

2006 KINDERGARTEN RETROSPECTIVE SURVEY RESULTS
CALIFORNIA DEPARTMENT OF HEALTH SERVICES, IMMUNIZATION BRANCH

Introduction

The annual Kindergarten Retrospective Survey (KRS) is a primary source of information about childhood immunization coverage in California. This survey provides estimates of immunization coverage among kindergarten students at various age checkpoints. This report presents results from this year's Kindergarten Retrospective Survey and the attached tables and figures present comparisons of immunization coverage by a variety of factors, including region and race/ethnicity.

Methods and Participants

This year's Kindergarten Retrospective Survey was conducted in a sample of approximately 3% of California's kindergartens in concurrence with selective review. Local health departments visited 240 schools with kindergartens and collected copies of every sixth student immunization record (blue card). Demographic information and immunization history were extracted from each record. Data were analyzed using birth dates and immunization dates to retrospectively estimate immunization coverage at various age checkpoints. Age checkpoints are defined according to whether or not children are up-to-date for DTaP, Polio, MMR, Hep B, and Varicella vaccines at 3, 5, 7, 13, 19 and 24 months. Since this is a retrospective survey, estimates immunization coverage represent coverage levels among toddlers approximately 3-4 years ago.

This year's sample consists of 2,592 kindergarten students. The majority of these children were born in 2000. There were 8 (0.31%) children with permanent medical exemptions and 37 (1.43%) children with personal beliefs exemptions in the sample.

Results and Discussion

Results from this year's Kindergarten Retrospective Survey indicate that the percent of California's kindergarten students at 24 months of age with the 4:3:1 series (4+ DTP, 3+ Polio, and 1+ MMR) was 77.7±2.1%. Immunization coverage for individual vaccines ranged from 79.9±2.0% for 4+ DTaP to 92.7±1.3% for 3+ Polio. Table 1 shows a comparison of this year's Kindergarten Retrospective Survey and the 2002 National Immunization Survey. Estimates of immunization coverage for individual vaccines and the 4:3:1 series were similar for both surveys.

Immunization coverage among California's children is similar across regions (Table 2 and Figure 2a). This year, the percent of kindergarten students at 24 months of age with the 4:3:1 vaccine series was 77.7±2.1% for all California children, 76.1±4.8% among children in Los Angeles, 78.9±3.3% among children in Southern California, 81.0±4.7% among children in the Bay Area, 81.3±9.7% among children in the Central Coast, 72.2±5.9% among children in the Central Valley, 81.2±6.8% among children in the North Central Valley, and 73.8±7.1% among children in rural Northern California. Although the point estimates may seem different, once confidence intervals are factored in, it becomes clear that any observed differences are not statistically significant.

Table 3 shows immunization coverage among California's children by race/ethnicity. This year, the percent of kindergarten students at 24 months of age with the 4:3:1 vaccine series was 86.2±5.6% among Asian children, 77.9±2.7% among Hispanic children, 76.7±4.5% among White children, and 65.9±10.6% among Black children. The Kindergarten Retrospective Survey is one of the only sources of information on subpopulations of Black and Asian children and data suggest a serious and persistent disparity in immunization coverage among Black children. Over the past 5 years, coverage with the 4:3:1 vaccine series among Black children has been significantly lower than White, Hispanic, and Asian children (Figure 2a) and this is consistent at all age checkpoints (Figure 2b).

Description of Attached Tables

Enclosed are tables and figures showing this year's results. Table 1 compares immunization coverage as measured by the Kindergarten Retrospective Survey and the National Immunization Survey. Table 2 shows immunization coverage among kindergarten students at 24 months of age by region. Figure 2a is a map of 4:3:1 vaccine series coverage by region. Table 3 shows immunization coverage among kindergarten students at 24 months of age by race/ethnicity. Figures 3A&B show disparities in 4:3:1 vaccine series coverage among children by race/ethnicity over time (Figure 3A) and at all age checkpoints (Figure 3B). Tables 4-8 show immunization coverage among kindergarten students at 3, 5, 7, 13 and 19 months of age by race/ethnicity.

