



COUNTY OF LOS ANGELES DEPARTMENT OF HEALTH SERVICES
IMMUNIZATION PROGRAM
NATIONAL IMMUNIZATION SURVEY, 2003
SEPTEMBER 2004

Background

The National Immunization Survey (NIS) provides estimates of vaccination coverage levels by vaccine and series among children 19-35 months of age in the United States at selected age milestones. Estimates are also provided for each state and 27 urban areas, including Los Angeles County (LAC). The NIS was initiated by the Centers for Disease Control and Prevention (CDC), sponsored by the National Immunization Program and the National Center for Health Statistics, in April 1994 as a standardized means to monitor progress in meeting national goals to appropriately vaccinate 90% of preschool aged children by the year 2010. Results of the NIS are summarized and distributed annually on the CDC website.

Methods

NIS Eligibility

- Households with children 19-35 months of age are eligible for inclusion in the survey.

NIS Sample Design

- Quarterly telephone surveys.
- Randomly generated listed and unlisted telephone numbers.
- Telephone numbers are linked to geographic areas based on the area code and prefix.

Collected Data

- Participants are asked to provide the following:
 - the dates of their child's vaccinations from written records. If the record is not available they are asked to recall the number of doses of each vaccine their child has.
 - the names and addresses of their child's vaccination providers.
 - verbal consent to contact their child's vaccination providers.
 - demographic information.
- Vaccination providers are contacted by mail to obtain and/or verify vaccination dates of their patients participating in the NIS, provided the parent/guardian gives consent.

Data Analysis

- Vaccination rates are estimated by adjusting the data for non-response of parents and providers and for households that do not have telephones.
- Confidence limits are presented for each estimate. The confidence limits reflect the range within which 95% of the estimates would fall if the survey were repeated over and over. When confidence intervals overlap in comparisons, the point estimates do not represent statistically significant differences.

Results

The 2003 survey includes children who were born from February 2000 through May 2002, i.e., children who were 19-35 months of age during 2003. In this report, the results are grouped into four categories:

- I. Sampling and Response Rates.
- II. Estimated Vaccination Coverage with Individual Vaccines and Selected Vaccination Series
 - General Summary and Trends.

- III. Estimated Vaccination Coverage with Individual Vaccine and Selected Vaccination Series – Stratified Summary.
- IV. Estimated Vaccination Coverage with Individual Vaccines by Age Milestone.
- V. Healthy People 2010 Objectives and Los Angeles County Status.

I. Sampling and Response Rates

Table 1. Number of eligible households and children with completed interviews and adequate provider data for the United States and Los Angeles County, National Immunization Survey – 2003.

	United States	Los Angeles County
Households		
Number eligible	33,967	503
Number with completed interviews (%)	30,134 (88.7)	446 (88.7)
Children		
Number with completed interviews	30,930	449
Completed interviews and adequate provider data (%)	21,310 (68.9)	256 (57.0)

In 2003, LAC had 503 households that were eligible for inclusion in NIS. Nearly 90 percent (446) of these households completed interviews, which is a considerably high response rate. These 446 household interviews resulted in 449 completed interviews on children in the eligible age-range. Of these 449 children, 256 (57.0%) also had adequate provider data. This proportion is over 10 points lower than the proportion for the entire United States. The calculated coverage level estimates in the NIS are derived from the analysis of the collected data from children with completed interviews and adequate provider data (256 for LAC and 21,310 for the U.S.).

II. Estimated Vaccination Coverage with Individual Vaccines and Selected Vaccination Series – General Summary and Trends

Table 2. Estimated vaccination coverage levels among children 19-35 months of age for Los Angeles County, the United States, and other urban areas, National Immunization Survey – 2003.

