Nicolá P. Klein, MD, PhD1; Matthew F. Daley, MD2; James Donahue, DVM, PhD; Hung Fu Tseng, PhD, MPH1; Stephanie Irving, MHS1; Michael L. Jackson, PhD, MPH1; and Saad Omer, MBBS, MPH, PhD, FIDSA3,4; 1Centers for Disease Control & Prevention, Atlanta, Georgia, 2ImmunoSafety Office, Centers for Disease Control and Prevention, Atlanta, Georgia, 3ImmunoSafety Office, CDC, Atlanta, Georgia, 4Kaiser Permanente Southern California, Downey, California, 5Institute for Health Research, Kaiser Permanente Colorado, Denver, Colorado, 6Center for Clinical Epidemiology and Population Health, Marshfield Clinic Research Foundation, Marshfield, Wisconsin, 7Research and Evaluation, Kaiser Permanente Southern California, Downey, California, 8Kaiser Permanente Health Research Institute, Portland, Oregon, 9Kaiser Permanente Washington Health Research Institute, Seattle, Washington, 10Global Health, Rollsin School of Public Health, Emory University, Atlanta, Georgia

Session: 251. Adolescent Vaccines Saturday, October 6, 2018: 12:30 PM

Background. The first quadrivalent meningococcal conjugate vaccine (MenACYW-TT) is recommended for use in adolescents in 2005. Soon after, case reports of Guillain-Barre syndrome (GBS) following vaccination prompted subsequent studies, with a meta-analysis concluding that the attributable risk of GBS after MenACYW-D is unlikely to exceed 1 case per million vaccinations. We conducted a retrospective cohort study in the Vaccine Safety Datalink to assess the risk of 10 outcomes, including GBS, following MenACYW-D.

Methods. We included adolescents (aged 11–18 years) vaccinated with MenACYW-D during the years 2005–2014. We identified pre-specified outcomes using ICD-9 (International Classification of Disease, version 9) codes. We used automated data only for fever, seizure, syncope, and we confirmed incident cases by medical record review for acute disseminated encephalomyelitis (ADEM), acute transverse myelitis (ATM), anaphylaxis, chronic inflammatory demyelinating polyneuropathy (CIDP), GBS and Henoch-Schönlein purpura (HSP). We used a self-controlled risk interval design to estimate relative risk (RR).

Results. Following 1.4 million doses of MenACYW-D, we detected increased risks for fever in the 1–6 days following vaccination (RR 1.5, 95% confidence intervals [CI] 1.3–1.7) and syncope on the day of vaccination (RR 5.8, 95% CI 4.1–8.3), but not for seizures (RR 1.1, 95% CI 0.7–1.5) or GBS (RR 1.1, 95% CI 0.8–1.3). We detected no cases in the post-vaccination risk intervals for CIDP, ADEM or ATM. We detected few cases of the other outcomes resulting in relatively unstable RR estimates: anaphylaxis (RR 1.9, 95% CI 0.5–7.1), GBS (RR 2.5, 95% CI 0.6–10.0) and HSP (RR 1.6, 95% CI 0.7–3.3). We estimated the a priori risk of GBS was 1.5 cases per million vaccinations (upper bound of one-sided 95% CI, 4.9).

Conclusion. In a large retrospective cohort, we detected increased risks for syncope and fever, but not seizures or GBS, following vaccination with MenACYW-D. RR for seizures were rare. Our findings, consistent with previous studies, suggest that the increased risk of GBS, if any, is likely small (<5 excess cases of GBS per million vaccinations).

Disclosures. N. P. Klein, Sanofi Pasteur: Investigator, Research grant. Merck: Investigator, Research grant. GlaxoSmithKline: Investigator, Research support. Protein Science: Investigator, Research grant. MedImmune: Investigator, Research grant. Dynavax: Research Contractor, Grant recipient. M. L. Jackson, Novartis: Grant Investigator, Research support.

2462. Immunogenicity and Safety of a Quadrivalent Meningococcal Conjugate Vaccine (MenACYW-TT) Administered in Individuals 56 Years of Age and Older

Robert W. Craig1; Pamela Estes1; Jorge Mejia2; Jorge Arana3,4; Imad Alouani5; Jorge Arana, MD, MPH1; John Su, MD, MPH2; Paige Lewis, MSPH3; Maria Caro, MD, MPH1; Laura E. Markowitz, MD4 and Tom Shimabukuro, MD, MPH5; 1Global Health, Rollsin School of Public Health, Emory University, Atlanta, Georgia, 2Kaiser Permanente Health Research Institute, Portland, Oregon, 3Kaiser Permanente Washington Health Research Institute, Seattle, Washington, 4Global Health, Rollsin School of Public Health, Emory University, Atlanta, Georgia, 5ImmunoSafety Office, CDC, Atlanta, Georgia

Session: 251. Adolescent Vaccines Saturday, October 6, 2018: 12:30 PM

Background. The first quadrivalent meningococcal conjugate vaccine (MenACYW-TT) is recommended for use in adults ≥56 years of age. Non-inferiority of immune responses was demonstrated between MenACYW-TT and MenB vaccines in adults ≥18 years of age. This Phase III study evaluated the safety and immunogenicity of the vaccine when compared with MenB-DT in subjects vaccinated with MenACYW-TT vaccine were higher than those after MPSV4 for all four serogroups (A: 89.4% vs. 84.2%; C: 90.1% vs. 70.9%; W: 77.4% vs. 63.0%; Y: 91.7% vs. 67.7%). Overall, the results were similar in the three age substrata. Percentages of participants with post-vaccination sRBA ≥1:128 were numerically higher for all serogroups in subjects vaccinated with MenACYW-TT conjugate vaccine. A difference in

the local reactogenicity profiles was observed between the two vaccine groups, possibly influenced by the different routes of administration. Most unsolicited adverse events were of Grade 1 or Grade 2 intensity. No vaccine related serious adverse events were reported.

