

Mission:

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.



Rick Scott
Governor

John H. Armstrong, MD, FACS
State Surgeon General & Secretary

Vision: To be the Healthiest State in the Nation

INTEROFFICE MEMORANDUM

DATE: November 25, 2013
TO: County Health Department Directors/Administrators
FROM: Celeste Philip, M.D., M.P.H. 
Deputy Secretary for Health
SUBJECT: Survey of Immunization Levels in Two-Year-Old Children (2013)

FOR INFORMATION ONLY

In October 2013, the Immunization Section completed an annual immunization survey of 1,759 randomly selected two-year-old children born in Florida. The survey provides estimated immunization levels for 20 selected counties, as well as statewide results (see Enclosure 1).

Field staff conducted the survey with assistance from county health department (CHD) personnel, private physicians, and parents. Of the initial 2,048 survey participants, 1,759 remained after excluding for adoption, death, those whose parents refused to participate, and others who could not be located. The analysis of this survey, as well as the data collection and management, was provided through the Florida State Health Online Tracking System (Florida SHOTS).

The 2013 statewide coverage rate for the basic 4:3:1:3:3:1 (four DTaP, three polio, one MMR, three Hib, three Hepatitis B, and one Varicella) immunization series is 86.72%, as compared to the 2012 rate of 82.95%. The 2013 coverage levels for Florida's 20 largest counties ranged from 77.27% to 95.35%, as compared to 67.05% to 92.86% in 2012.

Data is also provided for the 4:3:1:3:3:1:4 immunization series, which includes four doses of pneumococcal conjugate vaccine (PCV). Of the children surveyed, 80.5% received four doses of PCV, reflecting an increase from 2012 (see Enclosure 3).

Through immunization, we prevent dangerous outbreaks, and help ensure a healthy future for our children. Florida's childhood immunization service delivery is approximately 75% privatized, and continues to shift from the public sector (see Enclosures 2, 3, and 4). We must focus on the following areas to achieve our state and national goal of 90% coverage levels for two-year-old children for the 4:3:1:3:3:1 immunization series:

- Identify and target interventions toward geographic areas with populations at high risk for under-immunization or "pockets of need" (see Enclosures 5 and 6);
- Continue to develop immunization linkage with the WIC program;

Florida Department of Health

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- Conduct quarterly audits, via the Florida SHOTS, to ensure complete immunization coverage of children whose immunization home is a CHD;
- Regularly schedule automated reminder and recall processes via the Florida SHOTS to improve overall compliance with the recommended immunization schedule, particularly for the fourth dose of DTaP and PCV vaccines; and
- Increase partnerships with managed care organizations and private healthcare providers to promote the *Standards for Pediatric Immunization Practices*, as well as the Florida SHOTS.

If you have questions concerning the survey functionality in the Florida SHOTS, please contact Christopher Smith at (850) 245-4444, ext. 3390. If you have questions or comments about the survey, or have found other successful methods to improve your community's immunization levels, please contact Amy Wilson at (850) 245-4444, ext. 2395. We are eager to share these best practices with other CHDs and private providers.

CP/cha/aw
Enclosures

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Department of Health
Immunization Levels in Two-Year-Old Children
By Selected Counties and Statewide
Florida, 2013

