

Supplemental Table 1: Number of rotavirus (RV), diphtheria, tetanus, acellular pertussis (DTaP) and pneumococcal conjugate vaccine (PCV) vaccines used in assessment of vaccination status for 5-month and 12-month age-based cohorts. Up-to-date for age is defined as receiving the number of vaccines for each vaccine series by the listed ages.

Age cohort Months	Number of doses received by age cohort			
	RV, 1-dose	RV complete	DTaP	PCV
5	1	2	2	2
12	N/A	2/3*	3	3

*If a patient received RV5 for any doses, we counted 3 doses at 12 months as complete. If they received only RV1, we counted 2 doses at 12 months as complete.

Supplemental Table 2: Time periods assigned to the monthly 5-month and 12-month birth cohorts based on month and year of birth and expected timing of first dose of rotavirus (RV), diphtheria, tetanus, acellular pertussis (DTaP), and pneumococcal conjugate vaccine (PCV) vaccines for the 5-month birth cohort and second dose of RV, DTaP, and PCV vaccines for the 12-month birth cohort.

Time Period	5-month, Dose 1 birth cohorts	12-month, Dose 2 birth cohorts
1: Pre-pandemic (6/2018–3/2020)	January 2018 – December 2019	January 2018 – October 2019
2: Age-limited preventive care (3/20–5/20)	January 2020 – February 2020	November 2019 – December 2019
3: Expanded primary care (5/20–6/21)	March 2020 – March 2021	January 2020 – March 2021
4: Routine primary care (6/21–10/23)	April 2021 – May 2023	April 2021 – October 2022

Supplemental Table 3: Vaccine coverage percent with 95% confidence intervals (CI) for rotavirus (RV), diphtheria, tetanus, acellular pertussis (DTaP), and pneumococcal conjugate vaccine (PCV) at 5 months for monthly birth cohorts born during January 1, 2018 through May 31, 2023 from the Vaccine Safety Datalink.

