

Mission:

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



Rick Scott
Governor

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Vision: To be the **Healthiest State** in the Nation

Florida Actual versus Expected Teen Births and Repeat Teen Births By County 2013 through 2015

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Introduction

In the United States, teen birth rates have reached historic lows with every state seeing declines over the past 20 years, except for a brief increase in 2006 and 2007 [1]. In Florida a total of 11,956 babies were born to teens aged 15-19 years in 2015, for a live birth rate of 20.3 per 1,000 teens in this age group. This is a record low for Florida teens in this age group, and a drop of 7.3% from 2014. Furthermore, birth rates fell 3.3% for teens aged 15-17 years, and 8.5% for teens aged 18-19 years [2]. Although reasons for the decline cannot be fully explained, according to the Centers for Disease Control and Prevention (CDC), teens appear to be less sexually active, and those teens who are sexually active seem to be using birth control more effectively [3].

While teen birth rates have declined, teen pregnancy prevention continues to be a public health priority. Studies show that pregnant teens are more likely than older women to receive late or no prenatal care, have gestational hypertension and anemia, and achieve poor maternal weight gain [4]. Teen mothers are also more likely than older mothers to have a pre-term delivery and low birthweight baby, increasing the risk of child developmental delay, illness, and mortality [5]. Additionally, teen mothers are less likely than their peers to complete high school and more likely to live below the poverty level and rely on public assistance [6]. Florida's Family Planning program plays a key role in the prevention of unintended or unwanted pregnancy, including teen pregnancy. Preventing unintended or unwanted pregnancy reduces the incidence of abortion and improves birth outcomes.

The purpose of this annual analysis is to identify geographic areas in the state where teen birth rates and repeat births to teens rates are statistically significantly higher than would be expected considering the unique demographics of each area. This information may be used to encourage further and more detailed analyses to investigate reasons for the higher than expected rates and to develop intervention strategies for improving the outcomes.

Methods

In this analysis, the actual number of teen births and repeat teen births are compared to the expected number for each county. The expected numbers are calculated by applying the state rates to the data for each county. The assumption is the expected rates for the counties are equal to the statewide rates. The difference between the number of actual and expected births is also tested for statistical significance. In the following tables, an "H" appears for the counties where the number of actual births is statistically significantly higher than the expected number of births and an "L" appears for the counties where the number of actual births is statistically significantly lower than the expected number

of births. For counties without an “H” or “L” the number of actual births is not statistically significantly different from the expected number of births. An alpha level of 0.05 is used for this test, which means that for the counties with an “H” or “L” there is a 5% chance that the difference between the actual and expected number is due to random variation.

Note that for larger counties, smaller differences between the statewide rate and the county rate may be statistically significant while the same or greater differences may not be statistically significant in smaller counties. This is because statistical significance depends in part on the magnitude of the numbers used in the calculations. Since the larger counties will have larger female teen populations and more teen births, the differences between the statewide rate and county rates are more likely to be statistically significant for the larger counties. In statistical testing, this is called statistical power. All of the data for the following tables are from the Florida Department of Health CHARTS website at: <http://www.floridacharts.com/charts/chart.aspx>. The Poisson function in Excel was used for the statistical testing.

Results

In the following tables, actual statistics are compared to expected statistics. Areas with statistically significantly higher than expected actual statistics are indicated in the tables with an “H”, and “L” indicates significantly lower than expected actual statistics. As shown in the tables below, there were 32 areas with an “H” for teen births among females aged 15-17, and 13 areas with an “L” for teen births among females aged 15-17. On the table for teen births among females aged 15-19, there were 42 areas with an “H” and 14 areas with an “L”. On the table for repeat births to teens aged 15-17, there were two areas with an “H” and no areas with an “L”. On the last table for repeat births to teens aged 15-19, there were six areas with an “H” and eight areas with an “L”. On all of tables the areas without an “H” or an “L” had rates that were not statistically significantly different from the expected rates.

Discussion

One limitation of this analysis is the comparatively high level of variability of rates in smaller areas. Consequently, larger differences in rates for small areas may not be statistically significant while the same or smaller differences may be statistically significant in larger areas. Actual rates that are statistically significantly higher than the expected rates are most likely not a result of random fluctuations and are cause for concern; however, higher rates that are not statistically significant may also warrant further investigation. Additionally, smaller areas with higher than expected rates for a period of several years may also be cause for concern.