Enclosure 1

County	Sample Size	Survey Participants ⁵	No Shots ³		4:3:1:3:3:1 ¹				4:3:1:3:3:1:4 ²			
	#	#	#	% ⁶	Complete ⁴		Partial		Complete ⁴		Partial	
					#	% ⁶	#	% ⁶	#	% ⁶	#	% ⁶
Brevard	116	84	0	0.00% (± 0.0%)	69	82.14% (± 8.2%)	15	17.86% (± 8.2%)	68	80.95% (± 8.4%)	16	19.05% (± 8.4%)
Broward	97	84	0	0.00% (± 0.0%)	74	88.10% (± 6.9%)	10	11.90% (± 6.9%)	69	82.14% (± 8.2%)	15	17.86% (± 8.2%)
Collier	70	55	2	3.64% (± 4.9%)	52	94.55% (± 6.0%)	1	1.82% (± 3.5%)	51	92.73% (± 6.9%)	2	3.64% (± 4.9%)
Dade	131	118	2	1.69% (± 2.3%)	100	84.75% (± 6.5%)	16	13.56% (± 6.2%)	93	78.81% (± 7.4%)	23	19.49% (± 7.1%)
Duval	88	84	1	1.19% (± 2.3%)	76	90.48% (± 6.3%)	7	8.33% (± 5.9%)	73	86.90% (± 7.2%)	10	11.90% (± 6.9%)
Escambia	93	82	1	1.22% (± 2.4%)	74	90.24% (± 6.4%)	7	8.54% (± 6.0%)	71	86.59% (± 7.4%)	10	12.20% (± 7.1%)
Hillsborough	80	69	0	0.00% (± 0.0%)	63	91.30% (± 6.6%)	6	8.70% (± 6.6%)	60	86.96% (± 7.9%)	9	13.04% (± 7.9%)
Lee	104	95	4	4.21% (± 4.0%)	82	86.32% (± 6.9%)	9	9.47% (± 5.9%)	80	84.21% (± 7.3%)	11	11.58% (± 6.4%)
Leon	74	51	2	3.92% (± 5.3%)	40	78.43% (± 11.3%)	9	17.65% (± 10.5%)	39	76.47% (± 11.6%)	10	19.61% (± 10.9%)
Manatee	46	43	0	0.00% (± 0.0%)	41	95.35% (± 6.3%)	2	4.65% (± 6.3%)	40	93.02% (± 7.6%)	3	6.98% (± 7.6%)
Marion	72	66	0	0.00% (± 0.0%)	58	87.88% (± 7.9%)	8	12.12% (± 7.9%)	55	83.33% (± 9.0%)	11	16.67% (± 9.0%)
Orange	146	105	3	2.86% (± 3.2%)	91	86.67% (± 6.5%)	11	10.48% (± 5.9%)	90	85.71% (± 6.7%)	12	11.43% (± 6.1%)
Osceola	110	102	0	0.00% (± 0.0%)	89	87.25% (± 6.5%)	13	12.75% (± 6.5%)	85	83.33% (± 7.2%)	17	16.67% (± 7.2%)
Palm Beach	76	69	2	2.90% (± 4.0%)	57	82.61% (± 8.9%)	10	14.49% (± 8.3%)	56	81.16% (± 9.2%)	11	15.94% (± 8.6%)
Pasco	146	136	2	1.47% (± 2.0%)	112	82.35% (± 6.4%)	22	16.18% (± 6.2%)	105	77.21% (± 7.1%)	29	21.32% (± 6.9%)
Pinellas	131	119	2	1.68% (± 2.3%)	101	84.87% (± 6.4%)	16	13.45% (± 6.1%)	95	79.83% (± 7.2%)	22	18.49% (± 7.0%)
Polk	83	76	3	3.95% (± 4.4%)	64	84.21% (± 8.2%)	9	11.84% (± 7.3%)	62	81.58% (± 8.7%)	11	14.47% (± 7.9%)
Sarasota	102	86	5	5.81% (± 4.9%)	72	83.72% (± 7.8%)	9	10.47% (± 6.5%)	70	81.40% (± 8.2%)	11	12.79% (± 7.1%)
Seminole	126	100	4	4.00% (± 3.8%)	85	85.00% (± 7.0%)	11	11.00% (± 6.1%)	80	80.00% (± 7.8%)	16	16.00% (± 7.2%)
Volusia	76	66	0	0.00% (± 0.0%)	51	77.27% (± 10.1%)	15	22.73% (± 10.1%)	46	69.70% (± 11.1%)	20	30.30% (± 11.1%)
Other	81	69	0	0.00% (± 0.0%)	61	88.41% (± 7.6%)	8	11.59% (± 7.6%)	59	85.51% (± 8.3%)	10	14.49% (± 8.3%)
Statewide Total ⁷	2,048 ⁸	1,759	33	1.38% (± 0.3%)	1,512	86.72% (± 1.1%)	214	11.90% (± 1.1%)	1,447	82.94% (± 1.2%)	279	15.68% (± 1.2%)

