



COUNTY OF LOS ANGELES DEPARTMENT OF HEALTH SERVICES
IMMUNIZATION PROGRAM
KINDERGARTEN RETROSPECTIVE SURVEY, 2003
JULY 2004

Background

The kindergarten retrospective survey (KRS) is an annual survey that provides state and regional estimates of vaccination coverage among kindergarten children at significant age milestones, including their second birthday.

Methods

Sample Design

- Approximately 3% of all California kindergarten schools were selected randomly.
- Every sixth immunization record was selected at each sampled school.

Collected Data

- Kindergartner's date of birth, vaccination dates since the birth date, and race/ethnicity.

Key Results

- The 2003 Los Angeles County (LAC) sample represented 24.65% (n=610) of the state's total sample of 2,475 children and included seven children with a vaccine exemption.
- Out of seven sampled regions in the State, LAC had the second highest regional 24-month coverage estimate (73.6% \pm 3.5) for 4 doses of diphtheria-tetanus-pertussis (DTP) vaccine, 3 doses of Polio vaccine, and 1 dose of Measles-Mumps-Rubella (MMR) vaccine (4:3:1) in the 2003 KRS (Table 1).
 - Among Whites, LAC had the third highest estimate (74.3%), behind the remaining Southern California counties (78.6%) and the San Francisco Bay Area (76.9%).
 - Among Hispanics, LAC, along with the Rural Northern California region, ranked second highest (73.8%) behind the Central Coast region (75.5%).
- LAC had the second lowest 24-month coverage estimate for the varicella vaccine (62.4%) and the Hib vaccine (80.3%). Rural Northern California had a lower varicella estimate (54.2%) and the San Francisco Bay area had a lower Hib estimate (74.7%). LAC 24-month coverage estimates for all other vaccines (DTP, Polio, MMR, and Hep B) were similar to the other counties (Table 2).
- California's 24-month, 4:3:1 coverage estimates have historically been slightly higher than LAC estimates until the last two years (Figure 1).
- LAC increased its 24-month, 4:3:1 coverage by 23.1% from 59.8% in 1999 to 73.6% in 2003 (Figure 1).
- LAC African American coverage estimates for 2003 increased for most age milestones since 2001, with the exception of the 12-month milestone, and are lower than other races (Figure 2).

- LAC coverage estimates at 24 months for Whites have been steadily increasing yearly (Figure 3).
- From 2001 to 2003, LAC coverage estimates for Hispanics at 7 months showed a slight improvement. During this same time period, estimates decreased slightly at 12 and 19 months and remained the same at 3, 24, and 36 months (Figure 4).
- LAC Asian estimates in 2003 are higher than the other races at each age milestone from 7 months to 24 months (Table 3 and Figure 5).

Table 1. Vaccination coverage estimates for the 4:3:1 series¹ at 24 months of age by region and race/ethnicity, KRS 2003

	All Regions ² (N=2,475)	LAC (N=610)	Other SoCal ³ (N=688)	SF Bay Area ⁴ (N=383)	Central Coast ⁵ (N=162)	Central Valley ⁶ (N=251)	North Central Valley ⁷ (N=242)	Rural NorCal ⁸ (N=139)
Overall	71.4 ± 1.8	73.6 ± 3.5	73.8 ± 3.2	72.6 ± 4.5	69.8 ± 7.0	66.9 ± 5.9	63.2 ± 6.1	70.5 ± 7.6
African American (n=144)	54.9 ± 8.1	60.5	56.5	46.4	- ⁹	- ⁹	- ⁹	- ⁹
Asian (n=149)	71.1 ± 7.3	76.8	71.4	- ⁹	- ⁹	- ⁹	- ⁹	- ⁹
Hispanic (n=1,101)	70.2 ± 2.7	73.8	71.7	70.4	75.5	63.9	63.3	73.8
White (n=818)	74.7 ± 3.0	74.3	78.6	76.9	70.9	70.0	62.8	69.9
Other/Unknown (n=263)	75.3	77.4	72.2	77.8	- ⁹	- ⁹	- ⁹	- ⁹

¹ ≥ 4 doses of DTaP/DT, ≥ 3 doses of Polio, ≥ 1 dose(s) of any measles-containing vaccines

