

INTEROFFICE MEMORANDUM

DATE: August 28, 2002

TO: County Health Department Directors/Administrators

FROM: Bonita J. Sorensen, M.D., M.B.A. *B. Sorensen MD*
Deputy Secretary for Health

SUBJECT: Survey of Immunization Levels in Two-Year-Old Children (2002)

INFORMATION ONLY

In July, the Bureau of Immunization completed an annual immunization survey of 1,291 randomly selected two-year-old children in Florida. The survey provides estimated immunization levels for 12 selected counties, as well as statewide figures (see Attachment 1).

The 2002 statewide coverage for the basic series of vaccines—4 DTP/DTaP, 3 polio, and 1 MMR (4/3/1—by two years of age is 85.3 percent, which is statistically the same as last year's results. Coverage levels for 4 DTP/DTaP, 3 polio, 1 MMR, 3 Hib, and 3 hepatitis B (4/3/1/3/3) is 82.6 percent statewide for children two years of age.

The national goal for the year 2010 is 90 percent coverage level for children two years of age for each of the following individual vaccines: 4 doses of DTaP, 3 doses of polio, 1 dose of MMR, 3 doses of Hib, 3 doses of hepatitis B, and 1 dose of varicella. Attachment 4 indicates, with the exception of DTaP 4 and varicella, our success in meeting this goal.

The efforts of county health departments and private health care providers to expand and improve the delivery of immunization services are clearly reflected in these coverage levels. Local coalitions and our other community partners have also contributed to these immunization efforts and deserve our recognition. The continuation of these collaborative efforts by the public and private medical community, as well as our community partners, will enable us to reach the year 2010 immunization coverage goals.

Coverage rates for the basic series (4/3/1) for the 12 largest counties ranged from 78.1 percent to 90.4 percent. Statewide progress from 1986 to 2002 is reflected in Attachment 2.

Survey Purposes:

This survey has three primary purposes: (1) to determine the immunization levels among two-year-old children, (2) to evaluate our success in immunizing these children on schedule, and (3) to measure immunization levels of children based on high-risk maternal factors.

Survey Method:

Bureau of Immunization field staff conducted the survey with the assistance of county health department staff, private physicians, and parents. The survey method included the following: (1) a random sample of 1,354 birth records was selected from a list of all live births occurring in Florida residents for the month of January 2000, (2) 63 children were removed from the sample as death and adoption cases, and (3) the sample was further reduced by eliminating 30 children whose parents refused to participate in the survey. Despite intensive follow-up, 102 children, or 7.9 percent, were not located.

Survey Results:

Table I, Attachment 3, indicates private sector children, once again, had a higher completion rate (86.9 percent) than public sector children (81.7 percent).

Despite the fact that 92.3 percent of the children sampled started their immunizations on time, only 65.2 percent were still on schedule at age seven months. The difference in coverage between the DTaP1 and the DTaP3 represents a dropout rate of 26.7 percent. At 18 months of age, only 48.9 percent remained on schedule and the dropout rate increased to 43.4 percent. Attachment 4 provides vaccine-specific coverage by provider.

Of the 166 children who were partially immunized at two years of age, 41 children were not up-to-date due to a missed opportunity to provide simultaneous administration of all vaccine doses for which a child is eligible at the time of each visit to a health care provider. Additionally, 50 of those tabulated as having partial immunizations had completed their immunizations by the time they were located. Please note: 20 children had their fourth DTaP deferred due to the shortage of that vaccine. However, the coverage level for 4/3/1 would have been 87.0 percent if the vaccine had been available.

The survey confirmed that high-risk maternal factors shown in Attachment 5 continue to be associated with a decreased chance for the child's completion of the required immunization series.

Additionally, the sample analysis reflected the following racial/ethnic breakdowns: white, 87.7 percent complete with plus or minus 2.4 percent; non-white, 80.4 percent with plus or minus 5.1 percent; Hispanic, 89.7 percent with plus or minus 3.9 percent; and non-Hispanic, 84.4 percent with plus or minus 4.4 percent.

