

HEALTHY PEOPLE 2020 GOAL:

Increase the proportion (to 80%) of children ages 19 to 35 months who receive the recommended doses of vaccines.

Maintain a vaccination coverage level of >95% among children in kindergarten.

Increase the proportion (to 95%) of children under 6 years of age whose immunization records are in an immunization registry.

HEALTHY PEOPLE 2010 GOAL:

Maintain a vaccination coverage level of 90% for all children in licensed day care facilities and children in kindergarten through first grade.

STATEWIDE:

Immunization rates at kindergarten entry have declined from 92.9%, in 2003 to 90.3%, in 2012.⁵

RELATED INDICATORS:

- Early Prenatal Care
- Infant Mortality
- Access to Healthcare

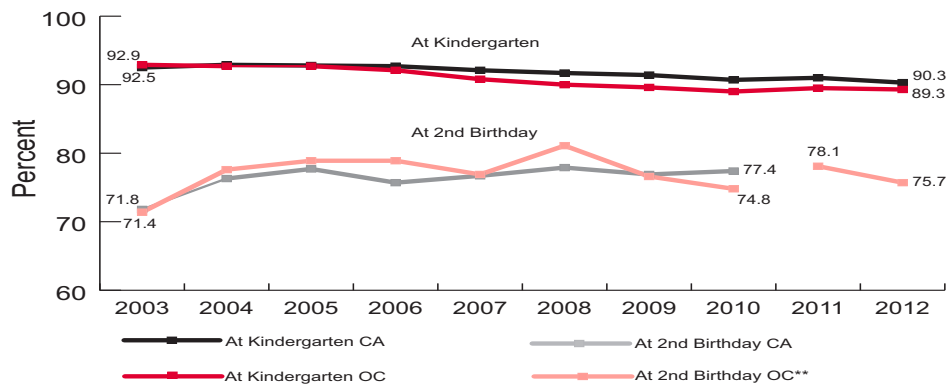
Definition of Indicator

The “percent vaccination coverage” refers to the percentage of children who received all of the doses of specific vaccines recommended by their 2nd birthday and required at kindergarten entry. These children are considered to have up-to-date (UTD) vaccinations. Data at 2nd birthday are based upon annual retrospective reviews of randomly selected kindergarten immunization records. Data at kindergarten entry include all public and private schools in Orange County and California. For the recommended childhood immunization schedule, please see Appendix D on page 223.

Findings

In 2012, the percent of children UTD in Orange County at kindergarten entry was 89.3%, compared to 90.3% statewide. Some areas of the county are below 85% vaccination coverage at kindergarten entry (see map on page 153). Retrospective data show that for Orange County, the percent of children with UTD status at their 2nd birthday was 75.7%.

Percent Vaccination Coverage Among Children Age 2 Years* and at Kindergarten Entry in Orange County and California, 2003 to 2012



*These Southern California counties include Orange, Imperial, San Bernardino, San Diego, and Riverside.

**2003-2010 OC data includes other Southern CA counties (Imperial, Orange, Riverside, San Bernardino, and San Diego). 2011-2012 data include a small, random sample of schools for OC only. Data prior to 2011 are not comparable due to a change in methodology.

Trends

Over the past decade from 2003 to 2012, the percentage of immunized kindergarten children with UTD immunizations decreased from 92.9% to 89.3%. The percentage of children at their 2nd birthday with UTD immunizations increased from 71.4% to 75.7%, however it has declined from the highest level of 81.1% in 2008. Although state law requires proof of UTD vaccines at kindergarten enrollment, compared to prior years, there are higher numbers of under-immunized children enrolled on the condition that they eventually will become UTD (6.3% in Orange County in 2012). In addition, there has been a gradual yearly increase in the number of children whose parents have refused one or several vaccines, but are allowed to enroll through parental use of a personal belief exemption waiver (3.0% in Orange County in 2012).

Pertussis Update

As of July 2013, the reported pertussis cases (whooping cough) have increased across the state compared to the same time period in the last year. In response to the pertussis epidemic of 2010 and 2011, Assembly Bill (AB) 354 was signed into law in September 2010 requiring all students entering or advancing to grades seven through twelve in the 2011/12 school year to show proof of immunization with a whooping cough vaccine booster called tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine (Tdap). Orange County public and private schools reported 97.2% completed the vaccine requirement.¹ For the 2012/13 school year and future years, the pertussis booster immunization requirement applies to students entering or advancing into the seventh grade.

Why is this Important?