This analysis may be used as a basis for establishing priorities and to inform strategies developed to reduce teen birth and repeat births to teens in Florida. The rationale is to use the results of this analysis to focus further analysis and efforts on the areas where the risks are significantly high and also analyze factors that contribute to the lower risks seen in some areas.

Current Department of Health Teen Pregnancy Prevention Initiatives and Activities

Teen pregnancy prevention is one of CDC’s top six priorities and is considered a “winnable battle” in public health. Moreover, the Healthy People 2020 objective is to reduce teen pregnancy.

- Prevention of initial or repeat teen births is a Family Planning program objective which aligns with the federal Title X Program priorities and key issues.
- Teen birth rate goals are included in the State Health Improvement Plan (SHIP) and the Department’s Long Range Program Plan (LRPP).
- A county health department (CHD) snapshot measure was developed in 2013 to track the number of teens ages 15-19 who adopt an effective or higher method of contraception.
- CHDs are encouraged to increase reproductive health education, including the provision of educational materials describing contraceptive methods to teens in schools and communities.

- CHDs are encouraged to make their family planning clinics teen-friendly. Teen-friendly services are critical to reaching teens and to promote adolescent health. Adolescents face barriers to services that are unique to their age group, such as transportation difficulties and school/work schedules that conflict with appointments. As such, it is important to make family planning clinics teen-friendly.
- Long acting reversible contraception (LARC) use among teens 15-19 increased from 3.0% in 2014 to 4.7% in 2015. In 2015, the Bureau of Public Health Pharmacy was provided a special allocation of funding from the Family Planning program to provide CHDs with LARC. They are highly effective in preventing pregnancy and are seen as a significant tool in reducing unplanned or unwanted pregnancies.

References:

1. Centers for Disease Control and Prevention. National and State Patterns of Teen Births in the United States, 1940-2013. National Vital Statistics Reports. 2014; 63 (4)
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2. Florida CHARTS.
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<http://www.cdc.gov/teenpregnancy/>. Accessed on September 10, 2015.
4. Scholl, TO, Hediger, ML, Belsky, DH. Prenatal care and maternal health during adolescent pregnancy - A review and meta-analysis. *Journal of Adolescent Health*. 1994; 15:444-456.
5. Chandra, PC, Schiavello, HJ, Ravi, B, Weinstein, AG, Hook, FB. Pregnancy outcomes in urban teenagers. *International Journal of Gynecology and Obstetrics*. 2002; 79:117-122.
6. National Campaign to Prevent Teen Pregnancy. Why it Matters: Teen childbearing, education, and economic well-being. July 2012.

