



Healthy Start Southwest Florida  
Needs Assessment  
April 2020

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## Executive Summary

Healthy Start of Southwest Florida works to increase healthy births and improve health and developmental outcomes for young children. Last year, more than 15,000 pregnant women and infants benefited from our services through Healthy Start Coalition of Southwest Florida. Every five years, Healthy Start Southwest Florida conducts a thorough needs assessment of the four-county region and uses the findings to educate the community on the status of maternal and child health, prioritize Healthy Start and community resources, advocate for access to care and funding, and develop Healthy Start’s five-year Service Delivery Plan. The 2020 needs assessment was completed in five steps: 1) recruit and orient the Needs Assessment Task Force; 2) review birth outcome indicators associated with poor birth outcomes; 3) review additional data, including relative risk and zip code analysis to identify target geographies and populations; 4) consider the impact of social determinants of health; and 5) from the data, identify priorities and target populations. Priorities are presented below. In addition to identifying priorities, however, the data analysis also identified women most at risk of poor birth outcomes in each county. These are the populations and zip codes that will be targeted for preventive services, education, and outreach.

- Collier
  - Women who live in 34142, 34116, 34104, 34120, 34113, and 34112.
  - Women who are Black or Hispanic, followed by Haitian
- Glades
  - Women who are Hispanic
- Hendry
  - Mothers who are Hispanic
- Lee
  - Women who live in 33916, 33905, 33971, 34135, and 33973
  - Women who are Black or Hispanic, followed by Haitian

Figure 1 summarizes the priorities and strategies for the region and then additional priorities for each county as applicable. All regional strategies will be implemented in each county.

**Figure 1: Priorities and strategies for the region and counties**

Needs Assessment Priority	Strategy
<u>Regional:</u> Access to prenatal care  Racial disparities in poor birth outcomes	1. Support access to prenatal care and ensure adequate prenatal care for better birth outcomes. 2. Target high risk zip codes and specific populations to reduce racial disparities in poor birth outcomes; continue community Baby Showers. 3. Promote well-women health so that women are healthy prior to pregnancy; partner with family planning providers. 4. Conduct outreach and education to promote pre-pregnancy health and behaviors necessary for a healthy birth outcome; partner with faith-based organizations and utilize social media influencers.

Needs Assessment Priority	Strategy
	5. Continue to reach out to non-traditional partners to address social determinants of health.
<u>Collier:</u> Infant deaths  Facility choice for very low birthweight infants	-Support access to prenatal care and ensure adequate prenatal care for better birth outcomes. -Conduct outreach and education, including lack of knowledge regarding 39 weeks, signs and symptoms of pre-term labor, and use of appropriate facilities.
<u>Hendry:</u> Births to mothers age 15-19 and repeat births to mothers age 15-19	-Provide programming to reduce teen births and repeat <b>teen?</b> births
<u>Lee:</u> Infant deaths     Births to mothers age 15-19	- Support access to prenatal care and ensure adequate prenatal care for better birth outcomes. -Conduct outreach and education, including signs and symptoms of pre-term labor, appropriate facilities, and the importance of appropriate inter-pregnancy intervals. -Support existing Safe Sleep programs. -Promote smoking cessation programs. -Provide programming to reduce teen births and repeat teen births

This rest of this document first provides information about Healthy Start Southwest Florida and the four-county area, then a roadmap of the data provided, and additional information on the needs assessment priorities to help inform the service delivery plan. The bulk of the document presents the data and analysis conducted in steps 2, 3, and 4 of the needs assessment process.

## About Healthy Start Southwest Florida

Healthy Start of Southwest Florida works to increase healthy births and improve health and developmental outcomes for young children. Last year, more than 15,000 pregnant women and infants benefited from our services through Healthy Start Coalition of Southwest Florida. Our coalition partners with other community organizations and providers to ensure moms and babies get the support needed to thrive, such as:

- Ensuring access to prenatal and infant medical care and services
- Monitoring and educating the community on pregnancy and birth outcomes
- Advocating and building partnerships to fill service gaps
- Allocating service funds in the community and providing quality assurance

Our region is diverse, ranging from rural Glades County to coastal Lee County and with a total population of over 1.1 million residents. Figure 1 provides a snapshot of the four counties we serve.

**Figure 1: Community demographics**

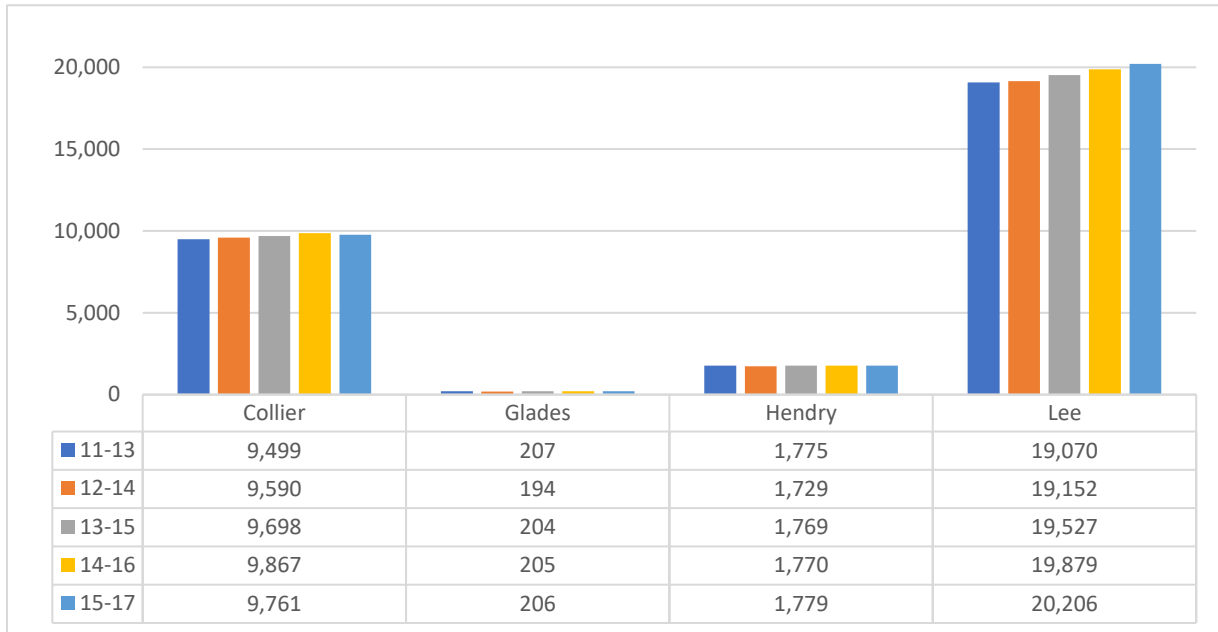
	<b>Collier</b>	<b>Glades</b>	<b>Hendry</b>	<b>Lee</b>
Total Population	356,774	13,197	39,064	700,165
Number of women of childbearing age	51,385	1,613	7,324	110,253
Number of children under five	16,669	477	2,855	33,694
Percentage of population that is White	89.2%	80.8%	80.2%	86.3%
Percentage of population that is Black	7.5%	14.0%	13.7%	9.4%
Percentage of population that is some other race or two or more races	3.3%	5.2%	6.1%	4.3%
Percentage of population that is Hispanic <sup>1</sup>	27.2%	20.8%	51.9%	20.2%
Percentage of population with at least a high school diploma	86.5%	73.7%	65.1%	87.3%
Median family income	\$72,804	\$43,206	\$44,603	\$61,847
Percentage of people with children under five below the federal poverty level	25.1%	34.8%	31.8%	27.0%
Percentage of population that speaks a language other than English at home	32.5%	22.5%	47.2%	22.1%
Percentage of population that has moved in the last year	16.8%	11.4%	16.1%	15.8%

Source: American Community Survey, 2013-2017 estimates

<sup>1</sup> The terms “Hispanic” and “Latino” are used interchangeably by the U.S. Census Bureau to refer to persons of Cuban, Mexican, Puerto Rican, Central and South American, Dominican, Spanish, and other Hispanic descent. Hispanics/Latinos may be of any race.

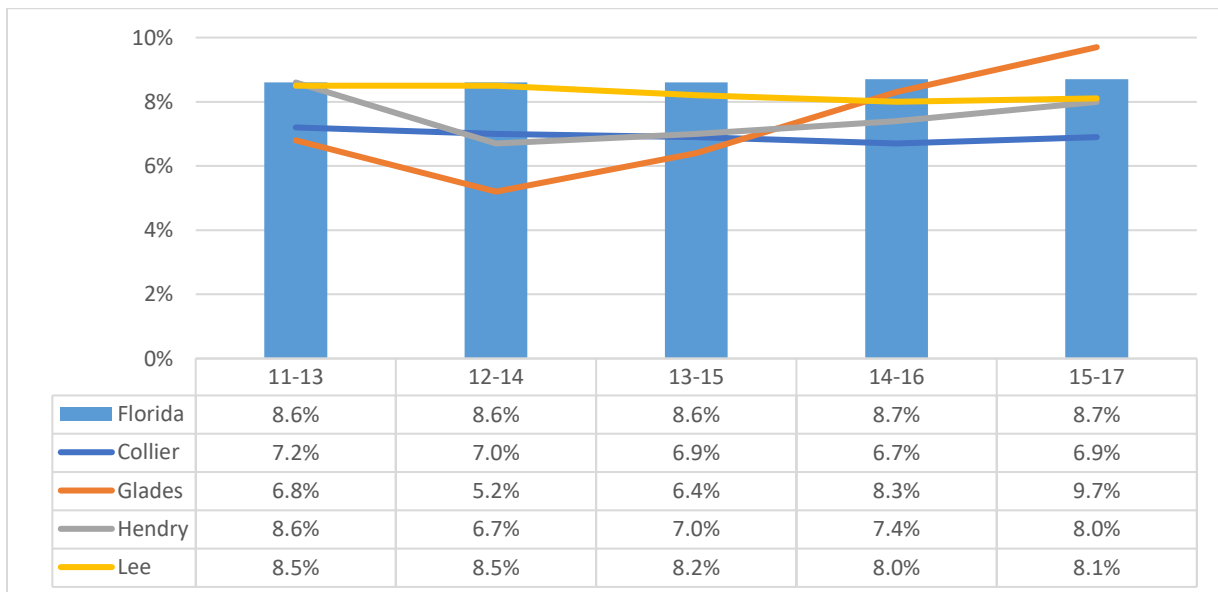
As noted, our mission is to increase healthy births and reduce infant deaths. Figures 2, 3 and 4 provide context for the scope of our efforts. Figure 2 provides the number of births in each county while Figures 3 and 4 summarize two important indicators of our mission: low birth weight and infant mortality.

**Figure 2: Number of births in each county, rolling three-year average**



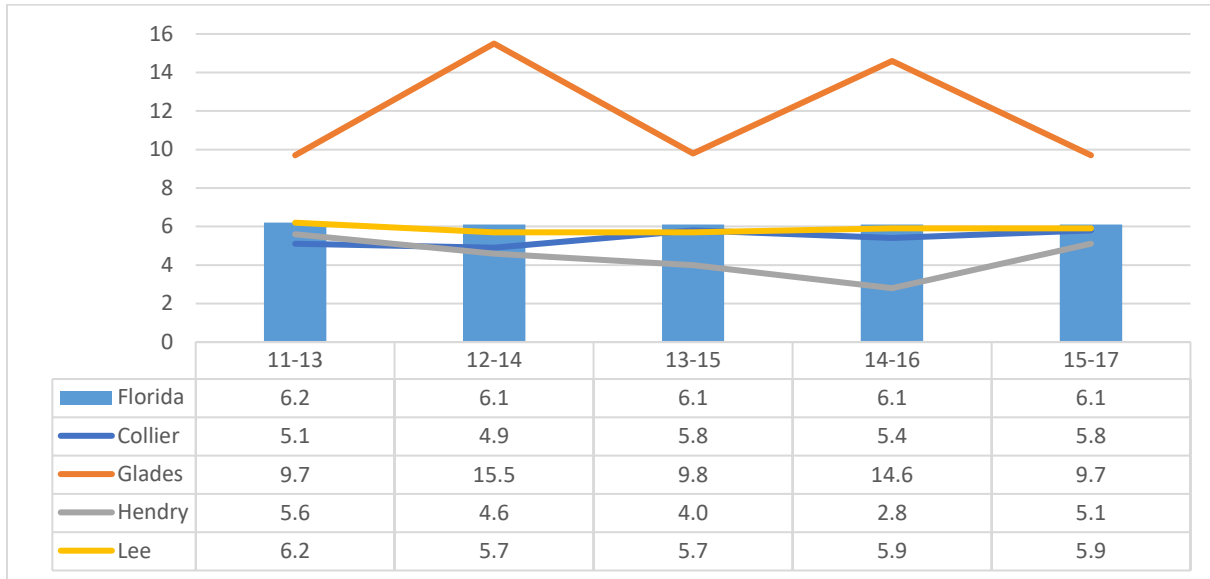
Source: Florida Department of Health, CHARTS

**Figure 3: Percentage of live births under 2,500 grams, rolling three-year average**



Source: Florida Department of Health, CHARTS

**Figure 4: Infant death rate per 1,000 live births, rolling three-year average**

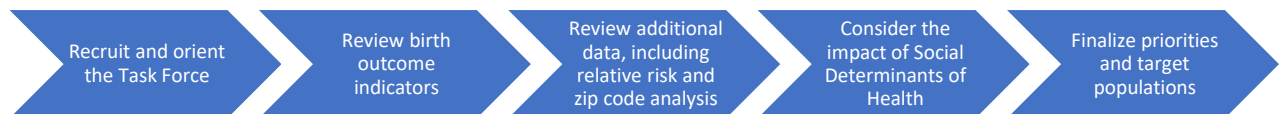


Source: Florida Department of Health, CHARTS

## The Needs Assessment Process

Every five years, Healthy Start Southwest Florida conducts a thorough needs assessment of the four-county region and uses the findings to educate the community on the status of maternal and child health, prioritize Healthy Start and community resources, advocate for access to care and funding, and develop Healthy Start's five-year Service Delivery Plan. Figure 5 provides a graphic of the process used to complete the 2020 needs assessment.

