

Weekly Influenza Update

November 5, 2009

Wisconsin:

Influenza activity has decreased slightly in Wisconsin over the past week. Since August 30th, there have been 3700 confirmed and probable cases, 120 hospitalizations and 6 deaths. As of the end of October Wisconsinites had received over 675,000 doses of seasonal influenza

vaccine - well above last year at this time (584,000). As of 11/04/09, 518,000 doses of H1N1 vaccine have been shipped to Wisconsin.

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 7.2% with a predominance of cases in the people between 0 and 24 years.

15.7% 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

H1H1 vaccine has been prioritized to the following groups (not in hierarchical order):

- pregnant women
 - persons who live with or provide care for infants aged <6 months
 - health-care and EM personnel who have direct contact with patients or infectious material
 - children aged 6 months--4 years
 - children and adolescents aged 5--18 years who have medical conditions
- Continue vaccinating with seasonal influenza vaccine Pneumococcal vaccine is indicated for smokers, and people with asthma and other chronic lung conditions as well as a number of other chronic conditions.

Demographics and Symptoms (based on initial clinical surveillance of ILI in primary care)

Median time from onset to clinic visit: 4 days

Mean age: 25 years

Sex Ratio: female 59%; Male 41%

% with probable exposure to similar illness within 1-3 days of onset: 47%

Common symptoms

Fever: 71%

Cough: 87%

Sore Throat; 63%

Runny Nose: 61%

Headache: 32%

Any GI symptom: 26%

Severity: mild - 39%; moderate 58%; severe 3%

Diagnosis

- influenza infections are at high 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>)

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 H1N1 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, and parainfluenza viruses are co-circulating at low levels in Wisconsin

Across the U.S.:

42.1% of respiratory specimens during week 42 (October 18-24) were positive for influenza.

-99.7% of isolates have been type A
99.8% 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 12,466 lab-confirmed influenza-associated hospitalizations and 530 lab-confirmed influenza-associated deaths.

-7.1% of deaths during week 42 (October 18-24) were due to pneumonia or influenza
[above the epidemic threshold of 6.6%]

-114 pediatric deaths associated with 2009 H1N1 have been reported - bacterial co-infections were noted in 16 of 47 H1N1 cases which had samples collected from a normally sterile site (34%).

Global News [from the WHO]: As of 25 October 2009, there have been more than 440,000 laboratory confirmed cases of pandemic influenza H1N1
2009 and over 5700 deaths reported to WHO.

In the temperate zone of the northern hemisphere, influenza transmission continues to intensify marking an unusually early start to winter influenza season in some countries. In North America, the US, and parts of Western Canada continue to report high rates of influenza-like-illness (ILI) and numbers of pandemic H1N1 2009 virus detections; Mexico has reported more confirmed cases since September than during the springtime epidemic. In Western Europe, high rates of ILI and proportions of respiratory specimens testing positive for pandemic H1N1 2009 have been observed in at least five countries: Iceland, Ireland, the UK (N. Ireland), Belgium, and the Netherlands.

Many other countries in Europe and Western and Central Asia are showing evidence of early influenza transmission, including in Spain, Austria, parts of Northern Europe, Russia, and Turkey. In Japan, influenza activity has also increased sharply, especially on the northern island, approximately 10 weeks ahead the usual start of the winter influenza season.

Pandemic influenza transmission remains active in many parts of the tropical zone of the Americas, most notably in several Caribbean countries. Overall transmission continues to decline in most but not all parts of the tropical zone of South and Southeast Asia

Little influenza activity has been reported in temperate region of the southern hemisphere since the last update.

Systematic surveillance conducted by the Global Influenza Surveillance Network continues to detect sporadic incidents of H1N1 pandemic viruses that show resistance to the antiviral oseltamivir. To date, 39 resistant pandemic H1N1 influenza viruses have been detected and characterized worldwide. All of these viruses show the same H275Y mutation that confers resistance to the antiviral oseltamivir, but not to the antiviral zanamivir.

All pandemic H1N1 2009 influenza viruses analysed to date were antigenically and genetically closely related to the vaccine virus A/California/7/2009.

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:

November 5th Phenology: Today's photoperiod is 10 hours and 6 minutes, and daylength is decreasing by 2 minutes and 29 seconds per day.

Retraction of N95 mask study results

Findings indicating that the use of N95 masks may be more beneficial than alternatives for health care workers to protect themselves against respiratory illness have been retracted. The team of Australian researchers who conducted the study also retracted their findings and their recommendations for HCWs to use N95 masks. The retraction was made during the 47th Annual Meeting of the Infectious Diseases Society of America.

The initial findings involved 1,936 front line health care workers in 24 hospitals in Beijing, China. In a presentation at the 49th Annual Interscience Conference on Antimicrobial Agents and Chemotherapy in San Francisco in September, Raina McIntyre, PhD, of the University of New South Wales in Sydney, Australia, said that N95 masks were significantly more effective than surgical masks in preventing a host of respiratory and influenza-like illnesses. Those findings are no longer significant, according to Holly Seale, PhD, who is also of the University of New South Wales and was an investigator on the study.

FDA Authorizes Emergency Use of Intravenous Antiviral Peramivir for 2009 H1N1 Influenza virus infections

See:

<http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm187813.htm>

On October 23, FDA issued a press announcement titled " FDA Authorizes Emergency Use of Intravenous Antiviral Peramivir for 2009 H1N1 Influenza for Certain Patients, Settings."

