Florida's State Health Assessment

SHA 2017

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Introduction

The Florida Department of Health (Department) is leading a diverse partnership, the State Health Improvement Plan Steering Committee, to build Florida's State Health Improvement Plan (SHIP) for 2017-2021. The SHIP is a statewide plan for public health system partners and stakeholders to improve the health of Floridians.

To develop the SHIP, the partnership conducted a comprehensive state health assessment to identify the most important health issues affecting Floridians. A comprehensive assessment ensures that the priorities selected for the SHIP are shaped by data about the health status of our residents, the effectiveness of Florida's public health system in providing essential services, residents' perceived quality of life and how factors outside of health might impact health now or in the future.

Florida Demographic and Socio-Economic Characteristics

Overview

Florida is the fourth most populous state in the nation. In 2017, approximately 20.6 million people lived in Florida. The state's population is characterized by its distinctive age structure; 19.4% of the population in Florida is age 65 or older, a proportion higher than any other state in the nation.[1] The 0 to 19 age group comprises 22.6% of Florida's population and 58.0% are in the 20 to 64 age group.[2] This section presents a snapshot of Florida's dynamic population groups and aims to illustrate general characteristics of Florida's diverse population with commonly used indicators of the status of populations.

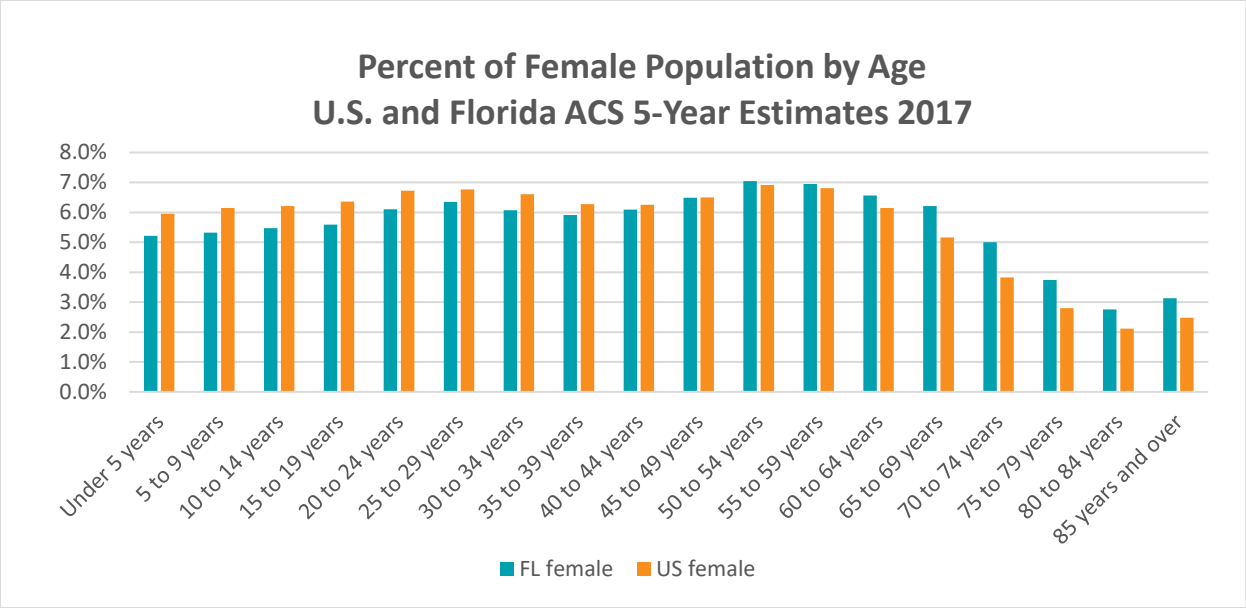
The most up-to-date picture of Florida's population comes from the ongoing American Community Survey (ACS) conducted by the U.S. Census Bureau.[2] By conducting monthly surveys of a sample of the U.S. population, the ACS collects economic, social, and housing information continuously rather than every 10 years as done by the decennial census. Five-year estimates are available for every location in the United States, no matter how small. Census data reported in this document come from these 2013-2017 aggregate estimates.[2]

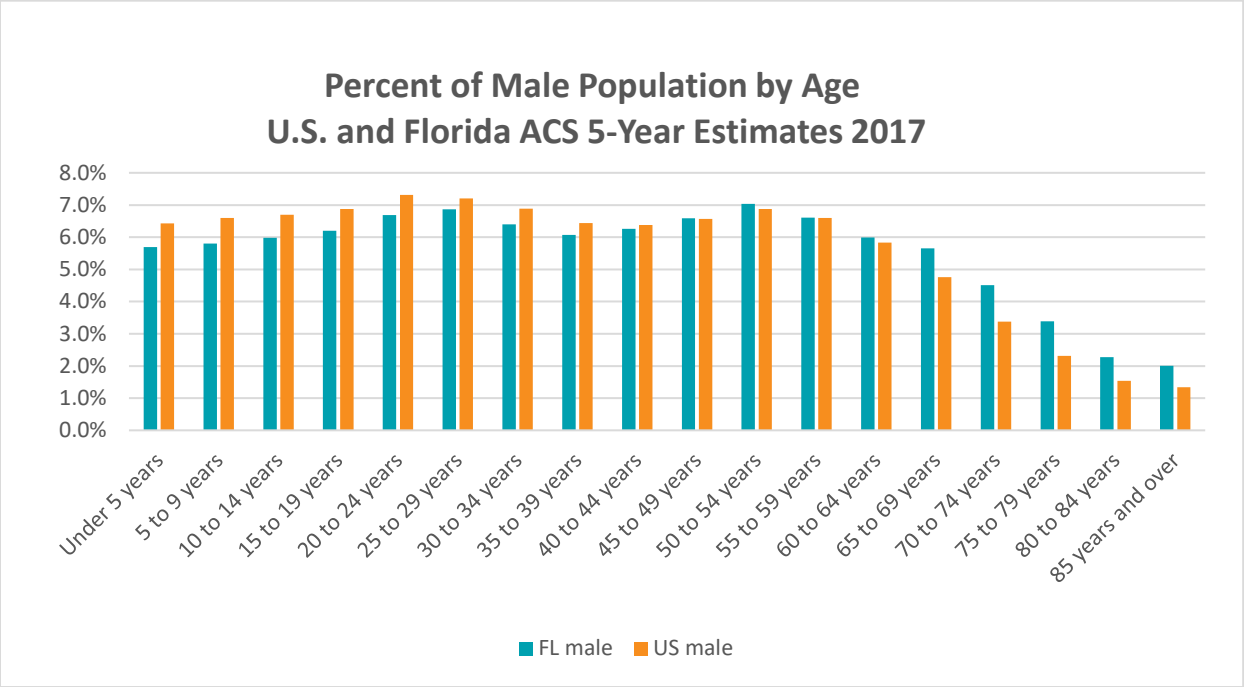
Florida's Population

Age

According to the 2017 U.S. Census American Community Survey (ACS)[2], Florida had a total population of 20.3 million, 10.4 million females and 9.9 million males. The median age of Florida's population was 41.8 years which was higher than the U.S. median age of 37.8 years. In Florida 19.4% of the population was above age 64. This was higher than the U.S. percentage above age 64 which was 14.9%.

The graphs below show the age distribution in Florida compared to the U.S. for males and females. The graphs show that Florida tends to have higher proportions in the older age groups and lower proportions in the lower age groups, compared to the U.S.


Percent of Female Population by Age
U.S. and Florida ACS 5-Year Estimates 2017
8.0%
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
Under 5 years
5 to 9 years
10 to 14 years
15 to 19 years
20 to 24 years
25 to 29 years
30 to 34 years
35 to 39 years
40 to 44 years
45 to 49 years
50 to 54 years
55 to 59 years
60 to 64 years
65 to 69 years
70 to 74 years
75 to 79 years
80 to 84 years
85 years and over
FL female
US female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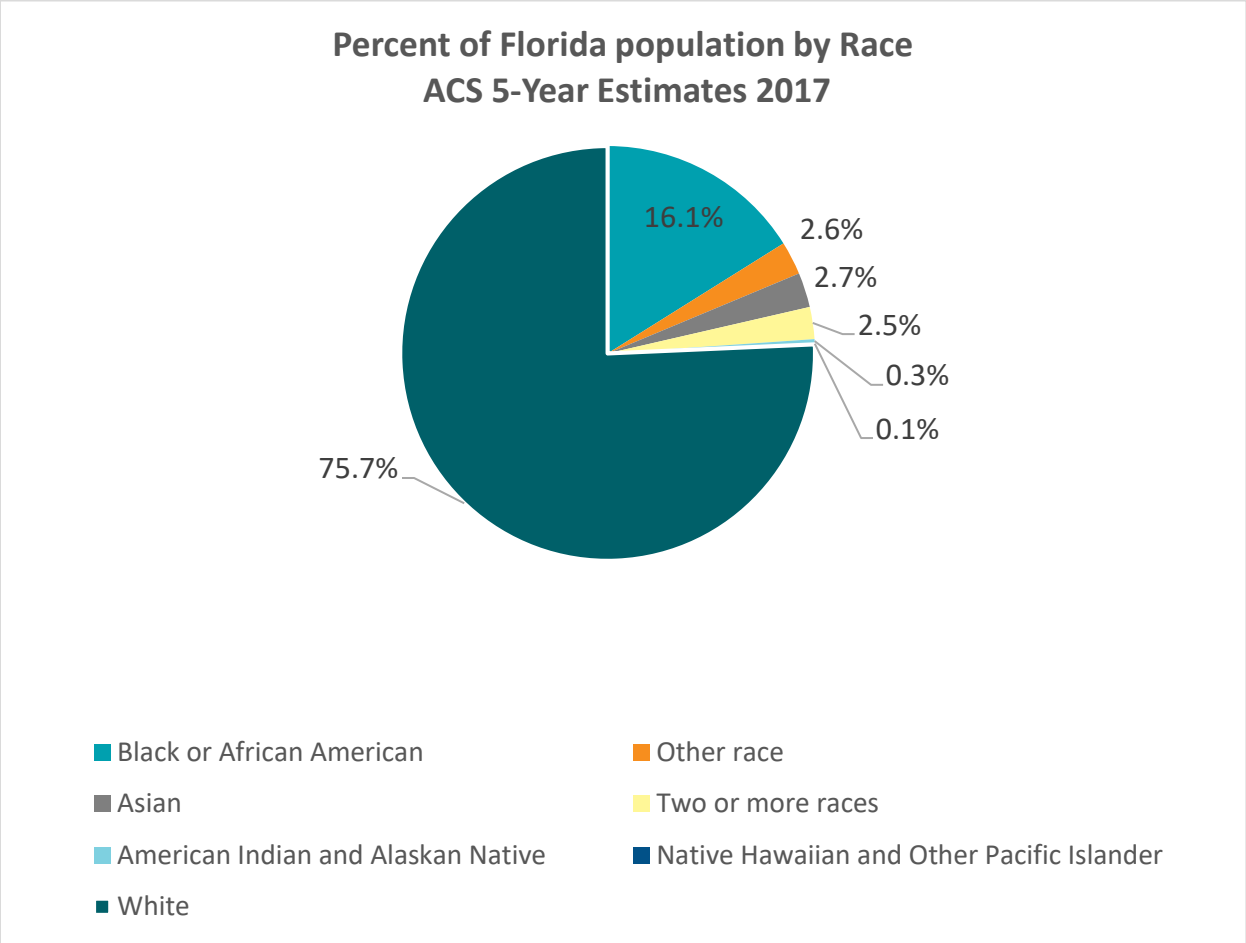
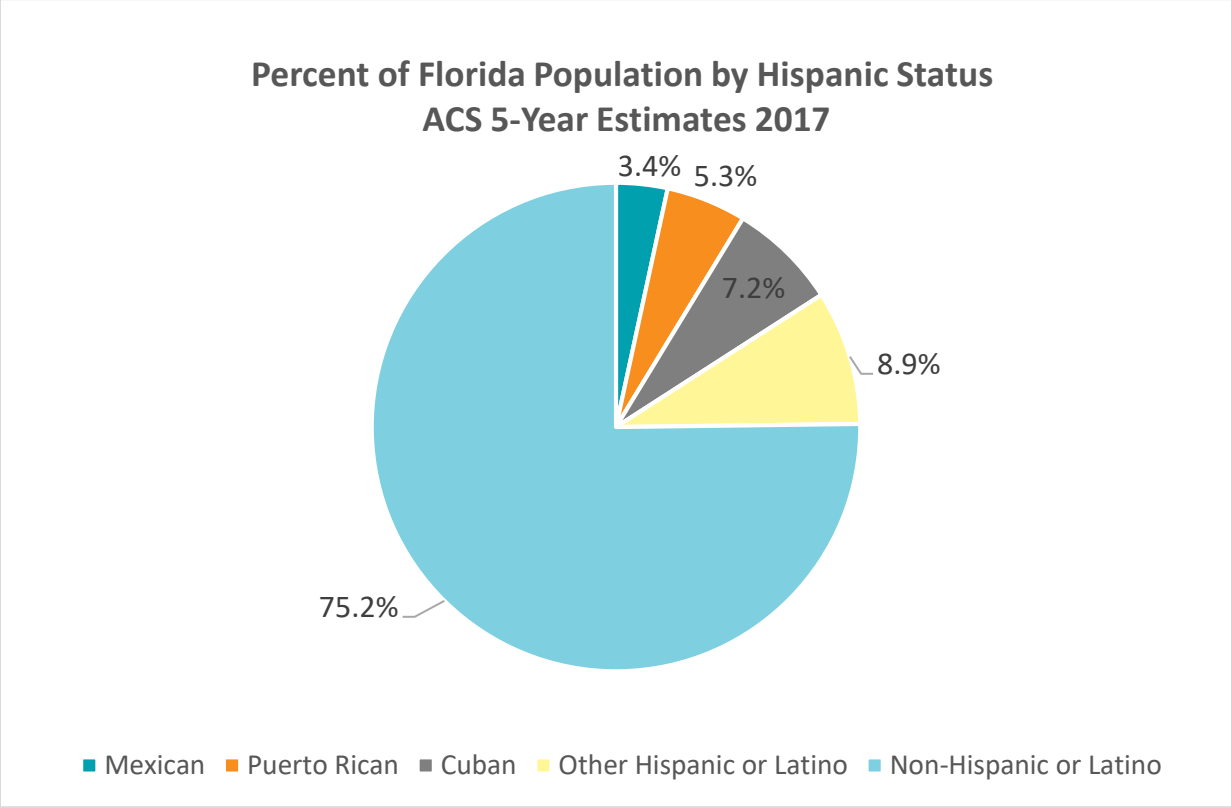
10 to 14 years
15 to 19 years
20 to 24 years
25 to 29 years
30 to 34 years
35 to 39 years
40 to 44 years
45 to 49 years
50 to 54 years
55 to 59 years
60 to 64 years
65 to 69 years
70 to 74 years
75 to 79 years
80 to 84 years
85 years and over
FL male
US male

Race/Ethnicity

According to the ACS 5-year estimates for 2017,[2] 91.8% of Florida's population was of the black race (16.1%) or white race (75.7%). The third highest percentage was for the Asian race at 2.7%, depicted in the pie chart below.

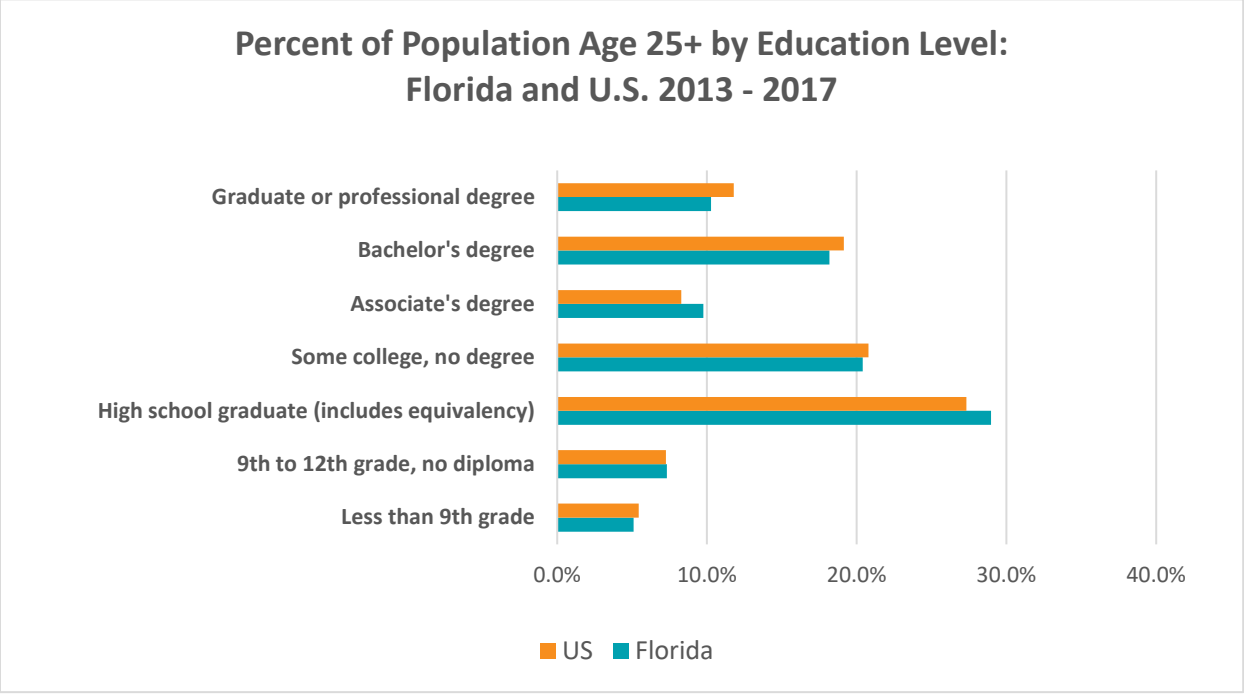


Florida has a more diverse Hispanic population and a higher percentage of Hispanics than the nation overall.[2] Among Florida residents, 24.7% were Hispanic compared to 17.6% for the US. In Florida, the most common country of origin for Hispanics was Cuba which accounted for 7.2% of the Florida population. (see pie graph below) In contrast, for the US the most common country of origin for Hispanics was Mexico with 11.1% of the US population. In the US Cubans comprised 0.7% of the population.



Education

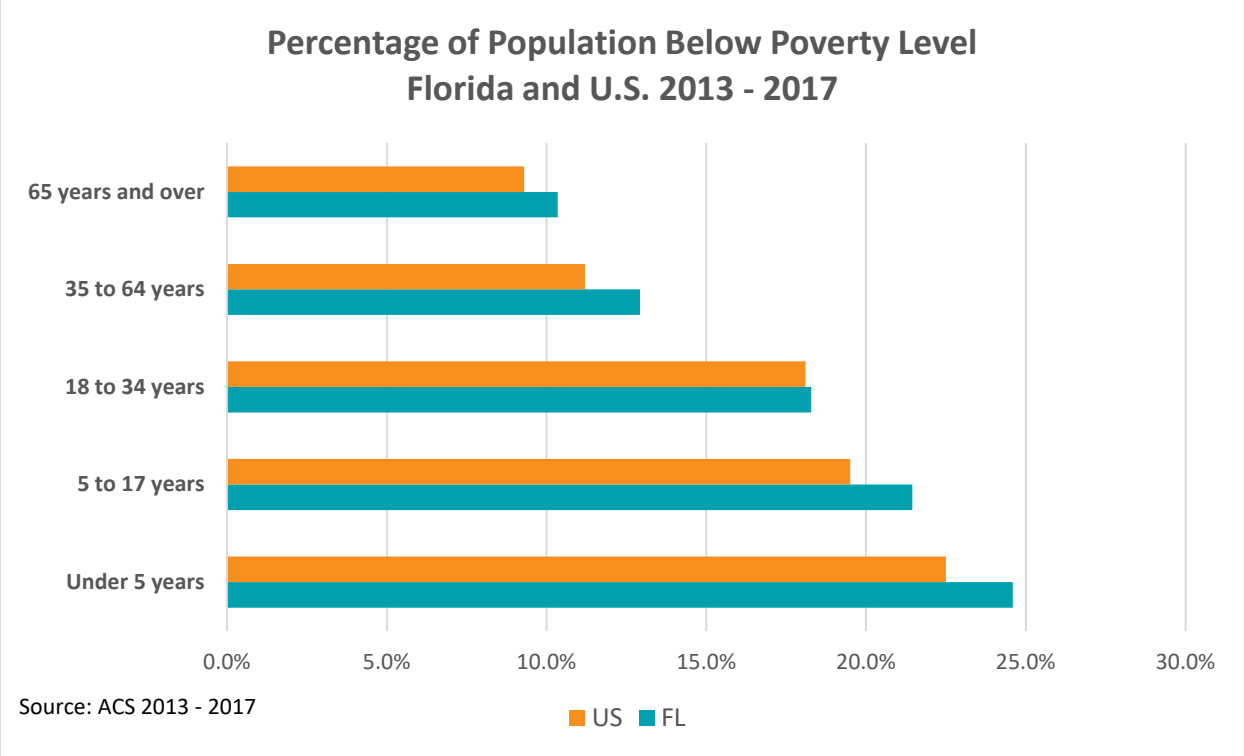
According to the ACS 2013 – 2017 estimates,[2] 87.6% of Florida's population age 25 or older graduated from high school or had education beyond high school. In the U.S., the percentage was virtually the same at 87.3%. In Florida, the percentage of the population aged 25 or older that had a bachelor's degree or higher was 28.5% compared to 30.9% for the U.S. The graph below shows the percentages of the 25 and older population by education level.



Income and Poverty

According to the ACS 2013 – 2017 estimates,[2] the median household income in Florida was $50,883. This is 11.7% lower than the U.S. median income for the same period: $57,652. At the high end of the income range, the percentage of households with incomes of $200,000 and above was 9.2% in Florida and 12.1% in the U.S. On the low end of the range, the percentage of households with incomes below $10,000 was 7.2% in Florida and 6.7% in the U.S.

The lower income distribution in Florida is also evident in the poverty statistics. The percentage of persons below poverty level was 15.5% in Florida and 14.6% in the U.S. This pattern is reflected across all age groups and in general younger persons are more likely to be living below the poverty level in the U.S. and in Florida. The graph below shows the percentage of persons below poverty by age group.



Sources

1. World Atlas: https://www.worldatlas.com/articles/the-us-states-with-the-oldest-population.html

2. U. S. Census, American Community survey: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

State Health Assessment Process

In January 2016, the Florida Department of Health, along with public and private partner organizations, engaged in a state health improvement planning process using a state-level adaptation of the National Association of City and County Health Officials' (NACCHO) Mobilizing for Action through Planning and Partnership (MAPP) strategic planning model.

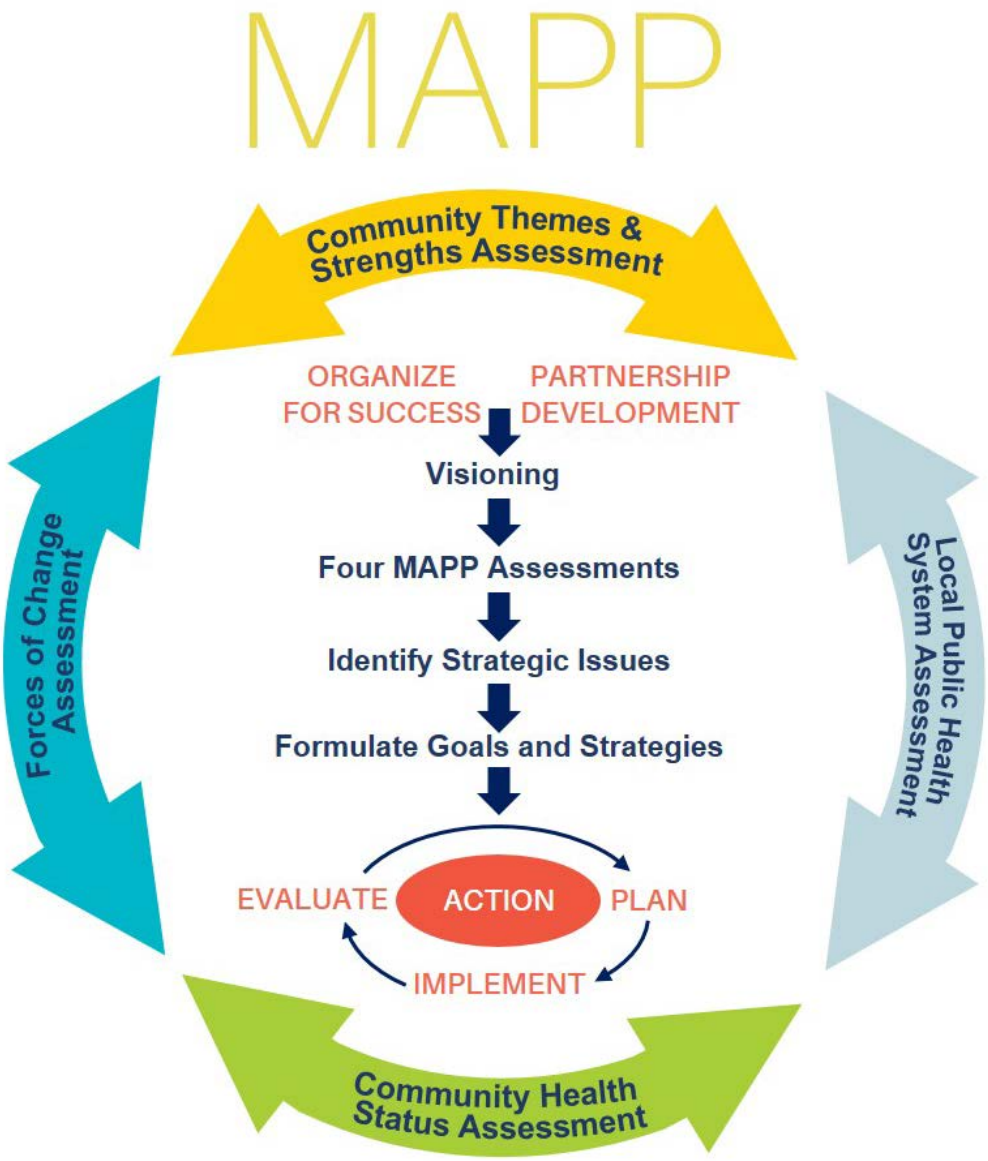
MAPP is a community-driven strategic planning process for improving community health by identifying strategic issues from four assessments, and setting priorities and implementing evidence-based initiatives to advance health (Figure 1). Facilitated by public health leaders, this framework helps communities apply strategic thinking to prioritize public health issues and identify resources to address them. MAPP is not an agency-focused assessment process; rather, it is an interactive process that can improve the efficiency, effectiveness and ultimately the performance of local public health systems.[1]

[1] National Association of County & City Health Officials (NACCHO). (2016). Mobilizing for action through planning and partnerships (MAPP). Retrieved from http://www.naccho.org/programs/public-health-infrastructure/mapp.

The Four MAPP Assessments

Subject matter experts from a diverse group of partners conducted the four types of assessments indicated by the MAPP process. The four assessments taken together contribute to a comprehensive view of health and quality of life in Florida and constitute Florida's State Health Assessment. Individually, the assessments yielded in-depth analyses of factors and forces that impact population health. The background and methodology for the four MAPP assessments will be described in the following order: the State Health Status Assessment, the State Public Health System Assessment, the State Forces of Change Assessment, and the State Community Themes and Strengths Assessment. Each of the assessments resulted in a written report and a briefing to the State Health Assessment Advisory Group (SHA Advisory Group), which endorsed the findings.

Figure 1: MAPP Assessments and Planning Process



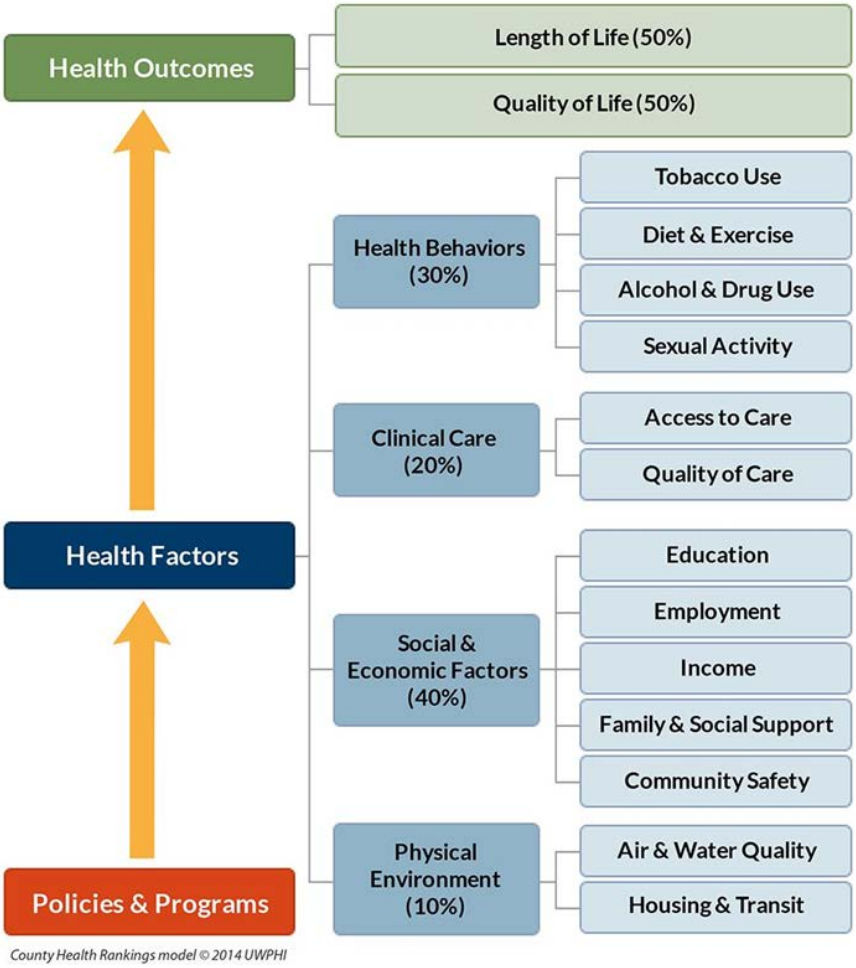
State Health Status Assessment

The State Health Status Assessment (HSA) identifies priority health and quality of life issues. Questions include: "How healthy are our residents?" and "What does the health status of our state look like?"

The HSA is a crucial component in the MAPP process, and it is during this stage that specific health issues (e.g., high cancer rates or low immunization rates) are identified. A broad range of data serves as the foundation for analyzing and identifying community health issues and determining where the community stands in relation to peer communities, state data and national data.

To better communicate findings, the *County Health Rankings and Roadmaps* model (Figure 2) was used to group and frame information for the health status assessment. The County Health Rankings measure the health of nearly all counties in the nation and rank them within the state.[2] The Rankings are based on a model of population health that emphasizes the many factors that, if improved, can help make communities healthier places live, learn, work and play.

Figure 2: County Health Rankings Model



[2] Robert Wood Johnson Foundation. (2017). County Health Rankings and Roadmaps. Retrieved from http://www.countyhealthrankings.org/our-approach.