	4:3:1 series ¹	4:3:1:3 series ²	4:3:1:3:3 series ³
	% ± 95% CI ⁴	% ± 95% CI	% ± 95% CI
Los Angeles County, CA (n=256)	84.8 ± 4.9	83.5 ± 5.0	80.3 ± 5.4
United States (n=21,310)	82.2 ± 0.9	81.3 ± 0.9	79.4 ± 0.9
California State	81.2 ± 3.4	79.6 ± 3.5	77.4 ± 3.6
Jefferson County, AL [Birmingham] ⁵	83.7 ± 5.3	83.1 ± 5.4	80.6 ± 5.6
Maricopa County, AZ [Phoenix]	79.8 ± 5.2	79.8 ± 5.2	77.4 ± 5.3
San Diego County, CA [San Diego]	83.1 ± 5.7	81.1 ± 6.1	79.2 ± 6.2
Santa Clara County, CA [San Jose]	87.1 ± 4.8	84.8 ± 5.1	83.6 ± 5.3
Dade County, FL [Miami]	84.7 ± 4.9	83.2 ± 5.1	81.5 ± 5.2
Duval County, FL [Jacksonville]	81.9 ± 6.2	81.4 ± 6.2	80.2 ± 6.3
Fulton/DeKalb Counties, GA [Atlanta]	77.9 ± 5.7	75.4 ± 5.9	75.3 ± 5.9
Chicago, IL	77.8 ± 7.2	76.8 ± 7.2	76.0 ± 7.2
Marion County, IN [Indianapolis]	80.2 ± 5.5	79.2 ± 5.6	75.1 ± 6.0
Orleans Parish, LA [New Orleans]	74.8 ± 7.2	74.3 ± 7.2	73.3 ± 7.3
Baltimore, MD	81.4 ± 6.1	80.9 ± 6.1	77.4 ± 6.4
Boston, MA	90.1 ± 4.5	90.1 ± 4.5	88.8 ± 4.7
Detroit, MI	70.7 ± 7.7	70.5 ± 7.7	69.6 ± 7.7
Newark, NJ	74.4 ± 6.4	74.0 ± 6.4	72.7 ± 6.5
New York, NY	80.1 ± 5.7	77.2 ± 6.1	72.7 ± 6.7
Cuyahoga County, OH [Cleveland]	76.2 ± 7.7	75.1 ± 7.7	73.0 ± 7.7
Franklin County, OH [Columbus]	82.9 ± 5.7	82.9 ± 5.7	81.8 ± 5.7
Philadelphia County, PA [Philadelphia]	81.3 ± 5.5	80.0 ± 5.6	77.2 ± 5.9
Davidson County, TN [Nashville]	83.2 ± 5.4	82.7 ± 5.4	79.6 ± 5.8
Shelby County, TN [Memphis]	78.6 ± 5.6	77.2 ± 5.8	76.9 ± 5.8
Bexar County, TX [San Antonio]	79.1 ± 6.1	78.8 ± 6.2	77.3 ± 6.2
Houston, TX	75.9 ± 5.9	74.9 ± 5.9	70.2 ± 6.1
Dallas County, TX [Dallas]	75.9 ± 5.9	74.9 ± 5.9	70.2 ± 6.1
El Paso County, TX [El Paso]	81.6 ± 5.7	80.9 ± 5.7	77.2 ± 6.1
King County, WA [Seattle]	83.8 ± 5.1	83.1 ± 5.2	77.1 ± 6.0
Milwaukee County, WI [Milwaukee]	82.3 ± 6.0	80.9 ± 6.1	78.9 ± 6.3

¹ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR.

² Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR, and three or more doses of Hib.

³ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR, three or more doses of Hib, and three or more doses of hepatitis B vaccine.

⁴ Confidence interval.

⁵ Cities in brackets are the primary cities in the county.

Among the 27 urban areas for which coverage levels were estimated, the 4:3:1 series, the 4:3:1:3 series, and the 4:3:1:3:3 estimates were lowest for Detroit, Michigan (70.7%, 70.5%, and 69.6%, respectively) and highest for Boston, Massachusetts (90.1%, 90.1%, and 88.8%, respectively). Estimates for LAC were consistent with those for other California counties, the state of California, and most other urban areas throughout the U.S.

Table 3. Estimated vaccination coverage levels among children 19-35 months of age, Los Angeles County and the United States, National Immunization Survey – 2003.

