Conclusion. It is possible to obtain optimal immunization rates for pneumococcal and tetanus vaccines in pediatric heart and liver transplant recipients. Our future interventions include improving vaccinations after catch-up recommendations have been made and sustaining our interventions. Additionally, we look to expand our analysis to include outcomes related to vaccine-preventable diseases after transplantation.

Disclosures. **Jacquie Toia, DNP, RN, APN**, **QarTek** (Board Member) **Ravi Jhaveri, MD**, **AstraZeneca** (Consultant)**Dynavax** (Consultant)**Elsevier** (Other Financial or Material Support, Editorial Stipend as Co-editor in Chief, Clinical Therapeutics)**Seqirus** (Consultant)

1178. Sustained Vaccine Effectiveness Against Influenza-Associated Hospitalization in Children: Evidence from the New Vaccine Surveillance Network, 2015-2016 Through 2019-2020

Leila C. Sahni, PhD, MPH[1]; Eric A. Naioti, MSPH[2]; Samantha M. Olson, MPH[3]; Angela P. Campbell, MD, MPH[4]; Marian G. Michaels, MD, MPH[5]; John V. Williams, MD[6]; Mary. Allen Staat, MD, MPH[7]; Elizabeth P. Schlaudecker, MD, MPH[8]; Natasha B. Halasa, MD, MPH[9]; Natasha B. Halasa, MD, MPH[9]; Laura S. Stewart, PhD[9]; Janet A. Englund, MD[10]; Eileen J. Klein, MD, MPH[11]; Peter G. Szilagyi, MD, MPH[12]; Geoffrey A. Weinberg, MD[13]; Christopher J. Harrison, MD[14]; Rangaraj Selvarangan, BVSc, PhD[14]; Parvin H. Azimi, MD[15]; Monica Nayakwadi. Singer, MD MPH[16]; Pedro Piedra, MD[17]; Flor M. Munoz, MD[17]; Manish Patel, MD[4]; Julie A. Boom, MD[17]; [1]Texas Children's Hospital, Houston, Texas; [2]Centers for Disease Control and Prevention (CDC), Binghamton, New York; [3]CDC, Atlanta, Georgia; [4]Centers for Disease Control and Prevention, Atlanta, GA; [5]Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA; [6]University of Pittsburgh, Pittsburgh, Pennsylvania; [7]Cincinnati Children's Hospital Medical Center, Cincinnati, OH; [8]Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, Cincinnati, OH; [9]Vanderbilt University Medical Center, Nashville, TN; [10]Seattle Children's Hospital/Univ. of Washington, Seattle, Washington; [11]Seattle Children's Hospital, Seattle, Washington; [12]University of California, Los Angeles, Los Angeles, California; [13]University of Rochester, Rochester, New York; [14]Children's Mercy Hospital, Kansas City, MO; [15]UCSF, Berkeley, CA; [16]UCSF Benioff Children's Hospital Oakland, Lafayette, CA; [17]Baylor College of Medicine, Houston, TX