In cooperation with the Medicaid Office of Agency for Health Care, 589 children, 50.9 percent, of the sample were matched as eligible for Medicaid in their first two years. These children were analyzed for 4 DTaP, 3 polio, and 1 MMR at 24 months of age and were 83.1 percent complete

with a plus or minus 3.3 percent. Additionally, these children were analyzed for the following: white, 84.0 percent with a plus or minus 4.0 percent; non-white, 81.5 percent with a plus or minus 4.8 percent; Hispanic 86.8 percent with a plus or minus 6.1; and non Hispanic 81.8 percent with a plus or minus 3.9 percent.

Comments:

In recent years, there has been a shift in the delivery of immunization services from the county health department to the private sector, with the private providers and managed care organizations administering 75 percent of the childhood immunizations. Immunization program priorities are changing dramatically. Other factors impacting immunization programs include cutbacks in federal funding for county health department immunization programs and the addition of new school immunization requirements. These changes mandate the need to focus our energy and resources on the following key areas if we are to reach the year 2010 goal of 90 percent immunization coverage levels for each of the vaccines administered to children by two years of age.

- Identify and target interventions toward geographic areas with populations at high risk for under-immunization (pockets of need).
- Continue linkage with the WIC and WAGES programs.
- Conduct semi-annual audits in county health department clinics using the Clinic Assessment Software Application (CASA) to assess immunization coverage levels as part of ongoing quality assurance reviews.
- Implement automated reminder and recall using the Immunization Module of the Health Clinic Management System (HCMS).
- Implement the Reduction of Missed Immunization Opportunities Policy of the County Health Department Guidebook.

Also, county health departments should increase their partnerships with managed care organizations and private health care providers in order to reach the year 2010 goal. Collaborative efforts should include the following:

- Promotion of *Standards for Pediatric Immunization Practices*.
- Promotion of the statewide immunization registry currently under development by the Department of Health.

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If you have any questions or comments about the survey, or if you have found other successful methods of improving your community's immunization levels, please contact Frances Dennard, Bureau of Immunization, at (850) 245-4342 or SunCom 205-4342. We are eager to share any best practices that improve immunization rates with other county health departments.

BJS/cha/fhd
Attachments

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Immunization Levels in Two-Year-Old Children By Selected Counties and State, Florida 2002

