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

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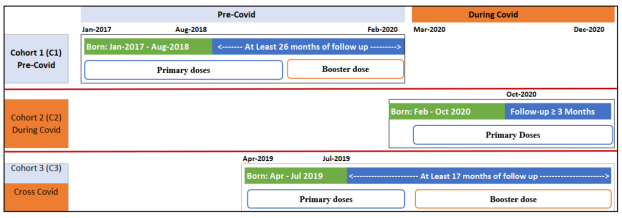
Session: P-69. Pediatric Vaccines

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



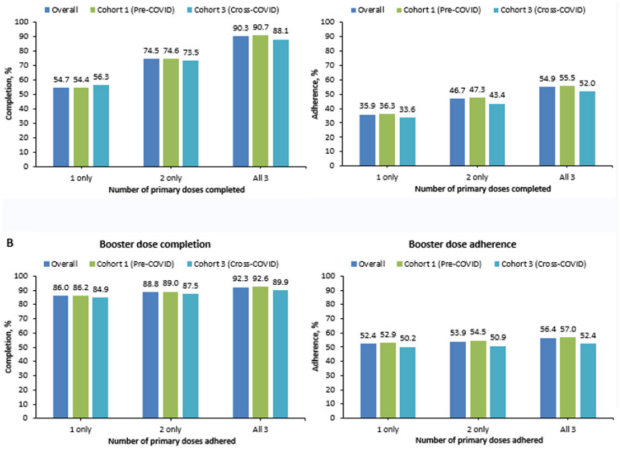
Results. A total of 172,916, 70,049, and 34,854 infants were included in C1, C2, and C3. Among infants with > 8 months of follow-up from birth (N=132,183 for C1&C3, 16,522 for C3), 3-primary dose completion was statistically significantly higher before COVID than during COVID (crude OR = 1.10, 95% CI: 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

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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