² Sample includes 54 children with exemptions

³ Includes the following counties: Imperial, Orange, Riverside, San Bernardino, San Diego

⁴ Includes the following counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma

⁵ Includes the following counties: Monterey, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura

⁶ Includes the following counties: Fresno, Kern, Kings, Madera, Merced, Tulare

⁷ Includes the following counties: Sacramento, San Joaquin, Stanislaus

⁸ Includes the following counties: Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Placer, Plumas, San Benito, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Tuolumne, Yolo, Yuba

⁹ Inadequate sample size to calculate coverage estimates

Table 2. Vaccination coverage estimates 24 months of age by region and antigen, KRS 2003

	All Regions ² (N=2,475)	LAC (N=610)	Other SoCal ³ (N=688)	SF Bay Area ⁴ (N=383)	Central Coast ⁵ (N=162)	Central Valley ⁶ (N=251)	North Central Valley ⁷ (N=242)	Rural NorCal ⁸ (N=139)
4:3:1 series ¹	71.4 ± 1.8	73.6 ± 3.5	73.8 ± 3.2	72.6 ± 4.5	69.8 ± 7.0	66.9 ± 5.9	63.2 ± 6.1	70.5 ± 7.6
DTP (4+)	79.4	81.0	81.7	81.5	80.3	75.3	71.5	76.3
Polio (3+)	91.3	91.3	91.9	92.7	92.6	89.6	88.4	90.7
MMR (1+)	85.7	86.2	87.7	86.7	85.2	82.9	80.6	84.9
Hep B (3+)	88.2	89.0	89.7	90.3	86.4	85.7	83.5	86.3
Varicella (1+)	64.6	62.4	66.1	62.5	68.5	68.5	71.2	54.2
Hib (1+)	82.7	80.3	83.1	74.7	92.0	86.1	88.4	86.3

¹ ≥ 4 doses of DTaP/DT, ≥ 3 doses of Polio, ≥ 1 dose(s) of any measles-containing vaccines

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³ Includes the following counties: Imperial, Orange, Riverside, San Bernardino, San Diego

⁴ Includes the following counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma

⁵ Includes the following counties: Monterey, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura

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Figure 1. Estimated 4:3:1 vaccination coverage at 24 months of age, Los Angeles County vs. California, KRS 1995-2003

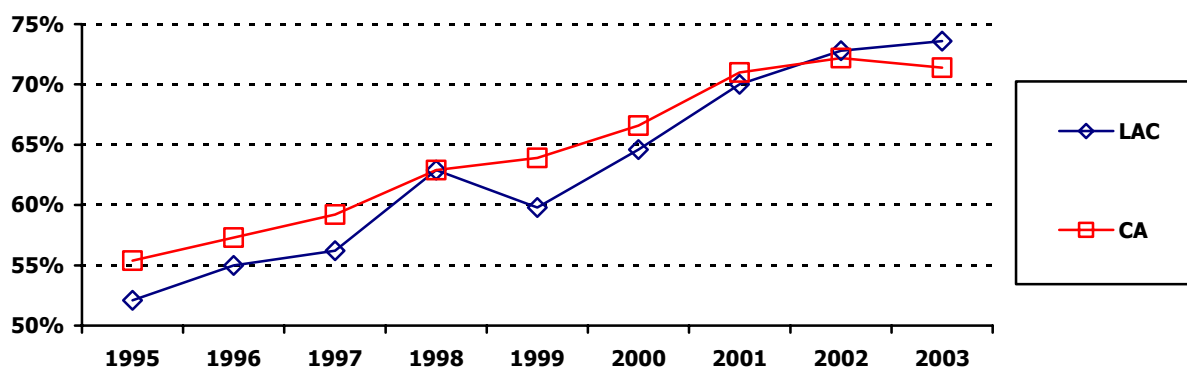
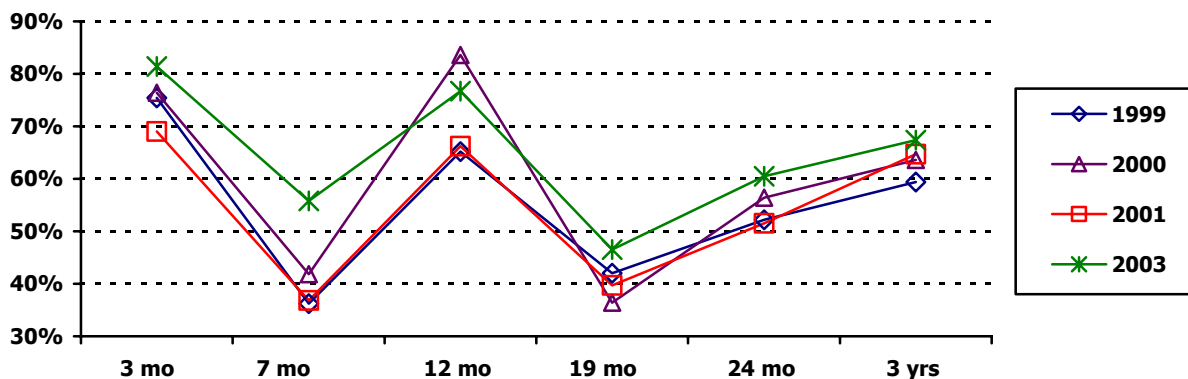


