

2004 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 state and regional estimates of immunization coverage among kindergarten students as of their second birthday. This report presents results from this year's Kindergarten Retrospective Survey and the attached tables present comparisons of immunization coverage by a variety of factors, including race/ethnicity, region, and age checkpoint.

Methods and Participants

This year's Kindergarten Retrospective Survey was conducted in a randomly selected sample of approximately 3% of California's kindergartens in concurrence with selective review. Local health departments visited 224 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 recommended vaccines at 3, 5, 7, 12, 19, 24, and 36 months. Estimates of immunization coverage represent data from approximately 3-4 years ago.

This year's sample consists of 2,222 kindergarten students. The majority of these children were born in 1998 and were two years old in 2000. There were 8 children with permanent medical exemptions and 20 children with personal beliefs exemptions in the sample.

Results and Discussion

Overall, results from this year's Kindergarten Retrospective Survey indicate that immunization coverage among California's children is similar to previous years (Table 1). Coverage for DTP, Polio, MMR, and Hep B remained stable, while coverage for varicella increased significantly to 75.1% this year. Among kindergarteners at 24 months of age, coverage for the 4:3:1 series (4 DTP, 3 Polio, and 1 MMR) was 71.8% and coverage for the 4:3:1:3 series (4 DTP, 3 Polio, 1 MMR, and 3 Hep B) was 68.9%. Between 2002 and 2004, coverage for these two series remained stable, while coverage for the 4:3:1:3:1 series (4 DTP, 3 Polio, 1 MMR, 3 Hep B, and 1 varicella) increased significantly to 59.0% this year.

Immunization coverage among California's children varies by race/ethnicity (Table 2). For African-American children, coverage with the 4:3:1 series was significantly lower than other race/ethnicity groups. This is a serious and persistent disparity in immunization coverage and warrants continued investigation. This year's results also indicate lower immunization coverage among Hispanic children. For these children, coverage with the 4:3:1 series was significantly lower than other race/ethnicity groups, except for African-American children.

Immunization coverage for the 4:3:1 series was similar across regions (Table 3). Only one region showed a significant change in immunization coverage from last year. Coverage for the 4:3:1 series in the North Central Valley increased to 73.1% this year.

Up-to-date immunization coverage among California's children varies by age (Table 4). Up-to-date coverage decreases between 3 months, 5 months, and 7 months as additional doses of DTP and Polio are recommended. Similarly, coverage between 12 months and 19 months decreases as the first dose of MMR is recommended. Immunization coverage at various age checkpoints remains similar to previous years.

Comparison of this year's Kindergarten Retrospective Survey and the 2000 National Immunization Survey data show similar results except among White and Hispanic children (Tables 5a & 5b). For the Kindergarten Retrospective Survey, coverage for the 4:3:1 series among California kindergarteners at 27.5 months of age was 77.0%. For the National Immunization Survey, coverage for the 4:3:1 series among California children 19-35 months of age was 77.3%. There were no differences in coverage for individual vaccines between the Kindergarten Retrospective Survey and the National Immunization Survey. Data from the Kindergarten Retrospective Survey show 4:3:1 coverage levels among Hispanic children are lower than 4:3:1 coverage levels among White children. National Immunization Survey data show that 4:3:1 coverage levels among White and Hispanic children are similar. The differences between the two surveys may result from the different methods of ascertaining race/ethnicity. The Kindergarten Retrospective Survey relies on race/ethnicity information that is recorded on student immunization records. The National Immunization Survey relies on race/ethnicity information that is self-reported by the respondent.

Description of Attached Tables

Enclosed is a full set of tables showing this year's results. Tables 1-4 compare results from 2002-2004 Kindergarten Retrospective Surveys. Tables 5a & 5b are comparison of estimates reported by the National Immunization Survey and the Kindergarten Retrospective Survey. Table 6 shows immunization coverage by race/ethnicity. Table 7 compares immunization coverage by region. Table 8 shows immunization coverage levels by race/ethnicity and region. Table 9 compares immunization coverage of children by race/ethnicity and age checkpoint. Table 10 provides immunization coverage information specific to birthplace. Table 11 shows the type of immunization record presented at kindergarten entry. Tables 12-15 are confidence intervals for Tables 1-4. Figures 1-4 are graphic representations of the data in Tables 1-4. The regional tables provide immunization coverage of children by race/ethnicity and age checkpoint for each region.

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KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 1: IMMUNIZATION COVERAGE OF CALIFORNIA KINDERGARTENERS¹ AT 24 MONTHS OF AGE, 2002-2004

	2002 ² n=2,268	2003 ³ n=2,475	2004 ⁴ n=2,222
DTP (4+) ⁵	78.1%	79.3%	78.9%
Polio (3+) ⁶	92.1%	91.3%	89.6%
MMR (1+) ⁷	86.2%	86.3%	86.0%
Hep B (3+) ⁸	86.2%	88.1%	87.8%
Var (1+) ⁹	54.0%	64.6%	75.1%
4:3:1 ¹⁰	72.3%	71.9%	71.8%
4:3:1:3 ¹¹	68.7%	68.8%	68.9%
4:3:1:3:1 ¹²	43.4%	51.1%	59.0%

1. Born in 1998

2. Sample includes 20 children with personal belief exemptions and 9 children with permanent medical exemptions

3. Sample includes 46 children with personal belief exemptions and 8 children with permanent medical exemptions

4. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

5. 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)

6. Three or more doses of any poliovirus vaccine

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

8. Three or more doses of hepatitis B vaccine

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

10. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR

11. Four or more doses of DTP, three or more doses of Polio, one or more doses of MMR, and three or more doses of Hep B

12. Four or more doses of DTP, 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

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 2: 4:3:1¹ COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS² AT 24 MONTHS OF AGE BY RACE/ETHNICITY³, 2002-2004

