

February 01, 2008

Request for Bacterial Isolates from Influenza-Associated Pediatric Deaths with *Staphylococcus aureus* Co-infection

Dear Colleagues:

Since 2004, surveillance has been conducted by CDC to monitor deaths associated with laboratory-confirmed influenza in children (defined as those <18 years of age). From October 1, 2006 through September 30, 2007, 73 pediatric deaths from influenza have been reported. Of these, 69 recorded presence or absence of bacterial co-infection; 30(44%) had a bacterial co-infection and 22 (73%) of these bacterial co-infections were with *Staphylococcus aureus*.

In comparison, only one *S. aureus* co-infection was identified among 47 influenza pediatric deaths in 2004-2005, and 3 such co-infections among 46 deaths in 2005-2006. Methicillin-resistant *S. aureus* (MRSA) was recovered in 15 (68%) of the 22 cases of influenza-associated pediatric deaths with *S. aureus* co-infection documented in the 2006-2007 influenza season.

Children with *S. aureus* co-infection were older (10 years vs 5 years, $p<.01$) and more likely to have pneumonia and Acute Respiratory Distress Syndrome (ARDS). To date, influenza strains have not differed from those circulating in the community, and the MRSA strains examined have been similar to those associated with MRSA skin infection outbreaks in the US.

CDC issued a Health Advisory on January 30, 2008, requesting health care providers confirm the diagnosis of influenza in hospitalized patients, and consider the possibility of bacterial co-infection in children. They advise care givers consider bacterial culture if children are severely ill or community-acquired pneumonia is suspected. Of note to clinical laboratories, CDC is suggesting health care providers be cognizant of the prevalence of MRSA in their communities when choosing empiric therapy for patients with influenza-associated pneumonia; **it may be helpful to your medical community to provide an update of the MRSA rates in your locale.**

Influenza-associated pediatric deaths should be reported to the local health jurisdiction and to MDCH (517-335-8165), along with information about pathogens recovered from bacterial culture. **We ask our clinical laboratory partners to maintain implicated *S. aureus* isolates for submission to the Bureau of Laboratories, and contact us to arrange for their transport.** CDC is requesting these isolates to better characterize those strains associated with influenza-associated pediatric deaths.

Please contact Dr. James Rudrik (517-335-9641; rudrikj@michigan.gov) of the Microbiology Section with questions or to report recovery of *S. aureus* from an influenza-associated pediatric death. Contact Dr. Anthony Muyombwe (517-335-8099; muyombwea@michigan.gov) of the Virology Section for information on diagnostic tests for influenza.