

TARRANT

The Alberta Recording and Research Network
Tracking Influenza in Alberta

NEWSLETTER January 2005

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Dear colleagues,

Alberta Influenza Activity Update

This year's epidemic is slowly building up. The provincial Lab confirmed 229 influenza cases in Alberta up to January 1, 2005. All of them were influenza A. Eight of them were reported by TARRANT recorders.

For the week of December 26 to January 1, 2005, 60 influenza A positive isolates were identified in Alberta, 40 of which were found in Capital Health. Outbreaks in 4 long-term care facilities (all in Capital Health) and 2 hospitals (one in Capital Health and the other in Peace Country) were also reported.

The provincial lab confirmed

another 3 cases of Influenza A submitted by TARRANT sentinels for the week of January 2 to January 8, 2005. Some of the isolates have been sent for subtyping in the National Lab. The results are not yet available.

Please continue clinical influenza reporting and swab submission. This provides important information of influenza activity levels and spread as well as the virus types in Alberta.



Avian Influenza Update

There were 48 confirmed human cases of avian influenza A (H5N1) since January 28, 2004 (as of January 13, 2005). Thirty seven of them died.

WHO received informal reports of two additional cases of H5N1 infection in Viet Nam on January 14, 2005. An 18-year-old woman was hospitalized on January 1 and died on January 10. A 35-year old woman was hospitalized on January 9 and remains in critical condition. Both patients are from provinces in the southern part of the country, where poultry outbreaks have been reported since

the beginning of December. If confirmed, these latest human cases will bring the total in Viet Nam, since mid-December 2004, to six. Of these, four have died.

Activities associated with the approach of the Lunar New Year festivities in early February may increase the risk of further human cases. For more updated information on avian influenza, please visit the WHO avian flu website: http://www.who.int/csr/disease/avian_influenza/en/

Researches on the 1918 Flu Pandemic Virus

Many experts fear that a new influenza pandemic sparked by the highly virulent avian flu currently circulating in Southeast Asia is just a matter of time. A better understanding of the past flu pandemic virus could help us predict the pandemic and prepare for it. A couple of recent articles describe research on the influenza pandemic of 1918 and its implications to influenza prevention and treatment today^{1,2}.

¹ Kobasa D, Takada A, Shinya K, et al. Enhanced virulence of influenza A viruses with the haemagglutinin of the 1918 pandemic virus. *Nature*. 2004; 7;431(7009):703-7.

² Taubenberger JK, Reid, AH, Fanning, TG, et al. Capturing a killer flu virus. *Scientific American*. 2005; 292(1):62-71.

Kobasa et al. used reverse genetics to produce viruses containing the viral haemagglutinin (HA) and neuraminidase (NA) genes of the 1918 influenza strain. The HA of the 1918 pandemic virus confers enhanced virulence to the wild-type virus in a mouse model. Further dissection of the 1918 viral HA might help identify the critical structures that provide enhanced virulence. The identification of these motifs may be used to help predict the emergence of a new flu pandemic. Also, the pathological changes in the infected mice are important for finding potential strategies for the treatment of patients infected with highly virulent pandemic flu virus. Kobasa's research was cited and discussed in the December 9 issue of The New England Journal of Medicine³.

Taubenberger JK et al. focused on determining what made the 1918 flu so virulent and establishing the origin of the pandemic virus. They studied the possible relationship between avian flu virus and the 1918 flu virus by extracting viral genetic material from 1918 autopsy samples. This article is reprinted with permission of Scientific American, Inc. and attached to this newsletter.

**TARRANT Annual Meeting
Delta Calgary Airport
February 24, 2005**

This one-day meeting (10am-4 pm, February 24, 2005) is directed at current TARRANT sentinel physicians as well as anyone involved in influenza surveillance programs in Canada. It will provide an opportunity for Alberta sentinel physicians and public health professionals across Canada to exchange their opinions about the current and future direction of influenza surveillance.

Here are some highlights of the meeting:

- What are these viruses doing?
 - Current and developing lab tests (provincial lab) K Fonseca
 - New Developments in Alberta Pandemic Influenza Planning A Honish

- How we do surveillance, what can we learn from one another?
 - Alberta Influenza Surveillance: Process and Partners E Sartison
 - Flu Watch-link to the world B Winchester
 - Influenza surveillance-NaRes A Lambert-Lanning
 - Influenza surveillance -Saskatchewan K Brandt

- New developments
 - Use of computerized medical records L Svenson
 - Other Research Projects N Drummond

If you plan to attend the meeting and/or to send one of your staff to attend the meeting, please get back to us by **January 31, 2005** (if you haven't done so).

Fax: (403) 270-4329 OR Tel: (403) 220-2750

We will send out more updated meeting information including housekeeping details in the next few weeks. Hope to see you in Calgary next month!

³ Daniel F, Robert B. The genetic archaeology of influenza. N Engl J Med 2004; 351(24): 2550-51.