Figure 2. Estimated vaccination coverage with recommended vaccines by age among African Americans, Los Angeles County KRS 1999-2003**



** Inadequate sample size of African Americans in 2002 to calculate coverage estimates

Figure 3. Estimated vaccination coverage with recommended vaccines by age among Whites, Los Angeles County KRS 1999-2003

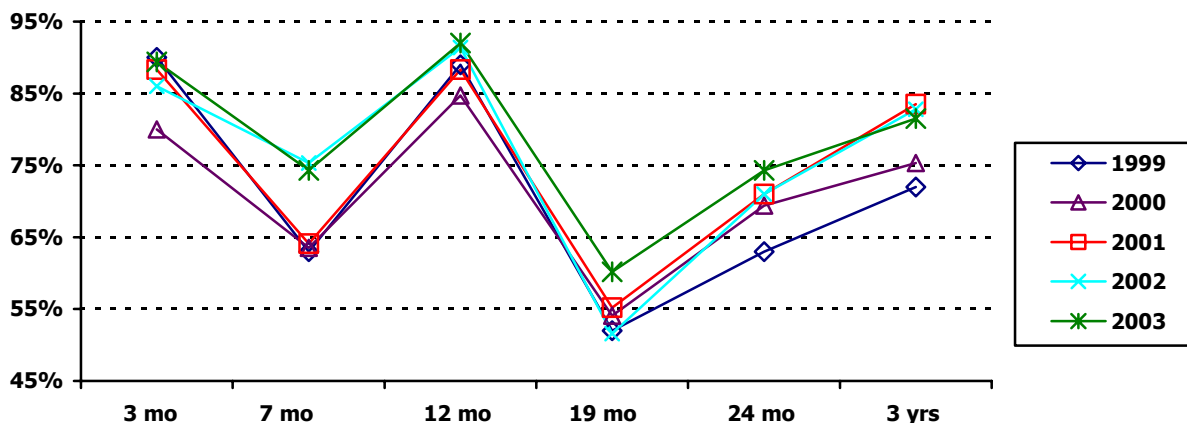


Figure 4. Estimated vaccination coverage with recommended vaccines by age among Hispanics, Los Angeles County KRS 1999-2003