**Figure 5: Needs Assessment Process**



As shown, the first step in the process was to recruit the Needs Assessment Task Force. The task force met quarterly to review data and identify priorities and strategies. See Appendix A for a listing of task force members. This year, Healthy Start Southwest Florida also engaged a diverse group of stakeholders in each county to provide input into the impact of the social determinants of health and to provide input into proposed strategies.

The second step was for the Needs Assessment Task Force to review 24 birth outcome indicators for each county; data were obtained from two Florida CHARTS products: the Pregnancy and Young Child Profile and the County Birth Comparison. Each indicator was reviewed to determine if the indicator was above or below the Florida average, as well as the direction of the five-year trend. From that, the task force identified indicators of concern. Data regarding birth outcome indicators begin on page 26.

After identifying the priority areas of concern, the Needs Assessment Task Force asked for additional information on some indicators (e.g., prenatal care categories, causes of infant death), a relative risk analysis for the priority areas of concern, a zip code analysis, and facility outcome data. Data files were requested from the Florida Department of Health Vital Statistics for the years 2014-2018 and analyzed. From that analysis, the group identified county-level priorities and a target client for each county. These additional data begin on page 13.

Finally, the task force investigated the impact of social determinants of health using three methods. First, secondary data were collected to assess the scope of the social determinants. Second, analyses were conducted to assess the impact of some social determinants on birth outcomes. See page 21 for data on social determinants of health. Finally, needs assessment data, priorities, and proposed strategies were reviewed by a diverse group of stakeholders in each county. At those meetings, stakeholders were asked to review data and the proposed strategies in light of the social determinants.



Once all the data had been collected and reviewed, the Needs Assessment Task Force identified regional and county-level priorities, strategies, and target clients as show in Figure 1.

The remainder of this document provides the background material referenced in the discussion of the needs assessment process. The additional data on each county are presented first (step 3 of the process), followed by the social determinants of health (step 4 of the process), and finally the birth outcome indicators (step 2 of the process). Each indicator is provided by county.

## Resources Available

This section provides a listing of the resources available to address the priorities as well as resources available to address ongoing Healthy Start services.

### Resources for priority areas

The table below lists the provider and services, by county. One note, although there are programs in place in each county to address teen births and repeat teen births, there has been limited funding and a lack of consistent funding.

<b>ACCESS TO, AND EARLY ENTRY IN, PRENATAL CARE</b>				
<b>Provider</b>	<b>Collier</b>	<b>Glades</b>	<b>Hendry</b>	<b>Lee</b>
Community Cooperative				X
County Health Department	X			X
County Human Services	X			X
Dr. Ruel T. Stoessel, M.D., P.A.		X	X	
Early Head Start				X
Early Intervention Program/ Early Steps		X	X	
East Coast Migrant Association			X	
Family Health Centers				X
Florida Community Health Center		X	X	
Good Wheels				X
Healthcare Network of Southwest FL	X			
Healthy Families / Children's Home Society	X	X	X	X
Impact for Development and Education, Inc.				X
Lee Adolescent Mothers Program				X
Lee Health System				X
Lifeline				X
Naples Community Hospital	X			
Our Mother's Home				X
Planned Parenthood	X			X
Pregnancy Resource Center	X			
Redlands Christian Migrant Association	X		X	
Salvation Army			X	
St. Mary's Medical Center (deliveries & newborn)		X		
Sunlight Home	X			
Total Womens Care of Naples- Healthcare Network of SWFL	X			
Verity Pregnancy Resource Center	X			X
WIC	X	X	X	X

<b>Overweight and Obesity</b>				
<b>Provider</b>	<b>Collier</b>	<b>Glades</b>	<b>Hendry</b>	<b>Lee</b>
WIC	X	X	X	X
Safe & Healthy Children's Coalition	X			
County Health Department	X	X	X	X
Family Health Centers of SWFL			X	X
<b>Access to Health Care for Uninsured Women</b>				
<b>Provider</b>	<b>Collier</b>	<b>Glades</b>	<b>Hendry</b>	<b>Lee</b>
County Human Services	X			X
Community Services – Lehigh				X
County Health Department	X	X	X	X
Family Health Centers			X	X
Florida Community Health Center		X	X	
Healthcare Network of Southwest Fl	X			
Hendry Regional Medical Center- Forbes Family Center & LaBelle Convenient Center			X	
Lee Health System				X
Lifeline				X
Mama's Chiropractic Center				X
Naples Community Hospital	X			
Planned Parenthood	X			X
Pregnancy Resource Center	X			
Salvation Army			X	
St. Mary's Medical Center (deliveries & newborn)		X		
The Neighborhood Clinic	X			
Total Womens Care of Naples- Healthcare Network of SWFL	X			
<b>Teen Births and Repeat Teen Births Resources/Education</b>				
<b>Provider</b>	<b>Collier</b>	<b>Glades</b>	<b>Hendry</b>	<b>Lee</b>
County Human Services	X			X
Collier County Public Schools- TAPP Naples	X			
County Health Department	X			X
Healthy Start- FOCUS Program	X	X	X	X
Lee County Public Schools TAPP				X
Safe Kids Southwest Florida	X	X	X	X
Lifeline				X
Planned Parenthood	X			X
Pregnancy Resource Center	X			
Verity Pregnancy Resource Center				X

<b>Smoking Prevention and Cessation Programs/Educational Support</b>				
<b>Provider</b>	<b>Collier</b>	<b>Glades</b>	<b>Hendry</b>	<b>Lee</b>
American Lung Association	x	x	x	x
County Health Departments	x	x	x	x
Florida Help Line	x	x	x	x
Healthy Start /Nurse Family Partnership	x	x	x	x
Lee Health System				x
NCH	x			

## Resources for additional Healthy Start services

<b>Organization and program name</b>	<b>Collier</b>	<b>Glades</b>	<b>Hendry</b>	<b>Lee</b>
<b>Substance Use, Treatment, Prevention</b>				
David Lawrence Center (MAT Provider)	x			
Hazelden	x	x	x	x
Hanley Center	x			x
The Willough	x			
Catholic Charities	x			x
New Season (MAT Provider)	x			x
Lee County Treatment Center (MAT Provider)				x
Gulfcoast Certified Primary Care (MAT Provider)	x			
Collier Medical (MAT Provider)				
White Sands	x			x
St. Matthews House	x			
NCH Dr. Samuel Parish	x			
Lutheran Services				x
Treatment Works				x
Lee Health Recovery				x
Children's Home Society	x	x	x	x
Agape Home		x	x	
Centerstone				x
Beyond Barriers		x	x	
Ryan's Hope House				x
Jerome Golden Center		x	x	
Drug Free Collier	x			
Operation PAR (MAT Provider)	x			x
SalusCare (MAT Provider)	x			x
Addiction Care of Excellence	x			
The Braden Clinic (MAT Provider)	x			
Start Fresh Treatment Center(MAT Provider)	x			
First Steps of Sarasota				x
Lighthouse Addiction Service				x

<b>Family Planning</b>				
County Health Departments	x	x	x	x
Family Health Centers			x	x
Healthcare Network of Southwest Fl	x			
Hendry Regional Medical Center		x	x	
Florida Community Health Center			x	
Planned Parenthood	x			x
<b>Residential &amp; Transitional Living</b>				
Sunlight Homes	x			
Nextep				x
Providence House				x
Operation PAR				x
St. Matthews House (no meds accepted)	x			
Lifeline Family Center				x
David Lawrence Center - Crossroads	x			
Ryan's Hope House				x
<b>Temporary Housing</b>				
Our Mother's Home				x
Better Together	x	x	x	x
<b>Psychosocial Counseling</b>				
Catholic Charities	x			
David Lawrence Center	x			
SalusCare	x			x
Lutheran Services	x			x
ACT	x		x	x
NAMI	x			x
LaBelle Resource Center			x	
Beyond Barriers				x
IMPOWER-Telehealth	x			
County Health Department	x	x	x	x
Healthy Start/Healthy Families/Lee Health	x	x	x	x
Park Royal Hospital	x			x
Children's Advocacy	x			x
Children's Home Society	x			x

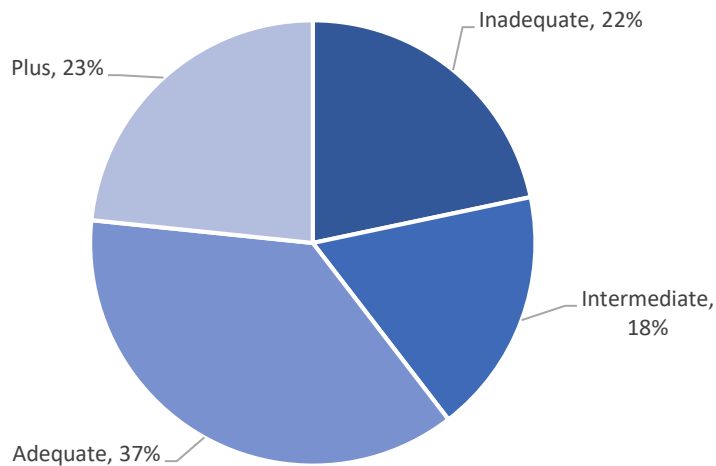
## Analysis of Key Concerns and Target Clients, by County

### Collier County

The data in this section pertain only to Collier County. Data from the years 2014-2018 are **combined** unless otherwise noted.

*Additional information: prenatal care status, cause of death, and facilities with VLBW deliveries*

**Figure 7: Percentage of mothers with known prenatal care, by Kotelchuck Index, 2004-2018**



**Figure 8: Top 5 cause of death, infant mortality, 2014-2018**

Cause of death	Collier
Extremely low birthweight or extreme immaturity	12
Other perinatal conditions	8
Edward's syndrome	6
Congenital malformations of heart	5
Newborn affected by incompetent cervix	4
Respiratory distress of newborn	4

**Figure 9: Where VLBW infants were delivered, 2014-2018**

Facility name	Number of VLBW deliveries
North Collier Hospital	137
Lee Memorial HealthPark	52
South Miami Hospital	6
Tampa General Hospital	5
Home/Other	2
Bayfront Health St. Petersburg	1
Florida Hospital Orlando	1
Jackson Health Systems	1
Kendall Regional Medical Center	1
Naples Community Hospital	1
Sarasota Memorial Hospital	1

*Zip code analysis and relative risk analysis*

**Figure 10: Zip codes and relative risk, by priority indicator, 2014-2018**

Indicator	Top 5 zip codes (or at least 10%)	Relative risk
Births to mothers over 18 without high school education	34142 34116 34112 34113 34104	Hispanic 6.4
Births to overweight or obese mothers at the time pregnancy occurred	34142 34116 34120 34113 34104	Haitian 1.3 Hispanic 1.2 Black 1.3
Births to uninsured women ("self-pay")	34142 34116 34113 34112 34104	Haitian 1.7 Hispanic 2.4 Black 1.4
Births covered by Medicaid	34142 34116 34120 34104 34113	Haitian 1.1 Hispanic 1.6 Black 1.3
Very low birthweight (VLBW) infants born in subspecialty perinatal centers as a percentage of VLBW births	34116 34142 34104 34120 34112	Haitian 2.4 Black 2.2

Indicator	Top 5 zip codes (or at least 10%)	Relative risk
Total infant deaths per 1,000 live births	34116 34142 34104 34112 34120	Not statistically significant
Percentage of births with known prenatal care status with inadequate or intermediate care (Kotelchuck Index)	34142 34116 34120 34104 34113	Haitian 1.1 Black 1.1
Extremely low birthweight (ELBW) births	34116 34142 34104 34120 34112	Haitian 2.6 Black 2.4

The Collier County target client:

- Mothers over 18 without a high school education
- Mothers who are overweight or obese
- Mothers who are uninsured or on Medicaid
- Mothers without adequate prenatal care
- Mothers in zip codes 34142, 34116, 34104, 34120, 34113, and 34112
- Mothers who are Haitian or Black, followed by Hispanic

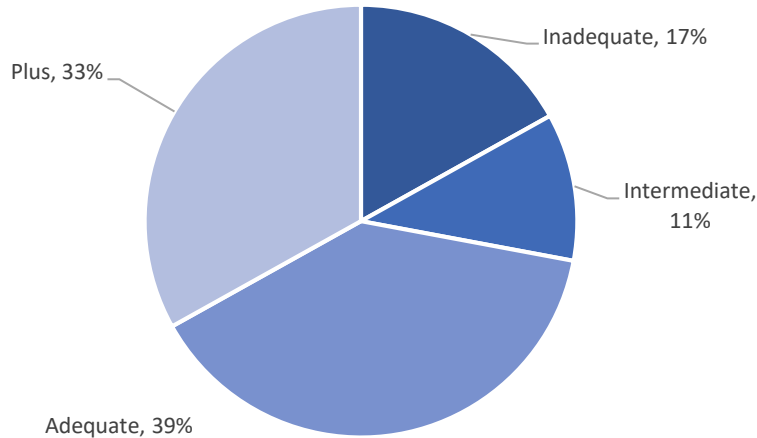


## Glades County

The data in this section pertain only to Glades County. Data from the years 2014-2018 are **combined** unless otherwise noted.