¹ 4:3:1:3:3:1 = Four or more doses of any diphtheria and tetanus toxoids and pertussis vaccine (DTaP/DTP/DT); 3 or more doses of any poliovirus vaccine; 1 or more doses of measles, mumps, and rubella (MMR) vaccine; 3 or more doses of *Haemophilus influenzae* type b (Hib) vaccine; 3 or more doses of hepatitis B vaccine; and 1 or more doses of varicella (VZV) vaccine.

² 4:3:1:3:3:1:4 = Four or more doses of any diphtheria and tetanus toxoids and pertussis vaccine (DTaP/DTP/DT); 3 or more doses of any poliovirus vaccine; 1 or more doses of measles, mumps, and rubella (MMR) vaccine; 3 or more doses of *Haemophilus influenzae* type b (Hib) vaccine; 3 or more doses of hepatitis B vaccine; 1 or more doses of varicella (VZV) vaccine, and 4 or more doses of pneumococcal conjugate (PCV) vaccine.

³ Includes 7 children with no vaccines for the 4:3:1:3:3:1 measure and 26 children with a religious exemption.

⁴ Children have received all vaccines necessary to complete the measure and do not have a religious exemption.

⁵ Does not include 33 children whose parents refused to participate, 253 children who could not be located, and 3 children deleted from the database.

⁶ % ± 95% Confidence Level.

⁷ Weighted average based on the number of births in each county.

⁸ Statewide Sample Size includes 3 deceased or deleted patient.

Department of Health
Immunization Levels in Two-Year-Old Children
By Vaccine Provider for 4:3:1:3:3:1
Florida, 2013

Status	Survey Participants ⁴		CHD ²		CHC ³		Private Provider		No Source	
	# ⁴	%	# ¹	%	# ¹	%	# ¹	%	# ¹	%
Complete ⁵	1,512	85.96%	116	87.88%	84	93.33%	1,079	86.88%	233	78.98%
Partial	214	12.17%	16	12.12%	6	6.67%	163	13.12%	29	9.83%
No Shots ⁶	33	1.88%	0	0%	0	0%	0	0%	33	11.19%
Statewide Total	1,759	100%	132	100%	90	100%	1,242	100%	295	100%

¹ Children are grouped into the category that provided the majority of the vaccinations for the measure.

² County Health Department

³ Community Health Center

⁴ Does not include 33 children whose parents refused to participate, 253 children that could not be located, and 3 children deleted from the database.

⁵ Children who have received all vaccines necessary to complete the 4:3:1:3:3:1 measure and do not have a religious exemption.

4:3:1:3:3:1 = Four or more doses of any diphtheria and tetanus toxoids and pertussis vaccine (DTaP/DTP/DT); 3 or more doses of any poliovirus vaccine; 1 or more doses of measles, mumps, and rubella (MMR) vaccine; 3 or more doses of *Haemophilus influenzae* type b (Hib) vaccine; 3 or more doses of hepatitis B vaccine; and 1 or more doses of varicella (VZV) vaccine.

⁶ Includes 7 children with no vaccines for the 4:3:1:3:3:1 measure and 26 children with a religious exemption.