Year	Vaccine	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	DTaP [2]						88.4 (87.6-89.2)	88.1 (87.2-88.9)	88.3 (87.5-89.0)	89.6 (88.9-90.4)	89.3 (88.5-90.0)	88.8 (88.1-89.6)	89.2 (88.4-89.9)
2018	PCV13 [2]						86.4 (85.5-87.2)	85.8 (84.9-86.7)	86.2 (85.4-87.0)	87.5 (86.7-88.3)	87.2 (86.3-87.9)	86.5 (85.7-87.3)	87.3 (86.5-88.1)
2018	RV [1]						94.8 (94.2-95.3)	94.5 (93.9-95.0)	94.9 (94.4-95.4)	95.4 (94.9-95.9)	95.2 (94.6-95.7)	94.9 (94.3-95.4)	95.2 (94.7-95.7)
2018	RV [2]						87.2 (86.3-88.0)	86.6 (85.7-87.4)	87.3 (86.4-88.0)	88.5 (87.7-89.2)	87.9 (87.1-88.7)	87.5 (86.7-88.3)	88.0 (87.2-88.7)
2018	UTD						85.2 (84.3-86.0)	84.4 (83.5-85.3)	85.2 (84.3-86.0)	86.4 (85.5-87.2)	85.8 (84.9-86.6)	85.0 (84.1-85.8)	86.3 (85.4-87.1)
2019	DTaP [2]	89.0 (88.2-89.7)	89.2 (88.4-89.9)	89.0 (88.2-89.7)	88.7 (87.9-89.5)	89.8 (89.0-90.5)	90.5 (89.8-91.2)	89.8 (89.0-90.5)	90.4 (89.6-91.0)	91.3 (90.6-92.0)	90.9 (90.2-91.6)	91.2 (90.4-92.0)	89.8 (88.9-90.6)
2019	PCV13 [2]	87.2 (86.4-88.0)	87.1 (86.3-87.9)	87.0 (86.1-87.7)	87.0 (86.1-87.8)	87.8 (87.0-88.6)	88.8 (88.0-89.5)	87.7 (86.9-88.5)	88.5 (87.7-89.2)	89.2 (88.4-89.9)	88.9 (88.1-89.6)	89.3 (88.4-90.2)	88.4 (87.5-89.2)
2019	RV [1]	95.2 (94.7-95.7)	94.7 (94.2-95.3)	94.7 (94.1-95.2)	95.0 (94.4-95.5)	94.9 (94.4-95.4)	95.4 (94.8-95.8)	95.6 (95.0-96.0)	95.6 (95.1-96.1)	95.5 (95.0-96.0)	95.5 (95.0-96.0)	95.9 (95.3-96.4)	95.8 (95.2-96.3)
2019	RV [2]	87.6 (86.8-88.4)	88.0 (87.1-88.7)	87.4 (86.6-88.2)	87.8 (86.9-88.5)	88.5 (87.7-89.3)	89.4 (88.7-90.1)	88.8 (87.9-89.5)	89.3 (88.6-90.0)	90.0 (89.2-90.7)	89.7 (88.9-90.4)	90.0 (89.2-90.8)	88.8 (87.9-89.6)
2019	UTD	85.9 (85.0-86.7)	86.0 (85.1-86.8)	85.2 (84.4-86.1)	85.8 (84.9-86.6)	86.6 (85.7-87.4)	87.7 (86.9-88.5)	86.6 (85.8-87.5)	87.3 (86.5-88.1)	88.0 (87.2-88.8)	87.6 (86.7-88.3)	88.1 (87.2-89.0)	87.2 (86.3-88.1)
2020	DTaP [2]	89.8 (89.0-90.6)	91.1 (90.3-91.9)	88.4 (87.5-89.2)	77.3 (76.1-78.4)	83.8 (82.8-84.7)	85.1 (84.1-86.0)	84.6 (83.5-85.6)	86.7 (85.7-87.6)	86.8 (85.9-87.6)	87.2 (86.3-88.0)	86.9 (86.0-87.8)	86.3 (85.4-87.1)
2020	PCV13 [2]	88.3 (87.4-89.1)	89.0 (88.2-89.8)	86.6 (85.7-87.5)	76.3 (75.2-77.5)	82.7 (81.7-83.7)	84.6 (83.6-85.5)	83.6 (82.5-84.6)	85.3 (84.3-86.3)	85.3 (84.3-86.2)	85.6 (84.7-86.5)	85.3 (84.3-86.1)	85.0 (84.1-85.8)
2020	RV [1]	95.8 (95.2-	96.0 (95.5-	95.9 (95.3-	95.6 (95.0-	95.3 (94.7-	93.1 (92.4-	93.7 (93.0-	94.6 (93.9-	94.6 (93.9-	94.9 (94.3-	94.1 (93.5-	94.1 (93.4-