ASSESSMENT METHOD:

A group of Florida Department of Health subject matter experts gathered to start the assessment process. This group included epidemiology and surveillance system administrators who specialize in data collection, analysis and interpretation. External partners who specialized in identified health issues also provided input.

The SHA Planning Team composed of staff from Health Improvement Planning and FLHealth CHARTS, gave a list of indicators that were included in the previous State Health Assessment to the HSA workgroup. The HAS workgroup was asked to determine which indicators to keep or delete and to add any additional indicators that would be helpful in determining what health issues were pertinent to the state of Florida. Once all indicators were compiled, 31 health issues were selected for inclusion in the HSA. Narratives and data were prepared for all 31 health issues.

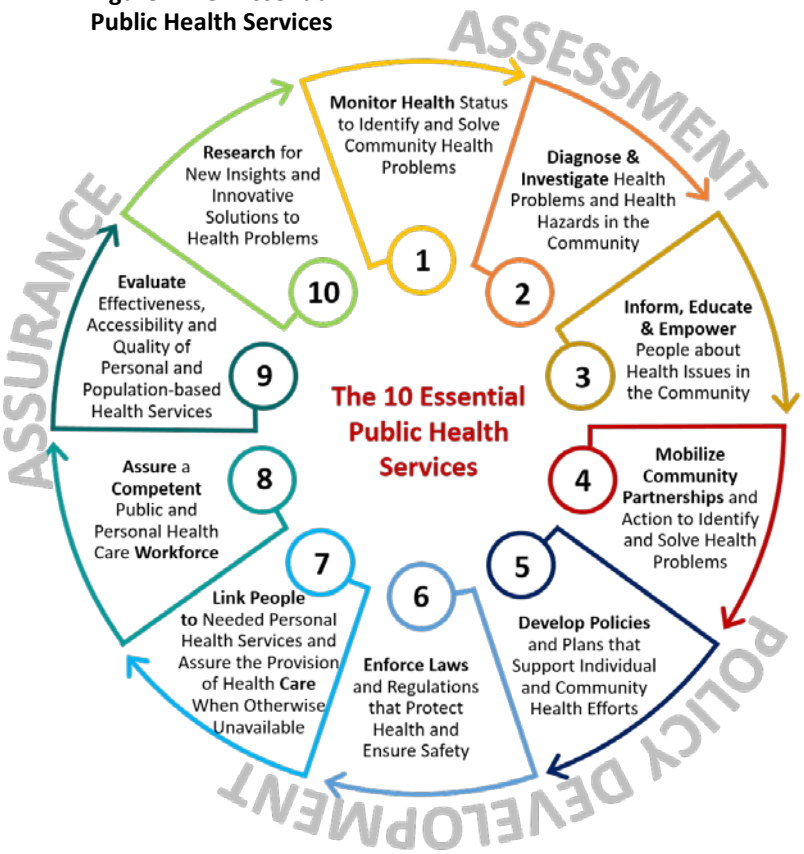
A sub-group of five members from the HSA workgroup then scored the health issues based on relevance and severity; all 31 issues were ranked and presented to the entire workgroup. The workgroup then came to consensus on the top seven health priorities. The priorities were assigned to subject matter experts who developed educational presentations for the SHA Advisory Group. The SHA Advisory Group adopted all seven health priorities to be presented to the State Health Improvement Plan (SHIP) Steering Committee for consideration for inclusion in the 2017–2021 State Health Improvement Plan.

Figure 3: Network of Entities that Compose the Public Health System

State Public Health System Assessment

The Florida Department of Health led a statewide effort to assess the state public health system. A state-level instrument from the National Public Health Performance Standards Program (NPHPSP) was used to measure the state's capacity to deliver the Ten Essential Public Health Services (EPHS). The goals of the assessment were to create stronger systems through collaboration; identify strengths, challenges and system-wide solutions; foster quality improvement by using national benchmarks to more fully inform community health improvement planning efforts; fulfill national voluntary public health agency accreditation requirements; and positively impact health outcomes of Floridians. This section focuses on the results of the State Public Health System Assessment.

Figure 4: Ten Essential Public Health Services



A public health system is defined as public, private and voluntary entities such as non-profit organizations that contribute to public health activities within a given area. Depicted as a network of entities, this construct recognizes the contributions and roles of partners in the health and well-being of communities and the state. Figure 3 is a depiction of the complexity of the public health system and examples of organizations and groups that compose the network.

The NPHPSP seeks to ensure that strong and effective public health systems are in place to deliver essential public health services. The ten EPHS serve as the underlying framework for the performance assessment instruments (Figure 4). Each Essential Service is divided into several indicators, which represent major components of performance for each service. Each indicator has an associated model standard that describes aspects of optimal performance, along with a series of assessment questions that serve as measures of performance. [3]

ASSESSMENT METHOD:

Diverse groups of public health professionals and partners representing a wide spectrum of expertise gathered for two half-day forums to assess the performance and capacity of Florida's public health system. The groups assessed six of the ten EPHS. During each forum, a facilitator read aloud the Essential Service description, activities and model standard for each group of indicators. A discussion followed, during which participants shared how their organization contributed to meeting the standard and Florida's overall performance in the area under consideration. Utilizing electronic voting technology, participants then cast votes ranging from no activity to optimal activity. Voting results were immediately available. In addition, a core group of Department of Health staff and partners completed a survey to assess the remaining four EPHS. Responses for all ten EPHS were entered into a standardized CDC-developed tool from which final results were obtained.

[3] Centers for Disease Control and Prevention (CDC). (2014). National public health performance standards. The public health system and the 10 essential public health services. Retrieved from https://www.cdc.gov/nphpsp/essentialservices.html.

State Forces of Change Assessment

In 2016, the Florida Department of Health led a coordinated, comprehensive and collaborative effort to conduct a Forces of Change Assessment. The purpose of this process was to assess significant factors, events and trends whose current or future occurrence might affect the health of Floridians or the effectiveness of Florida's public health system. Moreover, the challenges and opportunities associated with these forces are relevant to the creation of public health strategic priorities. Participants engaged in brainstorming sessions aimed at identifying trends, factors and events that influence the health and quality of life of the community, and the efficacy of the public health system, both currently and in the future.

ASSESSMENT METHOD:

The Forces of Change Assessment was completed by the SHA Advisory Group. Participants first offered preliminary thoughts on Forces of Change from their individual professional perspectives in advance of the SHA Advisory Group meeting. This feedback was clarified and organized into a systematic framework at the meeting.

State Themes and Strengths Assessment

The State Themes and Strengths Assessment answers key questions, drawing from a cross-section of the public health system that includes local county health departments, state and community public health partners, and Florida residents (NACCHO, 2016). This assessment results in a strong understanding of community issues and concerns, perceptions about quality of life and a listing of assets. It answers the following questions:

- *What health-related issues are important to our state?*
- *How is quality of life perceived in our state?*
- *What assets do we have that can be used to improve Florida's health?*

ASSESSMENT METHOD:

Recognizing that any single approach would be insufficient to reach a broad cross-section of Florida's diverse population, three different perspectives were used to frame this assessment and produce a report of findings.

- County health department strategic plans illustrate local health priorities, existing infrastructure and resource allocation. Data from this source reflect specific needs across local health departments that can best be addressed through agency action. The Department reviewed strategic plans and queried county health departments to ascertain themes and strengths from their perspectives.
- County health departments all participate in community health improvement planning activities. Because they use MAPP, a community-driven strategic planning tool, their plans reflect the concerns of a wide spectrum of partners and residents of each county and are useful in understanding community themes and strengths. We used these Community Health Improvement Plans and queried all 67 community health improvement planners to inform the Themes and Strengths Assessment about community and partner-perceived priorities and resources.
- The Behavioral Risk Factor Surveillance System (BRFSS) is a statewide survey that asks respondents ages 18 and older about their health behaviors and preventive health practices related to the leading causes of morbidity and mortality. Additionally, participants provide responses about their perceived quality of life and the factors that impact health and well-being. The survey sample is structured so that collective responses are representative of the state's population and its key subgroups. The Department used data from the 2014 statewide survey to provide insight about how residents of Florida perceive their quality of life. After reviewing all the assessment findings in detail, staff prepared a summary of the key findings from each assessment. The following infographics contain those findings.

Using the Key Findings to Select Priority Areas

After reviewing all assessment findings, HSA workgroup members, assisted by SHIP planning team members, prepared a summary of key issues from each assessment for the SHA Advisory Group, comprised of a diverse leadership representing seventeen (17) agencies and organizations. Findings were presented to the SHA Advisory Group, who in turn made recommendations to the SHIP Steering Committee. The nine Key Findings were: Behavioral Health, Cancer, Chronic Diseases and Injury Prevention, Healthy Weight, Immunizations and Influenza, Maternal Health and Birth Outcomes, Sexually Transmitted Diseases, Tobacco, Alcohol and Substance Abuse.

The SHIP Steering Committee met on October 11, 2016 and set priorities through a facilitated consensus process by considering assessment findings presented by SHA Advisory Group members and reviewing the SHA Key Findings infographics provided by SHIP planning team members. The SHIP Steering Committee set priorities in eight areas by identifying cross-cutting strategic issues that emerged from the SHA Key Findings. For example, the SHIP Steering Committee merged issues from three SHA Key Findings to set a strategic area for Chronic Disease and Conditions-Includes Tobacco-Related Illnesses & Cancer. In addition, the Key Findings included Injury Prevention with Chronic Disease, however, the Steering Committee set a specific priority area for Injury, Safety & Violence. While Health Equity issues are laced through the other seven priority areas, in 2017, SHIP steering committee added it as an 8th stand-alone priority. The following eight (8) health priorities were included in the State Health Improvement Plan:

1. **Health Equity**
2. **Maternal and Child Health**
3. **Immunizations**
4. **Injury, Safety and Violence**
5. **Healthy Weight, Nutrition and Physical Activity**
6. **Behavioral Health (including Mental Illness and Substance Abuse)**
7. **Sexually Transmitted Diseases (STDs) and Other Infectious Diseases**
8. **Chronic Diseases and Conditions (including Tobacco-Related Illnesses and Cancer)**

Key Findings—Infographics

state health assessment: behavioral health

Behavioral health disorders include depression, bipolar disorder, PTSD, anxiety disorders, and alcohol and other substance abuse dependencies.

The prevention of mental, emotional and behavioral disorders, physical disorders, and the promotion of mental health and physical health are inseparable. Young people who grow up in good physical health are more likely to also have good mental health. Similarly, good mental health often contributes to maintenance of good physical health.

National Research Council and Institute of Medicine

mental health

interconnected

Behavioral health disorders, mental illness, substance abuse and other general medical conditions are often interconnected.

AREAS OF CONCERN

Integrating services for behavioral health disorders with mainstream health care is necessary.

cost effective

Delivering services in mainstream health care can be cost-effective and may reduce intake and treatment wait times at substance-use disorder treatment facilities.

Behavioral health disorders increase the risk of many major causes of death in Florida and are the leading cause of years lived with disability worldwide.

mental illness

13% Untreated mental health disorders account for 13% of the total global burden of disease.

25 Individuals with serious mental illness die on average 25 years earlier than the average American.

substance abuse

behavioral health disorders include substance abuse

Among opioids drugs, there was a 90.1% increase in deaths due to Buprenorphine (71 to 135) and an 80.4% increase due to Fentanyl (911 to 1,644) between 2015 and 2016.

Common reasons why people do not seek treatment for substance abuse.

1. Not ready to stop using the substance.
2. No health care coverage or cannot afford it.
3. Might have a negative impact on their job.
4. Do not know where to go for treatment.
5. Do not have transportation, and programs are too far away or hours are inconvenient.

PREVALENCE IN FLORIDA

11% Approximate percent of children who experienced a major depressive episode.
30% Received treatment or counseling.

17% Approximate percent of adults who experienced any mental illness in the past year.
36% Received treatment or counseling.

4% Approximate percent of adults who experienced a serious mental illness in the past year.

6% & **8%** Approximately 6% of children ages 12–17 and 8% of adults experienced alcohol or illicit drug dependence or abuse.
85–90% **Did not** receive treatment in the past year.

HEALTH EQUITY—DISPARITIES IN FLORIDA

Integrating services has the potential to reduce health disparities.

Hispanics are more likely than non-Hispanics to need drug treatment, and they are less likely than non-Hispanics to receive drug treatment.

Approximately 73% of non-Hispanic whites with serious mental illness received mental health treatment/counseling in the past year, compared to 62% of Hispanics and 54% of Blacks.

Sources:

addiction.surgeongeneral.gov/surgeon-generals-report.pdf.

www.samhsa.gov/data/sites/default/files/State_BHBarometers_2014_1/BHBarometer-FL.pdf.

Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality (2012). *The NSDUH Report: Need for and Receipt of Substance Use Treatment among Hispanics*. Retrieved on October 7, 2015 from www.samhsa.gov/data/sites/default/files/NSDUHr117/NSDUHr117/NSDUHSR117HispanicTreatmentNeeds2012.pdf.

Substance Abuse and Mental Health Services Administration (2015). Results from the 2014 National Survey on Drug Use and Health: Mental Health Detailed Tables. Retrieved on October 10, 2015; from www.samhsa.gov/data/sites/default/files/NSDUH-MHDetTabs2014/NSDUH-MHDetTabs2014.pdf.

World Health Organization (2011). Global Burden of Mental Disorders and the Need for a Comprehensive, Coordinated Response from Health and Social Sectors at the Country Level. Retrieved from apps.who.int/gb/ebwha/pdf_files/EB130/B130_9-en.pdf.

2016 *Medical Examiners Commission Drug Report*. http://www.fdle.state.fl.us/MEC/Publications-and-Forms/Documents/Drugs-in-Deceased-Persons/2016-Annual-Drug-Report.aspx.

state health assessment: cancer

The term cancer covers not one but many diseases that share the common feature of abnormal cell growth. It can occur in almost any part of the body.

Early detection through routine health and cancer screenings, and timely, quality treatment and care may improve prognosis and survival.

AREAS OF CONCERN

IN THE U.S.

1 out of 3

The latest information shows that approximately one out of three Americans will develop cancer in their lifetime, and cancer will affect three out of four families.

IN FLORIDA

Florida ranks second in the nation in the number of newly diagnosed cancer cases.

42,000+ Cancer is one of two leading causes of death, with more than 42,000 deaths each year.

110,000+ Over 110,000 new cancers are diagnosed each year.

$5 billion+ Cancer presents an enormous economic burden on Floridians, with more than $5 billion in hospital charges for in-patient hospital care in which cancer is the primary diagnosis.

CANCER BURDEN IN FLORIDA, 2013

MOST COMMON CANCERS

Newly Diagnosed

Lung & Bronchus	16,306
Female Breast	15,268
Prostate	11,396
Colorectal	9,545
Melanoma	5,810

Deaths

Lung & Bronchus	11,730
Colorectal	3,662
Pancreas	2,750
Female Breast	2,736
Prostate	2,110

Source: Florida Department of Health's Cancer Data System and Bureau of Vital Statistics.

ALL CANCERS COMBINED:
Age-Adjusted Rates per 100,000

	INCIDENCE	MORTALITY
Florida	425.8	158.6
Male	463.8	191.0
Female	397.7	133.3
Non-Hispanic White	444.9	162.6
Non-Hispanic Black	397.9	163.7
Hispanic	322.5	116.7

people age 65+

Approximately 60% of newly diagnosed cancers and 70% of cancer deaths occur in people age 65 and older—approximately one-fifth of Florida's total population.

RISK FACTORS

Each cancer type develops differently and has different risk factors.

age
The number one risk factor for all cancers—cancer risks increase with age. As the population ages, there will be more cases of cancer in our communities.

diet & physical activity
20% of cancers are caused by being overweight and obese—often a result of unhealthy eating and lack of physical activity.

hpv
HPV causes 70% of oropharyngeal cancers in the U.S., and men are twice as likely to develop these cancers than women.

tobacco
Tobacco use can cause cancer anywhere in the body, including: lung, larynx, mouth, esophagus, throat, bladder, kidney, liver, stomach, pancreas, colon, rectum and cervix.

sun exposure
Unprotected sun exposure is the main risk factor for skin cancer.

unknown risks
The cause of some common cancers like breast cancer are still unknown.

RISK FACTORS CAN BE CLASSIFIED AS:

BIOLOGICAL
Age
Race/Ethnicity
Gender
Family History

BEHAVIORAL
Alcohol Use
Diet
Physical Activity
Tobacco Use

ENVIRONMENTAL
Hazardous Agent
Carcinogen

HEALTH EQUITY—DISPARITIES IN FLORIDA

Over the 10-year period of 2004–2013 for all cancers combined:

Men have higher cancer incidence and death compared to females.

Black females have a lower cancer incidence than White females, but there is no significant difference in the rate of death.

For breast cancer, Black females have a lower incidence but a higher death rate compared to White females.

Historically, Black males have had both a higher incidence and death due to cancer. In most recent years, the racial gap between Black and White males has decreased, but it remains that Black males have both cancer incidences and deaths at twice the rate of White males.

GOALS

Reduce cancer incidence and increase cancer survival.

Using 2012 data, by December 31, 2018, the Department's Agency Strategic Plan targets the following reductions per 100,000 people:

424.6 to 400
The rate of new cancer.

41.3 to 40.2
The rate of late- and advanced-stage female breast cancer.

8.4 to 8.0
The rate of invasive cervical cancer.

36.5 to 33.7
The rate of invasive colorectal cancer.

state health assessment:

chronic disease

Chronic diseases and conditions—such as heart disease, asthma, cancer, type 2 diabetes, obesity and arthritis—are among the most common, costly and preventable of all health problems.

AREAS OF CONCERN

IN THE U.S.

Chronic diseases are among the **leading causes** of morbidity, mortality and disability.

Treating people with chronic diseases accounts for **86 cents of every dollar** spent on health care.

Most health care-related costs in the U.S. are associated with chronic disease conditions.

IN FLORIDA

In 2014, **nearly 7 out of 10 deaths** were attributed to chronic diseases.

Lack of exercise or physical activity, poor nutrition, tobacco and alcohol use can lead to chronic disease.

Chronic disease self-management can improve quality of life and health care costs.

Chronic diseases are largely preventable by engaging in healthy behaviors.

PREVALENCE IN FLORIDA, 2015

13.1 million
People with at least 1 chronic disease.

5.6 million
People with 2+ chronic diseases.

The percentage of children with chronic health conditions has risen dramatically.

HEALTH EQUITY—DISPARITIES IN FLORIDA

Risk of most chronic diseases increases with age—Florida has the highest per capita elderly population in the U.S.

Certain racial and ethnic groups are disproportionately burdened.

GOALS

Healthy People 2020 (HP 2020) Objectives

REDUCE CORONARY HEART DISEASE DEATHS PER 100,000
HP 2020 Target: 103.4→→Florida Target: 96.9

REDUCE THE ANNUAL NUMBER OF NEW CASES OF DIAGNOSED DIABETES PER 1,000 ADULTS
HP 2020 Target: 7.2→→Florida Target: 7.2

REDUCE DIABETIC DEATHS PER 100,000
HP 2020 Target: 66.6→→Florida Target: 47.8

REDUCE EMERGENCY DEPARTMENT VISITS FOR ASTHMA PER 100,000 CHILDREN UNDER AGE 5
HP 2020 Target: 95.7→→Florida Target: 150.3

Sources:

Florida Health CHARTS, 2014, www.floridacharts.com.

Partnership to Fight Chronic Disease Florida White Paper, www.fightchronicdisease.org/sites/default/files/PFCD_White_Paper_Florida_V2.pdf.

Partnership to Fight Chronic Disease Florida Fact Sheet, www.fightchronicdisease.org/sites/default/files/download/PFCD_FL_FactSheet_FINAL1.pdf.

injury prevention

Injuries are the leading cause of death for residents ages 1–44 and the third leading cause of death overall, after cancer and heart disease.

PREVALENCE IN FLORIDA, 2013

Adults <65: males had more non-fatal hospitalizations than females.

Adults 65+: females had more non-fatal hospitalizations than males.

12,727 Number of injury related deaths.

4,236 females Number of injury related deaths (33%); 66,219 (52%) non-fatal hospitalizations.

8,486 males Number of injury related deaths (67%); 57,987 (47%) non-fatal hospitalizations.

124,224 Number of hospitalizations for non-fatal injuries. Whites represented 99,648 non-fatal hospitalizations and 10,832 deaths; Blacks, 13,335 non-fatal hospitalizations and 1,543 deaths; and other/non-white races, 9,746 non-fatal hospitalizations and 315 deaths.

9,559 Hospitalizations for non-fatal self-inflicted injuries.

all injuries

3 days Average hospital stay of an injury patient.

$42,970 Median hospital admission for a patient who has sustained an injury.

$7.9 billion+ Total dollars spent in hospitals on all injury patients.

51% Hospitalizations paid by Medicare.

21% Hospitalizations paid by commercial insurance.

13% Hospitalizations self-paid/under-insured.

HEALTH EQUITY—DISPARITIES IN FLORIDA

Adults, 85+ Highest rates of fatal injuries and non-fatal hospitalizations.

Males 67% of all injury deaths, and in all age groups, the fatality rate was higher than females.

Injuries are unintentional or intentional:

- Child Drownings
- Falls
- Firearms
- Fire-Related Injury
- Homicide
- Motor Vehicle Crashes
- Poisoning
- Suffocation
- Suicides
- Traumatic Brain Injury

LEADING CAUSES OF INJURY FOR ALL AGES

1. Falls
2. Poisoning
3. Motor Vehicle Crashes
4. Firearms
5. Suffocation
6. Drowning

83% unintentional injuries

HOSPITAL REPORTS ON INTENTIONAL INJURIES

9% Self-inflicted injuries and hospitalizations —includes suicides.

4% Assault injuries —includes homicides.

4% Undetermined.

PER 100,000

HOSPITALIZATIONS	
YEAR	RATE
2009	647.2
2010	650.6
2011	670.9
2012	643.8
2013	643.0

DEATHS	
YEAR	RATE
2009	69.1
2010	67.7
2011	68.3
2012	68.4
2013	65.9

state health assessment.

For both adults and children, healthy weight is defined as having a body-mass index (BMI) from 18.5 to 24.9.

healthy weight

Florida had the lowest obesity rate in the southeast in 2016.

AREAS OF CONCERN/HEALTH PRIORITIES

IN THE U.S.

34.9% More than one-third, or 34.9%, of adults are obese.

$147–$210 billion Current per year health care cost estimates due to obesity. Obesity is one of the biggest drivers of preventable chronic diseases and health care costs.

IN FLORIDA

35.7%
Adults at a healthy weight in 2014.

69.5%
About 7 out of 10, or 69.5%, of high school students were at a healthy weight in 2015.

The Florida Department of Transportation adopted a **Complete Streets Policy** and engaged with statewide partners to implement it. Complete Streets are designed and operated to enable safe access for everyone: pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops and bicycle to work, and will ultimately support healthy weight through exercise.

PREVALENCE IN FLORIDA

Source: Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System and Youth Risk Behavior Survey.

2014: More than 3 out of 5 adults, 62.2%, were overweight or obese.

2015: More than 1 out of 4 high school students, 26.8%, were overweight or obese.

co-morbidity

The presence of 2 chronic diseases or conditions.

Common co-morbidity among Floridians who are obese:

- diabetes
- hypertension
- cardiovascular disease
- stroke
- certain types of cancers

An unhealthy diet and a sedentary lifestyle increase the risk of becoming obese.

HEALTH EQUITY—DISPARITIES IN FLORIDA

who has a healthy weight?

adults, 2014

41.2%, Females

30.2% Males

37.2%, Non-Hispanic Whites

29.1% Non-Hispanic Blacks

33.9%, Hispanics

high school students, 2015

72.4%, Females

66.4%, Males

71.5%, Non-Hispanic Whites

66.7%, Non-Hispanic Blacks

68.4%, Hispanics

obese BMI >30.0

overweight BMI 25.0–29.9

healthy BMI 18.5–24.9

underweight BMI <18.5

Healthy Weight Outreach & Education Tools

Healthiest Weight Florida initiative Ongoing interventions promoting nutrition and physical activity throughout the community.

Let's Move! Child Care's 5 Healthy Goals Helps prevent childhood obesity and ensures that kids are healthy in child care and early education programs.

Healthier U.S. Schools Challenge Improves the health of the nation's children by promoting healthier school environments.

Healthy District Award Recognition to school districts that have met standards to become a Florida Healthy School District.

Centers for Disease Control and Prevention Worksite Health ScoreCard An assessment tool for employers to prevent heart disease, stroke and related health conditions.

BENCHMARKS

Increase the proportion of adults at a healthy weight
2014:
U.S., 33.4%
Florida, 35.7%

Reduce the proportion of adults who are obese
2014:
U.S., 29.6%
Florida, 26.2%

state health assessment:

immunization

Immunization has reduced vaccine-preventable diseases (VPDs) by 99%. Research has identified it as among the most cost-effective public health interventions, saving $295 billion in health care costs and $1.38 trillion in indirect societal costs.

AREAS OF CONCERN

There is no link between vaccines and autism.

complacency and anti-vaccination sentiments

Threats to high vaccination rates and low VPDs.

Religious and philosophical vaccine exemptions—which are often geographically clustered—have the potential to decrease herd immunity.

VPDs

KINDERGARTEN

vaccines

80%
U.S. HP 2020 initiative goal for vaccination rate in U.S.

GOALS

95%

4 DTaP, 3 Polio, 1 MMR, 3 Hepatitis B, 3 Hib, 1 Varicella, 4 PCV

Vaccines recommended by the age of 2:
4 DTaP, 3 Polio, 1 MMR, 3 Hepatitis B, 3 Hib, 1 Varicella, 4 PCV series

Florida rates for completion:
2014, 88%; 2015, 91%; 2016, 93%

Goal: 95%

Vaccines required for kindergarten:
4 or 5 doses of DTaP; 3, 4 or 5 doses of Polio; 2 doses of MMR; 3 doses of Hepatitis B; 2 doses of Varicella

Florida rates for completion:
2013–14, 93.2%; 2014–15, 93.3%; 2015–16, 93.7%

Goal: 95%

Children must be immunized in order to attend any Florida public school as well as any private school, or child or day care center.

95%

Sources:

Florida Department of Health's *Immunization Kindergarten and Seventh Grade Status Report*.

The Florida State Health Online Tracking System (Florida SHOTS).

The Center for Disease Control and Prevention: www.cdc.gov/vaccinesafety/concerns/autism.html.

National Institute of Health: www.nimh.nih.gov/news/science-news/2013/autism-risk-unrelated-to-total-vaccine-exposure-in-early-childhood.shtml.

JAMA. 2007; 298 (18): 2155–2163.

MMWR: 63 (16): 352–355.

influenza

Influenza (flu) has the largest burden of disease of any vaccine-preventable disease in Florida.

AREAS OF CONCERN

Annual vaccination is the best protection against flu.

IN FLORIDA, PEOPLE MOST AT RISK OF **SEVERE ILLNESS** OR **DEATH** FROM FLU AND FLU-LIKE ILLNESS:

pregnant women

600+ every year On average, the number of pregnant women who visit emergency departments in Florida every flu season. The flu is more likely to cause severe illness in pregnant women than in women who are not pregnant, and **it may be harmful to a developing baby.**

people age 65+

46%
every year
On average, 46% of all reported outbreaks occur in settings serving people over the age of 65.

on average,
12,500+
every year
The number of emergency departments visits across Florida due to flu and flu-like illness.
That's a visit every hour and a half.

children under age 5

30% every year
On average, 30% of all reported outbreaks occur in settings that serve children.

on average,
1,000+
every week
Children who visit emergency departments across Florida due to flu and flu-like illness.
On average, five children die every year.

Flu and pneumonia are also leading causes of death for the American Indian elderly population.

Sources:

Florida Department of Health, Florida Flu Review: www.floridahealth.gov/floridaflu.

Centers for Disease Control and Prevention

state health assessment: maternal health & birth outcomes

The percent of preterm and low birth weight births in Florida is highest among Non-Hispanic Black infants.

AREAS OF CONCERN

37 weeks

less than 2,500

Prematurity, low birth weight, sudden unexpected infant death (SUID), birth defects and other perinatal conditions are the leading causes of infant death. **Prematurity, birth before 37 weeks,** and **low birth weight, less than 2,500 grams,** significantly increase the risk of cerebral palsy, developmental delay, vision problems, hearing impairment, neurodevelopmental disabilities and respiratory disorders.

IN FLORIDA

16% Percent of infant deaths due to prematurity and low birth weight from 2005 to 2014.

#1 Hemorrhage, infection and hypertensive disorders are the leading causes of pregnancy-related death—more than half of all the deaths from 2005 to 2014.

199 Number of infants who died as a result of disorders related to prematurity and low birth weight in 2014.

29.3

The rate of pregnancy-related death among Non-Hispanic Black women for every 100,000 live births.

For Non-Hispanic White women, the rate is 13.2 and for Hispanic women, 8.1.

Sources:

Florida Pregnancy Risk Assessment Monitoring System (PRAMS), 2013.

Florida Vital Statistics.

National Center for Health Statistics, 2014.

National Center for Health, 2013.

access to preconception health & prenatal care

UNINTENDED PREGNANCIES These account for about 46% of pregnancies at the time of conception. Preventing these pregnancies is a key strategy for preventing infant death and other infant health issues.

PRECONCEPTION HEALTH The health of women and men before getting pregnant is a major contributor to an infant's health. Preconception health can be improved with preventive health care, stress reduction and chronic disease management.

HEALTH CARE PROVIDERS Should provide preconception health care and educate clients about reproductive health plans and safe sleep practices for infants.

healthy lifestyles

Social Determinants of Health

Education and access to care can have a large impact on reproductive health outcomes. Low levels of social support, lower socioeconomic status, chronic exposure to environmental hazards or social stressors such as racism play a role in the number of pregnancy-related deaths.

PREVALENCE IN FLORIDA, 2013

ACCORDING TO THE FLORIDA PREGNANCY RISK ASSESSMENT MONITORING SYSTEM,

NEW MOTHERS REPORTED:

21% Received preconception education and counseling.

22% Were obese before becoming pregnant.

52% Breastfed their baby for at least 3 months.

65% Placed their baby on their back to sleep.

HEALTH EQUITY—DISPARITIES IN FLORIDA

2x For every 1,000 live births in 2014, **Non-Hispanic Black infants died at more than twice the rate of Non-Hispanic White infants**: 10.6 versus 4.1. The rate for Hispanic infants was 4.9.

From 2005 to 2014, rates of **pregnancy-related deaths for Non-Hispanic Black women have been at least two times higher** than the rates for Non-Hispanic White or Hispanic women.

TRENDS FOR FLORIDA

	1990	1995	2000	2005	2010	2014
Births with adequate prenatal care:	62.6%	73.8%	74.0%	72.7%	71.3%	69.3%
Premature births (gestational age based on obstetric estimation):	8.6%	9.1%	10.3%	11.2%	10.5%	9.9%
Low birth weight births:	7.4%	7.7%	8.0%	8.8%	8.7%	8.7%

BENCHMARKS

U.S. Stats

Premature births: 9.6%

Low birth weight births: 8.0%

Infant mortality rate: 5.96 infant deaths per 1,000 live births

Non-Hispanic Black infant mortality rate: 11.22 infant deaths per 1,000 live births

state health assessment: sexually transmitted diseases

There are 345 sexually transmitted disease (STD) infections diagnosed each day in Florida—each hour, there are over 14 STD infections.

