Incidence of Healthcare-associated Influenza-like Illness After a Primary Care Encounter Among Young Children

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Despite potential respiratory virus transmission in pediatric clinics, little is known about the risk of healthcare-associated viral infections attributable to outpatient encounters. We evaluated whether exposure to a pediatric clinic visit was associated with subsequent influenza-like illness (ILI). Using electronic health record data, we conducted a retrospective cohort study of all children aged <6 years who presented to a provider in a 29-clinic pediatric primary care network for a non-ILI-related encounter over 2 respiratory virus seasons (September 1, 2012, to April 30, 2014). We defined a risk period for potential healthcare-associated (HA) ILI of 1 to 8 days after a non-ILI clinic visit and identified all cases of ILI to compare the incidences of ILI visits 1 to 8 days after a non-ILI encounter and those of visits >8 days after a non-ILI encounter. Among 149987 children <6 years of age (mean age, 2.5 years) with ?1 non-ILI visit during the study period, 531928 total encounters and 13951 (2.9%) ILI encounters were identified; 1941 (13.9%) occurred within the HA-ILI risk window. The incidence rate ratios (IRRs) for ILI 1 to 8 days after compared with ILI >8 days after a non-ILI visit during season 1 were 1.36 (95% confidence interval, 1.22-1.52) among children ?2 years of age and 1.01 (95% confidence interval, 0.93-1.09) among children <2 years of age. Estimates remained consistent during season 2 and with a risk window of 3, 4, or 9 days. Pediatric clinic visits during a respiratory virus season were significantly associated with an increased incidence of subsequent ILI among children aged 2 to 6 years but not among those aged <2 years. These findings support the hypothesis that respiratory virus transmission in a pediatric clinic can result in HA ILI in young children.

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