	2002 ⁴ n=2,268	2003 ⁵ n=2,475	2004 ⁶ n=2,222
ALL RACES	72.3%	71.9%	71.8%
White	72.7%	75.6%	75.5%
Hispanic	72.3%	70.3%	69.4%
African-American	64.2%	54.9%	62.9%
Asian	77.2%	71.8%	78.2%
Other	66.0%	78.2%	78.4%
Unknown	66.0%	73.8%	65.8%

1. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR

2. Born in 1998

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

4. Sample includes 20 children with personal belief exemptions and 9 children with permanent medical exemptions

5. Sample includes 46 children with personal belief exemptions and 8 children with permanent medical exemptions

6. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 3: 4:3:1¹ COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS² AT 24 MONTHS OF AGE BY REGION³, 2002-2004

	2002 ⁴ n=2,268	2003 ⁵ n=2,475	2004 ⁶ n=2,222
ALL REGIONS	72.3%	71.9%	71.8%
Los Angeles ⁷	73.2%	74.1%	70.0%
Other So. California ⁸	71.7%	74.3%	71.4%
SF Bay Area ⁹	78.6%	73.4%	74.4%
Central Coast ¹⁰	69.2%	70.4%	72.8%
Central Valley ¹¹	69.0%	67.3%	69.3%
No. Central Valley ¹²	69.8%	62.8%	73.1%
Rural No. California ¹³	62.3%	71.9%	74.6%

1. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR

2. Born in 1998

3. Regions do not exactly match Field Rep assigned regions

4. Sample includes 20 children with personal belief exemptions and 9 children with permanent medical exemptions

5. Sample includes 46 children with personal belief exemptions and 8 children with permanent medical exemptions

6. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

7. Los Angeles includes Los Angeles County

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

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

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

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

12. No. Central Valley includes Sacramento, San Joaquin, and Stanislaus Counties

13. 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

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 4: IMMUNIZATION COVERAGE OF CALIFORNIA KINDERGARTENERS¹ BY AGE CHECKPOINT², 2002-2004

	2002 ³ n=2,268	2003 ⁴ n=2,475	2004 ⁵ n=2,222
3 months ⁶	84.8%	84.4%	85.0%
5 months ⁷	73.6%	73.1%	74.9%
7 months ⁸	61.9%	63.8%	64.0%
12 months ⁸	86.3%	86.5%	86.1%
19 months ⁹	60.1%	59.1%	60.6%
24 months ⁹	72.3%	71.9%	71.8%
36 months ⁹	81.5%	81.3%	81.3%

1. Born in 1998

2. Age checkpoints are defined according to whether or not children are up-to-date for recommended vaccines

3. Sample includes 20 children with personal belief exemptions and 9 children with permanent medical exemptions

4. Sample includes 46 children with personal belief exemptions and 8 children with permanent medical exemptions

5. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

6. One or more doses of DTP and one or more doses of Polio

7. Two or more doses of DTP and two or more doses of Polio

8. Three or more doses of DTP and two or more doses of Polio

9. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR

**KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004**

TABLE 5a: COMPARISON OF IMMUNIZATION COVERAGE AS MEASURED BY THE KINDERGARTEN RETROSPECTIVE SURVEY (KRS) AND THE NATIONAL IMMUNIZATION SURVEY (NIS)

	1998 NIS ¹ (19 to 35 mo.)	2002 KRS ² (27.5 mo.)	1999 NIS ¹ (19 to 35 mo.)	2003 KRS ² (27.5 mo.)	2000 NIS ¹ (19 to 35 mo.)	2004 KRS ² (27.5 mo.)
DTP (4+) ³	81.6%	83.6%	81.3%	84.5%	82.5%	83.9%
Polio (3+) ⁴	88.4%	94.0%	91.1%	93.0%	88.8%	91.8%
MMR (1+) ⁵	91.2%	88.4%	92.8%	88.1%	90.8%	87.7%
Hib (3+) ⁶	91.7%	n/a	92.5%	n/a	92.5%	n/a
Hep B (3+) ⁷	87.1%	87.8%	87.9%	89.2%	90.8%	89.1%
Var (1+) ⁸	55.2%	58.6%	69.7%	68.1%	76.0%	78.2%
4:3:1 ⁹	77.7%	77.2%	78.3%	77.2%	77.3%	77.0%
4:3:1:3 ¹⁰	75.9%	n/a	75.3%	n/a	75.3%	n/a
4:3:1:3 ¹¹	n/a	73.5%	n/a	73.8%	n/a	73.7%
4:3:1:3:3 ¹²	69.8%	n/a	70.5%	n/a	72.3%	n/a
4:3:1:3:1 ¹³	n/a	49.1%	n/a	56.7%	n/a	64.3%
4:3:1:3:3:1 ¹⁴	n/a	n/a	n/a	n/a	n/a	n/a

1. CDC National Immunization Survey, available at <http://www.cdc.gov/nip/coverage>
2. KRS approximates the NIS's sample age range (19 to 35 months old) by using the median age which is 27.5 months
3. 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)
4. Three or more doses of any poliovirus vaccine
5. One or more doses of measles-mumps-rubella vaccine
6. Three or more doses of *Haemophilus influenzae* type b (Hib) vaccine
7. Three or more doses of hepatitis B vaccine
8. One or more doses of varicella vaccine, unadjusted for history of varicella disease
9. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR
10. Four or more doses of DTP, three or more doses of Polio, one or more doses of MMR, and three or more doses of Hib
11. Four or more doses of DTP, three or more doses of Polio, one or more doses of MMR, and three or more doses of Hep B
12. Four or more doses of DTP, three or more doses of Polio, one or more doses of MMR, three or more doses of Hib, and three or more doses of Hep B
13. Four or more doses of DTP, 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
14. Four or more doses of DTP, three or more doses of Polio, one or more doses of MMR, three or more doses of Hib, three or more doses of Hep B, and one or more doses of varicella