Vaccine(s)	Los Angeles County (n=256)	United States (n=21,310)
	% ± 95% CI ¹	% ± 95% CI
DTaP/DTP 4+	85.5 ± 4.8	84.8 ± 0.8
DTaP/DTP 3+	94.6 ± 3.2	96.0 ± 0.5
Poliovirus 3+	92.5 ± 3.5	91.6 ± 0.7
MMR ² 1+	95.8 ± 2.5	93.0 ± 0.6
Hib 3+	93.3 ± 3.4	93.9 ± 0.6
Hepatitis B 3+	90.2 ± 4.1	92.4 ± 0.6
Varicella 1+	95.2 ± 2.5	84.8 ± 0.8
PCV 3+	69.3 ± 6.4	68.1 ± 1.0
4:3:1 ³	84.8 ± 4.9	82.2 ± 0.9
4:3:1:3 ⁴	83.5 ± 5.0	81.3 ± 0.9
4:3:1:3:3 ⁵	80.3 ± 5.4	79.4 ± 0.9

¹ Confidence interval.

² Measles-Mumps-Rubella vaccine; previous reports of vaccination coverage were for measles-containing vaccine (MCV).

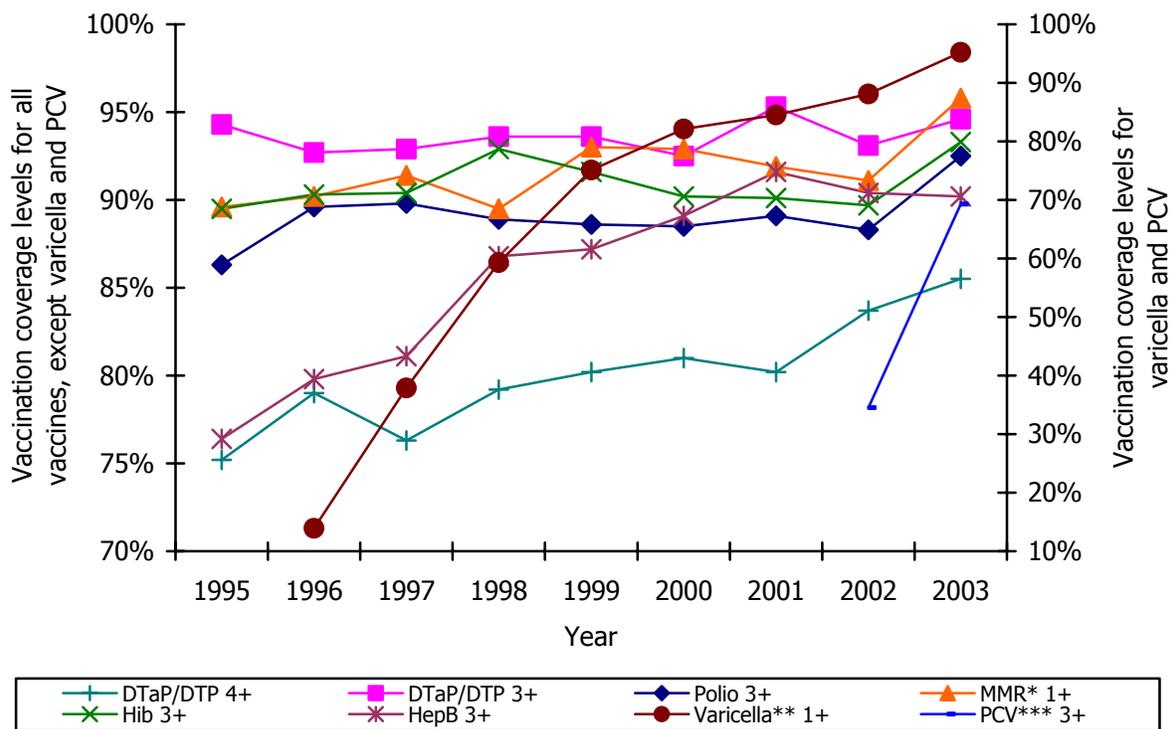
³ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR.

⁴ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR, and three or more doses of Hib.

⁵ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR, three or more doses of Hib, and three or more doses of hepatitis B vaccine.

