Weekly Influenza Update

January 29, 2009

Haemophilus influenza type B ALERT (see at bottom) http://www.cdc.gov/mmwr/pdf/wk/mm58e0123.pdf

Wisconsin:
Influenza activity has stabilized at fairly low levels in Wisconsin.
As of January 17, 54 confirmed influenza cases had been reported for Wisconsin including 27 A(H1), 19 A(H3), 1 a(not subtyped), and 7 B viruses. The prevalence of influenza-like illness [fever of 100oF or higher and either cough or sore throat] in Wisconsin's primary care patients is estimated to be 1.3%.

12.2% of last week's primary care patients had acute respiratory infections (ARI).
The prevalence of acute diarrheal illness (ADI) in Wisconsin's primary care patients is at 1.4%.

CLINICAL NOTES:
Prophylaxis
Continue to offer influenza vaccine to anyone interested. Full immunity is achieved within 2 weeks of vaccination.
Vaccination is targeted towards:
- all high risk individuals
- children from 6 months to 18 years
- adults 50 years and above
- pregnant women
- healthcare workers

Diagnosis
- influenza infections continue to be rare at this time
- PPV of rapid influenza tests is poor, NPV is excellent

Treatment
- Antivirals need to be started with 48 hours of symptom onset to be effective
- Antivirals started after 48 hours may be effective for hospitalized patients with confirmed influenza
- a limited number of viruses have been tested for neuraminidase inhibitor resistance this season
    157 out of 160 A(H1) viruses were resistant to Oseltamivir (98%)

    0/30 A(H3) and 0/66 B viruses have been resistant to oseltamivir.

    All viruses tested have been sensitive to zamanivir
- a limited number of viruses have been tested for adamantane resistance this season
    1/133 A(H1N1) viruses were resistant to adamantanes (1%)
    26/26 A(H3N2) viruses were resistant to adamantanes (100%)
    Adamantane antivirals are ineffective against influenza B viruses

Across the upper Midwest, 72% of influenza viruses to date have been A(H1N1), 12% A(H3N2) and 17% B. Therefore:
- Oseltamivir alone will be effective in 28% of cases
    (cost per Rx =$119.99)
- Zanamivir alone will be effective in 100% of cases
    (cost per Rx = $72.99)
- Amantadine/Rimantadine alone will be effective in 72% of cases
    (cost per rimantiadine Rx = $28.19)
    (cost per Amantadine Rx = $12.89)
- Oseltamivir plus Amantadine/Rimantadine will be effective in 100% of cases
    (cost per combined Rx = $132.79 - $148.18)

Other
- parainfluenza, adenovirus and rhinoviruses continue to circulate in Wisconsin
- RSV prevalence is moderate and increasing

- Rotavirus isolations are at low levels

Across the U.S.:
As of January 17th, 2,450 positive surveillance cultures have been recorded in the United States. 11.5% of respiratory specimens during week 2 (January 11-17) were positive for influenza.

-83.1% of isolates have been type A
86.0% of all sub-typed A viruses have been H1N1
14.0% of A viruses have been H3N2
-16.9% of isolates have been type B

-7.5% of deaths during week 2 (January 11-17) were due to pneumonia or influenza
[below the epidemic threshold of 7.8%] -two pediatric influenza deaths [from Colorado and Texas] have been reported this season

Global News [from the WHO]: 6 new culture confirmed cases of avian influenza The Ministry of Health of Indonesia has announced two new confirmed cases of human infection with the H5N1 avian influenza virus. A 29-year-old developed symptoms on 11 December 2008, was hospitalized on
13 December and died on 16 December. The investigation indicated that she visited a wet market to buy fresh produce, including chicken meat, on a daily basis. Household contacts were placed under medical observation, where none developed illness. The second case involved a 5-year-old female who developed symptoms on 23 December 2008, was hospitalized on 27 Dec 2008 and died on 2 January 2009. The investigation indicated that she visited a wet market to buy chicken meat and eggs two days prior to symptom onset. Contacts were placed under medical observation, where none developed illness.

The Ministry of Health in China has announced three new confirmed human cases of H5N1 infection. The first, a 31-year-old female, had onset of symptoms on 10 January. She received treatment in hospital but died on
23 January. Investigations indicate recent visits to a live poultry market. The second case is a 29-year-old male, had onset of symptoms on 15 January and remains in a critical condition. Investigations indicate possible exposure at poultry market. The third case is an 18-year-old male, had onset of symptoms on 19 January and died on 26 January.
Investigations indicate a recent history of exposure to sick and dead poultry.

The Ministry of Health and Population of Egypt has announced a new human case of avian influenza A(H5N1) virus infection. The case is a 2-year-old female whose symptoms began on 23 January and she was immediately hospitalized. She remains in a stable condition. Investigations indicate a recent history of contact with sick and dead poultry.

