

Mission:

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



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Governor

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

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

Florida Actual versus Expected Teen Births and Repeat Teen Births By County 2012 through 2014

By: Angel Watson, MPH, RHIA

Florida Department of Health, Division of Community Health Promotion,
Bureau of Family Health Services

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 12,811 babies were born to teens aged 15-19 years in 2014, for a live birth rate of 21.9 per 1,000 teens in this age group. This is a record low for Florida teens in this age group, and a drop of 8% from 2013. Furthermore, birth rates fell 13% for teens aged 15-17 years, and 6% 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 that 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

Florida Department of Health

Division of Community Health Promotion
4052 Bald Cypress Way, Bin A-13 • Tallahassee, FL 32399-1721
PHONE: 850/245-4100 • FAX 850/414-6091

www.FloridaHealth.gov

TWITTER: HealthyFLA
FACEBOOK: FLDepartmentofHealth
YOUTUBE: fidoH
FLICKR: HealthyFla
PINTEREST: HealthyFla

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 web site 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 33 areas with an H for teen births among females aged 15-17, and 12 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 12 areas with an L. On the table for repeat births to teens aged 15-17, there were two areas with an H and two areas with an L. On the last table for repeat births to teens aged 15-19, there were four areas with an H and six 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 DOH 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 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.
- LARC use among teens 15-19 increased from 1.9% in 2013 to 3.0% in 2014. In 2015, the Bureau of Public Health Pharmacy was provided a special allocation of funding from the Family Planning program to provide CHDs with long acting reversible contraceptives (LARCs). LARCs 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)
http://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63_04.pdf. Accessed: September 10, 2015.
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3. Centers for Disease Control and Prevention. Reproductive Health: Teen Pregnancy.
<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
2012 Through 2014**

County	2012 - 2014 Number of Females 15-17	2012 - 2014 Actual Number of Births to Mothers 15-17	2012 - 2014 Expected Number of Births to Mothers 15-17	2012 - 2014 Number of Births per 1,000 Females 15-17	Statistical Significance*
Statewide	1,055,499	11,120	11,120	10.5	
Alachua	22,712	112	239	4.9	L
Baker	1,519	26	16	17.1	H
Bay	9,171	154	97	16.8	H
Bradford	1,204	19	13	15.8	
Brevard	27,402	230	289	8.4	L
Broward	97,798	787	1,030	8.0	L
Calhoun	736	20	8	27.2	H
Charlotte	5,914	52	62	8.8	
Citrus	5,617	79	59	14.1	H
Clay	12,520	103	132	8.2	L
Collier	15,393	151	162	9.8	
Columbia	3,443	62	36	18.0	H
Dade	144,530	1,229	1,523	8.5	L
Desoto	1,707	38	18	22.3	H
Dixie	705	13	7	18.4	H
Duval	51,222	662	540	12.9	H
Escambia	17,951	277	189	15.4	H
Flagler	4,813	50	51	10.4	
Franklin	432	11	5	25.5	H
Gadsden	2,524	54	27	21.4	H
Gilchrist	885	13	9	14.7	
Glades	536	10	6	18.7	
Gulf	630	7	7	11.1	
Hamilton	683	9	7	13.2	
Hardee	1,648	58	17	35.2	H
Hendry	2,465	57	26	23.1	H
Hernando	8,514	68	90	8.0	L
Highlands	4,160	76	44	18.3	H
Hillsborough	78,419	985	826	12.6	H
Holmes	971	20	10	20.6	H
Indian River	6,436	84	68	13.1	H
Jackson	2,342	40	25	17.1	H
Jefferson	607	4	6	6.6	
Lafayette	400	6	4	15.0	
Lake	14,748	196	155	13.3	H
Lee	31,384	383	331	12.2	H
Leon	27,033	124	285	4.6	L
Levy	2,016	24	21	11.9	
Liberty	373	8	4	21.4	H
Madison	945	12	10	12.7	
Manatee	16,326	299	172	18.3	H
Marion	15,565	249	164	16.0	H
Martin	6,643	54	70	8.1	L
Monroe	2,625	20	28	7.6	
Nassau	4,000	40	42	10.0	
Okaloosa	10,061	125	106	12.4	H
Okeechobee	2,182	52	23	23.8	H
Orange	79,084	747	833	9.4	L
Osceola	18,898	249	199	13.2	H
Palm Beach	68,588	567	723	8.3	L
Pasco	24,191	236	255	9.8	
Pinellas	41,846	440	441	10.5	
Polk	34,428	591	363	17.2	H
Putnam	3,764	92	40	24.4	H
Saint Johns	11,727	44	124	3.8	L
Saint Lucie	15,009	150	158	10.0	
Santa Rosa	9,010	94	95	10.4	
Sarasota	15,544	149	164	9.6	
Seminole	26,610	134	280	5.0	L
Sumter	2,150	37	23	17.2	H
Suwannee	2,235	49	24	21.9	H
Taylor	1,029	31	11	30.1	H
Union	691	10	7	14.5	
Volusia	25,438	275	268	10.8	
Wakulla	1,566	11	16	7.0	
Walton	2,560	40	27	15.6	H
Washington	1,221	22	13	18.0	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
2012 Through 2014**

