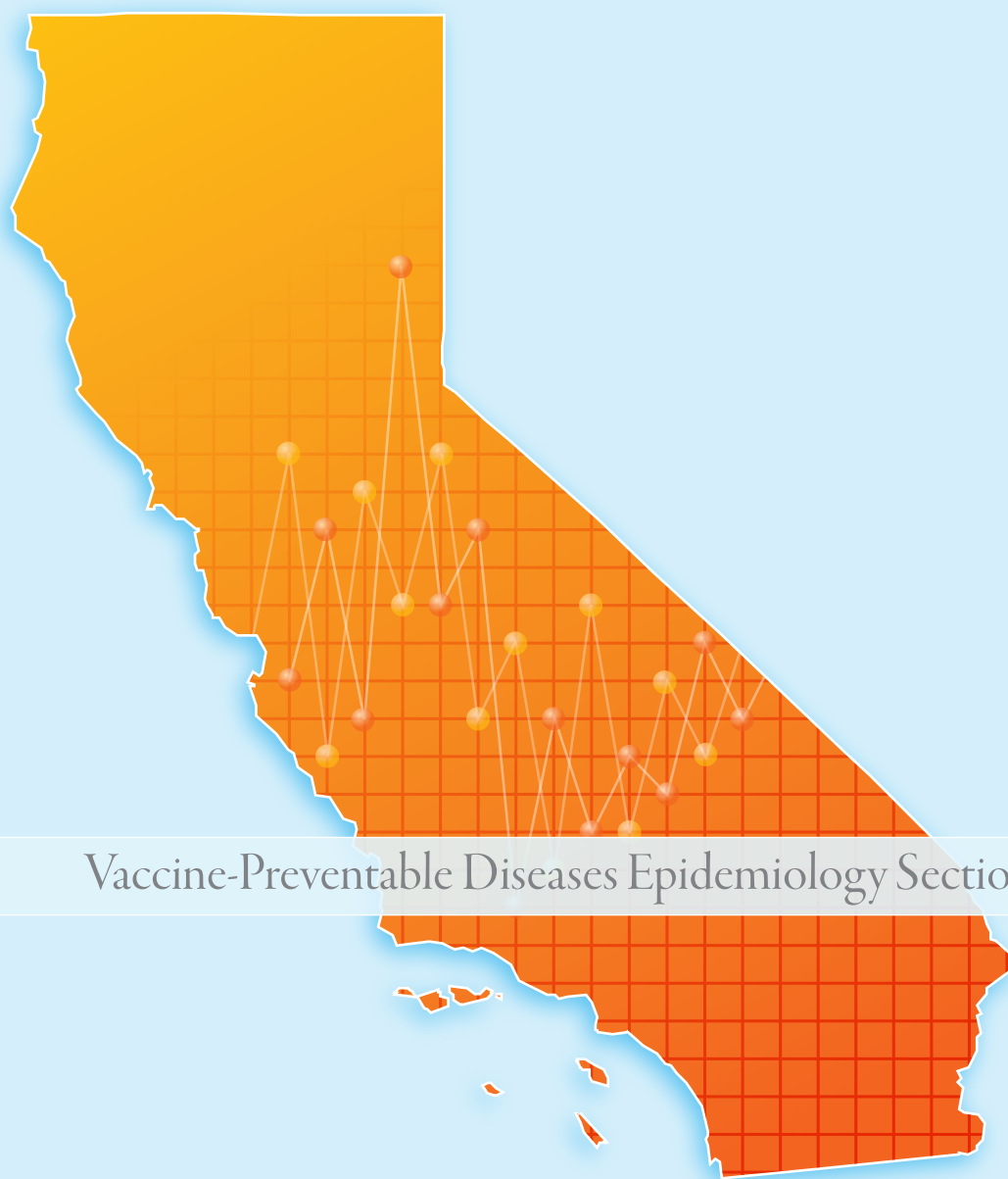


Childhood Immunization Coverage in California | 2006-08



Vaccine-Preventable Diseases Epidemiology Section

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Childhood Immunization Coverage in California | 2006-08



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Childhood Immunization Coverage

Background

Surveys of vaccination coverage are used to prevent the spread of disease, identify groups at risk of vaccine-preventable diseases, increase coverage, and evaluate the effectiveness of programs designed to increase coverage. In addition, periodic surveys of vaccination coverage in licensed childcare facilities and schools are important to monitor compliance with California School Immunization Law¹. The surveys of vaccination coverage in licensed childcare facilities and schools only cover vaccines required by law and do not include information on all vaccines routinely recommended by the Advisory Committee on Immunization Practices (ACIP).

Immunization rates among toddlers are measured by the National Immunization Survey (NIS), the Kindergarten Retrospective Survey (KRS), the Child Care Assessment, and the Selective Review.

Immunization rates in children four through six years of age are measured by the Kindergarten Assessment and Selective Review. Rates in children 11 through 13 years of age are measured by the Seventh Grade Assessment and Selective Review. As of the 2004-05 school year, because the vast majority of students entering seventh grade were subject to the hepatitis B and second dose measles requirement in kindergarten, schools were no longer required to submit immunization assessment reports of seventh grade students. In these surveys, estimates are used to verify that students received the immunizations required by law for entry into school.

¹ Health and Safety Code, Division 105, Part 2, Chapter 1, Section 120325-120380 and California Code of Regulations, Title 17, Division 1, Chapter 4, Subchapter 8, Sections 6000-6075

TABLE 1.1 Sources of Data on Vaccination Coverage in Children

Survey	When	Age Range	Population	Data Collected
National Immunization Survey	ongoing	19-35 months	sample of children in California and selected urban areas	dates of vaccinations, race/ethnicity, other demographics
Kindergarten Retrospective Survey	every spring	3-24 months	sample of students from kindergarten schools in California	dates of vaccinations, race/ethnicity, region
Expanded Kindergarten Retrospective Survey	every spring	3-24 months	sample determined by the local health department	dates of vaccinations, race/ethnicity, local areas
Childcare Assessment	every fall	2-<5 years	all children in licensed childcare facilities in California	total enrollment, number with and without required vaccines, number of exemptions
Childcare Selective Review	every other spring	2-<5 years	all children from a sample of licensed childcare facilities in California	total enrollment, number with and without required vaccines, number of exemptions
Kindergarten Assessment	every fall	4-6 years	all students in kindergarten in California	total enrollment, number with and without required vaccines, number of exemptions
Kindergarten Selective Review	every spring	4-6 years	all students from a sample of kindergarten schools in California	total enrollment, number with and without required vaccines, number of exemptions
Seventh Grade Assessment	every fall through 2003; no longer conducted	11-13 years	all students in seventh grade in California	total enrollment, number with and without required vaccines, number of exemptions
Seventh Grade Selective Review	every spring	11-13 years	all students from a sample of seventh grade schools	total enrollment, number with and without required vaccines, number of exemptions

Prepared by the California Department of Public Health, Immunization Branch

Vaccination Coverage among Toddlers

The National Immunization Survey (NIS) has been conducted annually since 1994 by the National Immunization Program and the National Center for Health Statistics, Centers for Disease Control and Prevention. Coverage for recommended vaccines including; combined diphtheria, tetanus, and pertussis vaccine (DTaP), Polio, combined measles, mumps, and rubella vaccine (MMR), Haemophilus influenzae type B vaccine (Hib), hepatitis B vaccine (Hep B), varicella vaccine and pneumococcal conjugate vaccine (PCV) and selected vaccine series is estimated for the nation, states, and selected urban areas for children between the ages of 19 and 35 months. NIS is a random-digit-dial telephone survey of households with age-eligible children. The telephone survey is followed by a mail survey of the children's vaccination providers to validate immunization information.

Table 1.2 shows estimates of vaccination coverage with the recommended vaccines at or near all-time high levels. Coverage with the pneumococcal conjugate vaccine (PCV) has been rapidly increasing since it was introduced, despite shortages of this vaccine during 2003 through 2004.

TABLE 1.2 Estimated vaccination coverage among children ages 19-35 months, by vaccine and series -- National Immunization Survey, California, 2003-07

Vaccine/Series	2003		2004		2005		2006		2007	
	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
4+ DTaP	84.0	(±3.2)	85.3	(±3.2)	83.5	(±4.0)	85.1	(±3.8)	84.9	(±4.0)
3+ Polio	91.2	(±2.7)	90.6	(±2.7)	90.5	(±2.9)	93.9	(±2.2)	92.1	(±3.1)
1+ MMR	92.8	(±2.5)	93.1	(±2.1)	91.6	(±2.6)	92.9	(±2.6)	94.6	(±2.4)
3+ Hib	93.0	(±2.5)	91.7	(±2.5)	93.7	(±2.0)	93.4	(±2.2)	92.7	(±2.8)
3+ Hep B	90.4	(±2.8)	90.4	(±2.6)	92.6	(±2.3)	95.0	(±1.7)	91.6	(±3.2)
1+ Var	89.7	(±2.8)	90.2	(±2.4)	89.5	(±3.1)	91.5	(±2.9)	93.2	(±2.6)
3+ PCV	72.7	(±3.8)	76.1	(±3.9)	85.6	(±3.6)	90.2	(±3.1)	93.4	(±2.9)
4:3:1*	81.2	(±3.4)	84.1	(±3.2)	80.5	(±4.3)	82.0	(±4.1)	NA	
4:3:1:3 [†]	79.6	(±3.5)	83.1	(±3.3)	79.9	(±4.3)	80.9	(±4.2)	81.4	(±4.3)
4:3:1:3:3 [§]	77.4	(±3.6)	81.3	(±3.4)	77.9	(±4.4)	80.3	(±4.2)	79.4	(±4.5)
4:3:1:3:3:1 [¶]	75.6	(±3.7)	78.6	(±3.5)	74.0	(±4.8)	78.6	(±4.2)	77.1	(±4.7)

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

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

§ Four or more doses of DTaP, 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.

¶ Four or more doses of DTaP, 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.