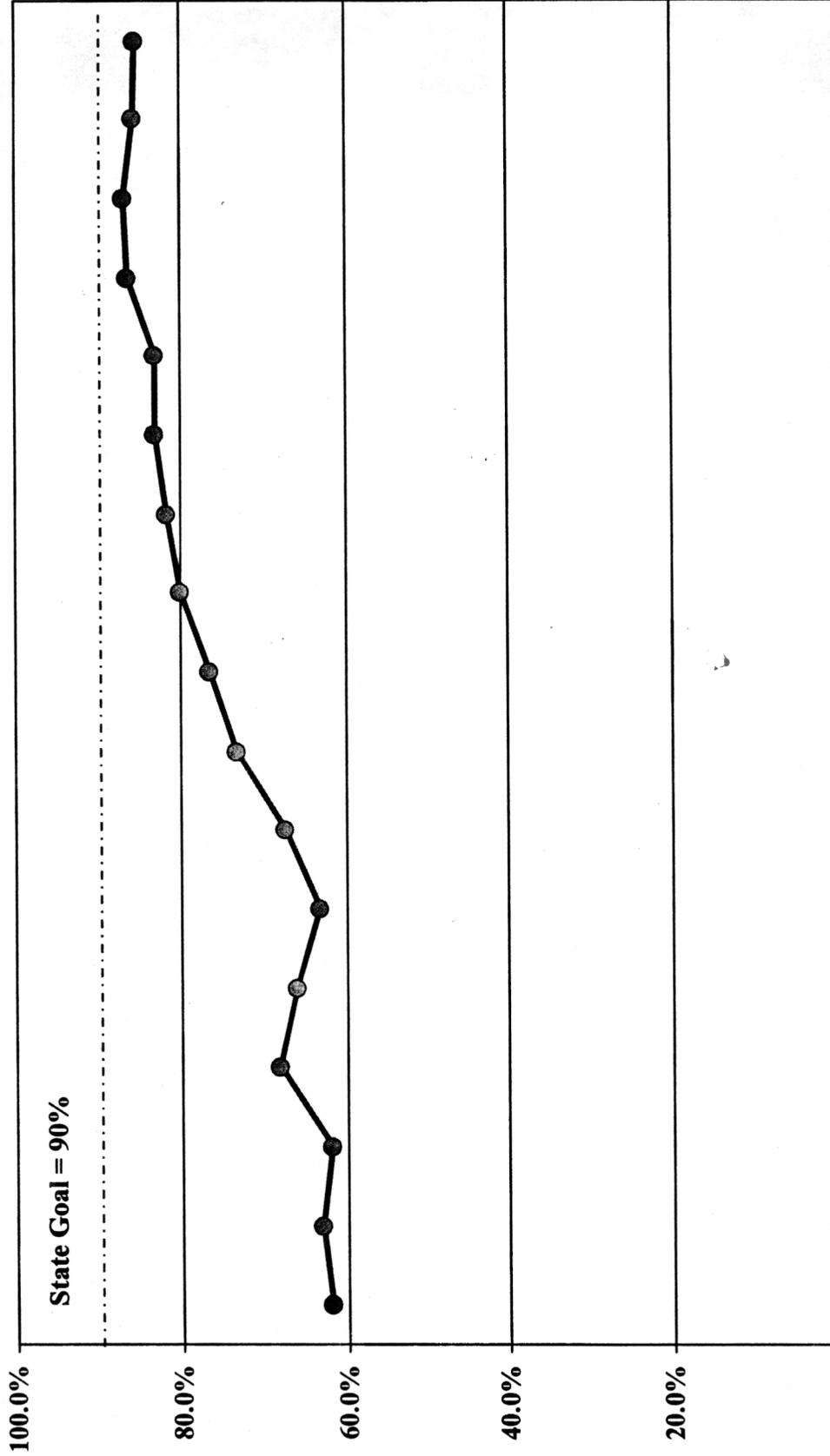
County	Sample Size	Survey Participants*	Complete 4/3/1	Partial	No Shots	Completion Percent 4/3/1	Completion Percent Plus or Minus 4/3/1/3/3 ***	Partial Percent	No Shots Percent
Broward	100	87	74	13	0	85.1 ± 7.1	77.0 ± 8.4	14.9	0.0
Dade	79	73	66	7	0	90.4 ± 6.6	86.3 ± 7.7	9.6	0.0
Duval	82	73	57	16	0	78.1 ± 9.1	78.1 ± 9.1	21.9	0.0
Escambia	85	71	60	11	0	84.5 ± 7.9	84.5 ± 7.9	15.5	0.0
Hillsborough	85	71	60	10	1	84.5 ± 7.9	84.5 ± 7.9	14.1	1.4
Lee	70	60	50	9	1	83.3 ± 8.9	80.0 ± 9.6	15.0	1.7
Leon	80	76	65	8	3	85.5 ± 7.9	84.2 ± 8.2	10.5	3.9
Orange	76	60	51	9	0	85.0 ± 8.2	80.0 ± 9.2	15.0	0.0
Palm Beach	93	86	75	10	1	87.2 ± 6.9	84.9 ± 7.4	11.6	1.2
Pinellas	64	60	48	11	1	80.0 ± 10.0	75.0 ± 10.8	18.3	1.7
Polk	73	71	61	10	0	85.9 ± 8.1	85.9 ± 8.1	14.1	0.0
Volusia	92	86	77	9	0	89.5 ± 6.4	83.7 ± 7.7	10.5	0.0
All other counties	312	285	241	43	1	84.6 ± 4.1	82.8 ± 4.3	15.1	0.4
Statewide**	1291	1159	985	166	8	85.3 ± 2.1	82.3 ± 2.4	14.0	0.7

* Does not include participants who could not be located or those who refused to participate.