In LAC, individual vaccine coverage estimates were highest for one or more doses of measles-mumps-rubella (MMR) vaccine and lowest for three or more doses of pneumococcal conjugate vaccine (PCV). When comparing varicella vaccine coverage estimates for LAC and the entire U.S., LAC estimates are significantly higher. For all other vaccines there are no statistically significant differences in coverage level estimates between LAC and the U.S.

Figure 1. Estimated vaccination coverage with individual vaccines among children 19-35 months of age, Los Angeles County, National Immunization Survey, 1995-2003.



*Measles-Mumps-Rubella vaccine; previous reports of vaccination coverage were for measles-containing vaccine (MCV).
 **Varicella vaccine was licensed by the Food and Drug Administration in 1995 and was added to the recommended childhood immunization schedule and the VFC Program in 1996.
 ***Pneumococcal conjugate vaccine (PCV) was first licensed in 2000 and was added to the recommended childhood immunization schedule and the VFC Program that same year.

In this graph, vaccination coverage levels for all vaccines except varicella and PCV are graphed using the vertical axis on the left. An increase in all vaccine coverage levels occurred from 2002 to 2003, except in hepatitis B, which exhibited little change. Since the NIS began, vaccination coverage levels for three or more doses of DTaP/DTP have been 3-8 points higher than vaccination coverage levels for three or more doses of polio vaccine. In 2003, the increase in vaccination coverage with three or more doses of polio vaccine has decreased the difference between coverage levels for three or more doses of polio vaccine and three or more doses of DTaP/DTP to two points. The vaccination coverage levels for varicella and PCV vaccines are graphed using the vertical axis on the right. The increases in the varicella and PCV coverage estimates from 2002 to 2003 were both statistically significant. The low coverage for PCV in 2002 was most likely due to a vaccine shortage.

Table 4. Estimated vaccination coverage levels for children 19-35 months of age, Los Angeles County, National Immunization Survey – 1995-2003.

Year	4:3:1 series ¹	4:3:1:3 series ²	4:3:1:3:3 series ³
	% ± 95% CI ⁴	% ± 95% CI	% ± 95% CI
1995 ⁵	71.5 ± 8.5	67.7 ± 8.8	60.9 ± 9.0
1996 ⁵	75.6 ± 6.3	74.6 ± 6.4	67.3 ± 6.8
1997 ⁵	74.1 ± 6.6	71.6 ± 6.8	64.6 ± 7.2
1998	76.5 ± 5.9	76.0 ± 6.0	70.5 ± 6.3
1999	78.1 ± 5.6	76.0 ± 5.7	71.0 ± 6.0
2000	78.2 ± 5.1	76.5 ± 5.2	72.6 ± 5.4
2001	76.7 ± 5.2	73.3 ± 5.4	71.6 ± 5.5
2002	79.6 ± 5.6	77.1 ± 5.8	76.0 ± 5.9
2003	84.8 ± 4.9	83.5 ± 5.0	80.3 ± 5.4

¹ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR.

² Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR, and three or more doses of Hib.

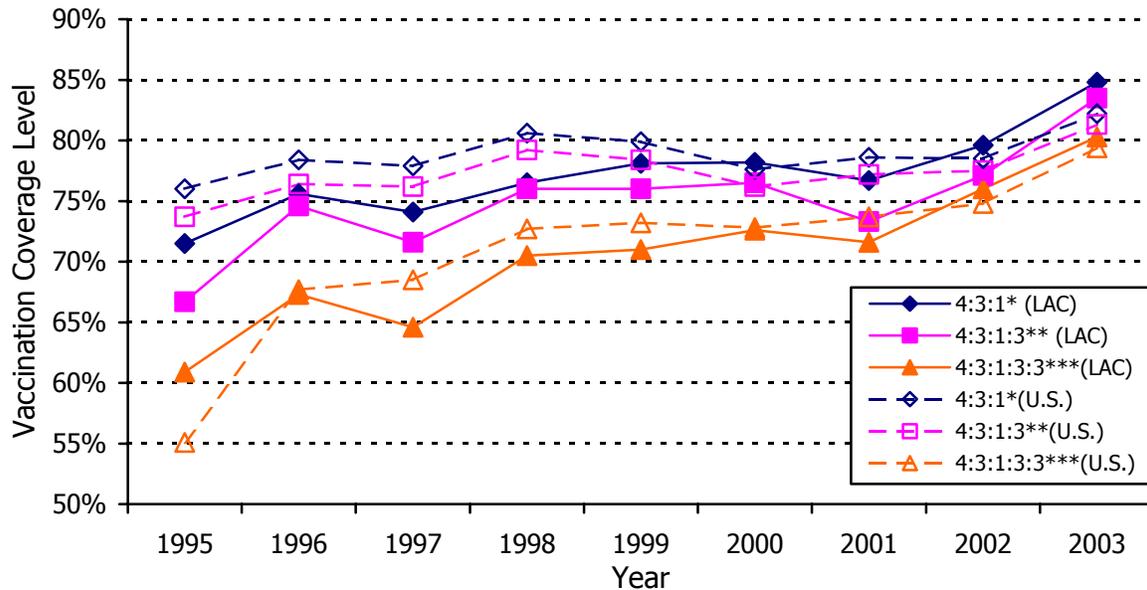
³ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR, three or more doses of Hib, and three or more doses of hepatitis B vaccine.