Prepared by the California Department of Public Health, Immunization Branch

Nationally, 4:3:1:3 series (four or more doses of DTaP, three or more doses of Polio, one or more doses of MMR, and three or more doses of Hib) coverage estimates from the 2007 NIS indicate that coverage for children 19 through 35 months of age is similar for Asian or Pacific Islander, Hispanic, and white children. For California, 4:3:1:3 series estimates from the 2007 NIS are available for white (84.7±7.2 percent) and Hispanic

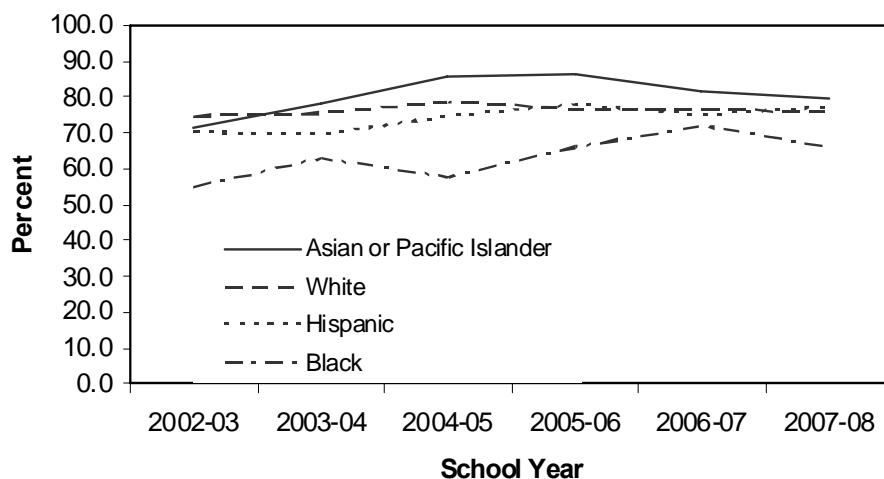
(80.6±6.0 percent) children. Estimates for Asian or Pacific Islander and black children were not calculated due to small sample size. Because of large confidence intervals, none of the observed California estimates are statistically different.

Racial/Ethnic Disparities in Vaccination Coverage among Toddlers

The annual Kindergarten Retrospective Survey (KRS) provides information used to understand racial and ethnic disparities. It is the only source of information about Asian or Pacific Islander and black subpopulations in California. Data are analyzed using birth dates and immunization dates to retrospectively estimate vaccination coverage at various age checkpoints (3, 5, 7, 13, 19, and 24 months). Because this is a retrospective survey, estimates of vaccination coverage represent data from approximately three to four years before the survey year. [Note: local health departments sometimes conduct Expanded Kindergarten Retrospective Surveys (EKRS) in order to obtain local-level estimates].

Data from the KRS conducted during the 2007-08 school year indicate that 4:3:1 series coverage for children who were 24 months in 2005-06 was 79.2 percent (±7.2) among Asian or Pacific Islander children, 75.6 percent (±3.1) among white children, 77.3 percent (±3.0) among Hispanic children, and 66.0 percent (±9.6) among black children. The largest and most persistent disparity is between black children and all other racial and ethnic groups of children. Over the past five years, coverage with the 4:3:1 vaccine series among black children has been significantly lower than among Asian or Pacific Islander, white, and Hispanic children (Figure 1.1) and this is consistent at all age checkpoints (Figure 1.2).

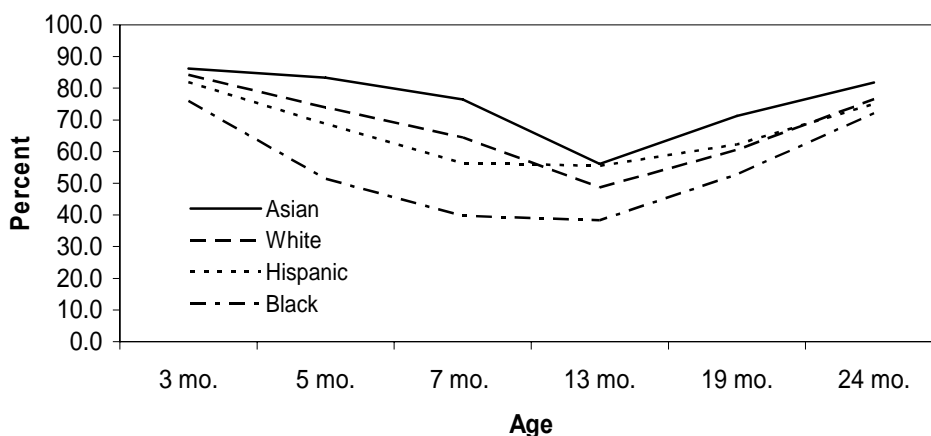
FIGURE 1.1 Estimated vaccination coverage with the 4:3:1* series among children age 24 months, by race/ethnicity and school year — Kindergarten Retrospective Survey, California, 2002-08 school years



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

Prepared by the California Department of Public Health, Immunization Branch

FIGURE 1.2 Estimated vaccination coverage with the 4:3:1* series among children, by race/ethnicity and age — Kindergarten Retrospective Survey, California, 2007-08 school year



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

Prepared by the California Department of Public Health, Immunization Branch

Vaccination Coverage among Children in Licensed Childcare Facilities

The Childcare Assessment and Selective Review provide information on current coverage in licensed childcare centers in California. In the fall, every licensed childcare facility in California must provide information on their total enrollment, the number of children who have or have not received the immunizations required, and the number of exemptions. In the spring, local and state public health personnel visit a sample of licensed childcare facilities, to collect the same information for comparison. The age group assessed by these surveys is 2 years through 4 years 11 months. Roughly one-third of California children in this age group attend licensed childcare centers. The data for children enrolled in licensed childcare centers may not be representative of the entire population of California children in this age group.

Data for the past two years indicate that vaccination coverage for children in licensed childcare facilities is above 95 percent for individual vaccines. Data from the 2007-08 school year indicate that 93.5 percent of the 512,490 children enrolled in reporting childcare centers received all required immunizations mandated by law (4+ DTaP, 3+ Polio, 1+ MMR, 1+ Hib, 3+ Hep B, and 1+ varicella). Statewide results are presented in Table 1.3 and results by county are at the end of the section in Summary Tables 1.6 to 1.15.

Statewide, vaccination coverage varies by type of childcare facility (public, private, or Head Start) as indicated in the spring selective review. In spring 2008, 95.4 percent of children in public facilities, 91.7 percent of children in private facilities, and 98.3 percent of children in Head Start facilities had received all required immunizations.

TABLE 1.3 Estimated vaccination coverage among children ages 2 years to 4 years, 11 months in licensed childcare, by vaccine and admission status — Childcare Immunization Assessment, California, 2006-08 school years

Vaccine/Status	2006-07		2007-08	
	No.	%	No.	%
4+ DTaP	486,646	95.2	488,667	95.4
3+ Polio	495,368	96.9	498,590	97.3
1+ MMR	496,283	97.1	498,296	97.2
1+ Hib	497,933	97.4	500,739	97.7
3+ HepB	488,498	95.6	492,613	96.1
1+ Var	492,395	96.3	494,678	96.5
All Required*	478,564	93.6	479,199	93.5
Conditional [†]	24,636	4.82	25,045	4.89
PME [§]	852	0.17	863	0.17
PBE [¶]	7,051	1.38	7,383	1.44

*All required immunizations include 4 doses of DTP/DTaP/DT vaccine; 3 doses of polio

vaccine; 1 dose of MMR vaccine (may be given separately or combined, but must be given on or after the 1st birthday); 1 dose of Hib vaccine (must be given on or after the first birthday); 3 doses of hepatitis B vaccine; and 1 dose of varicella vaccine (or physician-documented varicella disease history or immunity).

† Conditional admission includes children who are missing one or more of the required immunizations, but are not currently due for any remaining doses and children who have temporary medical exemptions.

§ Permanent medical exemptions are allowed for any or all immunizations and require a written statement from a licensed physician stating that immunizations are permanently not indicated due to the child's medical circumstances.

¶ Personal beliefs exemptions are allowed for any or all immunizations and require a letter or affidavit from the child's parent or guardian stating that immunizations are against his or her personal beliefs.

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Vaccination Coverage among Kindergarten Students

The Kindergarten Assessment and Selective Review provide information on current coverage among students entering kindergarten in California. In the fall, every school with a kindergarten class in California must provide information on the total enrollment, the number of students who have or have not received the immunizations required, and the number of exemptions. In the spring, local and state public health personnel visit a sample of licensed schools with kindergarten classes, to collect the same information for comparison.

Data for the past two years indicate that vaccination coverage for students in kindergarten is above 94 percent for individual vaccines. Data from the 2007-08 school year indicate that 92.1 percent of the 459,920 students enrolled in reporting kindergartens received all required immunizations mandated by law (4+ DTaP, 3+ Polio, 2+ MMR, 3+ Hep B, and 1+ varicella). Statewide results are presented in Table 1.4 and results by county are at the end of the section in Summary Tables 1.16 to 1.24.

TABLE 1.4 Estimated vaccination coverage among children ages 4-6 years in kindergarten, by vaccine and admission status — Kindergarten Immunization Assessment, California, 2006-08 school years

Vaccine/Status	2006-07		2007-08	
	No.	%	No.	%
4+ DTaP	476,383	94.7	469,915	94.1
3+ Polio	478,022	95.0	471,699	94.5
2+ MMR	477,788	95.0	472,326	94.6
3+ HepB	487,374	96.9	482,806	96.7
1+ Var	489,367	97.3	484,885	97.1
All Required*	466,363	92.7	459,920	92.1
Conditional [†]	28,862	5.74	30,681	6.14
PME [§]	827	0.16	889	0.18
PBE [¶]	7,108	1.41	7,811	1.56

* All required immunizations include 5 doses of DTP/DTaP/DT vaccine (4 doses meets the requirement if at least one was given on or after the fourth birthday); 4 doses of polio vaccine (3 doses meets the requirement if at least one was given on or after the fourth birthday); 2 doses of MMR vaccine (may be given separately or combined, but both doses must be given on or after the first birthday); 3 doses of hepatitis B vaccine; and 1 dose of varicella vaccine (or physician-documented varicella disease history or immunity).

† Conditional admission includes children who are missing one or more of the required immunizations, but are not currently due for any remaining doses and children who have temporary medical exemptions.

§ Permanent medical exemptions are allowed for any or all immunizations and require a written statement from a licensed physician stating that immunizations are permanently not indicated due to the child's medical circumstances.

¶ Personal beliefs exemptions are allowed for any or all immunizations and require a letter or affidavit from the child's parent or guardian stating that immunizations are against his or her personal beliefs.

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As is the case for childcare facilities, vaccination coverage varies by type of school (public or private) as indicated for kindergarten students in the spring selective review. In spring 2008, 95.3 percent of students in public schools and 89.8 percent of students in private schools had received all required immunizations.

Vaccination Coverage among Seventh Grade Students

The Seventh Grade Assessment and Selective Review provide information on coverage among students entering seventh grade in California. From the 1999-2000 school year to 2003-04, every school with a seventh grade in California provided information on the total enrollment, the number of students who have or have not received the required immunizations, and the number of exemptions. Currently, a sample of schools with seventh grade is visited by local and state public health personnel in the spring. The total enrollment, the number of students who have or have not received the immunizations required, and the number of exemptions is collected.