In 2015, there were 10,387 STD infections diagnosed among pregnant women.

AREAS OF CONCERN

HIV IN FLORIDA

4,900 Number of newly diagnosed cases of HIV infection in 2015.

$350,000 Lifetime cost of HIV-related medical care for each person.

HIV/CAUSES/RISKS FACTORS/CONTRIBUTING FACTORS:
High risk sexual contact and IV drug use (IDU).

SYPHILIS IN FLORIDA

2,090 Number of people with infectious syphilis.

38 Number of congenital syphilis cases in 2015.

40% Percent of infant or fetal deaths if infected in utero.

36% Percent increase of infectious syphilis in women.

SYPHILIS/CAUSES/RISKS FACTORS/CONTRIBUTING FACTORS:
40% co-infected with HIV and late or no prenatal care.

people with infectious syphilis:

40% are HIV positive.

3–5 times more likely to transmit or acquire HIV.

Sources:

Florida HIV Surveillance Data: Florida Department of Health, HIV/AIDS Section, 2016.

U.S. HIV Surveillance Report, 2014, Vol. 26, Table 22.

Florida Health CHARTS, 2017.

PREVALENCE IN FLORIDA, 2015

HIV 112,000 persons are known to be diagnosed and living with HIV. As many as 127,900 people may be living with HIV through 2015.

112,000

SYPHILIS
Infectious syphilis: 10.52 per 100,000 people.

Congenital syphilis: 16.8 per 100,000 live births.

In Florida, there were 4,708 cases of HIV diagnosed in 2015. That averages out to 91 new HIV cases each week and approximately 13 new cases each day.

HEALTH EQUITY—DISPARITIES IN FLORIDA

people living with HIV in Florida, adults ages 13+, 2015

NON-HISPANIC BLACKS
1 in 38 males and 1 in 61 females.

NON-HISPANIC WHITES
1 in 171 males and 1 in 1,048 females.

HISPANICS
1 in 97 males and 1 in 424 females.

NON-HISPANIC BLACKS—15% OF THE ADULT POPULATION, YET:

HIV/AIDS Cases
42% HIV
51% AIDS

Syphilis Cases
34% INFECTIOUS SYPHILIS
56% FEMALE INFECTIOUS SYPHILIS
60% CONGENITAL SYPHILIS

FLORIDA HIV, 2015

93 Average number of new HIV infections diagnosed each week.

13 Average number of new HIV infections diagnosed each day.

1 IN 8 HIV-infected persons who do not know they are infected.

9 Number of babies born infected with HIV.

873 Number of HIV-infected Floridians who died.

BENCHMARKS/GOALS

HIV/AIDS

2014 estimated case rate of HIV infection per 100,000:
U.S., 13.9
Florida, 26.9

HP2020 U.S. goal for new HIV infections for adolescents and adults by 2020: **reduce to 36,450.**

FLORIDA'S GOALS BY 2020

Reduce the number of new HIV infections per 100,000 for adolescents and adults: **from 4,613 in 2014 to 4,086.**

Goal to reduce the number of new HIV infections per 100,000 people: **from 23.6 in 2014 to 20.9.**

SYPHILIS

2014 rate of infectious syphilis:
U.S., 2.2 per 100,000 people.

2014 rate of congenital syphilis:
U.S., 11.6 per 100,000 live births.

2015 rate of infectious syphilis:
Florida, 10.52 per 100,000 people.

2015 rate of congenital syphilis:
Florida, 16.8 per 100,000 live births.

Healthy People 2020 U.S. goals to reduce rates of syphilis infection by 2020:
congenital syphilis, **9.6 per 100,000 live births;** infectious syphilis among males, **6.7 per 100,000;** infectious syphilis among females, **1.3 per 100,000.**

FLORIDA'S GOALS BY 2018

Reduce the number of early syphilis cases (primary/secondary/early latent): **from 22.08 per 100,000 in 2015 to 17.9.**

Reduce the number of congenital syphilis cases: **from 38 per 100,000 in 2015 to 24.**

state health assessment: tobacco, alcohol & substance abuse

Sources:

Florida Department of Health's Youth Risk Behavior Surveys, 2014 and 2015.

Centers for Disease and Control and Prevention's Behavioral Risk Factor Surveillance System, 2014.

National Survey on Drug Use and Health, 2014.

Tobacco Free Florida Strategic Plan.

2016 Medical Examiners Commission Drug Report. http://www.fdle.state.fl.us/MEC/Publications-and-Forms/Documents/Drugs-in-Deceased-Persons/2016-Annual-Drug-Report.aspx.

www.hhs.gov/ash/oah/adolescent-health-topics/substance-abuse/tobacco/risk-and-protective-factors.

Smoking kills more people than alcohol, AIDS, car crashes, illegal drugs, murders and suicides combined. **Excessive alcohol use** can lead to chronic diseases and other serious problems: high blood pressure, cancers, learning, memory and social problems, and alcohol dependence and alcoholism. **Substance use** can increase the risk of developing chronic diseases, contracting infectious diseases and triggering or intensifying mental disorders.

AREAS OF CONCERN 400%+

Emergence of Electronic Nicotine Delivery Systems (ENDS)

E-cigarettes, vape pens, e-hookah and other vaping devices produce an aerolized mixture containing flavored nicotine inhaled by the user.

ENDS use by Florida high school students has increased by more than 400%: from 3.1% in 2011 to 15.8% in 2015.

PREVALENCE IN FLORIDA

2014: 17.6% of adults 18 years+ were smokers.

2015: 6.9% of high school students were smokers.

3.1%

According to the 2014 National Survey on Drug Use and Health, the percent of U.S. adults 18 years and older who reported drug use, other than marijuana, in the past 30 days. Drugs included cocaine, crack, heroin, hallucinogens, inhalants and prescription drugs used non-medically.

17% Adults 18 years+ who reported being heavy or binge drinkers.

33% High school students who reported having at least one drink of alcohol on one day during the past 30 days.

2014

7.6% of adults 18 years+ reported using marijuana during the past 30 days.

high school students

21.5% reported using marijuana one or more times during the past 30 days.

13.0% reported "ever taking" prescription drugs—OxyContin, Percocet, Vicodin, Codeine, Adderall, Ritalin or Xanax—without a doctor's prescription.

2016

Total drug-related deaths increased by **22%** (2,126 more) over 2015.

5,725 opioid-related deaths were reported—a **35%** increase (1,483 more) over 2015.

Opioids were identified as either being the cause of death or present in the decedent.

HEALTH EQUITY—DISPARITIES IN FLORIDA

Adults Higher rates of smoking among males; people with lower levels of education, who live in rural areas or are unemployed; and the lesbian, gay, bisexual and transgender (LGBT) population.

High school students Higher rates of smoking among Non-Hispanic White students and 12th graders.

Contributing factors for adolescents who are more likely to smoke or use other tobacco products:

They are older; male; they are Non-Hispanic White, American Indian, Alaska Native or multi-racial; and they lack college plans or have parents who are not college educated.

Adults Higher rates of heavy or binge drinking among males, Non-Hispanic White and Hispanic adults, and those with higher levels of education.

High school students Higher rates of current alcohol use among Non-Hispanic White and Hispanic students, and 11th and 12th graders.

High school students 11th and 12th graders have higher rates of current marijuana use and *ever taking* prescription drugs without a doctor's prescription than 9th and 10th graders.

root causes of substance abuse

Causes are complex and often involve co-occurring mental health issues and adverse childhood events. Many people self-medicate to cope with psychological stress.

smokers

2–4 times more likely

Smokers are 2–4 times more likely than non-smokers to develop heart disease and have a stroke. They are 25 times more likely to develop lung cancer.

90%

Percent of adult smokers who began smoking in their teens, or earlier. Two-thirds become regular, daily smokers before 19.

32,000+ each year

Number of Florida adults who die from smoking.

10,300 each year

Number of Florida youth under age 18 who become new daily smokers.

270,000

Number of youth now under 18 who will die prematurely from smoking.

FLORIDA DOLLARS

about $17,259,100,000
Annual cost of tobacco use.

$21,085,357,042
Annual cost of alcohol-attributable adverse events.

Excessive alcohol use has immediate short-term health risks: injuries, violence, alcohol poisoning, risky sexual behaviors and miscarriage or fetal alcohol spectrum disorders.

$22,681,284,691+
Annual cost of illicit drug-attributable adverse events.

Using drugs at an early age may impede brain development, affecting learning, critical thinking, memory and emotions; it can also increase the risk of developing substance abuse behaviors as an adult.

GOALS

Current cigarette smoking among adults, 15.8% (2015), and high school students, 5.2% (2016).

FLORIDA GOALS BY 2020:
Adults, 14.3%
High school students, 3.4%

Appendix A

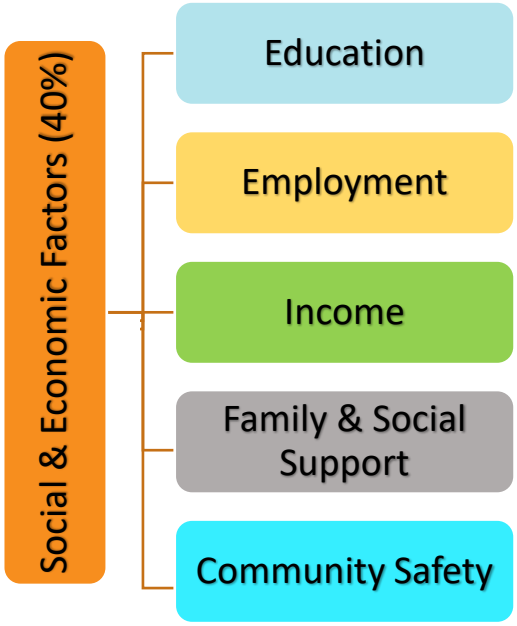
State Health Status Assessment Findings

Social & Economic Factors: Social Determinants of Health

Social and economic factors describe five elements—education, employment, income, family and social support, and community safety—that all contribute to health long before illness occurs. These elements affect a wide range of health, functioning, and quality-of-life outcomes and risks.[i] Public health research has established that many Americans face circumstances that have made them vulnerable to poor health and therefore experience avoidable differences in health and quality of life. It is now understood that "medical care alone cannot adequately improve health overall or reduce health disparities without also addressing social, economic and environmental conditions which exert significant influences on health in the immediate future and over their life course."[ii] While health care and individual behaviors such as physical activity, diet and tobacco use are important to health, upstream strategies, which address the origins of ill health with the potential to benefit the health of large populations, are necessary for reducing barriers to healthy behaviors[i, iii] The County Health Rankings Model from the University of Wisconsin, Population Health Institute, School of Medicine and Public Health found that the five factors listed above represent 40% of what contributes to health, and explains in part why some Americans are healthier than others and how levels of health can be perpetuated across generations.[iii, iv]

In this section, we examine the five elements of social and economic factors in the County Health Rankings model, which enhance quality of life and health outcomes when positive, but present long-lasting negative impact when unfavorable.

Exhibit 1: Five Elements of Social and Economic Factors in the County Health Rankings Model



Source: University of Wisconsin Population Health Institute, County Health Rankings & Roadmaps, 2014.

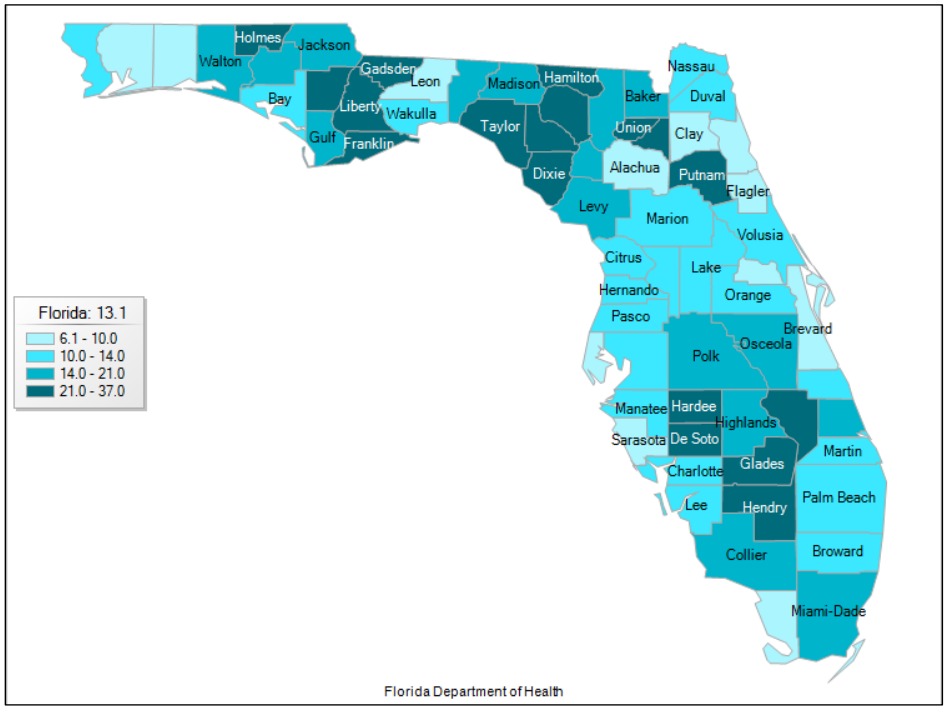
Education

Education—defined by a population's early childhood instruction and development—language and literacy, high school graduation rate and enrollment in higher education, and educational attainment, have a direct impact on health.[i] In Florida in 2014, 50.2% of three and four-year-olds were enrolled in nursery school or preschool.[v] In 2015, 13.1% of individuals 25 years of age or older did not have a high school diploma and 27.3% had a bachelor's degree or higher.[vi]

Better educated individuals live longer, healthier lives than those with less education, even when controlling for factors such as income.[iv] College graduates live an estimated nine years longer than individuals who have not completed high school.[iii] They also have fewer chronic conditions, better employment opportunities and higher incomes. Each additional year of schooling leads to about 11% more income annually.[iii] Furthermore, higher educational attainment can lead to a greater sense of control over one's life, can improve social standing and social networks, and is linked to better health.[ii]

Generational influences of education are evident in the body of research. Parental education is linked to the health and educational attainment of children. Children whose mothers did not finish high school are nearly twice as likely to die before their first birthday compared to children whose mothers graduated from college.[iii, vii] Stress and poor health early in life, common among those whose parents have lower levels of education, are linked to decreased cognitive development, increased tobacco and drug use, and a higher risk of cardiovascular disease, diabetes, depression and other conditions.[ii]

Exhibit 2: Percentage of Individuals 25 Years and Over with No High School Diploma, Florida 2015



Source: US Census Bureau, American Communities Survey, 2015

People with more education are likely to live longer, know more about health and practice health-promoting behaviors such as regularly exercising, refraining from smoking, and obtaining regular health checkups and screenings. The health-related social and psychological advantages of higher educational attainment continue across generations. The converse is true for populations with lower educational levels. Knowledge and skills enable full participation in the labor market, and education can be key in promoting social mobility and breaking the cycle of intergenerational disadvantage and related health disparities.[ii, v, viii]

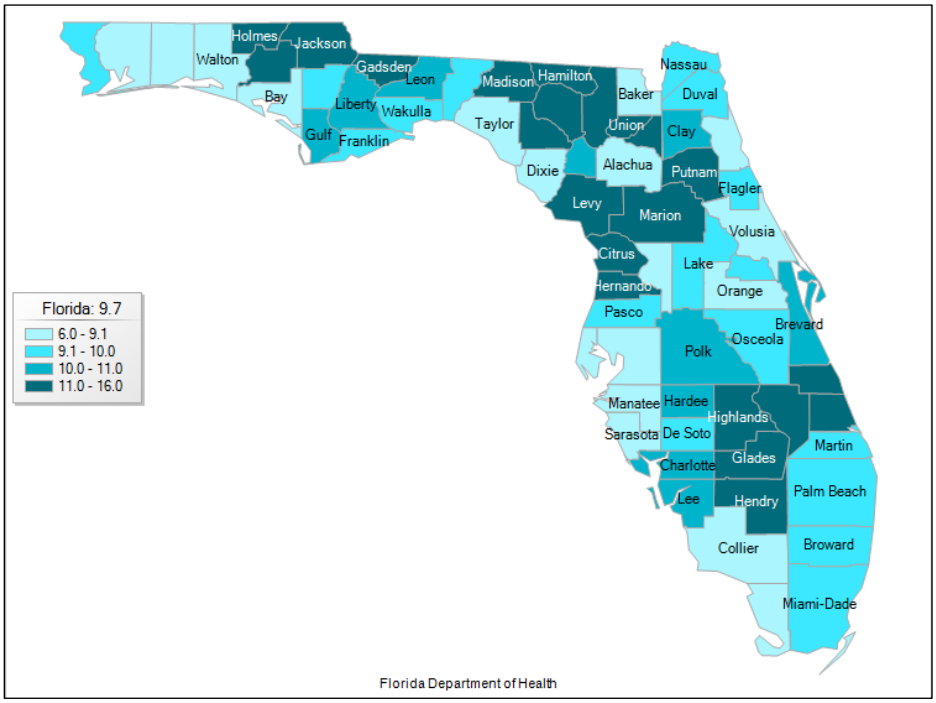
Employment

Employment, regardless of income, provides benefits that can support healthy lifestyle choices. Employment is linked to economic stability and a decrease in poverty, as well as an increase in food security, educational opportunities and access to stable and quality housing. Employment is still most often the source of benefits such as health insurance, paid sick leave and workplace wellness programs that support opportunities for healthy choices. In addition, healthy workers and their families are likely to incur lower medical costs, be more productive, have less chronic health conditions, and have lower rates of absenteeism and disability.

The working poor are defined as people who spend 27 weeks or more in a year in the labor force either working or looking for work, but whose incomes fall below the poverty level. According to the most recent data available in 2012, Florida has about 1.6 million working poor who are eligible for state supplemental nutrition assistance.[x] The working poor are less likely to have health insurance and access to preventive care, often lack paid leave to care for families and themselves, and are more likely to work in hazardous jobs. Hazardous jobs and unsafe working conditions pose mental and physical risks to health. Lack of control over working conditions and non-standard hours are associated with increased illness, injury and mortality. Those who are unemployed face even greater challenges to health and well-being, including no income or health insurance.

In 2015, 9.7% of the civilian labor force in Florida was unemployed. Forty-four of Florida's 67 counties had unemployment rates at or above the state average. In Florida, counties with the highest percentage of unemployed population include Hamilton (15.8%), Holmes (15.4%) and Columbia (14.8%).[vii]

Exhibit 3: Percentage of Civilian Labor Force Which Is Unemployed, Florida 2015



Source: US Census Bureau, American Communities Survey 2015

Unemployed individuals are 54% more likely to be in poor or fair health than individuals who are employed, and are more likely to suffer from increased stress, high blood pressure, heart disease and depression. Racial and ethnic minorities and those with less education—often already at risk for poor health outcomes—are most likely to be unemployed.

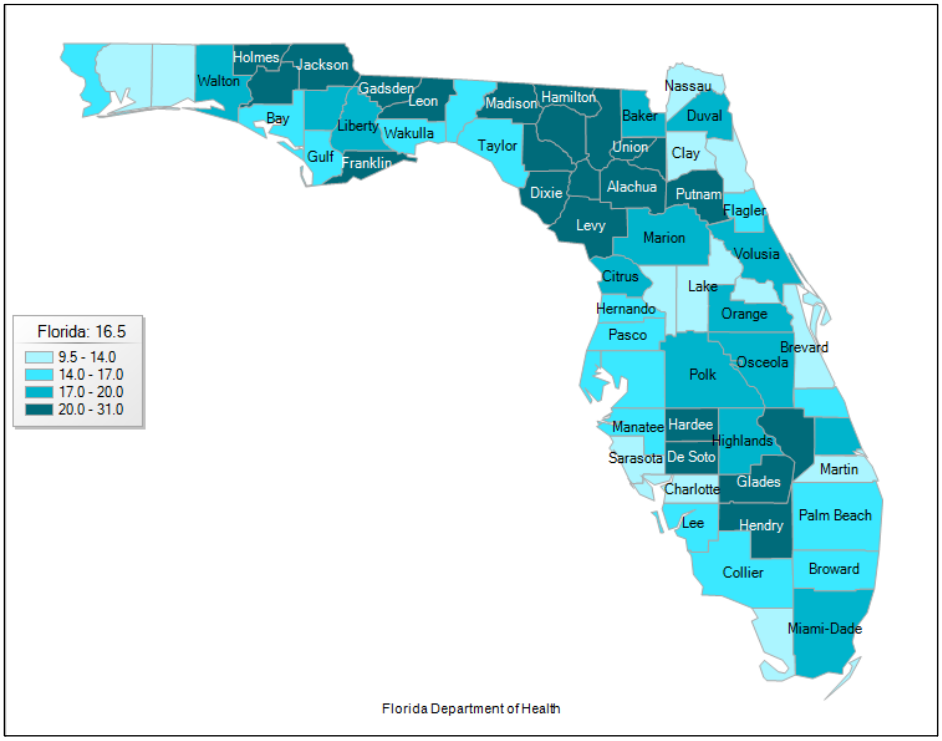
The economic condition of a community and an individual's level of educational attainment play important roles in shaping employment opportunities. Increased job skills, employment opportunities, and supportive and safe work environments have been shown to favorably impact health.[viii]

Income

Income can come from jobs, investments or retirement plans. Income allows families and individuals to purchase health insurance and medical care, and provides options for healthy lifestyle choices. Lower income is a strong predictor of poor health, including increased risk for cardiovascular and other chronic diseases, higher rates of preterm or low birthweight infants and increased mortality. Poor families and individuals are most likely to live in unsafe homes and neighborhoods, often with limited access to healthy foods, employment options and quality schools, thereby exacerbating poor health. In addition, living in poverty that results from lack of income can induce high levels of stress that can lead to physical and mental health issues.

Furthermore, income inequality, a measure of the divide between the poor and the rich, affects how long and how well we live. Income inequality can serve as a social stressor within a community as the difference in social class and social status become apparent, whereas people who live in economically homogenous regions have better health outcomes.[i, ix]

Exhibit 4: Percentage of Individuals Below Poverty Level, Florida 2015



Source: US Census Bureau, American Communities Survey 2015

Income inequalities exist in various geographic areas of Florida. In 2015, Florida's median household income in dollars, which includes the income of all persons 15 or older in the household, was $47,507.[vii] Furthermore, in 2015, 16.5% of individuals in Florida lived below the poverty level. Even though median income in any given county may appear adequate to meet needs, a portion of the population may live below the poverty level. For example, while the median income in Alachua County in 2015 was $43,073, 24.3% of the population lived below the poverty level, which limits the choices that promote health for those persons.[vii]

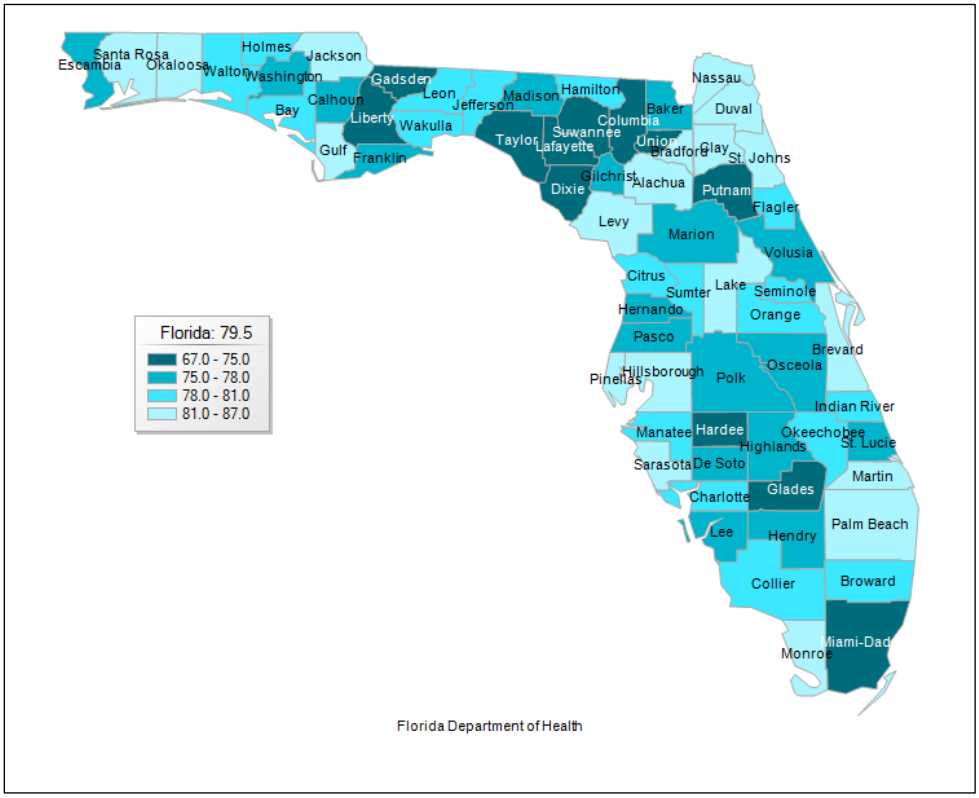
Income is tied to health. Adults in the highest income brackets are healthier than those in the middle class and will live, on average, six years longer than those with the lowest incomes.[xi] Many studies have indicated a strong link between income and health. A 2016 study suggests that a dollar increase in minimum wage above the federal level was associated with a 1–2% decrease in low birthweight births and a 4% decrease in infant deaths.[xi] Further studies show that policies that help increase income at the lower levels, where small increases can have the greatest impact, have been found to reduce and prevent poverty now and for future generations.[xi]

Family & Social Support

Family and social support consists of relationships with family members, friends, colleagues and acquaintances. Family and social support are important to health because people with greater social support, less isolation and greater interpersonal trust live longer and healthier lives than those who are socially isolated. Socially isolated individuals have an increased risk for poor health outcomes and are more likely to be concentrated in communities with limited social capital.[xi] Social capital comprises features of society that consist of cooperation for mutual benefit or reciprocity, interpersonal trust, goods and services produced for a common good, and civic participation.[i, xii] People who live in neighborhoods rich in social capital have greater access to support and resources than people who live in neighborhoods with less social capital. Residents of neighborhoods with low social capital are more likely to suffer anxiety and depression, have increased risk for illness, rate their health status as fair or poor, engage in unhealthy behavior and experience higher mortality than residents of neighborhoods with more social capital.[xii, xiii] They are also more prone to violence, incarceration and discrimination, and have limited community role models.[i, xii]

Conversely, social cohesion among families and across communities can produce physical and psychological health benefits. Policies and programs that provide communities with positive experiences, socially rewarding roles, community involvement and improved ability to cope with stressful events have been shown to improve health status among communities most affected. In 2013, 87.3% of adults in Florida reported having good mental health.[xv] According to 2010 BRFSS data, 79.5% of adults in Florida reported that they always or usually receive the social and emotional support they need.[xvi]

Exhibit 5: Adults Who Report Always or Usually Receiving the Social and Emotional Support They Need, Florida 2010



Source: Florida BRFSS, 2010

Community Safety

Community safety is defined by the rate of violent crimes and unintentional injuries that occur per 100,000 persons in a population.[iii] The Florida Department of Law Enforcement (FDLE) defines violent crime as murder, sexual offenses, robbery or aggravated assault.[xvii] Within these categories are the intentional injuries which result from interpersonal or self-inflicted violence; they include:

- Homicide
- Assaults
- Suicide and suicide attempts
- Child abuse and neglect (including child sexual abuse)
- Intimate partner violence
- Elder abuse
- Forcible sex offenses

From 1996–2016, Florida experienced a 40.0% decrease in the number of reported violent offenses. Violent offenses decreased from 147,425 in 1996 to 88,501 in 2016. In addition, there was a 57.1% decrease in the overall violent crime rate from 1,023.0 per 100,000 population in 1996 to 439.1 in 2016. Over the same period, Florida's population increased by 39.8%.[xviii]

FDLE reported 59,678 aggravated assaults, 10,480 forcible sex offenses and 1,108 murders in 2016.[vii] Some counties in Florida—Taylor, Levy, Madison, Jefferson and Leon—are more affected by violent crimes than others. The violent crime rate per 100,000 population for these counties is depicted in Exhibit 6:[xviii]

Exhibit 6: Violent Crime Rate per 100,000 Population

County	Violent Crime Rate per 100,000 Population
1. Taylor	1,161.1
2. Levy	1,035.7
3. Madison	899.3
4. Jefferson	738.0
5. Leon	734.2

Source: Florida Department of Law Enforcement, 2016

Injury deaths are categorized by the Florida Department of Health as unintentional and intentional. In 2015, the top five causes of unintentional fatal injuries, in rank order, were those that resulted from poisoning, motor vehicle collisions, falls, drowning and suffocation.[vii]

Exhibit 7: Top Five Causes of Unintentional Fatal Injuries

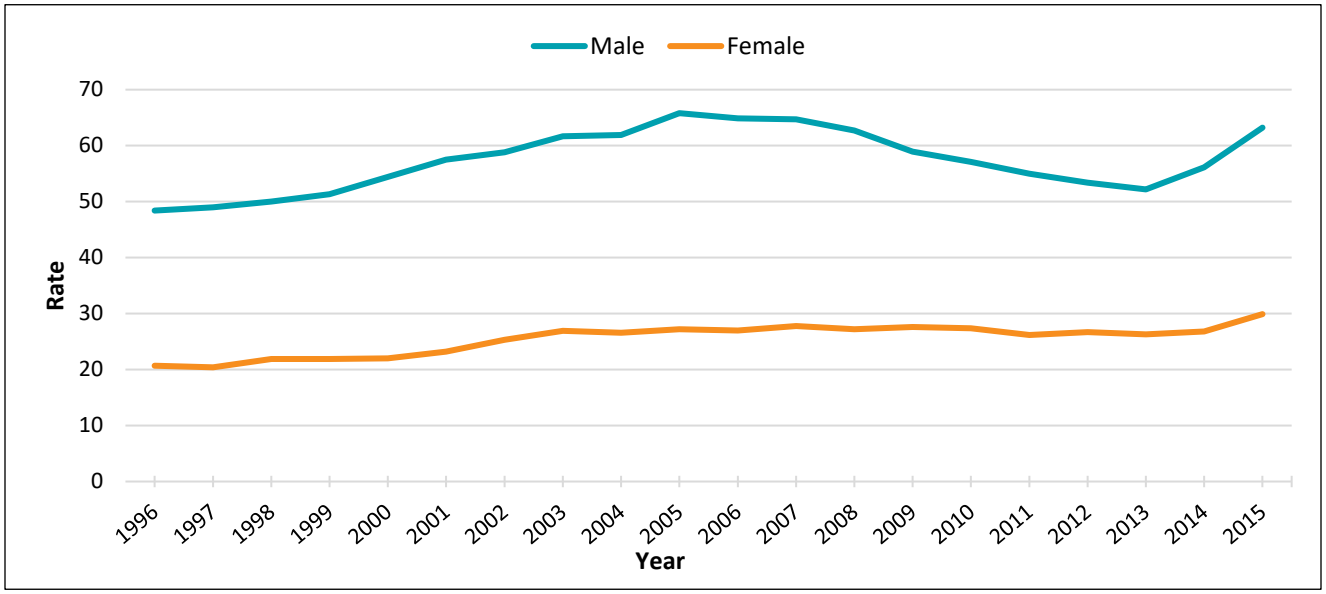
Unintentional Fatal Injury	Age-Adjusted Rate per 100,000 Population
1. Poisoning	14.4
2. Motor Vehicle Collisions	14.4
3. Falls	9.5
4. Drowning	2.3
5. Suffocation	1.79