The U.S. Food and Drug Administration announced that, in response to a request from the U.S. Centers for Disease Control and Prevention, it has issued an emergency use authorization (EUA) for the investigational antiviral drug peramivir intravenous (IV) in certain adult and pediatric patients with confirmed or suspected 2009 H1N1 influenza infection who are admitted to a hospital. Specifically, IV peramivir is authorized only for hospitalized adult and pediatric patients for whom therapy with an IV drug is clinically appropriate, based on one or more of the following reasons:

1. the patient is not responding to either oral or inhaled antiviral therapy, or
2. when drug delivery by a route other than an intravenous route is not expected to be dependable or feasible;
3. for adults only, when the clinician judges IV therapy is appropriate due to other circumstances.

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**Severe Illness (ICU Admission) or Death in Pregnant or Postpartum Woman
Case Report
Centers for Disease Control and Prevention
Wisconsin Division of Public Health**

Instructions: Providers are encouraged to use this form to report all pregnant and (up to 6 weeks) postpartum women with severe influenza (of any type) admitted to an intensive care unit (ICU) or who died. Forms should be faxed to the division of Public Health reporting line at 608-261-4976.

Case ID:	
Medical record number:	
Contact name:	
Contact phone:	
Contact e-mail:	
Hospital name:	
Hospital zip code:	
Patient name:	
Patient DOB:	
State of residence:	

1. Patient Race:

- White
- Black/African-American
- Asian/Pacific Islander
- American Indian/Alaskan Native
- Other
- Unknown

2. Patient Ethnicity:

- Hispanic
- Non-Hispanic
- Unknown

3. Insurance Type:

- Private health insurance
- Medicaid
- Self-pay
- Uninsured
- Unknown

4. Pregnancy classified as high-risk? Yes No Unknown

5. Underlying medical conditions/risk factors:

- Asthma
- Other chronic lung disease
- Pre-existing diabetes (prior to pregnancy)
- Gestational diabetes
- Obesity (prior to pregnancy)
- Cardiovascular disease, excluding hypertension
- Hypertension (prior to pregnancy)
- Gestational Hypertension/Preeclampsia/Eclampsia
- Seizure disorder
- Neurodevelopmental and/or neuromuscular disorder
- Tobacco use during current pregnancy
- History of tobacco use
- Immunosuppression, specify _____
- Cancer diagnosed in last year
- Hemoglobinopathy
- Renal disease
- Other, specify: _____
- Unknown

6. Prenatal medications upon admission to hospital:

7. Estimated due date? __/__/__ Unknown

8. Gestational age at admission (wks): ____ Unknown

9. Date of symptom onset: __/__/__ Unknown

10. Date initial care sought: __/__/__ Unknown

11. Did mother receive rapid influenza test? Yes No Unknown
Result of rapid test? Positive Negative Unknown

12. Did mother receive rRT-PCR test? Yes No Unknown
Result of rRT-PCR test? Positive Negative Unknown

13. Did mother have any viral cultures? Yes No Unknown
Result of viral cultures? Positive Negative Unknown

14. Did mother receive DFA/IFA test? Yes No Unknown
Result of DFA/IFA cultures? Positive Negative Unknown

15. Did mother receive any influenza vaccine in 2009 or 2010 more than 2 weeks before onset of illness? Yes No Unknown
If yes, 2009 seasonal flu vaccine? Yes No Unknown
2009 pandemic H1N1 vaccine? Yes No Unknown

16. Did mother take antiviral medications after becoming ill?

Yes (list below) No Unknown

<input type="checkbox"/> Oseltamivir (Tamiflu®)	Dose _____ times/day Dates taken from ____/____/____ to ____/____/____
<input type="checkbox"/> Zanamivir (Relenza®)	Dose _____ times/day Dates taken from ____/____/____ to ____/____/____
<input type="checkbox"/> Rimantadine	Dose _____ times/day Dates taken from ____/____/____ to ____/____/____
<input type="checkbox"/> Amantadine	Dose _____ times/day Dates taken from ____/____/____ to ____/____/____
<input type="checkbox"/> Other	Dose _____ times/day Dates taken from ____/____/____ to ____/____/____
<input type="checkbox"/> Unknown antiviral	

17. Date of hospital admission: __/__/__ Unknown

18. Admitted to ICU? Yes No Unknown

19. Date of ICU admission: __/__/__ Unknown

20. Date of Final ICU discharge: __/__/__ Not yet discharged Unknown

21. Date of hospital discharge/death: __/__/__ Not yet discharged Unknown

22. Maternal death? Yes No Unknown

23. Other medications during hospitalization:

- Antibiotics
- Antihypertensives
- Vasopressors
- Systemic corticosteroids. If yes, please specify reason (e.g. for maternal health or fetal lung maturity) _____
- Nebulized drugs (e.g. albuterol)
- Antiepileptics
- Antiglycemics
- Tocolytic agents
- Diuretics
- Other, specify: _____
- Unknown

24. Was she diagnosed with:

Pneumonia Yes, date: __/__/__ No Unknown
If pneumonia, was a bacterial culture obtained? Yes No Unknown
What was the culture site? _____
Result of bacterial culture? Positive Negative Unknown
ARDS Yes, date: __/__/__ No Unknown

25. Did she require mechanical ventilation?

Yes, then how many days? ___ No Unknown

26. Date of delivery: __/__/__ Unknown

27. Delivery location:

labor and delivery
 emergency department
 intensive care unit
 Other, specify: _____
 Unknown

28. Method of delivery:

Undelivered
 Vaginal
 Cesarean, scheduled
 Cesarean, emergency
 Unknown

29. Other delivery details/complications:

30. Outcome:

Live birth
 Stillbirth
 Unknown

31. Gestational age at delivery (wks): _____

32. Infant birthweight: _____ Unknown

33. Infant 1-minute Apgar? _____ Unknown

34. Infant 5-minute Apgar? _____ Unknown

35. Infant to NICU? Yes No Unknown

36. Date of infant discharge/death: __/__/__ Unknown

37. Infant death? Yes No Unknown

