

The TARRANT Annual General Meeting 2008

The TARRANT Annual General Meeting (AGM) was held for the first time in the Capital Health Region on April 26, 2008. 25 people representing different parts of the program attended the event at the Coast Edmonton House Hotel.



Conference participants representing various parts of the TARRANT program

Tales from TARRANT

Dr. Jim Dickinson opened the meeting by providing an update of TARRANT activities for the 2007/08 influenza season. Although there are currently 55 sentinels in the program, there is a need to recruit physicians from all nine provincial health regions.

Influenza-like illness (ILI) visits to TARRANT sentinel physicians were above historical averages during the latter half of the 2007/08 influenza season. Approximately 85% of all patients who presented with ILI were swabbed (572 swabs/672 ILI visits). 202 of the specimens were positive for influenza (Figure 1).

Figure1. Characterization of Influenza Isolates, 2007/08

Influenza A (H1N1)	37/202	A/Soloman Islands
Influenza A (H3N2)	49/202	A/Brisbane
Influenza A (Untyped)	16/202	
Influenza B	100/202	B/Florida



Dr. Dickinson opening the TARRANT AGM

Dr. James Adams from Sherwood Park spoke to the group about his experiences as a sentinel physician and described participating in TARRANT as “quick and easy”, especially since the swabs no longer require refrigeration and can be conveniently stored in a desk drawer. He also mentioned the “satisfaction” of receiving quick feedback on clinical suspicions, often getting results within three days.

Dr. Adams outlined certain frustrations with the program, mainly with the timing of the clinical visit; it is preferable to see patients within 24-48 hours of the onset of illness, but many patients wait longer to see a doctor. He submits his weekly reports electronically using the TELIN system, and mentioned concerns about the proper coding of each ILI case using the electronic diagnostic codes. Overall, he said it is a super program and will continue to participate as a sentinel physician.

The Journey of the TARRANT Swab

Dr. Kevin Fonseca, the senior clinical virologist from the Provincial Laboratory explained the current procedures used to identify and quantify virus samples. The technology is changing rapidly to use PCR techniques. He illustrated the steps taken from receipt of the specimen to identification of the virus.

Discussion arose regarding the relative effectiveness of nasopharyngeal swabs versus nasal or throat swabs. The new alginate flock swabs provided by TARRANT give a better yield of cells which provides higher detection rates. Although the nasopharyngeal swabs are preferred, nasal swabs are acceptable and may be all that is possible for certain patients, such as small children.

It is possible to determine the virus type (Influenza A, Influenza B, Respiratory Syncytial Virus, Parainfluenza Virus) in approximately four hours which is often done in long-term care facilities; however it is not possible to do this for all physicians' laboratory requests. Culturing all influenza viruses ensures we can analyze subtypes and test for drug resistance.



Dr. Fonseca explaining the “Journey of the TARRANT Swab”

Influenza Surveillance

Calgary and Edmonton continue to provide the most samples (Figure 2) and the oldest and youngest populations do not appear to be well represented by TARRANT data. In addition, women seem to consult physicians for ILI more frequently than men. Influenza represents 82% of virus types in the program (Figure 3). The TARRANT program identified one of two Tamiflu-resistant isolates in Alberta in the 2007/08 season.

Figure2. Distribution of Samples by Health Region, 2007/08

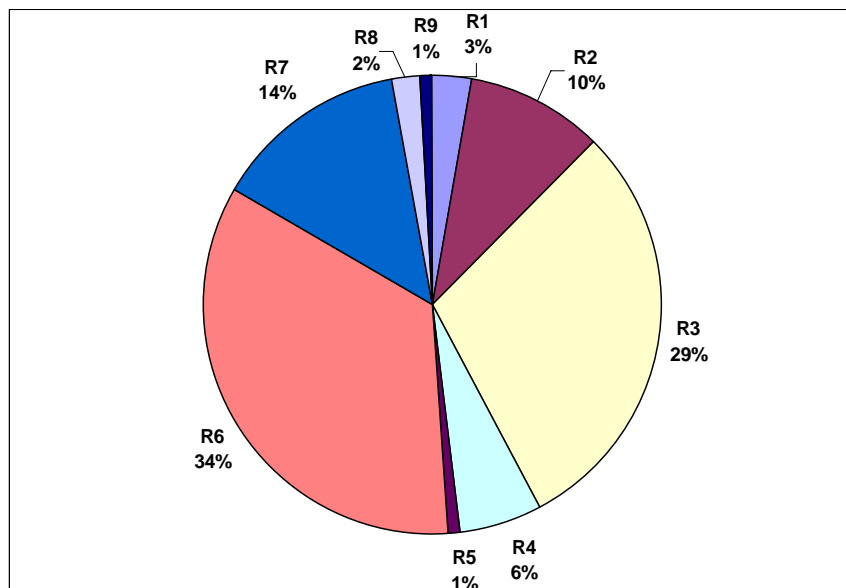
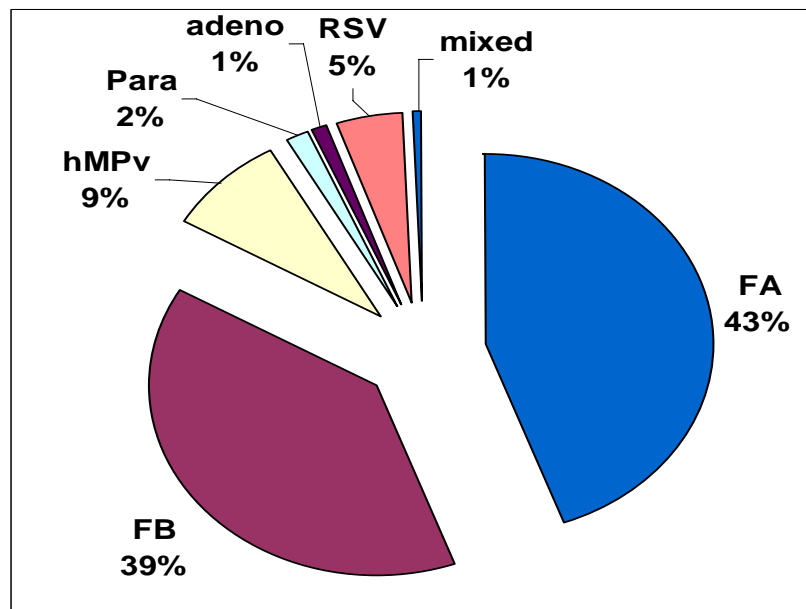


