

## KINDERGARTEN AND PRESCHOOL IMMUNIZATION ASSESSMENT, 1998

### BACKGROUND

California School Immunization Law requires that children receive a series of immunizations before entering any public or private school or preschool. Kindergarten entrants are required to show proof of having received (1) five doses of diphtheria and tetanus toxoids and pertussis vaccine (DTP/DTaP),\* (2) four doses of poliovirus vaccine,<sup>1</sup> (3) two doses of measles-containing vaccine, one of which must be measles-mumps-rubella vaccine (MMR), and (4) three doses of hepatitis B vaccine (Hep B) (Table 1). Between 18 and 48 months of age, preschool enrollees are required to show proof of having received (1) four doses of DTP/DTaP, (2) three doses of poliovirus vaccine, (3) one dose of MMR, (4) three doses of Hep B, and (5) one dose of Haemophilus influenzae type b vaccine (Hib).\*\* Before 18 months of age, preschool immunization requirements change depending on the age of the child.

**Table 1. Vaccine Doses Required in California for Public or Private Kindergarten Entry and Preschool Enrollment for Children Aged 18-48 Months**

School Type	Vaccine				
	DTP/ DTaP	Polio	MMR	Hep B	Hib
Kindergarten	5*	4*	2	3	Not req.
Preschool	4	3	1	3	1**

Each fall, all public and private schools with kindergartens are required to report the immunization status of their kindergarten students to the Los Angeles County Immunization Program. Similarly, all public and private preschools are required to report the immunization status of their enrollees aged 24-59 months (2 years to 4 years, 11 months) to the Immunization Program.

The purpose of the annual immunization assessment of kindergarten students and preschool enrollees is to monitor compliance with California School Immunization Law, and to prevent illness and death from vaccine-preventable diseases.

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\* One less dose is required if the last dose was given after the second birthday

\*\* Hib is only required for children up to age 54 months (4 years, 6 months). Only one dose of Hib is required but it must have been given on or after the first birthday

## **METHODS**

At the time of kindergarten or preschool entry, school and preschool personnel review each child's vaccination record to ensure that the child has received all the required vaccinations. The school or preschool must follow up on all children needing future vaccinations. This includes children who have not completed a series of vaccine doses but who are not due for another dose because of the interval required between vaccine doses and, in the case of preschools, children who enrolled in the preschool at an age before a particular vaccine dose was due. Children who have not received all of the required vaccinations may be excluded from school or preschool until they are in compliance with the requirements. Children may be exempt from vaccination for medical or philosophical reasons.

Each fall, schools and preschools are required to report to the Immunization Program the number of children who met all the immunization requirements, the number of students who did not meet the immunization requirements, and the number who were exempt from immunizations.

## **RESULTS**

Kindergarten. Information was collected for 155,585 kindergarten entrants attending 2,225 schools: 131,452 (85%) students at 1,187 (53%) public schools and 24,133 (15%) students at 1,038 (47%) private schools. In 1998, 88.2% of kindergarten students had received all of the required immunizations compared with 67.4% for 1997 (Table 2). Coverage levels were similar for public and private schools. The proportion of students who had received three doses of Hep B increased from 72.5% in 1997 to 93.8% in 1998. By school district, the proportion of children who had received all of the required immunizations ranged from a low of 38% to a high of 98%.

Preschool. Information was collected for 113,431 children aged 24-59 months attending 2,177 preschools: 12,589 (11%) enrollees at 194 (9%) public preschools, 76,022 (67%) enrollees at 1,527 (70%) private preschools, and 24,820 (22%) enrollees at 456 (21%) Head Start centers. In 1998, 89.6% of the enrollees had received all of the required immunizations compared with 82.6% in 1997 (Table 3). For public, private, and Head Start enrollees, the proportion who had received all of the required immunizations were 90.9%, 88.9%, and 91.1%, respectively.

## **DISCUSSION**

The number of kindergarten and preschool children who received all the required vaccinations improved significantly from 1997 to 1998. Hepatitis B vaccination requirements were added to the California School Immunization Law in 1997. As a result of the new hepatitis B vaccination requirement, the proportion of kindergarten entrants and preschool enrollees in 1997 who had received all the required vaccinations decreased substantially from previous years. In the year since the hepatitis B kindergarten and preschool vaccination requirement was implemented, considerable progress has been made. In 1998, the proportion of children who received three doses of Hep B was nearly equal to that of the other required vaccinations.

For kindergarten students, this annual assessment provides a population-based measure of vaccination coverage. For preschool children, this assessment provides an estimate of vaccination coverage that cannot be generalized to all preschool-aged children because not all children attend preschool. The 113,431 preschool enrollees included in this assessment represent approximately one-quarter of all children aged 24-59 months in Los Angeles County.

Coverage levels among kindergarten and preschool children in Los Angeles County are slightly lower than the rest of California. Throughout the remainder of the State, 89.8% of kindergarten entrants and 91.8% of preschool enrollees had all the required vaccinations. In spite of the progress during the past year in Los Angeles County, nearly 18,000 kindergarten students and 12,000 preschool children needed one or more immunizations in fall 1998. The Immunization Program will continue to disseminate information to parents and health care providers about the need for timely vaccinations. The Immunization Program also will continue to monitor compliance with California School Immunization Law through its annual assessment of kindergarten students and preschool enrollees.

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**Table 2. Proportion of Kindergarten Students Who Received the Required Immunizations, 1994-1998, Los Angeles County**

	Assessment Year				
	1994	1995	1996	1997	1998
No. of schools	2,211	2,230	2,193	2,230	2,225
No. of students	152,177	161,638	160,237	157,850	155,585
DTP/DTaP 4+	92.5%	93.5%	94.2%	95.5%	95.9%
Polio 3+	93.6%	94.0%	94.6%	95.9%	96.0%
MMR 1	98.1%	98.0%	98.5%	98.8%	99.1%
MMR 2	Not applicable	Not applicable	Not applicable	94.0%	94.9%
Hep B 3	Not applicable	Not applicable	Not applicable	72.5%	93.8%
All requirements met	90.9%	92.0%	92.5%	67.4%	88.2%

**Table 3. Proportion of Preschool Enrollees Aged 24-59 Months Who Received the Required Immunizations, 1994-1998, Los Angeles County**

	Assessment Year				
	1994	1995	1996	1997	1998
No. of preschools	2,250	2,255	2,199	2,163	2,177
No. of enrollees	110,426	112,741	110,639	110,768	113,431
DTP/DTaP 4	96.2%	94.3%	94.4%	94.9%	95.3%
Polio 3	93.7%	96.5%	96.8%	97.1%	97.1%
MMR 1	97.3%	97.4%	97.4%	97.4%	97.5%
Hep B 3	Not available	18.1%	39.0%	80.8%	92.5%
Hib 1	89.2%	90.9%	95.3%	96.2%	96.7%
All requirements met*	92.6%	93.8%	91.6%	82.6%	89.6%

\* The requirements for 1997 and 1998 were 4 DTP/DTaP, 3 polio, 1 MMR, 1 Hib, and 3 Hep B. In 1996, Hep B was not required. In 1994 and 1995, Hep B and Hib were not required.