*Additional information: prenatal care status*

**Figure 11: Percentage of mothers with known prenatal care, by Kotelchuck Index, 2004-2018**



*Zip code analysis and relative risk analysis*

**Figure 12: Relative risk, by priority indicator, 2014-2018**

Indicator	Relative risk
Births to mothers over 18 without high school education	Hispanic 3.4
Births to overweight or obese mothers at the time pregnancy occurred	Not statistically significant
Births to uninsured women ("self-pay")	Hispanic 24.3
Births covered by Medicaid	Black 1.4

The Glades County target client:

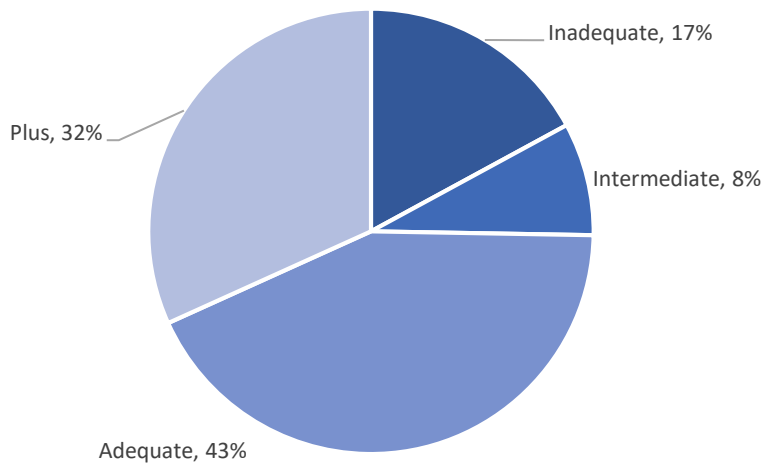
- Mothers over 18 without a high school education
- Mothers who are overweight or obese
- Mothers who are uninsured or on Medicaid
- Mothers who are Hispanic

## Hendry County

The data in this section pertain only to Hendry County. Data from the years 2014-2018 are **combined** unless otherwise noted.

*Additional information: prenatal care status*

**Figure 13: Percentage of mothers with known prenatal care, by Kotelchuck Index, 2004-2018**



*Zip code analysis and relative risk analysis*

**Figure 14: Zip codes and relative risk, by priority indicator, 2014-2018**

Indicator	Top 5 zip codes (or at least 10%)	Relative risk
Births to mothers over 18 without high school education	33440 33935	Hispanic 3.2
Births to mothers over age 35 per 1,000 females over age 35	33935 33440	Not statistically significant
Births to overweight or obese mothers at the time pregnancy occurred	33935 33440	Not statistically significant
Births covered by Medicaid	33935 33440	Hispanic 1.2 Black 1.2
Births to mothers age 15-19 per 1,000 females age 15-19	33935 33440	Not statistically significant

The Hendry County target mother:

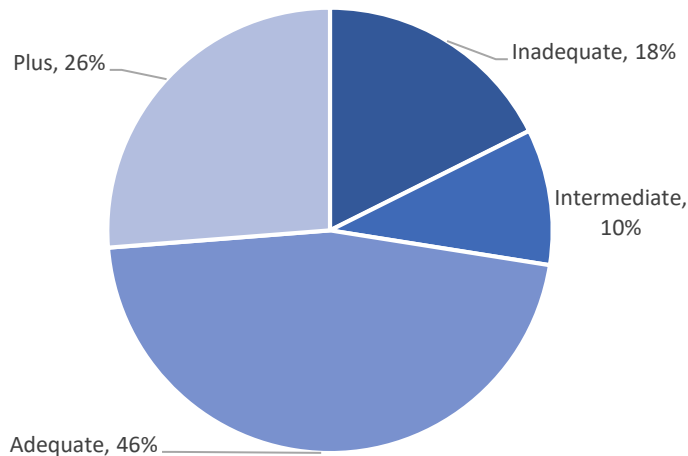
- Mothers over 18 without a high school education
- Mothers who are over 35
- Mothers who are overweight or obese
- Mothers who are on Medicaid
- Mothers who are 15 to 19
- Mothers who are Hispanic

## Lee County

The data in this section pertain only to Lee County. Data from the years 2014-2018 are **combined** unless otherwise noted.

*Additional information: prenatal care status, cause of death*

**Figure 15: Percentage of mothers with known prenatal care, by Kotelchuck Index, 2004-2018**



**Figure 16: Top 5 cause of death, infant mortality, 2014-2018**

Cause of death	Lee
Extremely low birthweight or extreme immaturity	19
Accidental suffocation and strangulation in bed	18
Other perinatal conditions	11
Other low birthweight or preterm	11
Newborn affected by incompetent cervix	10

Figure 17: Zip codes and relative risk, by priority indicator, 2014-2018

Indicator	Top 5 zip codes (or at least 10%)	Relative risk
Births to mothers over 18 without high school education	33905 34135 33916 33973 33907	Hispanic 3.7
Total neonatal infant deaths per 1,000 live births	33916 34135 33973 33971 33976	Black 2.5
Births to overweight or obese mothers at the time pregnancy occurred	33916 33905 33971 33909 34135	Haitian 1.2 Hispanic 1.2 Black 1.2
Births to mothers who report smoking during pregnancy	33917 33916 33909 33905 33990	No disparity
Births covered by Medicaid	33916 33905 33971 33973 33909	Haitian 1.3 Hispanic 1.5 Black 1.2
Births with an inter-pregnancy interval under 18 months	33916 33905 33971 34135 33909	Black 1.1
Births to mothers age 15-19 per 1,000 females age 15-19	33905 33916 33971 34135 33917	Hispanic 1.6 Black 1.5
ELBW births	33916 33973 33976 33901 33905	Black 3.3

The Lee County target mother:

- Mothers over 18 without a high school education
- Mothers who are overweight or obese
- Mother who smoke
- Mothers who are on Medicaid
- Mothers with an inter-pregnancy interval less than 18 months
- Mothers age 15 to 19
- Mothers who live in 33916, 33905, 33971, 34135, and 33973
- Mothers who are Black or Hispanic, followed by Haitian

## Social Determinants of Health

This section includes secondary data aligned with social determinants of health, including housing, employment, education, transportation, poverty, and racism. These measures are not a perfect fit for the impacts of social determinants of health but provided context for the committee’s discussion. Unless otherwise noted, sources in this section are from the 2017 five-year American Community Survey estimates.

### Secondary data

#### Housing

Figure 18: Percentage of all residents in the same house one year ago, by county and by zip code

County	Same house one year ago		
Collier	83%	33905	83%
Glades	89%	33916	78%
Hendry	84%	33971	81%
Lee	84%	33973	72%
		34104	85%
		34112	84%
		34113	89%
		34116	79%
		34120	78%
		34135	87%
		34142	82%

Zip code	Same house one year ago
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#### Employment

The employment/population ratio is calculated by dividing the number of people employed by the total number of people of working age. The unemployment rate is limited to those that are actively seeking work (e.g., have not “given up,” able to work, etc.).

Figure 19: Employment data for the population 16 years and over, by county and by zip code

County	Employment/Population Ratio	Unemployment rate
Collier	50.2	5.3%
Glades	36.2	10.0%
Hendry	55.1	8.2%
Lee	49.0	7.1%

Zip Code	Employment/Population Ratio	Unemployment rate
33905	49.8	6.9%
33916	60.3	7.1%
33971	61.6	6.6%
33973	57.5	10.6%
34104	49.7	3.0%
34112	44.1	3.9%
34113	48.3	6.5%
34116	68.1	6.8%
34120	59.6	4.5%
34135	45.7	5.7%
34142	59.0	13.3%

## Education

Figure 20: Percentage of population with at least a high school diploma, by county and by zip code

County	At least a high school diploma
Collier	87%
Glades	75%
Hendry	65%
Lee	87%

Zip code	At least a high school diploma
33905	74%
33916	74%
33971	79%
33973	66%
34104	87%
34112	89%
34113	82%
34116	72%
34120	86%
34135	83%
34142	43%

## Transportation

Figure 21: Percentage of total population without a vehicle available, by county and by zip code

County	Percentage with no vehicle available
Collier	5%
Glades	5%
Hendry	9%
Lee	5%

Zip Code	Percentage with no vehicle available
33905	7%
33916	11%
33971	3%
33973	8%
34104	4%
34112	6%
34113	6%
34116	10%
34120	0%
34135	3%
34142	18%

## **Poverty**

Figure 22: Percentage of all families with children under 18 that are below the poverty level, by county and zip code

County	Percentage of families with children under 18 that are below the poverty level
Collier	18%
Glades	24%
Hendry	28%
Lee	20%

Zip code	Percentage of families with children under 18 that are below the poverty level
33905	27%
33916	36%
33971	24%
33973	39%
34104	27%
34112	17%
34113	20%
34116	27%
34120	4%
34135	23%
34142	42%

## **Analysis of de-identified data**

The birth file data requested from the Florida Department of Health Vital Statistics was also analyzed to assess impacts on poor birth outcomes. Whether or not a mother over 18 had a high school diploma was not associated with LBW, VLBW, ELBW, or infant mortality.

The first analysis of the birth file data was done to assess the impact of poverty on poor birth outcomes. Poverty was defined as whether a woman's source of payment was self-pay (uninsured) or Medicaid. As shown, a woman with one of those two sources of payment was 1.2 times as likely to have a low



birthweight baby and 1.6 times as likely to experience infant mortality as a woman with another source of payment (e.g., insurance).

**Figure 23: Relative risk for Medicaid and self-pay for LBW, VLBW, ELBW, and IM, all counties**

Variable	LBW	VLBW	ELBW	IM
Medicaid and Self Pay	1.2	Weak significance	Weak significance	1.6

The second analysis of the birth file data was done to assess the impact of race on poor birth outcomes. (Relative risk analysis was also assessed for all priority areas of concern and is included in another section of this report.) Figure 22 provides that analysis for poor birth outcomes. For example, a woman who is Haitian is 1.5 times as likely to have a low birthweight baby as woman who is not Haitian.

**Figure 24: Relative risk analysis by race for LBW, VLBW, ELBW, and IM, all counties**

Variable	LBW	VLBW	ELBW	IM
Haitian	1.5	1.9	2.4	Weak significance; no disparity
Hispanic	No disparity	Not statistically significant	Not statistically significant	Not statistically significant
Black	1.9	2.4	3.0	2.5

## Community input

To gain additional insight into the social determinants of health, Healthy Start of Southwest Florida held meetings in each community to discuss the data and the influence of social determinants. Across all four counties, there were 31 participants. At each meeting, participants were asked to respond to the two questions below; they were also provided a matrix of the priority indicators and social determinants to aid them in their discussions.

1. To what extent do you think the following factors influence the priority concerns in your county: housing, employment, educational attainment, transportation, poverty, and stress from experiencing racism?
2. In what ways, if any, should Healthy Start Southwest Florida consider and/or address these factors in our strategies for improving birth outcomes?

The discussions from each county are summarized below.

### **Collier:**

Stakeholders in Collier County reported that poverty, employment, and immigration status impact access to care – for example, gaps in child Medicaid coverage and jobs that do not provide benefits, vacation, or sick leave. Overall, stakeholders from Collier County found that poverty and educational attainment impacted birth outcome the most. Stakeholders suggested that obstetricians should have a holistic approach and consider nutrition and generational issues; maternal conditions impact prenatal conditions. Stakeholders also suggested approaching women in non-clinical settings such as faith-based sites and retail sites to gain trust, as well as targeting zip codes.