		96.3)	96.5)	96.4)	96.1)	95.8)	93.8)	94.4)	95.1)	95.1)	95.4)	94.7)	94.6)
2020	RV [2]	89.1 (88.2-89.9)	90.2 (89.3-90.9)	87.5 (86.7-88.4)	76.4 (75.3-77.6)	82.9 (81.8-83.8)	84.1 (83.1-85.0)	84.0 (82.9-85.0)	85.7 (84.7-86.6)	85.9 (84.9-86.8)	86.1 (85.2-87.0)	86.0 (85.1-86.9)	85.4 (84.5-86.3)
2020	UTD	87.1 (86.2-88.0)	87.8 (86.9-88.7)	85.2 (84.3-86.1)	75.4 (74.2-76.6)	81.9 (80.8-82.9)	83.2 (82.2-84.2)	82.7 (81.6-83.7)	84.4 (83.4-85.4)	84.3 (83.3-85.2)	84.4 (83.5-85.4)	84.2 (83.2-85.1)	83.8 (82.8-84.7)
2021	DTaP [2]	85.4 (84.5-86.3)	87.3 (86.5-88.1)	87.6 (86.8-88.5)	88.4 (87.6-89.2)	88.5 (87.7-89.3)	89.5 (88.7-90.3)	87.9 (86.9-88.7)	87.5 (86.6-88.3)	87.2 (86.3-88.0)	87.6 (86.8-88.4)	87.2 (86.3-88.0)	86.6 (85.7-87.4)
2021	PCV13 [2]	84.1 (83.2-85.0)	86.2 (85.3-87.1)	86.0 (85.1-86.9)	86.9 (86.0-87.8)	87.0 (86.1-87.9)	88.2 (87.3-89.0)	86.0 (85.0-86.9)	86.1 (85.2-87.0)	85.7 (84.8-86.6)	86.0 (85.1-86.9)	85.5 (84.6-86.3)	85.2 (84.3-86.1)
2021	RV [1]	94.4 (93.7-94.9)	93.9 (93.3-94.5)	94.4 (93.8-95.0)	94.9 (94.3-95.4)	94.4 (93.8-95.0)	94.9 (94.3-95.4)	94.5 (93.8-95.1)	95.1 (94.5-95.6)	94.5 (93.9-95.1)	94.4 (93.8-95.0)	94.2 (93.6-94.8)	94.3 (93.8-94.9)
2021	RV [2]	84.5 (83.6-85.4)	86.2 (85.3-87.1)	86.6 (85.8-87.5)	87.4 (86.5-88.3)	87.7 (86.8-88.5)	88.5 (87.6-89.3)	86.7 (85.7-87.6)	86.5 (85.6-87.4)	86.4 (85.5-87.2)	86.4 (85.6-87.3)	86.0 (85.1-86.9)	85.5 (84.6-86.3)
2021	UTD	83.1 (82.1-84.0)	84.9 (83.9-85.7)	84.8 (83.9-85.7)	85.9 (84.9-86.7)	86.0 (85.1-86.9)	87.1 (86.2-87.9)	84.8 (83.8-85.7)	84.9 (84.0-85.8)	84.8 (83.9-85.7)	84.8 (83.9-85.7)	84.3 (83.3-85.2)	84.1 (83.2-84.9)
2022	DTaP [2]	85.5 (84.6-86.3)	86.0 (85.1-86.9)	86.8 (86.0-87.6)	87.4 (86.6-88.2)	87.5 (86.7-88.3)	87.4 (86.5-88.2)	85.2 (84.3-86.1)	86.3 (85.4-87.1)	87.0 (86.1-87.8)	87.2 (86.3-88.0)	86.5 (85.6-87.3)	86.4 (85.6-87.3)
2022	PCV13 [2]	84.1 (83.1-84.9)	84.5 (83.6-85.4)	85.4 (84.5-86.2)	85.9 (85.0-86.7)	85.9 (85.0-86.7)	86.3 (85.4-87.1)	83.7 (82.7-84.7)	85.1 (84.2-86.0)	85.4 (84.5-86.3)	85.8 (84.9-86.7)	84.9 (84.0-85.8)	84.7 (83.8-85.5)
2022	RV [1]	94.7 (94.2-95.2)	94.2 (93.6-94.7)	94.2 (93.6-94.7)	94.2 (93.5-94.7)	94.0 (93.4-94.6)	94.3 (93.7-94.9)	93.5 (92.8-94.1)	94.2 (93.6-94.8)	94.1 (93.5-94.6)	93.9 (93.3-94.5)	94.1 (93.5-94.7)	94.2 (93.6-94.8)
2022	RV [2]	84.6 (83.7-85.5)	85.2 (84.3-86.1)	86.0 (85.1-86.8)	86.5 (85.7-87.4)	86.6 (85.8-87.4)	86.5 (85.6-87.3)	84.5 (83.5-85.4)	85.4 (84.6-86.3)	86.1 (85.2-86.9)	85.9 (85.0-86.7)	85.5 (84.6-86.4)	85.2 (84.3-86.0)
2022	UTD	82.9 (82.0-83.8)	83.6 (82.6-84.5)	84.2 (83.3-85.1)	84.7 (83.7-85.5)	84.7 (83.8-85.6)	84.9 (84.0-85.8)	82.6 (81.6-83.5)	83.9 (82.9-84.8)	84.4 (83.5-85.3)	84.3 (83.3-85.1)	83.7 (82.7-84.6)	83.5 (82.6-84.4)
2023	DTaP [2]	85.3 (84.4-86.1)	86.7 (85.8-87.5)	86.1 (85.3-87.0)	86.3 (85.5-87.2)	87.8 (86.9-88.5)	88.3 (87.5-89.1)	86.3 (85.4-87.2)	85.7 (84.8-86.5)	86.5 (85.6-87.3)	85.8 (84.9-86.6)		
2023	PCV13	83.9 (82.9-	85.1 (84.2-	84.5 (83.6-	84.6 (83.7-	85.9 (85.1-	86.4 (85.6-	84.3 (83.3-	83.5 (82.5-	84.4 (83.4-	82.5 (81.5-		

