

Supplemental Online Content

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eTable 1. Minimum number of vaccine doses by age for up-to-date (UTD) classification

eTable 2. Proportion up-to-date and 95% confidence intervals, by age group, calendar month, year, and race/ethnicity

This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. Minimum number of vaccine doses by age for up-to-date (UTD) classification

Age	Vaccine doses							
	Hep B	Rota	DTaP	Hib	PCV13	IPV	MMR	VZV
7 months	2	2	3	2	3	2	-	-
18 months	3	-	4	3	4	3	1	1
	-	HPV	DTaP	Tdap	MenACWY	IPV	MMR	VZV
6 years	-	-	5	-	-	4	2	2
13 years	-	2	-	1	1	-	-	-
18 years	-	2	-	1	2	-	-	-

Hep B = Hepatitis B vaccine; Rota = rotavirus vaccine; DTaP = diphtheria, tetanus, and acellular pertussis vaccine; Hib = *Haemophilus influenzae* type B conjugate vaccine; PCV13 = pneumococcal conjugate vaccine, 13-valent; IPV = inactivated polio vaccine; MMR = measles, mumps, rubella vaccine; VZV = varicella zoster vaccine; HPV = human papillomavirus vaccine (quadrivalent or nine-valent); Tdap = tetanus toxoid, reduced diphtheria toxoid, acellular pertussis vaccine; MenACWY = quadrivalent meningococcal conjugate vaccine.

eTable 2.

