

April  
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# TARRANT VIRAL WATCH

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## TARRANT News



The flu season is in full swing in Alberta. During the most recent reporting period of March 13-19th (Week 11), all zones show continued activity. Influenza is the most prevalent respiratory virus currently being identified in the province.

Since the beginning of the influenza season, 1228 cases have been reported in the province. Influenza A has dominated through most of the season (71.4% of cases) with the majority comprised of the A/H3N2 subtype (71.2%). However, in recent weeks, increased influenza B activity has been detected with the latest reporting period showing the majority of influenza cases were of the B isolate (56.3%).

All of the influenza A isolates & most influenza B isolates have been compatible with the vaccine components for the seasonal immunization offered in Alberta.

Sources: AHS 2010/11 Weekly Influenza Surveillance Report (Week 11)  
Public Health Agency of Canada Flu Watch (Week 11)

## TARRANT On-line Reporting Option Now Available!

We now have an on-line reporting system for TARRANT that is both efficient and environmentally friendly. Our first online reports have already been submitted, and the system is working well!

You can access the new method of reporting through the TARRANT website ([www.tarrantviralwatch.ca](http://www.tarrantviralwatch.ca)).

If you are interested, please e-mail us or fax the form on page 4. If you don't have Internet access in your office, you can still complete and fax the paper forms as usual.

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# Summary of the Annual General Meeting

Dr. Dickinson opened the meeting, and discussed TARRANT progress over the past year.

Dr. Gustavo Zayas is a research associate at the Pulmonary Defense Group, Department of Medicine at the University of Alberta. He spoke on the topic of non-pharmacological interventions in infectious respiratory diseases and his research on the effectiveness of barrier defenses is summarized on the next page.

Dr Naveed Janjua is an epidemiologist for the BCCDC, with whom we collaborate on the national vaccine effectiveness programs. He described how having a pre-existing network of sentinels allowed a rapid rearrangement of the system to measure the vaccine effectiveness during the epidemic. Such rapid response would not be possible if a new program had to be established from scratch. Waiting for ethics approval alone would leave the project too late. Alberta contributed 96 of the 555 cases collected for analysis in the recent BMJ paper that demonstrated 93% effectiveness of the vaccine. However, the epidemic was already declining by the time the vaccine became available.

Dr. Margaret Churcher, a sentinel family physician in Calgary, shared her experience with TARRANT and the opportunity it has provided for her to expand her own interest in this area of research.

Jennifer May-Hadford, Public Health Officer, PHAC, and Epidemiologist at AB ProvLab, demonstrated DIAL, a new web-based electronic system that extracts, interprets, collates, and analyzes public health laboratory data, including influenza, in real-time. Since it uses all public health data as its input, it can also demonstrate changes in respiratory viruses, methicillin resistant *Staphylococcus aureus* (MRSA), and environmental water testing.

Dr Kevin Fonseca is the Senior Virologist at Alberta Provlab. He described how influenza C is a neglected virus, which is difficult to detect. Although generally thought to produce mild clinical disease, he showed that at times it might be more severe, so he is researching it more thoroughly to measure the effects of this virus.

Finally, the evening ended with dinner at Pacini Restaurant.

**Slides of the presentations will be available on the TARRANT website.**



**Dr. Gustavo Zayas addresses the attendees at the 2011 TARRANT Annual General Meeting (March 18, 2011)**

## How Effective are Barrier Methods in Preventing the Spread of Respiratory Infections?

The most likely mode of influenza A H1N1 virus transmission from an infected person to non-infected person is through coughing. Dr. Gustavo Zayas is qualitatively and quantitatively assessing current public health practices including cough etiquette (cough into arm) and physical barriers such as masks (cloth or paper surgical masks and N95 respirators) for cough aerosol protection. He used human volunteers to develop the standard human cough model and detected aerosol patterns using a laser diffraction system.

Dr. Zayas identified that human volunteers generate droplets, with a wide range of size distribution and concentration. They can be large enough to contain thousands of microorganisms. The droplets diameter range from 0.1 - 900 microns with the smaller droplets accounting for 99 % of total number of droplets expelled during a cough.

Current public health practices which advise cough etiquette are insufficient for protection from infected cough aerosols. The infected aerosol droplets deflect off the arm and have potential to infect others in close proximity to the infected individual. Physical barriers such as N95 masks are also insufficient for protection to infected aerosols since after minutes of wearing them they become saturated and progressively start leaking droplets that are less than 1 micron.

This data therefore conflicts with the currently recommended public health practices that are used to protect first responders such as paramedics, nurses, and doctors and also the general public.

## Wanted: TARRANT Sentinels *Sentinel Peer Referral Program*

We would like to expand our TARRANT network to improve surveillance throughout the province. Do you know of any clinics that would be interested in joining the Viral Watch program? We are always interested in increasing the number of active sentinels to replace those who are leaving or retiring. This year, we are particularly interested in increasing participation of clinics in Northern Alberta and in areas with a significant number of aboriginal patients.

Clinic: \_\_\_\_\_

Physician/Nurse

Practitioner: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail address: \_\_\_\_\_

Suggested by: \_\_\_\_\_



**"Don't think of it as getting a flu shot.  
Think of it as installing virus protection software."**

## Staff Changes at TARRANT

Over the last month, we have given a fond farewell to three of our staff members. Dr. Sher Clain has left her position as Assistant Director of the TARRANT program to return to clinical practice. Research assistants Leah Ricketson and Susan Huculak have left to focus on their academic programs at the University of Calgary. We wish Sher, Leah & Susan all the best in their endeavors.

At the same time, we have welcomed two new research assistants: Dr. Elaine Douglas and Tova Dybvig. Elaine is a veterinarian in small animal clinical practice & will be applying her interest in public health & infectious diseases to the program. Tova recently graduated with a M.Sc. in the field of vaccines & immunotherapeutics. She has special interests in infectious diseases, vaccine implementation & world health.

### International ILI Patients

Yes, you can swab travelers! If you have a patient with an ILI who is an international visitor without Alberta Health care insurance, and you strongly suspect influenza, you can still submit a NP swab using a VE study requisition.

The ProvLab will process the swab for no charge for these patients as part of the provincial surveillance program.

### Thank You!

Everyone at TARRANT Viral Watch would like to acknowledge the continued contributions of our dedicated sentinels.

The data generated from this reporting program is invaluable for respiratory viral surveillance and the *Vaccine Effectiveness Study*. This information benefits not only the residents of Alberta, but the world-wide population as well. Without the input of our sentinels, the program would simply not exist!

### Antiviral Resistance

Surveillance for antiviral resistance to oseltamivir (Tamiflu) in pandemic influenza (H1N1) and the H3 subtype of influenza A was initiated at the outset of this respiratory season, in response to the possibility of resistance becoming more widespread. So far in Alberta, 167 influenza A strains of both circulating subtypes have been tested at the ProvLab, none of which contain the mutation capable of conferring resistance to oseltamivir. For influenza B, susceptibility testing of 95 Canadian isolates performed at the National Microbiology Laboratory, including six isolates from Alberta, did not identify resistance to either oseltamivir or zanamivir.

## Interested in On-line Reporting for TARRANT?

If you would like to switch over to our new online reporting system, please provide us with your email address and we will set you up with a user name and password. Please fill out the form below and either fax it back to us (403-270-4329) or e-mail us at [tarrant@ucalgary.ca](mailto:tarrant@ucalgary.ca)

Name: \_\_\_\_\_

Email Address: \_\_\_\_\_