June 2010

TARRANT VIRAL WATCH

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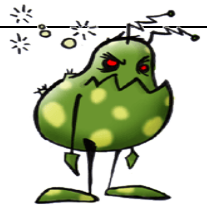
TARRANT News



It was an interesting year for TARRANT with the onset of the H1N1 influenza pandemic. We are currently preparing research articles based on our findings this year. One is about accuracy of family physicians in diagnosing influenza, while the other is about the experiences of Alberta family physicians during the pandemic.

We held our annual general meeting in April. Thank-you to everyone who participated, we hope to see you again next year!

We appreciate your valuable contributions as sentinels for influenza surveillance in Alberta. Please continue swabbing during the summer months as the Vaccine Effectiveness study will continue throughout the year in 2010. Thanks again for your participation.

New Address for TARRANT:
We are moving our office, effective May 28th. Please note our new address below. Phone and fax numbers remain the same.

Coming soon: H1N1 Physician Survey

In order to compare the attitudes and experiences of Alberta family physicians during the first wave of the H1N1 pandemic to their experiences in the second wave, we are conducting a follow up survey. Physicians who completed it the first time will be asked to complete a shorter version to allow pre-post comparisons. A second group of family physicians who did not participate in the first round will be asked to complete a new questionnaire. We hope that this second round of the survey will provide us with new, useful insights into how we can advocate for physicians as frontline care workers in a pandemic situation.

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Highlights from the Annual General Meeting

We held the TARRANT AGM on April 9, 2010. As an introduction, Dr. Dickinson, TARRANT's director, provided an overview of the 2009/10 TARRANT activities, and our experience with the H1N1 pandemic.

Key Points from Dr. Dickinson's presentation:

- The TARRANT surveillance system has 40-50 sentinels across Alberta reporting influenza-like-illness and collecting swabs each week.
- TARRANT provides weekly reports of surveillance data to Alberta Health, which contributes data to Public Health Agency of Canada and then to WHO.
- This year influenza peaked earlier (November 2009) compared to the usual peak months for influenza (January and February).
- TARRANT surveillance showed a smaller peak of pandemic H1N1 in June/July than Alberta provincial data, due to a dramatic spike in swabbing in the province. Therefore, TARRANT data likely provided a more realistic picture due to more consistent swabbing. Peaks for the second wave in October/November were similar for TARRANT and the province.
- Monthly TARRANT viral submissions indicate that ILI swabs are confirmed as influenza less than 50% of the time, even at the peak of influenza prevalence.
- Recommendations: Develop a pandemic plan, build own stocks of personal protective equipment (PPE), be cautious, use protection.

Alana Heise, a primary care nurse practitioner from the Calgary Urban Projects Society (CUPS) provided insight into the experiences of sentinels during the pandemic H1N1. She also outlined CUPS' pandemic plan and actions that they initiated during the pandemic.

Key points from Alana Heise's presentation:

- CUPS is involved in health, education, housing and outreach in Calgary
- Pandemic Plan: June-August 2009 set up emergency structure; June 2009 instructions for staff, Microsan hand sanitizer stations; July 2009 patient triage system implemented and inventory organized.
- Precautions established included masks for patients with apparent respiratory illness, Microsan, reserved seating for ILI patients. Preparation included education of staff, pandemic plan put in place, N95 masks provided for medical staff.
- Education for patients on hand washing, mask use, and general H1N1 information.
- CUPS experience: more staff than patients sick, ~30% absenteeism at peak, one ICU admission. About 8-10 patients with ILI per day in clinic, August 2009 first confirmed H1N1 case. Less than 10% of all nasopharyngeal swabs confirmed H1N1.
- CUPS concerns: earlier access to vaccine and tamiflu, immunization for all staff at partner agencies, need for a central distribution center for supplies such as masks, and gowns. Need for better communication and clear guidelines about who to contact.

Dr. Kevin Fonseca, from the Calgary ProvLab, spoke on the virology of influenza and ProvLab experiences during the pandemic.

