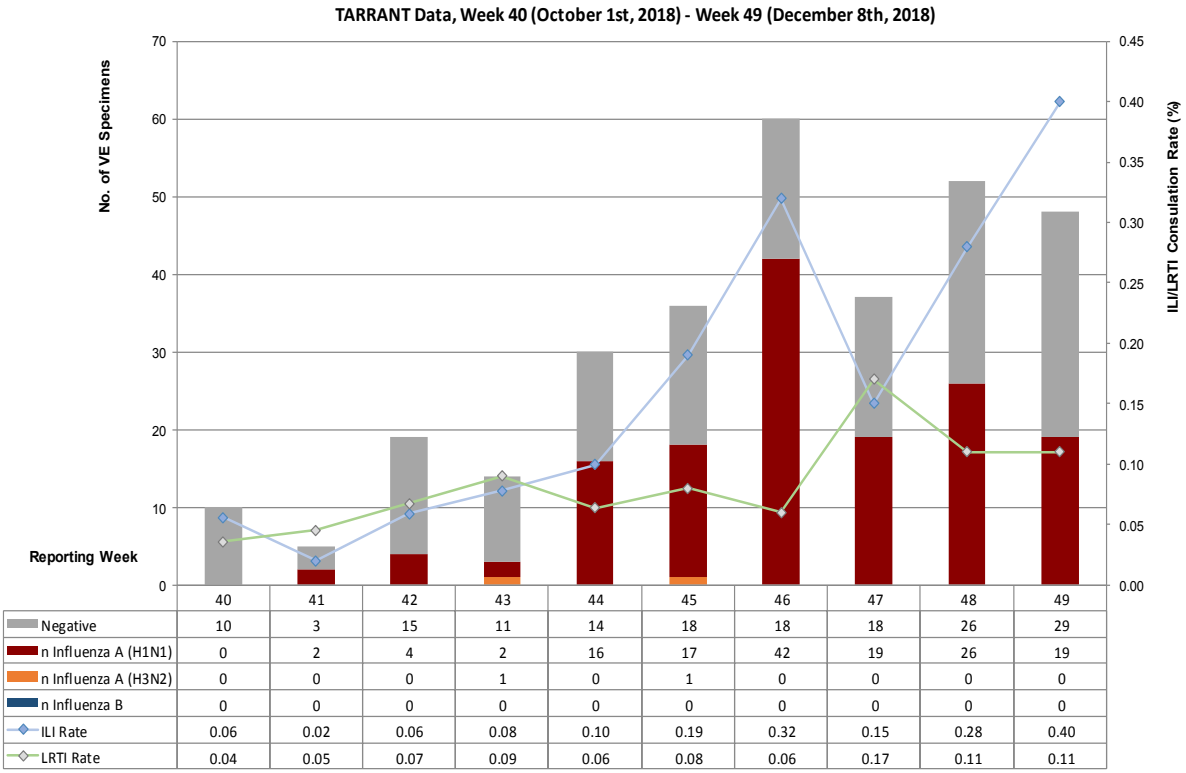


Figure 1: Laboratory-confirmed influenza from specimens collected by TARRANT sentinels across Alberta for the 2018-2019 influenza season (Week 40, 2018 to Week 49, 2018).



Reporting Week	40	41	42	43	44	45	46	47	48	49
Negative	10	3	15	11	14	18	18	18	26	29
n Influenza A (H1N1)	0	2	4	2	16	17	42	19	26	19
n Influenza A (H3N2)	0	0	0	1	0	1	0	0	0	0
n Influenza B	0	0	0	0	0	0	0	0	0	0
ILI Rate	0.06	0.02	0.06	0.08	0.10	0.19	0.32	0.15	0.28	0.40
LRTI Rate	0.04	0.05	0.07	0.09	0.06	0.08	0.06	0.17	0.11	0.11

Figure 2: Number of laboratory specimens testing positive for influenza vs ILI[1] and LRTI[2] clinical consultation rates for Alberta as collected through TARRANT Viral Watch Week 40 (2018) —Week 49 (2018). Specimen data collected from the Alberta branch of the Canadian Sentinel Practitioner Surveillance Network (SPSN). ILI and LRTI rates from TARRANT routine weekly surveillance in Alberta.

Influenza Surveillance from Other Sources:

Alberta: As of week 49, there have been a total of 2,619 influenza A and 18 influenza B laboratory-confirmed cases this season. Since week 40, influenza A(H1N1) is the predominant strain in the province. There have been 531 hospitalized influenza cases to date, which is not unusual for this point in an H1N1 predominant season. This is the predominant subtype in hospitalizations, with admissions highest in people age 80+. There have been 6 deaths among Albertans who had lab confirmed influenza. Source: AHS.

