

SUPPLEMENTARY TABLE 2. Estimated vaccination coverage by age 24 months* among children born during 2018–2019,[†] by selected vaccines and doses, poverty level,[§] and Metropolitan Statistical Area (MSA) status[¶] — National Immunization Survey-Child, United States 2019–2021

Vaccine/Dose	% (95% CI)				
	Poverty Level		MSA status		
	At or above poverty (referent) (n = 23,616)	Below poverty (n = 5,023)	MSA, principal city (referent) (n = 12,876)	MSA, non-principal city (n = 11,860)	Non-MSA (n = 4,862)
DTaP**					
≥3 doses	95.8 (95.3–96.3)	89.7 (88.0–91.3) ^{††}	94.6 (93.8–95.4)	94.2 (93.3–95.1)	92.3 (90.7–93.7) ^{††}
≥4 doses	85.3 (84.3–86.2)	72.7 (70.3–75.1) ^{††}	82.0 (80.5–83.5)	83.1 (81.6–84.5)	76.1 (73.5–78.7) ^{††}
Poliovirus (≥3 doses)	95.0 (94.4–95.6)	88.7 (86.9–90.4) ^{††}	93.8 (92.9–94.6)	93.5 (92.5–94.4)	91.2 (89.5–92.7) ^{††}
MMR (≥1 dose)^{§§}	93.1 (92.4–93.8)	87.3 (85.4–89.1) ^{††}	92.2 (91.2–93.1)	91.8 (90.6–92.9)	88.8 (86.8–90.5) ^{††}
Hib^{¶¶}					
Primary series	95.5 (94.9–96.0)	88.8 (87.1–90.4) ^{††}	93.6 (92.7–94.5)	94.0 (93.1–94.9)	91.4 (89.7–92.9) ^{††}
Full series	83.3 (82.2–84.3)	71.2 (68.8–73.6) ^{††}	80.3 (78.8–81.8)	80.5 (79.0–82.0)	76.3 (73.8–78.8) ^{††}
HepB					
Birth dose***	79.7 (78.5–80.8)	80.1 (77.9–82.1)	79.1 (77.4–80.6)	80.6 (79.1–82.0)	79.7 (77.0–82.1)
≥3 doses	93.9 (93.3–94.5)	88.7 (87.0–90.4) ^{††}	93.0 (92.1–93.9)	92.8 (91.8–93.7)	90.8 (88.9–92.5) ^{††}
VAR (≥1 dose)^{§§}	92.5 (91.7–93.2)	87.1 (85.2–88.9) ^{††}	91.6 (90.5–92.6)	91.2 (90.0–92.3)	88.4 (86.5–90.2) ^{††}
PCV					
≥3 doses	95.0 (94.4–95.6)	88.6 (86.8–90.2) ^{††}	93.6 (92.6–94.4)	93.6 (92.7–94.5)	90.9 (89.2–92.4) ^{††}
≥4 doses	86.9 (85.9–87.8)	74.4 (72.1–76.7) ^{††}	83.7 (82.3–85.0)	84.5 (83.0–85.9)	78.3 (75.8–80.8) ^{††}
HepA					
≥1 dose	89.9 (89.1–90.7)	83.5 (81.4–85.5) ^{††}	89.2 (88.0–90.3)	88.5 (87.2–89.7)	83.7 (81.4–85.8) ^{††}
≥2 doses ^{†††}	49.5 (48.1–51.0)	41.4 (38.7–44.1) ^{††}	48.5 (46.6–50.5)	46.9 (45.0–48.8)	43.5 (40.4–46.6) ^{††}
≥2 doses (by 35 months) ^{†††}	82.7 (81.1–84.3)	70.6 (66.8–74.4) ^{††}	81.8 (79.4–84.0)	79.7 (77.4–81.9)	69.4 (65.5–73.3) ^{††}
Rotavirus (by 8 months)^{§§§}	80.7 (79.6–81.8)	68.0 (65.5–70.4) ^{††}	77.5 (75.9–79.0)	78.0 (76.4–79.6)	72.1 (69.2–74.7) ^{††}
Influenza (≥2 doses)^{¶¶¶}	69.6 (68.3–70.9)	49.1 (46.5–51.8) ^{††}	65.6 (63.9–67.4)	65.9 (64.1–67.7)	47.7 (44.7–50.8) ^{††}
Combined 7-vaccine series^{****}	74.4 (73.1–75.6)	59.5 (56.9–62.2) ^{††}	70.2 (68.5–71.9)	71.4 (69.6–73.1)	64.2 (61.2–67.2) ^{††}
No vaccinations	0.9 (0.7–1.1)	1.0 (0.6–1.6)	0.9 (0.6–1.3)	0.8 (0.6–1.1)	1.4 (0.9–2.0)