⁴ Confidence interval.

⁵ Estimates from previous reports differ because they were obtained from different reporting sources. Currently, all estimates are obtained from NIS tables.

Coverage levels with all three vaccine series exhibited an increase to over 80% from 2002 to 2003. However, these increases were not statistically significant. These results are also displayed graphically in figure 2.

Figure 2. Estimated vaccination coverage levels with selected vaccination series among children 19-35 months of age, Los Angeles County (LAC) and the United States (U.S.), National Immunization Survey, 1995-2003.



*Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of Measles-Mumps-Rubella vaccine (MMR).

**Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR, and three or more doses of Hib.

***Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR, three or more doses of Hib, and 3 or more doses of hepatitis B vaccine.

Comparing LAC and U.S. vaccination coverage estimates, coverage levels of all three series remained about the same for both LAC and the U.S. in 2000, 2002, and 2003. LAC estimates for all three series have been steadily increasing since 2001. Until 2002, U.S. estimates have been generally higher than LAC estimates, but the differences were not statistically significant. In 2002, LAC coverage estimates for the 4:3:1 and 4:3:1:3:3 series were higher than U.S. estimates. In 2003, all three series estimates were higher for LAC than the entire U.S. However, these differences were not statistically significant.

Estimated coverage levels for the different series are usually lower than the estimated coverage levels for the individual vaccines. Delaying the fourth dose of DTaP is the primary reason vaccine coverage levels for the 4:3:1, 4:3:1:3, and 4:3:1:3:3 series are not higher.

III. Estimated Vaccination Coverage with Individual Vaccine and Selected Vaccination Series – Stratified Summary

IIIa. Race/Ethnicity

There were no significant differences in any of the vaccine coverage estimates for non-Hispanic whites compared with Hispanics (data not shown). Race-specific estimates for other racial/ethnic groups were not calculated because of insufficient sample size.

IIIb. Poverty Level

Table 5. Estimated vaccination coverage levels among children 19-35 months of age, overall and by poverty level, Los Angeles County, National Immunization Survey – 2003.

Vaccine(s)	Children 19-35 months of age	Above poverty level	Below poverty level
	% ± 95% CI ¹	% ± 95% CI	% ± 95% CI
DTaP/DTP 4+	85.5 ± 4.8	88.5 ± 5.8	80.1 ± 9.4
DTaP/DTP 3+	94.6 ± 3.2	95.5 ± 3.9	94.3 ± 5.3
Poliovirus 3+	92.5 ± 3.5	93.8 ± 4.1	90.6 ± 6.5
MMR ² 1+	95.8 ± 2.5	96.0 ± 3.2	95.8 ± 4.2
Hib 3+	93.3 ± 3.4	95.5 ± 3.6	90.7 ± 6.5
Hepatitis B 3+	90.2 ± 4.1	92.6 ± 4.5	89.7 ± 6.7
Varicella 1+	95.2 ± 2.5	94.5 ± 3.7	94.8 ± 4.6
PCV 3+	69.3 ± 6.4	69.0 ± 9.0	75.1 ± 9.7
4:3:1 ³	84.8 ± 4.9	86.9 ± 6.1	80.1 ± 9.4
4:3:1:3 ⁴	83.5 ± 5.0	85.7 ± 6.3	77.8 ± 9.7
4:3:1:3:3 ⁵	80.3 ± 5.4	82.3 ± 6.8	77.0 ± 9.8

¹ Confidence interval.

