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CDC Health Advisory

Distributed via Health Alert Network
May 9, 2007, 11:15 EDT (11:15 AM EDT)
CDCHAN-00259-07-05-09-ADV-N

**Influenza-Associated Pediatric Mortality and the Increase of
Staphylococcus aureus co-infection**

CDC is requesting that states report all cases of influenza-related pediatric mortality from the 2006-2007 influenza season.

Since 2004, the Influenza-Associated Pediatric Mortality Surveillance System, part of the Nationally Notifiable Disease Surveillance System, has collected information on deaths among children due to laboratory-confirmed influenza, including the presence of other medical conditions and bacterial infections at the time of death. From October 1, 2006 through May 7, 2007, 55 deaths from influenza in children have been reported to CDC from 23 state health departments and two city health departments. Data on bacterial co-infections were reported for 51 cases; 20 (39%) had a bacterial co-infection, and 16/20 were infected with *Staphylococcus aureus*. While the number of pediatric influenza associated deaths is similar to that reported during the two previous years, there has been an increase in the number of deaths in which both influenza and pneumonia or bacteremia due to *S. aureus* were identified. Only one influenza and *S. aureus* co-infection was identified in 2004-2005, and 3 were identified in 2005-2006. Of the 16 children reported with *S. aureus* so far in 2006-2007, 11 children had methicillin-resistant (MRSA) isolated from a sterile site (9) or sputum (2), and 5 had methicillin-susceptible *S. aureus* isolated from a sterile site (3) or sputum (2). The median age of children with *S. aureus* co-infection was older than children without *S. aureus* co-infection (11 years versus 4 years, $p < .01$). Children with influenza and *S. aureus* co-infections were reported to be in good health before illness onset but progressed rapidly to severe illness. Influenza strains isolated from these children have not been different from common strains circulating in the community and the MRSA strains have been typical of those associated with MRSA skin infection outbreaks in the United States.

Healthcare providers should be alerted to the possibility of bacterial co-infection among children with influenza, and request bacterial cultures when bacterial co-infection is suspected. Clinicians, clinical agencies and medical examiners are asked to contact their local or state health department as soon as possible when deaths among children due to laboratory-confirmed influenza are identified. CDC requests that all cases of pediatric influenza-associated deaths be reported promptly by state health departments to CDC through <http://sdr.cdc.gov> and that information about bacterial pathogens isolated from sterile sites and/or from sputum or endotracheal aspirates be completed on the Influenza-Associated Pediatric Mortality Surveillance System case report form. If the influenza death was complicated by *S. aureus* infection, please contact the clinical agency to determine if the *S. aureus* isolate is available. CDC is interested in receiving *S. aureus* isolates to better characterize those from fatal cases of influenza in children.

If you have any questions about this Health Advisory, please call the Influenza Division, Epidemiology and Prevention Branch at 404-639-3727.

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