**Florida Teen Birth Rates for Mothers Ages 15-17
2013 Through 2015**

County	2013 - 2015 Number of Females 15-17	2013 - 2015 Actual Number of Births to Mothers 15-17	2013 - 2015 Expected Number of Births to Mothers 15-17	2013 - 2015 Number of Births per 1,000 Females 15-17	Statistical Significance*
Statewide	1,057,747	10,004	10,004	9.5	
Alachua	15,798	110	149	7.0	L
Baker	1,488	21	14	14.1	
Bay	9,229	162	87	17.6	H
Bradford	1,194	18	11	15.1	H
Brevard	27,937	212	264	7.6	L
Broward	101,789	670	963	6.6	L
Calhoun	784	19	7	24.2	H
Charlotte	6,128	51	58	8.3	
Citrus	5,941	62	56	10.4	
Clay	13,349	98	126	7.3	L
Collier	16,369	135	155	8.2	
Columbia	3,488	69	33	19.8	H
Dade	145,622	1,052	1,377	7.2	L
Desoto	1,704	36	16	21.1	H
Dixie	739	15	7	20.3	H
Duval	51,682	625	489	12.1	H
Escambia	16,265	252	154	15.5	H
Flagler	5,309	37	50	7.0	L
Franklin	416	12	4	28.8	H
Gadsden	2,426	41	23	16.9	H
Gilchrist	920	15	9	16.3	H
Glades	552	9	5	16.3	
Gulf	697	8	7	11.5	
Hamilton	707	8	7	11.3	
Hardee	1,631	43	15	26.4	H
Hendry	2,455	51	23	20.8	H
Hernando	9,023	66	85	7.3	L
Highlands	4,296	67	41	15.6	H
Hillsborough	78,414	866	742	11.0	H
Holmes	954	22	9	23.1	H
Indian River	6,767	57	64	8.4	
Jackson	2,229	35	21	15.7	H
Jefferson	575	4	5	7.0	
Lafayette	387	9	4	23.3	H
Lake	15,460	163	146	10.5	
Lee	32,274	353	305	10.9	H
Leon	18,589	117	176	6.3	L
Levy	2,060	18	19	8.7	
Liberty	403	5	4	12.4	
Madison	967	7	9	7.2	
Manatee	16,889	258	160	15.3	H
Marion	15,752	242	149	15.4	H
Martin	7,050	56	67	7.9	
Monroe	2,695	21	25	7.8	
Nassau	4,313	43	41	10.0	
Okaloosa	10,419	122	99	11.7	H
Okeechobee	2,182	58	21	26.6	H
Orange	77,219	657	730	8.5	L
Osceola	19,839	231	188	11.6	H
Palm Beach	70,395	523	666	7.4	L
Pasco	25,036	232	237	9.3	
Pinellas	42,553	387	402	9.1	
Polk	34,653	506	328	14.6	H
Putnam	3,720	76	35	20.4	H
Saint Johns	12,193	55	115	4.5	L
Saint Lucie	15,433	129	146	8.4	
Santa Rosa	9,641	84	91	8.7	
Sarasota	15,987	128	151	8.0	L
Seminole	27,503	106	260	3.9	L
Sumter	2,288	34	22	14.9	H
Suwannee	2,265	45	21	19.9	H
Taylor	1,060	25	10	23.6	H
Union	739	10	7	13.5	
Volusia	25,286	273	239	10.8	H
Wakulla	1,596	15	15	9.4	
Walton	2,712	47	26	17.3	H
Washington	1,312	21	12	16.0	H

* H - county rate is statistically significantly higher than the state rate (alpha=0.05)
L - county rate is statistically significantly lower than the state rate (alpha= 0.05)
Blank - no statistically significant difference between the county rate and the state rate

**Florida Teen Birth Rates for Mothers Ages 15-19
2013 Through 2015**

County	2013 - 2015 Number of Females 15-19	2013 - 2015 Actual Number of Births to Mothers 15-19	2013 - 2015 Expected Number of Births to Mothers 15-19	2013 - 2015 Number of Births per 1,000 Females 15-19	Statistical Significance*
Statewide	1,760,228	38,717	38,717	22.0	
Alachua	37,881	431	833	11.4	L
Baker	2,522	105	55	41.6	H
Bay	15,129	535	333	35.4	H
Bradford	1,951	95	43	48.7	H
Brevard	44,924	890	988	19.8	L
Broward	163,398	2,673	3,594	16.4	L
Calhoun	1,205	53	27	44.0	H
Charlotte	9,664	216	213	22.4	
Citrus	9,108	274	200	30.1	H
Clay	20,866	415	459	19.9	L
Collier	25,963	560	571	21.6	
Columbia	5,627	253	124	45.0	H
Dade	240,004	4,045	5,279	16.9	L
Desoto	2,781	120	61	43.1	H
Dixie	1,149	42	25	36.6	H
Duval	85,798	2,377	1,887	27.7	H
Escambia	29,301	947	644	32.3	H
Flagler	8,034	148	177	18.4	L
Franklin	708	37	16	52.3	H
Gadsden	4,017	147	88	36.6	H
Gilchrist	1,450	58	32	40.0	H
Glades	895	20	20	22.3	
Gulf	1,063	35	23	32.9	H
Hamilton	1,118	38	25	34.0	H
Hardee	2,748	150	60	54.6	H
Hendry	3,984	184	88	46.2	H
Hernando	14,094	302	310	21.4	
Highlands	6,837	247	150	36.1	H
Hillsborough	132,261	3,165	2,909	23.9	H
Holmes	1,576	85	35	53.9	H
Indian River	10,687	254	235	23.8	
Jackson	3,756	143	83	38.1	H
Jefferson	977	22	21	22.5	
Lafayette	667	23	15	34.5	H
Lake	24,650	720	542	29.2	H
Lee	52,760	1,300	1,160	24.6	H
Leon	45,133	503	993	11.1	L
Levy	3,250	94	71	28.9	H
Liberty	626	29	14	46.3	H
Madison	1,512	42	33	27.8	
Manatee	27,465	852	604	31.0	H
Marion	25,459	842	560	33.1	H
Martin	11,057	211	243	19.1	L
Monroe	4,362	95	96	21.8	
Nassau	6,648	147	146	22.1	
Okaloosa	16,933	461	372	27.2	H
Okneechee	3,567	169	78	47.4	H
Orange	133,544	2,692	2,937	20.2	L
Osceola	32,048	953	705	29.7	H
Palm Beach	114,299	1,969	2,514	17.2	L
Pasco	40,612	940	893	23.1	
Pinellas	69,022	1,422	1,518	20.6	L
Polk	57,401	1,941	1,263	33.8	H
Putnam	6,094	289	134	47.4	H
Saint Johns	20,066	238	441	11.9	L
Saint Lucie	24,767	565	545	22.8	
Santa Rosa	14,976	382	329	25.5	H
Sarasota	25,717	477	566	18.5	L
Seminole	44,292	541	974	12.2	L
Sumter	3,642	144	80	39.5	H
Suwannee	3,707	141	82	38.0	H
Taylor	1,674	76	37	45.4	H
Union	1,156	54	25	46.7	H
Volusia	42,760	1,006	941	23.5	H
Wakulla	2,554	80	56	31.3	H
Walton	4,341	175	95	40.3	H
Washington	1,991	78	44	39.2	H