### **Hendry/Glades**

In Glades County, stakeholders reported that poverty and employment impacted birth outcomes the most; stakeholders also noted that cultural beliefs impact birth outcomes and that transportation impacts access to services. In Hendry County, the top influencers were educational attainment and poverty. Stakeholders in both counties also noted that immigration status is a barrier as women are afraid to access services.

### **Lee:**

Overall, Lee County stakeholders reported that poverty and educational attainment impacted birth outcomes the most. They suggested more teen pregnancy prevention education in middle school, increasing access to prenatal care of the uninsured and immigrants, addressing geographic barriers for Lehigh Acres, and addressing transportation barriers.

## **Review of research**

The needs assessment task force also asked the consultant to collect information on what works in reducing health disparities and sources of information for the target population. Based on that information, the task force refined the strategies.

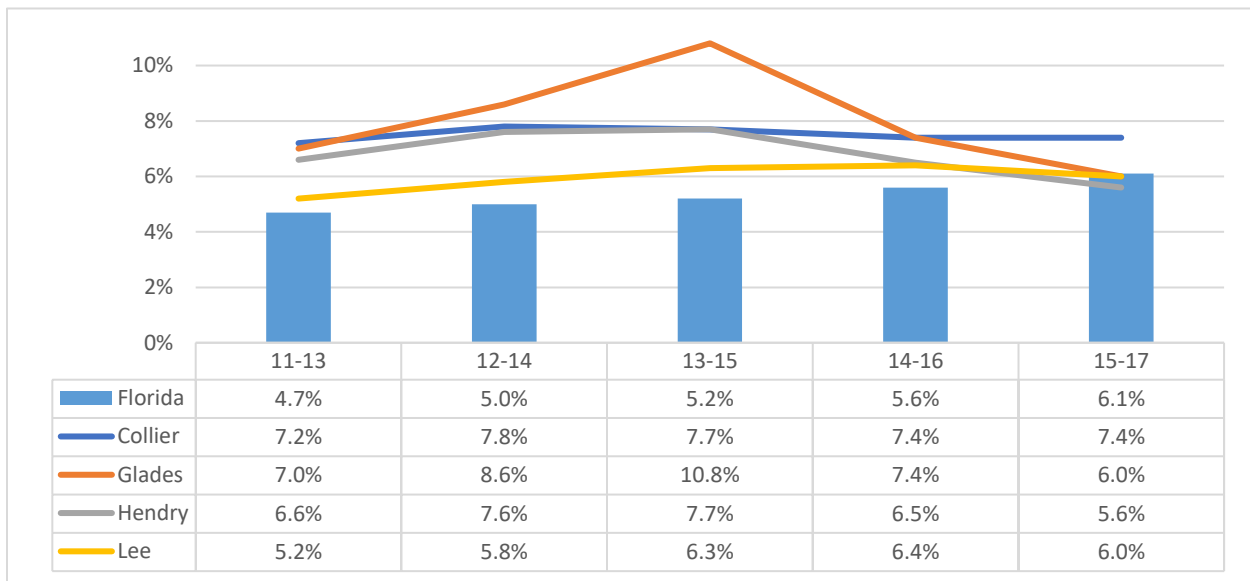
## Birth Outcome Indicators

This section provides the birth outcome indicators, by county, for the prior five years. Data are three-year rolling averages unless otherwise noted. The scales of the graphs are not consistent and were chosen to allow for visual comparison among years and counties and not across indicators. For some indicators, the smaller counties show wide fluctuations even with a rolling three-year average; in this case, the raw data are provided in Appendix B. Figure 25 identifies, for each county, where the indicator is over the state average and whether that indicator is showing a concerning trend (increasing/decreasing) or may be a concern, but is improving.

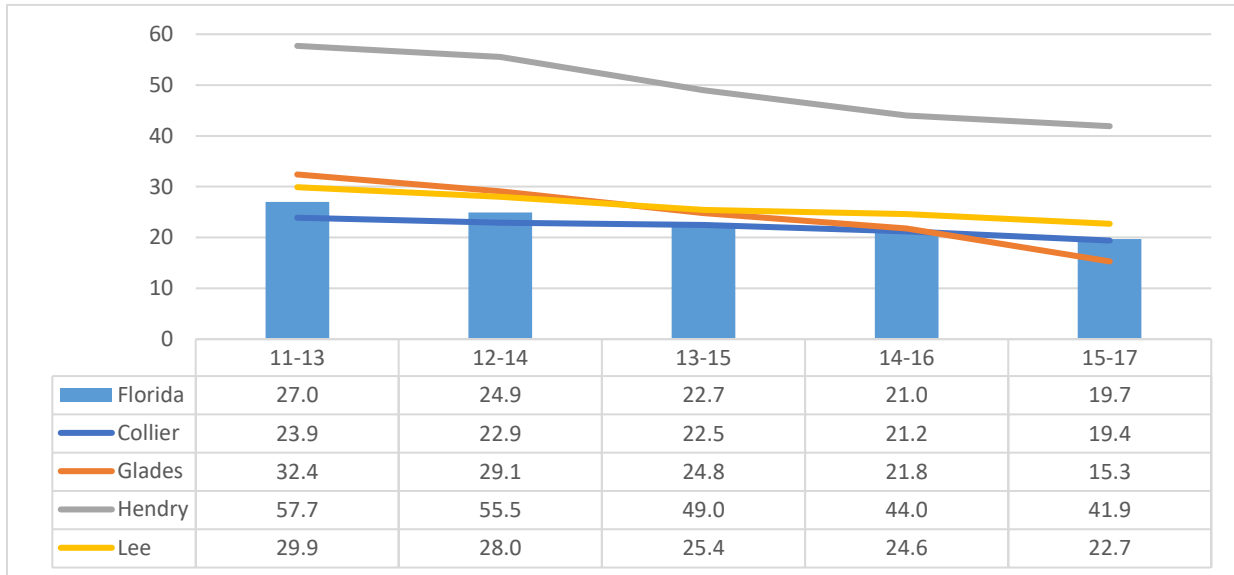
**Figure 25: Priority areas of concern “at a glance”**

	Collier	Glades	Hendry	Lee
Births to mothers over 18 without high school education	Improving but over			
Total neonatal infant deaths per 1,000 live births	Over and increasing			Under but increasing
Births to mothers over age 35 per 1,000 females over age 35			Over	
Births to overweight mothers at the time pregnancy occurred	Over			
Births to obese mothers at time the pregnancy occurred		Over and increasing		
Births to mothers who report smoking during pregnancy				Improving but over
Births to uninsured women ("self-pay")	Improving but over			
Births covered by Medicaid		Over		
Very low birthweight (VLBW) infants born in subspecialty perinatal centers as a percentage of VLBW births	Over and decreasing			
Infant deaths from perinatal conditions per 100,000	Over and increasing			
Births with an inter-pregnancy interval under 18 months				Over
Repeat births to mothers ages 15-19 as a percentage of births to mothers ages 15-19			Over	
Births to mothers age 15-19 per 1,000 females age 15-19			Improving but over	Improving but over
Percentage of births with known prenatal care status by category	Over			

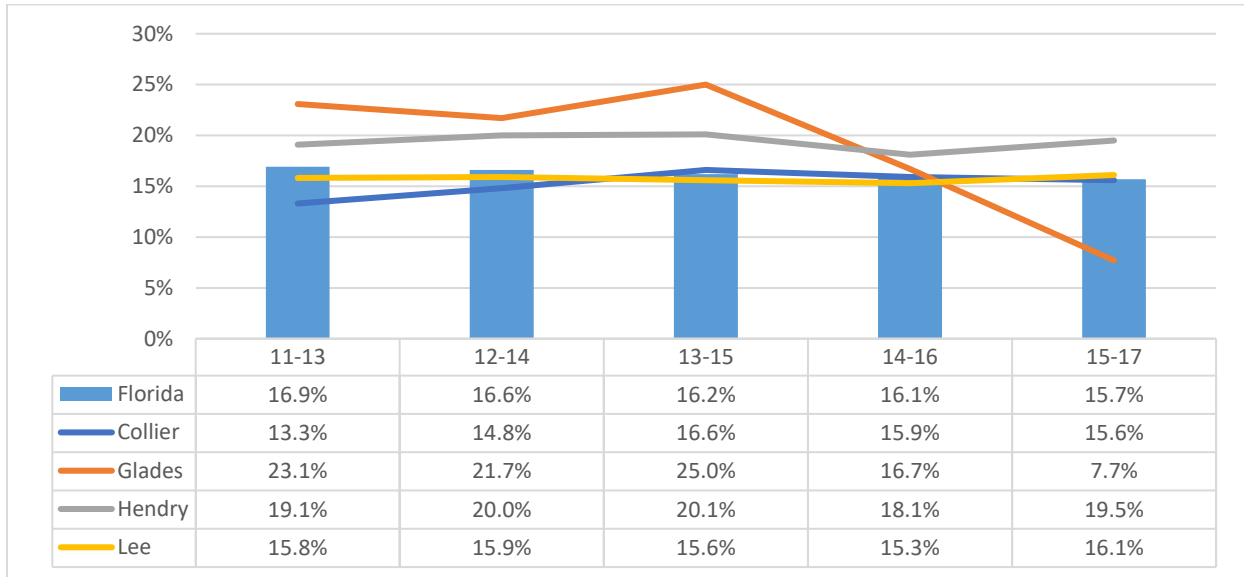
**Figure 26: Percentage of births with known prenatal care status with third or no trimester prenatal care, rolling three-year average**



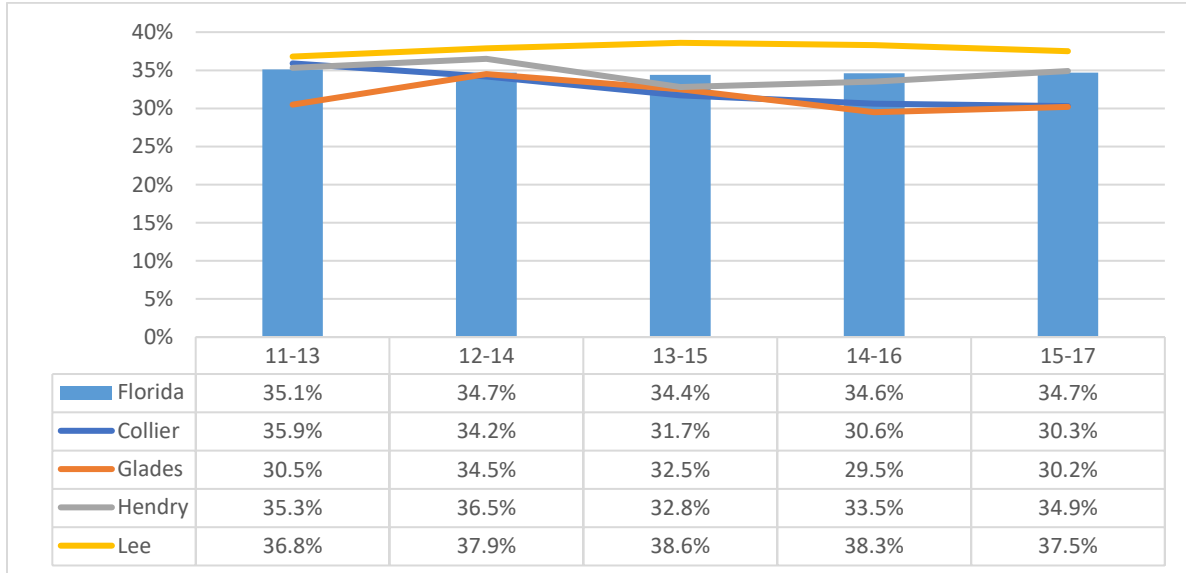
**Figure 27: Births to mothers age 15-19 per 1,000 females age 15-19, rolling three-year average**