Abbreviations: DTaP = diphtheria, tetanus toxoids, and acellular pertussis vaccine; HepA = hepatitis A vaccine; HepB = hepatitis B vaccine; Hib = *Haemophilus influenzae* type b conjugate vaccine; MMR = measles, mumps, and rubella vaccine; PCV = pneumococcal conjugate vaccine; VAR = varicella vaccine.

* Includes vaccinations received by age 24 months (before the day the child turns 24 months), except for the HepB birth dose, rotavirus vaccination, and ≥2 HepA doses by age 35 months. For all vaccines except the HepB birth dose and rotavirus vaccination, the Kaplan-Meier method was used to estimate vaccination coverage to account for children whose vaccination history was ascertained before age 24 months (35 months for ≥2 HepA doses).

[†] Data for the 2018 birth year are from survey years 2019, 2020, and 2021; data for the 2019 birth year are considered preliminary and are from survey years 2020 and 2021 (data from survey year 2022 are not yet available).

[§] Children were classified as living below the federal poverty level if their total family income was less than the poverty threshold specified for the applicable family size and number of children aged <18 years. Children with total family income at or above the poverty threshold specified for the applicable family size and number of children aged <18 years were classified as living at or above the poverty level. Poverty level was based on 2018-2020 U.S. Census poverty thresholds. A total of 959 children with adequate provider data and missing data on income were excluded from the analysis, which could result in a small bias in the reported estimates.

[¶] MSA status was determined based on household-reported county and city of residence and was grouped into three categories: MSA principal city, MSA non-principal city, and non-MSA. MSA and principal city were as defined by the U.S. Census Bureau (<https://www.census.gov/programs-surveys/metro-micro.html>). Non-MSA areas include urban populations not located within an MSA as well as completely rural areas.

****** Includes children who might have received diphtheria and tetanus toxoids vaccine or diphtheria, tetanus toxoids, and pertussis vaccine.

†† Statistically significant (p<0.05) difference compared with the referent group.

^{§§} Includes children who might have received measles, mumps, rubella, and varicella combination vaccine.

^{¶¶} Hib primary series: receipt of ≥ 2 or ≥ 3 doses, depending on product type received; full series: primary series and booster dose, which includes receipt of ≥ 3 or ≥ 4 doses, depending on product received.

^{***} One dose HepB administered from birth through age 3 days.

^{†††} Prior to 2020, first dose of HepA recommended at age 12-23 months, with second dose given 6-18 months after the first, depending upon the product type received. In 2020, recommendation revised to two doses between ages 12 and 23 months, at least six months apart. Since children in this analysis were vaccinated under both recommendations, coverage estimates for both <24 months and <35 months are provided.

^{§§§} Includes ≥ 2 doses of Rotarix monovalent rotavirus vaccine (RV1), or ≥ 3 doses of RotaTeq pentavalent rotavirus vaccine (RV5). If any dose in the series is RotaTeq or unknown, the default is the 3-dose series. The maximum age for the final rotavirus dose is 8 months, 0 days.

^{¶¶¶} Doses must be ≥ 24 days apart (4 weeks with a 4-day grace period); doses could have been received during two influenza seasons.

^{****} The combined 7-vaccine series (4:3:1:3*:3:1:4) includes ≥ 4 doses of DTaP, ≥ 3 doses of poliovirus vaccine, ≥ 1 dose of measles-containing vaccine, the full series of Hib (≥ 3 or ≥ 4 doses, depending on product type), ≥ 3 doses of HepB, ≥ 1 dose of VAR, and ≥ 4 doses of PCV.