County	2012 - 2014 Number of Females 15-19	2012 - 2014 Actual Number of Births to Mothers 15-19	2012 - 2014 Expected Number of Births to Mothers 15-19	2012 - 2014 Number of Births per 1,000 Females 15-19	Statistical Significance*
Statewide	1,759,165	42,712	42,712	24.3	
Alachua	37,854	486	919	12.8	L
Baker	2,531	120	61	47.4	H
Bay	15,285	604	371	39.5	H
Bradford	2,006	94	49	46.9	H
Brevard	45,669	936	1,109	20.5	L
Broward	162,997	3,003	3,958	18.4	L
Calhoun	1,226	68	30	55.5	H
Charlotte	9,856	240	239	24.4	
Citrus	9,362	320	227	34.2	H
Clay	20,867	436	507	20.9	L
Collier	25,656	573	623	22.3	L
Columbia	5,740	249	139	43.4	H
Dade	240,884	4,516	5,849	18.7	L
Desoto	2,846	134	69	47.1	H
Dixie	1,174	50	29	42.6	H
Duval	85,370	2,605	2,073	30.5	H
Escambia	29,919	1,079	726	36.1	H
Flagler	8,020	186	195	23.2	
Franklin	720	36	17	50.0	H
Gadsden	4,206	170	102	40.4	H
Gilchrist	1,475	62	36	42.0	H
Glades	892	23	22	25.8	
Gulf	1,049	35	25	33.4	H
Hamilton	1,138	46	28	40.4	H
Hardee	2,747	167	67	60.8	H
Hendry	4,110	215	100	52.3	H
Hernando	14,191	314	345	22.1	
Highlands	6,933	263	168	37.9	H
Hillsborough	130,699	3,607	3,173	27.6	H
Holmes	1,617	77	39	47.6	H
Indian River	10,726	302	260	28.2	H
Jackson	3,904	159	95	40.7	H
Jefferson	1,012	28	25	27.7	
Lafayette	666	25	16	37.5	H
Lake	24,579	773	597	31.4	H
Lee	52,308	1,423	1,270	27.2	H
Leon	45,053	550	1,094	12.2	L
Levy	3,360	108	82	32.1	H
Liberty	621	34	15	54.8	H
Madison	1,575	55	38	34.9	H
Manatee	27,210	981	661	36.1	H
Marion	25,943	919	630	35.4	H
Martin	11,073	226	269	20.4	L
Monroe	4,377	109	106	24.9	
Nassau	6,667	162	162	24.3	
Okaloosa	16,768	509	407	30.4	H
Okneechee	3,637	179	88	49.2	H
Orange	131,807	2,991	3,200	22.7	L
Osceola	31,497	970	765	30.8	H
Palm Beach	114,313	2,187	2,775	19.1	L
Pasco	40,318	965	979	23.9	
Pinellas	69,744	1,646	1,693	23.6	
Polk	57,379	2,090	1,393	36.4	H
Putnam	6,273	307	152	48.9	H
Saint Johns	19,544	254	475	13.0	L
Saint Lucie	25,014	634	607	25.3	
Santa Rosa	15,015	392	365	26.1	
Sarasota	25,908	534	629	20.6	L
Seminole	44,351	616	1,077	13.9	L
Sumter	3,583	171	87	47.7	H
Suwannee	3,726	150	90	40.3	H
Taylor	1,715	87	42	50.7	H
Union	1,151	55	28	47.8	H
Volusia	42,396	1,062	1,029	25.0	
Wakulla	2,610	79	63	30.3	H
Walton	4,267	169	104	39.6	H
Washington	2,036	97	49	47.6	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
2012 Through 2014**