Data from the spring Selective Review in the 2007-08 school year indicate that 95.3 percent of seventh grade students received all required immunizations. Similar to

previous years, coverage for the hepatitis B vaccine (96.8 percent) and the second dose of MMR (95.9 percent) remain above 95 percent among seventh grade students.

Table 1.5: Seventh Grade Immunization Coverage* — Spring Selective Review, California, 2008

	All Schools n = 203	Public Schools n = 105	Private Schools n = 98
	Spring 2008 Selective Review	Spring 2008 Selective Review	Spring 2008 Selective Review
Records Reviewed	10,257	8,345	1,912
All Required Immunizations	95.3% \pm 1.2%	96.1% \pm 1.3%	92.1% \pm 2.4%
Conditional Entrants	2.95% \pm 1.08%	2.66% \pm 1.27%	4.24% \pm 1.56%
Permanent Medical Exemptions	0.06% \pm 0.05%	0.02% \pm 0.03%	0.21% \pm 0.24%
Personal Belief Exemptions	1.66% \pm 0.45%	1.23% \pm 0.41%	3.50% \pm 1.67%
MMR (2+) ¹	95.9% \pm 1.0%	96.6% \pm 1.1%	92.9% \pm 2.3%
Hep B (3+) ²	96.8% \pm 1.0%	97.3% \pm 1.2%	94.6% \pm 2.1%

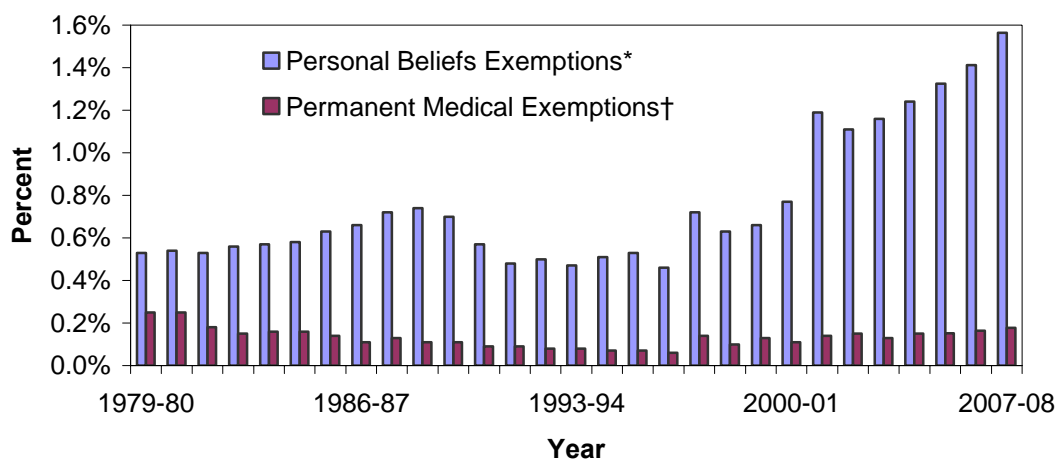
* Immunization coverage for individual antigens is unavailable for students with Personal Beliefs Exemptions. and therefore may be underestimated; anecdotal evidence suggests a small percentage of students may have some but not all required immunizations.

1. Two or more doses of measles, mumps, and rubella vaccines, separately or combined on or after the 1st birthday

Personal Beliefs Exemptions (PBEs) to Vaccination

California School Immunization law permits both medical exemptions and PBEs to the immunization requirements under specific conditions. There has been a gradual rise in PBEs (Figure 1.3). CDPH is gathering additional data about students with PBEs to better understand this increase.

FIGURE 1.3 Personal beliefs exemptions* and permanent medical exemptions† among children ages 4-6 years in kindergarten, by school year — Kindergarten Immunization Assessment, California, 1979-08 school years



* Personal beliefs exemptions are allowed for any or all immunizations and require a letter or affidavit from the child's parent or guardian stating that immunizations are against his or her personal beliefs.

† Permanent medical exemptions are allowed for any or all immunizations and require a written statement from a licensed physician stating that immunizations are permanently not indicated due to the child's medical circumstances.

Prepared by the California Department of Public Health, Immunization Branch

Childhood Immunization Coverage

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**TABLE 1.6 Estimated vaccination coverage with all required immunizations* among children ages 2-4 years
11 months in licensed childcare, by county — Childcare Immunization Assessment, California, 2006-08 school years**

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	478,564	93.6	479,199	93.5
Alameda	16,973	96.5	17,366	91.6
Alpine	32	91.4	27	100.0
Amador	372	88.4	380	93.6
Butte	2,608	88.8	2,571	89.5
Calaveras	308	86.5	294	88.8
Colusa	293	90.4	322	85.2
Contra Costa	15,743	95.1	15,415	96.1
Del Norte	240	90.6	204	86.4
El Dorado	1,978	86.6	1,831	87.0
Fresno	14,048	96.1	14,242	95.7
Glenn	412	95.6	392	88.3
Humboldt	1,197	81.8	1,174	84.0
Imperial	2,102	93.5	2,589	94.0
Inyo	219	95.6	202	97.1
Kern	9,796	94.5	9,654	94.9
Kings	1,762	97.8	1,754	96.3
Lake	491	85.7	485	86.6
Lassen	254	86.4	290	90.1
Los Angeles	123,393	93.6	125,664	93.8
Madera	1,697	95.7	1,614	95.4
Marin	4,717	86.6	4,770	86.3
Mariposa	96	88.9	93	83.8
Mendocino	968	80.9	962	78.9
Merced	3,264	94.1	3,362	95.5
Modoc	155	89.6	139	84.2
Mono	113	88.3	90	87.4
Monterey	4,819	94.0	5,052	94.8
Napa	1,553	95.6	1,793	97.0
Nevada	746	76.1	801	74.4
Orange	41,817	92.4	40,546	92.4
Placer	3,996	95.9	3,655	88.6
Plumas	120	73.2	142	78.0
Riverside	22,244	97.3	22,252	97.8
Sacramento	15,106	90.9	14,986	92.9
San Benito	603	96.3	563	95.4
San Bernardino	24,814	99.1	24,209	99.0
San Diego	46,624	93.8	45,909	93.9
San Francisco	10,302	94.4	10,341	93.3
San Joaquin	8,757	95.9	7,644	96.2
San Luis Obispo	2,515	86.4	2,907	89.9
San Mateo	13,493	94.8	12,242	94.6
Santa Barbara	5,226	89.3	5,498	87.9
Santa Clara	26,765	91.5	27,544	91.3
Santa Cruz	2,885	88.4	3,171	88.5
Shasta	1,721	89.3	2,191	89.0
Sierra	59	98.3	46	88.5
Siskiyou	418	76.4	268	73.8
Solano	3,943	95.3	4,092	93.4
Sonoma	5,662	90.2	5,583	88.7
Stanislaus	6,004	94.1	6,072	94.7
Sutter	1,427	94.6	1,156	95.2
Tehama	577	90.4	705	90.5
Trinity	126	88.7	107	93.9
Tulare	5,809	95.6	5,900	95.6
Tuolumne	461	87.8	478	88.2
Ventura	11,020	92.6	11,706	93.0
Yolo	2,829	93.2	2,741	93.3
Yuba	849	93.0	1,007	93.3

* All required immunizations include 4 doses of DTP/DTaP/DT vaccine; 3 doses of polio vaccine; 1 dose of MMR vaccine (may be given separately or combined, but must be given on or after the 1st birthday); 1 dose of Hib vaccine (must be given on or after the first birthday); 3 doses of hepatitis B vaccine; and 1 dose of varicella vaccine (or physician-documented varicella disease history or immunity).

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.7 Conditional admission* among children ages 2-4 years 11 months by county — Childcare Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	24,636	4.8	25,045	4.9
Alameda	344	2.0	1,327	7.0
Alpine	3	8.6	0	0.0
Amador	25	5.9	7	1.7
Butte	223	7.6	213	7.4
Calaveras	26	7.3	17	5.1
Colusa	8	2.5	34	9.0
Contra Costa	551	3.3	395	2.5
Del Norte	17	6.4	21	8.9
El Dorado	221	9.7	193	9.2
Fresno	523	3.6	548	3.7
Glenn	16	3.7	51	11.5
Humboldt	91	6.2	74	5.3
Imperial	145	6.5	159	5.8
Inyo	7	3.1	5	2.4
Kern	351	3.4	316	3.1
Kings	31	1.7	62	3.4
Lake	56	9.8	46	8.2
Lassen	24	8.2	11	3.4
Los Angeles	7,121	5.4	6,918	5.2
Madera	72	4.1	70	4.1
Marin	450	8.3	469	8.5
Mariposa	10	9.3	6	5.4
Mendocino	152	12.7	166	13.6
Merced	191	5.5	148	4.2
Modoc	12	6.9	23	13.9
Mono	12	9.4	8	7.8
Monterey	212	4.1	216	4.1
Napa	25	1.5	9	0.5
Nevada	141	14.4	184	17.1
Orange	2,655	5.9	2,536	5.8
Placer	128	3.1	385	9.3
Plumas	28	17.1	29	15.9
Riverside	438	1.9	298	1.3
Sacramento	1,317	7.9	956	5.9
San Benito	19	3.0	18	3.1
San Bernardino	105	0.4	128	0.5
San Diego	2,298	4.6	2,113	4.3
San Francisco	437	4.0	536	4.8
San Joaquin	328	3.6	267	3.4
San Luis Obispo	292	10.0	213	6.6
San Mateo	484	3.4	458	3.5
Santa Barbara	349	6.0	494	7.9
Santa Clara	2,015	6.9	2,100	7.0
Santa Cruz	266	8.2	262	7.3
Shasta	121	6.3	159	6.5
Sierra	0	0.0	6	11.5
Siskiyou	78	14.3	41	11.3
Solano	175	4.2	248	5.7
Sonoma	380	6.1	479	7.6
Stanislaus	295	4.6	274	4.3
Sutter	65	4.3	42	3.5
Tehama	51	8.0	68	8.7
Trinity	5	3.5	4	3.5
Tulare	228	3.8	227	3.7
Tuolumne	33	6.3	32	5.9
Ventura	593	5.0	606	4.8
Yolo	143	4.7	149	5.1
Yuba	47	5.1	50	4.6