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 5b: COMPARISON OF 4:3:1¹ COVERAGE LEVELS AS MEASURED BY THE KINDERGARTEN RETROSPECTIVE SURVEY (KRS) AND THE NATIONAL IMMUNIZATION SURVEY (NIS) BY RACE/ETHNICITY²

	1998 NIS ³ (19 to 35 mo.)	2002 KRS ⁴ (27.5 mo.)	1999 NIS ³ (19 to 35 mo.)	2003 KRS ⁴ (27.5 mo.)	2000 NIS ³ (19 to 35 mo.)	2004 KRS ⁴ (27.5 mo.)
ALL RACES	77.7%	77.2%	78.3%	77.2%	77.3%	77.0%
White	87.0%	77.4%	81.6%	80.9%	79.5%	82.3%
Hispanic	72.4%	77.8%	79.3%	76.1%	77.3%	75.3%
African-American	n/a	68.9%	n/a	60.4%	n/a	65.9%
Asian	83.1%	80.9%	n/a	73.8%	n/a	80.7%
Other	n/a	70.2%	n/a	81.4%	n/a	79.3%
Unknown	n/a	69.8%	n/a	80.4%	n/a	68.4%

1. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR
2. Race/ethnicity for the KRS is recorded on student immunization record (blue card). Race/ethnicity for the NIS is self-reported by the respondent. For both surveys, individual racial groups do not include Hispanic children. Children of Hispanic ethnicity may be of any race
3. CDC National Immunization Survey, available at <http://www.cdc.gov/nip/coverage>
4. KRS approximates the NIS's sample age range (19 to 35 months old) by using the median age which is 27.5 months

KINDERGARTEN RETROSPECTIVE SURVEY
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TABLE 6: IMMUNIZATION COVERAGE OF CALIFORNIA KINDERGARTENERS¹ AT 24 MONTHS OF AGE BY RACE/ETHNICITY²

	n	DTP (4+) ³	Polio (3+) ⁴	MMR (1+) ⁵	Hep B (3+) ⁶	Var (1+) ⁷	4:3:1 ⁸	4:3:1:3 ⁹	4:3:1:3:1 ¹⁰
ALL RACES ¹¹	2,222	78.9%	89.6%	86.0%	87.8%	75.1%	71.8%	68.9%	59.0%
White	656	84.5%	89.8%	86.7%	91.3%	74.4%	75.5%	72.1%	59.8%
Hispanic	972	76.1%	90.1%	85.9%	85.7%	75.3%	69.4%	66.9%	58.2%
African American	167	67.1%	83.2%	82.6%	85.6%	73.1%	62.9%	60.5%	52.1%
Asian	197	84.3%	91.9%	86.8%	89.3%	81.2%	78.2%	75.1%	68.0%
Other	116	82.8%	91.4%	90.5%	94.0%	76.7%	78.4%	77.6%	65.5%
Unknown	114	75.4%	87.7%	80.7%	79.8%	68.4%	65.8%	61.4%	49.1%

1. Born in 1998

2. 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

3. 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)

4. Three or more doses of any poliovirus vaccine

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

6. Three or more doses of hepatitis B vaccine

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

8. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR

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

10. Four or more doses of DTP, 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

11. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

**KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004**

TABLE 7: IMMUNIZATION COVERAGE OF CALIFORNIA KINDERGARTENERS¹ AT 24 MONTHS OF AGE BY REGION²

	n	DTP (4+) ³	Polio (3+) ⁴	MMR (1+) ⁵	Hep B (3+) ⁶	Var (1+) ⁷	4:3:1 ⁸	4:3:1:3 ⁹	4:3:1:3:1 ¹⁰
ALL REGIONS ¹¹	2,222	78.9%	89.6%	86.0%	87.8%	75.1%	71.8%	68.9%	59.0%
Los Angeles ¹²	507	77.7%	89.5%	86.6%	87.0%	78.5%	70.0%	67.1%	60.9%
Other So. California ¹³	695	78.6%	89.1%	84.9%	89.1%	77.8%	71.4%	68.9%	60.1%
SF Bay Area ¹⁴	383	81.2%	90.1%	87.7%	89.6%	74.4%	74.4%	71.5%	59.0%
Central Coast ¹⁵	195	80.0%	90.3%	87.7%	86.2%	73.3%	72.8%	69.2%	59.0%
Central Valley ¹⁶	189	76.7%	89.9%	83.6%	86.2%	69.8%	69.3%	66.7%	55.0%
North Central Valley ¹⁷	182	78.0%	91.2%	85.2%	85.2%	70.9%	73.1%	69.2%	57.1%
Rural No. California ¹⁸	71	84.5%	85.9%	85.9%	87.3%	57.7%	74.6%	73.2%	49.3%

1. Born in 1998

2. Regions do not exactly match Field Rep assigned regions

3. 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)