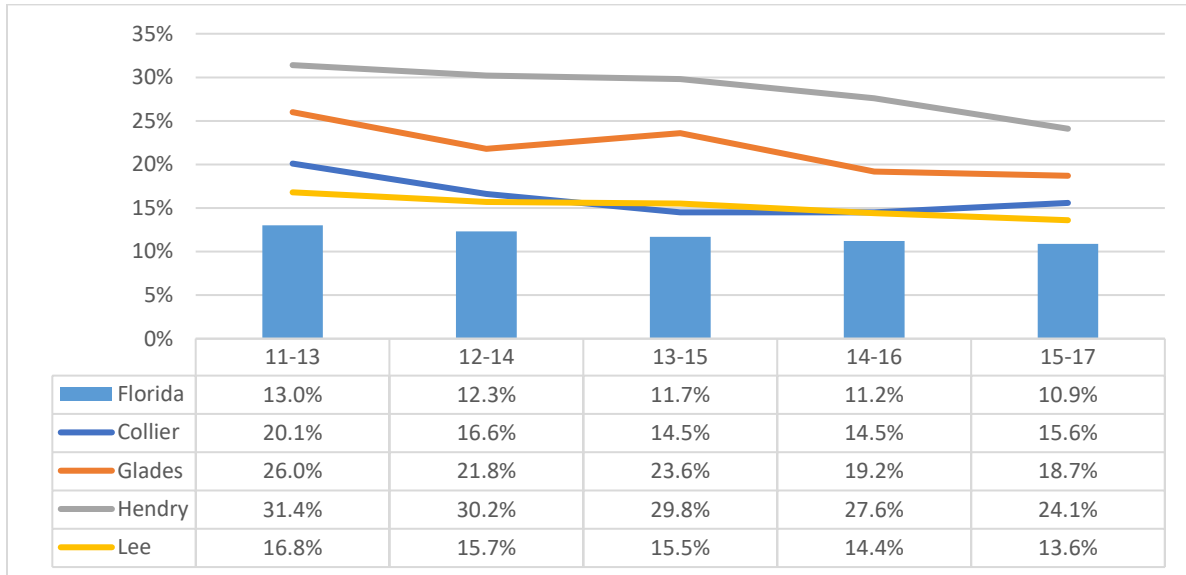
**Figure 28: Repeat births to mothers ages 15-19 as a percentage of births to mothers ages 15-19, rolling three-year average**



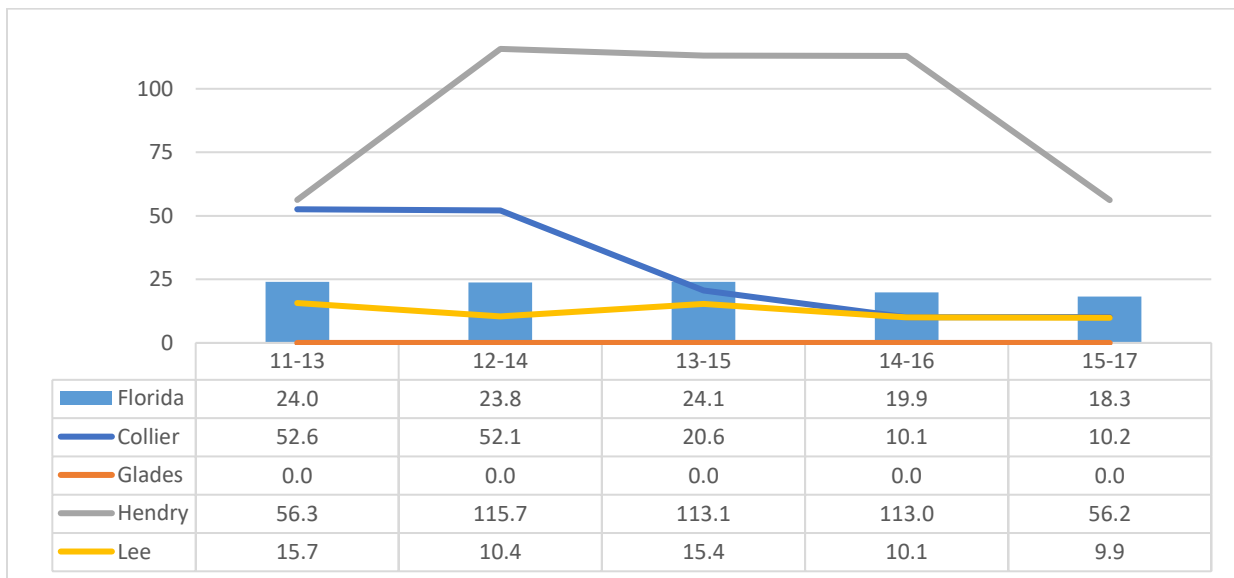
**Figure 29: Births with an inter-pregnancy interval under 18 months as a percentage of births, rolling three-year average**



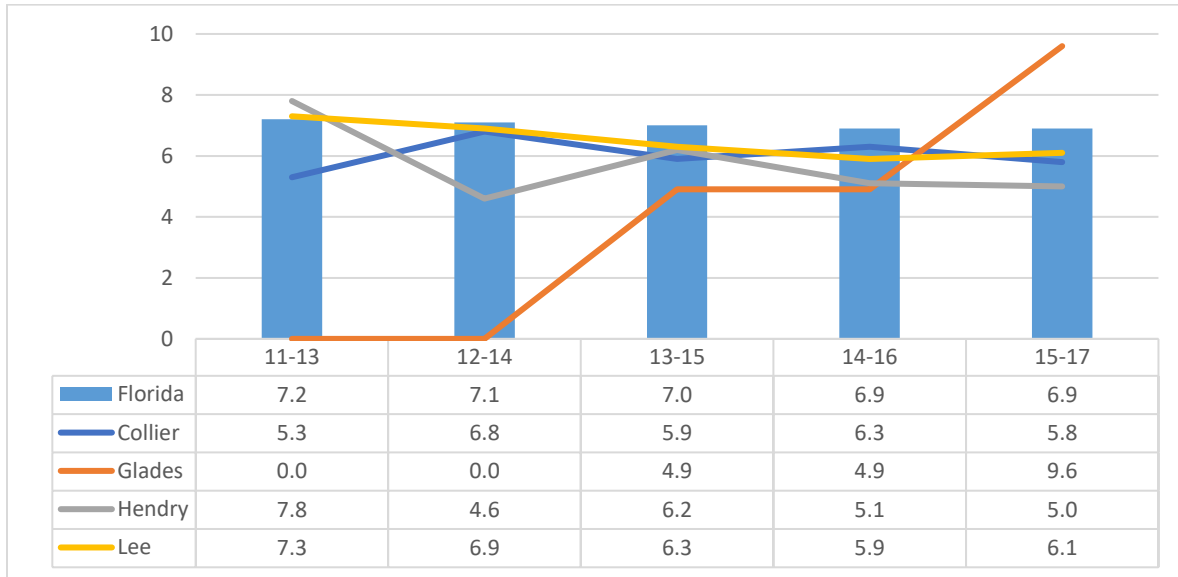
**Figure 30: Births to mothers over 18 without high school education as a percentage of births to all mothers over 18, rolling three-year average**



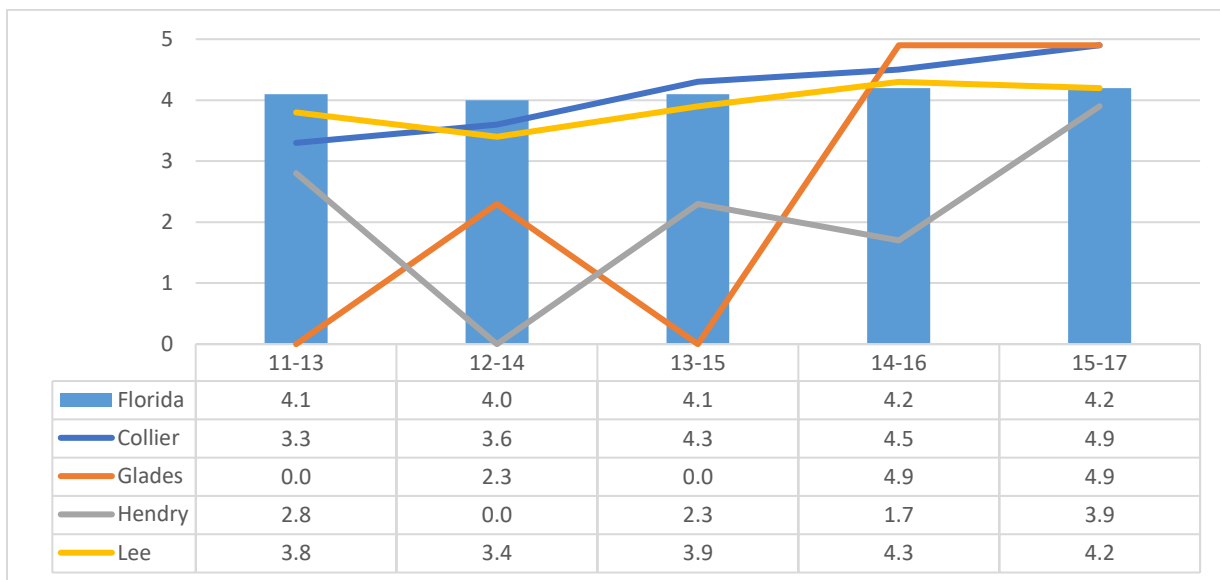
**Figure 31: Maternal deaths per 100,000 live births, rolling three-year average**



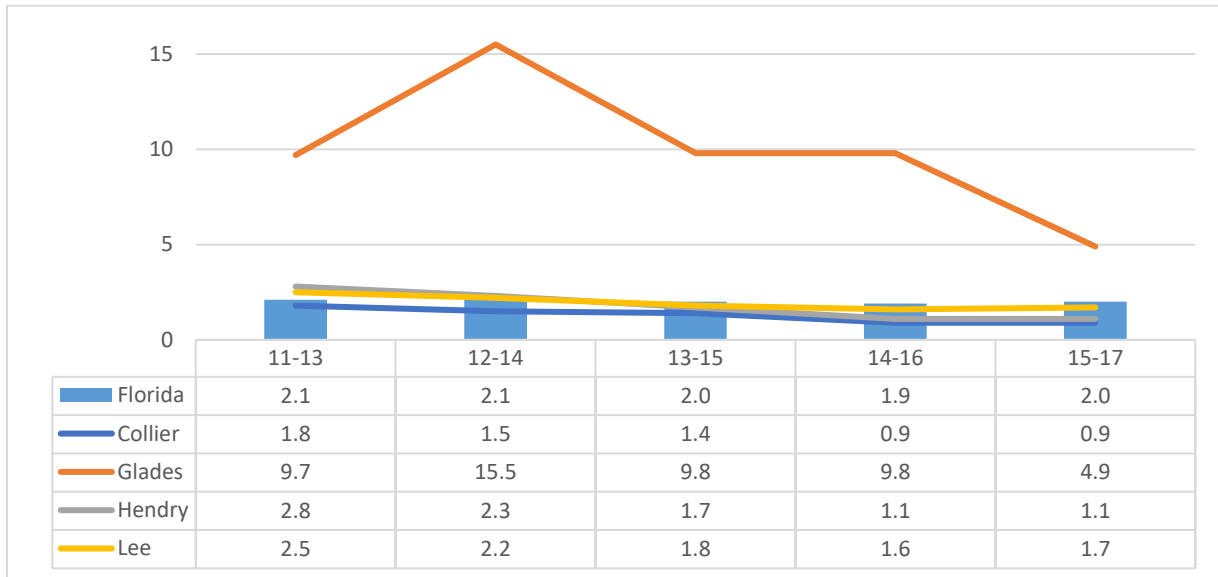
**Figure 32: Total fetal deaths per 1,000 live births and fetal deaths, rolling three-year average**



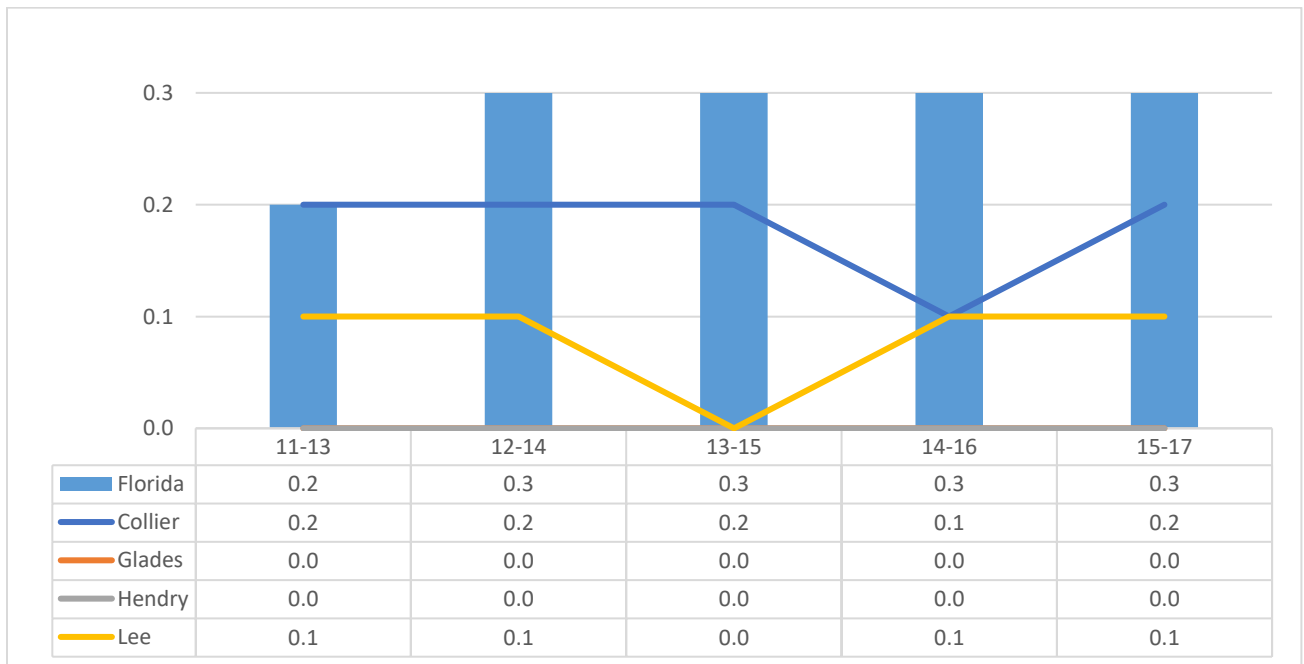
**Figure 33: Total neonatal infant deaths per 1,000 live births, rolling three-year average**