* Conditional admission includes children who are missing one or more of the required immunizations, but are not currently due for any remaining doses and children who have temporary medical exemptions.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.8 Permanent medical exemptions* among children ages 2-4 years 11 months by county
— Childcare Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	852	0.17	863	0.17
Alameda	33	0.19	38	0.20
Alpine	0	0.00	0	0.00
Amador	0	0.00	1	0.25
Butte	18	0.61	10	0.35
Calaveras	0	0.00	2	0.60
Colusa	0	0.00	1	0.26
Contra Costa	36	0.22	33	0.21
Del Norte	1	0.38	2	0.85
El Dorado	2	0.09	5	0.24
Fresno	9	0.06	16	0.11
Glenn	1	0.23	0	0.00
Humboldt	6	0.41	9	0.64
Imperial	0	0.00	1	0.04
Inyo	0	0.00	0	0.00
Kern	1	0.01	0	0.00
Kings	1	0.06	2	0.11
Lake	3	0.52	0	0.00
Lassen	2	0.68	2	0.62
Los Angeles	158	0.12	160	0.12
Madera	2	0.11	4	0.24
Marin	9	0.17	15	0.27
Mariposa	0	0.00	0	0.00
Mendocino	1	0.08	2	0.16
Merced	2	0.06	3	0.09
Modoc	0	0.00	0	0.00
Mono	0	0.00	0	0.00
Monterey	12	0.23	8	0.15
Napa	6	0.37	2	0.11
Nevada	7	0.71	5	0.46
Orange	126	0.28	151	0.34
Placer	5	0.12	4	0.10
Plumas	0	0.00	0	0.00
Riverside	37	0.16	33	0.14
Sacramento	20	0.12	23	0.14
San Benito	1	0.16	4	0.68
San Bernardino	19	0.08	27	0.11
San Diego	70	0.14	75	0.15
San Francisco	17	0.16	17	0.15
San Joaquin	8	0.09	6	0.08
San Luis Obispo	13	0.45	25	0.77
San Mateo	27	0.19	21	0.16
Santa Barbara	15	0.26	16	0.26
Santa Clara	70	0.24	66	0.22
Santa Cruz	12	0.37	5	0.14
Shasta	6	0.31	9	0.37
Sierra	0	0.00	0	0.00
Siskiyou	2	0.37	2	0.55
Solano	6	0.14	13	0.30
Sonoma	6	0.10	5	0.08
Stanislaus	10	0.16	7	0.11
Sutter	3	0.20	3	0.25
Tehama	0	0.00	1	0.13
Trinity	0	0.00	1	0.88
Tulare	6	0.10	6	0.10
Tuolumne	6	1.14	2	0.37
Ventura	27	0.23	13	0.10
Yolo	2	0.07	1	0.03
Yuba	0	0.00	0	0.00

* Permanent medical exemptions are allowed for any or all immunizations and require a written statement from a licensed physician stating that immunizations are permanently not indicated due to the child's medical circumstances.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.9 Personal beliefs exemptions* among children ages 2-4 years 11 months by county — Childcare Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	7,051	1.38	7,383	1.44
Alameda	245	1.39	236	1.24
Alpine	0	0.00	0	0.00
Amador	24	5.70	18	4.43
Butte	87	2.96	78	2.72
Calaveras	22	6.18	18	5.44
Colusa	23	7.10	21	5.56
Contra Costa	221	1.34	204	1.27
Del Norte	7	2.64	9	3.81
El Dorado	83	3.63	75	3.56
Fresno	41	0.28	77	0.52
Glenn	2	0.46	1	0.23
Humboldt	170	11.61	141	10.09
Imperial	1	0.04	4	0.15
Inyo	3	1.31	1	0.48
Kern	216	2.08	202	1.99
Kings	7	0.39	4	0.22
Lake	23	4.01	29	5.18
Lassen	14	4.76	19	5.90
Los Angeles	1,167	0.89	1,261	0.94
Madera	3	0.17	4	0.24
Marin	272	4.99	274	4.96
Mariposa	2	1.85	12	10.81
Mendocino	76	6.35	89	7.30
Merced	10	0.29	9	0.26
Modoc	6	3.47	3	1.82
Mono	3	2.34	5	4.85
Monterey	86	1.68	53	0.99
Napa	41	2.52	45	2.43
Nevada	86	8.78	86	7.99
Orange	640	1.41	655	1.49
Placer	38	0.91	83	2.01
Plumas	16	9.76	11	6.04
Riverside	148	0.65	180	0.79
Sacramento	167	1.01	172	1.07
San Benito	3	0.48	5	0.85
San Bernardino	95	0.38	99	0.40
San Diego	722	1.45	778	1.59
San Francisco	156	1.43	186	1.68
San Joaquin	34	0.37	31	0.39
San Luis Obispo	91	3.13	90	2.78
San Mateo	222	1.56	224	1.73
Santa Barbara	259	4.43	246	3.93
Santa Clara	392	1.34	446	1.48
Santa Cruz	100	3.06	144	4.02
Shasta	80	4.15	102	4.14
Sierra	1	1.67	0	0.00
Siskiyou	49	8.96	52	14.33
Solano	15	0.36	27	0.62
Sonoma	227	3.62	229	3.64
Stanislaus	70	1.10	57	0.89
Sutter	13	0.86	13	1.07
Tehama	10	1.57	5	0.64
Trinity	11	7.75	2	1.75
Tulare	36	0.59	38	0.62
Tuolumne	25	4.76	30	5.54
Ventura	262	2.20	266	2.11
Yolo	62	2.04	47	1.60
Yuba	11	1.20	22	2.04

* Personal beliefs exemptions are allowed for any or all immunizations and require a letter or affidavit from the child's parent or guardian stating that immunizations are against his or her personal beliefs.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.10 Estimated vaccination coverage with 4+ DTaP* among children ages 2-4 years 11 months, by county — Childcare Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	484,381	95.2	486,663	95.4
Alameda	16,654	94.7	17,878	94.3
Alpine	33	94.3	27	100.0
Amador	387	91.9	379	93.3
Butte	2,746	93.5	2,642	92.0
Calaveras	326	91.6	300	90.6
Colusa	322	99.4	358	94.7
Contra Costa	16,082	97.2	15,581	97.1
Del Norte	247	93.2	218	92.4
El Dorado	2,063	90.3	1,915	91.0
Fresno	14,248	97.4	14,434	97.0
Glenn	423	98.1	386	86.9
Humboldt	1,304	89.1	1,198	85.7
Imperial	2,106	93.7	2,628	95.5
Inyo	223	97.4	204	98.1
Kern	10,076	97.2	9,653	94.9
Kings	1,775	98.6	1,768	97.0
Lake	524	91.4	509	90.9
Lassen	270	91.8	306	95.0
Los Angeles	126,748	96.1	128,946	96.2
Madera	1,720	97.0	1,616	95.5
Marin	5,055	92.8	4,952	89.6
Mariposa	102	94.4	95	85.6
Mendocino	1,059	88.5	932	76.5
Merced	3,318	95.7	3,422	97.2
Modoc	157	90.8	153	92.7
Mono	113	88.3	97	94.2
Monterey	4,975	97.0	5,138	96.4
Napa	1,581	97.3	1,813	98.1
Nevada	815	83.2	878	81.6
Orange	43,091	95.3	41,664	94.9
Placer	4,053	97.3	3,875	93.9
Plumas	122	74.4	153	84.1
Riverside	22,381	97.9	22,382	98.3
Sacramento	14,368	86.5	15,079	93.4
San Benito	612	97.8	574	97.3
San Bernardino	24,848	99.3	24,249	99.1
San Diego	47,689	95.9	46,734	95.6
San Francisco	10,590	97.0	10,677	96.4
San Joaquin	8,852	97.0	7,738	97.4
San Luis Obispo	2,672	91.8	2,988	92.4
San Mateo	13,234	93.0	12,605	97.4
Santa Barbara	5,612	95.9	5,938	94.9
Santa Clara	27,711	94.8	28,586	94.8
Santa Cruz	2,951	90.4	3,196	89.2
Shasta	1,691	87.7	2,288	93.0
Sierra	59	98.3	46	88.5
Siskiyou	490	89.6	324	89.3
Solano	4,000	96.6	4,192	95.7
Sonoma	5,783	92.2	5,756	91.4
Stanislaus	5,784	90.7	5,308	82.8
Sutter	1,345	89.2	1,055	86.9
Tehama	516	80.9	726	93.2
Trinity	129	90.8	111	97.4
Tulare	5,937	97.7	5,992	97.1
Tuolumne	484	92.2	498	91.9
Ventura	10,252	86.1	11,699	92.9
Yolo	2,946	97.0	2,840	96.7
Yuba	727	79.6	964	89.3

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

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.11 Estimated vaccination coverage with 3+ polio* among children ages 2-4 years 11 months, by county — Childcare Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	493,083	96.9	498,590	97.3
Alameda	17,112	97.3	18,356	96.8
Alpine	34	97.1	27	100.0
Amador	400	95.0	386	95.1
Butte	2,817	95.9	2,735	95.2
Calaveras	339	95.2	300	90.6
Colusa	323	99.7	364	96.3
Contra Costa	16,267	98.3	15,805	98.5
Del Norte	254	95.8	230	97.5
El Dorado	2,124	93.0	1,978	94.0
Fresno	14,465	98.9	14,710	98.8
Glenn	423	98.1	441	99.3
Humboldt	1,312	89.6	1,288	92.1
Imperial	2,228	99.1	2,733	99.3
Inyo	227	99.1	207	99.5
Kern	10,233	98.7	10,056	98.9
Kings	1,790	99.4	1,794	98.5
Lake	549	95.8	522	93.2
Lassen	285	96.9	313	97.2
Los Angeles	128,270	97.3	130,558	97.4
Madera	1,749	98.6	1,642	97.0
Marin	5,070	93.1	5,153	93.2
Mariposa	106	98.1	98	88.3
Mendocino	1,116	93.2	1,080	88.6
Merced	3,429	98.9	3,495	99.2
Modoc	163	94.2	158	95.8
Mono	127	99.2	103	100.0
Monterey	5,046	98.4	5,218	97.9
Napa	1,584	97.5	1,818	98.3
Nevada	853	87.0	924	85.9
Orange	43,650	96.5	42,184	96.1
Placer	4,069	97.6	3,874	93.9
Plumas	150	91.5	170	93.4
Riverside	22,600	98.8	22,524	99.0
Sacramento	15,726	94.7	15,682	97.2
San Benito	614	98.1	582	98.6
San Bernardino	24,956	99.7	24,364	99.6
San Diego	48,458	97.5	47,637	97.5
San Francisco	10,676	97.8	10,755	97.1
San Joaquin	8,998	98.6	7,832	98.5
San Luis Obispo	2,759	94.8	3,117	96.4
San Mateo	13,349	93.8	12,674	97.9
Santa Barbara	5,665	96.9	6,005	96.0
Santa Clara	28,287	96.7	29,241	97.0
Santa Cruz	3,026	92.7	3,365	93.9
Shasta	1,831	95.0	2,342	95.2
Sierra	59	98.3	47	90.4
Siskiyou	506	92.5	344	94.8
Solano	4,062	98.1	4,270	97.5
Sonoma	5,883	93.8	5,878	93.4
Stanislaus	6,096	95.6	6,264	97.7
Sutter	1,482	98.3	1,201	98.9
Tehama	604	94.7	749	96.1
Trinity	129	90.8	111	97.4
Tulare	6,009	98.8	6,085	98.6
Tuolumne	501	95.4	518	95.6
Ventura	10,475	88.0	12,130	96.3
Yolo	2,877	94.8	2,884	98.2
Yuba	891	97.6	1,054	97.7