Source: Florida Department of Health, Bureau of Vital Statistics, 2015

In 2015, unintentional injury was the 5th leading cause of death in Florida, accounting for 5.4% (10,346) of total deaths.[vii] Prescription drug overdose was the leading cause of poisoning deaths—the number one cause of death from unintentional injury—accounting for 2,749 cases. Motor vehicle collisions include motorcyclist, occupant, cyclist, pedestrian and other types of fatal injuries. Fall-related deaths primarily consisted of Florida residents 85 and older, accounting for 1,496 lives in that age group, and 2,870 total deaths in 2015. Drowning-related deaths accounted for 457 deaths across all age groups in 2015. Suffocation accounted for 420 deaths across all age groups in 2015.[vii]

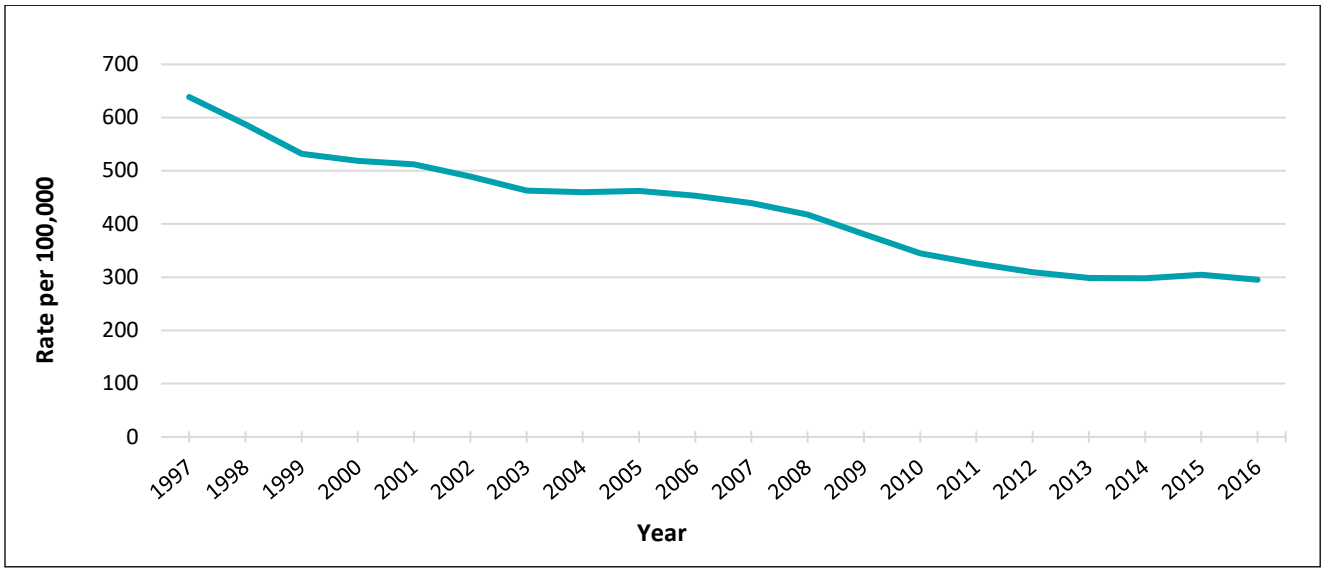
Men were more likely to die than women from injury-related deaths with an age-adjusted rate of 63.2 per 100,000 compared to 29.9 among women, as shown in Exhibit 8.[vii] According to the Insurance Institute for Highway Safety Highway Loss Data Institute, more men die than women each year in motor vehicle crashes.[vii] This can be attributed to factors such as miles travelled and risky driving practices such as not using safety belts, driving under the influence of alcohol and speeding.[xviii]

Exhibit 8: Unintentional Injury Age-Adjusted Death Rate by Gender, Florida 2015



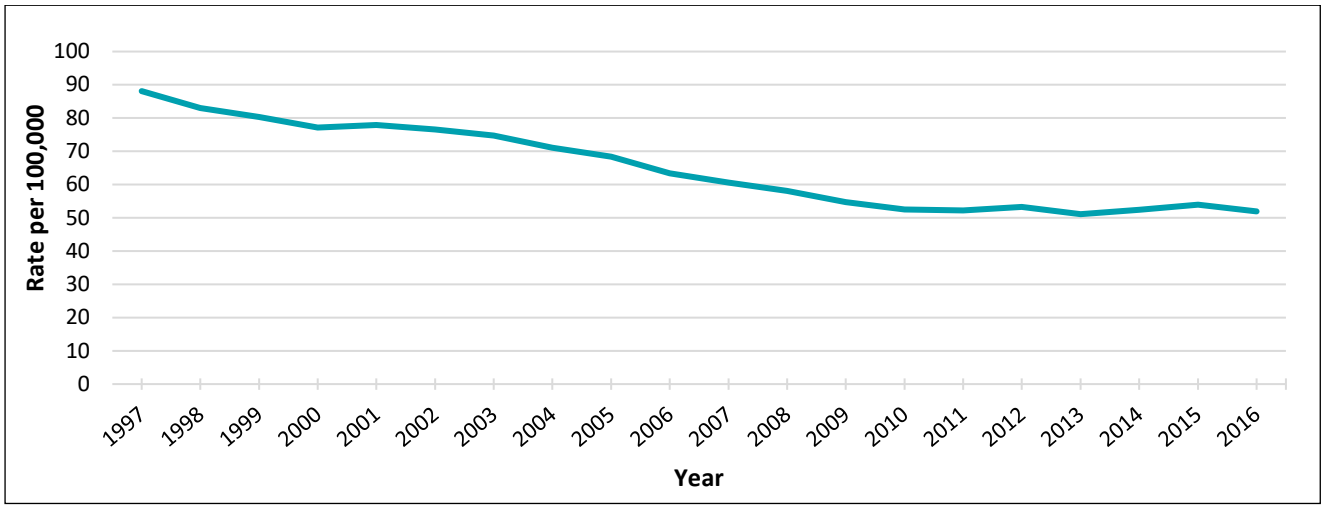
Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Exhibit 9: Aggravated Assault, Single Year Rates, Florida 2016



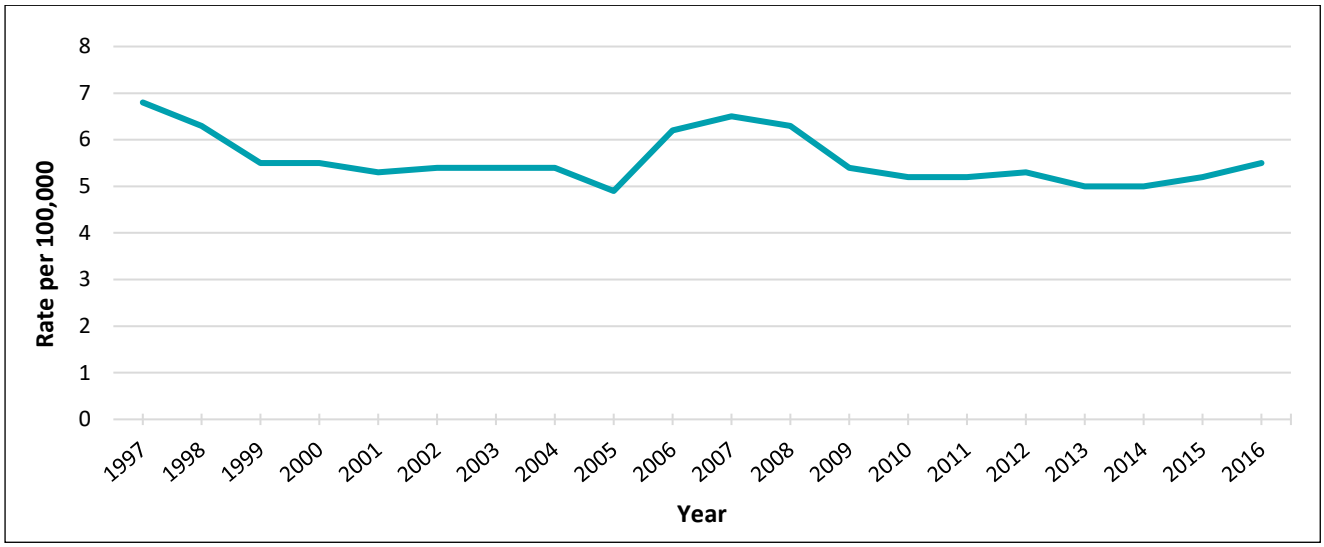
Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Exhibit 10: Forcible Sex Offenses, Single Year Rates, Florida 2016



Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Exhibit 11: Murder, Single Year Rates, Florida 2016



Source: Florida Department of Health, Bureau of Vital Statistics, 2015

The chronic stress associated with living in unsafe neighborhoods can accelerate aging and harm health. Unsafe neighborhoods can cause anxiety, depression and stress, and are linked to higher rates of pre-term births and low birthweight babies, even when income is accounted for. Fear of violence can keep people indoors, away from neighbors, exercise and healthy foods.[xix] Companies may be less willing to invest in unsafe neighborhoods, making jobs harder to find. Intimate partner violence causes 2,000 deaths annually in the U.S. and increases the risk of depression, anxiety, post-traumatic stress disorder, substance abuse and chronic pain. Accidents and violence have immediate and long-term impacts on health and quality of life for those directly affected as well as for the larger community.[xx]

Public health research has determined that social, psychological, biological and behavioral factors influence the onset, form, duration and intensity of illness. Differences in health produced by the unequal distribution of resources, opportunities, limitations and demands perpetuate ill health among the most vulnerable populations: racial and ethnic minorities, the elderly, the poor (adults and children), the uninsured, the homeless, and those with mental and physical disabilities. An effective response to impact the social determinants of health provides for the basic needs of all so populations can achieve the highest level of health and health equity. Improvement of population health will require addressing social and economic factors as the fundamental determinants of health.

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Health Behaviors

According to the Centers for Disease Control and Prevention (CDC), 63% of deaths in the U.S. are due to five top proximal causes: heart disease, cancer, chronic lower respiratory diseases, stroke and unintentional injuries.[i] Several layers of increasingly distal causes determine these five proximal causes, such as risk factors and social determinants. An estimated 20–40% of deaths for each of these five proximal causes can be prevented, mainly through changes in health behaviors and modifiable risk factors.

Health behaviors are beliefs and actions that influence an individual's well-being. Unhealthy behaviors include lack of physical activity, poor nutrition, tobacco use and excessive alcohol consumption, which can all lead to the development of chronic diseases. Chronic diseases were responsible for one out of seven deaths in Florida in 2015. CDC's 2015 Health Report highlights smoking and unhealthy weight as two main modifiable risk factors.[ii] Among adults in Florida in 2015, 15.8% were current smokers, 37.3% were overweight, and 26.8% were obese.[iii] Overall, data strongly suggest that improvement in modifiable risk factors can lead to lower mortality rates among all populations in the U.S.

The major source of information about Florida adults' health-related risk behaviors is the BRFSS, a state-based telephone surveillance system. Statewide data on tobacco use, diet, exercise, alcohol use and other behaviors are available annually. County-level data are available every third year, with 2016 being a county-level year. Similar information is available for youth attending middle and high school through the Middle School Health Behavior Survey, the Youth Risk Behavior Survey (YRBS) and the Florida Youth Tobacco Survey (FYTS).

This section presents findings on specific Health Behavior topics including Tobacco Use, Physical Activity and Nutrition, Alcohol and Drug Use, Immunizations and Infectious Diseases, and Maternal Health.

Tobacco Use

In the U.S., cigarette smoking-related diseases cause more deaths than alcohol use, human immunodeficiency virus (HIV), car crashes, illegal drug use and firearm-related incidents combined. Smoking causes diseases such as cancer, lung diseases, heart disease, stroke and chronic obstructive pulmonary disease (COPD). Adult smokers are 25 times more likely to have lung cancer and two to four times more likely to develop heart disease or have a stroke than adult non-smokers.[iv] Tobacco use is started and established primarily during adolescence.[iv, v] Ninety percent of adult smokers begin while in their teens, or earlier, and two-thirds become regular, daily smokers before they reach the age of 19.[v,vi,vii] Exposure to nicotine can have lasting effects on adolescent brain development.[vi]

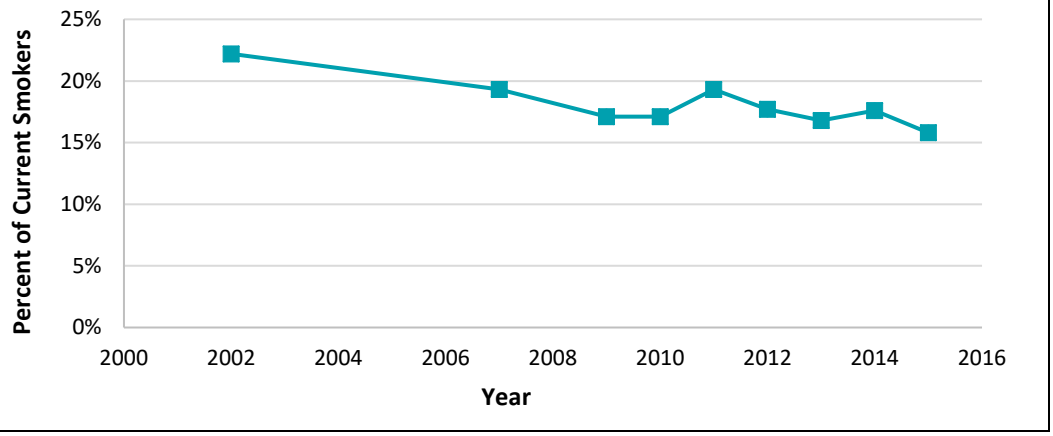
Adult Smoking

Cigarette smoking among Florida adults (15.8%)[iii] is slightly higher than the national smoking rate (15.1%).[ii] The percent of Florida smokers has decreased between 2002 and 2015, as depicted in Exhibit 1.

In 2015, 17.4% of males were current smokers, compared to 14.3% of females. Non-Hispanic white adults (17.4%) were more likely to smoke than non-Hispanic black (14.0%) and Hispanic (13.0%) adults. In addition, 22.9% of adults with less than a high school education reported being current smokers, compared to 19.5% of adults with a high school diploma or GED and 12.1% of adults with more than a high school education. Among current adult smokers in Florida in 2015, 64.9% tried to quit smoking at least once in the past year. 28.0% of adults in Florida reported being former smokers and 56.2% have never smoked.[iii]

Exhibit 1: Adult Smoking Prevalence, Florida 2015[viii]

	Percent
FL	15.8%
US	15.1%
HP2020	12.0%
Sex	
Male	17.4%
Female	14.3%
Race/Ethnicity (Non-Hispanic = NH)	
NH white	17.4%
NH black	14.0%
Hispanic	13.0%
High School (HS) Education	
<HS	22.9%
HS	19.5%
HS+	12.1%



Source: Florida Behavioral Risk Factor Surveillance System, 2015

Youth Smoking

Cigarette smoking among Florida's high school population (6.9%) is lower than the national rate (10.8%) and decreased by 55.5% from 2006 to 2015.[iii]

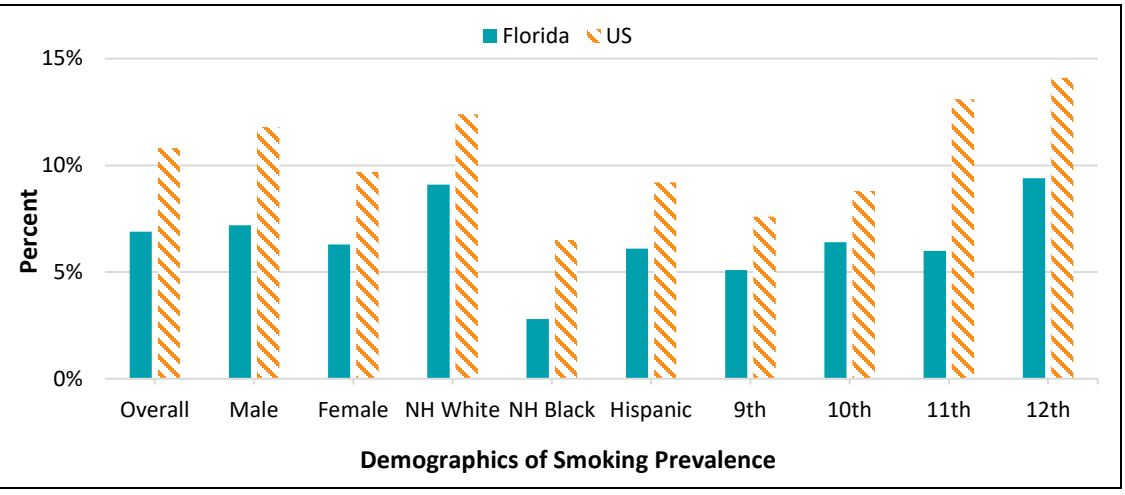
The FYTS collects data from 174 public schools throughout the state. The results in Exhibit 2 illustrate the distribution of smoking among high school students. Data by race and ethnicity indicate that the proportion of Hispanic (6.1%) and black (2.8%) high school students who smoke tend to be less than their non-Hispanic white (9.1%) counterparts.[ix]

Several factors influence youth tobacco use, including the way tobacco use is portrayed in media and its use among peers and parents. Smoking is more common among youth experiencing depression, anxiety and stress. It is also more prevalent among youth with lower socioeconomic status, low levels of academic achievement, low self-image, lack of support or involvement from parents, and lack of skills to resist influences to using tobacco.

Flavorings in tobacco products can make them more appealing to youth. In 2014, nationally, 73% of high school students and 56% of middle school students who used tobacco products in the past 30 days reported using a flavored tobacco product during that time. Among high school students in Florida in 2015, 8.3% reported using flavored tobacco, 3.6% used flavored cigarettes and 6.0% used flavored cigars.[ix]

Exhibit 2: High School Smoking Prevalence, Florida and U.S. 2015[ix]

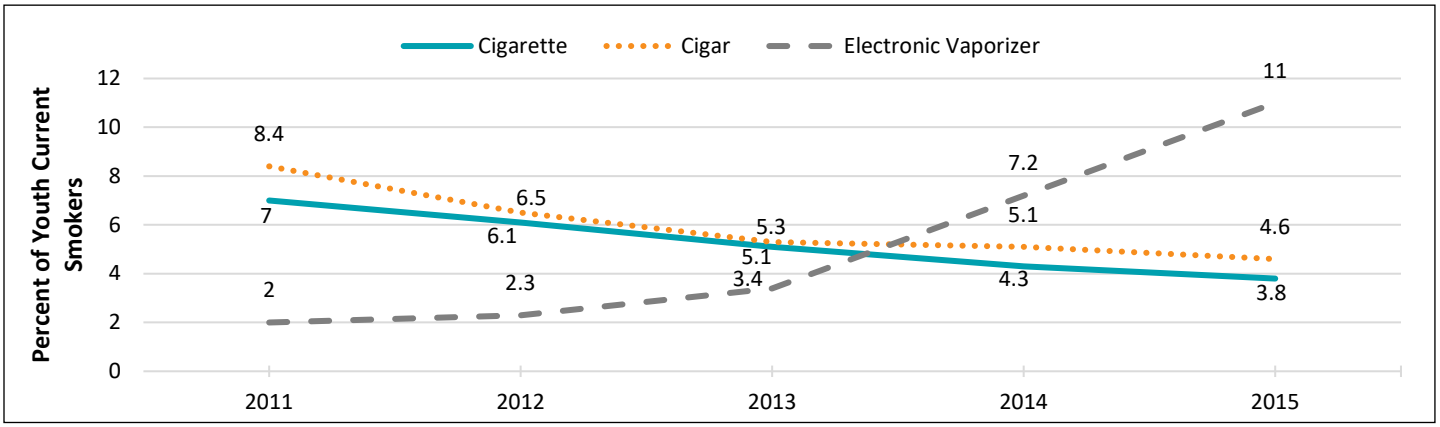
	Percent
FL	6.9%
US	10.8%
Sex	
Male	7.2%
Female	6.3%
Race/Ethnicity (Non-Hispanic = NH)	
NH white	9.1%
NH black	2.8%
Hispanic	6.1%
High School Grade Level	
9th	5.1%
10th	6.4%
11th	6.0%
12th	9.4%



Source: Florida Youth Tobacco Survey, 2015; Youth Risk Behavior Survey, 2015

While traditional cigarette smoking rates have decreased, current use of electronic nicotine dispensing systems (ENDS) by Florida high school students has increased by more than 400% since 2011. The percent of high school students currently using e-cigarettes increased from 3.1% in 2011 to 15.8% in 2015.[ix] Use of multiple tobacco products is prevalent among youth.

Exhibit 3: 5-Year Tobacco Trends 2011–2015 Florida Youth (11–17)



Source: Florida Youth Tobacco Survey, 2015

Physical Activity and Nutrition

Good nutrition, physical activity and a healthy body weight are indispensable for our health and well-being. Together, they can help reduce the risk of developing serious health conditions, such as obesity, hypertension, Type 2 diabetes, heart disease, stroke and certain types of cancer.[x] The data in the nutrition section show that healthy eating patterns and physical activity levels vary depending on gender, age and other demographic factors like race and ethnicity. Differences among Florida's adult and youth populations highlight the importance of taking health inequities into consideration among Florida's unique and diverse residents.

The U.S. Departments of Health and Human Services (DHHS) and Agriculture (USDA) are responsible for the joint publication of nutritional and dietary guidelines for the public every five years.[xi] Previous versions of the national dietary guidelines focused on recommendations for individual dietary components. In the recently released *Dietary Guidelines for Americans 2015-2020*, the recommendations focus on five overarching guidelines that encourage healthy eating patterns, or the complete combination of foods and drinks in one's diet:

1) Follow a healthy eating pattern across the lifespan.
2) Focus on variety, nutrient density and amount.
3) Limit calories from added sugars and saturated fats and reduce sodium intake.
4) Shift to healthier food and beverage choices.
5) Support healthy eating patterns for all.

The DHHS is additionally responsible for publishing the *Physical Activity Guidelines for Americans*. The most recent guidelines were released in 2008 and recommend varying amounts of weekly aerobic, muscle-strengthening and bone-strengthening exercises for adults depending on their intensity. Specifically, the guidelines recommended adults participate in either a minimum of 150 minutes a week of moderate-intensity aerobic physical activity (such as brisk walking or tennis), or 75 minutes a week of vigorous-intensity aerobic physical activity (such as jogging or swimming), or an equivalent combination of moderate- and vigorous-intensity physical activity. For children, the guidelines recommend at least 60 minutes of physical activity each day, including a balanced combination of aerobic activity (such as running, dancing or biking), muscle strengthening activity (such as climbing trees, using playground equipment or lifting weights), and bone-strengthening activity (such as running or jumping rope).[xii]

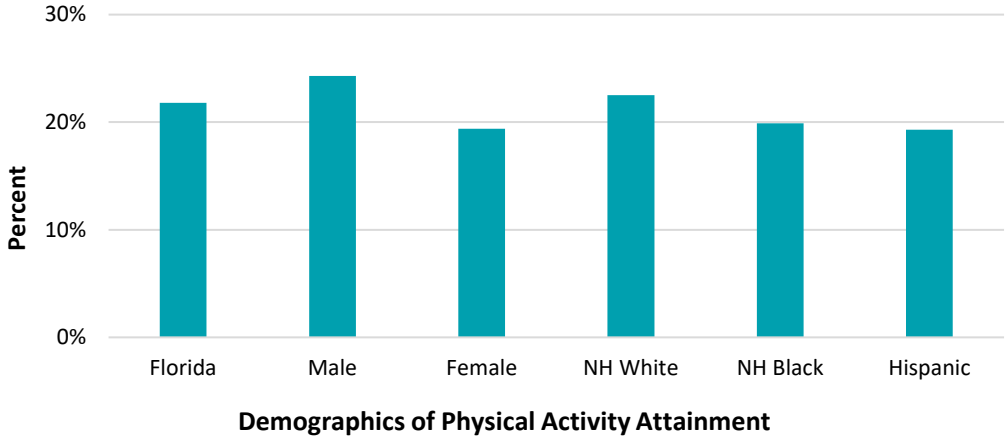
Physical Activity

Physically active adults are healthier and less likely to develop chronic diseases than adults who are inactive. The benefits of physical activity apply to people of all ages, genders and races, and include better physical fitness, a healthier body size and composition, and improved mental health. Regular physical activity in children and adolescents promotes health and fitness. Compared to those who are inactive, youth who partake in physical activity have healthier hearts, stronger bones and muscles, and a reduced risk of chronic diseases. Physical activity can also reduce symptoms of anxiety and depression.[xiii]

In 2015, about one in five adult Floridians (21.8%) participated in enough aerobic and muscle strengthening exercises to meet recommended guidelines. Males (24.3%) were significantly more likely than females (19.4%) to reach the weekly recommendations for physical activity.[xiii] There were no statistically significant differences found among race or ethnicity; however, adults with higher educational levels were more likely to meet the guidelines. Due to changes in survey methodology, it is not possible to look at this behavior over time for adults.

Exhibit 4: Adults Participating in Enough Aerobic and Muscle Strengthening Physical Activity to Meet Guidelines, Florida 2015[xiv]

	Percent
FL	21.8%
US	20.3%
HP 2020	47.9%
Sex	
Male	24.3%
Female	19.4%
Race/Ethnicity (Non-Hispanic = NH)	
NH white	22.5%
NH black	19.9%
Hispanic	19.3%
High School (HS) Education	
<HS	15.2%
HS	16.8%
HS+	23.0%
College Grad	29.5%

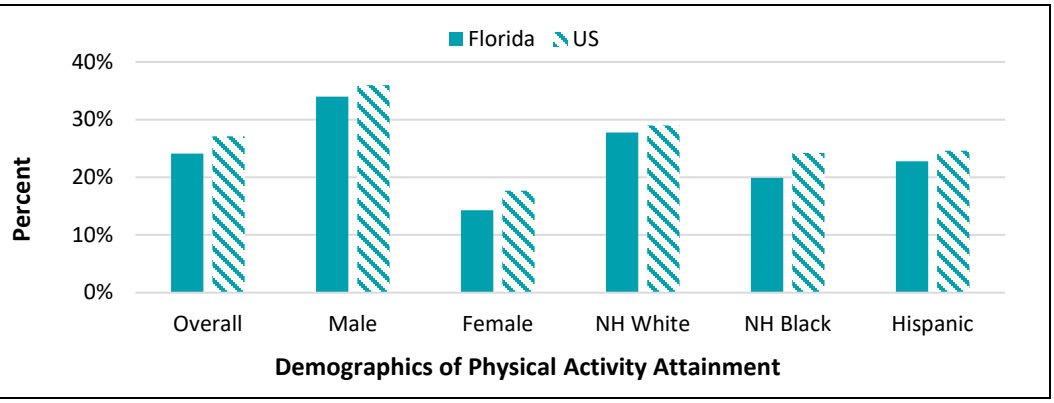


Source: Florida Behavioral Risk Factor Surveillance System, 2015

In 2015, 24.1% of high school students met weekly physical activity recommendations. Since 2011, there has been no statistically significant change in this percentage. One out of three males (34.0%) met the weekly recommendations for physical activity among youth compared to one out of seven females (14.3%), a statistically significant difference. Additionally, non-Hispanic white youth (27.8%) were more likely than non-Hispanic blacks (19.9%) and Hispanics (22.8%) to reach the weekly recommendations for physical activity.[vi] Approximately 181,350 high school students in Florida met the weekly recommendations for physical activity. Among them, 125,670 reported playing on at least one sports team.

Exhibit 5: Percentage of High School Students Who Were Physically Active for at Least 60 Minutes per Day, Florida 2015[v]

	Percent
FL	24.1%
US	27.1%
HP 2020	31.6%
Sex	
Male	34.0%
Female	14.3%
Race/Ethnicity (Non-Hispanic = NH)	
NH white	27.8%
NH black	19.9%
Hispanic	22.8%



Source: Youth Risk Behavior Survey, 2015

Nutrition

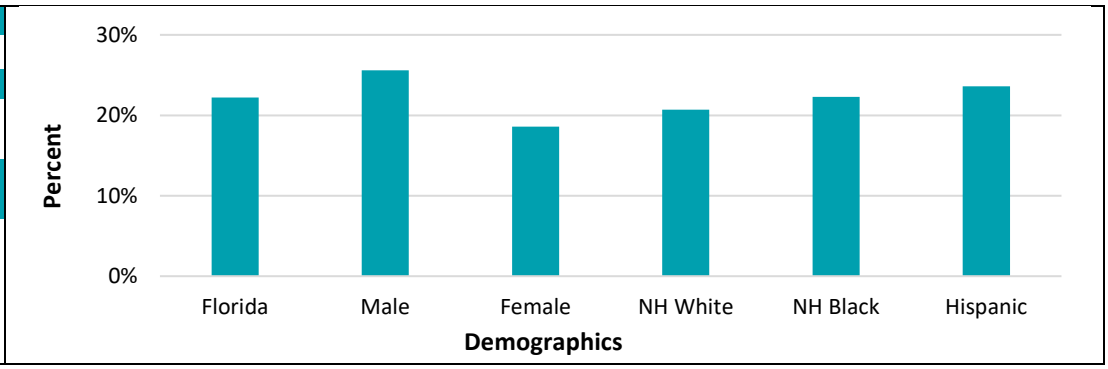
Eating a balanced diet is vital for good health and well-being. Protein, essential fats, vitamins and minerals are nutrients that each play an important role for the human body to live, grow and function properly. An unhealthy diet increases the risk of many chronic diseases, including coronary heart disease, stroke, hypertension, atherosclerosis, obesity, some forms of cancer, type 2 diabetes, osteoporosis, dental caries, gall bladder disease, dementia and nutritional anemias.[xiv]

The *2015-2020 Dietary Guidelines* recommend eating a variety of nutrient-rich fruits and vegetables as key components of a healthy eating pattern. A healthy eating pattern includes fruits, vegetables, protein, fat-free or low-fat dairy, whole grains and oils, and limits saturated fats, added sugars and sodium. At the national level, the process of measuring fruit and vegetable consumption is being revised to create variables that accurately reflect the proportion of the population meeting USDA recommendations. In the meantime, CDC advises that data related to frequency of daily fruit and vegetable consumption may still be useful for states to assess the nutritional behaviors of their populations.

From 2005 to 2013, the prevalence of eating fruits and vegetables five or more times daily among adolescents remained relatively stable. In 2013, 22.2% of Florida public high school students ate fruits and vegetables five or more times per day. Male students (25.6%) had a significantly higher prevalence of this behavior than females (18.6%). There were no statistically significant differences by race/ethnicity.[xv] This is the most recent year this calculated variable is available.