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TABLE 1: COMPARISON OF IMMUNIZATION COVERAGE AS MEASURED BY THE KINDERGARTEN RETROSPECTIVE SURVEY (KRS) AND THE NATIONAL IMMUNIZATION SURVEY (NIS)¹

	n	DTaP (4+) ²	Polio (3+) ³	MMR (1+) ⁴	Hep B (3+) ⁵	Var (1+) ⁶	4:3:1 ⁷
KRS (24 mo.)	2,592	79.9% ± 2.0%	92.7% ± 1.3%	92.6% ± 1.2%	89.6% ± 1.5%	83.9% ± 1.7%	77.7% ± 2.1%
NIS (24 mo.)	n/a	82.5% ± 3.9%	89.1% ± 3.2%	92.1% ± 2.8%	87.2% ± 3.4%	84.8% ± 3.8%	79.0% ± 4.2%

1. Data from the 2002 NIS are used for comparison because data from the KRS are retrospective; Children in both surveys were born between 1999 and 2001
2. Four or more doses of any diphtheria and tetanus toxoids and pertussis vaccines including diphtheria and tetanus toxoids, and any acellular pertussis vaccine (DTP/DTaP/DT)
3. Three or more doses of any poliovirus vaccine
4. One or more doses of measles-mumps-rubella vaccine
5. Three or more doses of hepatitis B vaccine
6. One or more doses of varicella vaccine, unadjusted for history of varicella disease
7. Four or more doses of DTaP, three or more doses of Polio, and one or more doses of MMR

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TABLE 2: IMMUNIZATION COVERAGE AMONG KINDERGARTEN STUDENTS AT 24 MONTHS OF AGE BY REGION¹

	n	DTaP (4+) ²	Polio (3+) ³	MMR (1+) ⁴	Hep B (3+) ⁵	Var (1+) ⁶	4:3:1 ⁷	4:3:1:-:3 ⁸	4:3:1:-:3:1 ⁹
ALL	2,592	79.9% ± 2.0%	92.7% ± 1.3%	92.6% ± 1.2%	89.6% ± 1.5%	83.9% ± 1.7%	77.7% ± 2.1%	74.8% ± 2.1%	69.8% ± 2.2%
Los Angeles	804	78.3% ± 4.7%	91.3% ± 3.5%	95.0% ± 1.9%	87.8% ± 3.3%	83.8% ± 3.6%	76.1% ± 4.8%	72.8% ± 5.1%	68.4% ± 5.2%
Other So. California	640	81.0% ± 3.1%	93.6% ± 2.3%	91.2% ± 2.5%	90.5% ± 3.0%	83.4% ± 3.4%	78.9% ± 3.3%	76.6% ± 3.3%	71.5% ± 3.7%
SF Bay Area	476	84.3% ± 4.4%	94.5% ± 2.1%	89.9% ± 3.7%	90.3% ± 2.7%	88.6% ± 3.3%	81.0% ± 4.7%	77.6% ± 4.4%	75.0% ± 4.7%
Central Coast	119	84.1% ± 9.6%	93.8% ± 4.3%	95.7% ± 6.9%	92.6% ± 6.2%	82.1% ± 7.5%	81.3% ± 9.7%	78.3% ± 9.5%	69.9% ± 8.4%
Central Valley	176	73.4% ± 5.7%	89.7% ± 4.1%	91.4% ± 3.2%	88.8% ± 2.5%	85.1% ± 4.3%	72.2% ± 5.9%	68.8% ± 5.8%	65.7% ± 6.2%
North Central Valley	198	82.9% ± 6.4%	94.5% ± 4.2%	93.5% ± 4.0%	89.0% ± 7.9%	82.3% ± 5.8%	81.2% ± 6.8%	75.7% ± 8.7%	67.7% ± 9.2%
Rural No. California	179	75.0% ± 6.8%	92.0% ± 3.1%	92.3% ± 2.6%	90.5% ± 4.7%	79.6% ± 6.6%	73.8% ± 7.1%	72.4% ± 7.2%	64.5% ± 8.0%

1. Regions do not exactly match Field Rep assigned regions:

Los Angeles includes Los Angeles County

Other So. California includes Imperial, Orange, Riverside, San Bernardino, and San Diego Counties

SF Bay Area includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties

Central Coast includes Monterey, San Luis Obispo, Santa Barbara, Santa Cruz, and Ventura Counties

Central Valley includes Fresno, Kern, Kings, Madera, Merced, and Tulare Counties

North Central Valley includes Sacramento, San Joaquin, and Stanislaus Counties

Rural No. California includes Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Placer, Plumas, San Benito, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Tuolumne, Yolo, and Yuba Counties

2. Four or more doses of any diphtheria and tetanus toxoids and pertussis vaccines including diphtheria and tetanus toxoids, and any acellular pertussis vaccine (DTP/DTaP/DT)