4. Three or more doses of any poliovirus vaccine

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

6. Three or more doses of hepatitis B vaccine

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

8. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR

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

10. Four or more doses of DTP, 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

11. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

12. Los Angeles includes Los Angeles County

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

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

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

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

17. No. Central Valley includes Sacramento, San Joaquin, and Stanislaus Counties

18. 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

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 8: 4:3:1¹ COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS² AT 24 MONTHS OF AGE BY RACE/ETHNICITY³ AND REGION⁴

	n	ALL REGIONS ⁵ n=2,222	LA Co. ⁶ n=507	Other So. Cal. ⁷ n=695	SF Bay Area ⁸ n=383	Central Coast ⁹ n=195	Central Valley ¹⁰ n=189	No. Central Valley ¹¹ n=182	Rural No. Cal. ¹² n=71
ALL RACES ⁵	2,222	71.8%	70.0%	71.4%	74.4%	72.8%	69.3%	73.1%	74.6%
White	656	75.5%	74.1%	71.7%	83.6%	63.0%	68.5%	81.3%	85.7%
Hispanic	972	69.4%	65.9%	71.9%	66.0%	75.0%	65.7%	73.3%	n/a ¹³
African American	167	62.9%	65.1%	66.0%	51.3%	n/a ¹³	n/a ¹³	n/a ¹³	n/a ¹³
Asian	197	78.2%	81.6%	76.5%	80.0%	n/a ¹³	n/a ¹³	n/a ¹³	n/a ¹³
Other	116	78.4%	n/a ¹³	74.4%	86.7%	n/a ¹³	n/a ¹³	n/a ¹³	n/a ¹³
Unknown	114	65.8%	n/a ¹³	n/a ¹³	n/a ¹³	69.4%	n/a ¹³	n/a ¹³	n/a ¹³

1. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR

2. Born in 1998

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

4. Regions do not exactly match Field Rep assigned regions

5. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

6. Los Angeles includes Los Angeles County

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

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

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

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

11. No. Central Valley includes Sacramento, San Joaquin, and Stanislaus Counties

12. 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

13. Percents are not calculated on a base of fewer than 25 children

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 9: IMMUNIZATION COVERAGE OF CALIFORNIA KINDERGARTENERS¹ BY RACE/ETHNICITY² AND AGE CHECKPOINT³

	n	3 mo. ⁴	5 mo. ⁵	7 mo. ⁶	12 mo. ⁶	19 mo. ⁷	24 mo. ⁷	36 mo. ⁷
ALL RACES ⁸	2,222	85.0%	74.9%	64.0%	86.1%	60.6%	71.8%	81.3%
White	656	88.4%	81.9%	71.8%	89.8%	64.5%	75.5%	84.9%
Hispanic	972	82.6%	71.8%	59.6%	84.2%	57.9%	69.4%	80.5%
African American	167	79.6%	58.1%	43.7%	74.3%	49.7%	62.9%	71.9%
Asian	197	91.9%	83.2%	76.1%	92.9%	69.0%	78.2%	83.8%
Other	116	86.2%	74.1%	66.4%	90.5%	63.8%	78.4%	84.5%
Unknown	114	80.7%	72.8%	63.2%	83.3%	58.8%	65.8%	73.7%

1. Born in 1998

2. 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

3. Age checkpoints are defined according to whether or not children are up-to-date for recommended vaccines

4. One or more doses of DTP and one or more doses of Polio

5. Two or more doses of DTP and two or more doses of Polio

6. Three or more doses of DTP and two or more doses of Polio

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

8. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 10: 4:3:1¹ COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS² AT 24 MONTHS OF AGE BY BIRTHPLACE³ AND ETHNICITY⁴

	n	ALL ETHNICITIES ⁵ n=2,222	Hispanic n=972	Non-Hispanic n=1,185	Unknown n=65
ALL BIRTHPLACES ⁵	2,222	71.8%	69.4%	74.3%	61.5%
Same County	1,052	75.5%	73.5%	77.1%	n/a ⁶
Other CA County	371	74.7%	78.8%	72.1%	n/a ⁶
Other US State	81	72.8%	n/a ⁶	77.0%	n/a ⁶
Mexico	81	27.2%	28.9%	n/a ⁶	n/a ⁶
Other Foreign	35	34.3%	n/a ⁶	38.7%	n/a ⁶
Unknown	602	71.6%	69.9%	74.1%	60.6%

1. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR

2. Born in 1998

3. As recorded on student immunization record (blue card).

4. 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

5. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

6. Percents are not calculated on a base of fewer than 25 children

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 11: TYPE OF IMMUNIZATION RECORD PRESENTED AT KINDERGARTEN ENTRY

	n	Percent
TOTAL	2,222	100.0%
California Immunization Record (CIR)	1,507	67.8%
Other Immunization Record	305	13.7%
Out-of-State School Record	31	1.4%
Medical Record	79	3.6%
Child Health and Disability Prevention (CHDP) form	70	3.2%
Unknown	230	10.4%

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 12: 95% CONFIDENCE INTERVALS FOR IMMUNIZATION COVERAGE OF CALIFORNIA KINDERGARTENERS¹ AT 24 MONTHS OF AGE, 2004

	Percent ²	95% Confidence Interval
DTP (4+) ³	78.9%	77.2% - 80.6%
Polio (3+) ⁴	89.6%	88.3% - 90.9%
MMR (1+) ⁵	86.0%	84.5% - 87.4%
Hep B (3+) ⁶	87.8%	86.4% - 89.2%
Var (1+) ⁷	75.1%	73.3% - 76.9%
4:3:1 ⁸	71.8%	69.9% - 73.7%
4:3:1:3 ⁹	68.9%	67.0% - 70.9%
4:3:1:3:1 ¹⁰	59.0%	57.0% - 61.0%

1. Born in 1998
2. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions
3. 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)
4. Three or more doses of any poliovirus vaccine
5. One or more doses of measles-mumps-rubella vaccine
6. Three or more doses of hepatitis B vaccine
7. One or more doses of varicella vaccine, unadjusted for history of varicella disease
8. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR
9. Four or more doses of DTP, three or more doses of Polio, one or more doses of MMR, and three or more doses of Hep B
10. Four or more doses of DTP, 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

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 13: 95% CONFIDENCE INTERVALS FOR 4:3:1¹ COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS² AT 24 MONTHS OF AGE BY RACE/ETHNICITY³, 2004

