

**Novel H1N1 Influenza
Updated Key Points
June 29, 2009**

“H1N1 2009 Influenza Virus Infection During Pregnancy in the USA” will be published in the online edition of The Lancet on July 29, 2009 at <http://www.thelancet.com/>

Key Points

- Pregnant women with suspected or confirmed influenza infection need prompt treatment with antiviral medication.
- Pregnant women are at an increased risk for pregnancy complications if infected with an influenza virus.
- Pregnant women who are otherwise healthy have been severely impacted by the novel H1N1 influenza virus.
- Pregnant women who have been infected with novel H1N1 influenza virus have had a higher rate of hospitalization than the general population.
- Of 45 deaths reported to CDC during the first two months of the outbreak, 6 (13%) were in pregnant women.
- CDC has posted clinical guidance for treatment and prophylaxis of pregnant women with suspected or confirmed novel H1N1 influenza at the following link: http://www.cdc.gov/h1n1flu/clinician_pregnant.htm

Novel H1N1 influenza virus infection in pregnant women

- The Lancet paper describes 34 pregnant women (31 confirmed infections and 3 probable infections) with novel H1N1 influenza virus infection in the U.S. during the first month of the current outbreak (mid-April – mid-May 2009) and 6 deaths from novel H1N1 influenza virus infection during a 2 month period among pregnant women in the U.S.
- Thirteen (13) states reported novel H1N1 influenza infection in pregnant women in the first month.
- Eleven (11) of the 34 pregnant patients required hospitalization (32%) for more than 24 hours; 6 had pneumonia; the length of hospital stay ranged from 2 days to 15 days.
- The hospitalization rate for pregnant women with novel H1N1 influenza virus infection (.32 per 100,000 pregnant women) was higher than the general population (.076 per 100,000) from April 15 – May 18, 2009. This represents a 4-fold increase in hospitalization rates among ill pregnant women compared to sick people in the general population.
- Median age was 26 years (range 14 – 42)
- Twenty-two (22) women were in their first or second trimester (65%); 9 (26%) were in the third trimester.
- 32% reported a family member or close contact with someone with influenza-like illness or pneumonia in the 7 days prior to onset of their own symptoms
- Reported symptoms of illness were similar for pregnant women as for non-pregnant people, except pregnant women were more likely than non-pregnant

**Novel H1N1 Influenza
Updated Key Points
June 29, 2009**

women of reproductive age as well as all other persons to report shortness of breath.

- 50% (17) took oseltamivir; 24% (8) started the drug within two days of symptom onset.

Deaths in pregnant women with novel H1N1 influenza virus infection

- Six (6) deaths of pregnant women with novel H1N1 were reported to CDC between April 15 – June 16, 2009; this represents 13% of the total 45 deaths reported to CDC during this period. However, the estimate of the proportion of total deaths that occur among pregnant women is an unstable estimate due to small numbers and potentially due to delays in reporting deaths either among pregnant or non-pregnant persons. Some additional deaths in pregnant women have been reported to CDC since June 16th.
- All were relatively healthy prior to novel H1N1 illness; all subsequently developed primary viral pneumonia leading to acute respiratory distress requiring mechanical ventilation; none had evidence of secondary bacterial pneumonia.
- Four (4) women were in the third trimester, and 1 each was in the first and second trimesters.
- Five (5) of the 6 women had viable pregnancies and underwent C-sections; none of the 5 live born infants had evidence of influenza infection and 4 have been discharged home while the 5th, which was born preterm, remained hospitalized in good condition at the time the case was reported to CDC.
- All pregnant women who died received oseltamivir; length of time from onset of medical care to receipt of oseltamivir ranged from 6 – 15 days.
- Length of time from onset of medical care to death ranged from 6 – 19 days.

General Issues

- Among the pregnant women who were hospitalized in this series, there was a delay in onset of antiviral therapy despite no apparent delay in diagnosis (62% were tested within 2 days of symptom onset).
- Despite ACIP and ACOG recommendations for inactivated influenza vaccine for all pregnant women, seasonal influenza vaccine coverage among pregnant women is low (~14%).
- Based on past influenza pandemics and on seasonal influenza epidemics, pregnant women have increased morbidity and mortality from influenza infection.
- Prior to this outbreak, published experience of swine influenza infection among pregnant women was limited to one case report of a death of an otherwise healthy pregnant woman at 36 weeks gestation from viral pneumonia contracted from swine exposure in 1988.