

Weekly Influenza Update

October 13, 2009

[note: My apologies for delays in the usual updates. There have been significant changes in the data structure of files that I extract from CDC and other sources, thus requiring a lot of re-reprogramming of my assessment and reporting tools]

Wisconsin:

Influenza activity has increased in Wisconsin over the past week.

Since August 30th, there have been 590 confirmed and probable cases, 17 hospitalizations and one death. Wisconsinites have already received over 250,000 doses of seasonal influenza vaccine - far above previous years.

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 5.8% with a predominance of cases in the people between 0 and 24 years.

11.8% 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 1.2%

CLINICAL NOTES:

Prophylaxis

H1H1 vaccine has been licensed for general use by the FDA and is starting to arrive.

Priority groups include:

- Pregnant women
 - Household contacts and caregivers for children younger than 6 months
 - Healthcare and emergency medical services personnel
 - All people from 6 months through 24 years of age
 - Persons aged 25-64 years with high risk health conditions Continue vaccinating with seasonal influenza vaccine
- Pneumococcal vaccine is indicated for smokers, and people with asthma and other chronic lung conditions

Diagnosis

- influenza infections are at moderate levels at this time
- the best performing rapid antigen test will miss 31% of true cases of 2009 H1N1. Trust the positives.
- a negative test in a patient with influenza-like illness does not rule out influenza

Treatment (see: <http://www.cdc.gov/h1n1flu/recommendations.htm>)

[Note: Oseltamivir suspension is in short supply nationwide. The best alternative to the commercially available suspension is for pharmacists to prepare a suspension from capsules.] Antiviral treatment should be used judiciously. The target recipients for empiric therapy are:

- Children younger than 2 years old;
- Persons aged 65 years or older
- Pregnant women
- Persons of any age with certain chronic medical or immunosuppressive conditions
- Persons younger than 19 years of age who are receiving long-term aspirin therapy 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

Resistance Patterns

- a limited number of viruses have been tested for neuraminidase inhibitor resistance this season
 - all tested 2009 H1H1 viruses have been sensitive to zanamivir
 - 0.5% of 2009 H1N1 viruses have been resistant to oseltamivir
 - 100% of 2009 H1N1 have been resistant to adamantane antivirals

Other

- Rhinovirus, adenovirus, parainfluenza viruses and enteroviruses are co-circulating at low levels in Wisconsin

Across the U.S.:

27.4% of respiratory specimens during week 39 (September 27-October 3) were positive for influenza.

-99.7% of isolates have been type A during week 39

99.9% of all sub-typed A viruses have been 2009 H1N1

0.1% of A viruses have been seasonal H1N1

0.1% of A viruses have been H3N2

-0.3% of isolates have been type B

Since August 30, 2009, there have been 3,874 lab-confirmed influenza-associated hospitalizations and 240 lab-confirmed influenza-associated deaths.

-6.5% of deaths during week 39 (September 27-October 3) were due to pneumonia or influenza
[at the epidemic threshold of 6.5%]

-76 pediatric deaths associated with 2009 H1N1 have been reported - bacterial co-infections were noted in 9 of 32 H1N1 cases which had samples collected from a normally sterile site (28.1%). Sixty-seven percent of the children had one or more high-risk medical conditions, most commonly neurodevelopmental disorders (61%).

Global News [from the WHO]: As of 4 October 2009, worldwide there have been more than 375,000 laboratory confirmed cases of pandemic influenza H1N1 2009 and over 4500 deaths reported to WHO.

In the temperate regions of the Northern Hemisphere rates of influenza-like-illness (ILI) continue to increase marking an unusually early start to fall and winter influenza season in many countries.

Mexico has been experiencing high intensity of respiratory diseases for the past three weeks. In Canada focal increases have been reported in the west.

In the temperate regions of the southern hemisphere, influenza transmission has largely subsided (Chile, Argentina, and New Zealand) or continues to decline substantially (South Africa and Australia).

All pandemic H1N1 2009 influenza viruses analyzed to date have been antigenically and genetically similar to A/California/7/2009-like pandemic H1N1 2009 virus.

Since 2003, there have been 442 laboratory-confirmed cases of Avian influenza (A-H5N1). There have been 262 associated deaths (case fatality rate= 59.3%).

Other Observations:

October 13th Phenology: Today's photoperiod is 11 hours and 8 minutes, and daylength is decreasing by 2 minutes and 51 seconds per day.

Randomized Controlled Trial of surgical masks vs. N-95 respirators

(See: Loeb et al., Surgical mask vs N-95 respirator for preventing influenza among health care workers: a randomized trial. JAMA.

2009;302(17):(doi:10.1001/jama.2009.1466)) Among nurses in Ontario

tertiary care hospitals, use of a surgical mask compared with an N95 respirator resulted in noninferior rates of laboratory confirmed influenza.

Potential protection from severe H1N1 outcomes from seasonal vaccine

(See: Garcia-Garcia, et al., Partial protection of seasonal trivalent inactivated vaccine against novel pandemic influenza A/H1N1 2009:

case-control study in Mexico City. BMJ 2009;339:b3928

doi:10.1136/bmj.b3928.)

http://www.bmj.com/cgi/content/abstract/339/oct06_2/b3928

Preliminary evidence suggests some protection from the 2008-9 trivalent inactivated vaccine against pandemic influenza A/H1N1 2009, particularly severe forms of the disease, diagnosed in a specialty hospital during the influenza epidemic in Mexico City.

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