County	2012 - 2014 Number of Births to Females 15-17	2012 - 2014 Actual Number of Repeat Births to Mothers 15-17	2014 - 2014 Expected Number of Repeat Births to Mothers 15-17	2012 - 2014 Actual Percent Repeat Births to Mothers 15-17	Statistical Significance*
Statewide	11,120	822	822	7.4%	
Alachua	112	10	8	8.9%	
Baker	26	1	2	3.8%	
Bay	154	8	11	5.2%	
Bradford	19	1	1	5.3%	
Brevard	230	15	17	6.5%	
Broward	787	53	58	6.7%	
Calhoun	20	0	1	0.0%	
Charlotte	52	6	4	11.5%	
Citrus	79	4	6	5.1%	
Clay	103	5	8	4.9%	
Collier	151	2	11	1.3%	L
Columbia	62	3	5	4.8%	
Dade	1,229	97	91	7.9%	
Desoto	38	4	3	10.5%	
Dixie	13	0	1	0.0%	
Duval	662	40	49	6.0%	
Escambia	277	16	20	5.8%	
Flagler	50	0	4	0.0%	L
Franklin	11	0	1	0.0%	
Gadsden	54	3	4	5.6%	
Gilchrist	13	0	1	0.0%	
Glades	10	1	1	10.0%	
Gulf	7	0	1	0.0%	
Hamilton	9	0	1	0.0%	
Hardee	58	6	4	10.3%	
Hendry	57	3	4	5.3%	
Hernando	68	2	5	2.9%	
Highlands	76	8	6	10.5%	
Hillsborough	985	102	73	10.4%	H
Holmes	20	2	1	10.0%	
Indian River	84	4	6	4.8%	
Jackson	40	1	3	2.5%	
Jefferson	4	1	0	25.0%	
Lafayette	6	1	0	16.7%	
Lake	196	17	14	8.7%	
Lee	383	32	28	8.4%	
Leon	124	7	9	5.6%	
Levy	24	1	2	4.2%	
Liberty	8	0	1	0.0%	
Madison	12	0	1	0.0%	
Manatee	299	35	22	11.7%	H
Marion	249	20	18	8.0%	
Martin	54	3	4	5.6%	
Monroe	20	2	1	10.0%	
Nassau	40	3	3	7.5%	
Okaloosa	125	8	9	6.4%	
Okeechobee	52	6	4	11.5%	
Orange	747	58	55	7.8%	
Osceola	249	18	18	7.2%	
Palm Beach	567	51	42	9.0%	
Pasco	236	13	17	5.5%	
Pinellas	440	29	33	6.6%	
Polk	591	44	44	7.4%	
Putnam	92	6	7	6.5%	
Saint Johns	44	3	3	6.8%	
Saint Lucie	150	13	11	8.7%	
Santa Rosa	94	4	7	4.3%	
Sarasota	149	9	11	6.0%	
Seminole	134	13	10	9.7%	
Sumter	37	3	3	8.1%	
Suwannee	49	5	4	10.2%	
Taylor	31	0	2	0.0%	
Union	10	0	1	0.0%	
Volusia	275	16	20	5.8%	
Wakulla	11	0	1	0.0%	
Walton	40	1	3	2.5%	
Washington	22	3	2	13.6%	