**Figure 34: Total post-neonatal infant deaths per 1,000 live births, rolling three-year average**

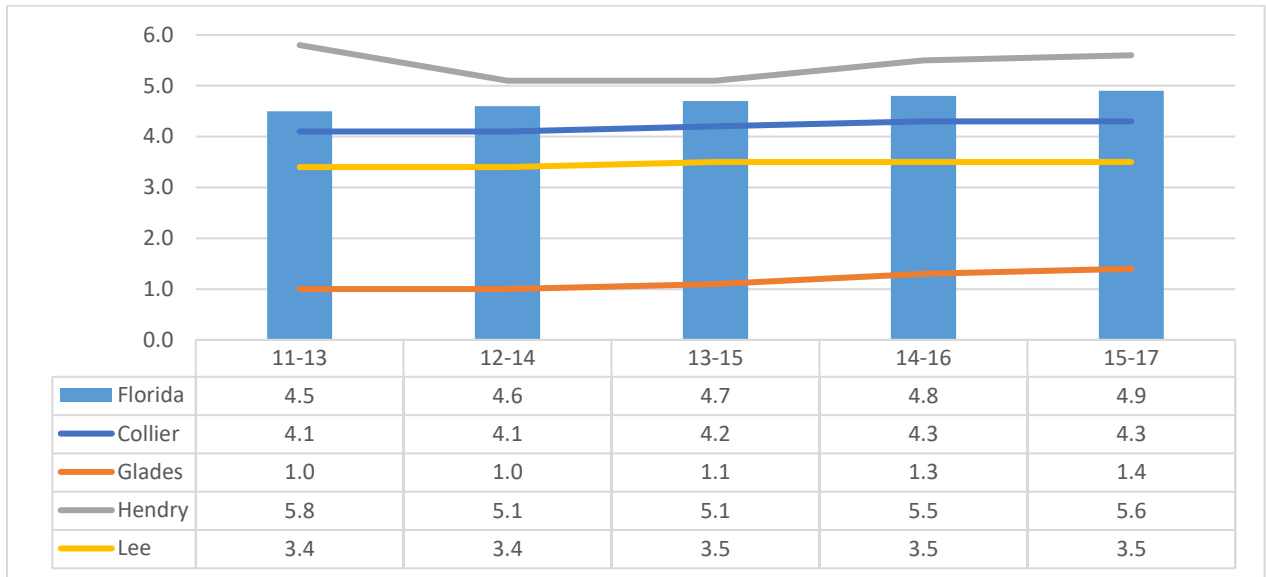


**Figure 35: Total Sudden Infant Death Syndrome (SIDS) deaths per 1,000 live births, rolling three-year average**

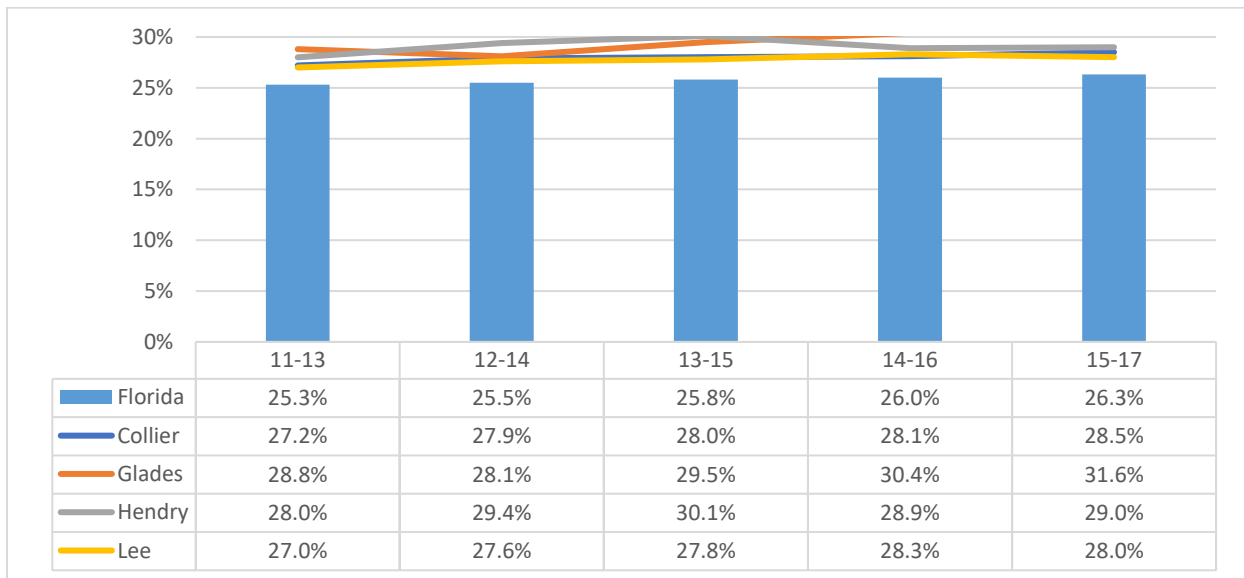




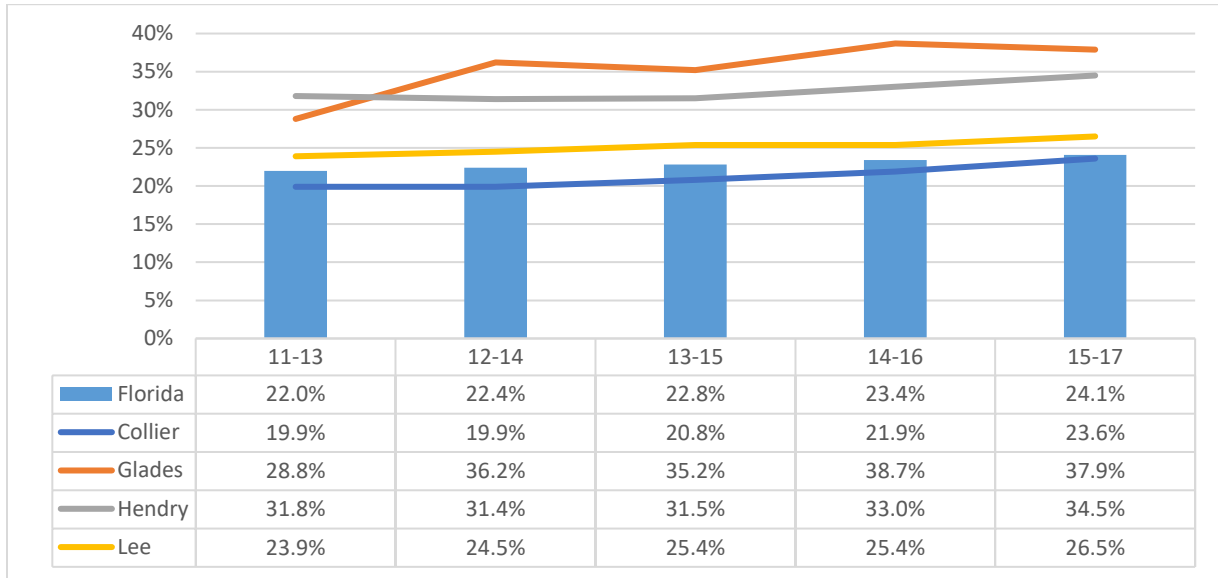
**Figure 36: Births to mothers over age 35 per 1,000 females over age 35, rolling three-year average**



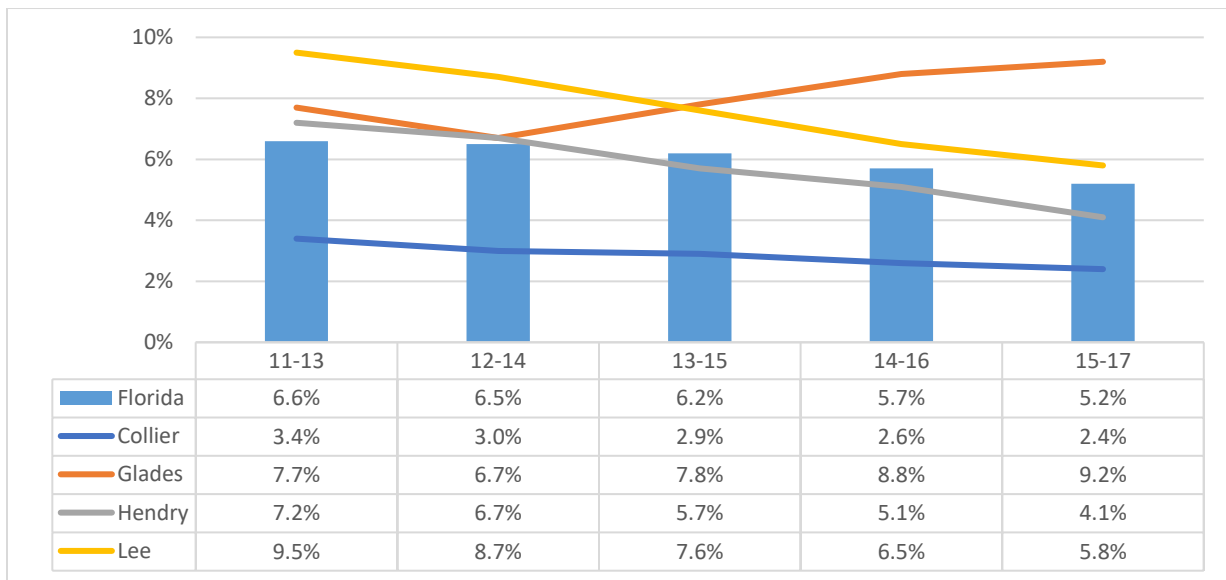
**Figure 37: Births to overweight mothers at the time pregnancy occurred as a percentage of births, rolling three-year average**



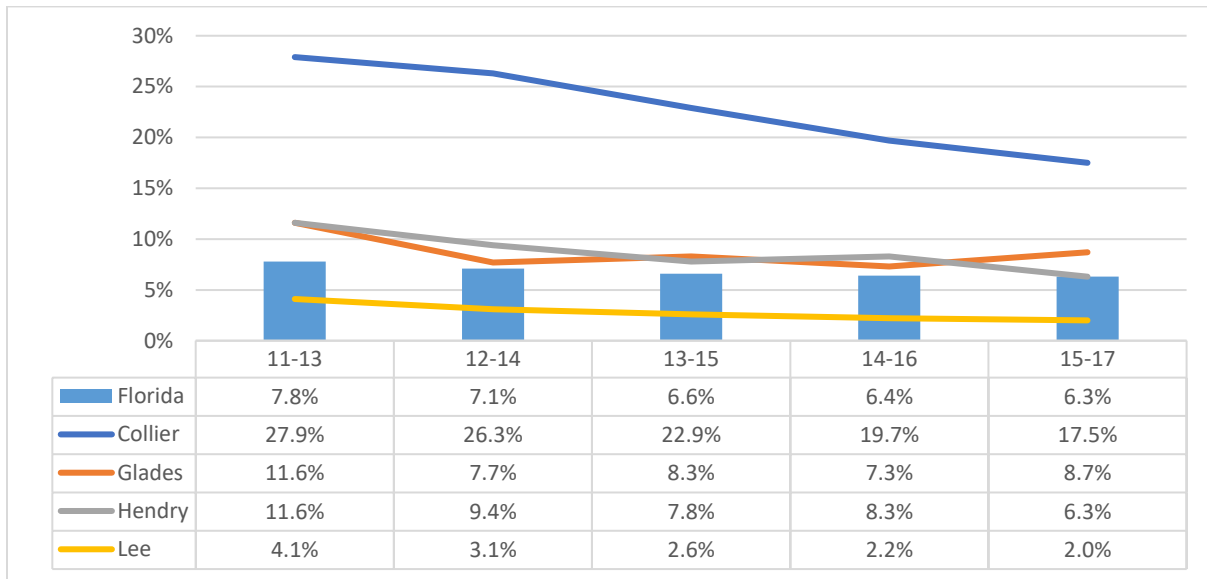
**Figure 38: Births to obese mothers at time the pregnancy occurred as a percentage of births, rolling three-year average**