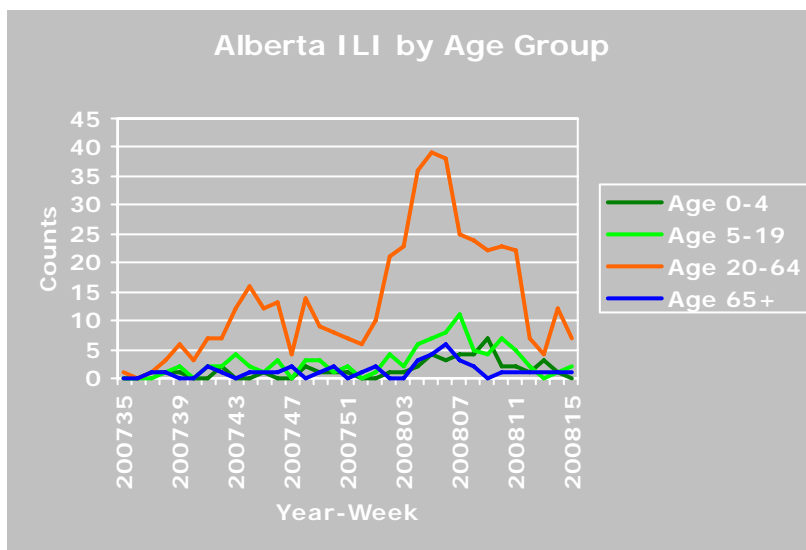
Figure3. Distribution of Virus Type, 2007/08



Brian Winchester from the centre for Immunization and Respiratory Infectious Diseases of the Public Health Agency of Canada presented the age-stratified ILI data from Alberta. Four age groups are used (<5 years, 5-19 years, 20-64 years, and >64 years). The youngest group maintains the highest ILI rate in Canada and Alberta, but as this is ILI there may be a lot of “noise” in the data that does not necessarily reflect influenza activity. The low rates of ILI in the oldest group should be explored as well.

FluWatch requires age-stratified data for “all patients seen” but this is not captured by TARRANT. Therefore, the age distribution of the Canadian population is used to synthetically create age-stratified data for “all patients seen by TARRANT sentinel physicians” and this data is then used by FluWatch (Figure 4).

Figure4. Alberta ILI Rate by Age Group



Update on the Vaccine Effectiveness Study

Dr. Danuta Skowronski, Lead Influenza Epidemiologist at the BC Centre for Disease Control presented an update on the influenza vaccine effectiveness study that has been an added enhancement to the sentinel physician surveillance network in BC (2004-05 and 2005-06), and subsequently also in Alberta and Quebec (2006-07) and Ontario (2007-08). She discussed the mix of influenza types, subtypes/lineages, strains and drift variants in the context of different proportionate distribution across regions and seasons, relative match/mismatch to vaccine components and impact of vaccine protection. Currently the

trivalent influenza vaccine is reformulated annually to contain representative strains of two influenza A subtypes and one B lineage.

During the 2006-07 season, the observed component-specific vaccine effectiveness estimates showed good concordance with component-specific vaccine match. These results were presented by Dr. Skowronski at the international Vaccine Research Conference in Baltimore in May 2008 with review of the abstract reported by Medscape (see: www.medscape.com/viewarticle/574185).

With additional contribution by collaborating countries in both hemispheres, this system has the potential to better inform the selection of vaccine components annually, as well as guide adjustments to immunization programs and adjunct measures in the event of suboptimal vaccine match. With increased participation the precision of new variant detection and component—specific vaccine effectiveness estimates could be much improved with the possibility of realtime analysis. It is important to test, rehearse and refine these observational methods to better understand possible influences on vaccine effectiveness, such as repeat immunization, illness severity or timeliness of medical visit.

The contribution of sentinel physicians, epidemiologists and virologists in participating provinces is warmly acknowledged and appreciated.



Dr. Skowronski sharing updates on the Vaccine Effectiveness Study



The TARRANT Team: Karen Rivera, Emily Medd, Krista Wilkinson, Dr. Jim Dickinson