3. Three or more doses of any poliovirus vaccine

4. One or more doses of measles-mumps-rubella vaccine

5. Three or more doses of hepatitis B vaccine

6. One or more doses of varicella vaccine, unadjusted for history of varicella disease

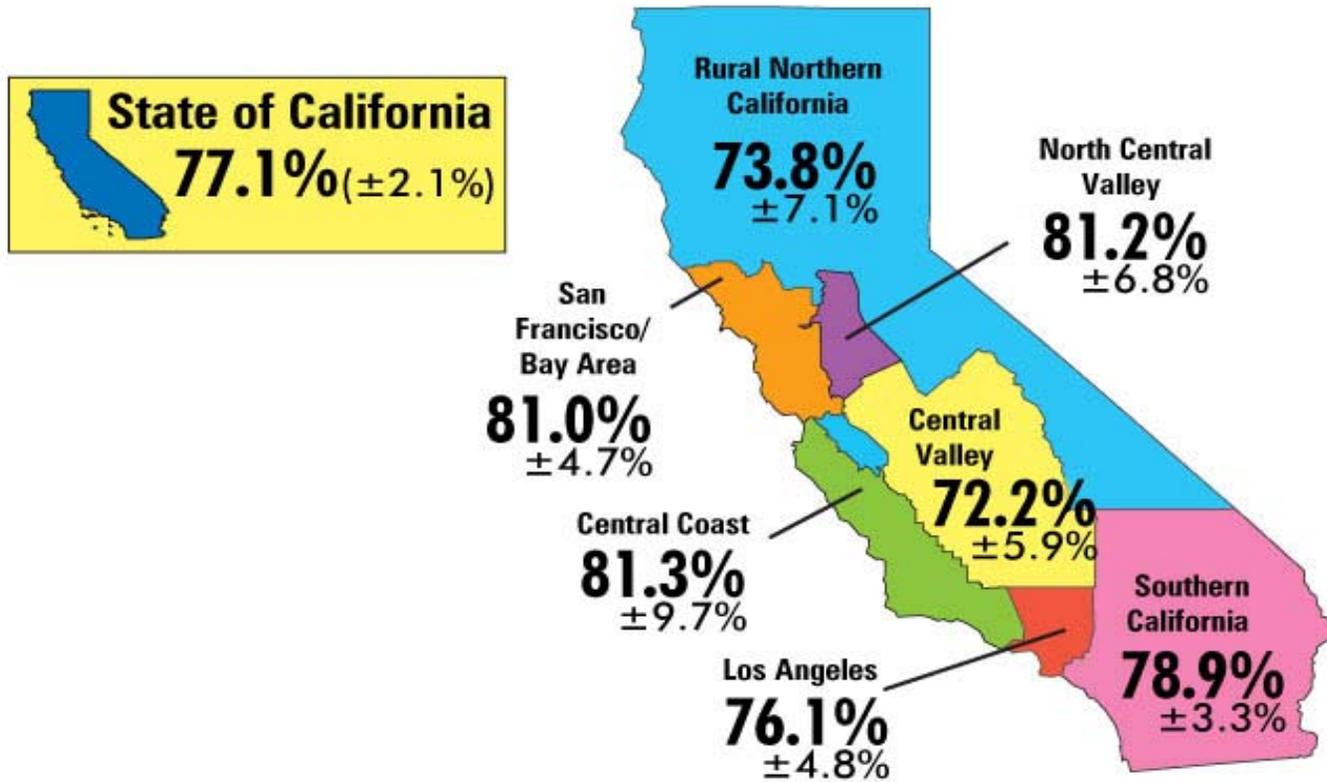
7. Four or more doses of DTaP, three or more doses of Polio, and one or more doses of MMR

8. Four or more doses of DTaP, three or more doses of Polio, one or more doses of MMR, and three or more doses of Hep B

9. Four or more doses of DTaP, three or more doses of Polio, one or more doses of MMR, three or more doses of Hep B, and one or more doses of varicella

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FIGURE 2A: 4:3:1¹ COVERAGE AMONG KINDERGARTEN STUDENTS AT 24 MONTHS OF AGE BY REGION²



1. Four or more doses of DTaP, three or more doses of polio, and one or more doses of MMR

2. Regions do not exactly match Field Rep assigned regions:

Los Angeles includes Los Angeles County

Other So. California includes Imperial, Orange, Riverside, San Bernardino, and San Diego Counties

SF Bay Area includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties

Central Coast includes Monterey, San Luis Obispo, Santa Barbara, Santa Cruz, and Ventura Counties

Central Valley includes Fresno, Kern, Kings, Madera, Merced, and Tulare Counties

North Central Valley includes Sacramento, San Joaquin, and Stanislaus Counties

Rural No. California includes Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Placer, Plumas, San Benito, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Tuolumne, Yolo, and Yuba Counties