Exhibit 6: Percentage of High School Students Who Ate Five or More Servings of Fruits or Vegetables per Day, Florida 2013*[xvi]

	Percent
FL	22.2%
Sex	
Male	25.6%
Female	18.6%
Race/Ethnicity (Non-Hispanic = NH)	
NH white	20.7%
NH black	22.3%
Hispanic	23.6%



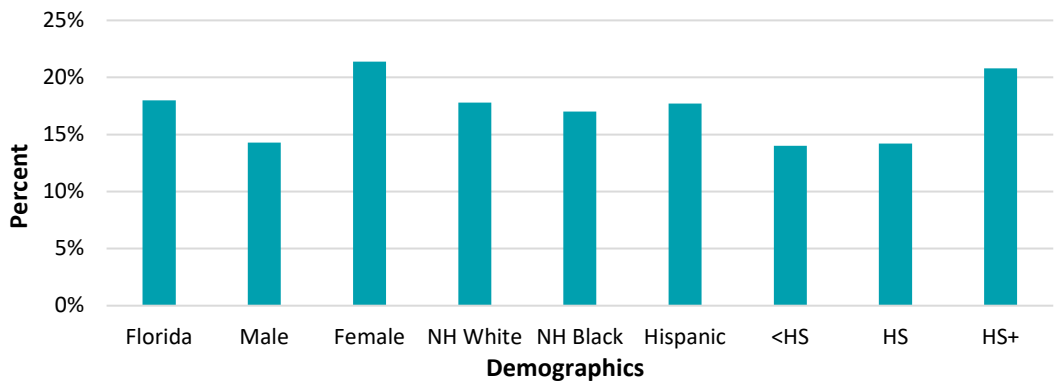
***Note: Similar U.S. data not available**

Source: Youth Risk Behavior Survey, 2013

In 2015, 18.0% of Florida adults ate five or more servings of fruit or vegetables per day. Females (21.4%) reported a higher prevalence of this behavior than males (14.3%), a statistically significant difference. Similar proportions of non-Hispanic white (17.8%), non-Hispanic black (17.0%) and Hispanics (17.7%) all reported eating five or more servings of fruit or vegetables per day. Adults with greater than high school education (20.8%) had a statistically significant higher prevalence of eating five or more servings of fruits and vegetables per day than adults with a high school degree (14.2%) and adults who did not finish high school (14.0%).

Exhibit 7: Percent of Adults Who Ate Five or More Fruits or Vegetables per Day, Florida 2015[viii]

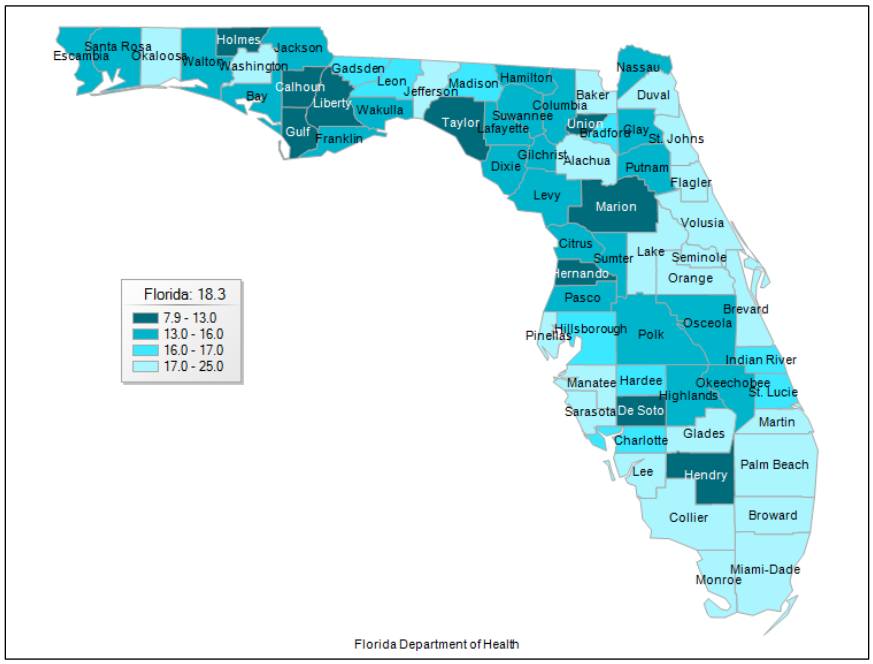
	Percent
FL	18.0%
Sex	
Male	14.3%
Female	21.4%
Race/Ethnicity (Non-Hispanic = NH)	
NH white	17.8%
NH black	17.0%
Hispanic	17.7%
High School (HS) Education	
<HS	14.0%
HS	14.2%
HS+	20.8%



Source: Florida Behavioral Risk Factor Surveillance System, 2015

Exhibit 8 shows the adult prevalence of eating five or more servings of fruits or vegetables per day by county in 2013, the most recent county-level data available. Across the state, the percentage of adults eating five or more servings of fruits and vegetables daily ranged from 7.9% to 25.0%. Efforts to increase access to food for all populations in Florida is focused on areas of greatest need, such as food deserts. Food deserts are defined by indicators that measure the distance to a supermarket, the number of supermarkets and the availability of public transportation.

Exhibit 8: Adults Who Consumed Five or More Servings of Fruits or Vegetables per Day, Overall, 2013



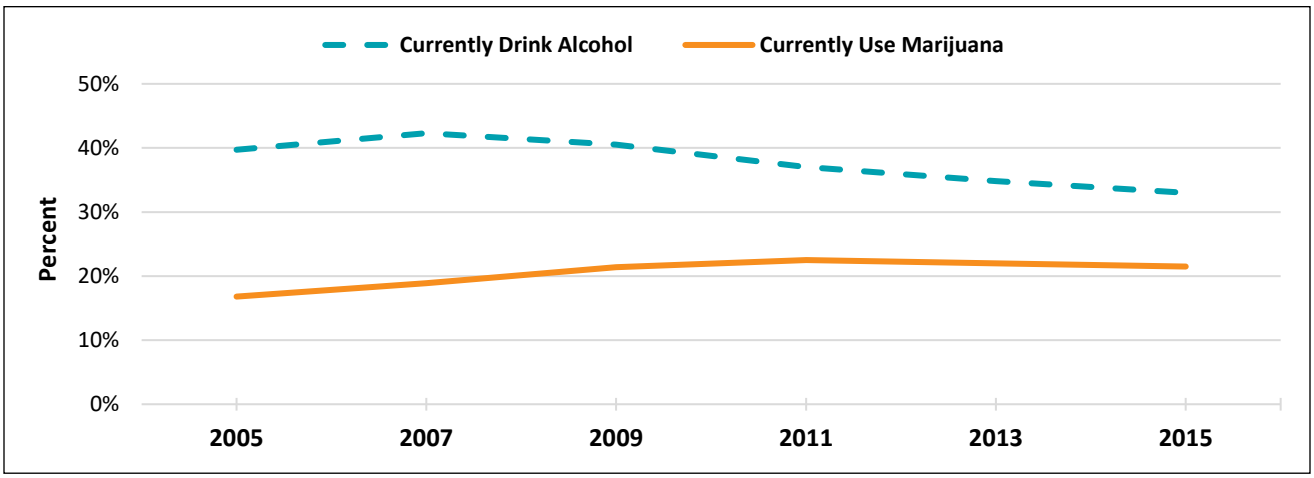
Source: Florida Behavioral Risk Factor Surveillance System, 2013

Alcohol and Drug Use

Youth often report an extreme amount of peer pressure to engage in alcohol consumption and other drug use. Drug use can lead to physical, mental and emotional health problems. Using drugs at an early age may impede brain development, which affects learning, memory, critical thinking and emotions. It can also increase the risk of developing chronic diseases, contracting infectious diseases and triggering or intensifying mental disorders. Starting substance use at an early age increases the risk of developing substance abuse behaviors as an adult. The effects of drugs go beyond the individual user. The burden and cost of drug usage extends to families and communities through increased risk of motor vehicle crashes, self-harm and suicide, interpersonal violence, risky sexual activity and academic problems.

Alcohol continues to be the most commonly used drug among Florida high school students, however, reports of usage are decreasing. According to the Florida YRBS, 33.0% of high school students reported current alcohol use in 2015 compared to 39.7% in 2005, a decrease of 16.9%. Current marijuana use increased from 16.8% in 2005 to 21.5% in 2015, though its use is less prevalent than alcohol, as depicted in Exhibit 9.[vi]

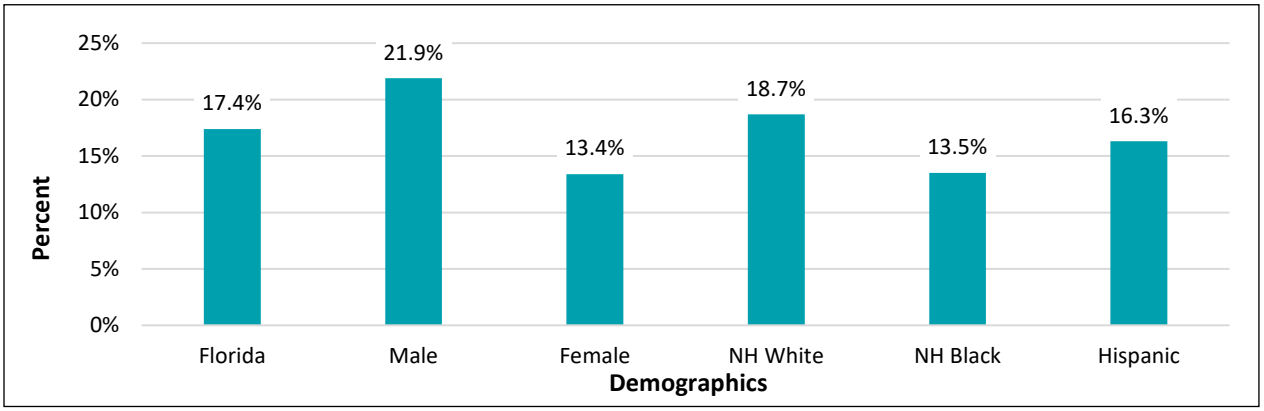
Exhibit 9: Percent of High School Students Who Currently Engage in Drug and Alcohol Use, Florida 2015



Source: Florida Youth Risk Behavior Survey, 2015

In 2015, 17.4% of adults in Florida reported engaging in heavy or binge drinking. The prevalence of men (21.9%) engaging in heavy or binge drinking was higher than women (13.4%). Non-Hispanic white adults (18.7%) reported engaging in heavy or binge drinking more frequently than non-Hispanic blacks (13.5%) and Hispanics (16.3%). Disparities in heavy and binge drinking behaviors are prevalent among gender and race/ethnicity as well. More white men (22.0%) reported binge drinking than black men (17.8%), and more white women (15.6%) reported binge drinking than black women (10.1%). The highest prevalence of this behavior was among Hispanic men (23.5%) and the lowest prevalence was Hispanic women (9.5%). Age, income and marital status also had an impact on heavy and binge drinking behaviors.[xii]

Exhibit 10: Adults Who Engage in Heavy or Binge Drinking, Florida 2015



Source: Florida Behavioral Risk Factor Surveillance System, 2015

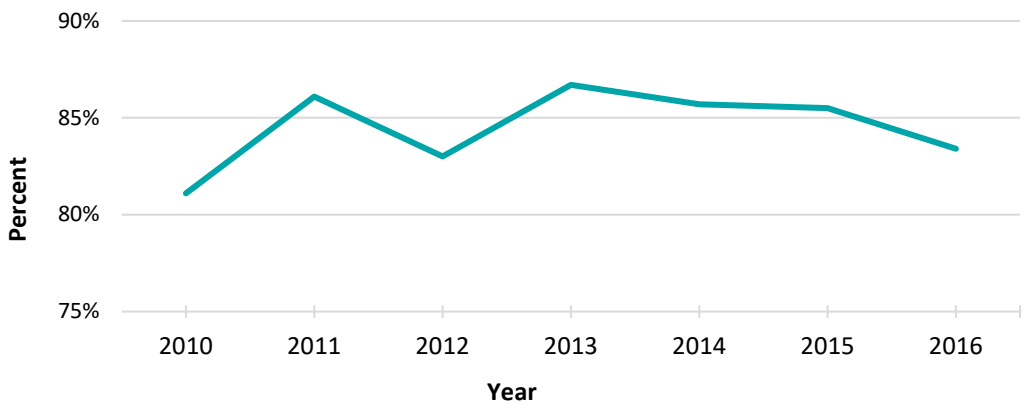
Immunizations and Infectious Diseases

Immunizations are the most cost effective and widely used public health intervention available. Infectious diseases that were historically common in the U.S. and globally, including measles, pertussis (whooping cough) and varicella (chicken pox), can now be prevented by vaccination. Since the introduction of vaccines in the U.S., there has been a 99% reduction in most vaccine-preventable diseases (VPDs). Due to vaccination, one of the most terrible diseases in history—smallpox—no longer exists outside the laboratory.[xvi, xvii] Wide use of vaccinations significantly decreased the spread of VPDs that historically resulted in severe morbidity and mortality among the most vulnerable populations (children and elderly). Certain VPDs, such as rubella and polio, have been completely eradicated in the U.S. due to aggressive vaccination campaigns. Currently, immunizations are available and recommended for 17 vaccine-preventable diseases in the U.S. Routine childhood immunizations in the U.S. protect against 14 different VPDs by age two and 16 VPDs by age 12. Common VPDs that continue to contribute significantly to illness and death in the U.S. include influenza, human papilloma virus infection, pneumococcal disease, pertussis, varicella and viral hepatitis. Each year, 42,000 adults and 300 children die from vaccine-preventable diseases.[xvii, xviii]

To summarize the impact of the U.S. immunization program on the health of all children (both children eligible and those not eligible for the Vaccines For Children (VFC) program) who were born during the 20 years since VFC began, CDC used information on immunization coverage from the National Immunization Survey (NIS) and a previously published cost-benefit model to estimate illnesses, hospitalizations and premature deaths prevented and costs saved by routine childhood vaccination from 1994–2013. Coverage for many childhood vaccine series was near or above 90% for much of the period. Modeling estimated that, among children born from 1994–2013, vaccination will prevent an estimated 322 million illnesses, 21 million hospitalizations and 732,000 deaths over the course of their lifetimes, at a net savings of $295 billion in direct costs and $1.38 trillion in total societal costs.[xviii] With support from the VFC program, immunization has been a highly effective tool for improving the health of U.S. children. Unfortunately, some VPDs rates are increasing due to anti-vaccination beliefs and religious exemptions.

Exhibit 11: Percent of Two-Year-Old Children Fully Immunized

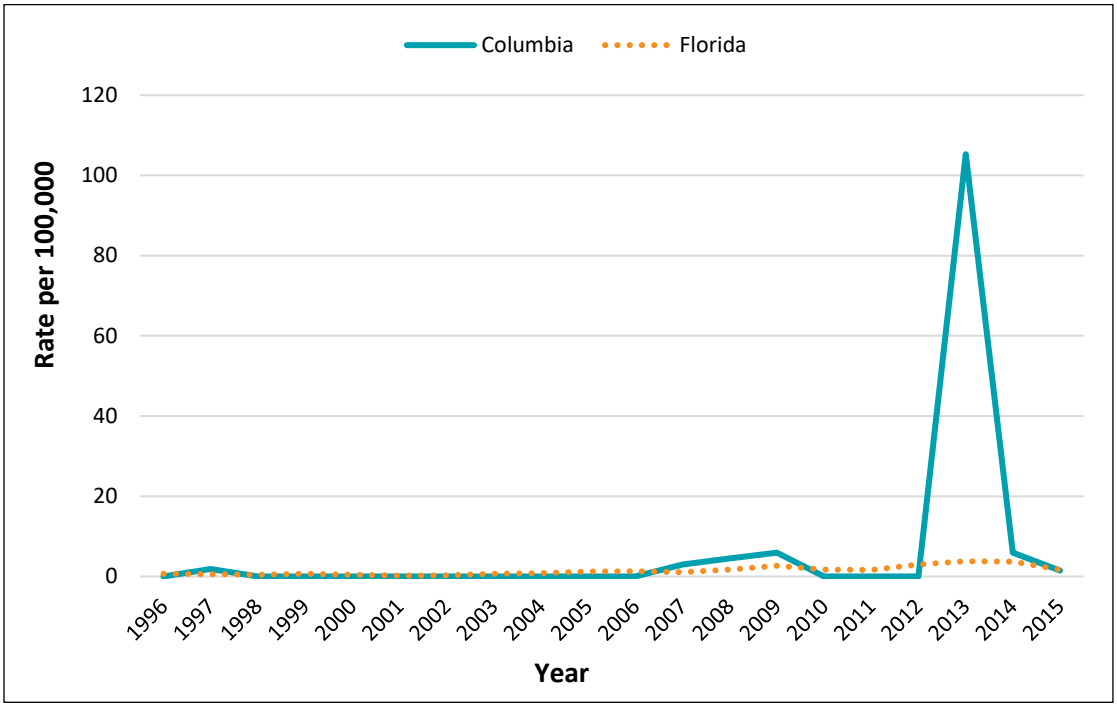
Year	Rate
2010	81.1%
2011	86.1%
2012	83.0%
2013	86.7%
2014	85.7%
2015	85.5%
2016	83.4%



Source: Florida Department of Health, Bureau of Communicable Disease, 2016

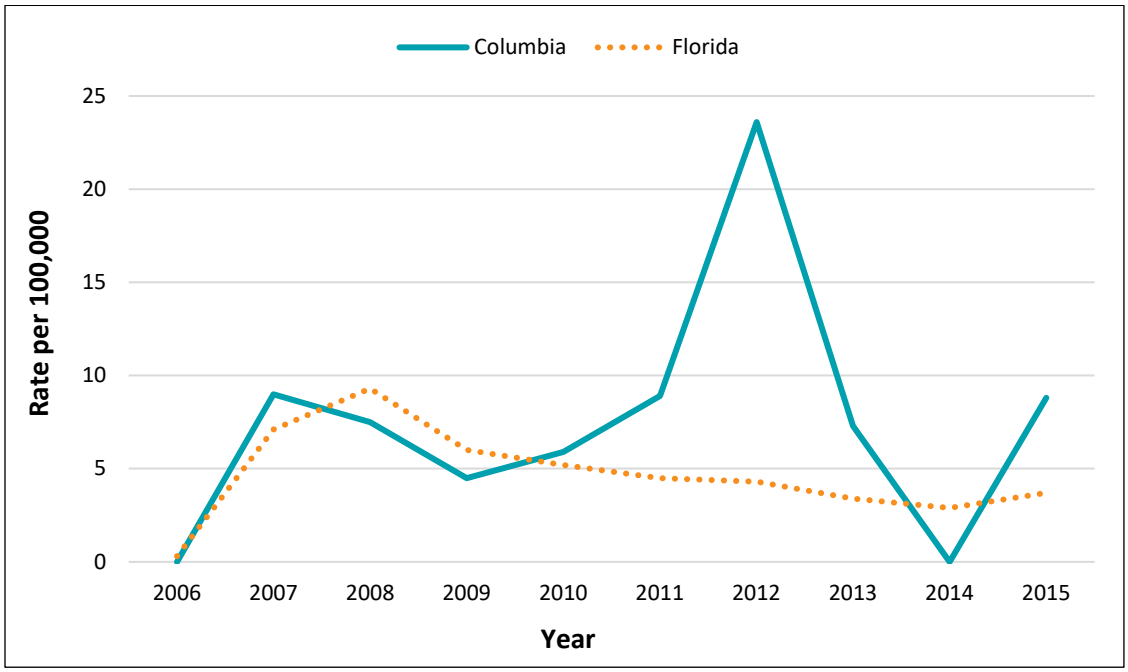
Columbia County in Florida experienced two large VPD outbreaks among predominantly school-aged children with religious exemptions within a three-year timeframe. In 2013, the county had 105.3 pertussis cases per 100,000 population (a total of 72 cases), compared to the state rate of 3.8 per 100,000. In 2016, Columbia County had 44.8 varicella cases per 100,000 (a total of 31 cases), compared to the state rate of 3.6 per 100,000.[iii] For the 2015–2016 school year, Columbia County had one of the lowest vaccination rates in the state for both kindergarten and seventh grade school entry requirements. In addition, this county also has the highest percentage of religious exemptions issued in the state.

Exhibit 12: Pertussis, Single Year Rates per 100,000



Source: Florida Department of Health, Bureau of Communicable Disease, 2016

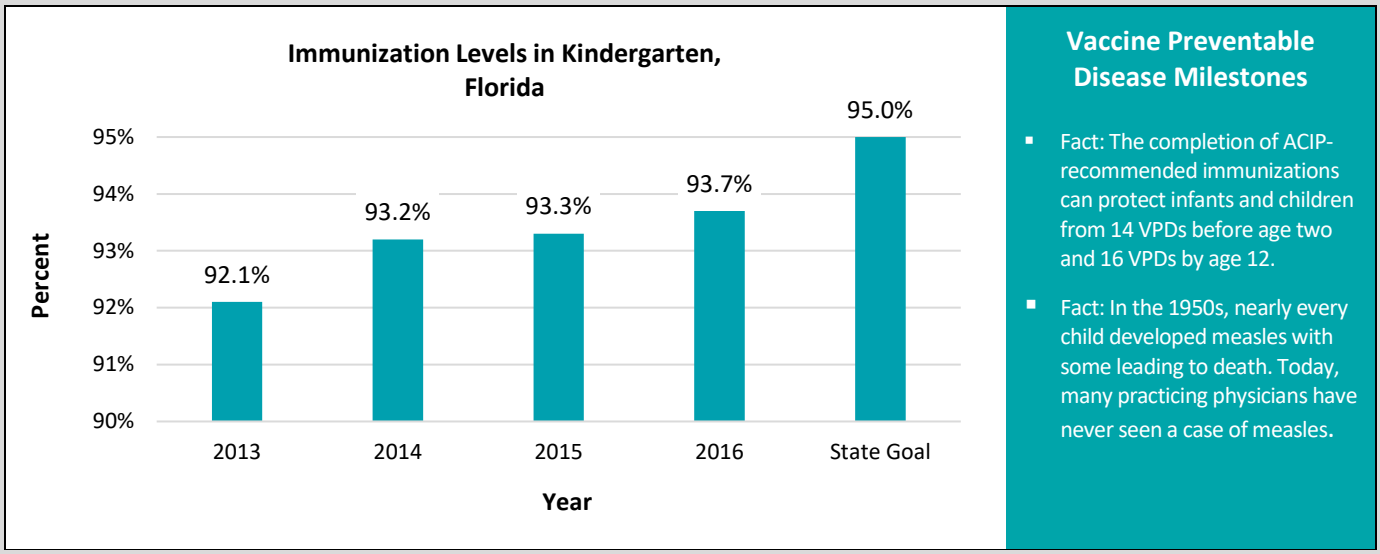
Exhibit 13: Varicella (Chickenpox), Single Year Rates per 100,000



Source: Florida Department of Health, Bureau of Communicable Disease, 2016

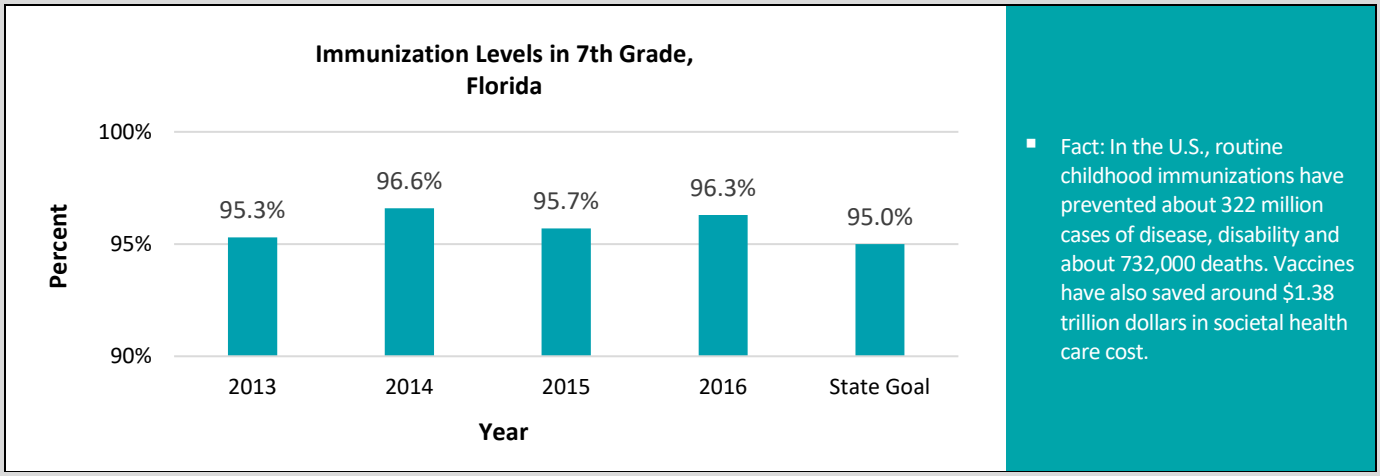
The refusal to vaccinate increases the number of individuals who may become infected and, in turn, transmit VPDs to vulnerable populations that cannot be immunized for medical reasons. Pertussis infection can be deadly among newborns since they are not eligible to receive the acellular pertussis (DTaP) vaccine until two months of age. Therefore, the Advisory Committee on Immunizations Practices (ACIP) has recommended the administration of one dose of pertussis (Tdap) vaccine to pregnant women during each pregnancy (preferably between weeks 27 and 36 of gestation) to provide temporary protection to the newborn.[xix, xx]

Exhibit 14: Vaccine-Preventable Disease Milestones



Source: Florida Department of Health, Bureau of Immunization, 2016

In 2016, 93.7% of Florida's kindergarten students received all immunizations required for school entry/attendance. Of Florida's 67 counties, only 39 (58.2%) achieved or exceeded the 95 percent state goal.



Source: Florida Department of Health, Immunization Program, 2016

In 2016, 96.3% of Florida's seventh-grade students received all immunizations required for school entry/attendance. Of 67 counties, 62 (92.5%) achieved or exceeded the 95% state goal.

The *2015-2016 Kindergarten and Seventh Grade Immunization Status Report* reports that 93.7% of kindergarten students and 96.3% of seventh-grade students received all immunizations required for school entry/attendance.[iii, xxi]

Maternal Health

Women's health is important and contributes to the well-being of Florida's families. Pertinent indicators provide insight into the health status of women who are of childbearing age, pregnant or mothers. These indicators include preconception counseling, interpregnancy interval, prenatal care entry, weight gain during pregnancy, smoking during pregnancy, births to teenage mothers, repeat births to teenage mothers, and breastfeeding initiation and duration.

Preconception care promotes the health of a woman before pregnancy. The goal of preconception care is to provide information, screening and interventions to reduce risk factors that may affect future pregnancies. A primary component of preconception care is education and counseling on how health behaviors before pregnancy—including tobacco use, diet and exercise, and controlling chronic disease—can influence pregnancy outcomes.[xxii] According to the 2013 Florida Pregnancy Risk Assessment Monitoring System (PRAMS), only 21.1% of mothers who had recent births received preconception education and counseling prior to their pregnancies.[xxiii] Also, between 2009 and 2013, the percent of new mothers who received preconception education and counseling significantly decreased by an average of 11.3% per year.[xxiv]

A short interpregnancy interval (IPI) is defined as a pregnancy that occurs less than 18 months following a previous birth. Short IPIs are associated with adverse pregnancy outcomes, such as uterine rupture, maternal morbidities, preterm birth, low birth weight and infants who are small for gestational age.[xxiv] In 2015, approximately one in three women in Florida (34.3%) had a short IPI. Hispanic women had the lowest percentage of short IPIs (28.6%) when compared to women of other racial/ethnic groups.[iii] To achieve optimal birth spacing and ultimately to improve birth outcomes, attention should be given to contraceptive counseling and access to contraceptive methods, particularly in the postpartum period.

Prenatal care (PNC) refers to the medical care women receive during pregnancy. PNC helps women achieve healthy pregnancies through screening and management of risk factors and health conditions, as well as education and counseling on healthy behaviors during and after pregnancy. To gain the full benefits of PNC, it is recommended that women begin PNC visits in the first trimester of pregnancy. During 2015 in Florida, 79.3% of women initiated prenatal care during the first trimester of pregnancy.[iii] The greatest disparity of initiating PNC during the first trimester was among black women (72.8%) compared to white women (81.3%).[iii]

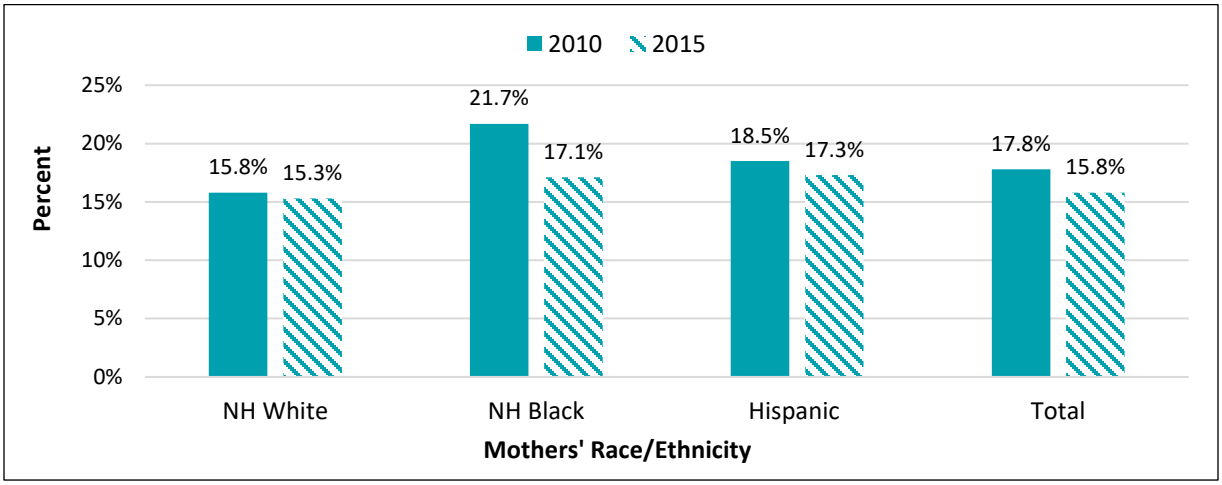
The amount of weight a woman gains during pregnancy is an important indicator of maternal health and a major determinant of pregnancy outcomes and infant health. In 2009, the Institute of Medicine (IOM) issued updated guidelines on pregnancy weight gain.[xxv] Few pregnant women are gaining weight within the guidelines. In Florida, pregnancy weight gain above the IOM guidelines is prevalent.[xxvi] Florida PRAMS data indicate that 49.4% of pregnant women in Florida gained weight above the IOM guidelines from 2011 to 2013, compared to 28.9% of pregnant women who gained weight within the guidelines.[xxiv] Pre-pregnancy body mass index (BMI) and dietary and lifestyle behaviors are strongly associated with excessive weight gain during pregnancy.[xxvi]

Smoking during pregnancy is associated with increased risk of premature birth, low birth weight, certain birth defects and Sudden Infant Death Syndrome (SIDS). In addition, women who smoke during pregnancy are more likely to expose their infants to secondhand smoke after birth.[xxvii] The percent of women in Florida who smoked during pregnancy has significantly decreased from 7.5% in 2004 to 5.8% in 2015.[iii] Maternal smoking rates varied by race/ethnicity; white women were more likely to smoke during pregnancy (6.7%) than black (3.5%) or Hispanic (1.3%) women.[iii] Eliminating smoking before pregnancy improves maternal health and reduces the risk of adverse infant/child health outcomes.

