995. Effectiveness of Influenza Vaccine for Prevention of Influenza-Associated Hospitalizations Among High-Risk Adults in the United States, 2015–2016

Eli Al-Ansary, MPH, Manju S. Gagnani, MBBS, Emily T. Martin, MPH, PhD1, Arnold S. Monto, MD, FIDSA;2 Don Middleton, MD;3 Fernanda P. Silveira, MD, MS;3 Richard Zimmerman, MD, MPH1, H. Keipp Talbot, MD, MPH1 and Jill M. Ferdinands, PhD, MSc1.

Influenza Division, Centers for Disease Control and Prevention, Atlanta, Georgia, 1Pediatrics, Pediatric Infectious Diseases, Baylor Scott & White Health, Texas A&M University Health Science Center College of Medicine, Temple, Texas, 2Pharmacy Practice, Wayne State University, Detroit, Michigan, 3Department of Epidemiology, University of Michigan School of Public Health, Ann Arbor, Michigan, 1University of Pittsburgh Medical Center, St. Margaret’s Hospital, Pittsburgh, Pennsylvania, 2University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania, 1Infectious Diseases, Vanderbilt University Medical Center, Nashville, Tennessee

Session: 130. Adult and Pediatric Influenza Vaccine

Background. Individuals with cardiopulmonary and other chronic conditions are at increased risk for severe complications of influenza. Few studies have examined influenza vaccine effectiveness (VE) in high-risk groups. We evaluated VE against influenza-associated hospitalization among adults with specific high-risk conditions.

Methods. Adults hospitalized with acute respiratory illness (ARI) during the 2015–2016 influenza season were enrolled at eight hospitals participating in the US Hospitalized Adult Influenza Vaccine Effectiveness Network (HAIVEN) study. Respiratory specimens were tested for influenza by reverse transcription PCR. Measures of illness severity, underlying health status, and vaccination were obtained from medical records and enrollment interviews. The presence of high-risk conditions was determined from clinical codes assigned to prior year medical encounters. We estimated VE using a test-negative design as (1 – adjusted odds ratio), comparing odds of PCR-confirmed influenza among vaccinated patients vs. unvaccinated controls. Multivariate logistic regression was adjusted for age, sex, and other factors, stratifying by chronic conditions.

Results. Of 1,467 adults hospitalized with ARI, 236 (16%) had PCR-confirmed influenza; 180 (78%) were A(H1N1)pdm09. In all, 1,358 (93%) had ≥1 high-risk medical condition, and 1,026 (70%) had ≥2 conditions. Cardiovascular (n = 835), metabolic (including diabetes) (n = 773) and lung conditions (n = 692) were most common (figure). Patients with ≥1 high-risk conditions were more likely to be vaccinated (70%) vs. patients with ≤1 high risk (31%, P < 0.001). Among all patients, VE against any influenza-associated hospitalization was 50% (95% CI: 31–63). VE was similarly high among patients with neurologic (VE = 64%, 95% CI: 26–83), metabolic (VE = 55%, 95% CI: 30–71), and cardiovascular (VE = 53%, 95% CI: 27–69) conditions, though lower for patients with immunosuppression and malignancy (VE = 20%, 95% CI: 42–54).

Conclusion. Vaccination significantly reduced risk of influenza hospitalization among adults with the most prevalent high-risk cardiovascular, metabolic, and lung conditions. Results support the benefit of vaccinating adults with existing specific chronic conditions.
Disclosures. All authors: No reported disclosures.

998. Missclassification of Community and Hospital Onset Bloodstream Infections Using Laboratory-Identified Events

Riad Khatib, MD, Manta Sharma, MD, FIDSA; Mohamed G. Fakih, MD, MPH, FIDSA, FSHEA; Kathleen Riederer, MT and Leonard Johnson, MD; Department of Infectious Diseases, Saint John Hospital and Medical Center, Ascension, Grosse Pointe Woods, Michigan

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Background. Laboratory-identified bloodstream infections (LAB-ID-BSI) are classified as community onset (CO) if blood culture (BC) is collected within 3 days after facility admission and hospital onset if ≥4 days. This classification is often based on a computer-generated subtraction of the day of admission from day of onset. This method may miss recent prior hospitalizations at the same or different facilities. Methods. We reviewed BC results (January 1, 2010–December 31, 2016), selected patients with BSI and defined the place of onset as CO (day 0–3) and HO (24 days) of admission based on LABID-BSI. All patients with CO were further evaluated to determine whether they were recently hospitalized. The source and microbiology of patients with hospitalization within 14 days of the onset of BSI was compared with HO and CO without prior admission within 6 months.

Results. We encountered 5,179 BSI episodes, 3866 (74.6%) were CO. Prior hospitalization in any hospital within 1–14 and 15–180 days of onset was documented in 659 (17.0%) and 1,465 (37.9%), respectively. Source of bacteremia and type of organisms in patients with prior hospitalization within 1–14 days were closer to HO than patients without prior hospitalization with higher frequency of Intravenous catheters (IVC), polymicrobial bacteremia, and candidemia (table).

Conclusion. Using LAB-ID events to classify BSI, one in six patients may risk being misclassified as CO. This underestimates BSI related to hospital setting. Onset classification should be based on thorough historical information and not a computer-generated subtraction of admission and Lab event dates.