** Complete and partial percent weighted by the number of births in each strata.

*** Estimates are accurate within plus or minus with 95 percent confidence.

Immunization Coverage Levels of Children at 24 Months of Age, Florida, 1986-2002



	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
% Immunized*	61.8	62.9	61.8	68.1	66.0	63.2	67.4	73.3	76.5	80.0	81.6	83.0	82.9	86.2	86.6	85.5	85.3

*4 DTaP, 3 polio and 1 MMR

TABLE I
IMMUNIZATION LEVELS* OF 1159 TWO-YEAR-OLD CHILDREN BY VACCINE PROVIDER
FLORIDA 2002

STATUS	TOTAL SAMPLE POP	% OF SAMPLE		CHD		CHC		PRIVATE PHYSICIAN		MILITARY		NO SOURCE	
		#	%	#	%	#	%	#	%	#	%	#	%
COMPLETE	985	85.0%	80.5%	34	81.0%	748	86.7%	11	78.6%	27	77.1%		
PARTIAL	166	14.3%	18.0%	8	19.0%	113	13.1%	3	21.4%	5	14.3%		
NO SHOTS**	8	0.7%	1.5%	0	0.0%	2	0.2%	0	0.0%	3	8.6%		
TOTAL	1159	100%	100.0%	42	100.0%	863	100.0%	14	100.0%	35	100.0%		

* Unweighted completion of basic series (4 DTaP, 3 polio, 1 MMR) by 24 months of age

** No Shots includes: 4 religious exemptions; 2 philosophical; and 2 no shots before 24 months of age

TABLE II
IMMUNIZATION STATUS OF SURVEYED TWO-YEAR-OLD CHILDREN,
FLORIDA SELECTED YEARS 1986 - 2002

YEAR	TOTAL SAMPLE	PARTIAL (%)	NO SHOTS (%)	PRIVATE PROVIDER (%)	CHD (%)	CHC (%)	MILITARY (%)	NO SOURCE (%)	4+ DTP (%)	3+ POLIO (%)	MMR (%)	3 HIB** (%)	3 Hep B (%)	Varicella (%)
***2002	1159	14.0	0.7	74.8	17.5	3.6	1.2	2.8	86.6	93.7	95.8	96.7	92.0	89.2
***2001	1092	14.3	0.2	75.4	16.9	3.0	0.8	3.7	87.9	93.6	95.2	96.7	95.2	75.5
***2000	1113	12.5	0.9	69.0	22.3	2.9	1.8	3.1	88.8	93.5	95.2	96.9	96.1	57.7
***1999	1064	13.4	0.4	68.4	24.5	2.8	1.2	2.6	87.1	94.5	94.0	97.9	94.1	31.3
***1998	1498	16.6	0.5	66.2	27.9	2.8	0.9	1.7	86.6	95.0	92.4	94.8	93.0	N/A
***1997	942	16.5	0.5	65.9	31.2	N/A	1.5	1.4	84.3	94.3	92.5	94.6	87.3	N/A
1996	1493	18.0	0.5	55.4	41.7	N/A	1.8	1.0	83.6	93.1	91.1	94.5	79.4	N/A
1995	1463	19.1	0.9	52.8	42.7	N/A	1.7	2.8	82.3	87.9	90.2	72.1	61.2	N/A
1994	553	22.4	1.1	55.8	41.7	N/A	2.2	0.3	78.1	86.3	88.5	77.5	N/A	N/A
1993	591	26.2	0.5	50.9	46.9	N/A	2.0	0.2	75.5	80.0	88.5	91.0	N/A	N/A
1992	549	31.0	1.6	50.2	45.9	N/A	2.6	1.3	69.0	77.0	89.3	83.9	N/A	N/A
1991	497	35.6	1.2	55.3	40.6	N/A	2.2	0.6	65.4	75.4	86.2	55.1	N/A	N/A
1990	532	32.7	1.3	51.3	44.2	N/A	3.2	1.3	75.9	82.0	89.7	59.2	N/A	N/A
1989	571	30.8	1.1	52.5	43.6	N/A	2.8	1.1	73.4	79.2	88.8	42.0	N/A	N/A
1988	531	35.6	2.6	52.0	41.8	N/A	3.6	2.6	69.2	74.5	85.1	23.5	N/A	N/A
1987	512	36.8	0.8	58.5	36.8	N/A	3.9	0.8	65.0	72.3	82.6	N/A	N/A	N/A
1986	505	38.2	1.6	53.2	41.5	N/A	3.7	1.6	64.2	74.9	83.8	N/A	N/A	N/A