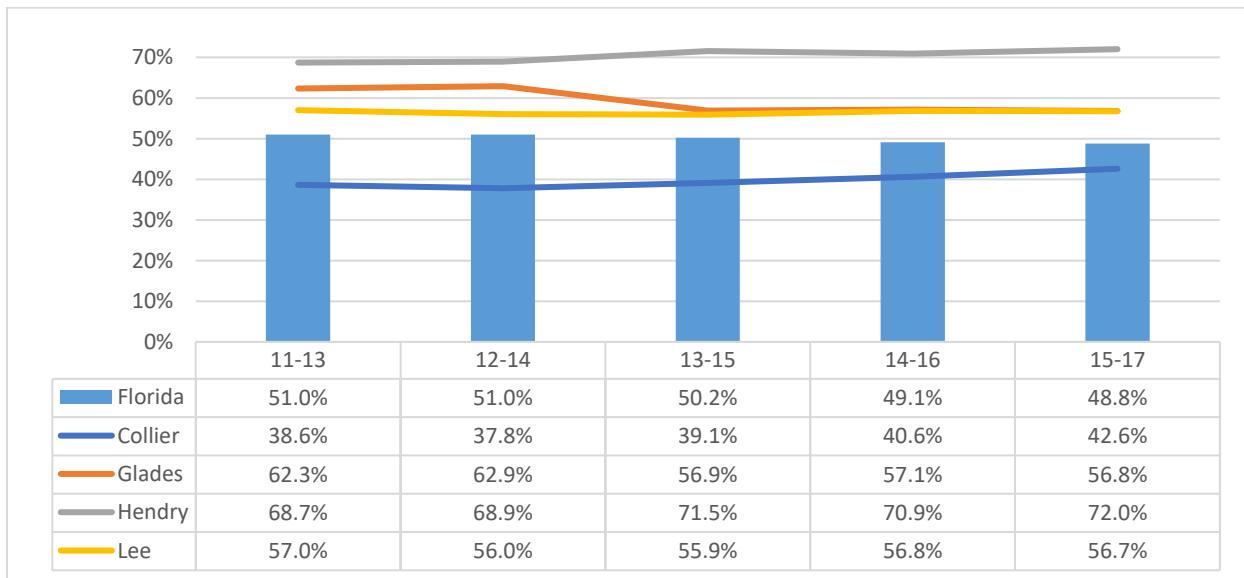
**Figure 39: Births to mothers who report smoking during pregnancy as a percentage of births, rolling three-year average**



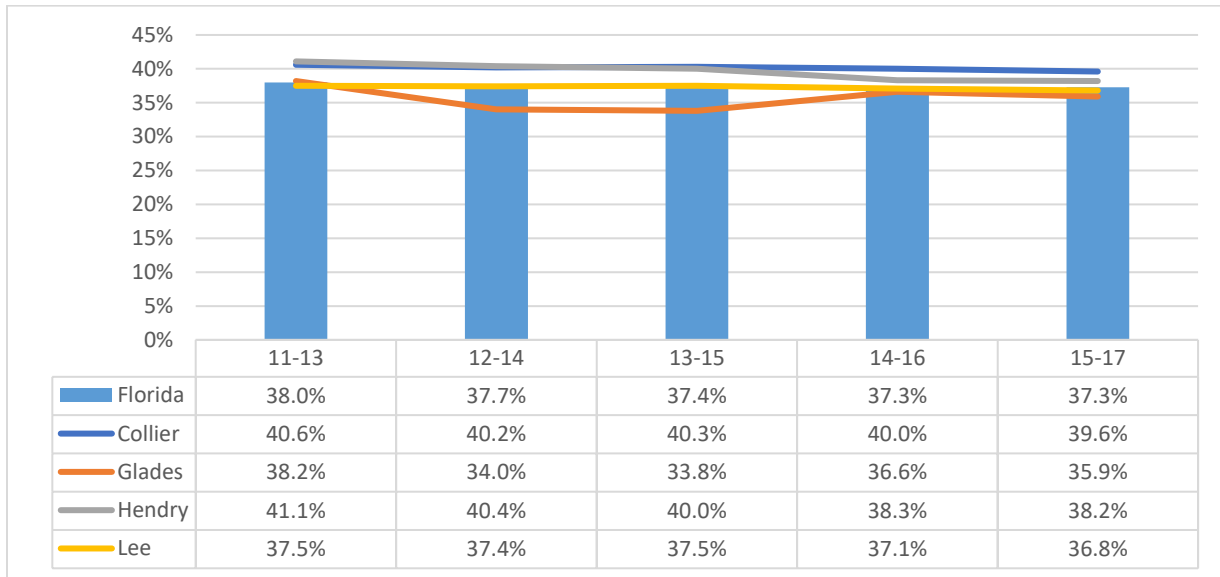
**Figure 40: Births to uninsured women ("self-pay" checked on birth certificate) as a percentage of births, rolling three-year average**



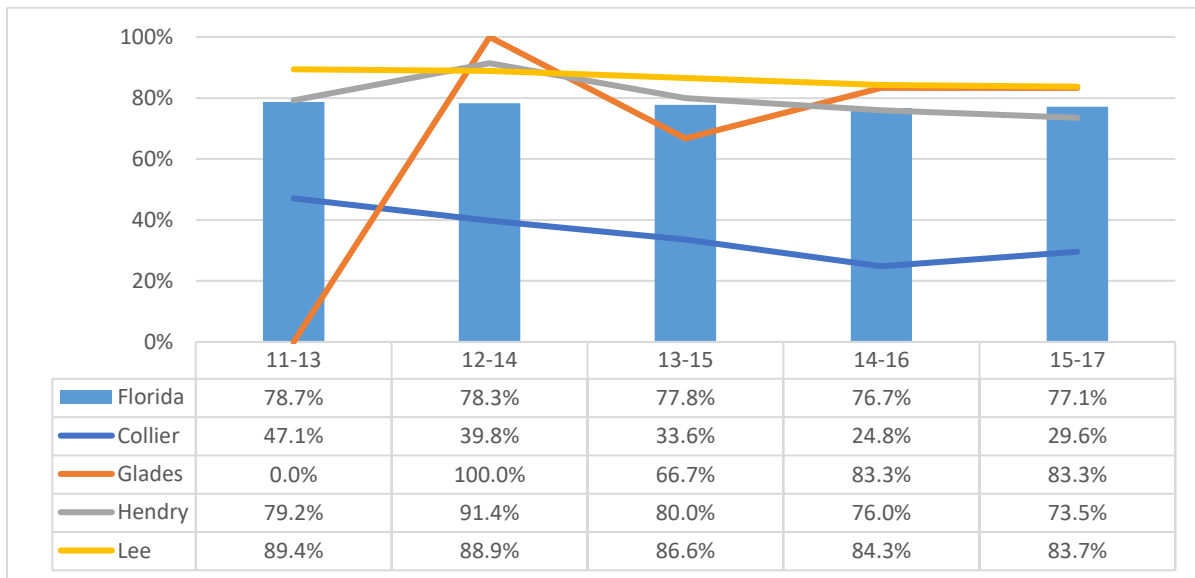
**Figure 41: Births covered by Medicaid as a percentage of births, rolling three-year average**



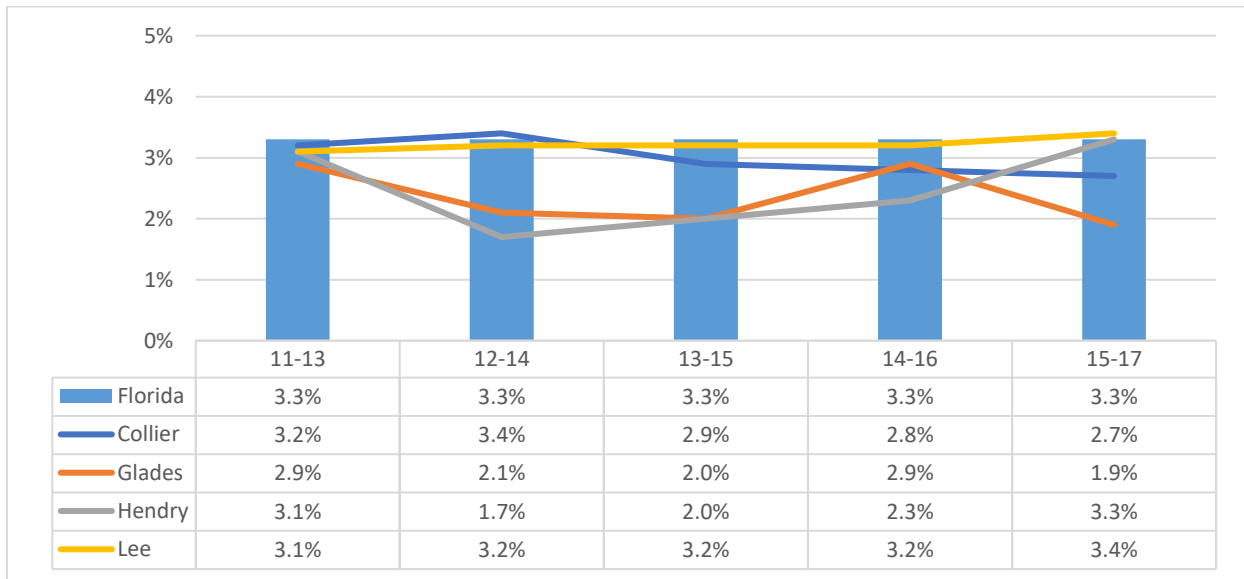
**Figure 42: C-section births as a percentage of births, rolling three-year average**



**Figure 43: Very low birthweight (VLBW) infants born in subspecialty perinatal centers as a percentage of VLBW births, rolling three-year average**



**Figure 44: Multiple births (twins, triplets, or more) as a percentage of births, rolling three-year average**



**Figure 45: Kindergarten children fully immunized as a percentage of all kindergarten students, single-year rates**

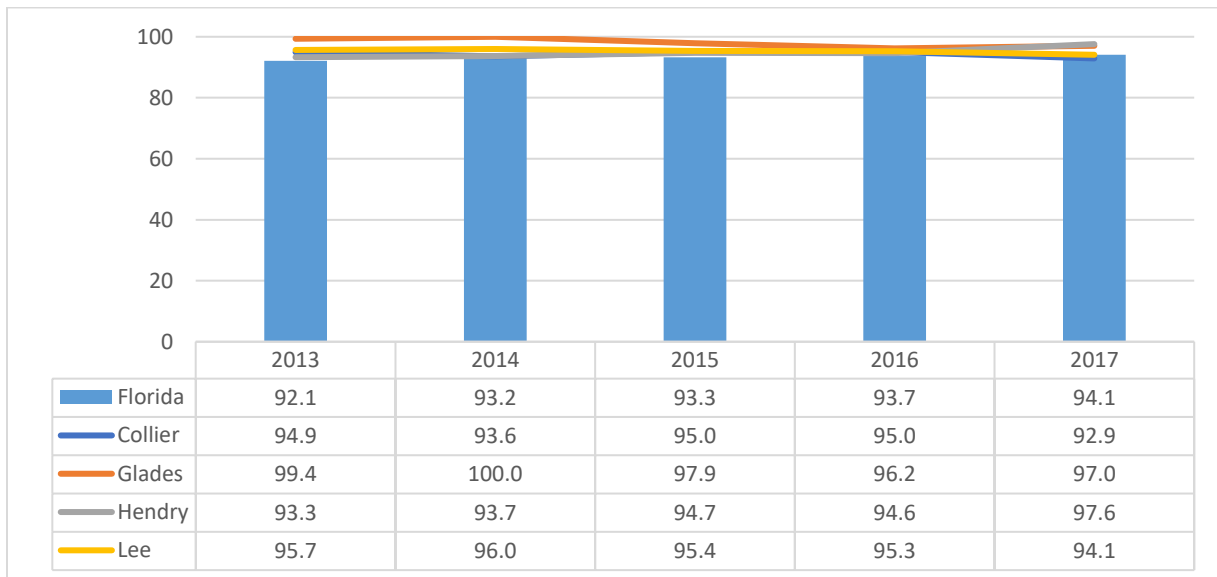
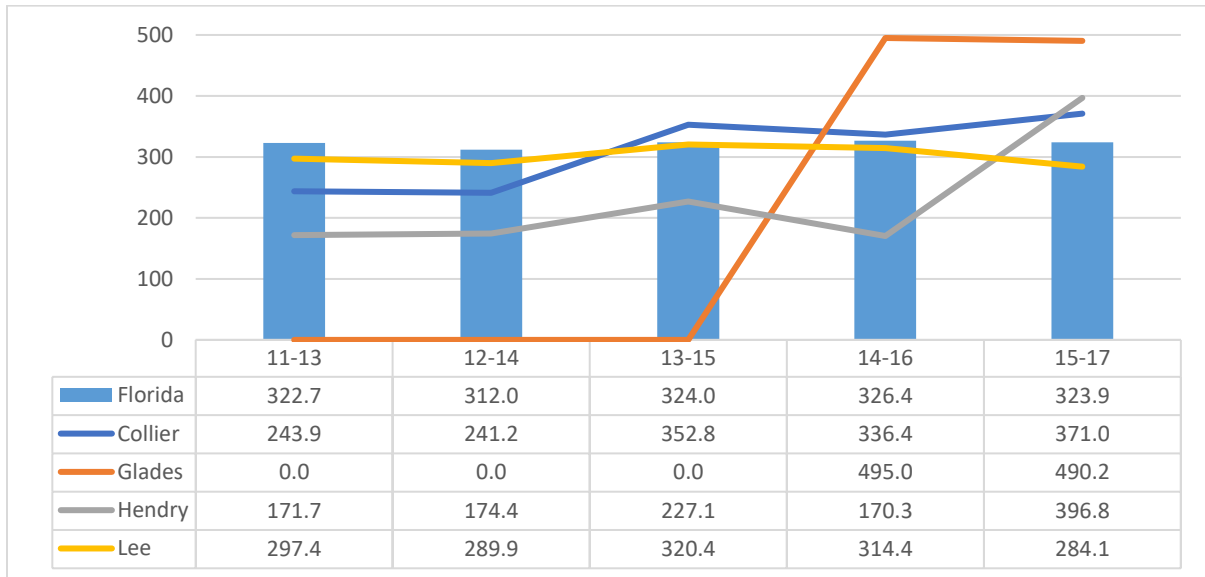


Figure 46: Infant deaths from perinatal conditions per 100,000 population, rolling three-year average



The Needs Assessment Task Force also asked for additional analysis of some of the birth outcome indicators. Those data are provided in Figures 47-50.