Conclusion. MenACYW conjugate vaccine was immunogenic and well tolerated when administered to individuals ≥25 years of age. Such a vaccine will offer an alternative for the prevention of invasive meningococcal disease in areas of the world where only polysaccharide vaccines are currently available for immunization of older adults.

Disclosures. A. Esteves-Jaramillo, Sanofi Pasteur: Employee, Educational support and Salary. D. Neuve, Sanofi Pasteur: Employee, Salary. M. S. Dhianga, Sanofi Pasteur: Employee, Educational support and Salary.

2463. Post-licensure Surveillance of 9-Valent Human Papillomavirus Vaccine (9vHPV) in the Vaccine Adverse Event Reporting System (VAERS), United States, 2014–2017

Jorge Arana, MD, MPH1; John Su, MD, MPH2; Paige Lewis, MSPH3; Maria Caro, MD, MPH1; Laura E. Markowitz, MD4 and Tom Shimabukuro, MD, MPH5; 1ImmunoSafety Office, Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, 2Centers for Disease Control and Prevention, Atlanta, Georgia, 3Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, 4ImmunoSafety Office, CDC, Atlanta, Georgia

Session: 251. Adolescent Vaccines Saturday, October 6, 2018: 12:30 PM

Background. 9-valent human papillomavirus vaccine (9vHPV) was licensed in December 2014 and recommended by the Advisory Committee on Immunization Practices (ACIP) in February 2015. 9vHPV is FDA-approved for females and males aged 9–26 years; ACIP recommends routine vaccination at 11–12 years and through age 21. About 20 million doses of 9vHPV were distributed in the United States through the end of 2017. We analyzed the first 3 years of US post-licensure safety data in the Vaccine Adverse Event Reporting System (VAERS).

Methods. We searched VAERS, a spontaneous reporting system, for US reports of adverse events (AEs) following 9vHPV from December 1, 2014 to December 31, 2017. We conducted descriptive analysis of reports and assessed the most common signs and symptoms of AEs. Physicians reviewed reports and available medical records for reports classified as serious (death, life-threatening illness, hospitalization, prolongation of hospitalization and permanent disability) and for selected pre-specified conditions of interest.

Results. VAERS received 7,244 reports following 9vHPV; 186 (2.6%) were classified as serious. In 5,411 (74.7%), 9vHPV was administered alone. The most frequently reported symptoms were dizziness (579; 8.0%), syncope (517; 7.1%), headache (418; 6.8%), nausea (361; 5.0%), and injection site pain (324; 4.5%). Median time from vaccination to symptom onset was <1 day (range 0–751 days). There were 7 (0.1%) death reports; 2 verified from autopsy report, death certificate, and/or medical records (causes of death were cardiac arrest and cerebellar aneurysm) and 5 “hearsay” reports with no verifiable medical information. Reports of selected pre-specified conditions of interest included anaphylaxis (9; 0.1%), Guillain–Barré syndrome (8; 0.1%), postural orthostatic tachycardia syndrome (17; 0.2%), primary ovarian insufficiency (3; <0.1%), and complex regional pain syndrome 1; (0.1%). No unusual clustering around onset interval was observed.

Conclusion. In our VAERS review, the safety profile of 9vHPV was consistent with that observed from pre-licensure clinical trials and from post-licensure safety monitoring of other HPV vaccines. We did not observe any new safety signals or unexpected patterns of AEs.

Disclosures. All authors: no reported disclosures.

2464. A Significant Portion of College Students Are Not Aware of HPV Disease and HPV Vaccine Recommendations

Jessica Leyva, Expected: Bachelor's Degree1; Elizabeth Sanchez, Expected: Bachelor's Degree2; Ayana Arroyo, Expected: Bachelor's Degree3; Kasia Wade, Expected: Bachelor's Degree4; NguyenDinh Dinh, Expected: Bachelor's Degree3; Caitlyn Kellogg, BA1 and Ozlem Equils, MD1; 1California State University, Long Beach, Long Beach, California, 2MiOra, Los Angeles, California, 3Cedars-Sinai Medical Center, UCLA School of Medicine, MiOra, Los Angeles, California

Session: 251. Adolescent Vaccines Saturday, October 6, 2018: 12:30 PM

Background. Although HPV vaccination has been shown to be very effective in preventing genital warts and cancers caused by the vaccine strains, immunization rates are low, especially among ethnic minority groups and certain ethnic groups. ACIP has recommended that the HPV vaccine be administered to females through age 26 and males through age 21 (26 in MSM). Therefore, there is a significant amount of time for catch up. We assessed college students’ awareness of HPV disease and ACIP-HPV vaccine recommendations in Los Angeles County.

Methods. A 31-question survey was developed and IRB approved (WIRB No 1920852-43973015). CSULB Health Sciences students were trained on HPV disease and prevention, and they administered the survey in-person to other students at various time locations on campus and recorded the data.

Results. One hundred eighty eight individuals were surveyed from February to April 2018. The average age of the respondents was 21 ± 2 years. The majority (110 out of 180; 61.1%) of the respondents were female. 75 out of 180 (41.7%) respondents were Latino/Hispanic, 62 out of 180 (34.4%) were Caucasian, 30 out of 180 (16.7%) were Asian