Department of Health
Immunization Levels in Two-Year-Old Children
Historic Data 1990 - 2013 for 4:3:1:3:3:1
Florida, 2013

Year	Survey Participants ⁵	Complete ² %	Partial %	No Shots ³ %	Private Provider ¹ %	CHD %	CHC %	No Source %	≥4 DTaP %	≥3 Polio %	MMR %	3 Hib ⁴ %	3 Hep B %	VZV %	4 PCV %
2013 ⁶	1,759	86.7	11.9	1.4	73.7	6.9	4.6	14.7	89.3	96.2	93.4	95.8	95.0	94.0	80.5
2012 ⁶	1,755	83.0	15.5	1.6	76.7	6.0	4.7	12.5	87.8	95.5	92.5	96.7	92.3	93.3	78.3
2011 ⁶	1,780	86.1	12.8	1.1	70.9	10.0	4.8	14.3	89.4	95.2	93.6	94.0	94.6	94.9	84.1
2010 ⁶	1,712	81.1	18.1	0.7	65.9	9.6	5.4	19.1	88.0	94.2	93.3	91.3	93.0	93.9	80.7
2009 ⁶	2,168	87.2 ⁷	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2008	1,958	83.4	16.0	0.6	60.1	15.8	3.9	20.2	86.7	93.8	94.5	94.8	94.5	94.0	N/A
2007	1,876	83.2	15.7	1.1	68.3	13.5	2.7	15.5	86.9	92.5	93.4	94.8	94.3	92.8	N/A
2006	1,648	79.2	20.2	0.6	64.8	16.8	2.9	0.1	87.4	93.2	93.3	94.1	93.3	92.3	N/A
2005	1,901	86.6	13.1	0.5	75.2	17.2	4.5	3.0	86.4	93.2	93.7	95.1	94.0	90.6	N/A
2004	1,540	85.3	14.0	0.6	75.6	18.4	4.5	1.4	86.0	92.5	93.1	93.8	92.8	90.0	N/A
2003	1,190	79.4	20.4	0.3	76.1	16.9	3.4	3.6	80.2	93.5	93.9	78.7	92.3	85.3	N/A
2002	1,159	85.3	14.0	0.7	76.0	17.5	3.6	2.8	86.6	93.7	95.8	96.7	92.0	89.2	N/A
2001 ⁶	1,092	85.5	14.3	0.2	76.2	16.9	3.0	3.7	87.9	93.6	95.2	96.7	95.2	75.5	N/A
2000 ⁶	1,113	86.6	12.5	0.9	70.8	22.3	2.9	3.1	88.8	93.5	95.2	96.9	96.1	57.7	N/A
1999 ⁶	1,064	86.2	13.4	0.4	69.6	24.5	2.8	2.6	87.1	94.5	94.0	97.9	94.1	31.3	N/A
1998 ⁶	1,498	82.9	16.6	0.5	67.1	27.9	2.8	1.7	86.6	95.0	92.4	94.8	93.0	N/A	N/A
1997 ⁶	942	83.0	16.5	0.5	67.4	31.2	N/A	1.4	84.3	94.3	92.5	94.6	87.3	N/A	N/A
1996	1,493	81.6	18.0	0.5	57.2	41.7	N/A	1.0	83.6	93.1	91.1	94.5	79.4	N/A	N/A
1995	1,463	80.0	19.1	0.9	54.5	42.7	N/A	2.8	82.3	87.9	90.2	72.1	61.2	N/A	N/A
1994	553	76.5	22.4	1.1	58.0	41.7	N/A	0.3	78.1	86.3	88.5	77.5	N/A	N/A	N/A
1993	591	73.3	26.2	0.5	52.9	46.9	N/A	0.2	75.5	80.0	88.5	91.0	N/A	N/A	N/A
1992	549	67.4	31.0	1.6	52.8	45.9	N/A	1.3	69.0	77.0	89.3	83.9	N/A	N/A	N/A
1991	497	63.2	35.6	1.2	57.5	40.6	N/A	0.6	65.4	75.4	86.2	55.1	N/A	N/A	N/A
1990	532	66.0	32.7	1.3	54.5	44.2	N/A	1.3	75.9	82.0	89.7	59.2	N/A	N/A	N/A

¹ Military totals for all years have been included in the Private Provider category.