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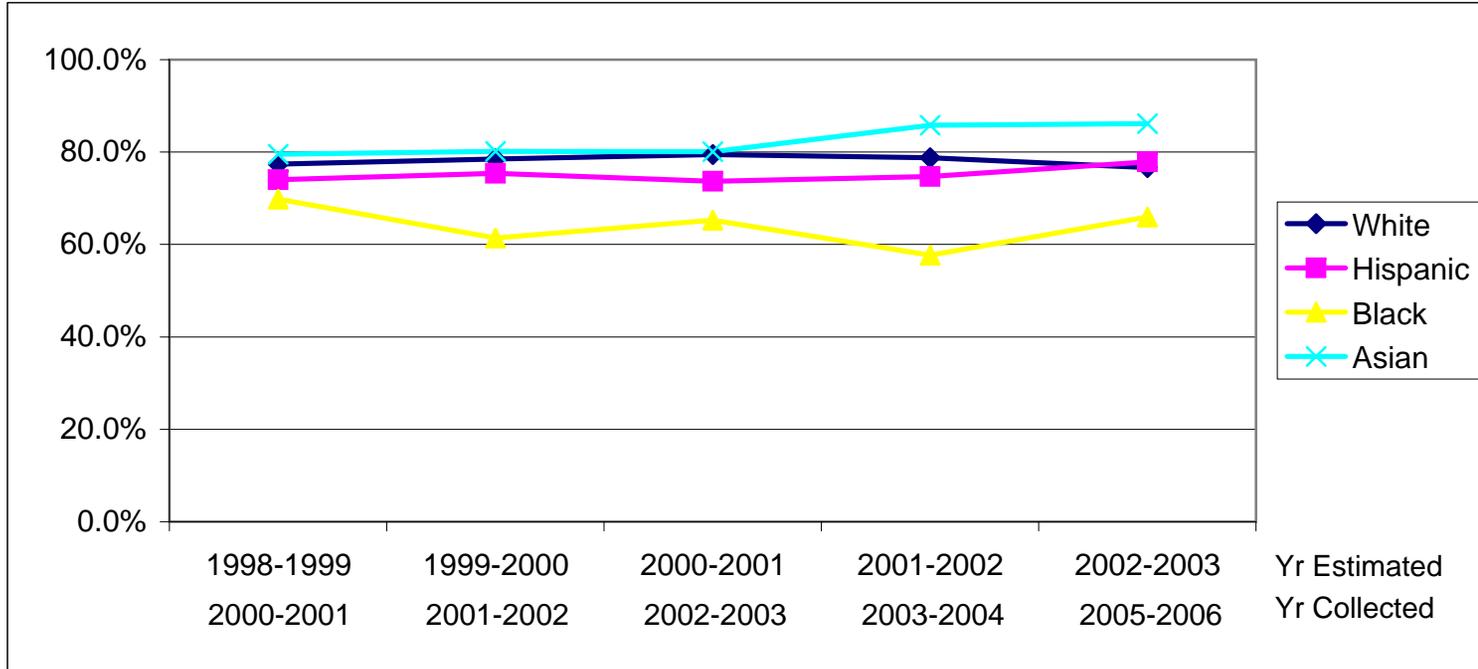
TABLE 3: IMMUNIZATION COVERAGE AMONG KINDERGARTEN STUDENTS AT 24 MONTHS OF AGE BY RACE/ETHNICITY¹

	n	DTaP (4+) ²	Polio (3+) ³	MMR (1+) ⁴	Hep B (3+) ⁵	Var (1+) ⁶	4:3:1 ⁷	4:3:1:-:3 ⁸	4:3:1:-:3:1 ⁹
ALL	2,592	79.9% ± 2.0%	92.7% ± 1.3%	92.6% ± 1.2%	89.6% ± 1.5%	83.9% ± 1.7%	77.7% ± 2.1%	74.8% ± 2.1%	69.8% ± 2.2%
White	550	79.7% ± 4.2%	90.0% ± 2.5%	90.4% ± 3.0%	88.1% ± 2.6%	85.0% ± 3.3%	76.7% ± 4.5%	72.9% ± 4.4%	67.9% ± 5.0%
Hispanic	1,269	79.8% ± 2.7%	94.0% ± 1.7%	94.0% ± 1.7%	91.0% ± 2.1%	83.0% ± 2.4%	77.9% ± 2.7%	76.0% ± 2.8%	70.7% ± 2.9%
Black	353	67.7% ± 10.8%	86.6% ± 7.0%	88.8% ± 5.1%	83.5% ± 7.3%	80.5% ± 6.2%	65.9% ± 10.6%	61.4% ± 11.6%	57.8% ± 11.3%
Asian	181	86.2% ± 5.6%	94.7% ± 4.1%	92.8% ± 4.3%	90.2% ± 4.5%	91.0% ± 4.5%	86.2% ± 5.6%	82.0% ± 5.7%	80.5% ± 5.7%
Other	124	84.3% ± 8.7%	95.9% ± 3.9%	95.0% ± 4.7%	92.5% ± 4.9%	87.5% ± 6.7%	83.2% ± 8.8%	79.9% ± 9.1%	75.3% ± 9.1%
Unknown	115	84.5% ± 7.1%	93.3% ± 5.5%	90.0% ± 5.6%	85.9% ± 6.7%	77.9% ± 7.5%	78.5% ± 7.4%	71.9% ± 8.9%	62.7% ± 7.5%

