



INTEROFFICE MEMORANDUM

DATE: November 14, 2012

TO: County Health Department Directors/Administrators

FROM: Dennis V. Cookro, M.D., M.P.H.
(Interim) Deputy Secretary for Health

SUBJECT: Survey of Immunization Levels in Two-Year-Old Children (2012)

FOR INFORMATION ONLY

In November 2012, the Immunization Program (IP) completed an annual immunization survey of 1,755 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 2,035 survey participants, 1,755 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 2012 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 82.95%, as compared to the 2011 rate of 86.12%. The 2012 coverage levels for Florida's 20 largest counties ranged from 67.05% to 92.86%, as compared to 77.66% to 93.15% in 2011.

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, 78.3% received four doses of PCV, reflecting a decrease from 2011 (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;
- Conduct semi-annual audits, via the Florida SHOTS, to ensure complete immunization coverage of children whose immunization home is a CHD;

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- 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 Beth Cox at (850) 245-4444, ext. 2342. 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.

DC/cha/aw
Enclosures

cc: Vincent DeGennaro, M.D., President
Florida Medical Association
Louis St. Petery, M.D., F.A.A.P., Executive Vice-President
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Department of Health
Immunization Levels in Two-Year-Old Children
By Selected Counties and Statewide
Florida, 2012

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			
			Complete ⁴		Partial		Complete ⁴		Partial			
			#	% ⁶	#	% ⁶	#	% ⁶	#	% ⁶	#	% ⁶
Brevard	109	80	1	1.25% (± 2.4%)	65	81.25% (± 8.6%)	14	17.50% (± 8.3%)	60	75.00% (± 9.5%)	19	23.75% (± 9.3%)
Broward	81	76	0	0.00% (± 0.0%)	64	84.21% (± 8.2%)	12	15.79% (± 8.2%)	54	71.05% (± 10.2%)	22	28.95% (± 10.2%)
Collier	50	42	0	0.00% (± 0.0%)	37	88.10% (± 9.8%)	5	11.90% (± 9.8%)	35	83.33% (± 11.3%)	7	16.67% (± 11.3%)
Dade	104	96	2	2.08% (± 2.9%)	74	77.08% (± 8.4%)	20	20.83% (± 8.1%)	70	72.92% (± 8.9%)	24	25.00% (± 8.7%)
Duval	137	123	0	0.00% (± 0.0%)	106	86.18% (± 6.1%)	17	13.82% (± 6.1%)	102	82.93% (± 6.6%)	21	17.07% (± 6.6%)
Escambia	114	92	2	2.17% (± 3.0%)	77	83.70% (± 7.5%)	13	14.13% (± 7.1%)	77	83.70% (± 7.5%)	13	14.13% (± 7.1%)
Hillsborough	139	125	3	2.40% (± 2.7%)	110	88.00% (± 5.7%)	12	9.60% (± 5.2%)	108	86.40% (± 6.0%)	14	11.20% (± 5.5%)
Lee	121	104	1	0.96% (± 1.9%)	85	81.73% (± 7.4%)	18	17.31% (± 7.3%)	79	75.96% (± 8.2%)	24	23.08% (± 8.1%)
Leon	58	48	0	0.00% (± 0.0%)	42	87.50% (± 9.4%)	6	12.50% (± 9.4%)	40	83.33% (± 10.5%)	8	16.67% (± 10.5%)
Manatee	63	56	0	0.00% (± 0.0%)	52	92.86% (± 6.7%)	4	7.14% (± 6.7%)	50	89.29% (± 8.1%)	6	10.71% (± 8.1%)
Marion	58	55	0	0.00% (± 0.0%)	47	85.45% (± 9.3%)	8	14.55% (± 9.3%)	41	74.55% (± 11.5%)	14	25.45% (± 11.5%)
Orange	106	90	1	1.11% (± 2.2%)	67	74.44% (± 9.0%)	22	24.44% (± 8.9%)	65	72.22% (± 9.3%)	24	26.67% (± 9.1%)
Osceola	127	109	5	4.59% (± 3.9%)	82	75.23% (± 8.1%)	22	20.18% (± 7.5%)	76	69.72% (± 8.6%)	28	25.69% (± 8.2%)
Palm Beach	85	74	1	1.35% (± 2.6%)	66	89.19% (± 7.1%)	7	9.46% (± 6.7%)	59	79.73% (± 9.2%)	14	18.92% (± 8.9%)
Pasco	114	88	0	0.00% (± 0.0%)	59	67.05% (± 9.8%)	29	32.95% (± 9.8%)	55	62.50% (± 10.1%)	33	37.50% (± 10.1%)
Pinellas	104	89	1	1.12% (± 2.2%)	67	75.28% (± 9.0%)	21	23.60% (± 8.8%)	65	73.03% (± 9.2%)	23	25.84% (± 9.1%)
Polk	124	111	2	1.80% (± 2.5%)	96	86.49% (± 6.4%)	13	11.71% (± 6.0%)	93	83.78% (± 6.9%)	16	14.41% (± 6.5%)
Sarasota	71	62	3	4.84% (± 5.3%)	46	74.19% (± 10.9%)	13	20.97% (± 10.1%)	46	74.19% (± 10.9%)	13	20.97% (± 10.1%)
Seminole	79	62	2	3.23% (± 4.4%)	47	75.81% (± 10.7%)	13	20.97% (± 10.1%)	46	74.19% (± 10.9%)	14	22.58% (± 10.4%)
Volusia	109	98	2	2.04% (± 2.8%)	85	86.73% (± 6.7%)	11	11.22% (± 6.2%)	79	80.61% (± 7.8%)	17	17.35% (± 7.5%)
Other	82	75	2	2.67% (± 3.6%)	66	88.00% (± 7.4%)	7	9.33% (± 6.6%)	63	84.00% (± 8.3%)	10	13.33% (± 7.7%)
Statewide Total ⁷	2,035 ⁸	1,755	28	1.59% (± 0.4%)	1,440	82.95% (± 1.2%)	287	15.45% (± 1.1%)	1,363	78.02% (± 1.3%)	364	20.39% (± 1.3%)