	[2]	84.7)	85.9)	85.3)	85.5)	86.7)	87.3)	85.2)	84.4)	85.3)	83.4)		
2023	RV [1]	93.8 (93.2- 94.3)	94.3 (93.7- 94.8)	93.9 (93.3- 94.5)	93.4 (92.7- 94.0)	93.9 (93.3- 94.5)	94.1 (93.5- 94.7)	93.5 (92.8- 94.1)	93.2 (92.6- 93.8)	93.1 (92.4- 93.7)	91.8 (91.1- 92.4)		
2023	RV [2]	84.1 (83.2- 84.9)	85.8 (84.9- 86.7)	85.4 (84.5- 86.3)	85.1 (84.2- 85.9)	86.5 (85.7- 87.3)	87.4 (86.6- 88.2)	85.5 (84.5- 86.4)	84.5 (83.6- 85.4)	85.3 (84.4- 86.2)	84.1 (83.2- 85.0)		
2023	UTD	82.4 (81.4- 83.3)	84.0 (83.1- 84.9)	83.3 (82.3- 84.2)	83.3 (82.4- 84.2)	84.7 (83.8- 85.5)	85.4 (84.5- 86.2)	83.1 (82.1- 84.1)	82.4 (81.4- 83.3)	83.1 (82.1- 84.0)	80.8 (79.8- 81.8)		

RV [1] = RV dose 1; RV [2] = RV dose 2; DTaP [2] = DTaP dose 2; PCV [2] = PCV dose 2; UTD (Up-to-date) = RV[2] + DTaP [2] + PCV [2]

Supplemental Table 4: Vaccine coverage percent with 95% confidence intervals (CI) for rotavirus (RV), diphtheria, tetanus, acellular pertussis (DTaP), and pneumococcal conjugate vaccine (PCV) at 12 months for monthly birth cohorts born during January 1, 2018 through October 31, 2022 from the Vaccine Safety Datalink.