1. As recorded on student immunization record (blue card). Individual racial groups do not include Hispanic children. Children of Hispanic ethnicity may be of any race
2. Four or more doses of any diphtheria and tetanus toxoids and pertussis vaccines including diphtheria and tetanus toxoids, and any acellular pertussis vaccine (DTP/DTaP/DT)
3. Three or more doses of any poliovirus vaccine
4. One or more doses of measles-mumps-rubella vaccine
5. Three or more doses of hepatitis B vaccine
6. One or more doses of varicella vaccine, unadjusted for history of varicella disease
7. Four or more doses of DTaP, three or more doses of Polio, and one or more doses of MMR
8. Four or more doses of DTaP, three or more doses of Polio, one or more doses of MMR, and three or more doses of Hep B
9. Four or more doses of DTaP, three or more doses of Polio, one or more doses of MMR, three or more doses of Hep B, and one or more doses of varicella

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FIGURE 3A: 4:3:1¹ COVERAGE AMONG KINDERGARTEN STUDENTS AT 24 MONTHS OF AGE BY YEAR OF KRS² AND RACE/ETHNICITY³



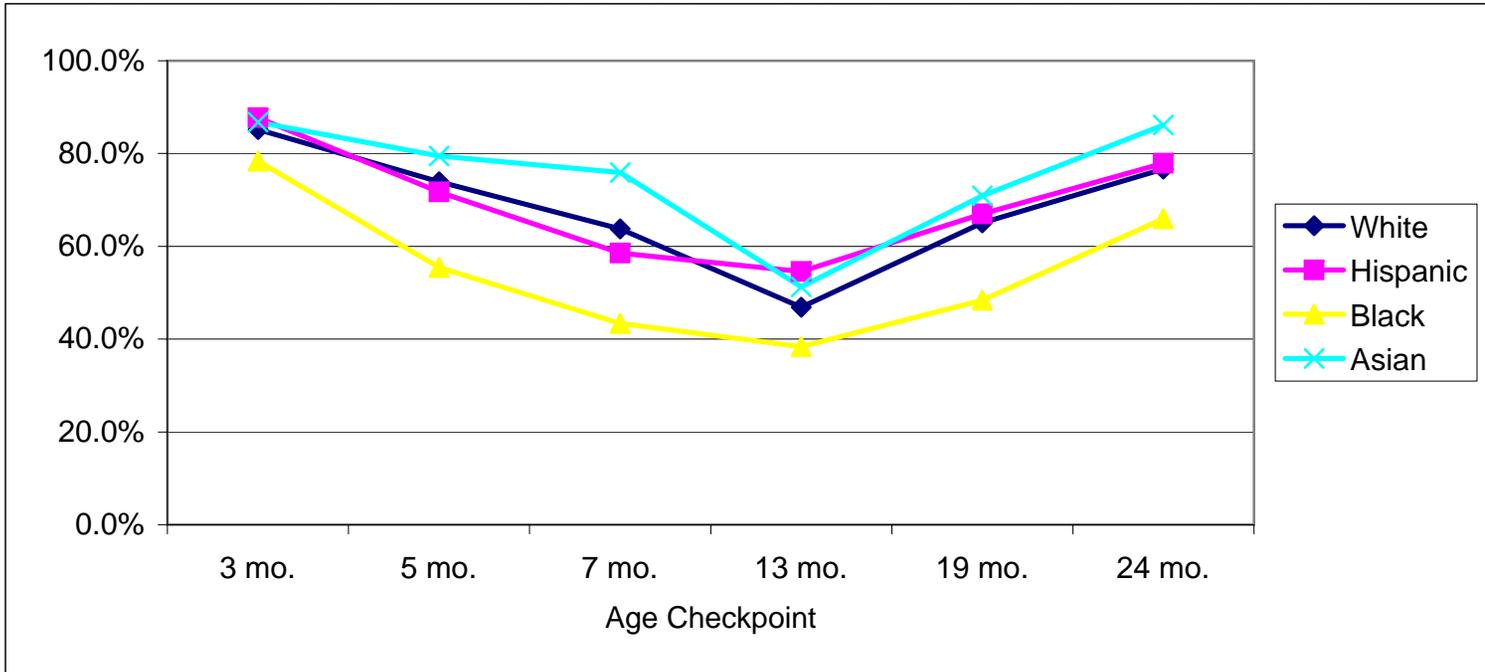
1. Four or more doses of DTaP, three or more doses of polio, and one or more doses of MMR