Age and race/ethnicity	2019			2020		
	Feb	May	Sep	Feb	May	Sep
7 months	0.81 (0.80–0.82)	0.82 (0.81–0.83)	0.81 (0.80–0.82)	0.81 (0.80–0.82)	0.72 (0.71–0.73)	0.74 (0.73–0.76)
Asian ^a	0.91 (0.89–0.93)	0.91 (0.89–0.92)	0.89 (0.87–0.91)	0.88 (0.87–0.90)	0.81 (0.79–0.83)	0.88 (0.86–0.90)
Black ^a	0.64 (0.59–0.69)	0.70 (0.64–0.75)	0.62 (0.57–0.68)	0.68 (0.63–0.73)	0.54 (0.49–0.60)	0.61 (0.55–0.67)
Hispanic	0.81 (0.79–0.83)	0.79 (0.77–0.81)	0.80 (0.78–0.82)	0.82 (0.80–0.84)	0.71 (0.69–0.74)	0.76 (0.74–0.78)
All other races	0.78 (0.76–0.81)	0.82 (0.79–0.84)	0.80 (0.77–0.82)	0.80 (0.77–0.82)	0.70 (0.67–0.72)	0.65 (0.62–0.68)
White ^a	0.81 (0.79–0.82)	0.81 (0.79–0.83)	0.81 (0.80–0.83)	0.81 (0.79–0.82)	0.72 (0.70–0.74)	0.74 (0.72–0.76)
18 months	0.60 (0.59–0.61)	0.60 (0.58–0.61)	0.61 (0.60–0.62)	0.61 (0.60–0.62)	0.56 (0.55–0.57)	0.57 (0.56–0.58)
Asian ^a	0.79 (0.77–0.82)	0.76 (0.73–0.79)	0.76 (0.74–0.79)	0.78 (0.76–0.80)	0.76 (0.74–0.79)	0.76 (0.74–0.78)
Black ^a	0.50 (0.46–0.54)	0.48 (0.44–0.52)	0.54 (0.50–0.58)	0.49 (0.45–0.53)	0.41 (0.36–0.45)	0.41 (0.37–0.45)
Hispanic	0.58 (0.56–0.60)	0.58 (0.56–0.60)	0.58 (0.56–0.60)	0.59 (0.58–0.61)	0.56 (0.54–0.58)	0.54 (0.52–0.56)
All other races	0.57 (0.55–0.60)	0.57 (0.55–0.60)	0.60 (0.57–0.63)	0.59 (0.57–0.62)	0.54 (0.51–0.57)	0.54 (0.52–0.57)
White ^a	0.58 (0.56–0.60)	0.57 (0.55–0.59)	0.58 (0.56–0.60)	0.59 (0.57–0.61)	0.52 (0.50–0.54)	0.56 (0.54–0.58)
6 years	0.77 (0.76–0.78)	0.77 (0.76–0.78)	0.76 (0.76–0.77)	0.79 (0.78–0.80)	0.79 (0.78–0.79)	0.77 (0.76–0.77)
Asian ^a	0.77 (0.74–0.79)	0.77 (0.75–0.80)	0.77 (0.75–0.80)	0.81 (0.79–0.83)	0.80 (0.78–0.82)	0.78 (0.76–0.81)
Black ^a	0.75 (0.72–0.79)	0.73 (0.69–0.76)	0.71 (0.67–0.74)	0.74 (0.70–0.77)	0.76 (0.73–0.80)	0.70 (0.67–0.74)
Hispanic	0.78 (0.76–0.80)	0.78 (0.76–0.79)	0.78 (0.77–0.80)	0.81 (0.79–0.82)	0.80 (0.79–0.82)	0.79 (0.78–0.80)
All other races	0.73 (0.70–0.76)	0.73 (0.71–0.76)	0.74 (0.72–0.76)	0.74 (0.72–0.77)	0.72 (0.69–0.74)	0.72 (0.70–0.74)
White ^a	0.78 (0.76–0.80)	0.78 (0.76–0.79)	0.76 (0.75–0.78)	0.79 (0.78–0.81)	0.80 (0.79–0.82)	0.77 (0.75–0.78)
13 years	0.57 (0.56–0.58)	0.58 (0.57–0.59)	0.59 (0.58–0.60)	0.59 (0.58–0.60)	0.59 (0.58–0.60)	0.56 (0.55–0.57)
Asian ^a	0.66 (0.63–0.69)	0.68 (0.65–0.71)	0.71 (0.68–0.73)	0.71 (0.68–0.74)	0.72 (0.69–0.74)	0.68 (0.65–0.71)
Black ^a	0.55 (0.52–0.59)	0.55 (0.51–0.58)	0.58 (0.55–0.62)	0.54 (0.50–0.58)	0.52 (0.49–0.56)	0.51 (0.47–0.54)
Hispanic	0.62 (0.60–0.64)	0.65 (0.63–0.66)	0.64 (0.62–0.65)	0.64 (0.63–0.66)	0.64 (0.62–0.66)	0.62 (0.61–0.64)
All other races	0.50 (0.47–0.53)	0.50 (0.47–0.53)	0.53 (0.50–0.56)	0.55 (0.52–0.58)	0.50 (0.47–0.53)	0.46 (0.43–0.48)
White ^a	0.52 (0.50–0.54)	0.53 (0.51–0.55)	0.53 (0.51–0.55)	0.53 (0.51–0.55)	0.55 (0.53–0.56)	0.51 (0.50–0.53)
18 years	0.58 (0.57–0.59)	0.58 (0.58–0.59)	0.60 (0.59–0.61)	0.61 (0.60–0.62)	0.59 (0.58–0.60)	0.60 (0.59–0.61)
Asian ^a	0.66 (0.63–0.69)	0.65 (0.62–0.68)	0.66 (0.64–0.69)	0.63 (0.60–0.67)	0.65 (0.62–0.68)	0.66 (0.63–0.69)
Black ^a	0.58 (0.54–0.62)	0.56 (0.52–0.60)	0.60 (0.57–0.64)	0.60 (0.56–0.64)	0.62 (0.58–0.65)	0.59 (0.55–0.62)
Hispanic	0.64 (0.62–0.66)	0.65 (0.64–0.67)	0.66 (0.64–0.68)	0.68 (0.66–0.70)	0.67 (0.65–0.69)	0.67 (0.65–0.69)
All other races	0.49 (0.46–0.52)	0.49 (0.46–0.52)	0.51 (0.48–0.53)	0.51 (0.48–0.54)	0.49 (0.47–0.52)	0.47 (0.45–0.50)
White ^a	0.52 (0.51–0.54)	0.54 (0.52–0.56)	0.56 (0.54–0.58)	0.56 (0.54–0.58)	0.54 (0.52–0.56)	0.55 (0.53–0.57)

Up-to-date definitions, by age: 7 months = receipt of 2 HepB, 2 Rota, 3DTaP, 2 Hib, 3 PCV13, 2 IPV; 18 months = receipt of 3 Hep B, 4 DTaP, 3 Hib, 4 PCV13, 3 IPV, 1 MMR, 1 VZV; 6 years = receipt of 5 DTaP, 4 IPV, 2 MMR, 2 VZV; 13 years = receipt of 2 HPV, 1 Tdap, 1 MenACWY; 18 years = receipt of 2 HPV, 1 Tdap, 2 MenACWY

^aNon-Hispanic racial categories