² Completion of 4:3:1:3:3:1 series at 24 months of age. 1990-2005 denotes the completion of 4:3:1 measure at 24 months of age. 4:3:1:3:3:1 = Four or more doses of any diphtheria and tetanus toxoids and pertussis vaccine (DTaP/DTP/DT); 3 or more doses of any poliovirus vaccine; 1 or more doses of measles, mumps, and rubella (MMR) vaccine; 3 or more doses of *Haemophilus influenzae* type b (Hib) vaccine; 3 or more doses of hepatitis B vaccine; and 1 or more doses of varicella (VZV) vaccine.

³ Includes children with no vaccines for the measure and children with a religious exemption.

⁴ Only one dose of *Haemophilus Influenzae* type b vaccine (Hib) for years prior to 1994.

⁵ Excludes children whose parents refused to participate, or could not be located, or were deleted from the database.

⁶ Complete and partial percentage weighted by the number of births in each strata.

⁷ 2009 uses the 4:3:1:3:3:1 measure, excluding the Hib vaccinations. Including the Hib vaccinations, the completion percentage is 81.9%.

Department of Health
Immunization Levels in Two-Year-Old Children
Percent Immunized by Specific Vaccine and Provider Type
Florida, 2013

Provider	Participants w/Shots ¹		1	3	4	1	3	1	3	3	1	1	2	3	4
	# ²	%	DTaP	DTaP	DTaP	Polio	Polio	MMR	Hib	Hep B	VZV	PCV	PCV	PCV	PCV
CHD ³	132	7.65%	150	134	149	150	136	158	132	145	149	154	142	143	126
Private Provider	1,242	71.96%	1,187	1,197	1,075	1,182	1,182	1,112	1,186	1,142	1,132	1,129	1,129	1,102	938
CHC ⁴	90	5.21%	93	91	91	93	92	93	91	92	88	93	86	87	84
Unknown	262	15.18%	295	275	249	295	274	277	270	274	288	332	335	312	263
Statewide Total	1,726	100%	1,725	1,697	1,564	1,720	1,684	1,640	1,679	1,653	1,657	1,708	1,692	1,644	1,411

¹ Does not include 33 children whose parents refused to participate, 253 children who could not be located, and 3 children deleted from the database. Does not include 26 children with a religious exemption. Does not include 7 children with no vaccinations for the 4:3:1:3:3:1 measure.

² Children are grouped into the category that provided the majority of the vaccinations for the 4:3:1:3:3:1 measure. 4:3:1:3:3:1 = Four or more doses of any diphtheria and tetanus toxoids and pertussis vaccine (DTaP/DTP/DT); 3 or more doses of any poliovirus vaccine; 1 or more doses of measles, mumps, and rubella (MMR) vaccine; 3 or more doses of *Haemophilus influenzae* type b (Hib) vaccine; 3 or more doses of hepatitis B vaccine; and 1 or more doses of varicella (VZV) vaccine.

³ County Health Department

⁴ Community Health Center

Department of Health
Immunization Status in Two-Year-Old Children
By High-Risk Characteristics for 4:3:1:3:3:1
Florida, 2013

		Mother's Education Level (Years)									
		<12		12		>12		Unknown			
Complete ¹		259	86.62%	433	84.90%	814	86.23%	6	100%		
Incomplete ²		40	13.38%	77	15.10%	130	13.77%	0	0%		
		Age of Mother									
		<20		20 - 24		25 - 29		>30+		Unknown	
Complete ¹		146	85.38%	346	88.04%	414	85.01%	587	85.20%	19	100%
Incomplete ²		25	14.62%	47	11.96%	73	14.99%	102	14.80%	0	0%
		Number of Siblings in Family									
		3+		2		1		0		Unknown	
Complete ¹		133	80.61%	247	86.06%	471	84.71%	659	88.10%	2	66.67%
Incomplete ²		32	19.39%	40	13.94%	85	15.29%	89	11.90%	1	33.33%
		Marital Status									
		No		Yes							
Complete ¹		753	87.35%	759	84.62%						
Incomplete ²		109	12.65%	138	15.38%						
		Trimester of Initiation of Prenatal Care									
		3rd		2nd		1st		Unknown			
Complete ¹		49	80.33%	275	83.59%	1,079	86.67%	109	87.90%		
Incomplete ²		12	19.67%	54	16.41%	166	13.33%	15	12.10%		