2. Year of KRS: year collected is the school year that students were in kindergarten. Since this is a retrospective survey, year estimated reflects the year when kindergarten students were 24 months

3. As recorded on student immunization record (blue card). Individual racial groups do not include Hispanic children. Children of Hispanic ethnicity may be of any race

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FIGURE 3B: 4:3:1¹ COVERAGE AMONG KINDERGARTEN STUDENTS BY AGE CHECKPOINT² AND RACE/ETHNICITY³



1. Age appropriate doses of DTaP, polio, and MMR

2. Age checkpoints are defined according to whether or not children are up-to-date for age appropriate doses of DTaP, polio, and MMR at 3, 5, 7, 13, 19 and 24 months

3. As recorded on student immunization record (blue card). Individual racial groups do not include Hispanic children. Children of Hispanic ethnicity may be of any race

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TABLE 4: IMMUNIZATION COVERAGE AMONG KINDERGARTEN STUDENTS AT 3 MONTHS OF AGE BY RACE/ETHNICITY¹

	n	DTaP (1+) ²	Polio (1+) ³	Hep B (1+) ⁴	1:1:0 ⁵	1:1:0:-:1 ⁶
ALL	2,592	87.8% ± 1.4%	87.5% ± 1.4%	82.2% ± 2.0%	86.2% ± 1.5%	77.3% ± 2.1%
White	550	87.6% ± 3.2%	86.0% ± 3.4%	76.2% ± 4.5%	85.2% ± 3.4%	71.7% ± 5.1%
Hispanic	1,269	88.7% ± 1.8%	88.6% ± 1.7%	86.3% ± 2.6%	87.7% ± 1.9%	82.1% ± 2.7%
Black	353	80.1% ± 6.0%	80.3% ± 6.6%	78.7% ± 6.5%	78.4% ± 6.7%	70.5% ± 7.5%
Asian	181	89.0% ± 5.0%	90.3% ± 4.7%	86.7% ± 4.9%	86.8% ± 5.8%	79.5% ± 5.4%
Other	124	91.0% ± 6.3%	90.8% ± 5.6%	76.3% ± 8.6%	89.8% ± 6.2%	71.2% ± 9.4%
Unknown	115	83.8% ± 6.4%	84.1% ± 7.2%	74.1% ± 9.8%	80.2% ± 7.1%	66.4% ± 8.1%

1. As recorded on student immunization record (blue card). Individual racial groups do not include Hispanic children. Children of Hispanic ethnicity may be of any race
2. One or more doses of any diphtheria and tetanus toxoids and pertussis vaccines including diphtheria and tetanus toxoids, and any pertussis vaccine (DTP/DTaP/DT)
3. One or more doses of any poliovirus vaccine
4. One or more doses of hepatitis B vaccine
5. One or more doses of DTaP and one or more doses of Polio
6. One or more doses of DTaP, one or more doses of polio, and one or more doses of Hep B

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TABLE 5: IMMUNIZATION COVERAGE AMONG KINDERGARTEN STUDENTS AT 5 MONTHS OF AGE BY RACE/ETHNICITY¹

	n	DTaP (2+) ²	Polio (2+) ³	Hep B (2+) ⁴	2:2:0 ⁵	2:2:0:-:2 ⁶
ALL	2,592	74.2% ± 2.4%	74.0% ± 2.3%	69.9% ± 2.1%	71.9% ± 2.3%	61.2% ± 2.3%
White	550	76.9% ± 4.7%	74.5% ± 4.7%	64.3% ± 5.1%	73.9% ± 4.7%	58.4% ± 5.3%
Hispanic	1,269	73.2% ± 3.0%	74.8% ± 3.1%	73.6% ± 2.8%	71.7% ± 3.0%	64.5% ± 2.9%
Black	353	56.3% ± 8.7%	57.9% ± 9.3%	60.3% ± 8.5%	55.5% ± 9.2%	46.1% ± 9.6%
Asian	181	82.9% ± 5.7%	80.8% ± 5.9%	80.5% ± 5.7%	79.5% ± 5.8%	69.7% ± 6.8%
Other	124	80.4% ± 7.8%	77.6% ± 8.2%	62.3% ± 9.0%	76.6% ± 8.0%	54.4% ± 9.5%
Unknown	115	73.7% ± 10.1%	70.9% ± 11.0%	63.1% ± 10.6%	69.3% ± 11.2%	54.2% ± 10.4%