² Measles-Mumps-Rubella vaccine; previous reports of vaccination coverage were for measles-containing vaccine (MCV).

³ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR.

⁴ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR, and three or more doses of Hib.

⁵ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MMR, three or more doses of Hib, and three or more doses of hepatitis B vaccine.

For all vaccines and vaccine series, estimates for the 37% of children living below the poverty level were not significantly different from the estimates for children living at or above the poverty level or from the overall estimates.

IIIc. VFC Provider Status

Table 6. Estimated vaccination coverage levels among children 19-35 months of age by provider participation in the Vaccines for Children (VFC) Program, Los Angeles County, National Immunization Survey – 2003.

Vaccine(s)	Children whose providers participated in the VFC program	Children whose providers did not participate in the VFC program
	% ± 95% CI ¹	% ± 95% CI
DTaP/DTP 4+	84.8 ± 5.5	NA ²
DTaP/DTP 3+	94.7 ± 3.5	93.8 ± 9.3
Poliovirus 3+	92.8 ± 3.8	NA
MMR ³ 1+	96.2 ± 2.6	93.2 ± 9.0
Hib 3+	93.9 ± 3.7	NA
Hepatitis B 3+	90.8 ± 4.5	NA
Varicella 1+	95.7 ± 2.8	92.6 ± 8.0
PCV 3+	65.9 ± 7.4	NA
4:3:1 ⁴	84.0 ± 5.6	NA
4:3:1:3 ⁵	82.6 ± 5.8	NA
4:3:1:3:3 ⁶	79.5 ± 6.2	NA

¹ Confidence interval.

² Estimate Not Available (NA) if the unweighted sample size for the numerator was <30 or (CI half width)/Estimate >0.5 or (CI half width)>10.

³ Measles-Mumps-Rubella vaccine; previous reports of vaccination coverage were for measles-containing vaccine (MCV).

⁴ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MCV.

⁵ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MCV, and three or more doses of Hib.

⁶ Four or more doses of DTaP/DTP, three or more doses of poliovirus vaccine, one or more doses of MCV, three or more doses of Hib, and three or more doses of hepatitis B vaccine.

The Vaccines for Children (VFC) Program is federally funded and, through state and local health departments, provides free vaccines to participating health care providers. These providers administer vaccines to children who are eligible for Medi-Cal and the Child Health and Disability Prevention (CHDP) Program, are American Indian or Alaskan Native, or do not have health insurance. Additionally, children whose health insurance does not cover vaccinations may go to federally qualified health centers and rural health clinics to receive vaccine provided by the VFC Program. Due to insufficient data, only coverage levels for three or more doses of DTaP/DTP, MMR, and varicella could be estimated for children whose provider did not participate in the VFC program. These estimates were not significantly different from the estimates for children whose providers participated in the VFC Program.