The widespread use of safe, effective childhood vaccinations has been one of the most successful and cost-effective public health interventions in the U.S. and globally. Many serious and once common childhood infections have been dramatically reduced through routine immunizations. The success of immunization programs depends upon appropriate timing and on a high rate of vaccine acceptance, particularly among parents of young children. Unfortunately, over the past decade, increasing numbers of children with delayed or refused vaccinations have led to reduced levels of vaccine coverage. Many communities are below the protective level needed to prevent the spread of disease.²

Vaccine delay or refusal is associated with negative parental beliefs or attitudes towards immunization, fear of side-effects, risks, or contraindications, higher birth order and unnecessary delays due to a child’s minor illness. Studies have found that children whose parents delay or refuse vaccines are more likely to be White and reside in well-educated, higher income areas.³ Parental attitudes and beliefs about vaccines may be influenced by both a failure to appreciate the seriousness of vaccine-preventable diseases and by the constant stream of vaccine misinformation in the media and on the internet. Improving parental access to reliable vaccine information and effective communication by health care providers are among the strategies needed to counteract vaccine hesitancy. In addition, health care providers need to understand the significant health risks posed by promoting “selective” or “alternative” vaccination schedules, which leave children unprotected.

What's Happening in Orange County?

The Orange County Immunization Coalition (OCIC) continues to coordinate and conduct outreach and education efforts for both health care providers and the public, including developing community-wide partnerships and leadership, promoting Standards of Immunization Practice and supporting the California Immunization Registry (CAIR). As more children become enrolled in CAIR, vaccination coverage will be better monitored, resulting in fewer children being either under-immunized or over-immunized. Attendance and participation in bimonthly OCIC meetings by diverse community partners remains at very high levels.⁴

What's Working:

- As of May 2013, 460 Orange County providers and 168,453 (73.0%) Orange County children below six years of age were enrolled in CAIR. There was a 0.7% decrease in the number of children below six years of age enrolled in the registry since May 2012.
- OCIC provides evidence-based immunization resources for health care providers and conducts regularly scheduled immunization skills workshops for medical assistants who administer pediatric vaccines.
- The Health Care Agency, Immunization Assistance Program (IAP) collaborates with school districts to increase capacity for immunization services at school sites by partnering with school nurses, who serve as liaisons and vaccine administrators. IAP’s continued partnership with the Orange County Department of Education will focus on the implementation of AB2109. Beginning January 1, 2014, parents or guardians that wish to exempt their child from school or childcare requirements will first need to receive information from a licensed healthcare provider about the benefits and risks of vaccination and vaccine preventable disease and produce a signed waiver.
- The potential for vaccine preventable diseases to spread rapidly in communities was demonstrated again in 2013, when a multi-state outbreak of hepatitis A was associated with the consumption of a frozen berry product. Nine confirmed cases occurred in Orange County—all among unvaccinated adults. Fortunately, the hepatitis A vaccine series is recommended for all children (beginning at age one) and provides protection against this infection that can cause significant illness and hospitalization. No infections were reported in children vaccinated against hepatitis A.

✓ See page 153 in Supplemental Tables for additional data

For the recommended childhood immunization schedule please see Appendix D on page 223.

NATIONWIDE:

82.6% of children 19 to 35 months of age had adequate immunizations according to the 2011 U.S National Immunization Survey.⁶

DATA SOURCE(S):
County of Orange Health Care Agency, State Department of Public Health /Immunization Branch

NOTES:
¹ California Department of Public Health (CDPH), Immunization Branch, 2012-2013.
² Salmon, D.A., 2011.
³ Omer, S.B., Salmon, D.A., 2009.
⁴ Orange County Immunization Coalition.
⁵ County of Orange Health Care Agency, State Department of Public Health/Immunization Branch.
⁶ Centers for Disease Control & Prevention, National Immunization Program, 2011.

Indicator

Adequate Immunization

Percent of Adequately Immunized Children Enrolling in School Between 2003 through 2012 in Orange County and California

Assessment Year	Up-To-Date at Kindergarten Entry*		Up-To-Date at 2nd Birthday**	
	CA (%)	OC (%)	CA (%)	OC (%)
2003	92.5	92.9	71.8	71.4
2004	92.9	92.7	76.3	77.6
2005	92.8	92.7	77.7	78.9
2006	92.7	92.1	75.7	78.9
2007	92.1	90.8	76.7	76.9
2008	91.7	90.0	77.9	81.1
2009	91.4	89.6	76.9	76.6
2010	90.7	89.0	77.4	74.8
2011	91.0	89.5	***	78.1
2012	90.3	89.3	***	75.7

