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Asthma Is Key Risk Factor for Pneumonia in Children with Influenza *Younger Children Are Also at Higher Risk*

Philadelphia, Pa. (July 6, 2010) - Children with asthma are at increased risk of developing pneumonia as a complication of influenza, reports a study in the July issue of *The Pediatric Infectious Disease Journal*. The journal is published by Lippincott Williams & Wilkins, a part of Wolters Kluwer Health, a leading provider of information and business intelligence for students, professionals, and institutions in medicine, nursing, allied health, and pharmacy.

Infants and children less than five years old are also at higher risk of developing pneumonia while hospitalized for influenza, according to the new study, led by Dr Fatimah S. Dawood of the Centers for Disease Control and Prevention (CDC).

Findings May Help in Targeting Children at Highest Risk

Using the CDC's Emerging Infections Program (EIP) Network database, the researchers identified nearly 3,000 children who were hospitalized for influenza over five consecutive flu seasons—2003 to 2008. Based on a review of chest x-rays, 27 percent of the children had influenza-related pneumonia. Children with pneumonia were more likely to be admitted to the intensive care unit, 21 versus 11 percent; and to require mechanical ventilation, 11 versus three percent. Although the overall risk of death was low, it was three times higher in children with pneumonia: 0.9 versus 0.3 percent.

Children with asthma were more likely to develop pneumonia—40 percent more likely, after adjustment for other factors. Children less than five years old were also at higher risk of pneumonia. Risk was twice as high in infants between six months and two years old, and 70 percent higher in children aged two to four.

Pneumonia is a common and serious complication of influenza in children. Previous studies have identified risk factors for pneumonia in adults with influenza, but not in children.

The new study finds that asthma is a risk factor for pneumonia in children hospitalized for influenza. This is especially important since children with asthma are more likely to develop influenza in the first place. In the study, asthma was the most common pre-existing condition, present in nearly one-fourth of children.

The results also show that children with pneumonia have a more severe clinical course, including higher rates of mechanical ventilation and death. The authors note that most of the children in the study did not receive antiviral medications such as oseltamivir (Tamiflu), which can improve influenza outcomes if given early enough.

Dr. Dawood and co-authors also point out that less than half of children in the study had received yearly influenza vaccinations, which are recommended for most children over six months old. The researchers hope their results "will help to identify children who might benefit most from early antiviral treatment and inform the development of prevention strategies that target children at risk for severe influenza complications."

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About *The Pediatric Infectious Disease Journal*

The Pediatric Infectious Disease Journal® (<http://www.pidj.com>) is a peer-reviewed, multidisciplinary journal directed to physicians and other health care professionals who manage infectious diseases of childhood. The journal delivers the latest insights on all aspects of infectious disease in children, from state-of-art diagnostic techniques to the most effective drug therapies and other essential treatment protocols. *The Pediatric Infectious Disease Journal* is official journal of the Pediatric Infectious Diseases Society and the European Society for Paediatric Infectious Diseases.

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