

Poster Section: Surveillance and Diagnostics, with an Update on Rapid Diagnostics

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Poster Title: Rates of Influenza Medical Visits Among Children with and Without High-Risk Medical Conditions

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Background: Because the disease burden of influenza among children with and without high-risk medical conditions is not well established, we conducted population-based surveillance of laboratory-confirmed, influenza-associated medical visits.

Methods: Children younger than 5 years from 3 US counties who were hospitalized with acute respiratory infections (ARIs) or fever were prospectively enrolled from 2000 through 2004 in the National Vaccine Surveillance Network (NVSN). Nasal/throat swabs were tested for influenza by viral culture and polymerase chain reaction assay. Epidemiologic data were collected via parental survey and chart review. Population-based rates of influenza hospitalizations were calculated. Children younger than 5 years from 3 counties who were seen in selected pediatric clinics and emergency departments (EDs) for ARI or fever during 2 influenza seasons, 2002 through 2004, were systematically enrolled and tested for influenza. Influenza-attributable clinic and ED visit rates were estimated. We computed visit rates by the presence or absence of high-risk medical conditions as determined by parental report. For the denominator, we used the National Health Interview Survey to determine the proportion of children aged 6 to 23 months (5.2%) and 24 to 59 months (11.3%) with high-risk medical conditions. For the numerator, we determined the percentage of influenza-positive children with high-risk medical conditions from the parental survey.

Results: The average annual influenza hospitalization rate was 0.9 per 1000 children 6 to 23 months of age, with 5.38 and 0.65 influenza hospitalizations per 1000 children with and without high-risk medical conditions. Among children 24 to 59 months of age, the average annual influenza hospitalization rate was 0.3 per 1000 children, with 0.71 and 0.25 influenza hospitalizations per 1000 children with and without high-risk medical conditions.

Conclusions: Overall, outpatient rates of influenza-associated medical visits were at least 65-fold and 200-fold higher among children 6 to 23 months and 24 to 59 months of age than hospitalization rates. During years of moderate influenza activity, high-risk children had a 2- to 8-fold-higher rate of influenza medical visits than low-risk children.