Key points from Dr. Fonseca's presentation:

- H1N1 2009 reached WHO designation of phase 5-6/pandemic on June 11, 2009.

Wanted: TARRANT Sentinels

Sentinel peer referral program

We would like to expand our TARRANT network so we have improved 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 by clinics in Northern Alberta and in areas with a significant number of aboriginal patients.

Clinic: _____

Physician/ nurse practitioner:_____

Ph._____ **E-mail address:** _____

Suggested by: _____

- Avian influenza strains bind preferentially to N-acetylneuraminic acid-2,3-galactose on the cell membranes of the upper respiratory tract, whereas human influenza strains preferentially bind to *N*-acetylneuraminic acid-2,6-galactose.
- Therefore, avian viruses must mutate to a point where they can preferentially bind cells in the human upper respiratory tract in order to cause human disease.
- Pandemic H1N1 2009 evolved from avian lineage.
- Current Algorithm: ProvLab uses reverse transcriptase polymerase chain reactions (RT-PCR) to test for influenza. If the result is positive, then the virus is subtyped, if the result is negative the ProvLab runs a Molecular Respiratory Viral Panel to see if another type of virus is causing the ILI symptoms. They then report the results to the inquiring physician, Alberta Health, and TARRANT.
- Due to the increase in samples, the ProvLab had to implement selective prioritization, and then later system-wide prioritization of nasopharyngeal swab analysis. This was forced by volume increase, staff decrease, and decrease in functional capacity of the lab.
- TARRANT was one of the sites that received priority for swab analyses.
- Outline of swab results from TARRANT and Alberta overall: these graphs are available for viewing in Dr. Fonseca's presentation posted on our website.

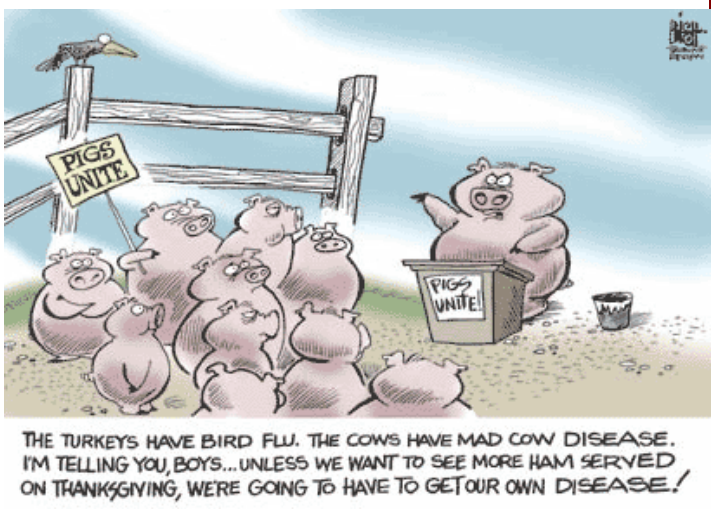
Dr. Judy MacDonald, the Calgary Medical Officer of Health responsible for influenza planning, also spoke at the AGM. She provided insight about the ministry of health's perspective on the pandemic year.

Our final speaker was Dr. Danuta Skowronski, an epidemiologist from the British Columbia Center for Disease Control (BCCDC). She presented the recent publication from BCCDC to which TARRANT sentinels contributed data. The article was published in the online, peer-reviewed journal PLoS Medicine. This publication describes the effect of the 2008-2009 seasonal influenza vaccine on laboratory-confirmed pH1N1 illness.

Skowronski DM, Serres G, Crowcroft NS, Janjua NZ, Boulianne N, et al. (2010) Association between the 2008–09 Seasonal Influenza Vaccine and Pandemic H1N1 Illness during Spring–Summer 2009: Four Observational Studies from Canada. PloS Med

After the AGM, we held a sentinel dinner at the Flatiron grill. Thanks to all who attended the TARRANT AGM 2010. We look forward to seeing you again!

Presenter slides will be available on the TARRANT website, along with a link to the recent publication by the BCCDC noted above.