* COMPLETION OF BASIC SERIES (4 DTaP, 3 POLIO, 1 MMR) BY 24 MONTHS OF AGE

** DATA PRIOR TO 1994 AT LEAST ONE DOSE

*** COMPLETE AND PARTIAL PERCENTAGE WEIGHTED BY NUMBER OF BIRTHS IN EACH STRATA

**Immunization Levels of Two-Year-Olds
Percent Immunized by Specific Vaccine and By Type of Provider
Florida 2002**

Provider	Total Clients	Percent of Population	DTaP 1	DTaP 2	DTaP 3	DTaP 4	Polio 1	Polio 2	Polio 3	MMR	HIB 3	Hep 3	Varicella
CHD	202	17.5%	100.0%	100.0%	95.0%	78.7%	99.5%	100.0%	92.1%	94.1%	91.6%	93.1%	85.1%
PRIVATE PHYSICIAN	861	74.8%	99.9%	99.8%	99.3%	89.9%	100.0%	99.9%	95.2%	97.7%	99.1%	93.3%	91.1%
CHC	42	3.6%	100.0%	95.2%	100.0%	90.5%	100.0%	95.2%	92.9%	100.0%	95.2%	95.2%	100.0%
MILITARY	14	1.2%	100.0%	100.0%	100.0%	85.7%	100.0%	100.0%	92.9%	85.7%	100.0%	78.6%	85.7%
NO SOURCE	32	2.8%	100.0%	90.6%	75.0%	43.8%	100.0%	90.6%	65.6%	53.1%	65.6%	53.1%	53.1%
TOTAL* OR AVERAGE	1151	100.0%	99.9%	99.5%	98.0%	86.6%	99.9%	99.6%	93.7%	95.8%	96.7%	92.0%	89.2%

*Total sample population of 1159 includes 8 children with no shots,

Table I

**IMMUNIZATION STATUS OF TWO-YEAR-OLD CHILDREN
BY HIGH RISK CHARACTERISTICS
FLORIDA 2002**

	Education of Mother					
	<12		12		>12	
Complete*	204	78.2%	328	84.3%	453	89.0%
Incomplete**	57	21.8%	61	15.7%	56	11.0%

	Age of Mother							
	<20		20-24		25-29		30+	
Complete*	110	76.4%	258	84.3%	254	85.8%	363	87.9%
Incomplete**	34	23.6%	48	15.7%	42	14.2%	50	12.1%

	Siblings in Family							
	3+		2		1		0	
Complete*	70	68.0%	131	79.4%	336	86.8%	448	88.9%
Incomplete**	33	32.0%	34	20.6%	51	13.2%	56	11.1%

	Marital Status			
	No		Yes	
Complete*	368	80.2%	617	88.1%
Incomplete**	91	19.8%	83	11.9%

	Trimester of Initiation of Prenatal Care					
	3rd		2nd		1st	
Complete*	32	76.2%	115	82.7%	838	85.7%
Incomplete**	10	23.8%	24	17.3%	140	14.3%

* 4 DTaP, 3 POLIO, 1 MMR

** Includes 8 children with no shots

Table II

**IMMUNIZATION LEVELS OF TWO-YEAR-OLD CHILDREN
HIGH-RISK VS NON HIGH-RISK GROUP
FLORIDA 2002**

	Total	Complete*		Partial		No Shots	
		#	%	#	%	#	%
High-Risk	607	484	79.7%	119	19.6%	4	0.7%
Non-High-Risk	552	501	90.8%	47	8.5%	4	0.7%

* 4 DTaP, 3 POLIO, 1 MMR

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