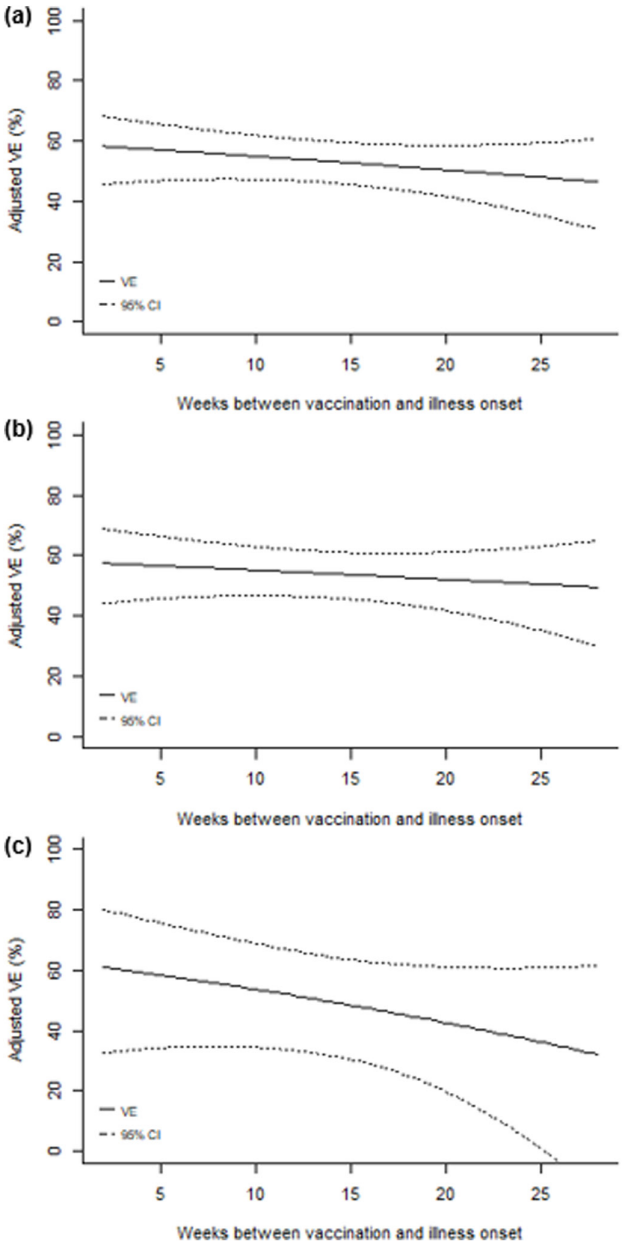
Session: P-69. Pediatric Vaccines

Background. Adult studies have demonstrated intra-season declines in influenza vaccine effectiveness (VE) with increasing time since vaccination; however, data in children are limited.

Methods. We conducted a prospective, test-negative study of children ages 6 months through 17 years hospitalized with acute respiratory illness at 7 pediatric medical centers each season in the New Vaccine Surveillance Network during the 2015-2016 through 2019-2020 influenza seasons. Cases were children with an influenza-positive molecular test; controls were influenza-negative children. Controls were matched to cases by illness onset date using 3:1 nearest neighbor matching. We estimated VE [100% x (1 – odds ratio)] by comparing the odds of receipt of ≥ 1 dose of influenza vaccine ≥ 14 days before the onset of illness that resulted in hospitalization among influenza-positive children to influenza-negative children. Changes in VE over time between vaccination date and illness onset date during each season were estimated using multivariable logistic regression models.

Results. Of 8,430 hospitalized children (4,781 [57%] male; median age 2.4 years), 4,653 (55%) received ≥ 1 dose of influenza vaccine. On average, 48% and 85% of children were vaccinated by the end of October and December, respectively. Influenza-positive cases (n=1,000; 12%) were less likely to be vaccinated than influenza-negative controls (39% vs. 61%, p< 0.001) and overall VE against hospitalization was 53% (95% CI: 46%, 60%). Pooling data across 5 seasons, the odds of any influenza-associated hospitalization increased 0.96% (95% CI: -0.76%, 2.71%) per week with a corresponding weekly decrease in VE of 0.45% (p=0.275). Odds of hospitalization with time since vaccination increased 0.66% (95% CI: -0.76%, 2.71%) per week in children ≤ 8 years (n=3,084) and 2.16% (95% CI: -1.68%, 6.15%) per week in children 9-17 years (n=771). No significant differences were observed by virus subtype or lineage.

Figure 1. Declines in influenza VE over time from 2015-2016 through 2019-2020, overall (a) and by age group (b: ≤ 8 years; c: 9-17 years)



Conclusion. We observed minimal intra-season declines in VE against influenza-associated hospitalization in U.S. children. Vaccination following Advisory Committee on Immunization Practices guidelines and current timing of vaccine receipt is the best strategy for prevention of influenza-associated hospitalization in children.