Figure 47: ELBW, VLBW, and LBW births, by County (inclusive), 2014-2018

County	Percentage that are >2,500g	Percentage that are LBW	Percentage that are VLBW	Percentage that are ELBW	Number of ELBW
Collier	93.1%	6.9%	1.3%	0.8%	121
Glades	90.9%	9.1%	2.4%	0.3%	1
Hendry	92.5%	7.5%	1.6%	0.9%	25
Lee	92.1%	7.9%	1.4%	0.7%	225

Note: LBW (low birthweight) is inclusive of VLBW and ELBW, VLBW is inclusive of ELBW

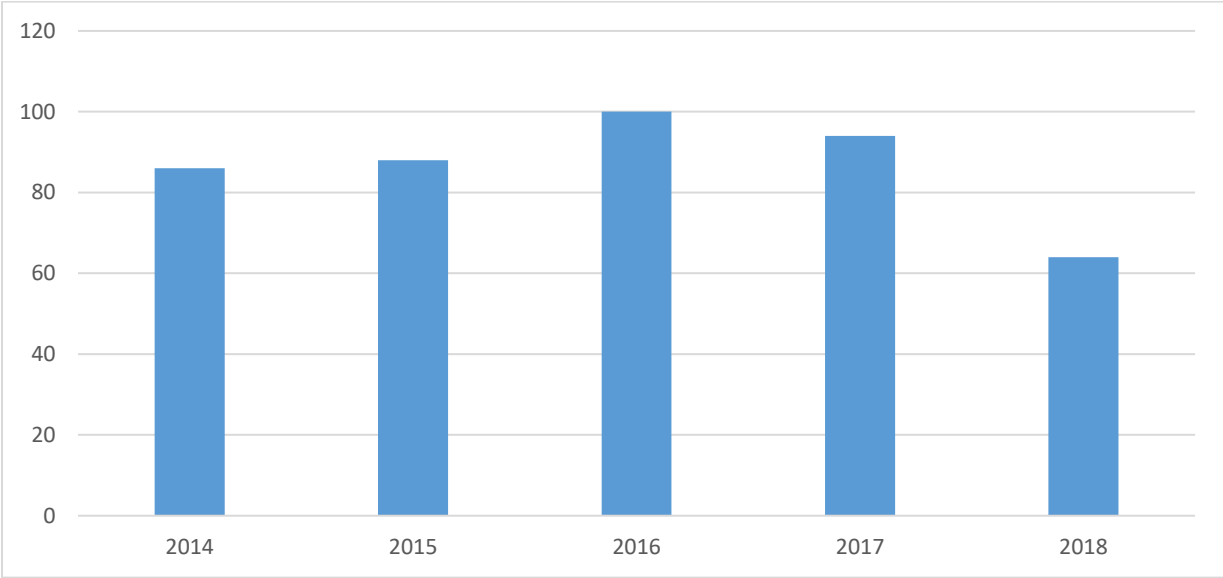
Figure 48: Facilities where 98% of LBW deliveries were made (inclusive), all counties, 2014-2018

FACILITY NAME	LBW		VLBW		ELBW	
	Count	Percentage	Count	Percentage	Count	Percentage
Lee Memorial HealthPark	2064	52.2%	460	64.5%	240	61.1%
North Collier Hospital	1026	25.9%	148	20.8%	73	18.6%
Gulf Coast Medical Center	363	9.2%	33	4.6%	23	5.9%
Cape Coral Hospital	276	7.0%	11	1.5%	5	1.3%
Lakeside Medical Center	50	1.3%	6	0.8%	1	0.3%
Palms West Hospital	26	0.7%	1	0.1%	1	0.3%
St. Mary's Medical Center	22	0.6%	12	1.7%	5	1.3%
Private Home / Other	17	0.4%	6	0.8%	4	1.0%
Tampa General Hospital	17	0.4%	8	1.1%	4	1.0%
Wellington Regional Medical Center	16	0.4%	2	0.3%	0	0.0%
Jackson Health Systems	10	0.3%	3	0.4%	3	0.8%
Other	70	1.8%	23	3.2%	34	8.7%
<b>Total</b>	<b>3,957</b>	<b>100%</b>	<b>713</b>	<b>100%</b>	<b>393</b>	<b>100%</b>

Figure 49: Percentage of LBW, VLBW, and ELBW (inclusive) and death outcomes, all counties, 2014-2018

	Neonatal death	Post-neonatal death	Non-infant death	No death occurred
LBW	4.8%	0.6%	0.2%	94.4%
VLBW	22.6%	2.0%	0.3%	75.1%
ELBW	41.7%	2.7%	0.5%	55.1%

Figure 50: HP/CCH/GCMC NAS admissions, Golisano Children’s Hospital of Southwest Florida, single-year counts





## Appendix A: Needs Assessment Task Force

### **Task Force roster**

<b>Name</b>	<b>Agency</b>
Vanessa Fischel	Florida Dept. of Health - Hendry/Glades
Joseph Pepe	Florida Dept. of Health - Hendry/Glades
Kevin Kirkwood	Florida Dept. of Health - Lee
Debbie McCarthy	Hendry Regional
Trina Puddefoot	Early Steps
Becky Gammon	NCH
Cindy Whetsell	Florida Dept. of Health - Collier
Dr. William Liu	Lee Health
Sally Kreuzscher	Safe Kids-Lee
Paula DiGrigoli	Safe & Healthy Children's Coalition
Mary Beth Riendeau	Florida Dept. of Health - Lee
Laurie Champion	Lee Health/ Healthy Start
Selena Lucas	Florida Dept. of Health - Collier/Healthy Start
Carol Lauren	Florida Dept. of Health
Nancy Vossler	Lee Health
Susan Mitchell	Lee Health
Susan Ryckman	Lee Health

## Appendix B: Supplemental Material for Birth Outcomes

**Figure B1: Live births under 2,500 grams, single-year rates, Glades**

Year	Count	Denom	%
2017	6	61	9.8
2016	8	66	12.1
2015	6	79	7.6
2014	3	60	5.0
2013	4	65	6.2

**Figure B2: Infant deaths per 1,000 live births, single-year rates, Glades**

Years	Count	Denom	Rate
2017	0	61	0.0
2016	2	66	30.3
2015	0	79	0.0
2014	1	60	16.7
2013	1	65	15.4

**Figure B3: Infant deaths per 1,000 live births, single-year rates, Hendry**

Years	Count	Denom	Rate
2017	5	578	8.7
2016	2	570	3.5
2015	2	631	3.2
2014	1	569	1.8
2013	4	569	7.0

**Figure B4: Repeat births to mothers ages 15-19, single-year rates, Glades**

Year	Count	Denom	Percent
2017	0	5	0.0
2016	0	5	0.0
2015	1	3	33.3
2014	2	10	20.0
2013	2	7	28.6

**Figure B5: Maternal deaths per 100,000 live births, single-year rates, Collier**

Years	Count	Denom	Rate
2017	1	3,182	31.4
2016	0	3,323	0.0
2015	0	3,256	0.0
2014	1	3,288	30.4
2013	1	3,154	31.7

**Figure B6: Maternal deaths per 100,000 live births, single-year rates, Hendry**

Years	Count	Denom	Rate
2017	0	578	0.0
2016	0	570	0.0
2015	1	631	158.5
2014	1	569	175.7
2013	0	569	0.0

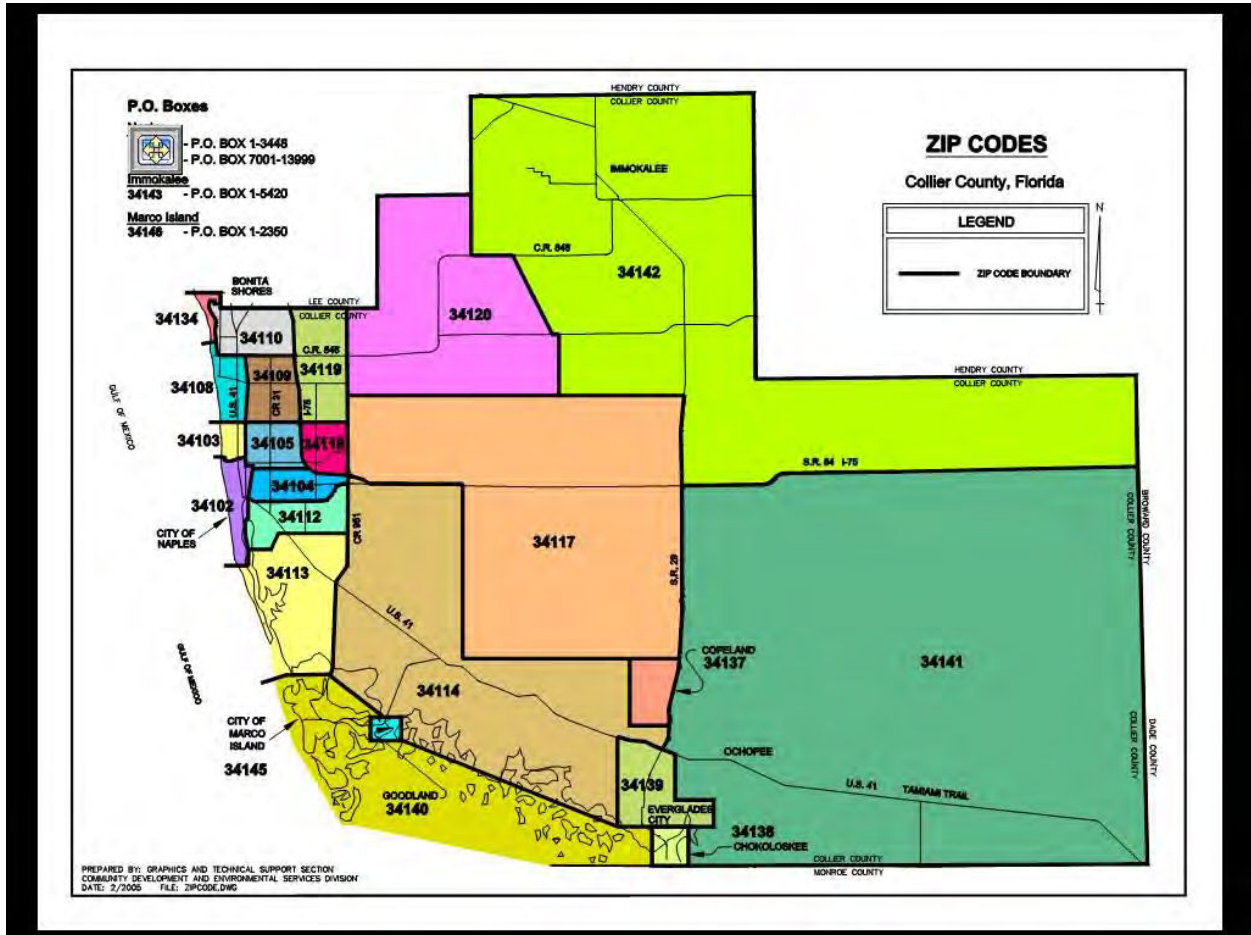
**Figure B7: Live births to mothers who smoked during pregnancy, single-year rates, Glades**

Year	Count	Denom	Percent
2017	3	61	4.9
2016	6	66	9.1
2015	10	79	12.7
2014	2	60	3.3
2013	4	65	6.2

# Appendix C: Zip code maps for Collier and Lee counties

## Collier

The target zip codes are 34142, 34116, 34104, 34120, 34113, and 34112.



# Lee

The target zip codes are 33916, 33905, 33971, 34135, and 33973.