* Three or more doses of any poliovirus vaccine.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.12 Estimated vaccination coverage with 1+ MMR* among children ages 2-4 years 11 months, by county — Childcare Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	493,974	97.1	496,059	97.2
Alameda	17,123	97.3	18,459	97.3
Alpine	33	94.3	27	100.0
Amador	394	93.6	384	94.6
Butte	2,817	95.9	2,738	95.3
Calaveras	336	94.4	307	92.7
Colusa	322	99.4	361	95.5
Contra Costa	16,296	98.5	15,797	98.4
Del Norte	257	97.0	232	98.3
El Dorado	2,105	92.2	1,958	93.1
Fresno	14,487	99.1	14,724	98.9
Glenn	425	98.6	439	98.9
Humboldt	1,276	87.2	1,312	93.8
Imperial	2,227	99.1	2,743	99.6
Inyo	229	100.0	208	100.0
Kern	10,265	99.0	10,065	98.9
Kings	1,794	99.6	1,814	99.6
Lake	547	95.5	521	93.0
Lassen	282	95.9	310	96.3
Los Angeles	128,804	97.7	130,860	97.7
Madera	1,758	99.1	1,661	98.2
Marin	5,079	93.2	5,161	93.4
Mariposa	106	98.1	98	88.3
Mendocino	1,102	92.1	1,073	88.0
Merced	3,430	98.9	3,501	99.4
Modoc	167	96.5	161	97.6
Mono	124	96.9	98	95.1
Monterey	4,943	96.4	5,214	97.8
Napa	1,590	97.8	1,818	98.3
Nevada	839	85.6	928	86.2
Orange	43,808	96.8	42,606	97.1
Placer	4,091	98.2	3,856	93.4
Plumas	122	74.4	165	90.7
Riverside	22,485	98.3	22,580	99.2
Sacramento	15,461	93.1	15,591	96.6
San Benito	617	98.6	583	98.8
San Bernardino	24,948	99.7	24,359	99.6
San Diego	48,469	97.5	47,611	97.4
San Francisco	10,641	97.5	9,879	89.2
San Joaquin	8,917	97.7	7,848	98.7
San Luis Obispo	2,756	94.7	3,108	96.1
San Mateo	13,330	93.7	12,665	97.8
Santa Barbara	5,648	96.6	5,998	95.9
Santa Clara	28,206	96.5	29,433	97.6
Santa Cruz	3,027	92.8	3,355	93.7
Shasta	1,846	95.7	2,334	94.8
Sierra	59	98.3	47	90.4
Siskiyou	506	92.5	342	94.2
Solano	4,075	98.5	4,311	98.4
Sonoma	5,893	93.9	5,912	93.9
Stanislaus	6,230	97.7	6,218	97.0
Sutter	1,473	97.7	1,190	98.0
Tehama	605	94.8	737	94.6
Trinity	131	92.3	112	98.2
Tulare	6,008	98.8	6,103	98.9
Tuolumne	505	96.2	513	94.6
Ventura	11,112	93.4	11,708	93.0
Yolo	2,959	97.5	2,871	97.7
Yuba	889	97.4	1,052	97.5

* One or more doses of measles-mumps-rubella vaccine (may be given separately or combined, but must be given on or after the first birthday).

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.13 Estimated vaccination coverage with 1+ Hib* among children ages 2-4 years 11 months, by county — Childcare Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	495,614	97.4	498,482	97.7
Alameda	17,185	97.7	18,609	98.1
Alpine	35	100.0	27	100.0
Amador	401	95.2	389	95.8
Butte	2,853	97.2	2,791	97.2
Calaveras	337	94.7	307	92.7
Colusa	322	99.4	366	96.8
Contra Costa	16,322	98.6	15,887	99.0
Del Norte	251	94.7	228	96.6
El Dorado	2,147	94.0	1,999	95.0
Fresno	14,465	98.9	14,739	99.0
Glenn	428	99.3	443	99.8
Humboldt	1,381	94.3	1,328	95.0
Imperial	2,239	99.6	2,745	99.7
Inyo	229	100.0	208	100.0
Kern	10,270	99.1	10,061	98.9
Kings	1,795	99.7	1,815	99.6
Lake	547	95.5	521	93.0
Lassen	280	95.2	313	97.2
Los Angeles	129,086	97.9	131,078	97.8
Madera	1,758	99.1	1,668	98.6
Marin	5,211	95.6	5,287	95.6
Mariposa	107	99.1	99	89.2
Mendocino	1,083	90.5	1,064	87.3
Merced	3,429	98.9	3,498	99.3
Modoc	167	96.5	162	98.2
Mono	128	100.0	103	100.0
Monterey	5,024	98.0	5,215	97.9
Napa	1,594	98.1	1,822	98.5
Nevada	878	89.6	963	89.5
Orange	44,022	97.3	42,462	96.8
Placer	4,099	98.4	3,929	95.2
Plumas	148	90.2	171	94.0
Riverside	22,461	98.2	22,602	99.3
Sacramento	15,316	92.2	15,571	96.5
San Benito	622	99.4	586	99.3
San Bernardino	24,960	99.7	24,361	99.6
San Diego	48,571	97.7	47,827	97.9
San Francisco	10,730	98.3	10,869	98.1
San Joaquin	9,038	99.0	7,872	99.0
San Luis Obispo	2,659	91.3	3,097	95.7
San Mateo	13,408	94.2	12,751	98.5
Santa Barbara	5,502	94.1	5,882	94.1
Santa Clara	28,517	97.5	29,679	98.4
Santa Cruz	3,054	93.6	3,417	95.4
Shasta	1,854	96.2	2,345	95.3
Sierra	59	98.3	47	90.4
Siskiyou	509	93.1	349	96.1
Solano	4,092	98.9	4,336	99.0
Sonoma	5,927	94.5	5,939	94.3
Stanislaus	6,086	95.4	6,189	96.6
Sutter	1,448	96.0	1,199	98.8
Tehama	616	96.6	750	96.3
Trinity	132	93.0	111	97.4
Tulare	6,006	98.8	6,100	98.8
Tuolumne	501	95.4	518	95.6
Ventura	11,478	96.4	11,865	94.2
Yolo	2,961	97.5	2,866	97.5
Yuba	886	97.0	1,057	98.0

* One or more doses of *Haemophilus influenzae* type b vaccine (must be given on or after the first birthday).

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.14 Estimated vaccination coverage with 3+ HepB* among children ages 2-4 years 11 months, by county — Childcare Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	486,296	95.6	490,507	96.1
Alameda	17,005	96.6	18,130	95.6
Alpine	34	97.1	27	100.0
Amador	390	92.6	380	93.6
Butte	2,796	95.2	2,708	94.3
Calaveras	333	93.5	304	91.8
Colusa	317	97.8	359	95.0
Contra Costa	16,150	97.6	15,609	97.3
Del Norte	255	96.2	229	97.0
El Dorado	2,102	92.0	1,957	93.0
Fresno	14,412	98.6	14,648	98.4
Glenn	424	98.4	440	99.1
Humboldt	1,309	89.4	1,160	83.0
Imperial	2,134	94.9	2,709	98.4
Inyo	226	98.7	204	98.1
Kern	10,202	98.4	9,934	97.7
Kings	1,783	99.0	1,798	98.7
Lake	532	92.8	514	91.8
Lassen	279	94.9	315	97.8
Los Angeles	127,640	96.8	130,025	97.0
Madera	1,752	98.8	1,658	98.0
Marin	4,990	91.6	4,846	87.7
Mariposa	103	95.4	98	88.3
Mendocino	1,097	91.6	1,042	85.5
Merced	3,406	98.2	3,478	98.8
Modoc	166	96.0	158	95.8
Mono	124	96.9	99	96.1
Monterey	4,997	97.4	5,126	96.2
Napa	1,569	96.6	1,808	97.8
Nevada	825	84.2	893	83.0
Orange	43,405	95.9	41,966	95.6
Placer	4,048	97.1	3,818	92.5
Plumas	143	87.2	166	91.2
Riverside	20,593	90.1	22,429	98.5
Sacramento	14,867	89.5	14,843	92.0
San Benito	617	98.6	585	99.2
San Bernardino	24,910	99.5	24,337	99.5
San Diego	48,072	96.7	46,638	95.4
San Francisco	10,536	96.6	10,658	96.2
San Joaquin	8,983	98.4	7,832	98.5
San Luis Obispo	2,754	94.6	3,090	95.5
San Mateo	13,248	93.1	12,552	97.0
Santa Barbara	5,565	95.1	5,928	94.8
Santa Clara	28,001	95.8	29,062	96.4
Santa Cruz	2,978	91.3	3,256	90.9
Shasta	1,789	92.8	2,318	94.2
Sierra	59	98.3	47	90.4
Siskiyou	501	91.6	340	93.7
Solano	4,034	97.5	4,223	96.4
Sonoma	5,837	93.0	5,799	92.1
Stanislaus	5,594	87.7	6,263	97.7
Sutter	1,327	88.0	1,183	97.4
Tehama	600	94.0	733	94.1
Trinity	131	92.3	111	97.4
Tulare	5,973	98.3	6,070	98.4
Tuolumne	498	94.9	514	94.8
Ventura	10,048	84.4	11,186	88.8
Yolo	2,948	97.1	2,856	97.2
Yuba	885	96.9	1,048	97.1