Wanted:
Assistant Director, TARRANT Program

We seek a Family Physician in the Calgary area with interest in infectious disease epidemiology to:

- Assist in liaison with sentinel practitioners
- Develop research projects using the Tarrant data-base.

Time required is about one half day per week. Funding is available for the work, and for undertaking training to develop skills need for the position.

If interested please contact Dr. J. Dickinson at 403-210-9213 or dickinsj@ucalgary.ca

Save the Date!

For those of you who are planning to attend the Family Medicine Forum in Vancouver this fall, you are invited to a special reception for sentinels. It will be held following the presentation by Drs. Jim Dickinson & Danuta Skowronski entitled "2009 Influenza Pandemic: all that it was cracked up to be? Details to follow.

H1N1: Behind-the-scenes struggles revealed

Written by Terry Murray on April 20, 2010 for **The Medical Post**

Dr. Danuta Skowronski, epidemiologist at the B.C. Centre for Disease Control.

VANCOUVER | After finding an unexpected link between prior flu vaccination and pandemic H1N1 illness last summer, Canadian researchers were anxious to have their data reviewed and published.

The results, which even they found troubling, had implications for pandemic H1N1 immunization practices, they felt. But their appeals to Canadian and international health authorities were largely ignored and the anticipated publication by a leading journal was halted at the last minute. Although peer reviews were favourable, the editors dismissed the finding as a "Canadian problem."

The studies—known as Studies of the Association of Vaccine On Influenza Risk (SAVOIR)—were prompted by an unexpected finding during an investigation of a pandemic H1N1 outbreak in April 2009. In that outbreak, people with pandemic H1N1 infection and illness characterized by fever and coughing had received the 2008/09 seasonal flu vaccine more often than those who didn't have fever/cough illness.

The researchers then explored that signal with three case-control studies (including one based on Canada's sentinel vaccine effectiveness monitoring systems in British Columbia, Alberta, Ontario and Quebec) and a household transmission cohort. The studies involved 1,226 laboratory-confirmed pandemic H1N1 cases and 1,505 controls. Those studies showed prior receipt of the 2008/09 seasonal vaccine was associated with an increased risk of medically attended pandemic H1N1 illness during the spring and summer of 2009, with the estimated risk or odds ratio ranging from 1.4 to 2.5.

When the researchers first found the results last June, they immediately contacted Canadian public health authorities, including the Public Health Agency of Canada and the National Advisory Committee on Immunization, said Dr. Skowronski, who is epidemiology lead for influenza and emerging respiratory pathogens at the B.C. Centre for Disease Control.

The SAVOIR group wanted rigorous review of the results because they came from observational studies, which might have introduced bias or confounding for which they'd failed to account. "We were doing due diligence in notifying public health authorities as broadly as we possibly could. For the most part, they weren't happy with the results." The SAVOIR group wasn't happy with the findings either. "We were afraid of those results because if they were wrong, imagine the implications—and if they were right, imagine the implications," Dr. Skowronski said.

The only positive response they received was from Ontario, which changed its flu immunization strategy for 2009/10, offering the pandemic H1N1 vaccine first and the seasonal vaccine later. In a Medical Post story in October, Dr. Richard Schabas, a former chief medical officer of health in Ontario, called that decision a "dangerous precedent" based on "sketchy evidence." However, Dr. Skowronski said it was far from a dangerous precedent, as newly emerging evidence has to be considered by public health authorities.

In September, the SAVOIR findings were submitted to a leading peer-reviewed medical journal, which promised expedited review. The journal editors noted that researchers in other countries had failed to turn up similar findings, and they were troubled by the absence of an immediately apparent mechanism for the SAVOIR group's findings. The editors ultimately dismissed the finding as a "Canadian problem," Dr. Skowronski said. The SAVOIR group persisted in finding another journal.

"This is a signal of something that we have to pay attention to. It may have been a moment-in-time glimpse because we had systems in place in Canada—the sentinel system and the outbreak investigation—to glimpse it."

(Find the full article at www.tarrantviralwatch.ca)