¹ Completion of 4:3:1:3:3:1 consisting of 4 or more doses of any diphtheria and tetanus toxoids and pertussis vaccine (DTaP/DTP/DT); 3 or more doses of any poliovirus vaccine; 1 or more doses of measles, mumps, and rubella (MMR) vaccine; 3 or more doses of *Haemophilus influenzae* type b (Hib) vaccine; 3 or more doses of hepatitis B vaccine; and 1 or more doses of varicella (VZV) vaccine,

² Includes children with no shots and children with a religious exemption.

Department of Health
Immunization Levels in Two-Year-Old Children
By Racial and Ethnic Groups
Florida, 2013

Race/Ethnicity		Sample Size	Survey Participants ⁵	No Shots ³		4:3:1:3:3:1 ¹				4:3:1:3:3:1:4 ²			
						Complete ⁴		Partial		Complete ⁴		Partial	
		#	#	#	% ⁶	#	% ⁶	#	% ⁶	#	% ⁶	#	% ⁶
By Race	Non-White	828	722	9	1.25% (± 0.8%)	619	85.73% (± 2.6%)	94	13.02% (± 2.5%)	591	81.86% (± 2.8%)	122	16.90% (± 2.7%)
	White	1,217	1,037	24	2.31% (± 0.9%)	893	86.11% (± 2.1%)	120	11.57% (± 1.9%)	856	82.55% (± 2.3%)	157	15.14% (± 2.2%)
	Statewide Total	2,048 ⁷	1,759	33	1.88% (± 0.6%)	1512	85.96% (± 1.6%)	214	12.17% (± 1.5%)	1447	82.26% (± 1.8%)	279	15.86% (± 1.7%)
By Ethnicity	Black	309	268	4	1.49% (± 1.5%)	227	84.70% (± 4.3%)	37	13.81% (± 4.1%)	215	80.22% (± 4.8%)	49	18.28% (± 4.6%)
	Hispanic	568	492	6	1.22% (± 1.0%)	434	88.21% (± 2.8%)	52	10.57% (± 2.7%)	414	84.15% (± 3.2%)	72	14.63% (± 3.1%)
	White	952	813	22	2.71% (± 1.1%)	693	85.24% (± 2.4%)	98	12.05% (± 2.2%)	667	82.04% (± 2.6%)	124	15.25% (± 2.5%)
	Other	216	186	1	0.54% (± 1.1%)	158	84.95% (± 5.1%)	27	14.52% (± 5.1%)	151	81.18% (± 5.6%)	34	18.28% (± 5.6%)
	Statewide Total	2,048 ⁷	1759	33	1.88% (± 0.6%)	1512	85.96% (± 1.6%)	214	12.17% (± 1.5%)	1447	82.26% (± 1.8%)	279	15.86% (± 1.7%)

¹ 4:3:1:3:3:1 = Four or more doses of DTaP, three or more doses of poliovirus vaccine, one or more doses of MMR, three or more doses of Hib, three or more doses of Hepatitis B, and one or more doses of Varicella.

² 4:3:1:3:3:1:4 = Four or more doses of DTaP, three or more doses of poliovirus vaccine, one or more doses of MMR, three or more doses of Hib, three or more doses of Hepatitis B, one or more doses of Varicella, and four or more doses of pneumococcal.

³ Includes 7 children with no vaccines for the 4:3:1:3:3:1 measure and 26 children with a religious exemption.

⁴ Children have received all vaccines necessary to complete the measure and do not have a religious exemption.

⁵ Does not include 33 children whose parents refused to participate, 253 children who could not be located, and 3 children deleted from the database.

⁶ % ± 95% Confidence Level.

⁷ Statewide Sample Size includes 3 children deleted from the database and not included in the Sample Size Race or Ethnic Groups.