Year	Vaccine	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	DTaP [3]	95.0 (94.4-95.5)	94.2 (93.6-94.8)	94.5 (93.9-95.0)	95.2 (94.7-95.7)	95.0 (94.4-95.5)	94.7 (94.1-95.2)	95.2 (94.7-95.7)	95.2 (94.7-95.7)	95.3 (94.8-95.8)	95.3 (94.8-95.8)	94.7 (94.1-95.2)	95.1 (94.5-95.6)
2019	PCV13 [3]	93.1 (92.4-93.7)	92.5 (91.8-93.1)	92.9 (92.3-93.5)	92.9 (92.3-93.5)	93.1 (92.4-93.7)	92.6 (92.0-93.2)	93.4 (92.8-94.0)	93.7 (93.1-94.3)	93.5 (92.8-94.0)	93.5 (92.9-94.1)	92.9 (92.3-93.5)	93.5 (92.8-94.0)
2019	RV [2/3]	91.1 (90.4-91.8)	91.0 (90.2-91.7)	91.4 (90.7-92.0)	92.2 (91.5-92.8)	91.7 (91.0-92.3)	91.3 (90.6-92.0)	91.5 (90.8-92.1)	92.0 (91.4-92.7)	91.7 (91.0-92.3)	91.6 (90.9-92.2)	91.7 (91.0-92.3)	92.0 (91.3-92.6)
2019	UTD	90.5 (89.8-91.2)	89.7 (88.9-90.4)	90.5 (89.8-91.2)	91.0 (90.3-91.7)	90.8 (90.1-91.5)	90.4 (89.7-91.1)	91.3 (90.6-91.9)	91.4 (90.7-92.1)	91.2 (90.5-91.9)	90.9 (90.2-91.6)	90.7 (90.0-91.4)	91.3 (90.6-91.9)
2020	DTaP [3]	95.6 (95.1-96.1)	95.2 (94.6-95.7)	95.4 (94.9-95.9)	95.8 (95.2-96.2)	95.6 (95.0-96.1)	94.9 (94.3-95.5)	94.5 (93.8-95.1)	94.9 (94.3-95.4)	94.0 (93.4-94.7)	94.0 (93.4-94.6)	93.2 (92.5-93.8)	93.8 (93.1-94.4)
2020	PCV13 [3]	94.2 (93.6-94.7)	93.2 (92.6-93.8)	93.8 (93.2-94.3)	94.0 (93.3-94.5)	93.7 (93.1-94.3)	93.4 (92.7-94.1)	93.2 (92.5-93.9)	93.6 (92.9-94.2)	92.4 (91.7-93.1)	92.2 (91.5-92.9)	91.5 (90.7-92.2)	91.9 (91.1-92.6)
2020	RV [2/3]	92.5 (91.9-93.2)	92.6 (91.9-93.2)	93.0 (92.4-93.6)	92.6 (92.0-93.3)	92.8 (92.2-93.4)	92.8 (92.0-93.5)	92.6 (91.8-93.3)	92.3 (91.6-93.0)	91.6 (90.8-92.3)	90.5 (89.7-91.2)	89.2 (88.3-90.0)	90.3 (89.4-91.0)
2020	UTD	92.3 (91.6-92.9)	91.5 (90.8-92.2)	92.1 (91.4-92.7)	91.8 (91.1-92.4)	91.5 (90.8-92.2)	91.3 (90.5-92.0)	91.7 (90.9-92.4)	91.7 (90.9-92.4)	90.4 (89.6-91.2)	89.8 (89.0-90.6)	88.9 (88.0-89.7)	89.8 (88.9-90.5)
2021	DTaP [3]	94.0 (93.3-94.6)	93.0 (92.2-93.7)	94.0 (93.3-94.6)	93.8 (93.1-94.4)	94.5 (93.9-95.0)	94.0 (93.4-94.6)	93.8 (93.2-94.4)	94.6 (94.0-95.1)	94.0 (93.4-94.6)	94.5 (93.9-95.0)	94.7 (94.1-95.2)	94.0 (93.4-94.6)
2021	PCV13 [3]	92.4 (91.7-93.1)	91.8 (91.0-92.6)	92.4 (91.6-93.1)	92.2 (91.5-92.9)	93.0 (92.3-93.6)	92.4 (91.7-93.1)	92.3 (91.6-92.9)	93.0 (92.4-93.6)	92.6 (91.9-93.2)	92.8 (92.1-93.4)	93.3 (92.6-93.9)	92.7 (92.0-93.4)
2021	RV [2/3]	89.2 (88.4-90.0)	89.8 (89.0-90.6)	90.1 (89.3-90.9)	90.3 (89.5-91.1)	90.8 (90.0-91.5)	90.3 (89.5-91.0)	90.1 (89.3-90.8)	90.4 (89.7-91.1)	90.1 (89.3-90.8)	91.1 (90.3-91.8)	91.5 (90.7-92.2)	91.7 (91.0-92.4)
2021	UTD	88.8 (87.9-89.6)	89.1 (88.2-89.9)	89.8 (89.0-90.6)	89.8 (88.9-90.5)	90.4 (89.6-91.1)	90.1 (89.3-90.8)	89.8 (89.0-90.5)	90.6 (89.9-91.3)	89.9 (89.1-90.6)	90.6 (89.9-91.4)	91.1 (90.4-91.9)	90.7 (89.9-91.4)