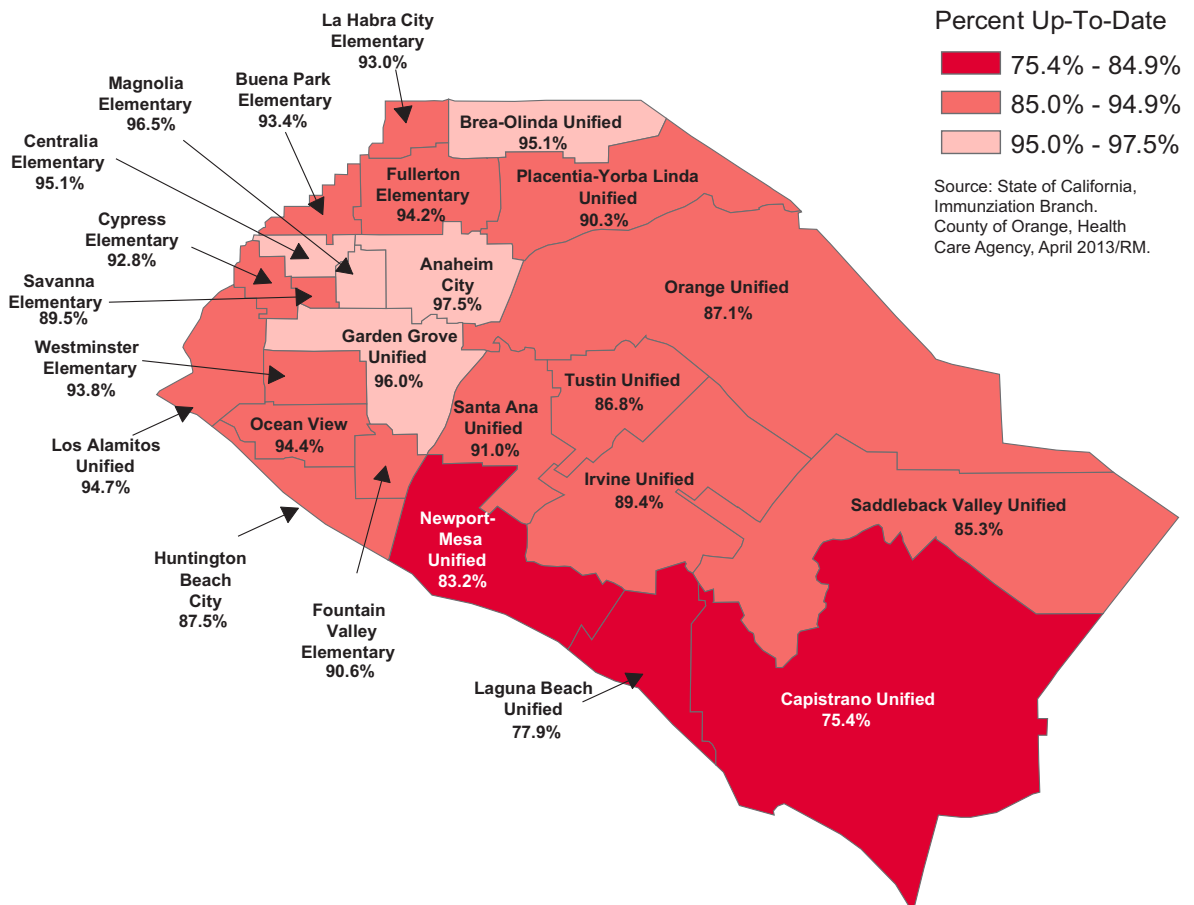
*Up-to-date (UTD) for Kindergarten: Proof of immunizations is required to enter kindergarten. Children who are partially immunized are not considered UTD but may attend school as long as they are not overdue for doses needed to complete the vaccine series. Children with a written exemption based on personal beliefs or documented medical conditions are also not UTD but may attend school. 2012 Kindergarten Assessment Results, California Department of Health Services, Immunization Branch.

**Up-to-date at 2nd birthday: 3 doses of polio, 4 doses of DTP or DTaP (diphtheria, pertussis and tetanus) and 1 MMR (measles, mumps and rubella). Additional doses of each vaccine are required before school entry. 2003-2012 Kindergarten Retrospective Survey Results, California Department of Health Services, Immunization Branch. 2003-2010 OC data includes other Southern CA counties (Imperial, Orange, Riverside, San Bernardino, and San Diego). 2011-2012 data include a small, random sample of schools for OC only.

***After 2010, California data is no longer being collected for percent of up-to-date immunized children at their 2nd birthday.