* H - county rate is statistically significantly higher than the state rate (alpha=0.05)
L - county rate is statistically significantly lower than the state rate (alpha= 0.05)
Blank - no statistically significant difference between the county rate and the state rate

**Florida Repeat Birth Rates for Mothers Ages 15-17
2013 Through 2015**

County	2013 - 2015 Number of Births to Females 15-17	2013 - 2015 Actual Number of Repeat Births to Mothers 15-17	2013 - 2015 Expected Number of Repeat Births to Mothers 15-17	2013 - 2015 Actual Percent Repeat Births to Mothers 15-17	Statistical Significance*
Statewide	10,004	756	756	7.6%	
Alachua	110	7	8	6.4%	
Baker	21	1	2	4.8%	
Bay	162	9	12	5.6%	
Bradford	18	1	1	5.6%	
Brevard	212	17	16	8.0%	
Broward	670	51	51	7.6%	
Calhoun	19	0	1	0.0%	
Charlotte	51	5	4	9.8%	
Citrus	62	3	5	4.8%	
Clay	98	3	7	3.1%	
Collier	135	7	10	5.2%	
Columbia	69	3	5	4.3%	
Dade	1,052	82	79	7.8%	
Desoto	36	2	3	5.6%	
Dixie	15	1	1	6.7%	
Duval	625	42	47	6.7%	
Escambia	252	16	19	6.3%	
Flagler	37	0	3	0.0%	
Franklin	12	0	1	0.0%	
Gadsden	41	2	3	4.9%	
Gilchrist	15	1	1	6.7%	
Glades	9	1	1	11.1%	
Gulf	8	0	1	0.0%	
Hamilton	8	0	1	0.0%	
Hardee	43	6	3	14.0%	
Hendry	51	6	4	11.8%	
Hernando	66	6	5	9.1%	
Highlands	67	6	5	9.0%	
Hillsborough	866	93	65	10.7%	H
Holmes	22	3	2	13.6%	
Indian River	57	2	4	3.5%	
Jackson	35	3	3	8.6%	
Jefferson	4	0	0	0.0%	
Lafayette	9	0	1	0.0%	
Lake	163	17	12	10.4%	
Lee	353	22	27	6.2%	
Leon	117	5	9	4.3%	
Levy	18	1	1	5.6%	
Liberty	5	0	0	0.0%	
Madison	7	0	1	0.0%	
Manatee	258	28	19	10.9%	H
Marion	242	21	18	8.7%	
Martin	56	3	4	5.4%	
Monroe	21	0	2	0.0%	
Nassau	43	3	3	7.0%	
Okaloosa	122	8	9	6.6%	
Okeechobee	58	6	4	10.3%	
Orange	657	56	50	8.5%	
Osceola	231	18	17	7.8%	
Palm Beach	523	40	40	7.6%	
Pasco	232	12	18	5.2%	
Pinellas	387	27	29	7.0%	
Polk	506	42	38	8.3%	
Putnam	76	6	6	7.9%	
Saint Johns	55	3	4	5.5%	
Saint Lucie	129	11	10	8.5%	
Santa Rosa	84	3	6	3.6%	
Sarasota	128	7	10	5.5%	
Seminole	106	7	8	6.6%	
Sumter	34	3	3	8.8%	
Suwannee	45	6	3	13.3%	
Taylor	25	1	2	4.0%	
Union	10	0	1	0.0%	
Volusia	273	18	21	6.6%	
Wakulla	15	0	1	0.0%	
Walton	47	2	4	4.3%	
Washington	21	1	2	4.8%	