Teen births are defined as births to mothers aged 15–19 years. Teen pregnancy costs the U.S. $11 billion each year. Nationally, only 50% of teen mothers receive a high school diploma by 22 years of age. Historically, black and Hispanic teens have the highest teen pregnancy and birth rates.[xxix] From 2010 to 2015, the birth rate for teens 15–19 years decreased from 32.4 to 20.3 per 1,000 female population. Despite this decline, the black teen birth rate (28.5) remains substantially higher than the Hispanic (20.8) or white (18.4) teen birth rates.[iii]

Repeat teen births are subsequent births to mothers aged 15–19 years. Repeat teen births reduce the ability to attend school and receive job experience and decrease the mother's ability to improve her socio-economic future.[xxx] From 2010 to 2015, the Florida repeat birth rate to teens declined from 17.8% to 15.8%. During the same time period, repeat births to white (from 15.8 to 15.3) and Hispanic (from 18.5 to 17.3) teens remained relatively the same, while repeat births to black teens (from 21.7 to 17.1) declined.[iii] Between 2010 and 2013, Florida's percent of repeat births to teens (15.8%) 15–19 years was below the U.S. rate (18.3%).[iii, xxx]

Exhibit 15: Repeat Births to Mothers Ages 15–19, Florida 2015



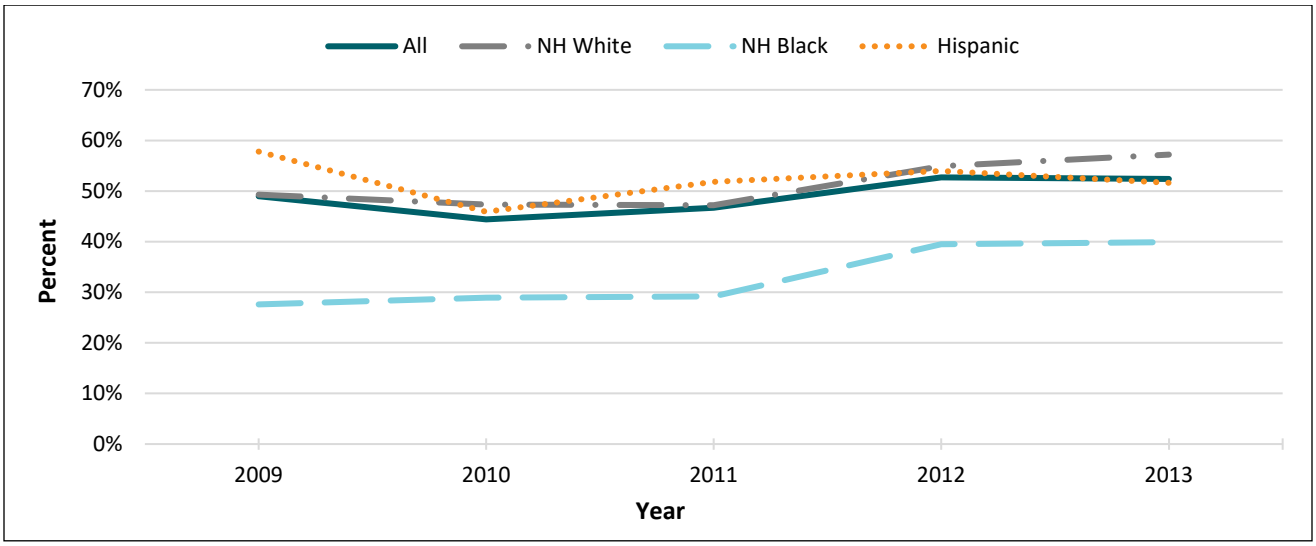
Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Breastfeeding is recognized as an essential part of ensuring better health outcomes for infants, which include enhanced cognitive development and reduced risk of obesity, diabetes, asthma and sudden infant death syndrome. Additionally, breastfeeding increases immunity against infectious diseases such as respiratory infections, diarrhea, bacterial meningitis, bacteremia and otitis media.[xxx] The benefits of breastfeeding increase when infants are exclusively breastfed for at least six months. The American Academy of Pediatrics (AAP) recommends exclusive breastfeeding without supplementation as the ideal nutrition for the first six months and continued breastfeeding for at least the first year of life.[xxxi]

Despite the AAP recommendations and reported health benefits of breastfeeding, national and state breastfeeding rates are not at optimal levels. However, they are increasing. Florida birth certificate data indicates breastfeeding initiation among new mothers has increased from 80.1% in 2010 to 85.2% in 2015.[xxxii] Breastfeeding initiation rates in 2015 were substantially higher among white and Hispanic mothers (87.4% and 90.4%, respectively) than among black mothers (76.8%) in Florida.[iii]

Mothers breastfeeding at least three months also slightly increased from 49.0% in 2009 to 52.4% in 2013.[xxiv] Similar to breastfeeding initiation, breastfeeding at least three months was higher among non-Hispanic white (57.2%) and Hispanic mothers (51.6%) than among non-Hispanic black mothers (39.9%). In 2011, exclusive breastfeeding at six months in Florida and the U.S. were similar at 18.3% and 18.8%, respectively.[xxiv]

Exhibit 16: Prevalence of New Moms Who Breastfed for at Least Three Months, Florida 2009–2013



Source: Florida Department of Health, PRAMS, 2009-2013

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Clinical Care Issues, State Assets & Resources

Access to Health Care

Access to health care is a complex concept comprised of several variables. Fundamentally, access to health care means the use of health services to improve one's health. It impacts overall physical, social and mental health status; prevention of disease and disability; detection and treatment of health conditions; quality of life; and preventable death and life expectancy. Access to health care is measured by affordability, availability of services, how quickly care is accessed and a successful outcome to care received.[i] Efforts to ensure equal access to health care among people of all genders, races, ethnicities, education levels and income levels will help decrease health disparities and achieve health equity.[i, ii]

This section presents findings on specific health care topics including Access to Health Care, the Health Care Workforce, Quality of Care and Preventive Health Care.

Health Insurance Coverage

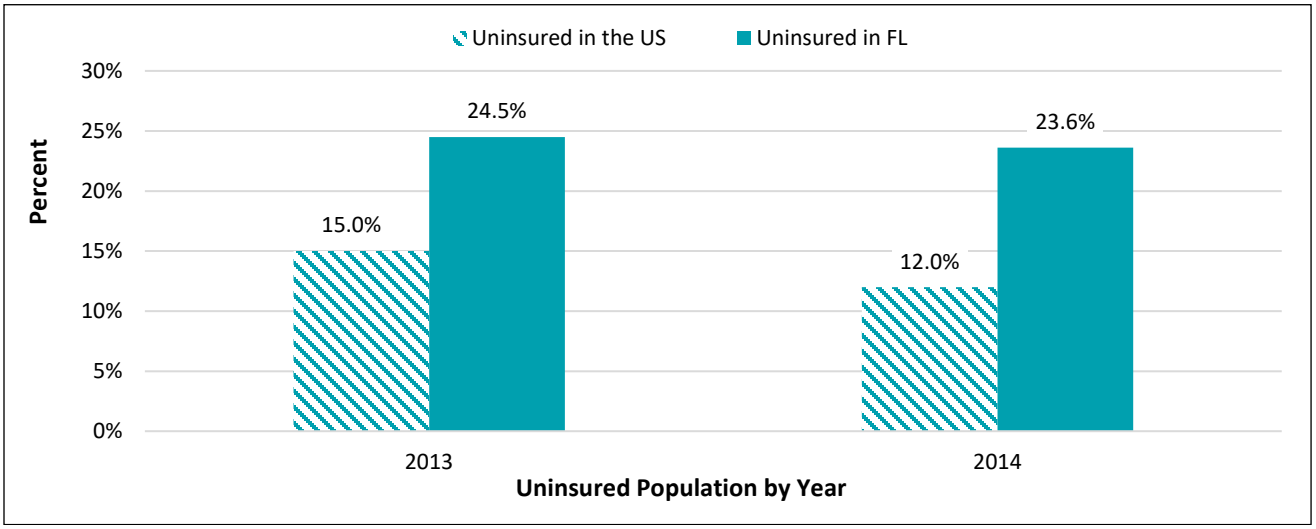
Health insurance coverage encompasses an insured individual's medical and surgical expenses. In the U.S., individuals are responsible for obtaining health insurance. The most common way of obtaining health insurance is through employers who typically pay for a portion of the health insurance provided. Individuals who do not receive health insurance through their employer must obtain health insurance as an individual and pay for 100% of the cost or receive coverage through a government-funded program. Federally-funded government programs such as the Children's Health Insurance Program, Medicaid and Medicare provide health insurance to low-income children and families, persons with disabilities, and individuals ages 65 and older. The government also provides health insurance to veterans, military personnel and their families.[i]

Uninsured

Lack of health insurance makes it difficult for individuals to access health care and often results in expensive bills and poor health outcomes. Individuals who are uninsured or have low incomes report the most difficulty in accessing health care, with 20% of adults going without medical care in 2015 due to cost.[ii] Uninsured individuals are less likely to obtain preventive care, which can lead to the development of chronic diseases, increased health care costs and higher mortality rates than those with insurance.

In 2010, the Affordable Care Act (ACA) was enacted to improve access to affordable, quality health care for all Americans. With ACA provisions in place, access to care has improved. In 2013, 15.0% of individuals were uninsured in the U.S., and 24.5% were uninsured in Florida.[iii, iv] By 2014, this decreased to 12.0% and 23.6%, respectively. In Florida, 83.6% of adults had some type of health care coverage in 2015.[iv]

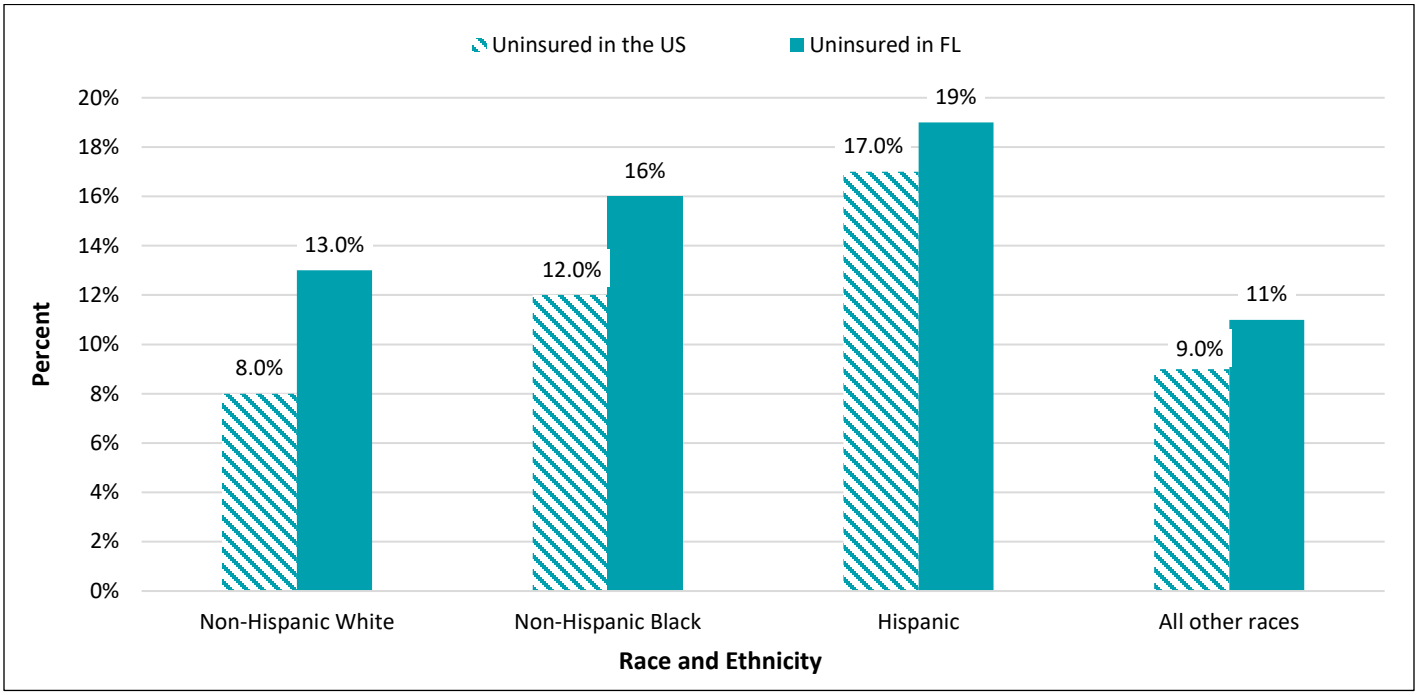
Exhibit 1: Uninsured Population Under 65, U.S. and Florida, 2015



Source: The Henry J Keiser 2 Family Foundation, 2015; American Community Survey, 2015

Despite efforts to make affordable health care available to all citizens, disparities persist. People of color and people with low socioeconomic status are disproportionately uninsured and experience more barriers accessing health care.[ii] Similarly, individuals with low incomes have trouble accessing care due to a coverage gap; they are not offered health care by their employer, and they earn too much to be covered by Medicaid. In Florida, 16% of non-Hispanic blacks and 19% of Hispanics were uninsured in 2015. In contrast, 13% of non-Hispanic whites were uninsured in 2015.[iii, v] A greater proportion of males ages 19–64 were uninsured compared to females in the same age range.[iii] Among men in Florida, 21% were uninsured in 2015 compared to 16% of women. Seven percent of children from birth to 18 were uninsured in 2015, as well as 18% of adults, ages 19–64.[iii]

Exhibit 2: Uninsured Population Ages 19–64 by Race and Ethnicity, U.S. and Florida, 2015



Source: The Henry J Keiser Foundation, 2015

Medicaid is a federally mandated program authorized by Title XIX of the federal Social Security Act. All states in the U.S. administer their own program, but must comply with federal guidelines. Medicaid provides health care coverage to low-income individuals and families, as well as the elderly and people with disabilities. States receive federal funds based on a poverty-level formula and require a state match to administer Medicaid programs. Federal law mandates services such as inpatient hospital care, which states must provide if they administer a Medicaid program, and identifies other services, such as pharmaceuticals, as optional. States may also seek federal waivers that grant flexibility in administration of their Medicaid programs. Florida's Medicaid program is administered by the Agency for Health Care Administration (AHCA).[vi] While federal law does not require states to administer a Medicaid program, Title XXI of the Social Security Act requires all states to administer a Children's Health Insurance Program. Florida's program—KidCare—is comprised of four programs that offer low-cost health insurance coverage to children. Based on age and parent income, children qualify for Medicaid for Children, Title XIX; Medikids; Healthy Kids or Children's Medical Services (CMS) Managed Care Plan, Title XXI. KidCare services are delivered through Medicaid providers. Enrollment numbers in KidCare programs, as of July 2017, are outlined in Exhibit 3.

Exhibit 3: Florida KidCare Program Enrollment—July 2017

Medicaid for Children (0–18)	Healthy Kids Total (5–18)	Medikids Total (1–4)	Children's Medical Services (1–18)
110,329	172,648	31,638	11,052

Source: Florida Health Kids Corporation, 2017

Healthcare Workforce: Providers

Primary Care Physicians

Primary care providers (PCPs) practice internal medicine, family medicine and pediatrics, and are a vital part of the communities they serve. Individuals with a PCP can develop a meaningful relationship with their provider, which can lead to patient trust, effective patient-provider communication and patient willingness to seek and receive care. The availability of PCPs has significant influence on patient access to care and health outcomes. In 2015, just over 75% of adults in Florida reported having a personal doctor.[iv]

In 2014, there was a national average of 265.5 active physicians per 100,000 population. This rate ranged from a high of 432.4 in Massachusetts to a low of 184.7 in Mississippi. Florida ranks 22nd nationally with a rate of 257.2 physicians per 100,000 population.[i]

In 2015, there were 44,685 active, licensed physicians practicing in Florida; 32.9% were primary care providers. The top three specialty groups for physicians in Florida included medical specialist (14.5%), internal medicine (14.5%) and family medicine (13.2%).[iv]

Hospital services are the single largest component of health care spending, and the decisions made by doctors and hospitals about admission, hospital stay and intensive care drive both care and cost. A hospital's affiliated physicians decide who is admitted as well as the amount and type of care patients receive. The probability of being hospitalized or admitted to the intensive care unit is related to the capacity of the hospital compared to the size of the population it serves. According to the Florida Hospital Association, there were a total of 303 hospitals in Florida, with a total of 67,081 hospital beds. Florida had 314.5 total hospital beds per 100,000 population in 2015.[iv]

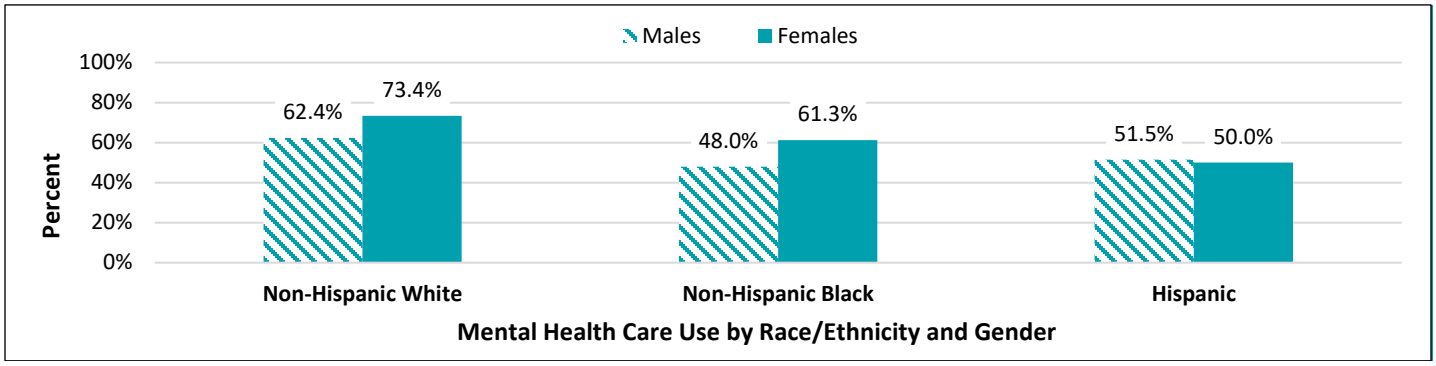
Mental Health and Substance Abuse Providers

The Department of Children and Families (DCF) Substance Abuse and Mental Health (SAMH) Program is designated by the federal Substance Abuse and Mental Health Services Administration as the single state authority on substance abuse and mental health in Florida.[vii] DCF contracts for behavioral health services through regional systems of care called Managing Entities (MEs). These entities do not provide direct services; rather, they allocate the department's funding to meet the specific behavioral health needs in DCF's SAMH seven regions in the state. DCF contracts with seven MEs that in turn contract with mental health and substance abuse providers in their regions. Providers range from large behavioral health care centers to independent practitioners and case management agencies. DCF funds behavioral health services for low-income individuals who are uninsured or for services that are not covered by Medicaid.

Factors barring access to mental health care include the stigma surrounding mental health, inadequate insurance coverage for mental health services and difficulty identifying mental health disorders. Mental health encompasses emotional, psychological and social well-being. Mental health and behavioral disorders include depression, anxiety, mood disorders, post-traumatic stress disorder, substance use disorders and personality disorders.[viii] Mental health and substance abuse disorders often go untreated due to individuals not seeking treatment. Among adults with any mental health disorder in Florida, only 36% received treatment or counseling between 2009 and 2013.[ix]

Similar to primary health care, racial and ethnic disparities exist in access to mental health care. Between 2008 and 2012, 62.4% of non-Hispanic white males received mental health care for a serious mental illness compared to 51.5% of Hispanics and 48.0% of non-Hispanic blacks. Of non-Hispanic white females, 73.4% received mental health care for a serious mental illness between 2008 and 2012, compared to 51.5% of Hispanic females and 61.3% of non-Hispanic black females.[x] As shown in Exhibit 4, non-Hispanic white males and females had a higher use of mental health care than Hispanic and non-Hispanic black males and females.

Exhibit 4: Mental Health Care Use Among Adults with Serious Mental Illness by Race/Ethnicity and Gender, Florida 2012



Source: Substance Abuse and Mental Health Services Administration, 2015

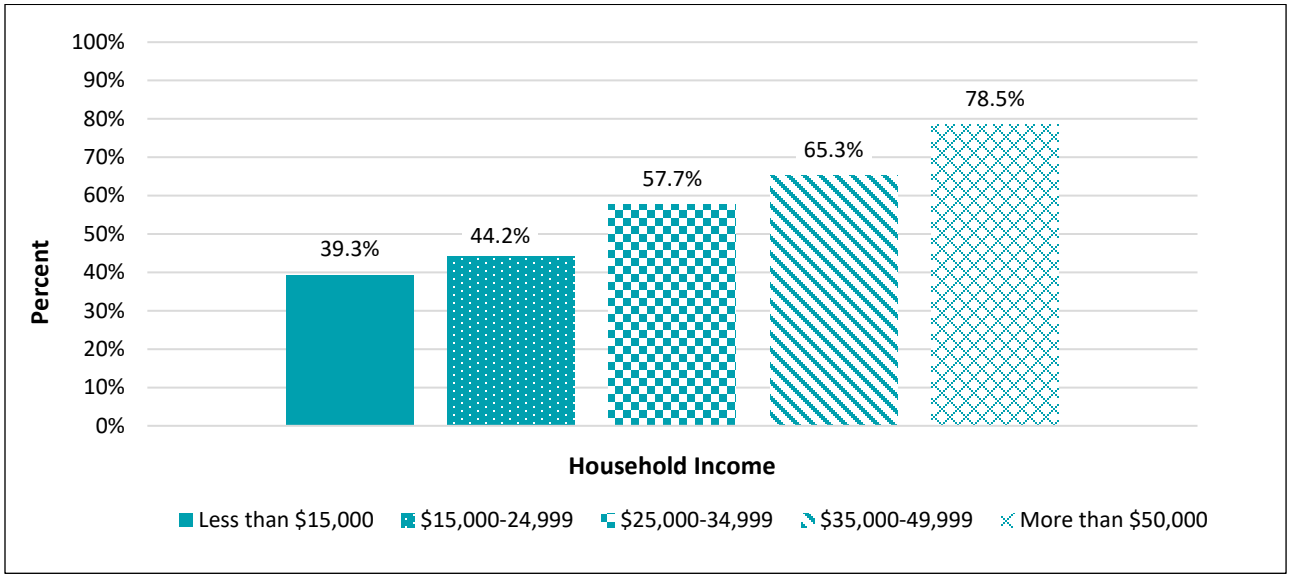
Dental Care

Oral health is important to overall health and wellbeing. Oral health is more than healthy teeth; it is a state of being free from chronic mouth and facial pain; oral and throat cancer; oral sores; birth defects, such as cleft lip and palate, periodontal disease, tooth decay and tooth loss; and other diseases and disorders that affect the oral cavity.

Poor oral health has implications across the life span. Research shows a link to diabetes, heart and lung disease, stroke, respiratory illnesses and conditions that could complicate pregnancy, such as the delivery of pre-term and low birth weight infants. Furthermore, tooth decay is the single most common chronic childhood disease. Children with poor oral health are three times more likely to miss school due to oral health problems. Pain and infection from caries, toothaches and abscesses can also affect children's ability to focus on school.

Maintaining good oral and physical health requires a multifaceted approach including a healthy diet, proper exercise, access to health care professionals and public health initiatives, such as fluoridated community water and preventive dental services (e.g. dental sealants). In 2014, 61.9% of adults reported visiting a dentist or dental clinic within the past year.[iv, xi] While overall oral health status has improved nationally in recent years, disparities still exist among low-income populations and for certain racial and ethnic groups. Of non-Hispanic whites, 65.7% saw a dentist in the past year, compared to 56.0% of non-Hispanic blacks and 55.8% of Hispanics.[x] In addition, results from the 2014 Florida BRFSS show a correlation between household income and seeing a dentist in the past year.

Exhibit 5: Florida Adults Who Have Seen a Dentist in the Past Year by Household Income, Florida 2014



Source: Florida Behavioral Risk Factor Surveillance System, 2014

Pregnant women may also be at an increased risk for poor oral health outcomes, which are largely due to lack of access. An analysis of 2012–2013 Florida PRAMS data revealed that more new mothers (44.4%) had their teeth cleaned in the year before becoming pregnant than when they were actually pregnant (37.5%).[xii]

Dental disease is largely preventable through effective health promotion and dental disease prevention programs. The Department of Health's Public Health Dental Program works to increase access to dental care throughout the state by supporting county health departments and expanding School-Based Sealant Programs (S-BSP). As of August 2016, 59 of 67 Florida county health departments had an oral health component, and 45 of 67 provide S-BSP services.

Exhibit 6: New Mothers in Florida Who Had Their Teeth Cleaned During Pregnancy

	Prevalence	95% Confidence Interval
Total Population	37.5%	34.4, 40.8
Race/Ethnicity		
Non-Hispanic white	41.8%	37.1, 46.6
Non-Hispanic black	34.7%	27.3, 43.0
Hispanic	32.1%	27.1, 37.7
High School (HS) Education		
<HS	23.4%	16.6, 31.8
HS	27.1%	21.9, 33.0
HS+	46.4%	42.0, 50.8
Medicaid Recipient		
Yes	26.7%	22.8, 30.9
No	52.0%	47.1, 56.9

Source: Florida Pregnancy Assessment Monitoring Systems (PRAMS), 2013

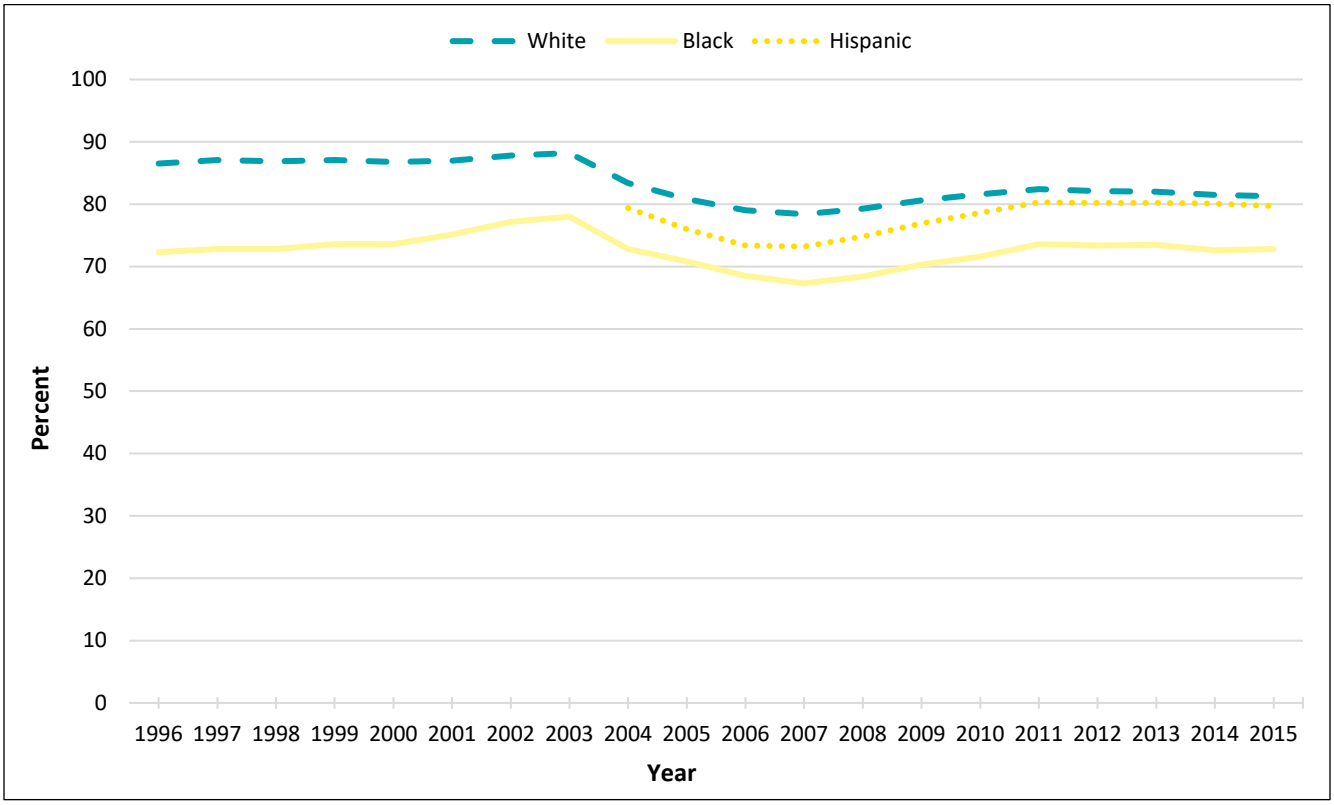
Maternal Health Services

Access to quality maternal health care—including preconception, prenatal and postpartum care—and utilization of these services are among the most important determinants for maternal health outcomes. The ability to be proactive regarding health issues and risks before pregnancy can translate into a healthier pregnancy, prevent negative birth outcomes, and improve the life course trajectory of mothers and infants.

Lack of health insurance can be a significant barrier for women accessing preventive health services during the preconception and interconception periods. In 2015, 6.4% of births were to uninsured women.[iv] Although half of Florida births are covered by Medicaid, women who gain Medicaid coverage during pregnancy typically lose the coverage 60 days after giving birth.

Early entry into prenatal care is an important factor that impacts maternal and infant health. Half of all pregnancies are unintended and most unintended pregnancies are not immediately recognized, resulting in some women entering prenatal care after the first trimester. In 2015, 79.3% of Florida births were to mothers who began prenatal care during the first trimester of pregnancy.[iv] Racial and ethnic disparities exist in maternal health care, as shown in Exhibit 7. Of white mothers, 81.3% began prenatal care during the first trimester, compared to 72.8% of black mothers and 79.7% of Hispanic mothers. Hispanic data are available for this measure beginning in 2004.

Exhibit 7: Births to Mothers with 1st Trimester Prenatal Care by Race and Ethnicity, Single Year Rates, Florida 2015



Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Mothers who began prenatal care by the second trimester represented 15.3% of Florida births. The initiation of second trimester prenatal care was highest among non-Hispanic black mothers at 19.9%, compared to 13.8% of non-Hispanic white mothers.[xiii] In addition, maternal postpartum care is important for improving outcomes for women, infants and families, and to support mothers' ongoing health and well-being. In 2013, 85% of new mothers in Florida had a postpartum checkup.[xi]

Quality of Care

Quality health care is defined as the degree to which health care services provided lead to positive health outcomes. Health care services are measured through structures and processes controlled by the health system. The national IOM defines quality health care by the following six domains:[xiv]

- Safe – Patients should not be harmed by the care that is intended to help them.
- Effective – Services should be evidence-based and aimed at those who are likely to benefit.
- Patient-centered – Care should be based on individual needs for both those who receive and give care.
- Timely – Waits and delays in care should be reduced.
- Efficient – Avoid the waste of equipment, supplies, ideas and energy.
- Equitable – Care should be equal for all people regardless of gender, race, ethnicity and socioeconomic status.