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 Has no shots for the 4:3:1:3:3:1 measure. Includes 22 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 31 children whose parents refused to participate, 248 children that could not be located, and 1 child 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 1 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, 2012**

Status	Survey Participants ⁴		CHD ²		CHC ³		Private Provider		No Source	
	# ¹	%	# ¹	%	# ¹	%	# ¹	%	# ¹	%
Complete⁵	1,440	82.05%	111	86.05%	76	82.61%	1,081	83.47%	172	71.97%
Partial	287	16.35%	18	13.95%	16	17.39%	214	16.53%	39	16.32%
No Shots⁶	28	1.60%	0	0%	0	0%	0	0%	28	11.72%
Statewide Total	1,755	100%	129	100%	92	100%	1,295	100%	239	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 31 children whose parents refused to participate, 248 children that could not be located, and 1 child deleted from the database.

⁵ Children that 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 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.

⁶ Includes 6 children with no vaccines for the 4:3:1:3:3:1 measure and 22 children with a religious exemption.

Department of Health
Immunization Levels in Two-Year-Old Children
Historic Data 1990 - 2012 for 4:3:1:3:3:1
Florida, 2012

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 %
2012 ⁶	1,755	83.0	15.5	1.6	76.7	6	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	4.8	14.3	89.4	95.2	93.6	94	94.6	94.9	84.1
2010 ⁶	1,712	81.1	18.1	.7	65.9	9.6	5.4	19.1	88	94.2	93.3	91.3	93	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 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.

