Weekly Influenza Update

April 2, 2009

Wisconsin:
Influenza activity is declining in Wisconsin. In the last week, influenza B viruses have comprised 72% of isolates. 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 2.7%.

15.6% 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 1.7%.

CLINICAL NOTES:
Prophylaxis
Based on historic trends, 91% of cases have already occurred. Given the high percentage of B viruses in Wisconsin and low vaccine match for B viruses, vaccine offers little additional protection at this time.
Continue to offer vaccine, however, to unvaccinated high risk individuals.

Diagnosis
- influenza infections are at low to moderate levels at this time
- PPV of rapid influenza tests is moderate, NPV is high

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
  549 out of 554 A(H1) viruses were resistant to Oseltamivir
(99.1%)
  0/86 A(H3) and 0/258 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
  3/554 A(H1N1) viruses were resistant to adamantanes (0.5%)
  86/86 A(H3N2) viruses were resistant to adamantanes (100%)
  Adamantane antivirals are ineffective against influenza B viruses

Across Wisconsin, 72% of influenza viruses in the last week have been B, with 28% A(H1) and 0% A(H3). Therefore:
- Zanamivir alone will be effective in 100% of cases
  (cost per Rx = $72.99)
- Oseltamivir plus Amantadine/Rimantadine will be effective in 100% of cases
  (cost per combined Rx = $132.79 - $148.18)
- Oseltamivir alone will be effective in 73% of cases
  (cost per Rx =$119.99)
- Amantadine/Rimantadine alone will be effective in 27% of cases
  (cost per rimantiadine Rx = $28.19)
  (cost per Amantadine Rx = $12.89)

Other
- RSV prevalence has peaked and is declining
- adenoviruses, rhinoviruses, parainfluenza viruses and enteroviruses are circulating in Wisconsin and causing acute respiratory symptoms
- Rotavirus isolations appear to have peaked at low levels

Across the U.S.:
As of March 21st, 22,384 positive surveillance cultures have been recorded in the United States. 21.4% of respiratory specimens during week 11 (March 15-21) were positive for influenza.

-70.8% of isolates have been type A

90.4% of all sub-typed A viruses have been H1N1
9.6% of A viruses have been H3N2
-31.0% of isolates have been type B

-7.2% of deaths during week 11 (March 15-21) were due to pneumonia or influenza
[below the epidemic threshold of 7.9%]
-35 pediatric influenza deaths have been reported this season

Global News [from the WHO]: The Ministry of Health and Population of Egypt has reported a new confirmed human case of avian influenza A(H5N1). The case is a two and a half year old female whose symptoms began on 23 March. She was admitted a hospital on 24 March where she was started on oseltamivir the same day and remains in a stable condition. Investigations into the source of infection indicate a history of close contact with dead and sick poultry prior to becoming ill.

Since 2003, there have been 413 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 256 associated deaths (case fatality rate= 62.0%). 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:

Hib Vaccine: There continues to be some confusion on the appropriate dosing of Hib vaccine in children during the current shortage. Please refer to the attached "Updated interim catch-up schedule for use of Haemophilus influenzae type b vaccine (Hib) in non-high risk children"
from the Wisconsin Division of Public Health.

Dancing to Connect to a Global Tribe by Matt Harding (from NPR Morning
Edition): This is provided in follow-up to last weeks video. (Thanks to Jim Zack, MD - UWSP and Jim Conway, MD - UW-Madison) http://www.npr.org/templates/story/story.php?storyId=102423050

April 2 Phenology: Today's photoperiod is 12 hours and 48 minutes, and daylength is increasing by 2 minutes and 55 seconds per day.

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Updated interim catch-up schedule for use of Haemophilus influenzae type b vaccine (Hib) in non-high risk children

A nationwide shortage of Hib vaccine began in December 2007 and is ongoing. The shortage resulted in a recommendation by CDC to temporarily defer the Hib booster (routinely recommended at 12 through 15 months) for children who are NOT at high risk of Hib infection. This recommendation will continue until supplies are restored. This recommendation is still in effect. Healthcare providers must be vigilant about ensuring that all young children are appropriately vaccinated with the appropriate primary series of Hib vaccine. For non-high risk children who are behind, please follow the interim guidelines in the table below.

Current age	Doses already received	Hib doses needed for primary series catch-up[1,2]
Less than 12 months old	• No previous Hib doses	Give a total of 3 Hib doses, 4 weeks[4] apart
	One dose: • 1 dose of ActHib[3], OR • 1 dose of PedvaxHib	Give 2 additional doses of Hib (doses 2 and 3), with at least 4 weeks[4] between doses
	Two doses: • 1 dose of PedvaxHib plus 1 dose of ActHib, OR • 2 doses of ActHib	Give 1 additional dose of Hib (the third dose), given at least 4 weeks[4] after the second dose
12 through 14 months old	• No previous Hib doses	Give a total of 2 Hib doses, 8 weeks apart
	Has received any of the following before turning 1 year old: • 1 dose of PedvaxHib, OR • 1-2 doses of ActHib, OR • 1 dose of PedvaxHib and 1 dose of ActHib	Give 1 additional dose of Hib at least 8 weeks after the last dose
15 months to 5 years old	• No previous Hib doses	Give 1 dose of Hib
	• 1 dose of PedvaxHib, OR • 1-2 dose of ActHib	Give 1 additional dose of Hib at least 8 weeks after the last dose

1. No booster dose at 12-15 months of age is recommended at this time.
2. The intervals included in this table are for the non-high risk children using minimum intervals from ACIP catch-up schedule.
3. Includes Pentacel
4. Intervals of 8 weeks are acceptable for children who are on schedule; intervals of 4 weeks should be used for children whose primary series is delayed

Certain children are at increased risk for Hib disease, including children with asplenia, sickle cell disease, human immunodeficiency virus infection and certain other immunodeficiency syndromes, and malignant neoplasms. CDC recommends that providers continue to vaccinate these children with available Hib conjugate vaccines according to the routinely recommended schedules, including the 12 through 15 month booster dose. Providers who serve predominantly American Indian/Alaska Native (AI/AN) children living in AI/AN communities should continue to stock and use PRP-OMP– containing Hib vaccines (Merck product) and vaccinate according to the routinely recommended schedule, which includes the 2-dose primary series (ages 2 and 4 months) and a booster dose given between 12 and 15 months of age. This product is available from the VFC Pediatric Vaccine Stockpile, through the WI State Immunization Program.