* H - county percentage is statistically significantly higher than the state rate (alpha=0.05)

L - county percentage is statistically significantly lower than the state rate (alpha= 0.05)

Blank - no statistically significant difference between the county rate and the state rate

**Florida Repeat Birth Rates for Mothers Ages 15-19
2013 Through 2015**

County	2013 - 2015 Number of Births to Females 15-19	2013 - 2015 Actual Number of Repeat Births to to Mothers 15-19	2013 - 2015 Expected Number of Repeat Births to to Mothers 15-19	2013 - 2015 Actual Percent Repeat Births to to Mothers 15-19	Statistical Significance*
Statewide	38,717	6,283	6,284	16.2%	
Alachua	431	55	70	12.8%	L
Baker	105	17	17	16.2%	
Bay	535	74	87	13.8%	
Bradford	95	21	15	22.1%	
Brevard	890	118	144	13.3%	L
Broward	2,673	469	434	17.5%	H
Calhoun	53	7	9	13.2%	
Charlotte	216	34	35	15.7%	
Citrus	274	41	44	15.0%	
Clay	415	51	67	12.3%	L
Collier	560	93	91	16.6%	
Columbia	253	38	41	15.0%	
Dade	4,045	622	657	15.4%	
Desoto	120	17	19	14.2%	
Dixie	42	7	7	16.7%	
Duval	2,377	370	386	15.6%	
Escambia	947	178	154	18.8%	H
Flagler	148	17	24	11.5%	
Franklin	37	5	6	13.5%	
Gadsden	147	26	24	17.7%	
Gilchrist	58	6	9	10.3%	
Glades	20	5	3	25.0%	
Gulf	35	1	6	2.9%	L
Hamilton	38	9	6	23.7%	
Hardee	150	26	24	17.3%	
Hendry	184	37	30	20.1%	
Hernando	302	47	49	15.6%	
Highlands	247	38	40	15.4%	
Hillsborough	3,165	590	514	18.6%	H
Holmes	85	15	14	17.6%	
Indian River	254	38	41	15.0%	
Jackson	143	20	23	14.0%	
Jefferson	22	3	4	13.6%	
Lafayette	23	2	4	8.7%	
Lake	720	124	117	17.2%	
Lee	1,300	203	211	15.6%	
Leon	503	73	82	14.5%	
Levy	94	17	15	18.1%	
Liberty	29	5	5	17.2%	
Madison	42	2	7	4.8%	L
Manatee	852	171	138	20.1%	H
Marion	842	133	137	15.8%	
Martin	211	40	34	19.0%	
Monroe	95	13	15	13.7%	
Nassau	147	21	24	14.3%	
Okaloosa	461	72	75	15.6%	
Okeechobee	169	33	27	19.5%	
Orange	2,692	465	437	17.3%	
Osceola	953	133	155	14.0%	L
Palm Beach	1,969	334	320	17.0%	
Pasco	940	138	153	14.7%	
Pinellas	1,422	202	231	14.2%	L
Polk	1,941	339	315	17.5%	
Putnam	289	58	47	20.1%	
Saint Johns	238	29	39	12.2%	
Saint Lucie	565	88	92	15.6%	
Santa Rosa	382	46	62	12.0%	L
Sarasota	477	74	77	15.5%	
Seminole	541	84	88	15.5%	
Sumter	144	25	23	17.4%	
Suwannee	141	37	23	26.2%	H
Taylor	76	19	12	25.0%	H
Union	54	10	9	18.5%	
Volusia	1,006	146	163	14.5%	
Wakulla	80	9	13	11.3%	
Walton	175	31	28	17.7%	
Washington	78	12	13	15.4%	

* H - county percentage is statistically significantly higher than the state rate (alpha=0.05)

L - county percentage is statistically significantly lower than the state rate (alpha= 0.05)

Blank - no statistically significant difference between the county rate and the state rate