* 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
2012 Through 2014**

County	2012 - 2014 Number of Births to Females 15-19	2012 - 2014 Actual Number of Repeat Births to to Mothers 15-19	2012 - 2014 Expected Number of Repeat Births to to Mothers 15-19	2012 - 2014 Actual Percent Repeat Births to to Mothers 15-19	Statistical Significance*
Statewide	42,712	7,088	7,088	16.6%	
Alachua	486	82	81	16.9%	
Baker	120	26	20	21.7%	
Bay	604	94	100	15.6%	
Bradford	94	20	16	21.3%	
Brevard	936	136	155	14.5%	
Broward	3,003	510	498	17.0%	
Calhoun	68	10	11	14.7%	
Charlotte	240	37	40	15.4%	
Citrus	320	47	53	14.7%	
Clay	436	54	72	12.4%	L
Collier	573	85	95	14.8%	
Columbia	249	32	41	12.9%	
Dade	4,516	713	749	15.8%	
Desoto	134	19	22	14.2%	
Dixie	50	7	8	14.0%	
Duval	2,605	412	432	15.8%	
Escambia	1,079	205	179	19.0%	H
Flagler	186	26	31	14.0%	
Franklin	36	6	6	16.7%	
Gadsden	170	33	28	19.4%	
Gilchrist	62	6	10	9.7%	
Glades	23	5	4	21.7%	
Gulf	35	1	6	2.9%	L
Hamilton	46	11	8	23.9%	
Hardee	167	31	28	18.6%	
Hendry	215	43	36	20.0%	
Hernando	314	42	52	13.4%	
Highlands	263	39	44	14.8%	
Hillsborough	3,607	700	599	19.4%	H
Holmes	77	12	13	15.6%	
Indian River	302	46	50	15.2%	
Jackson	159	15	26	9.4%	L
Jefferson	28	5	5	17.9%	
Lafayette	25	4	4	16.0%	
Lake	773	140	128	18.1%	
Lee	1,423	226	236	15.9%	
Leon	550	86	91	15.6%	
Levy	108	17	18	15.7%	
Liberty	34	3	6	8.8%	
Madison	55	5	9	9.1%	
Manatee	981	186	163	19.0%	H
Marion	919	147	153	16.0%	
Martin	226	42	38	18.6%	
Monroe	109	13	18	11.9%	
Nassau	162	27	27	16.7%	
Okaloosa	509	77	84	15.1%	
Okeechobee	179	36	30	20.1%	
Orange	2,991	536	496	17.9%	H
Osceola	970	138	161	14.2%	L
Palm Beach	2,187	389	363	17.8%	
Pasco	965	143	160	14.8%	
Pinellas	1,646	266	273	16.2%	
Polk	2,090	369	347	17.7%	
Putnam	307	61	51	19.9%	
Saint Johns	254	37	42	14.6%	
Saint Lucie	634	106	105	16.7%	
Santa Rosa	392	49	65	12.5%	L
Sarasota	534	75	89	14.0%	
Seminole	616	104	102	16.9%	
Sumter	171	31	28	18.1%	
Suwannee	150	33	25	22.0%	
Taylor	87	17	14	19.5%	
Union	55	8	9	14.5%	
Volusia	1,062	150	176	14.1%	L
Wakulla	79	11	13	13.9%	
Walton	169	31	28	18.3%	
Washington	97	15	16	15.5%	

* 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