* Three or more doses of hepatitis B vaccine.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.15 Estimated vaccination coverage with 1+ Var* among children ages 2-4 years 11 months, by county — Childcare Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	490,180	96.3	492,513	96.5
Alameda	16,835	95.7	18,246	96.2
Alpine	33	94.3	27	100.0
Amador	395	93.8	375	92.4
Butte	2,766	94.2	2,723	94.8
Calaveras	332	93.3	300	90.6
Colusa	293	90.4	325	86.0
Contra Costa	16,159	97.6	15,692	97.8
Del Norte	253	95.5	223	94.5
El Dorado	2,056	90.0	1,919	91.2
Fresno	14,437	98.7	14,674	98.6
Glenn	419	97.2	438	98.6
Humboldt	1,256	85.8	1,224	87.6
Imperial	2,235	99.4	2,732	99.2
Inyo	225	98.3	207	99.5
Kern	10,071	97.2	9,910	97.4
Kings	1,791	99.4	1,806	99.1
Lake	526	91.8	505	90.2
Lassen	278	94.6	304	94.4
Los Angeles	128,129	97.2	130,146	97.1
Madera	1,757	99.0	1,658	98.0
Marin	4,943	90.7	5,036	91.1
Mariposa	103	95.4	98	88.3
Mendocino	1,065	89.0	1,024	84.0
Merced	3,413	98.4	3,492	99.1
Modoc	156	90.2	121	73.3
Mono	121	94.5	97	94.2
Monterey	5,009	97.7	5,188	97.4
Napa	1,580	97.2	1,813	98.1
Nevada	818	83.5	899	83.6
Orange	43,943	97.1	41,654	94.9
Placer	3,849	92.4	3,775	91.5
Plumas	141	86.0	156	85.7
Riverside	21,964	96.1	22,542	99.0
Sacramento	15,233	91.7	15,431	95.6
San Benito	618	98.7	579	98.1
San Bernardino	24,942	99.6	24,347	99.5
San Diego	48,217	97.0	47,255	96.7
San Francisco	10,566	96.8	10,651	96.1
San Joaquin	9,002	98.6	7,847	98.7
San Luis Obispo	2,747	94.4	3,089	95.5
San Mateo	13,241	93.1	12,527	96.8
Santa Barbara	5,569	95.2	5,922	94.7
Santa Clara	28,016	95.8	28,815	95.6
Santa Cruz	2,909	89.2	3,284	91.7
Shasta	1,801	93.4	2,284	92.8
Sierra	59	98.3	46	88.5
Siskiyou	426	77.9	302	83.2
Solano	4,031	97.4	4,251	97.1
Sonoma	5,828	92.9	5,859	93.1
Stanislaus	5,994	94.0	6,232	97.2
Sutter	1,411	93.6	1,188	97.9
Tehama	599	93.9	733	94.1
Trinity	118	83.1	106	93.0
Tulare	5,998	98.7	6,097	98.8
Tuolumne	483	92.0	499	92.1
Ventura	11,225	94.3	11,951	94.9
Yolo	2,915	96.0	2,849	97.0
Yuba	881	96.5	1,040	96.4

* One or more doses of varicella vaccine (or physician-documented varicella disease history or immunity).

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.16 Estimated vaccination coverage with all required immunizations* among children ages 4-6 years in kindergarten, by county — Kindergarten Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	466,363	92.7	459,920	92.1
Alameda	16,679	91.5	16,795	91.5
Alpine	16	94.1	19	100.0
Amador	269	94.4	311	94.0
Butte	2,331	91.6	2,217	91.4
Calaveras	396	85.9	382	81.6
Colusa	368	97.6	353	94.6
Contra Costa	13,094	94.8	13,276	93.8
Del Norte	313	87.9	325	96.7
El Dorado	1,825	85.0	1,975	89.2
Fresno	14,318	95.4	13,954	95.1
Glenn	459	96.8	453	98.5
Humboldt	1,258	83.3	1,100	81.5
Imperial	2,558	95.6	2,525	94.6
Inyo	175	90.2	178	96.7
Kern	12,692	93.0	12,763	92.4
Kings	2,221	96.4	2,278	96.9
Lake	620	87.0	611	85.8
Lassen	265	82.0	290	86.1
Los Angeles	117,856	90.9	117,095	90.3
Madera	2,214	91.8	2,199	93.7
Marin	2,658	86.9	2,675	84.7
Mariposa	139	84.8	115	79.9
Mendocino	846	82.9	890	84.4
Merced	4,302	95.8	4,168	94.6
Modoc	116	92.8	128	89.5
Mono	175	98.9	132	94.3
Monterey	5,968	96.3	5,861	95.4
Napa	1,632	94.4	1,630	95.8
Nevada	650	73.0	597	75.5
Orange	38,088	92.1	36,673	90.8
Placer	4,409	89.5	4,410	89.1
Plumas	154	78.2	160	90.9
Riverside	30,287	95.5	30,114	95.7
Sacramento	17,105	89.8	14,482	89.2
San Benito	889	95.9	782	95.7
San Bernardino	30,173	95.6	29,859	95.1
San Diego	37,113	94.0	36,967	93.3
San Francisco	5,697	90.4	5,569	91.1
San Joaquin	10,224	94.6	10,234	95.4
San Luis Obispo	2,386	91.5	2,310	89.6
San Mateo	7,960	93.5	7,873	90.0
Santa Barbara	5,144	94.0	4,916	92.7
Santa Clara	22,618	95.1	23,102	94.3
Santa Cruz	2,872	86.8	2,757	84.0
Shasta	1,929	87.9	1,855	84.3
Sierra	24	92.3	41	97.6
Siskiyou	318	75.0	336	81.6
Solano	4,963	94.0	5,147	95.2
Sonoma	5,258	89.1	5,229	88.5
Stanislaus	8,099	95.6	7,878	94.8
Sutter	1,482	95.1	1,401	93.5
Tehama	756	91.9	804	92.9
Trinity	104	85.2	103	81.7
Tulare	7,779	96.9	7,788	96.4
Tuolumne	438	83.3	345	74.5
Ventura	10,426	91.7	10,205	91.3
Yolo	2,182	95.3	2,253	93.1
Yuba	1,073	90.1	1,032	88.6

* All required immunizations include 5 doses of DTP/DTaP/DT vaccine (4 doses meets the requirement if at least one was given on or after the fourth birthday); 4 doses of polio vaccine (3 doses meets the requirement if at least one was given on birthday); 2 doses of MMR vaccine (may be given separately or combined, but both doses must be given on or after the first birthday); 3 doses of hepatitis B vaccine; and 1 dose of varicella vaccine (or physician-documented varicella disease history or immunity).

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.17 Conditional admission* among children ages 4-6 years in kindergarten, by county — Kindergarten Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	28,862	5.7	30,681	6.1
Alameda	1,350	7.4	1,320	7.2
Alpine	1	5.9	0	0.0
Amador	8	2.8	10	3.0
Butte	121	4.8	92	3.8
Calaveras	45	9.8	58	12.4
Colusa	7	1.9	11	2.9
Contra Costa	494	3.6	597	4.2
Del Norte	20	5.6	10	3.0
El Dorado	233	10.9	113	5.1
Fresno	587	3.9	613	4.2
Glenn	8	1.7	5	1.1
Humboldt	138	9.1	121	9.0
Imperial	109	4.1	131	4.9
Inyo	14	7.2	3	1.6
Kern	775	5.7	830	6.0
Kings	74	3.2	59	2.5
Lake	63	8.8	76	10.7
Lassen	48	14.9	37	11.0
Los Angeles	10,508	8.1	11,121	8.6
Madera	180	7.5	120	5.1
Marin	261	8.5	292	9.2
Mariposa	21	12.8	23	16.0
Mendocino	116	11.4	71	6.7
Merced	167	3.7	222	5.0
Modoc	2	1.6	6	4.2
Mono	0	0.0	5	3.6
Monterey	177	2.9	226	3.7
Napa	70	4.0	42	2.5
Nevada	111	12.5	88	11.1
Orange	2,500	6.0	2,845	7.0
Placer	356	7.2	334	6.8
Plumas	31	15.7	8	4.5
Riverside	1,130	3.6	1,043	3.3
Sacramento	1,554	8.2	1,368	8.4
San Benito	32	3.5	28	3.4
San Bernardino	1,009	3.2	1,202	3.8
San Diego	1,494	3.8	1,605	4.1
San Francisco	525	8.3	481	7.9
San Joaquin	506	4.7	405	3.8
San Luis Obispo	136	5.2	162	6.3
San Mateo	442	5.2	749	8.6
Santa Barbara	152	2.8	240	4.5
Santa Clara	855	3.6	1,070	4.4
Santa Cruz	169	5.1	292	8.9
Shasta	182	8.3	243	11.0
Sierra	1	3.8	1	2.4
Siskiyou	36	8.5	35	8.5
Solano	274	5.2	205	3.8
Sonoma	355	6.0	424	7.2
Stanislaus	214	2.5	236	2.8
Sutter	48	3.1	66	4.4
Tehama	42	5.1	38	4.4
Trinity	8	6.6	7	5.6
Tulare	193	2.4	231	2.9
Tuolumne	57	10.8	70	15.1
Ventura	701	6.2	762	6.8
Yolo	61	2.7	120	5.0
Yuba	91	7.6	109	9.4

* Conditional admission includes children who are missing one or more of the required immunizations, but are not currently due for any remaining doses and children who have temporary medical exemptions.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.18 Permanent medical exemptions* among children ages 4-6 years in kindergarten, by county
— Kindergarten Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	827	0.16	889	0.18
Alameda	29	0.16	39	0.21
Alpine	0	0.00	0	0.00
Amador	0	0.00	0	0.00
Butte	7	0.28	6	0.25
Calaveras	2	0.43	0	0.00
Colusa	0	0.00	0	0.00
Contra Costa	29	0.21	37	0.26
Del Norte	2	0.56	1	0.30
El Dorado	9	0.42	6	0.27
Fresno	12	0.08	26	0.18
Glenn	1	0.21	0	0.00
Humboldt	3	0.20	1	0.07
Imperial	5	0.19	3	0.11
Inyo	1	0.52	0	0.00
Kern	36	0.26	30	0.22
Kings	1	0.04	0	0.00
Lake	3	0.42	0	0.00
Lassen	2	0.62	1	0.30
Los Angeles	142	0.11	191	0.15
Madera	2	0.08	0	0.00
Marin	13	0.43	9	0.28
Mariposa	0	0.00	6	4.17
Mendocino	5	0.49	1	0.09
Merced	3	0.07	3	0.07
Modoc	0	0.00	1	0.70
Mono	0	0.00	0	0.00
Monterey	6	0.10	6	0.10
Napa	2	0.12	2	0.12
Nevada	2	0.22	2	0.25
Orange	104	0.25	127	0.31
Placer	21	0.43	15	0.30
Plumas	0	0.00	0	0.00
Riverside	54	0.17	47	0.15
Sacramento	18	0.09	19	0.12
San Benito	0	0.00	1	0.12
San Bernardino	49	0.16	45	0.14
San Diego	56	0.14	58	0.15
San Francisco	15	0.24	4	0.07
San Joaquin	6	0.06	7	0.07
San Luis Obispo	9	0.34	8	0.31
San Mateo	20	0.23	22	0.25
Santa Barbara	10	0.18	8	0.15
Santa Clara	51	0.21	47	0.19
Santa Cruz	17	0.51	24	0.73
Shasta	9	0.41	4	0.18
Sierra	0	0.00	0	0.00
Siskiyou	17	4.01	0	0.00
Solano	3	0.06	7	0.13
Sonoma	6	0.10	10	0.17
Stanislaus	10	0.12	14	0.17
Sutter	3	0.19	3	0.20
Tehama	2	0.24	2	0.23
Trinity	1	0.82	3	2.38
Tulare	7	0.09	10	0.12
Tuolumne	3	0.57	2	0.43
Ventura	17	0.15	29	0.26
Yolo	0	0.00	0	0.00
Yuba	2	0.17	2	0.17