Since 2003, there have been 403 laboratory-confirmed cases of Avian influenza (A-H5N1). The cases been confined to Laos, Viet Nam, Thailand, Indonesia, Cambodia, the People's Republic of China, Turkey, Iraq, Azerbaijan, Egypt, Djibouti Nigeria, Myanmar and Pakistan. There have been 254 associated deaths (case fatality rate= 63.0%). There is enhanced avian influenza surveillance in Wisconsin. Contact Tom Haupt at the Wisconsin Division of Public health (608-266-5326) prior to submitting specimens for fee-exempt testing for patients with influenza-like illness returning from Southeast Asia within 10 days.

Other Observations:

January 29 Phenology: Today’s photoperiod is 9 hours and 51 minutes (a full 52 more minutes of day than a month ago), and daylength is increasing by 2 minutes and 18 seconds per day.

Great Race of Mercy: On this date 84 years ago 6 separate dog teams
carried diphtheria toxin 170 miles across frozen wilderness of the U.S.
territory of Alaska. It was the third day of a record-breaking five and a half day, 674 mile slog from Nenana to Nome.

On January 22, 1925, the only doctor in Nome sent a radio telegram via the U.S. Army Signal Corps and alerted all major towns in Alaska including the governor in Juneau of the public health risk:

“An epidemic of diphtheria is almost inevitable here STOP I am in urgent need of one million units of diphtheria antitoxin STOP Mail is only form of transportation STOP I have made application to Commissioner of Health of the Territories for antitoxin already STOP “

By January 24 there were six fatalities, 20 confirmed cases, and 50 more at risk. The number of people threatened in the area of northwest Alaska around Nome was about 10,000, and the expected mortality rate for diphtheria in 1925 was close to 100 percent without antitoxin. The influenza pandemic of 1918/1919 had already claimed about 50 percent of the native population of Nome.

The only antitoxin serum was in Anchorage, a thousand miles away. An aircraft that could quickly deliver the medicine was taken out of winter storage, but its engine would not start. After considering alternatives, officials decided to move the medicine by sled dog. The serum was transported by train from Anchorage to Nenana, where, on January 27th, the first musher embarked as part of a relay aimed at delivering the needed serum to Nome. More than 20 mushers took part, facing a blizzard with −23 °F temperatures and strong winds.

On February 2, 1925, the Norwegian Gunnar Kaasen drove his team, led by Balto into Nome. The longest and most hazardous stretch of the run was actually covered by another Norwegian, Leonhard Seppala and his dog team, led by Togo. Kaasen did not consider Balto a particularly good lead dog, but Balto proved himself on the Iditarod trail, saving his team from certain death in the Topkok River. Balto was also able to stay on the trail in near whiteout conditions in which Kaasen admitted he could barely see his hand in front of his face. During the blizzard, Kaasen and his team missed the handoff to the last sled dog team and had to take the medicine twice as far, which was what eventually brought them to fame.

A statue of Balto was erected in New York City's Central Park on December 17, 1925. In front of the statue a low-relief slate plaque depicts Balto's sled team, and bears the following inscription:

“Dedicated to the indomitable spirit of the sled dogs that relayed antitoxin six hundred miles over rough ice, across treacherous waters, through Arctic blizzards from Nenana to the relief of stricken Nome in
the Winter of 1925. Endurance ● Fidelity ● Intelligence”

From the CDC - Increase in Hib Cases in Minnesota, Parents Urged to Make Sure Infants and Children Under Five Are Vaccinated
(http://www.cdc.gov/mmwr/pdf/wk/mm58e0123.pdf) Minnesota has seen an increase in Haemophilus influenza type B (Hib) cases in children younger than 3 years of age. In 2008, there were 5 confirmed cases of Hib, including one death. This serious disease has been uncommon since routine use of Hib vaccine began over 15 years ago. Before widespread use of the vaccine, Hib disease struck over 20,000 children per year in the U.S. However, the deferral of the booster dose is jeopardizing the cushion of protection high immunization coverage provides, making babies even more vulnerable. The children affected were either mostly unimmunized or partially immunized.

Because high immunization coverage provides what’s commonly called “herd immunity,” parents may forget that vaccine-preventable diseases are still circulating. CDC urges parents of children under age
5 to check their children’s immunization records, or to call their children’s doctor, nurse, or clinic to see if their children are fully protected with Hib vaccine as age appropriate. Hib vaccine is safe and highly effective.

The entire country has been in a Hib vaccine shortage since December, 2007. This shortage is expected to last into mid-2009. There are adequate vaccine supplies to provide protective Hib primary series vaccination for all the children who need them. However, vaccine supply is complicated to manage during a shortage, so not all medical offices or clinics will have vaccine available on any given day.

With the currently available vaccine, babies should receive three doses of available Sanofi Hib vaccine: one each at 2, 4, and 6 months of age.
Due to the shortage, the booster dose normally received at age 12-15 months must be deferred, except for children at high risk, such as those children with sickle-cell disease, leukemia, HIV and other immune system problems, no spleen, or American Indian/Alaska Native children. Older children who did not receive the Hib vaccine during infancy can be protected with fewer doses. Parents should check with their child’s healthcare provider.

CDC has initiated enhanced surveillance to look for Hib disease in children across the country. To date, CDC has not identified any additional clusters of Hib disease outside of Minnesota, but it continues to work with the states to follow up on any suspected cases and urges providers to report cases to their health departments.

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