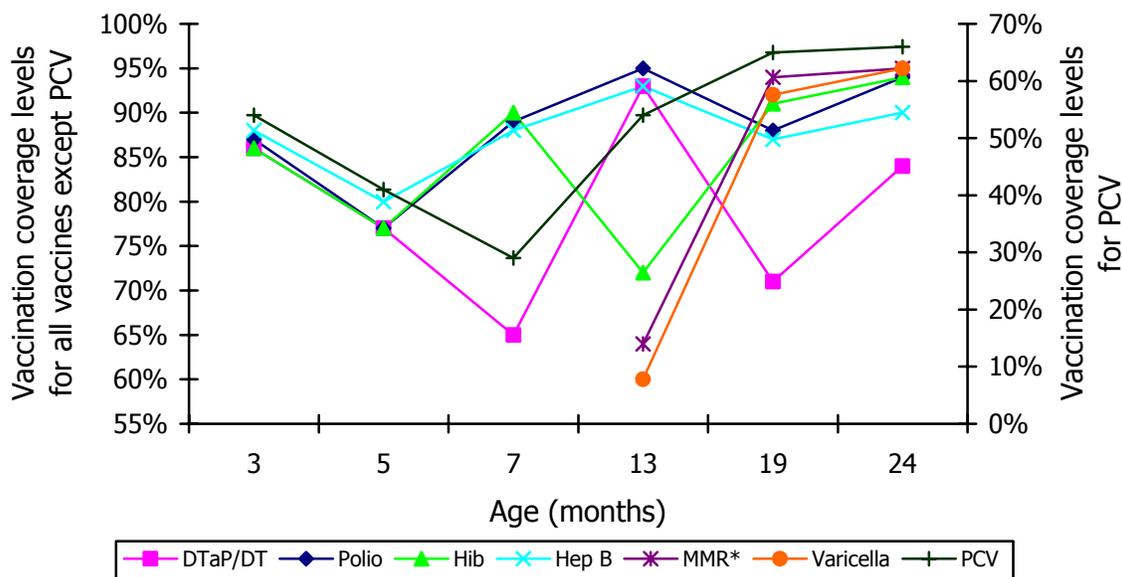
IV. Estimated Vaccination Coverage with Individual Vaccines by Age Milestone

Table 7. Required number of doses of individual vaccines at 3, 5, 7, 13, 19 and 24 months of age.

Age (months)	DTaP/DTP	Polio	MMR	Hib	Hep B	Varicella	PCV
3	1	1	0	1	1	0	1
5	2	2	0	2	2	0	2
7	3	2	0	2	2	0	3
13	3	2	1	3	2	1	3
19	4	3	1	3	3	1	3
24	4	3	1	3	3	1	3

Coverage was also estimated at 3, 5, 7, 13, 19, and 24 months of age. The required number of doses of individual vaccines at each age milestone for which coverage was estimated is shown in Table 7. Four Hib conjugate vaccines are licensed for use in infants 6 weeks of age and older. One of these requires only two primary doses, as opposed to three primary doses, for children immunized before 7 months of age. This particular vaccine is also the Hib component in the combination Hib and hepatitis B vaccine, which is widely used in Los Angeles County. For this reason, the assessment of Hib coverage levels at 7, 13, 19, and 24 months is based upon the schedule for the vaccine requiring two primary doses.

Figure 3. Estimated vaccination coverage with individual vaccines by age, Los Angeles County, National Immunization Survey, 2003.



*Measles-Mumps-Rubella vaccine; previous reports of vaccination coverage were for measles-containing vaccine (MCV).

In this graph, all vaccines except PCV are graphed using the vertical axis on the left. The low coverage rates for PCV are most likely due to the fact that it is a relatively new vaccine and there have been periodic shortages since its licensure in 2000. For DTaP, poliovirus, and hepatitis B vaccines, coverage estimates peaked at 13 months of age. Coverage estimates for

Hib, varicella, MMR, and PCV increased at each successive age milestone after 13 months. At 24 months of age, there were similar coverage estimates for four of the seven vaccines. DTaP, hepatitis B, and PCV had lower coverage levels than the other vaccines.

The increase in DTaP/DTP vaccine coverage levels from 65% at 7 months to 93% at 13 months implies a delay in children getting the third dose of the vaccine. Similarly, the change from a 71% coverage level at 19 months to an 84% coverage level at 24 months implies that children are also late in receiving their fourth dose of DTaP/DTP vaccine.

V. Healthy People 2010 Objectives and Los Angeles County Status

Table 8. Immunization objectives for Healthy People 2010, target coverage levels vs. Los Angeles County NIS estimates for 2003, and the Los Angeles County average NIS estimate for a 5-year period.

Healthy People 2010 Objective	Healthy People 2010 Target (%)	Los Angeles County Estimate (%), 2003	Previous 5-year average (%), Los Angeles County (1998-2002)
Increase in and Maintenance of Vaccination Coverage Levels Among Children Aged 19 to 35 Months			
DTaP 4 doses	90	89.3	80.9
Hib 3 doses	90	95.1	90.9
Hep B 3 doses	90	90.9	89.0
MMR 1 dose	90	93.6	91.7
polio 3 doses	90	93.5	88.7
varicella 1 dose	90	89.8	82.5*
Increase in Coverage Levels of Universally Recommended Vaccines			
Children aged 19 to 35 months who receive the recommended vaccines (4:3:1:3:3**)	80	81.9	72.3

*The 4-year average (1999-2002) for varicella vaccine was calculated.