* Permanent medical exemptions are allowed for any or all immunizations and require a written statement from a licensed physician stating that immunizations are permanently not indicated due to the child's medical circumstances.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.19 Personal beliefs exemptions* among children ages 4-6 years in kindergarten, by county — Kindergarten Immunization Assessment, California, 2006-08 school years

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	7,108	1.41	7,811	1.56
Alameda	174	0.95	198	1.08
Alpine	0	0.00	0	0.00
Amador	8	2.81	10	3.02
Butte	85	3.34	111	4.58
Calaveras	18	3.90	28	5.98
Colusa	2	0.53	9	2.41
Contra Costa	198	1.43	240	1.70
Del Norte	21	5.90	0	0.00
El Dorado	79	3.68	120	5.42
Fresno	94	0.63	76	0.52
Glenn	6	1.27	2	0.43
Humboldt	112	7.41	128	9.48
Imperial	3	0.11	9	0.34
Inyo	4	2.06	3	1.63
Kern	151	1.11	188	1.36
Kings	8	0.35	13	0.55
Lake	27	3.79	25	3.51
Lassen	8	2.48	9	2.67
Los Angeles	1,102	0.85	1,248	0.96
Madera	15	0.62	28	1.19
Marin	126	4.12	183	5.79
Mariposa	4	2.44	0	0.00
Mendocino	54	5.29	92	8.73
Merced	18	0.40	13	0.30
Modoc	7	5.60	8	5.59
Mono	2	1.13	3	2.14
Monterey	49	0.79	48	0.78
Napa	25	1.45	28	1.65
Nevada	128	14.37	104	13.15
Orange	645	1.56	757	1.87
Placer	139	2.82	189	3.82
Plumas	12	6.09	8	4.55
Riverside	251	0.79	262	0.83
Sacramento	367	1.93	375	2.31
San Benito	6	0.65	6	0.73
San Bernardino	333	1.05	299	0.95
San Diego	815	2.06	999	2.52
San Francisco	63	1.00	59	0.97
San Joaquin	72	0.67	76	0.71
San Luis Obispo	78	2.99	99	3.84
San Mateo	93	1.09	107	1.22
Santa Barbara	168	3.07	141	2.66
Santa Clara	269	1.13	271	1.11
Santa Cruz	251	7.59	208	6.34
Shasta	75	3.42	99	4.50
Sierra	1	3.85	0	0.00
Siskiyou	53	12.50	41	9.95
Solano	39	0.74	50	0.92
Sonoma	283	4.79	243	4.11
Stanislaus	145	1.71	186	2.24
Sutter	26	1.67	29	1.93
Tehama	23	2.79	21	2.43
Trinity	9	7.38	13	10.32
Tulare	45	0.56	53	0.66
Tuolumne	28	5.32	46	9.94
Ventura	220	1.94	181	1.62
Yolo	46	2.01	47	1.94
Yuba	25	2.10	22	1.89

* Personal beliefs exemptions are allowed for any or all immunizations and require a letter or affidavit from the child's parent or guardian stating that immunizations are against his or her personal beliefs.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.20 Estimated vaccination coverage with 4+ DTaP* among children ages 4-6 years in kindergarten, by county
— Kindergarten Immunization Assessment, California, 2006-08 school years**

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	476,383	94.7	469,915	94.1
Alameda	17,162	94.1	17,181	93.6
Alpine	16	94.1	19	100.0
Amador	271	95.1	314	94.9
Butte	2,358	92.7	2,255	93.0
Calaveras	412	89.4	402	85.9
Colusa	371	98.4	357	95.7
Contra Costa	13,245	95.9	13,458	95.1
Del Norte	320	89.9	325	96.7
El Dorado	1,892	88.2	1,997	90.2
Fresno	14,498	96.6	14,143	96.4
Glenn	461	97.3	454	98.7
Humboldt	1,297	85.8	1,137	84.2
Imperial	2,592	96.9	2,586	96.9
Inyo	185	95.4	178	96.7
Kern	12,952	94.9	13,027	94.3
Kings	2,241	97.3	2,301	97.9
Lake	635	89.1	628	88.2
Lassen	275	85.1	296	87.8
Los Angeles	121,969	94.1	121,124	93.4
Madera	2,243	93.0	2,235	95.2
Marin	2,765	90.4	2,786	88.2
Mariposa	150	91.5	126	87.5
Mendocino	876	85.8	902	85.6
Merced	4,331	96.5	4,210	95.6
Modoc	117	93.6	129	90.2
Mono	175	98.9	134	95.7
Monterey	6,018	97.1	5,936	96.7
Napa	1,645	95.1	1,648	96.8
Nevada	670	75.2	622	78.6
Orange	38,915	94.1	37,559	93.0
Placer	4,523	91.8	4,491	90.8
Plumas	163	82.7	164	93.2
Riverside	30,767	97.0	30,516	97.0
Sacramento	17,570	92.3	14,718	90.6
San Benito	896	96.7	792	96.9
San Bernardino	30,493	96.6	30,216	96.2
San Diego	37,565	95.2	37,409	94.4
San Francisco	5,849	92.8	5,721	93.6
San Joaquin	10,390	96.1	10,373	96.7
San Luis Obispo	2,416	92.6	2,350	91.1
San Mateo	8,105	95.2	8,148	93.1
Santa Barbara	5,194	94.9	4,978	93.8
Santa Clara	22,935	96.4	23,503	96.0
Santa Cruz	2,936	88.7	2,858	87.1
Shasta	1,977	90.1	1,910	86.8
Sierra	24	92.3	41	97.6
Siskiyou	327	77.1	340	82.5
Solano	5,043	95.5	5,205	96.2
Sonoma	5,355	90.7	5,365	90.8
Stanislaus	8,185	96.7	7,951	95.6
Sutter	1,495	95.9	1,423	94.9
Tehama	763	92.7	814	94.1
Trinity	107	87.7	105	83.3
Tulare	7,835	97.6	7,866	97.3
Tuolumne	449	85.4	358	77.3
Ventura	10,652	93.7	10,479	93.8
Yolo	2,203	96.2	2,292	94.7
Yuba	1,109	93.1	1,060	91.0

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

** Immunization coverage for individual antigen is unavailable for students with Personal Beliefs Exemptions. Therefore, immunization coverage may be underestimated, as anecdotal evidence has shown that Personal Beliefs Exemptions may be partial.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.21 Estimated vaccination coverage with 3+ polio* among children ages 4-6 years in kindergarten, by county — Kindergarten Immunization Assessment, California, 2006-08 school years**

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	478,022	95.0	471,699	94.5
Alameda	17,200	94.3	17,280	94.2
Alpine	17	100.0	19	100.0
Amador	276	96.8	318	96.1
Butte	2,372	93.2	2,261	93.2
Calaveras	410	88.9	404	86.3
Colusa	373	98.9	359	96.2
Contra Costa	13,275	96.1	13,510	95.5
Del Norte	328	92.1	331	98.5
El Dorado	1,887	87.9	2,002	90.4
Fresno	14,537	96.8	14,177	96.6
Glenn	461	97.3	456	99.1
Humboldt	1,300	86.0	1,139	84.4
Imperial	2,625	98.1	2,591	97.1
Inyo	186	95.9	181	98.4
Kern	13,000	95.2	13,137	95.1
Kings	2,251	97.7	2,313	98.4
Lake	644	90.3	637	89.5
Lassen	276	85.4	299	88.7
Los Angeles	122,642	94.6	121,773	93.9
Madera	2,257	93.6	2,246	95.7
Marin	2,768	90.5	2,779	88.0
Mariposa	152	92.7	122	84.7
Mendocino	885	86.7	902	85.6
Merced	4,352	96.9	4,232	96.1
Modoc	117	93.6	130	90.9
Mono	175	98.9	135	96.4
Monterey	6,025	97.2	5,950	96.9
Napa	1,650	95.4	1,647	96.8
Nevada	670	75.2	623	78.8
Orange	39,017	94.4	37,649	93.2
Placer	4,546	92.3	4,513	91.2
Plumas	163	82.7	165	93.8
Riverside	30,813	97.1	30,605	97.3
Sacramento	17,659	92.7	14,804	91.1
San Benito	902	97.3	797	97.6
San Bernardino	30,633	97.1	30,335	96.6
San Diego	37,587	95.2	37,508	94.6
San Francisco	5,861	93.0	5,708	93.4
San Joaquin	10,432	96.5	10,409	97.1
San Luis Obispo	2,427	93.0	2,362	91.6
San Mateo	8,108	95.2	8,160	93.2
Santa Barbara	5,200	95.0	5,013	94.5
Santa Clara	22,965	96.5	23,517	96.0
Santa Cruz	2,932	88.6	2,845	86.7
Shasta	1,978	90.1	1,921	87.3
Sierra	24	92.3	41	97.6
Siskiyou	327	77.1	344	83.5
Solano	5,068	96.0	5,222	96.5
Sonoma	5,379	91.1	5,383	91.1
Stanislaus	8,196	96.8	7,953	95.7
Sutter	1,501	96.3	1,424	95.0
Tehama	771	93.7	819	94.7
Trinity	105	86.1	105	83.3
Tulare	7,849	97.8	7,910	97.9
Tuolumne	450	85.6	359	77.5
Ventura	10,705	94.2	10,521	94.1
Yolo	2,203	96.2	2,290	94.6
Yuba	1,110	93.2	1,064	91.3

* Three or more doses of any poliovirus vaccine.