Disclosures. **Marian G. Michaels, MD, MPH**, **Viracor** (Grant/Research Support, performs assay for research study no financial support) **John V. Williams, MD**, **GlaxoSmithKline** (Advisor or Review Panel member, Independent Data Monitoring Committee)**Quidel** (Advisor or Review Panel member, Scientific Advisory Board) **Elizabeth P. Schlaudecker, MD, MPH**, **Pfizer** (Grant/Research Support)**Sanofi Pasteur** (Advisor or Review Panel member) **Natasha B. Halasa, MD, MPH**, **Genentech** (Other Financial or Material Support, I receive an honorarium for lectures - it's a education grant, supported by genetech)**Quidel** (Grant/Research Support, Other Financial or Material Support, Donation of supplies/kits)**Sanofi** (Grant/Research Support, Other Financial or Material Support, HAI/NAI testing) **Natasha B. Halasa, MD, MPH**, Genentech (Individual(s) Involved: Self): I receive an honorarium for lectures - it's a education grant, supported by genetech, Other Financial or Material Support, Other Financial or Material Support; Sanofi (Individual(s) Involved: Self): Grant/Research Support, Research Grant or Support **Janet A. Englund, MD**, **AstraZeneca** (Consultant, Grant/Research Support)**GlaxoSmithKline** (Research Grant or Support)**Meissa Vaccines** (Consultant)**Pfizer** (Research Grant or Support)**Sanofi Pasteur** (Consultant)**Teva Pharmaceuticals** (Consultant) **Christopher J. Harrison, MD**, **GSK** (Grant/Research Support)**Merck** (Grant/Research Support)**Pfizer** (Grant/Research Support, Scientific Research Study Investigator, Research Grant or Support) **Flor M. Munoz, MD**, **Biocryst** (Scientific Research Study Investigator)**Gilead** (Scientific Research Study Investigator)**Meissa** (Other Financial or Material Support, DSMB)**Moderna** (Scientific Research Study Investigator, Other Financial or Material Support, DSMB)**Pfizer** (Scientific Research Study Investigator, Other Financial or Material Support, DSMB)**Virometix** (Other Financial or Material Support, DSMB)

1179. PCV13 Pediatric Routine Schedule Completion and Adherence Before and During the COVID-19 Pandemic in the US

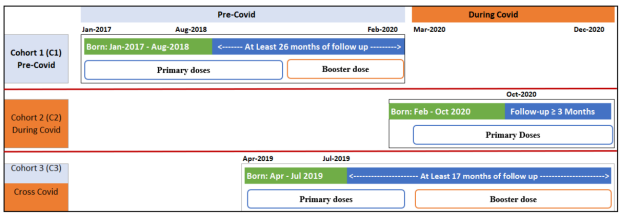
Liping Huang, MD, MA, MS[1]; Jennifer L Nguyen, ScD, MPH[2]; Johnna Perdrizet, MPH[2]; Tamuno Alfred, PhD[2]; Adriano Arguedas, MD[3]; [1]Pfizer, Inc., Collegeville, PA; [2]Pfizer Inc., New York, New York; [3]Pfizer Inc, Collegeville, Pennsylvania

Session: P-69. Pediatric Vaccines

Background. Coronavirus Disease 2019 (COVID) mitigation measures may have unintended consequences, such as reduced or delayed access to routine immunizations. This study examined (1) PCV13 routine vaccination completion and adherence (C&A) among US infants before and during the COVID pandemic and (2) the relationship between primary dose C&A and booster dose C&A.

Methods. Retrospective data from the Optum's de-identified Clinformatics Data Mart Database were used to create 3 cohorts: C1, Pre-COVID; C2, During COVID; C3, Cross-COVID (Figure 1). The completion was defined as number of PCV13 doses received within 8 months of birth, and the adherence was defined number of doses received at ACIP recommended time (@2, 4, 6 months, +/- 5 days). Univariable logistic regression was used to compare the odds of primary dose C&A in cohorts C1 and C3 vs C2 and descriptive analyses were used to explore primary dose C&A in relation to booster dose C&A.

Figure 1: Study population and inclusion criteria



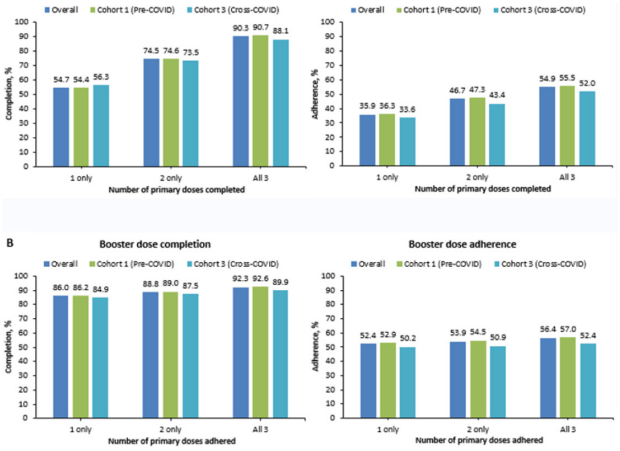
Results. A total of 172,916, 70,049, and 34,854 infants were included in C1, C2, and C3. Among infants with > 8 months of follow-up from birth (N=132,183 for C1&C3, 16,522 for C3), 3-primary dose completion was statistically significantly higher before COVID than during COVID (crude OR = 1.10, 95% CI: 1.06-1.15). The 3-primary dose adherence was also higher before COVID than during COVID (crude OR = 1.10, 95% CI: 1.05-1.15). Among infants with ≥2, 4 and 6 months of follow-up, adherence of each individual dose was consistently higher before COVID than during COVID (1st dose: OR = 1.03, 95% CI: 1.01–1.04; 2nd dose: OR = 1.04, 95% CI: 1.01 – 1.06; 3rd dose: OR = 1.12, 95% CI: 1.08 – 1.15) (Table 1). Booster dose completion was higher in infants who completed or adhered to 3 primary doses than infants who completed or adhered to only 1 or 2 primary doses (Figure 2, Overall) and booster dose C&A was generally higher before COVID than during COVID (Figure 2, Cohort 1 vs. Cohort 3).