** Four doses of DTaP/DTP, three doses of poliovirus vaccine, one dose of MMR, three doses of Hib, and three doses of hepatitis B vaccine.

The national 90% vaccination goal for children 19 to 35 months of age was achieved for three doses of Hib vaccine, three or more doses of hepatitis B vaccine, and one or more doses of MMR, which was also the case in the 2002 NIS. In 2003 the Health People 2010 goal was also achieved for polio vaccine and the 4:3:1:3:3 series. LAC has not reached the Healthy People 2010 target levels for four or more doses of DTaP and 1 dose of varicella vaccine.

Table 9. Immunization objectives for Healthy People 2010, target coverage levels vs. Los Angeles County coverage estimates at 24 month age milestone from different data sources

Healthy People 2010 Objective	Healthy People 2010 Target (%)	Clinic Audits 2003 DHS ¹ Facilities (% children 24-35 months in 2003)	Clinic Audits 2003 CHC ² Facilities (% children 24-35 months in 2003)	NIS ³ 2003 (% Children 19-35 months in 2003)
Increase in and Maintenance of Vaccination Coverage Levels Among Children Aged 19 to 35 Months				
DTaP 4 doses	90	65.4	87.6	89.3
Hib 3 doses	90	77.3	93.6	95.1
Hep B 3 doses	90	76.4	93.2	90.9
MMR 1 dose	90	82.1	92.5	93.6
polio 3 doses	90	80.9	95.6	93.5
varicella 1 dose	90	76.4	89.3	89.8
Increase in Coverage Levels of Universally Recommended Vaccines Among Children Aged 19 to 35 Months				
4:3:1:3:3 ⁴	80	57.6	82.4	81.9
4:3:1 ⁵	N/A	61.9	84.8	89.3

¹ LAC Department of Health Services health centers and hospitals.

² Community Health Centers (non-profit healthcare providers that receive immunization subvention contract funds).

³ National Immunization Survey, random-digit telephone survey conducted by the Centers for Disease Control and Prevention National Immunization Program.

⁴ Four doses of DTaP/DTP, three doses of poliovirus vaccine, one dose of MMR, three doses of Hib, and three doses of hepatitis B vaccine.

⁵ Four doses of DTaP/DTP, three doses of poliovirus vaccine, one dose of MMR.

Clinic record audits of children 24-35 months of age are conducted yearly at public pediatric clinics and select non-profit health care providers in order to measure vaccine coverage rates of children seeking immunization services at these facilities. Estimates reported in the National Immunization Survey are more similar to the CHC facility estimates from the 2003 clinic audits than the estimates determined in the DHS facilities. A probable explanation for this finding is because the NIS is a population-based survey and there are few DHS facilities in proportion to the size of the LAC population, the probability of sampling a child who obtained immunizations in the public sector is low.

Discussion

Summary

Through annual surveys like the NIS, LAC Immunization Program will continue to monitor our progress in achieving our vaccination goals. In 2003, coverage estimates for four vaccines (Polio, MMR, Hib, and varicella) increased 4% to 8% from 2002. PCV coverage estimates increased 100%. For the first time in LAC, the Healthy People 2010 goal of 80% coverage in the 4:3:1:3:3 series was achieved in 2003. These improved vaccination coverage levels among preschool-aged children in Los Angeles County bring us closer to achieving optimal vaccination levels.

Limitations

The NIS provides overall vaccination coverage estimates for Los Angeles County. Because of the sample size and survey technique, the data cannot be analyzed for smaller geographic regions or specific communities. The NIS is useful for monitoring overall trends in the county but is limited in its ability to assist communities in assessing their immunization needs.

Further Information

Complete results of the 2003 NIS are available at www.cdc.gov/nip/coverage/default.htm.