** Immunization coverage for individual antigen is unavailable for students with Personal Beliefs Exemptions. Therefore, immunization coverage may be underestimated, as anecdotal evidence has shown that Personal Beliefs Exemptions may be partial.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.22 Estimated vaccination coverage with 2+ MMR* among children ages 4-6 years in kindergarten, by county — Kindergarten Immunization Assessment, California, 2006-08 school years**

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	477,788	95.0	472,326	94.6
Alameda	17,254	94.6	17,352	94.6
Alpine	17	100.0	19	100.0
Amador	274	96.1	317	95.8
Butte	2,371	93.2	2,252	92.8
Calaveras	420	91.1	400	85.5
Colusa	373	98.9	358	96.0
Contra Costa	13,259	96.0	13,523	95.6
Del Norte	327	91.9	332	98.8
El Dorado	1,880	87.6	2,009	90.7
Fresno	14,623	97.4	14,277	97.3
Glenn	460	97.0	455	98.9
Humboldt	1,304	86.3	1,130	83.7
Imperial	2,615	97.8	2,580	96.7
Inyo	188	96.9	181	98.4
Kern	12,993	95.2	13,170	95.4
Kings	2,253	97.8	2,308	98.2
Lake	658	92.3	638	89.6
Lassen	282	87.3	301	89.3
Los Angeles	122,283	94.3	122,333	94.4
Madera	2,298	95.3	2,245	95.7
Marin	2,730	89.3	2,763	87.5
Mariposa	142	86.6	129	89.6
Mendocino	879	86.1	908	86.1
Merced	4,361	97.1	4,232	96.1
Modoc	117	93.6	130	90.9
Mono	175	98.9	133	95.0
Monterey	6,022	97.1	5,951	96.9
Napa	1,651	95.5	1,653	97.1
Nevada	690	77.4	621	78.5
Orange	38,956	94.2	37,526	92.9
Placer	4,528	91.9	4,518	91.3
Plumas	164	83.2	163	92.6
Riverside	30,840	97.2	30,576	97.2
Sacramento	17,618	92.5	14,839	91.4
San Benito	900	97.1	788	96.5
San Bernardino	30,623	97.0	30,360	96.7
San Diego	37,584	95.2	37,496	94.6
San Francisco	5,886	93.4	5,723	93.6
San Joaquin	10,446	96.7	10,402	97.0
San Luis Obispo	2,419	92.7	2,353	91.2
San Mateo	8,086	95.0	8,143	93.1
Santa Barbara	5,192	94.8	4,990	94.1
Santa Clara	22,968	96.5	23,544	96.1
Santa Cruz	2,923	88.3	2,869	87.4
Shasta	1,988	90.6	1,933	87.8
Sierra	24	92.3	41	97.6
Siskiyou	326	76.9	347	84.2
Solano	5,061	95.9	5,232	96.7
Sonoma	5,391	91.3	5,402	91.5
Stanislaus	8,190	96.7	7,956	95.7
Sutter	1,494	95.8	1,416	94.5
Tehama	768	93.3	810	93.6
Trinity	109	89.3	106	84.1
Tulare	7,875	98.1	7,883	97.5
Tuolumne	452	85.9	360	77.8
Ventura	10,761	94.7	10,492	93.9
Yolo	2,200	96.1	2,294	94.8
Yuba	1,117	93.8	1,064	91.3

* Two or more doses of measles-mumps-rubella vaccine (may be given separately or combined, but both doses must be given on or after the first birthday).

** Immunization coverage for individual antigen is unavailable for students with Personal Beliefs Exemptions. Therefore, immunization coverage may be underestimated, as anecdotal evidence has shown that Personal Beliefs Exemptions may be partial.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.23 Estimated vaccination coverage with 3+ HepB* among children ages 4-6 years in kindergarten, by county — Kindergarten Immunization Assessment, California, 2006-08 school years**

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	487,374	96.9	482,806	96.7
Alameda	17,585	96.5	17,746	96.7
Alpine	17	100.0	19	100.0
Amador	275	96.5	316	95.5
Butte	2,412	94.8	2,291	94.4
Calaveras	423	91.8	424	90.6
Colusa	373	98.9	361	96.8
Contra Costa	13,468	97.5	13,726	97.0
Del Norte	325	91.3	334	99.4
El Dorado	2,005	93.4	2,067	93.4
Fresno	14,722	98.1	14,385	98.1
Glenn	466	98.3	458	99.6
Humboldt	1,360	90.0	1,169	86.6
Imperial	2,651	99.1	2,643	99.1
Inyo	178	91.8	181	98.4
Kern	13,189	96.6	13,348	96.6
Kings	2,272	98.6	2,322	98.8
Lake	657	92.1	668	93.8
Lassen	306	94.7	323	95.8
Los Angeles	125,313	96.7	125,138	96.5
Madera	2,322	96.3	2,283	97.3
Marin	2,843	93.0	2,903	91.9
Mariposa	156	95.1	129	89.6
Mendocino	933	91.4	948	89.9
Merced	4,436	98.8	4,345	98.6
Modoc	117	93.6	134	93.7
Mono	175	98.9	136	97.1
Monterey	6,101	98.4	6,026	98.1
Napa	1,690	97.7	1,654	97.2
Nevada	721	80.9	669	84.6
Orange	40,144	97.1	39,014	96.6
Placer	4,661	94.6	4,652	94.0
Plumas	178	90.4	166	94.3
Riverside	31,099	98.0	30,887	98.2
Sacramento	18,290	96.0	15,476	95.3
San Benito	910	98.2	805	98.5
San Bernardino	30,909	97.9	30,768	98.0
San Diego	38,293	97.0	38,240	96.5
San Francisco	5,996	95.2	5,836	95.5
San Joaquin	10,584	97.9	10,530	98.2
San Luis Obispo	2,487	95.3	2,433	94.3
San Mateo	8,320	97.7	8,487	97.0
Santa Barbara	5,257	96.0	5,098	96.1
Santa Clara	23,299	97.9	23,921	97.7
Santa Cruz	2,989	90.3	2,979	90.8
Shasta	2,055	93.6	2,017	91.6
Sierra	25	96.2	42	100.0
Siskiyou	349	82.3	360	87.4
Solano	5,168	97.9	5,274	97.5
Sonoma	5,519	93.5	5,532	93.7
Stanislaus	8,262	97.6	8,080	97.2
Sutter	1,510	96.9	1,453	96.9
Tehama	781	94.9	838	96.9
Trinity	112	91.8	109	86.5
Tulare	7,909	98.6	7,967	98.6
Tuolumne	483	91.8	404	87.3
Ventura	10,930	96.2	10,827	96.9
Yolo	2,227	97.3	2,346	96.9
Yuba	1,137	95.5	1,119	96.1

* Three or more doses of hepatitis B vaccine.

** Immunization coverage for individual antigen is unavailable for students with Personal Beliefs Exemptions. Therefore, immunization coverage may be underestimated, as anecdotal evidence has shown that Personal Beliefs Exemptions may be partial.

Prepared by the California Department of Public Health, Immunization Branch

TABLE 1.24 Estimated vaccination coverage with 1+ Var* among children ages 4-6 years in kindergarten, by county — Kindergarten Immunization Assessment, California, 2006-08 school years**

County	2006-07		2007-08	
	No.	%	No.	%
CALIFORNIA	489,367	97.3	484,885	97.1
Alameda	17,674	96.9	17,862	97.3
Alpine	17	100.0	19	100.0
Amador	277	97.2	320	96.7
Butte	2,418	95.0	2,292	94.5
Calaveras	426	92.4	424	90.6
Colusa	373	98.9	361	96.8
Contra Costa	13,499	97.7	13,790	97.5
Del Norte	331	93.0	334	99.4
El Dorado	1,994	92.9	2,072	93.6
Fresno	14,757	98.3	14,437	98.4
Glenn	465	98.1	458	99.6
Humboldt	1,356	89.7	1,164	86.2
Imperial	2,653	99.2	2,639	98.9
Inyo	188	96.9	181	98.4
Kern	13,266	97.2	13,363	96.8
Kings	2,287	99.3	2,324	98.9
Lake	664	93.1	655	92.0
Lassen	303	93.8	319	94.7
Los Angeles	126,156	97.3	125,863	97.1
Madera	2,333	96.8	2,289	97.5
Marin	2,868	93.8	2,913	92.2
Mariposa	154	93.9	131	91.0
Mendocino	931	91.2	953	90.4
Merced	4,450	99.1	4,353	98.8
Modoc	118	94.4	133	93.0
Mono	175	98.9	137	97.9
Monterey	6,128	98.8	6,046	98.5
Napa	1,693	97.9	1,662	97.6
Nevada	711	79.8	659	83.3
Orange	40,225	97.3	39,160	96.9
Placer	4,655	94.5	4,671	94.4
Plumas	173	87.8	165	93.8
Riverside	31,276	98.6	31,067	98.7
Sacramento	18,365	96.4	15,569	95.8
San Benito	915	98.7	808	98.9
San Bernardino	31,016	98.3	30,901	98.4
San Diego	38,391	97.2	38,355	96.8
San Francisco	6,025	95.6	5,862	95.9
San Joaquin	10,615	98.2	10,588	98.8
San Luis Obispo	2,493	95.6	2,447	94.9
San Mateo	8,335	97.9	8,523	97.4
Santa Barbara	5,273	96.3	5,110	96.3
Santa Clara	23,341	98.1	24,011	98.0
Santa Cruz	3,002	90.7	2,990	91.1
Shasta	2,048	93.3	2,015	91.5
Sierra	25	96.2	42	100.0
Siskiyou	343	80.9	358	86.9
Solano	5,186	98.2	5,318	98.3
Sonoma	5,528	93.7	5,570	94.3
Stanislaus	8,293	97.9	8,097	97.4
Sutter	1,521	97.6	1,462	97.5
Tehama	792	96.2	838	96.9
Trinity	109	89.3	109	86.5
Tulare	7,934	98.9	7,993	98.9
Tuolumne	478	90.9	395	85.3
Ventura	10,961	96.5	10,831	96.9
Yolo	2,238	97.8	2,352	97.2
Yuba	1,146	96.2	1,125	96.6

* One or more doses of varicella vaccine (or physician-documented varicella disease history or immunity).

** Immunization coverage for individual antigen is unavailable for students with Personal Beliefs Exemptions. Therefore, immunization coverage may be underestimated, as anecdotal evidence has shown that Personal Beliefs Exemptions may be partial.

Prepared by the California Department of Public Health, Immunization Branch



Childhood Immunization Coverage in California | 2006-08

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