	Percent ⁴	95% Confidence Interval
ALL RACES	71.8%	69.9% - 73.7%
White	75.5%	72.2% - 78.8%
Hispanic	69.4%	66.5% - 72.3%
African-American	62.9%	55.5% - 70.2%
Asian	78.2%	72.4% - 83.9%
Other	78.4%	71.0% - 85.9%
Unknown	65.8%	57.1% - 74.5%

1. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR

2. Born in 1998

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

4. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 14: 95% CONFIDENCE INTERVALS FOR 4:3:1¹ COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS² AT 24 MONTHS OF AGE BY REGION³, 2004

	Percent ⁴	95% Confidence Interval
ALL REGIONS	71.8%	69.9% - 73.7%
Los Angeles ⁵	70.0%	66.0% - 74.0%
Other So. California ⁶	71.4%	68.0% - 74.7%
SF Bay Area ⁷	74.4%	70.0% - 78.8%
Central Coast ⁸	72.8%	66.6% - 79.1%
Central Valley ⁹	69.3%	62.7% - 75.9%
No. Central Valley ¹⁰	73.1%	66.6% - 79.5%
Rural No. California ¹¹	74.6%	64.5% - 84.8%

1. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR
2. Born in 1998
3. Regions do not exactly match Field Rep assigned regions
4. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions
5. Los Angeles includes Los Angeles County
6. Other So. California includes Imperial, Orange, Riverside, San Bernardino, and San Diego Counties
7. SF Bay Area includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties
8. Central Coast includes Monterey, San Luis Obispo, Santa Barbara, Santa Cruz, and Ventura Counties
9. Central Valley includes Fresno, Kern, Kings, Madera, Merced, and Tulare Counties
10. No. Central Valley includes Sacramento, San Joaquin, and Stanislaus Counties
11. 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

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

TABLE 15: 95% CONFIDENCE INTERVALS FOR IMMUNIZATION COVERAGE OF CALIFORNIA KINDERGARTENERS¹ BY AGE CHECKPOINT², 2004

	Percent ³	95% Confidence Interval
3 months ⁴	85.0%	83.5% - 86.5%
5 months ⁵	74.9%	73.1% - 76.7%
7 months ⁶	64.0%	62.0% - 66.0%
12 months ⁶	86.1%	84.7% - 87.6%
19 months ⁷	60.6%	58.5% - 62.6%
24 months ⁷	71.8%	69.9% - 73.7%
36 months ⁷	81.3%	79.7% - 82.9%

1. Born in 1998

2. Age checkpoints are defined according to whether or not children are up-to-date for recommended vaccines

3. Sample includes 20 children with personal belief exemptions and 8 children with permanent medical exemptions

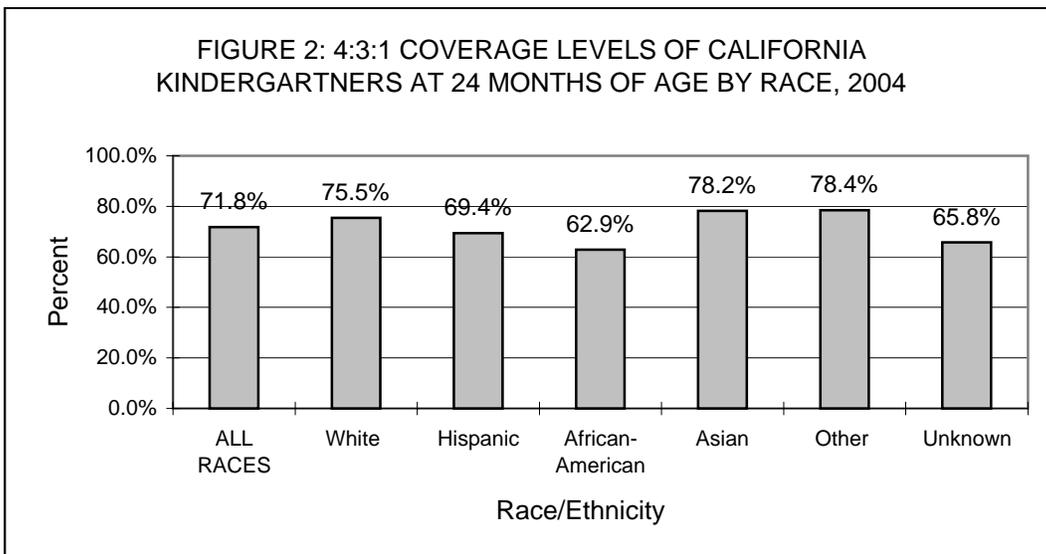
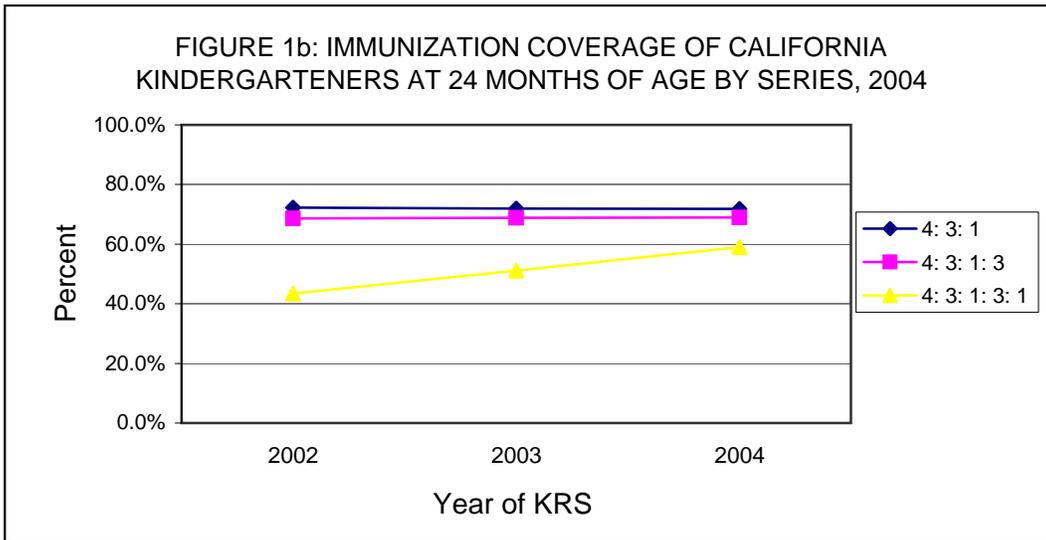
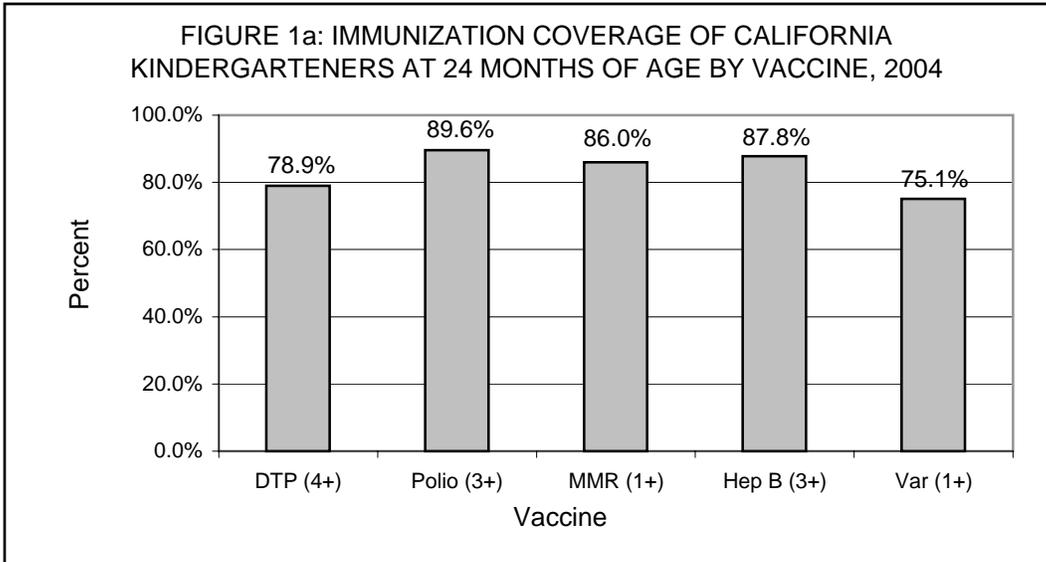
4. One or more doses of DTP and one or more doses of Polio