Canada: The current influenza season started earlier than previous years as influenza activity continues to increase nationally. 6,158 influenza positive specimens have been reported so far this season, with the majority (94%) being influenza A (H1N1). Since the start of the 2018-19 season, 705 laboratory-confirmed influenza-associated hospitalizations have been reported. Of these hospitalizations, 99% were due to influenza A and 228 were pediatric. Pediatric hospitalizations associated with influenza are on the rise this year. A total of 90 ICU admissions and 16 deaths have been reported. Source: FluWatch and PHAC.

International: Influenza activity continues to increase in the temperate zone of the northern hemisphere . In North America, influenza activity increased with A(H1N1)pdm09 as the dominant subtype. Influenza activity in the temperate zones of the southern hemisphere has returned to inter-seasonal levels. World wide seasonal influenza A viruses accounted for the majority of detections From November 12th 2018 to November 25th 2018, WHO laboratories tested more than 118399 specimens from 110 different countries. Of these specimens, 6596 were positive for influenza viruses; 90.9% Influenza A and 9.1% Influenza B. Of the sub-typed Influenza A viruses, 85.5% were Influenza A(H1N1)pdm09 and of the characterized B viruses, 38.6% belonged to the B-Yamagata lineage. Source: PHAC, the WHO.

Vulnerability to Pandemic Flu

In a recent conversation with JAMA Dr. Osterholm, the director for the center for infectious disease research and policy at the University of Minnesota, voiced some concerns about the lack of preparedness towards a possible flu pandemic. He stated that we are more vulnerable today to a catastrophic influenza pandemic than we were in 1918 . Some points he raised include:

The current world population is more than three times the population in 1918. In the slums of low and middle income countries today, the population exceeds that of 1918. Also, the effectiveness of available vaccines is limited. He mentioned that "antigenic sin", a situation where one's immune system has a permanent memory to an early infection which then renders it ineffective to a subsequent different strain, is a major threat to the flu vaccine. An effective universal flu vaccine is still far from reality.

The potential for another cytokine storm based pandemic (the type that occurred in 1918) is very real. Today we do no better with cytokine storms than we did in 1918. There is also vulnerability to disruptions in international trade of lifesaving medicines and medical devices, especially because of monopoly manufacturers and just-in-time delivery systems.

Voelker R. Vulnerability to Pandemic Flu Could be greater today than a century ago. JAMA online. September 2018

World Flu Day

November 1st marked the first World Flu Day. It was formally launched at the Asian-Pacific Centenary Spanish 1918- flu symposium in Shenzhen, China. George F Gao, director of the China Center for Disease Control and Prevention (CDC) developed the campaign in collaboration with other leading influenza specialists.

World Flu Day had four major purposes:

- To commemorate the centenary of the 1918–19 influenza pandemic;
- To raise public awareness of influenza;
- To accelerate scientific innovation and basic research efforts toward remaining challenges of influenza, particularly the development of a universal flu vaccine; and
- To push for stronger global political will in continuing the support of influenza prevention and control.

The major organizing institution in the influenza campaign this year was China CDC. Launching the first World Flu Day in China is not just a timely call for raising global awareness about this common and easily ignored disease, but also an important opportunity for China to strengthen global collaboration in influenza research and control.

Editorial: World Flu Day: Momentum from China for influenza control. Lancet vol 392 November 2018

TOP 4 COMMON MISTAKES

I. Patient does not meet ILI case definition.

Patients should have fever **AND** cough **AND** one or more of "sore-throat, myalgia, althralgia or prostration". Sentinels sometimes ticks "patient met ILI case definition" but symptoms ticked do not meet case definition. The additional symptoms added in this seasons questionnaire are for exploratory purposes only.

II. Patient identifier stickers covering sentinel details

When patient identifier stickers cover sentinel details we are unable to identify the sentinel who has requested the investigation. This can delay processing by the laboratory and the payment processes form TARRANT as we search for the sentinel details.

III. Missing patient identification

Requisition forms without adequate patient identifiers automatically get rejected by Provlab, and TARRANT is unable to process such forms. A missing result or a failed investigation can result in patient dissatisfaction and distress. Please ensure that all requisition forms have patient identifiers on them.

IV. Using an old requisition form

Please use the YELLOW 2018-19 requisition form only when collecting specimens. Older requisition forms such as the BLUE 2017-18 form will not be processed by TARRANT. If you do not have the correct forms, please get in touch with us and we will send them.