Sources: 2012 Kindergarten Assessment Results, California Department of Health Services, Immunization Branch
2011 Kindergarten Retrospective Survey Results, California Department of Health Services, Immunization Branch

Up-to-Date Immunizations at Kindergarten Enrollment, Private and Public Schools Within Each School District, 2012



SUPPLEMENTAL TABLES

Percent of Regional Variations in Up-to-Date Vaccination Status*, Personal Belief Exemptions, and Conditional Enrollment*** at Kindergarten Entry in Orange County by School District****, 2012**

Elementary District	Up to Date	Personal Belief	Conditional Enrollment	Unified District	Up to Date	Personal Belief	Conditional Enrollment
Anaheim City	97.5	0.3	2.1	Brea-Olinda	95.1	3.2	2.7
Buena Park	93.4	0.4	5.9	Capistrano	75.4	8.8	14.8
Centralia	95.1	0.6	4.4	Garden Grove	96.0	0.6	3.3
Cypress	92.8	1.4	5.6	Irvine	89.4	3.2	6.8
Fountain Valley	90.6	2.8	6.5	Laguna Beach	77.9	11.9	8.8
Fullerton	94.2	3.9	1.9	Los Alamitos	94.7	3.7	1.5
Huntington Beach City	87.5	7.0	5.3	Newport-Mesa	83.2	5.9	10.7
La Habra	93.0	1.3	5.7	Orange	87.1	1.9	10.5
Magnolia	96.5	0.2	3.3	Placentia- Yorba Linda	90.3	2.8	6.9
Ocean View	94.4	3.2	2.1	Saddleback Valley	85.3	4.7	9.5
Savanna	89.5	0.0	10.5	Santa Ana	91.0	0.7	8.2
Westminster	93.8	1.4	4.7	Tustin	86.8	2.0	11.0

*Refer to chart on page 153 for up-to-date definition.

**Refer to other personal beliefs held by the parents who do not believe that their child should be immunized.

***Includes children who are not up-to-date (missing one or more required vaccines), but not currently due for any remaining doses.

****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.

Recommended Immunization Schedule for Persons Aged 0 Through 6 Years—United States • 2013

For those who fall behind or start late, see the catch-up schedule

Vaccine ▼ Age ►	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	19–23 months	2–3 years	4–6 years
Hepatitis B	HepB	HepB			HepB						
Rotavirus			RV	RV	RV						
Diphtheria, Tetanus, Pertussis			DTaP	DTaP	DTaP	see footnote	DTaP				DTaP
Haemophilus influenzae type b			Hib	Hib	Hib	Hib					
Pneumococcal			PCV	PCV	PCV	PCV				PPSV	
Inactivated Poliovirus			IPV	IPV	IPV						IPV
Influenza					Influenza (Yearly)						
Measles, Mumps, Rubella						MMR		see footnote			MMR
Varicella						Varicella		see footnote			Varicella
Hepatitis A						HepA (2 doses)				HepA Series	
Meningococcal											MCV4

This schedule includes recommendations in effect as of March 20, 2013.

Range of recommended ages for all children
 Range of recommended ages for catch-up immunization
 Range of recommended ages for certain high-risk groups

Recommended Immunization Schedule for Persons Aged 7 Through 18 Years—United States • 2013

For those who fall behind or start late, see the schedule below and the catch-up schedule

Vaccine ▼ Age ►	7–10 years	11–12 years	13–18 years	
Tetanus, Diphtheria, Pertussis	Tdap ¹	Tdap	Tdap	
Human Papillomavirus	see footnote	HPV (3 doses)(females)	HPV Series	
Meningococcal	MCV4	MCV4	MCV4	Booster at age 16 years
Influenza	Influenza (Yearly)			
Pneumococcal	Pneumococcal			
Hepatitis A	HepA Series			
Hepatitis B	Hep B Series			
Inactivated Poliovirus	IPV Series			
Measles, Mumps, Rubella	MMR Series			
Varicella	Varicella Series			

This schedule includes recommendations in effect as of January 16, 2013.

¹Tdap vaccine is combination vaccine that is recommended at age 11 or 12 to protect against tetanus, diphtheria, and pertussis. If your child has not received any or all of the DTaP vaccine series, or if you don't know if your child has received these shots, your child needs a single dose of Tdap when they are 7-10 years old.

Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Considerations should include provider assessment, patient preference, and the potential for adverse events. Providers should consult the relevant Advisory Committee on Immunization Practices statement for detailed recommendations: <http://www.cdc.gov/vaccines/pubs/acip-list.htm>. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS) at <http://www.vaers.hhs.gov> or by telephone, 800-822-7967.