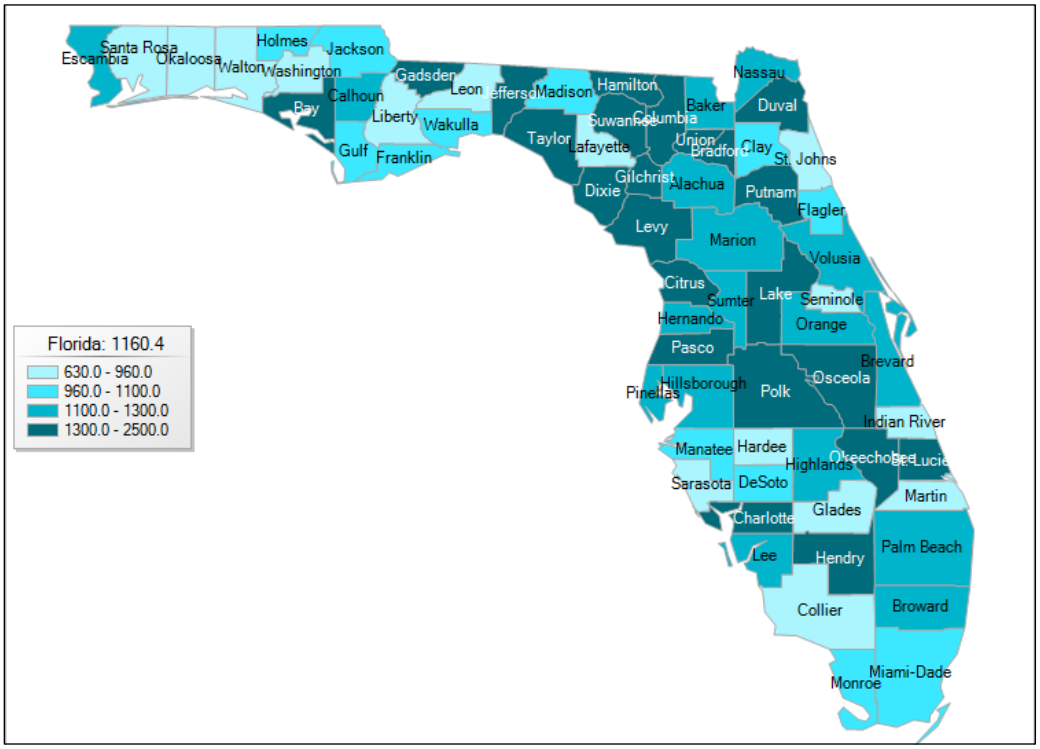
Domains can have multiples quality measures, which are used to evaluate the health system. One way to measure overall quality of care for populations is to evaluate preventable hospitalization rates. Inpatient data offers insight into quality of preventive care in the community, including information on admissions for Ambulatory Care Sensitive Conditions (ACSC). Evidence suggests that these conditions can be avoided through better outpatient care. According to the federal Agency for Healthcare Research and Quality (AHRQ), ACSC assess the quality of the health care system as a whole, especially the quality of ambulatory care in preventing medical complications. Hospitals, community leaders and policy-makers can use such data to identify community need levels, target resources, and track the impact of programmatic and policy interventions.

Ambulatory Care Sensitive Conditions

Also known as preventable hospitalizations, ACSC are hospitalizations for conditions where timely and effective ambulatory (outpatient) care could have reduced or prevented the need for hospitalizations. They are typically reported as a rate per 100,000 persons less than 65 years old. Hospitalization from ACSC is a measure of availability of preventive and disease management services. While not all hospital admissions for these conditions are avoidable, appropriate ambulatory care could help prevent their onset, control an acute episode, or manage a chronic disease or condition.

Florida's data about hospitalizations comes from its hospitals which submit data to AHCA, the state agency that regulates health care facilities. This report reflects data available on Florida Health CHARTS through 2015, which is the most current data year at the time of this publication. Florida's rate of ACSC was 1,160.4 per 100,000 persons in 2015. Exhibit 8 shows the counties with high rates of preventable hospitalizations.[iv]

Exhibit 8: Preventable Hospitalizations Under 65 from All Conditions, Rate per 100,000 Population, Florida 2015

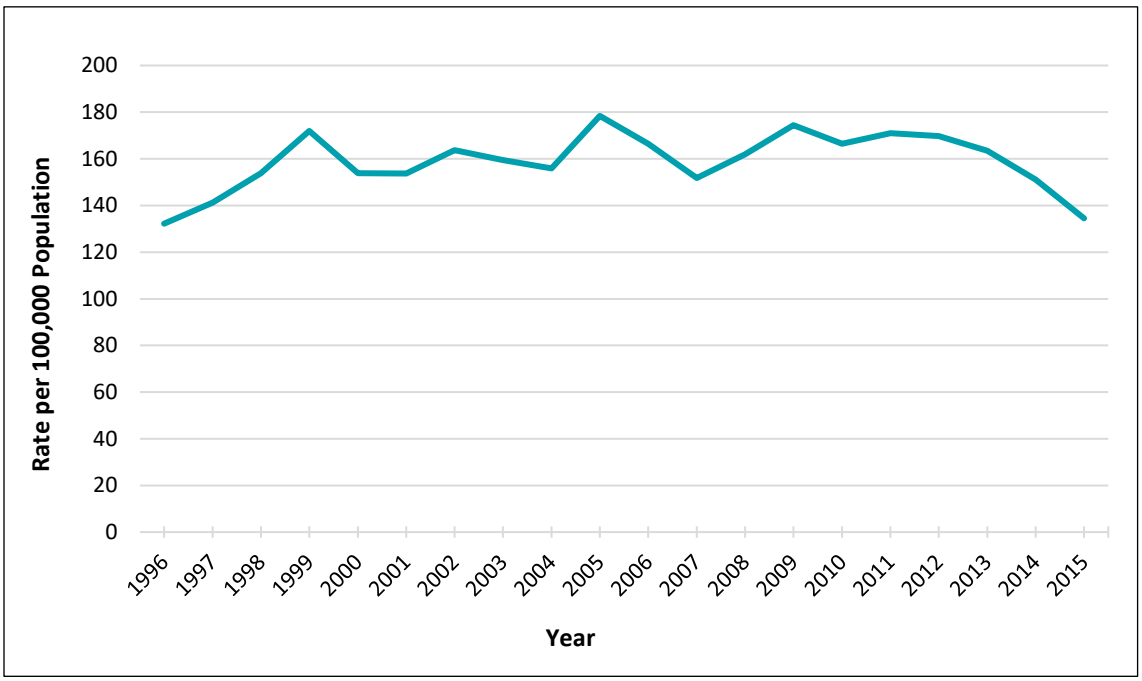


Source: Florida Department of Health, AHCA, 2015

Preventable Hospitalizations from Acute Conditions

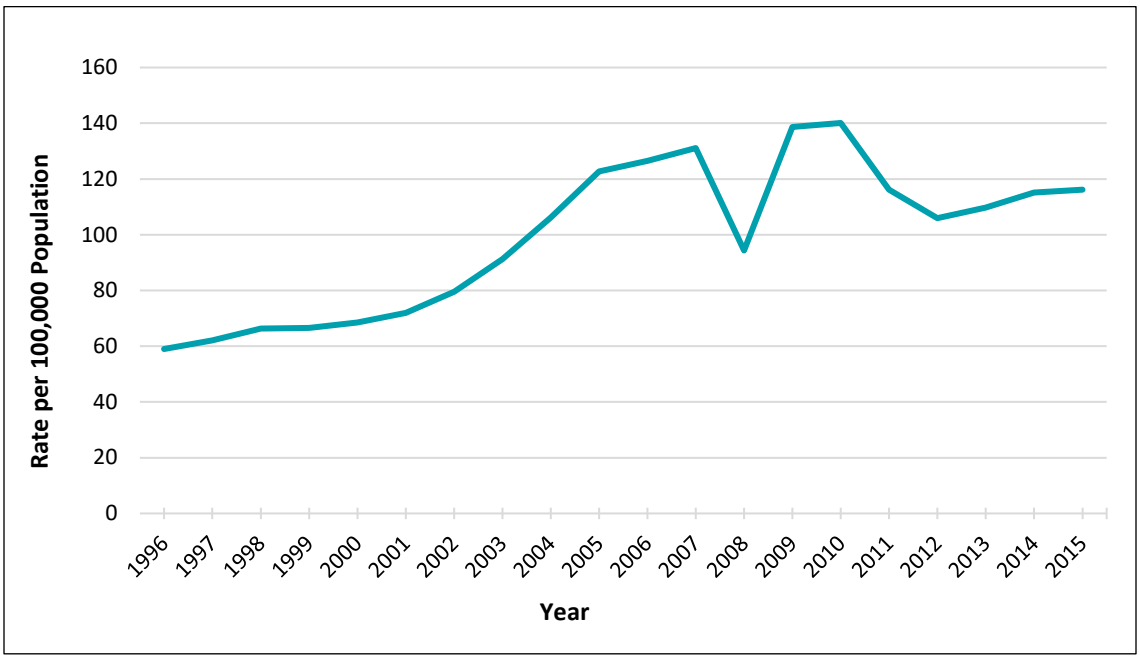
In 2015, among acute preventable hospitalizations, bacterial pneumonia was greatest at 134.5 per 100,000 population, followed by cellulitis—a serious bacterial skin infection—at 116.2 and dehydration at 75.6. Cellulitis hospitalizations increased from 64.3 per 100,000 in 1995 to 116.2 by 2015. During the same period, hospitalization rates from dehydration decreased from 153.4 in 1995 to 75.6 in 2015, with a steep decline between 2006 and 2009, from 260.3 to 107.5, as illustrated in Exhibit 11.[iv]

Exhibit 9: Preventable Hospitalizations Under 65 from Bacterial Pneumonia, Single Year Rates, Florida 2015



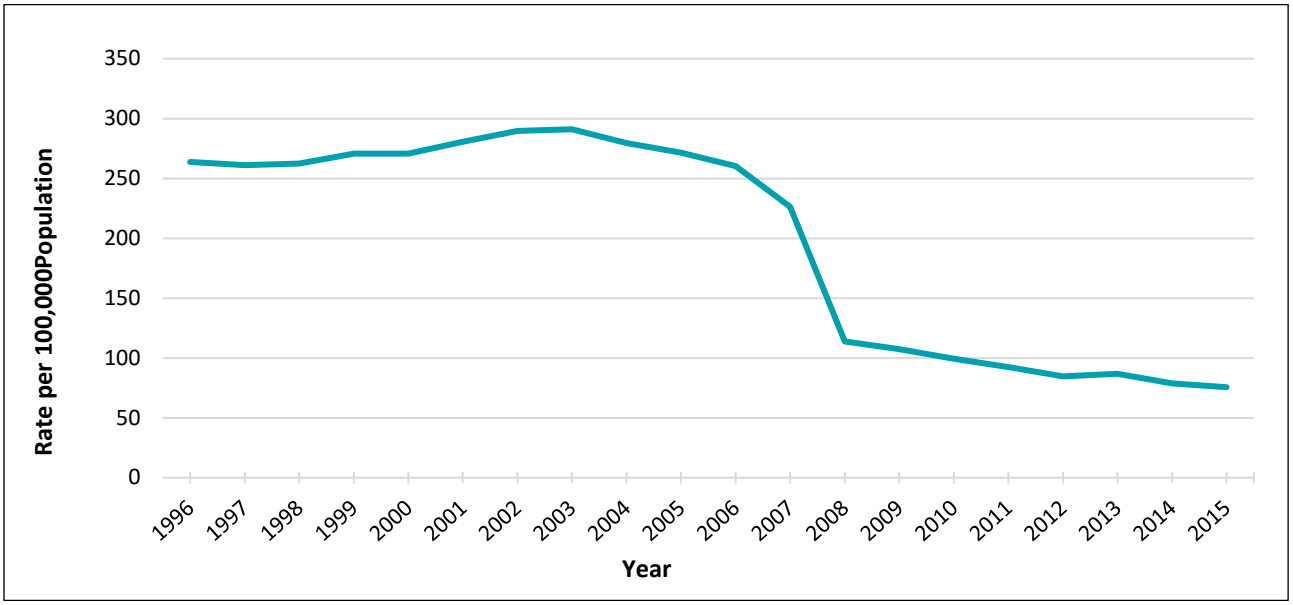
Source: Florida Department of Health, AHCA, 2015

Exhibit 10: Preventable Hospitalizations Under 65 from Cellulitis, Single Year Rates, Florida 2015



Source: Florida Department of Health, AHCA, 2015

Exhibit 11: Preventable Hospitalizations Under 65 from Dehydration—Volume Depletion, Single Year Rates, Florida 2015

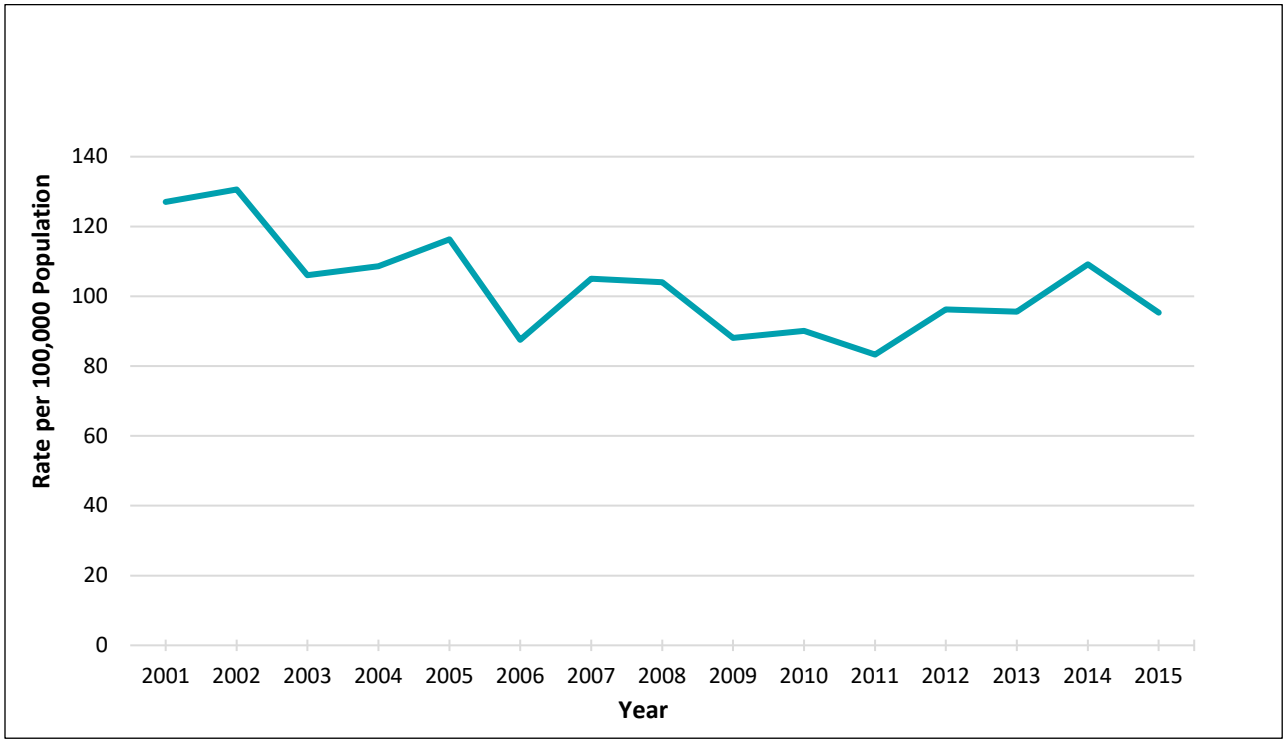


Source: Florida Department of Health, AHCA, 2015

Preventable Hospitalizations from Avoidable Conditions

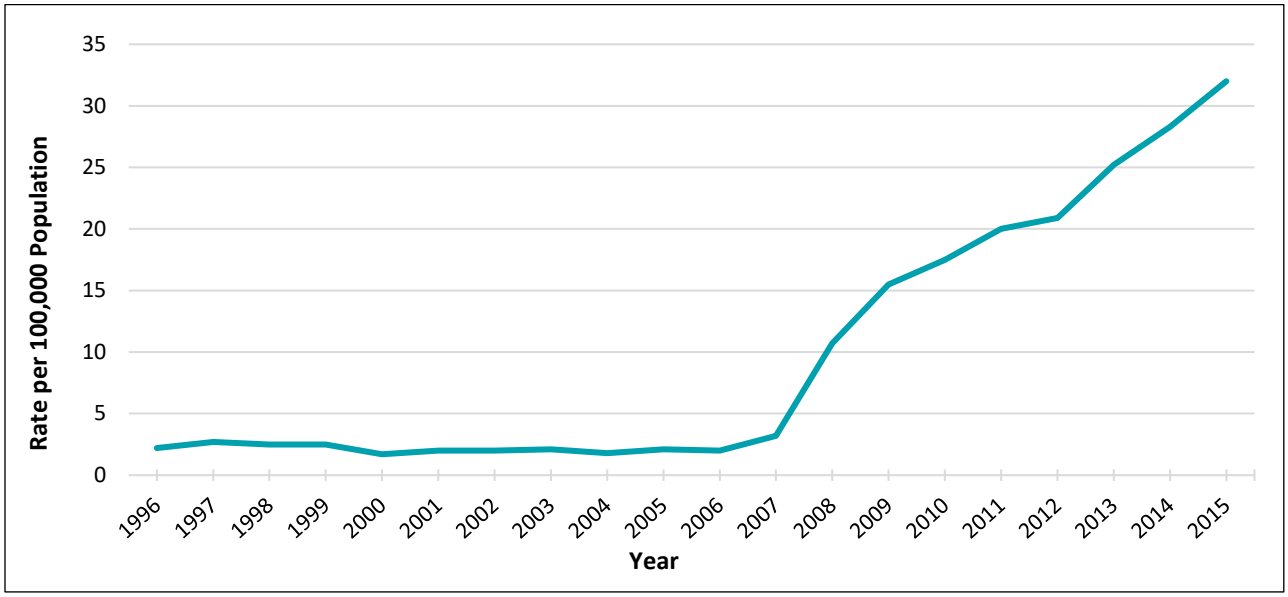
Among avoidable conditions in 2015, preventable hospitalizations under age one from failure to thrive was greatest at 95.3 per 100,000. The rate has fluctuated from a high of 130.6 in 2002 to a low of 87.5 in 2006. In 2015, the next highest rate was hospitalizations due to nutritional deficiencies (32.0 per 100,000). Hospitalizations from nutritional deficiencies have increased every year since 2006.[iv]

Exhibit 12: Preventable Hospitalizations Under 1 from Failure to Thrive, Single Year Rates, Florida 2015



Source: Florida Department of Health, AHCA, 2015

Exhibit 13: Preventable Hospitalizations Under 65 from Nutritional Deficiencies, Single Year Rates, Florida 2015

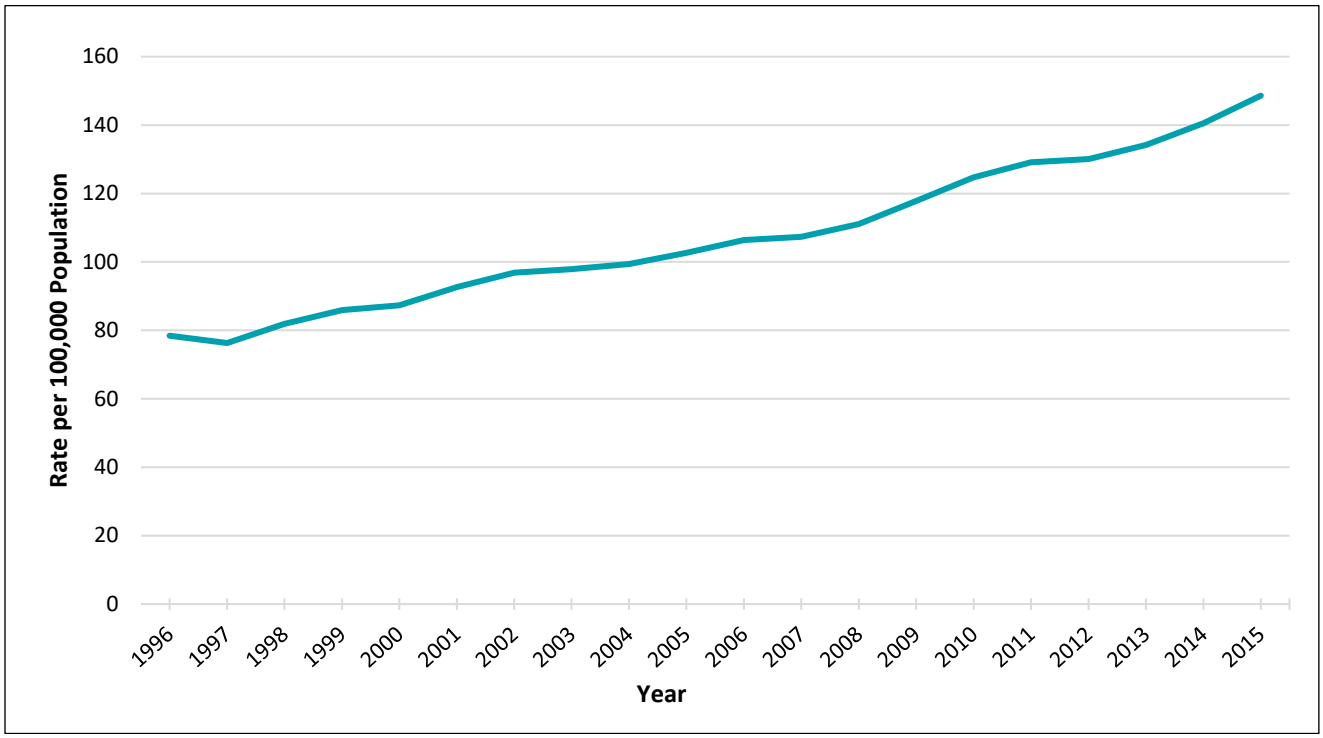


Source: Florida Department of Health, AHCA, 2015

Preventable Hospitalizations from Chronic Conditions

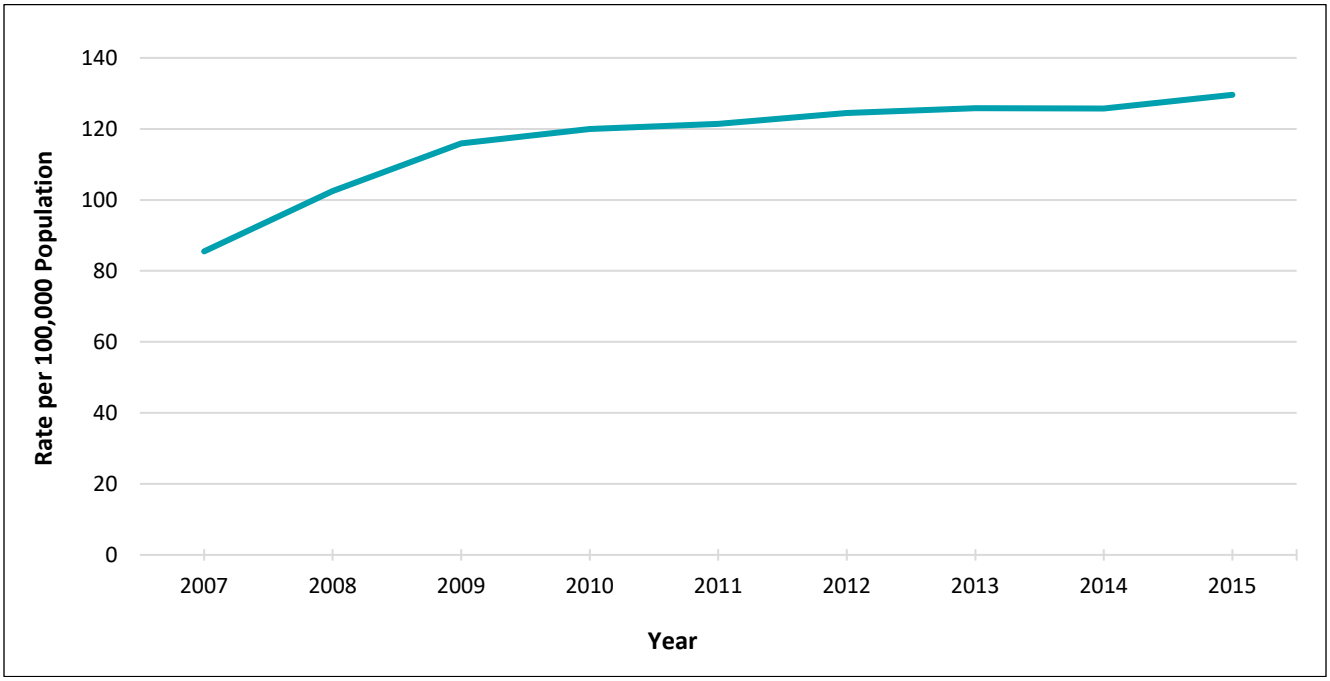
Among chronic conditions, hospitalizations from diabetes, COPD and congestive heart failure were highest in 2015, with rates of 148.6, 129.6 and 117.2, respectively. Diabetes hospitalization rates increased since 1996 from a low of 76.3 in 1997 to a high of 148.6 in 2015. COPD hospitalization rates have increased since 2007, and congestive heart failure hospitalization rates are generally higher than a decade ago.[iv]

Exhibit 14: Preventable Hospitalizations Under 65 from Diabetes, Single Year Rates, Florida 2015



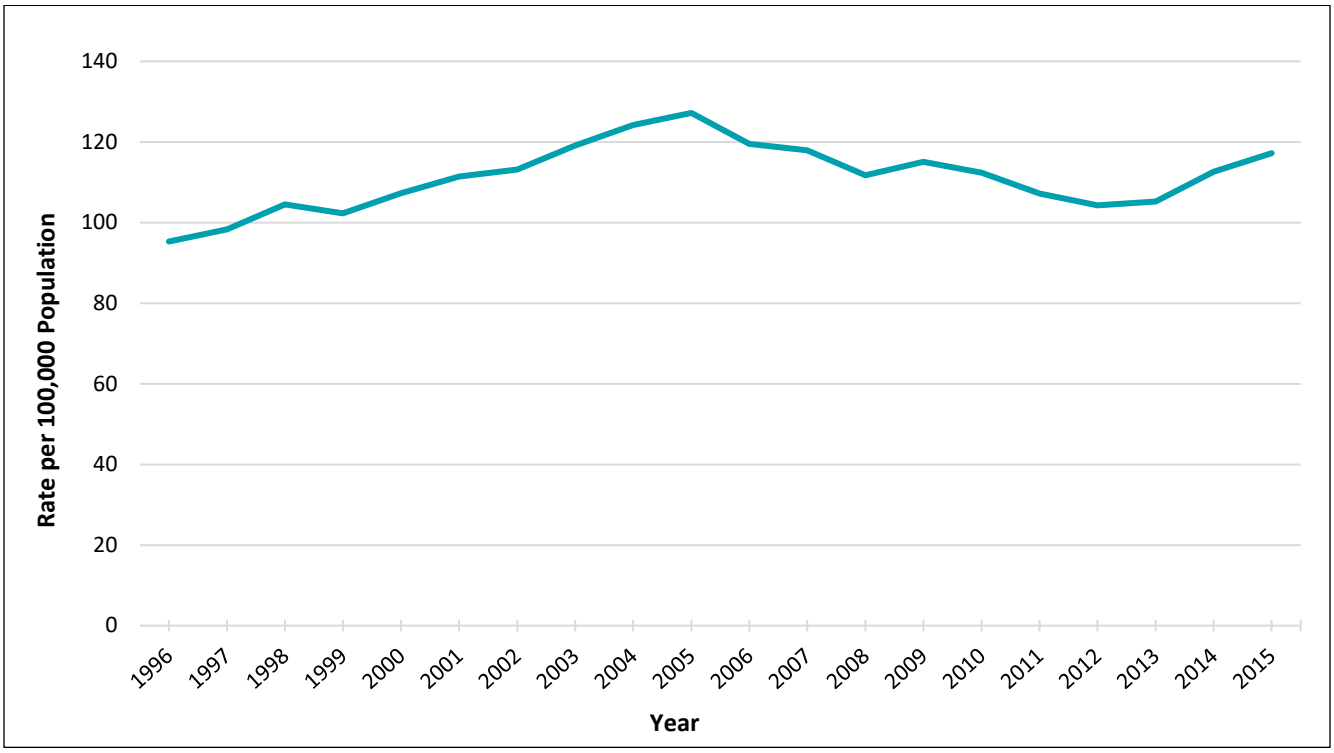
Source: Florida Department of Health, AHCA, 2015

Exhibit 15: Preventable Hospitalizations Under 65 from Chronic Obstructive Pulmonary Disease, Single Year Rates, Florida 2015



Source: Florida Department of Health, AHCA, 2015

Exhibit 16: Preventable Hospitalizations Under 65 from Congestive Heart Failure, Single Year Rates, Florida 2015?



Source: Florida Department of Health, AHCA, 2015

A U.S. DHHS study showed that the likelihood of experiencing a hospitalization or emergency room visit was related to differences in type of health care provided, as well as race/ethnicity and socioeconomic factors.[i] Residents of middle and lower-income areas were more likely than residents of the wealthiest areas to be hospitalized with conditions for which hospitalization is potentially avoidable. Non-Hispanic blacks were more likely than non-Hispanic whites to be hospitalized with conditions for which hospitalization is potentially avoidable. Class and racial differences in rates of potentially avoidable hospitalization were observed for those under 65 years of age, but not for the elderly, for whom health care access was more available.[i] Improving availability and access to clinical care may eliminate excess hospitalizations and improve overall health and quality of life for Floridians.

Preventive Health Care

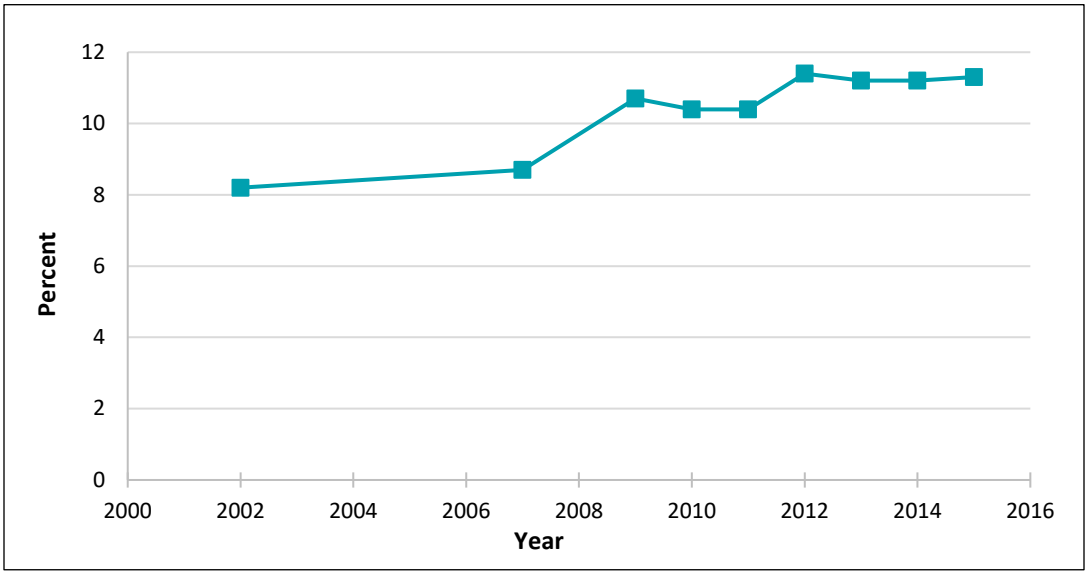
Preventive health care is defined as services that help prevent illness and disease, which include screenings, immunizations, prenatal care and well-care visits. Engaging in preventive health care practices can decrease the likelihood of illness and disease, and reduce health care costs.[ii] Provisions by the ACA require insurers to cover preventive care services without a deductible, thereby granting all insured individuals access to screenings, immunizations and annual check-ups. Individuals without access to preventive health care services, such as the uninsured, are less likely to receive screenings and immunizations, which increases their chance of developing an illness or disease.[ii,iii]

Preventive health care services, such as screenings and immunizations, nutrition and physical activity counseling, and diabetes self-management and education classes, can reduce and prevent the onset of obesity and diabetes. Preventive health care services include blood pressure, diabetes and cholesterol tests; cancer screenings, such as mammograms and colonoscopies; immunizations, such as flu shots; and prenatal and well-care visits. Accessing preventive health services helps individuals take control of their health and reduce their risk of developing viruses, sexually transmitted diseases, chronic diseases and cancer.