1. As recorded on student immunization record (blue card). Individual racial groups do not include Hispanic children. Children of Hispanic ethnicity may be of any race
2. Two or more doses of any diphtheria and tetanus toxoids and pertussis vaccines including diphtheria and tetanus toxoids, and any pertussis vaccine (DTP/DTaP/DT)
3. Two or more doses of any poliovirus vaccine
4. Two or more doses of hepatitis B vaccine
5. Two or more doses of DTaP and two or more doses of Polio
6. Two or more doses of DTaP, two or more doses of polio, and two or more doses of Hep B

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TABLE 6: IMMUNIZATION COVERAGE AMONG KINDERGARTEN STUDENTS AT 7 MONTHS OF AGE BY RACE/ETHNICITY¹

	n	DTaP (3+) ²	Polio (2+) ³	Hep B (2+) ⁴	3:2:0 ⁵	3:2:0:-:2 ⁶
ALL	2,592	61.9% ± 2.8%	89.9% ± 1.5%	84.0% ± 1.9%	61.2% ± 2.8%	55.7% ± 2.6%
White	550	65.0% ± 5.5%	90.0% ± 2.9%	78.2% ± 4.4%	63.8% ± 5.4%	54.5% ± 5.3%
Hispanic	1,269	58.8% ± 3.2%	90.9% ± 1.8%	87.8% ± 2.3%	58.5% ± 3.2%	55.8% ± 3.2%
Black	353	44.3% ± 8.4%	77.1% ± 8.2%	77.4% ± 6.6%	43.4% ± 8.7%	41.0% ± 9.0%
Asian	181	76.4% ± 6.2%	93.4% ± 3.8%	88.2% ± 4.8%	75.9% ± 6.3%	70.1% ± 6.1%
Other	124	70.6% ± 10.3%	90.0% ± 5.1%	80.7% ± 7.1%	68.6% ± 9.7%	56.2% ± 10.3%
Unknown	115	71.7% ± 8.9%	91.2% ± 5.1%	78.9% ± 8.6%	71.7% ± 8.9%	58.6% ± 10.1%

1. As recorded on student immunization record (blue card). Individual racial groups do not include Hispanic children. Children of Hispanic ethnicity may be of any race
2. Three or more doses of any diphtheria and tetanus toxoids and pertussis vaccines including diphtheria and tetanus toxoids, and any pertussis vaccine (DTP/DTaP/DT)
3. Two or more doses of any poliovirus vaccine
4. Two or more doses of hepatitis B vaccine
5. Three or more doses of DTaP and two or more doses of Polio
6. Three or more doses of DTaP, two or more doses of polio, and two or more doses of Hep B

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TABLE 7: IMMUNIZATION COVERAGE AMONG KINDERGARTEN STUDENTS AT 13 MONTHS OF AGE BY RACE/ETHNICITY¹

	n	DTaP (3+) ²	Polio (2+) ³	MMR (1+) ⁴	Hep B (2+) ⁵	Var (1+) ⁶	3:2:1 ⁷	3:2:1:-:2 ⁸	3:2:1:-:2:1 ⁹
ALL	2,592	90.4% ± 1.5%	96.5% ± 0.8%	52.5% ± 3.0%	93.0% ± 1.1%	49.0% ± 2.8%	51.0% ± 3.0%	49.5% ± 2.9%	40.1% ± 2.8%
White	550	90.3% ± 2.6%	96.3% ± 1.8%	48.7% ± 6.0%	91.0% ± 2.3%	51.5% ± 5.3%	46.9% ± 5.9%	44.4% ± 5.7%	37.3% ± 5.3%
Hispanic	1,269	90.9% ± 2.2%	96.8% ± 1.2%	56.1% ± 3.2%	94.6% ± 1.7%	48.0% ± 3.6%	54.6% ± 3.2%	53.8% ± 3.1%	43.1% ± 3.6%
Black	353	75.1% ± 7.6%	91.6% ± 5.2%	42.1% ± 7.5%	88.2% ± 5.9%	37.9% ± 7.4%	38.4% ± 7.4%	36.9% ± 6.9%	30.6% ± 7.5%
Asian	181	96.6% ± 2.9%	98.6% ± 1.7%	51.8% ± 10.1%	92.2% ± 3.7%	53.9% ± 7.3%	51.3% ± 10.0%	48.3% ± 9.4%	39.1% ± 9.3%
Other	124	94.0% ± 4.5%	97.8% ± 2.7%	62.2% ± 10.3%	95.0% ± 4.2%	57.6% ± 8.3%	61.2% ± 10.4%	59.5% ± 10.2%	48.7% ± 9.4%
Unknown	115	93.7% ± 4.9%	97.2% ± 2.7%	37.4% ± 9.9%	91.6% ± 4.4%	43.6% ± 11.6%	37.3% ± 9.9%	34.7% ± 9.4%	25.8% ± 8.9%