Table 1. Comparison of completion and adherence of primary dosing series per-COVID vs. during-COVID era

	Cohorts 1 & 3 (Pre-COVID, N=132,183)			Cohort 2 (During COVID, N=16,522)			Crude Odds Ratio (95% CI) (Cohorts 1 & 3 vs. Cohort 2)
	N	Proportion	Cumulative	N	Proportion	Cumulative Proportion	
Completion							
Completed 3 doses	104302	78.91%	78.91%	12758	77.22%	77.22%	1.10 (1.06-1.15)
Completed 2 doses	15362	11.62%	90.53%	1963	11.88%	89.1%	0.98 (0.93-1.03)
Completed 1 dose only	4376	3.31%	93.84%	569	3.34%	92.44%	0.96 (0.88-1.05)
Adherence							
Adhered all 3 doses	14110	9.80%	9.80%	2540	8.98%	8.98%	1.10 (1.05 – 1.15)
Adhered 2 doses only	41077	28.52%	38.32%	8411	29.74%	38.72%	0.94 (0.92-0.97)
Adhered 1 dose only	52044	36.13%	74.45%	10078	35.63%	74.35%	1.02 (0.99 – 1.05)
1st dose adherence	96516	57.10%	NA*	32289	56.49%	NA	1.03 (1.01 – 1.04)
2nd dose adherence	60842	38.78%	NA*	15942	37.91%	NA	1.04 (1.01 – 1.06)
3rd dose adherence	37723	26.19%	NA*	6817	24.10%	NA	1.12 (1.08 – 1.15)

*Based on infants with at least 2, 4, 6 months of follow up, respectively.

Figure 2: Booster dose completion and adherence in relation to primary dosing completion (A) and adherence (B)



Conclusion. These results indicated that PCV13 full completion was statistically lower during COVID, but the magnitude of the difference in infants was not extensive. Infants who completed or adhered to all three primary doses were more likely to complete or adhere to the booster dose. Further research is warranted as structured datasets mature to capture the full time span of COVID-19 mitigation measures.

Disclosures. **Liping Huang, MD, MA, MS**, **Pfizer Inc** (Employee) **Jennifer L Nguyen, ScD, MPH**, **Pfizer Inc.** (Employee) **Johnna Perdrizet, MPH**, **Pfizer Inc** (Employee) **Tamuno Alfred, PhD**, **Pfizer Inc.** (Employee) **Adriano Arguedas, MD**, **Pfizer** (Employee)

1180. Comparing Changes in Pneumococcal Meningitis Incidence to all Invasive Pneumococcal Disease Following Introduction of PCV10 and PCV13: The PSERENADE Project

Yangyupei Yang, MHS[1]; Maria Deloria Knoll, PhD[1]; [1]Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland

The PSERENADE Team

Session: P-69. Pediatric Vaccines

Background. The introduction of higher valency pneumococcal conjugate vaccines (PCV10 and PCV13) has reduced invasive pneumococcal disease (IPD) incidence. It is unknown whether the degree of reduction differs for pneumococcal meningitis, a small subset of pneumococcal disease but a major cause of severe childhood morbidity and mortality globally. We compared the impact of PCV10/13 on pneumococcal meningitis and all IPD by estimating the changes in incidence following the introduction of PCV10/13 among children < 5 years of age.

Methods. Data on confirmed positive cases for pneumococcus in cerebrospinal fluid (CSF) were obtained directly from surveillance sites. PCV10/13 impact on all-serotype pneumococcal meningitis and all IPD were estimated using site-specific incidence rate ratios (IRRs) at each post-PCV10/13 year relative to the pre-PCV period, using Bayesian multi-level, mixed effects Poisson regression. All-site weighted average