5. Two or more doses of DTP and two or more doses of Polio

6. Three or more doses of DTP and two or more doses of Polio

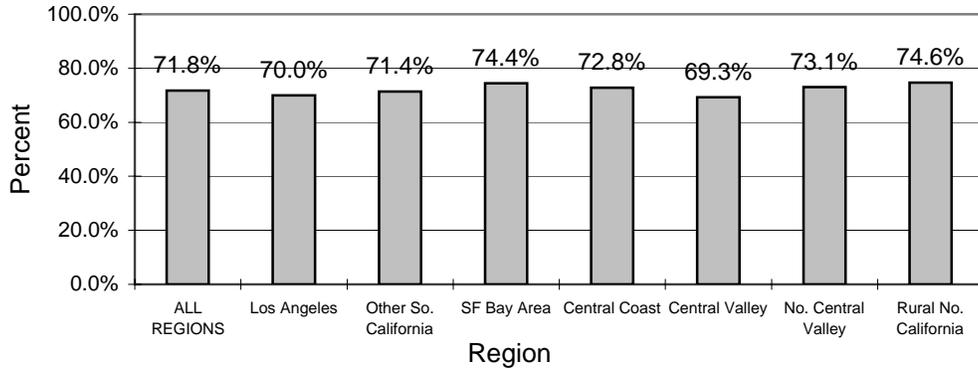
7. Four or more doses of DTP, three or more doses of Polio, and one or more doses of MMR

**KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004**

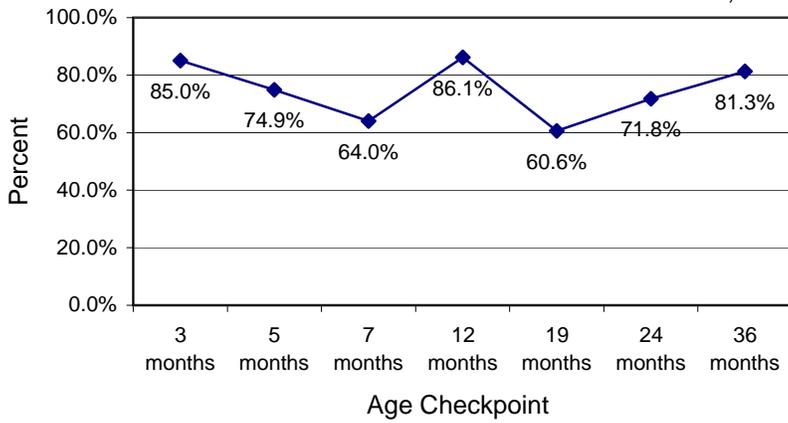


**KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004**

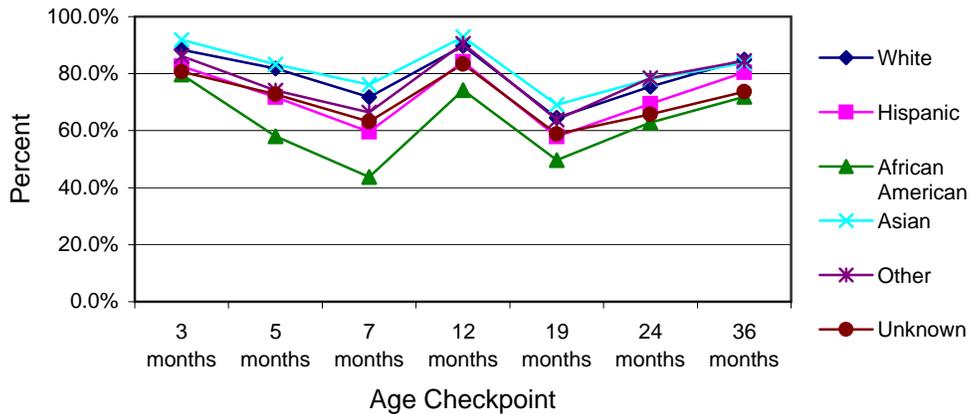
**FIGURE 3: 4:3:1 COVERAGE LEVELS OF CALIFORNIA
KINDERGARTNERS AT 24 MONTHS OF AGE BY REGION, 2004**



**FIGURE 4a: IMMUNIZATION COVERAGE OF CALIFORNIA
KINDERGARTNERS BY AGE CHECKPOINT, 2004**



**FIGURE 4b: IMMUNIZATION COVERAGE OF CALIFORNIA
KINDERGARTNERS BY RACE AND AGE CHECKPOINT, 2004**



KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

REGIONAL TABLES: IMMUNIZATION COVERAGE OF LOS ANGELES KINDERGARTENERS¹ BY RACE/ETHNICITY² AND AGE CHECKPOINT³

	n	3 mo. ⁴	5 mo. ⁵	7 mo. ⁶	12 mo. ⁶	19 mo. ⁷	24 mo. ⁷	36 mo. ⁷
ALL RACES ⁸	507	86.4%	76.3%	64.5%	85.8%	58.6%	70.0%	79.9%
White	143	88.8%	81.8%	74.8%	88.1%	62.9%	74.1%	83.9%
Hispanic	258	82.6%	72.9%	58.5%	84.1%	53.9%	65.9%	77.9%
African American	43	90.7%	72.1%	53.5%	79.1%	48.8%	65.1%	74.4%
Asian	38	92.1%	78.9%	73.7%	94.7%	81.6%	81.6%	81.6%
Other	14	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Unknown	11	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹

1. Born in 1998

2. 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

3. Age checkpoints are defined according to whether or not children are up-to-date for recommended vaccines

4. One or more doses of DTP and one or more doses of Polio

5. Two or more doses of DTP and two or more doses of Polio

6. Three or more doses of DTP and two or more doses of Polio

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

8. Sample includes 10 children with exemptions

9. Percents are not calculated on a base of fewer than 25 children

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

REGIONAL TABLES: IMMUNIZATION COVERAGE OF OTHER SO. CALIF. KINDERGARTENERS¹ BY RACE/ETHNICITY² AND AGE CHECKPOINT³
(Imperial Co., Orange Co., Riverside Co., San Bernardino Co., San Diego Co.)

	n	3 mo. ⁴	5 mo. ⁵	7 mo. ⁶	12 mo. ⁶	19 mo. ⁷	24 mo. ⁷	36 mo. ⁷
ALL RACES ⁸	695	85.0%	75.1%	63.5%	85.5%	61.4%	71.4%	81.0%
White	219	89.0%	84.5%	71.2%	90.9%	62.6%	71.7%	83.6%
Hispanic	320	82.2%	69.7%	57.5%	82.2%	59.1%	71.9%	80.9%
African American	47	78.7%	68.1%	55.3%	70.2%	59.6%	66.0%	72.3%
Asian	51	92.2%	84.3%	74.5%	94.1%	72.5%	76.5%	86.3%
Other	39	87.2%	69.2%	66.7%	94.9%	66.7%	74.4%	82.1%
Unknown	19	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹

1. Born in 1998

2. 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

3. Age checkpoints are defined according to whether or not children are up-to-date for recommended vaccines

4. One or more doses of DTP and one or more doses of Polio

5. Two or more doses of DTP and two or more doses of Polio

6. Three or more doses of DTP and two or more doses of Polio

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

8. Sample includes 5 children with exemptions

9. Percents are not calculated on a base of fewer than 25 children

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

REGIONAL TABLES: IMMUNIZATION COVERAGE OF SF BAY AREA KINDERGARTENERS¹ BY RACE/ETHNICITY² AND AGE CHECKPOINT³
(Alameda Co., Contra Costa Co., Marin Co., Napa Co., San Francisco Co., San Mateo Co., Santa Clara Co., Solano Co., Sonoma Co.)

	n	3 mo. ⁴	5 mo. ⁵	7 mo. ⁶	12 mo. ⁶	19 mo. ⁷	24 mo. ⁷	36 mo. ⁷
ALL RACES ⁸	383	85.1%	73.6%	65.5%	86.2%	61.9%	74.4%	83.8%
White	116	88.8%	80.2%	69.8%	90.5%	70.7%	83.6%	90.5%
Hispanic	94	87.2%	74.5%	67.0%	88.3%	58.5%	66.0%	81.9%
African American	39	69.2%	33.3%	25.6%	61.5%	33.3%	51.3%	59.0%
Asian	80	91.3%	83.8%	75.0%	91.3%	62.5%	80.0%	87.5%
Other	30	80.0%	73.3%	63.3%	83.3%	70.0%	86.7%	90.0%
Unknown	24	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹