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, 2012

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	129	7.47%	161	125	160	163	129	147	128	146	144	168	139	134	126
Private Provider	1,295	74.99%	1,242	1,265	1,106	1,236	1,254	1,173	1,254	1,185	1,184	1,246	1,220	1,173	948
CHC ⁴	92	5.33%	101	90	91	102	91	91	91	94	90	98	86	92	83
Unknown	211	12.22%	221	220	175	220	202	217	219	193	218	205	241	238	209
Statewide Total	1,727	100%	1,725	1,700	1,532	1,721	1,676	1,628	1,692	1,618	1,636	1,717	1,686	1,637	1,366

¹ Does not include 31 children whose parents refused to participate, 248 children that could not be located, and 1 child deleted from the database. Does not include 22 children with a religious exemption. Does not include 6 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 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.

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, 2012

		Mother's Education Level (Years)							
		<12		12		>12		Unknown	
Complete ¹		223	82.59%	461	84.59%	681	79.65%	75	88.24%
Incomplete ²		47	17.41%	84	15.41%	174	20.35%	10	11.76%

		Age of Mother									
		<20		20 - 24		25 - 29		>30+		Unknown	
Complete ¹		155	84.24%	384	81.88%	417	82.25%	470	80.90%	14	100%
Incomplete ²		29	15.76%	85	18.12%	90	17.75%	111	19.10%	0	0%

		Number of Siblings in Family									
		3+		2		1		0		Unknown	
Complete ¹		130	75.58%	218	80.15%	441	81.82%	643	84.16%	8	100%
Incomplete ²		42	24.42%	54	19.85%	98	18.18%	121	15.84%	0	0%

		Marital Status			
		No		Yes	
Complete ¹		723	83.20%	717	80.93%
Incomplete ²		146	16.80%	169	19.07%

		Trimester of Initiation of Prenatal Care							
		3rd		2nd		1st		Unknown	
Complete ¹		60	77.92%	260	81.76%	824	81.83%	296	83.85%
Incomplete ²		17	22.08%	58	18.24%	183	18.17%	57	16.15%

¹ Completion of 4:3:1:3:3:1 consisting of 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 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, 2012**

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	709	619	3	0.48% (± 0.5%)	527	85.14% (± 2.8%)	89	14.38% (± 2.8%)	499	80.61% (± 3.1%)	117	18.90% (± 3.1%)
	White	1,325	1,136	25	2.20% (± 0.9%)	913	80.37% (± 2.3%)	198	17.43% (± 2.2%)	864	76.06% (± 2.5%)	247	21.74% (± 2.4%)
	Statewide Total	2,035 ⁷	1,755	28	1.60% (± 0.6%)	1,440	82.05% (± 1.8%)	287	16.35% (± 1.7%)	1,363	77.66% (± 1.9%)	364	20.74% (± 1.9%)
By Ethnicity	Black	380	342	0	0.00% (± 0.0%)	294	85.96% (± 3.7%)	48	14.04% (± 3.7%)	282	82.46% (± 4.0%)	60	17.54% (± 4.0%)
	Hispanic	548	471	3	0.64% (± 0.7%)	405	85.99% (± 3.1%)	63	13.38% (± 3.1%)	381	80.89% (± 3.6%)	87	18.47% (± 3.5%)
	White	971	828	23	2.78% (± 1.1%)	652	78.74% (± 2.8%)	153	18.48% (± 2.6%)	615	74.28% (± 3.0%)	190	22.95% (± 2.9%)
	Other	135	114	2	1.75% (± 2.4%)	89	78.07% (± 7.6%)	23	20.18% (± 7.4%)	85	74.56% (± 8.0%)	27	23.68% (± 7.8%)
	Statewide Total	2,035 ⁷	1,755	28	1.60% (± 0.6%)	1,440	82.05% (± 1.8%)	287	16.35% (± 1.7%)	1,363	77.66% (± 1.9%)	364	20.74% (± 1.9%)

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 Has no shots for the 4:3:1:3:3:1 measure. Includes 22 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 31 children whose parents refused to participate, 248 children that could not be located, and 1 child deleted from the database.

⁶ % ± 95% Confidence Level.

⁷ Statewide Sample Size includes 1 child deleted from the database and not included in the Sample Size Race or Ethnic Groups.