1. As recorded on student immunization record (blue card). Individual racial groups do not include Hispanic children. Children of Hispanic ethnicity may be of any race
2. Three or more doses of any diphtheria and tetanus toxoids and pertussis vaccines including diphtheria and tetanus toxoids, and any acellular pertussis vaccine (DTP/DTaP/DT)
3. Two or more doses of any poliovirus vaccine
4. One or more doses of measles-mumps-rubella vaccine
5. Two or more doses of hepatitis B vaccine
6. One or more doses of varicella vaccine, unadjusted for history of varicella disease
7. Three or more doses of DTaP, two or more doses of Polio, and one or more doses of MMR
8. Three or more doses of DTaP, two or more doses of Polio, one or more doses of MMR, and two or more doses of Hep B
9. Three or more doses of DTaP, two or more doses of Polio, one or more doses of MMR, two or more doses of Hep B, and one or more doses of varicella

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TABLE 8: IMMUNIZATION COVERAGE AMONG KINDERGARTEN STUDENTS AT 19 MONTHS OF AGE BY RACE/ETHNICITY¹

	n	DTaP (4+) ²	Polio (3+) ³	MMR (1+) ⁴	Hep B (3+) ⁵	Var (1+) ⁶	4:3:1 ⁷	4:3:1:-:3 ⁸	4:3:1:-:3:1 ⁹
ALL	2,592	68.1% ± 2.6%	87.8% ± 1.7%	89.0% ± 1.5%	86.7% ± 1.7%	79.8% ± 2.1%	65.6% ± 2.5%	62.9% ± 2.5%	58.7% ± 2.5%
White	550	68.7% ± 5.0%	83.5% ± 3.2%	87.4% ± 3.3%	84.7% ± 3.1%	82.1% ± 3.8%	65.1% ± 5.0%	61.7% ± 4.8%	57.4% ± 5.1%
Hispanic	1,269	68.6% ± 3.6%	90.5% ± 2.2%	90.5% ± 2.1%	88.4% ± 2.5%	79.0% ± 2.9%	67.0% ± 3.4%	65.4% ± 3.3%	61.3% ± 3.3%
Black	353	51.8% ± 10.2%	77.1% ± 7.2%	82.1% ± 6.4%	78.9% ± 7.2%	73.0% ± 6.8%	48.4% ± 10.1%	44.7% ± 10.3%	40.2% ± 9.4%
Asian	181	73.0% ± 8.0%	92.0% ± 4.8%	88.8% ± 5.7%	88.2% ± 4.8%	86.8% ± 5.8%	70.9% ± 7.6%	67.3% ± 7.2%	66.5% ± 7.6%
Other	124	67.5% ± 11.0%	90.4% ± 6.0%	90.7% ± 6.3%	90.5% ± 5.5%	84.5% ± 7.1%	64.8% ± 11.4%	60.4% ± 11.3%	57.6% ± 11.0%
Unknown	115	75.7% ± 9.7%	85.5% ± 8.1%	87.4% ± 5.9%	83.6% ± 6.8%	68.7% ± 8.9%	69.7% ± 10.4%	61.9% ± 11.0%	50.6% ± 7.4%

1. As recorded on student immunization record (blue card). Individual racial groups do not include Hispanic children. Children of Hispanic ethnicity may be of any race
2. Four or more doses of any diphtheria and tetanus toxoids and pertussis vaccines including diphtheria and tetanus toxoids, and any acellular pertussis vaccine (DTP/DTaP/DT)
3. Three or more doses of any poliovirus vaccine
4. One or more doses of measles-mumps-rubella vaccine
5. Three or more doses of hepatitis B vaccine
6. One or more doses of varicella vaccine, unadjusted for history of varicella disease
7. Four or more doses of DTaP, three or more doses of Polio, and one or more doses of MMR
8. Four or more doses of DTaP, three or more doses of Polio, one or more doses of MMR, and three or more doses of Hep B
9. Four or more doses of DTaP, three or more doses of Polio, one or more doses of MMR, three or more doses of Hep B, and one or more doses of varicella