1. Born in 1998

2. 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

3. Age checkpoints are defined according to whether or not children are up-to-date for recommended vaccines

4. One or more doses of DTP and one or more doses of Polio

5. Two or more doses of DTP and two or more doses of Polio

6. Three or more doses of DTP and two or more doses of Polio

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

8. Sample includes 3 children with exemptions

9. Percents are not calculated on a base of fewer than 25 children

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

REGIONAL TABLES: IMMUNIZATION COVERAGE OF CENTRAL COAST KINDERGARTENERS¹ BY RACE/ETHNICITY² AND AGE CHECKPOINT³
(Monterey Co., San Luis Obispo Co., Santa Barbara Co., Santa Cruz Co., Ventura Co.)

	n	3 mo. ⁴	5 mo. ⁵	7 mo. ⁶	12 mo. ⁶	19 mo. ⁷	24 mo. ⁷	36 mo. ⁷
ALL RACES ⁸	195	83.6%	73.8%	66.7%	85.6%	62.6%	72.8%	81.0%
White	27	77.8%	70.4%	66.7%	77.8%	51.9%	63.0%	77.8%
Hispanic	112	83.0%	71.4%	66.1%	84.8%	64.3%	75.0%	83.9%
African American	1	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Asian	5	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Other	1	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Unknown	49	85.7%	77.6%	63.3%	89.8%	59.2%	69.4%	73.5%

1. Born in 1998

2. 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

3. Age checkpoints are defined according to whether or not children are up-to-date for recommended vaccines

4. One or more doses of DTP and one or more doses of Polio

5. Two or more doses of DTP and two or more doses of Polio

6. Three or more doses of DTP and two or more doses of Polio

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

8. Sample includes 4 children with exemptions

9. Percents are not calculated on a base of fewer than 25 children

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

REGIONAL TABLES: IMMUNIZATION COVERAGE OF CENTRAL VALLEY KINDERGARTENERS¹ BY RACE/ETHNICITY² AND AGE CHECKPOINT³
(Fresno Co., Kern Co., Kings Co., Madera Co., Merced Co., Tulare Co.)

	n	3 mo. ⁴	5 mo. ⁵	7 mo. ⁶	12 mo. ⁶	19 mo. ⁷	24 mo. ⁷	36 mo. ⁷
ALL RACES ⁸	189	84.7%	73.0%	58.2%	87.3%	53.4%	69.3%	81.5%
White	54	87.0%	77.8%	68.5%	94.4%	53.7%	68.5%	83.3%
Hispanic	105	81.9%	72.4%	52.4%	81.9%	51.4%	65.7%	76.2%
African American	12	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Asian	3	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Other	14	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Unknown	1	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹

1. Born in 1998

2. 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

3. Age checkpoints are defined according to whether or not children are up-to-date for recommended vaccines

4. One or more doses of DTP and one or more doses of Polio

5. Two or more doses of DTP and two or more doses of Polio

6. Three or more doses of DTP and two or more doses of Polio

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

8. Sample includes 0 children with exemptions

9. Percents are not calculated on a base of fewer than 25 children

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

REGIONAL TABLES: IMMUNIZATION COVERAGE OF NO. CNTRL VALLEY KINDERGARTENERS¹ BY RACE/ETHNICITY² AND AGE CHECKPOINT³
(Sacramento Co., San Joaquin Co., Stanislaus Co.)

	n	3 mo. ⁴	5 mo. ⁵	7 mo. ⁶	12 mo. ⁶	19 mo. ⁷	24 mo. ⁷	36 mo. ⁷
ALL RACES ⁸	182	84.1%	75.3%	65.4%	89.0%	63.2%	73.1%	81.9%
White	48	91.7%	83.3%	79.2%	91.7%	70.8%	81.3%	85.4%
Hispanic	75	81.3%	74.7%	64.0%	90.7%	65.3%	73.3%	86.7%
African American	22	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Asian	18	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Other	10	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Unknown	9	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹

1. Born in 1998

2. 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

3. Age checkpoints are defined according to whether or not children are up-to-date for recommended vaccines

4. One or more doses of DTP and one or more doses of Polio

5. Two or more doses of DTP and two or more doses of Polio

6. Three or more doses of DTP and two or more doses of Polio

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

8. Sample includes 1 child with an exemption

9. Percents are not calculated on a base of fewer than 25 children

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2004

REGIONAL TABLES: IMMUNIZATION COVERAGE OF RURAL NO. CAL. KINDERGARTENERS¹ BY RACE/ETHNICITY² AND AGE CHECKPOINT³
(Alpine Co., Amador Co., Butte Co., Calaveras Co., Colusa Co., Del Norte Co., El Dorado Co., Glenn Co., Humboldt Co., Inyo Co., Lake Co., Lassen Co., Mariposa Co., Mendocino Co., Modoc Co., Mono Co., Nevada Co., Placer Co., Plumas Co., San Benito Co., Shasta Co., Sierra Co., Siskiyou Co., Sutter Co., Tehama Co., Trinity Co., Tuolumne Co., Yolo Co., Yuba Co.)

	n	3 mo. ⁴	5 mo. ⁵	7 mo. ⁶	12 mo. ⁶	19 mo. ⁷	24 mo. ⁷	36 mo. ⁷
ALL RACES ²	71	81.7%	77.5%	62.0%	85.9%	66.2%	74.6%	78.9%
White	49	87.8%	83.7%	69.4%	87.8%	75.5%	85.7%	85.7%
Hispanic	8	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
African American	3	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Asian	2	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Other	8	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹
Unknown	1	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹	n/a ⁹

1. Born in 1998

2. 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

3. Age checkpoints are defined according to whether or not children are up-to-date for recommended vaccines

4. One or more doses of DTP and one or more doses of Polio

5. Two or more doses of DTP and two or more doses of Polio

6. Three or more doses of DTP and two or more doses of Polio

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

8. Sample includes 5 children with exemptions

9. Percents are not calculated on a base of fewer than 25 children