2022	DTaP [3]	94.6 (94.0-95.2)	94.2 (93.6-94.8)	94.7 (94.1-95.3)	94.3 (93.7-94.8)	94.1 (93.5-94.7)	93.9 (93.3-94.5)	93.9 (93.3-94.5)	94.2 (93.6-94.7)	94.2 (93.6-94.8)	94.7 (94.1-95.2)	93.9 (93.3-94.5)	93.5 (92.9-94.1)
2022	PCV13 [3]	93.1 (92.4-93.7)	92.9 (92.2-93.6)	93.1 (92.4-93.7)	92.9 (92.3-93.6)	92.4 (91.7-93.0)	92.2 (91.5-92.9)	92.4 (91.8-93.0)	92.6 (91.9-93.2)	92.2 (91.5-92.8)	92.9 (92.3-93.5)	92.4 (91.7-93.0)	91.7 (91.0-92.4)
2022	RV [2/3]	91.9 (91.2-92.6)	91.5 (90.7-92.2)	92.2 (91.5-92.8)	91.3 (90.6-92.0)	91.2 (90.5-91.9)	90.8 (90.0-91.5)	90.9 (90.2-91.6)	91.4 (90.7-92.1)	91.3 (90.6-92.0)	90.8 (90.0-91.5)	91.3 (90.5-91.9)	90.8 (90.1-91.5)
2022	UTD	91.2 (90.4-91.9)	90.9 (90.1-91.6)	91.1 (90.4-91.8)	90.6 (89.9-91.3)	90.2 (89.4-90.9)	89.6 (88.8-90.3)	90.1 (89.3-90.8)	90.4 (89.6-91.1)	90.0 (89.2-90.7)	90.1 (89.3-90.8)	90.1 (89.4-90.8)	89.8 (89.1-90.6)
2023	DTaP [3]	93.6 (93.0-94.2)	92.9 (92.2-93.5)	93.8 (93.2-94.4)	93.8 (93.1-94.3)	94.2 (93.5-94.7)	93.8 (93.2-94.4)	94.2 (93.6-94.7)	93.7 (93.1-94.3)	94.5 (93.9-95.0)	93.8 (93.2-94.3)		
2023	PCV13 [3]	92.4 (91.7-93.0)	91.1 (90.3-91.8)	92.3 (91.6-92.9)	92.2 (91.5-92.8)	92.2 (91.5-92.8)	91.8 (91.1-92.5)	92.4 (91.7-93.0)	92.1 (91.4-92.7)	92.5 (91.9-93.2)	91.7 (91.0-92.4)		
2023	RV [2/3]	91.2 (90.5-91.9)	90.8 (90.1-91.5)	91.1 (90.4-91.8)	90.8 (90.0-91.5)	90.8 (90.0-91.5)	90.7 (90.0-91.4)	91.2 (90.5-91.9)	90.4 (89.6-91.1)	91.3 (90.5-91.9)	90.6 (89.8-91.3)		
2023	UTD	90.0 (89.2-90.7)	89.1 (88.2-89.8)	90.0 (89.2-90.7)	89.9 (89.1-90.7)	89.8 (89.0-90.5)	89.7 (88.9-90.4)	90.1 (89.3-90.8)	89.2 (88.4-89.9)	90.4 (89.6-91.1)	89.6 (88.8-90.3)		

RV [2/3] = RV dose 2 or dose 3*; DTaP [3] = DTaP dose 3; PCV [3] = PCV dose 3; UTD (Up-to-date) = RV[2/3] + DTaP [3] + PCV [3]

*If a patient received RV5 for any doses, we counted 3 doses at 12 months as complete. If they received only RV1, we counted 2 doses at 12 months as complete.

Supplemental Figure 1: Rotavirus (RV) vaccine dose 1 coverage at 5 months for monthly birth cohorts born during January 1, 2018 through May 31, 2023 and dose 2 or 3 coverage^a at 12 months for monthly birth cohorts born during January 1, 2018 through October 31, 2022 from the Vaccine Safety Datalink stratified by primary language and need for interpreter.

^aIf a patient received RV5 for any doses, we counted 3 doses at 12 months as complete. If they received only RV1, we counted 2 doses at 12 months as complete.