Background. Annual national estimates of influenza vaccine effectiveness (VE) typically measure protection against outpatient medically attended influenza illness. We assessed influenza VE in preventing laboratory-confirmed influenza hospitalization in children across two influenza A(H3N2) predominant seasons.

Methods. In 2016-2017 and 2017-2018 seasons, children with acute respiratory illness were enrolled at 7 pediatric hospitals in the New Vaccine Surveillance Network. We included subjects ≥6 months with ≥10 days of symptoms enrolled during the 2016–2017 and 2017–2018 seasons (date of first through last influenza-positive case for each subject). Combined mucus tracheal and throat swabs were tested using molecular assays. We estimated age-stratified VE from a test-negative design using logistic regression to compare the odds of vaccination among cases positive for influenza with controls testing negative, adjusting for age, enrollment month, site, and underlying comorbidities. Full/partial vaccination was defined using ACIP criteria. We verified vaccine receipt from state immunization registries and/or provider records.

Results. Among 3,441 children with complete preliminary data, in 2016–2017, 156/1,710 (9%) tested positive for influenza, 91 (58%) with influenza A(H3N2), 5 (3%) with A(H1N1), and 60 (38%) with B viruses. In 2017–2018, 193/1,731 (11%) tested positive: 87 (45%) with influenza A(H3N2), 47 (24%) with A(H1N1), and 60 (38%) with B viruses. In 2017–2018, 193/1,731 (11%) tested positive: 87 (45%) with influenza A(H3N2), 47 (24%) with A(H1N1), and 60 (38%) with B viruses.

Conclusion. Vaccination in the 2016–2017 and 2017–2018 seasons nearly halved the risk of children being hospitalized with influenza. These findings support the use of vaccination to prevent serious illness in children. Our study highlights the need for a better understanding of the lower VE against influenza A(H3N2) viruses.

Disclosures. All Authors: No reported Disclosures.

900. Effect of Influenza Vaccine Priming on Current Season Vaccine Effectiveness among Children and Adolescents, US Flu VE Network 2014–2015 Through 2017-2018

Thursday, October 3, 2019: 3:45 PM

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Session: 99. Vaccines I - Influenza and RSV

Thursday, October 3, 2019: 3:30 PM

Background. Studies have demonstrated that optimal protection against childhood influenza requires two “priming” doses of influenza vaccine in the first season of vaccination. Two doses of influenza vaccine are recommended for US children aged 6 months-8 years who received ≤1 dose in prior seasons. We examined risk of influenza among children fully or partially vaccinated during study seasons and vaccine effectiveness (VE) for children with the number of doses reported.

Methods. Analyses included children aged 6 months-7 years enrolled during outpatient visits for acute illness for ≤7 days with cough in the US Influenza Vaccine Effectiveness Network during 2014–2015 through 2017–2018. Participants’ respiratory specimens were tested for influenza by rRT-PCR. Vaccination histories back to birth year were obtained from electronic immunization record systems. VE was calculated by comparing vaccination odds among influenza-positive cases to test-negative controls, as 100 (1 – odds ratio) adjusted for season, site, age, high-risk status, and calendar time.

Results. Of 7,583 children, 6,362 (84%) had received ≥1 dose in their lifetime. Among vaccinated children, 90% were primed prior to the enrollment season, and 80% were primed prior to age 2 years. Most (55%) received two priming doses in their first season. Among children recommended to receive two priming doses in the enrollment season, receipt of two doses vs. one was associated with a lower risk of influenza illness (aOR: 0.60; 95% CI: 0.36, 1.00). VE of ≥1 dose in the enrollment season against any influenza among unprimed children was 53% (95% CI: 36, 66). VE of ≥1 dose in the enrollment season was similar among children primed with one dose in their first season.

Overall results were similar when stratified by age and for A/H3N2 viruses, which predominated during study years. Conclusion. Among the US children recommended to receive two priming doses of vaccine in the enrollment season, receipt of two doses provided optimal protection. VE in seasons after the priming did not differ by the number of priming doses. Results were driven by predominance of A/H3N2 viruses and may not be similar for A/H1N1pdm09 or B viruses. Current US influenza vaccine recommendations for children are effective and appropriate.

Disclosures. All Authors: No reported Disclosures.

901. MEDD8897 Prevents Serious RSV Disease in Healthy Preterm Infants

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Session: 99. Vaccines I - Influenza and RSV

Thursday, October 3, 2019: 4:00 PM

Background. RSV is the principal cause of lower respiratory tract infection (LRTI) among infants, and a significant unmet need exists for RSV prevention in healthy infants. We have developed a highly potent, extended half-life monoclonal antibody (mAb), to protect infants for an entire RSV season using a single IM dose. Here we report the efficacy, safety, pharmacokinetics, and anti-drug antibody (ADA) responses for MEDD8897 in palivizumab-eligible preterm infants born between 29 and 35 weeks gestation.

A total of 1,453 Infants were randomized 2:1 to receive a single 50 mg IM injection of MEDD8897 (n = 969) or placebo (n = 484) and followed for 360 days. Enrollment occurred just prior to the 2016 and 2017 RSV seasons in 23 northern and southern hemisphere countries. Blood was collected periodically. Infants with a medically attended (MA) LRTI (outpatient or inpatient) had nasal swabs obtained for central RSV testing by RT-PCR. Predetermined clinical criteria were used for the case definition.

Results. A total of 1,417 (97.5%) subjects completed the 150-day efficacy follow-up (n = 1,367 and 1,341 for placebo and treatment, respectively) and followed for 360 days. Enrollment occurred just prior to the 2016 and 2017 RSV seasons in 23 northern and southern hemisphere countries. Blood was collected periodically. Infants with a medically attended (MA) LRTI (outpatient or inpatient) had nasal swabs obtained for central RSV testing by RT-PCR. Predetermined clinical criteria were used for the case definition.

At a total of 1,417 (97.5%) subjects completed the 150-day efficacy follow-up (n = 1,367 and 1,341 for placebo and treatment, respectively) and followed for 360 days. Enrollment occurred just prior to the 2016 and 2017 RSV seasons in 23 northern and southern hemisphere countries. Blood was collected periodically. Infants with a medically attended (MA) LRTI (outpatient or inpatient) had nasal swabs obtained for central RSV testing by RT-PCR. Predetermined clinical criteria were used for the case definition.

Conclusion. The total efficacy of a single immunization of Ad26.RSV .preF against RSV Infection in a Viral Challenge Model in Healthy Adults

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Disclosures. All Authors: No reported Disclosures.

902. A Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy of a Single Immunization of Ad26.RSV.preF against RSV Infection in a Viral Challenge Model in Healthy Adults

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