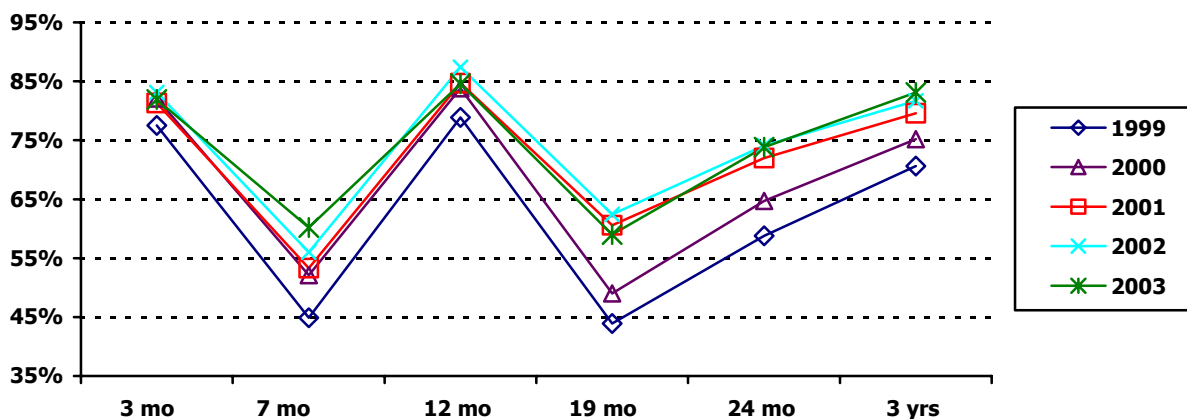


Figure 5. Estimated vaccination coverage with recommended vaccines by age among Asians, Los Angeles County KRS 1999-2003

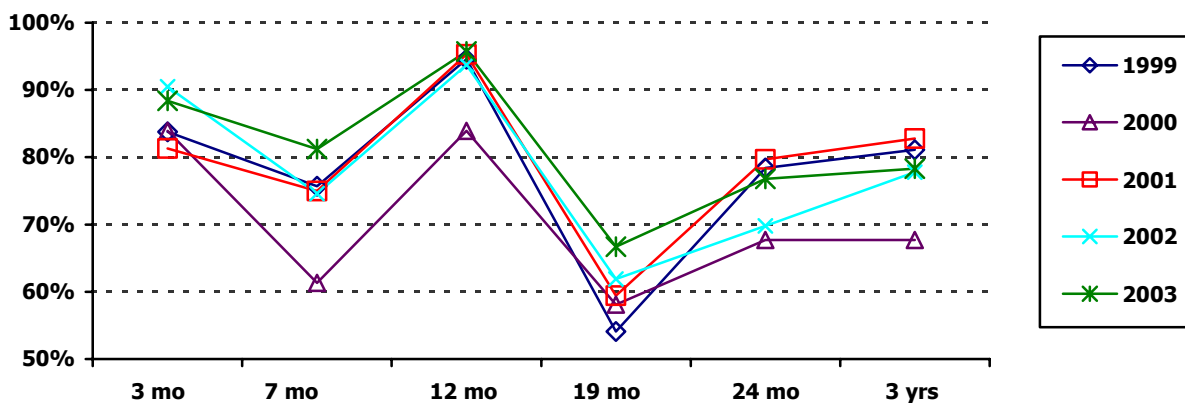


Table 3. Vaccination coverage estimates at age milestones by race/ethnicity, California vs. Los Angeles County, KRS 2003

	3 mo (1DTP, 1Polio)		7 mo (3DTP, 2Polio)		12 mo (3DTP, 2Polio)		19 mo (4:3:1) ¹		24 mo (4:3:1) ¹		3 yrs (4:3:1) ¹	
	LAC	CA	LAC	CA	LAC	CA	LAC	CA	LAC	CA	LAC	CA
Overall	84.1	84.4 ± 1.4	65.9	63.8 ± 1.9	86.7	86.4 ± 1.4	60.3	58.8 ± 1.9	73.6	71.4 ± 1.8	81.5	80.7 ± 1.6
African American	81.4	76.4	55.8	47.2	76.7	72.2	46.5	43.1	60.5	54.9	67.4	68.8
Asian	88.4	81.2	81.2	69.8	95.7	89.9	66.7	61.1	76.8	71.1	78.3	75.2
Hispanic	81.9	83.7	60.2	59.6	84.6	85.0	59.0	57.0	73.8	70.2	83.1	80.3
White	89.4	87.4	74.3	70.4	92.0	89.0	60.2	62.1	74.3	74.7	84.1	83.9
Other	92.6	90.4	70.4	70.5	85.2	93.0	66.7	65.4	74.1	76.3	77.8	82.7
Unknown	73.1	75.7	73.1	61.7	84.6	86.0	76.9	60.8	80.8	73.8	84.6	81.3

¹ ≥ 4 doses of DTaP/DT, ≥ 3 doses of Polio, ≥ 1 dose(s) of any measles-containing vaccines