Health conditions such as obesity and diabetes contribute to the development of heart disease, cancer and stroke. In 2015, cancer (23.8%), heart disease (17.6%), stroke (5.4%) and diabetes (3.2%) were represented in the top ten leading causes of death for Florida residents.[iv]

Among adults in Florida in 2015, 11.3% were told they have diabetes, and 7.0% were told they had pre-diabetes, as shown in Exhibit 17.[iv] The average age at which diabetes was diagnosed was 50. Individuals must engage in diabetes self-management to prevent serious complications including blindness, kidney failure, heart disease, stroke, and the amputation of toes, feet, and legs. Self-management includes monitoring blood glucose, blood pressure and cholesterol levels, as well as annual foot and eye exams. Maintaining a healthy weight by engaging in physical activity and healthy eating are an important part of obesity prevention and diabetes self-management as well. The U.S. Preventive Services Task Force (USPSTF) recommends that overweight or obese adults ages 40 to 70 receive a blood glucose screening as part of their cardiovascular disease risk assessment.[xv]

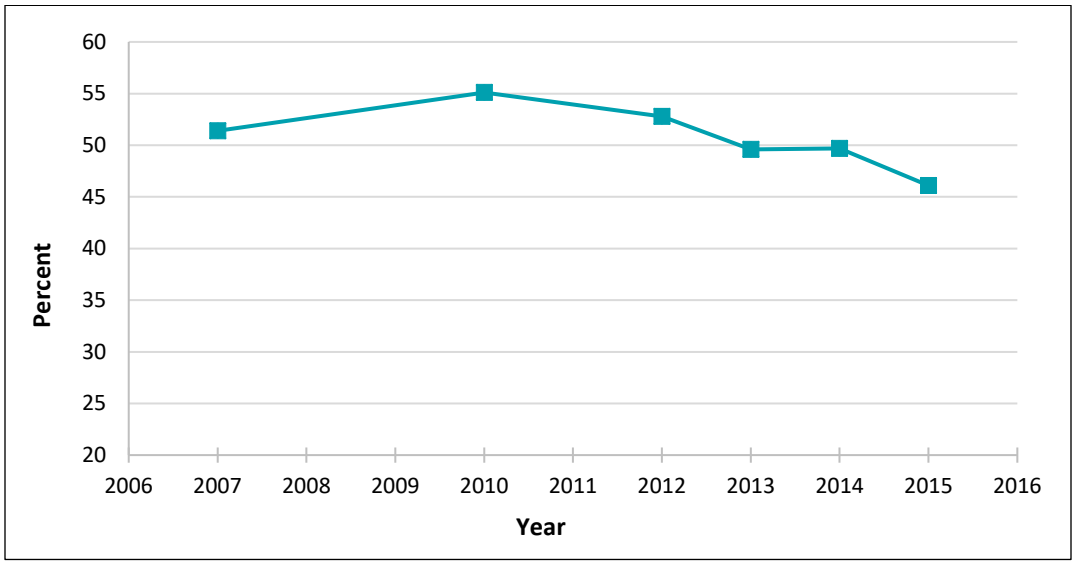
Exhibit 17: Adults Who Have Ever Been Told They Have Diabetes, Florida 2015



Source: Florida Behavioral Risk Factor Surveillance System, 2015

According 2015 BRFSS data, 63.4% of Florida adults with diabetes self-monitor their blood glucose at least once a day, and 77.4% of adults with diabetes had two A1C tests in the past year.[xvi] An A1C test is a blood test that provides information about an individual's blood sugar levels and is used to diagnose diabetes. Among adults in Florida with diabetes, 46.1% received diabetes self-management education in 2015, a decrease from 49.7% in 2014. In 2015, 65.1% of Florida adults with diabetes had an annual foot exam and 71.0% had an annual eye exam.[iv]

Exhibit 18: Adults with Diabetes Who Ever Had Diabetes Self-Management Education, Florida 2015

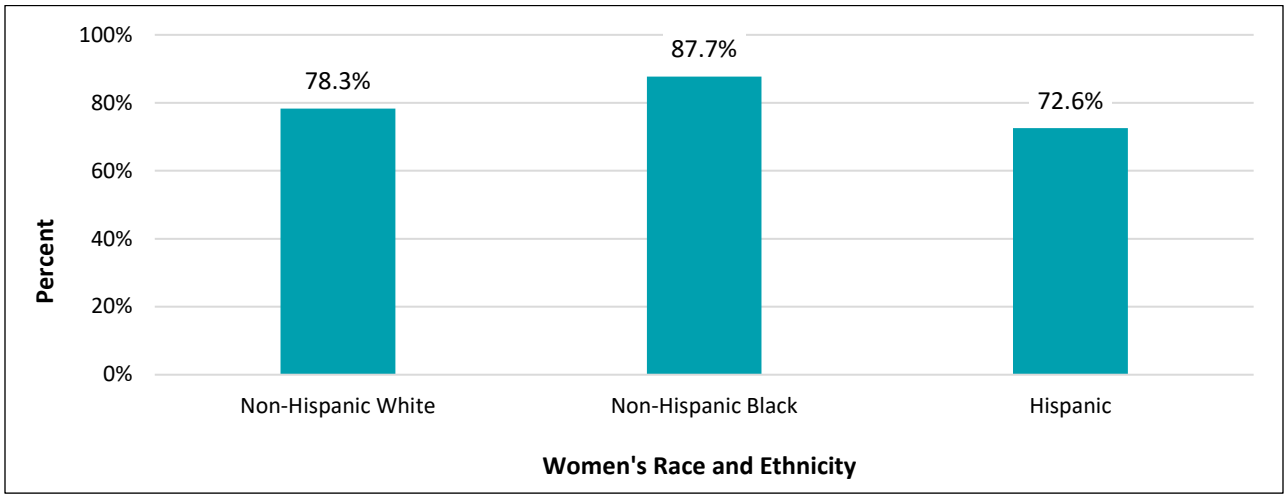


Source: Florida Behavioral Risk Factor Surveillance System, 2015

Preventive health care services, such as screenings, can detect cancer before symptoms start; treatment is most beneficial when cancers are detected early. The most effective cancer screenings which have led to reduced deaths include screenings for breast, cervical, lung and colorectal cancers. Cancer-specific screenings are recommended based on age, gender and race/ethnicity of the population.[xiv]

The USPSTF recommends women ages 50 to 74 receive a mammography, non-invasive imaging that detects abnormal tissue of the breast, every other year.[xiv] The result of a mammography is a mammogram, which helps to detect breast cancer early. In 2014, 78.1% of women in the U.S. ages 50 to 74 and 78.5% of women in Florida reported receiving a mammogram within the past two years. Racial and ethnic differences exist in Florida, as 87.7% of non-Hispanic black women ages 50 to 74 reported receiving a mammogram within the past two years, compared to 78.3% of non-Hispanic white women and 72.6% of Hispanic women in the same age range.[iv]

Exhibit 19: Women Who Have Received a Mammogram in the Past Two Years by Race and Ethnicity, Florida 2013



Source: Florida Department of Health, Florida Behavioral Risk Factor Surveillance System, 2013

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Physical Environment, State Assets & Resources

Our health is shaped by the communities and the environments in which we live. This includes the safety of our homes, communities and workplaces, and the attributes of the neighborhoods and environments in which we learn, work, play, worship and age. Aspects of our community and our environment that impact our health include: air and water quality, housing and transit, and natural and built environment. Healthy environments provide clean indoor and outdoor air to breathe and safe water for drinking and recreation. Safe and affordable housing in walkable neighborhoods increases access to services that can enhance quality of life and influence the health outcomes of the population.[i] Healthy neighborhoods preserve our health through increased access to fresh food, local parks and green spaces, which makes it easier for us to eat well and exercise.

This section presents findings on specific topics under three areas of health in our community and physical environment: Air and Water Quality, Housing and Transit, and Natural and Built Environment:

Exhibit 1: Three Areas of Health in Our Community and Physical Environment

Air & Water Quality	• Air Pollution • Water Quality
Housing & Transit	• Living Conditions • Traffic & Walkability
Natural & Built Environment	• Healthy Food Availability • Parks & Green Space

Source: University Wisconsin Population Health Institute, County Health Rankings & Roadmaps, 2014, Florida Department of Health, Environmental Public Health Tracking Program

Air & Water Quality

Air and water quality directly impact health. Air pollution worsens many respiratory conditions, alone or in combination with other environmental factors. Transportation-related pollutants are one of the largest contributors to unhealthy air quality. Many of these air pollutants, like ozone and particulate matter, are also respiratory irritants. Water quality is another environmental factor that relates to the health of the population. Poorly planned growth and lack of green space can increase the chances of water sources being contaminated by pollutants like arsenic, nitrates and lead.

Air Quality

As air quality decreases, a higher proportion of the population experiences increasingly severe adverse health effects, such as chronic obstructive pulmonary disease, lung cancer deaths and asthma attacks. In recent years, poor air quality has also been linked to cardiovascular problems. Air pollutants lead to high blood pressure, blood clotting and electrical instability in the heart, which can result in heart attack, stroke and sudden cardiac death.[v] Even short-term exposure can be hazardous.

To address air quality issues, the U.S. Environmental Protection Agency (EPA) sets National Ambient Air Quality Standards (NAAQS) for six pollutants that affect the air: carbon monoxide, lead, nitrogen dioxide, ozone, particle pollutions and sulfur dioxide.[ii, iii] In Florida, the two most significant pollutants are ozone and particulate matter that is 2.5 micrometers in diameter or less (PM 2.5).

Ozone, created through a complex chemical reaction, is the principal component of smog in urban environments and known to exacerbate asthma. Typically, ozone is measured in eight-hour periods due to the chemical interactions leading to the production of ozone in ambient air. Although Florida's mean values are below national ambient air quality standards, the maximum values have exceeded the standards on occasion. However, since 2000, there has been a gradual decrease in ozone annual values.[iv]

PM 2.5 is a mixture of solid particles and liquid droplets found in the air. It is usually found in smoke and haze, and causes asthma exacerbation because the matter can be inhaled deeply into the lungs. Florida's mean and maximum values for PM 2.5 have been below the ambient standard. Research shows spikes in cardiac deaths, emergency room visits, and hospital admissions in the hours and days that follow a spike in cities' levels of particulate matter.[iii, iv]

Water Quality

Safe, clean drinking water is essential for good health. Public water systems are regulated by the Federal and State Safe Drinking Water Acts, the state of Florida and the U.S. EPA. Some of the contaminants that are monitored include arsenic, disinfection byproducts (or DBPs), nitrates and lead. All public water systems in Florida are required to perform routine testing to ensure that they meet state drinking water standards. The Florida Department of Environmental Protection requires reporting of a chemical violation in any public water system along with a plan to correct the violation and provide safe drinking water to the population served.

In Florida, about 80% of state residents are provided with drinking water by public water systems. The remaining 20% of Florida's population, over 3.5 million people, receive drinking water from private wells. Florida does not have laws that require individuals to routinely test private wells; rather, it is the responsibility of the homeowner. The type and severity of health problems that can result from exposure to drinking water contaminants depends on the specific contaminant, the level of the contaminant in the water and the person's individual exposure level. If contamination occurs in a single water system, it has the potential to expose many people at once.

Drinking water can be contaminated by natural sources, like soil and bedrock, or from man-made sources such as disinfection chemicals, agricultural run-off or plumbing fixtures. In addition, contamination can also occur if the water supply or distribution system (reservoir, lake, river or water treatment system) becomes contaminated.

Exhibit 2: Maximum Water Contaminant Concentrations Allowed by the EPA

Contaminant	Maximum Level
Arsenic	10 µg/L
Radium	5 µg/L
Tetrachloroethene (PCE)	5 µg/L
Atrazine	3 µg/L
Di(2-ethylhexyl) phthalate (DEHP)	6 µg/L
Haloacetic acids (HAA5)	60 µg/L
Total Trihalomethanes (TTHM)	80 µg/L
Nitrate	45 mg/L
Uranium	30 µg/L
Trichloroethene (TCE)	5 µg/L

Source: US Environmental Protection Agency, National Primary Drinking Water Regulation Table, 2009

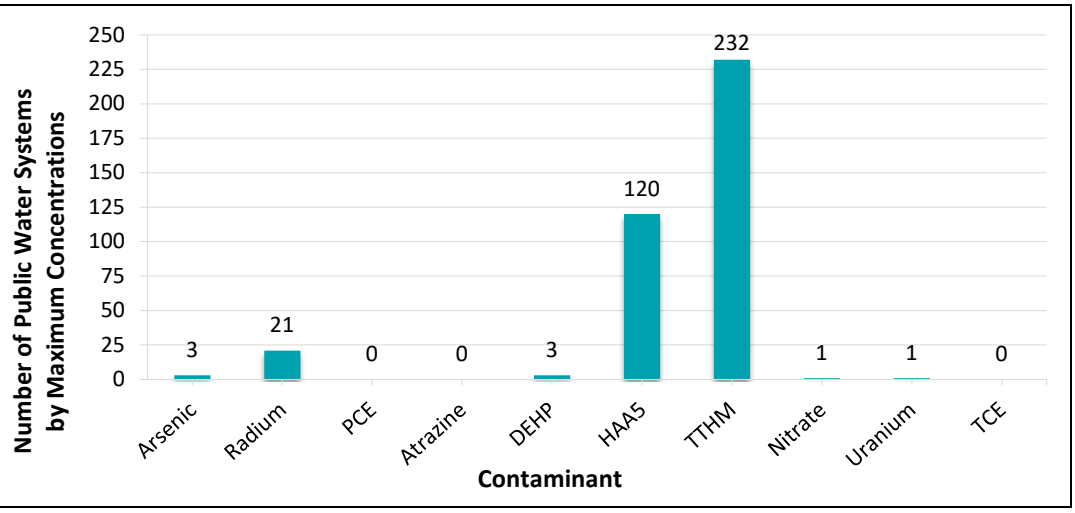
People can be exposed to water contaminants in many ways, including drinking water, eating food prepared with water (e.g. rice) and breathing water droplets or vapors while showering. Because people drink and use water every day, contaminants have the potential to affect large populations. If individuals are exposed to high enough levels of a contaminant, they may become ill. Effects can be short-term (lasting only a few days), long-term (lasting longer than a few days) or a combination of both.

Staff from the Florida Department of Environmental Protection and other state and local agencies work together to help ensure that drinking water contamination levels are as low as possible. This is done by protecting water sources, treating drinking water to remove contaminants and monitoring water quality to identify problems as quickly as possible. Ultimately, maintaining the highest quality drinking water depends upon protecting our water recharge areas, aquifers, lakes and rivers from contamination.

Exhibit 3: Public Water Systems Violations by Containment, Florida 2015

Water Quality[v]

- *20% of Floridians get their water from private wells*
- *No laws in Florida require routine testing of private wells*
- *Public water systems that rely on surface water can sometimes have higher levels of disinfection byproducts (such as HAA5 and TTHM) because of treatment*



Source: Florida Department of Health, Environmental Public Health Tracking, 2015

Housing & Transit

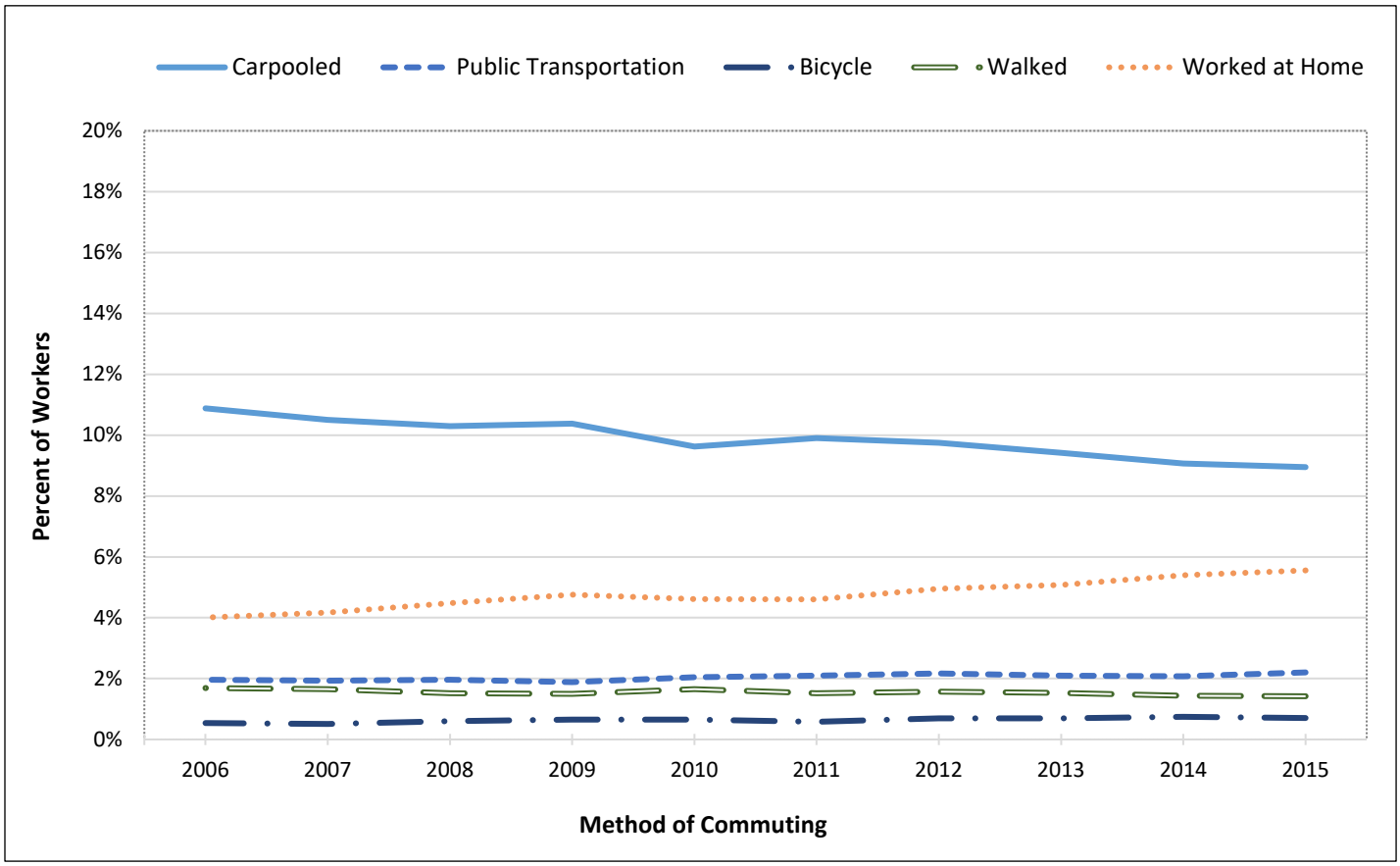
Access to safe housing and transit also play a role in population health. People who live in older housing have a greater risk of being exposed to unsafe building materials, like lead paint and pipes. This is especially dangerous for children, who are more vulnerable to environmental hazards like lead that can cause neurological damage.[vi] Poorly designed communities can make it difficult for persons with disabilities to move around their environment and access useful services. Areas without pedestrian access and with heavy traffic can make it unsafe for people to walk in their communities and make it harder for them to access healthy food sources or health care if they have no other modes of transportation. The ability to walk safely to nearby parks and trails allows people to get more physical activity, which can help prevent many chronic diseases.

Studies have shown that housing plays an important role as a determinant of health. The two main places where people spend significant amounts of time are at home and at work. The home environment may expose people to chemicals in the air, water and soil that could lead to serious illness.

In many areas across the country, homes built before 1978 are more likely to contain lead-based paint and therefore pose an increased risk for young children.[ii] The U.S. Census Bureau uses housing indicator data to help identify the number of housing units and the areas where older homes may be located. In Florida, census estimates indicate about 36% of homes currently in use were built between 1950 and 1979.

Transportation systems help shape how communities are designed and operate and can have a profound effect—both positive and negative—on public health. Physical activity has well-known health benefits and exercise, including "active transportation" activities like walking and bicycling, can help prevent weight gain and lower the risks of chronic diseases.[vii] Land-use strategies that consider health can help increase physical activity, improve accessibility and safety and ease congestion and air pollution. Where transportation infrastructure is designed to accommodate or even encourage non-motorized transportation, it can have a positive effect on public health. In Florida, census estimates showed that in 2015, only 1.4% of workers walked to work and only 0.7% rode a bicycle.[viii] Exhibit 4 shows the modes of transportation among the population that commute or work at home with a slight decrease carpooling and a slight increase in working at home.[viii]

Exhibit 4: Commuting to Work in Florida, 2006–2015



Source: US Census Bureau, American Community Survey, 2015

Living Conditions

According to the U.S. Census Bureau, Florida has over nine million housing units; however, 19.0% are estimated to be vacant.[viii] Dilapidated and unmaintained units are associated with increases in crime and blight in a neighborhood, and reduce the quality of life among the population that live there.[ix] Housing-related health risks include respiratory and cardiovascular diseases from indoor air pollution, the spread of communicable diseases because of poor living conditions and risks of injuries. The accumulation of indoor air pollutants and dampness can be factors in the development of allergies and asthma. Living in older homes can also increase the risk of exposure to lead through lead-based paints that were used before 1978.[ii]

Homes built before 1978 are more likely to contain lead-based paints, which deteriorates as it ages and mixes with dust in the home. Children are at risk for ingesting the lead dust in the homes, and this exposure can lead to lead poisoning. Even low levels of lead exposure can result in learning disabilities and lower IQ.[ii]

Public health interventions have reduced lead in our environment, but lead still remains a concern through environmental exposures and the use of manufactured products that contain lead. Efforts to reduce indoor pollution have included tobacco cessation programs. The most common place of secondhand smoke exposure is in the home. Middle school and high school students have reported an increase in secondhand smoke exposure in the home, up from 38% and 31% in 2010 to 39% and 33% in 2015.[xiv]

Traffic and Walkability

The closer the distance a population is to busy roadways, such as interstates and highways, the greater the exposure to respiratory irritants due to poor air quality, and the greater the risk for more injuries from motor vehicles. A busy roadway is one that has more than 25,000 cars a day. In Florida in 2013, 9.2% of the population lived within 500 feet of a busy roadway and 19.9% of schools and day care facilities were within 500 feet of a busy roadway.[vi]

Counties with the largest percent of the population living near busy roadways tend to be the same counties with high percentages of schools and day care facilities near busy roadways.

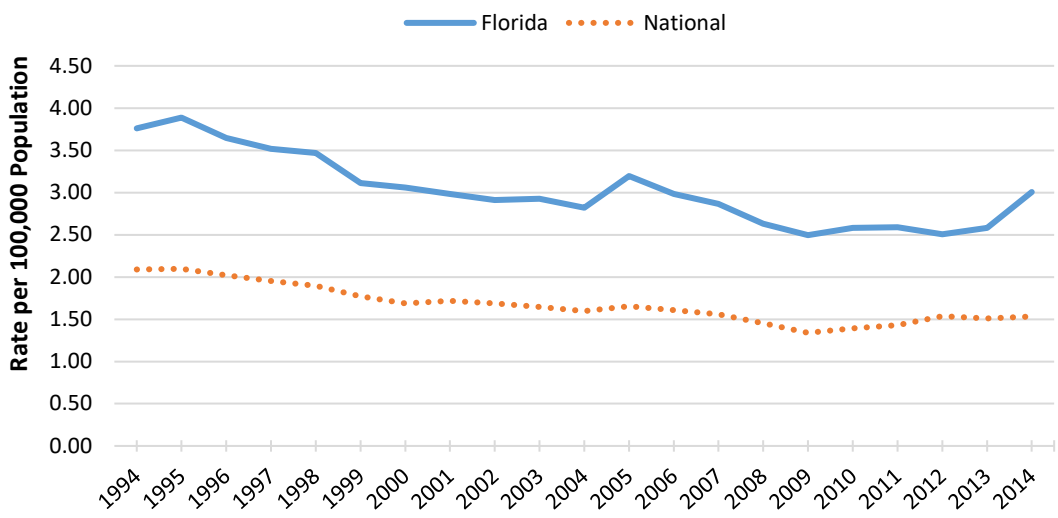
Projects like Complete Streets are developed to provide safe access to roadways for all users, including pedestrians, bicyclists, motorists and transit riders. Complete Streets make it easy to cross the street, walk to shops and bicycle to work. A complete street can include sidewalks, bike lanes, median islands, roundabouts, bus lanes, pedestrian signals and other features to slow traffic and enhance safety for pedestrians and bicyclists. Making these travel choices more convenient, attractive and safe means people do not need to rely solely on automobiles for transportation and can instead improve their health and air quality by using different ways to get to their destinations. The Healthiest Weight Florida initiative promotes Complete Streets best practices, which encourage counties to work with their local governments to implement legislation/ordinances, policies, resolutions, design guidelines and plans. Currently there are a total of 71 identified Complete Street policies including state level legislation/ordinances (2), policies (27), resolutions (22), design guidelines (5) and plans (15) in 23 of Florida's 67 counties. A majority of these are recognized in Polk (18) and Brevard (13) counties.

Roadway safety is important to encourage healthy activities such as walking and biking to destinations instead of driving a personal vehicle. Indicators such as pedestrian deaths are one measure that can be used to examine road safety. In 2014, there were 3.0 pedestrian deaths per 100,000 Floridians.[vi] In the past two decades, there has been a slight decrease in pedestrian deaths on Florida roads.

Exhibit 5: Pedestrian Deaths on Public Roads

Busy Roads

- *A busy roadway is one that has more than 25,000 cars a day*
- *Areas around these roadways are at risk for exposure to poor air quality*
- *In 2014, there were approximately three pedestrian deaths per 100,000 Floridians*



Source: Environmental Public Health Tracking, National Highway Traffic Safety Administration, U.S. Census Bureau

Natural & Built Environment

Natural and built environments have a profound effect on public health. Density and design of communities, road design and placement, the presence and size of parks, land-use mix, height and size of residential structures, and grocery store locations affect people's physical health and psychological well-being. People who live in neighborhoods without a supermarket are less likely to eat the recommended amount of fruits and vegetables. High-rise housing is associated with psychological stress and increased behavioral problems in children.[x] Natural environments buffer the influence of stress, and the physical design of communities can improve or worsen health.[iii]

Communities designed to promote healthy behaviors provide residents opportunities to stay physically active, lower the risk of injuries and have better air quality. The design of Florida communities also impacts the population's mental and economic health. An attractive, mixed land-use community design promotes walking and biking by decreasing distances between homes, businesses, schools and places used for recreational activity. It also increases positive community interaction and street safety, and decreases crime. Recently, the link between built environment and health has become clearer, and the CDC encourages states to become more proactive in their planning processes.[xi]

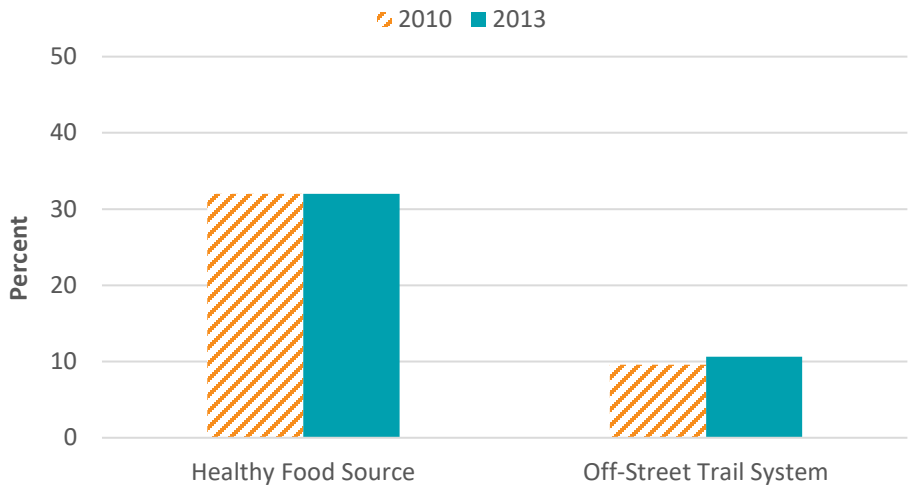
Healthy Foods

Because healthy food environments are difficult to assess, researchers have used many different methods. One effective measure used in Florida is the percent of the population that live within a ten-minute walk (½ mile) of a healthy food source. These healthy food sources include grocery stores, supermarkets and produce stands that offer a wide selection of healthy options such as fresh fruits and vegetables. In 2013, only 31.8% of Floridians live within ½ mile of a healthy food source, but 33.5% live within a ½ mile of a fast food restaurant.[vi]

Exhibit 6: Percent of Floridians Within One-Half Mile of Built Environment Measures

Natural and Built Environment

- *Healthy food sources are places that offer options like fresh produce*
- *Florida has 10 state trails for residents to enjoy*
- *Florida State Parks encompass 100 miles of beaches and over 2,600 miles of trails*



Source: Florida Department of Health, Environmental Public Health Tracking, 2013

Parks & Green Space

Public green space has a significant impact on a community's health. Research has demonstrated that, in Florida, the "amount of green space within defined distances of all census tracts in a county had a significant association with both all-cause mortality and cardiovascular mortality."[xii] Furthermore, there is a significant association between the amount of green space and how much people exercise. Researchers found that, "for every .004 square mile increase in green space (about two football fields), there was a 1% increase in the moderate and vigorous physical activity percent among the [county] population."[xiii] Green space allows people to exercise and socialize, ultimately improving their health. In addition to the many city and county parks, the state of Florida owns 594,879 acres of land designated for park usage. This includes 570 trails, 160 parks and 84 swimming areas maintained by the state's parks and recreation departments. The availability of such recreational space encourages physical activity. Although there is no formal mechanism for counting the number of Floridians and visitors who use the parks, attendance figures are kept for those who stay overnight. This has fluctuated around 20,000 visitors since 2006. Sensors are being installed in the Trails and Greenways parks to get a better idea of usage of these resources. Although the usual measure of park access is through acres of park and recreation space, it does not provide clarity into their proximity to the population or their distribution. As of 2013, in Florida, 44.8% of the population lives within a 10-minute walk, or ½ mile of a park.[xiv]

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Health Outcomes

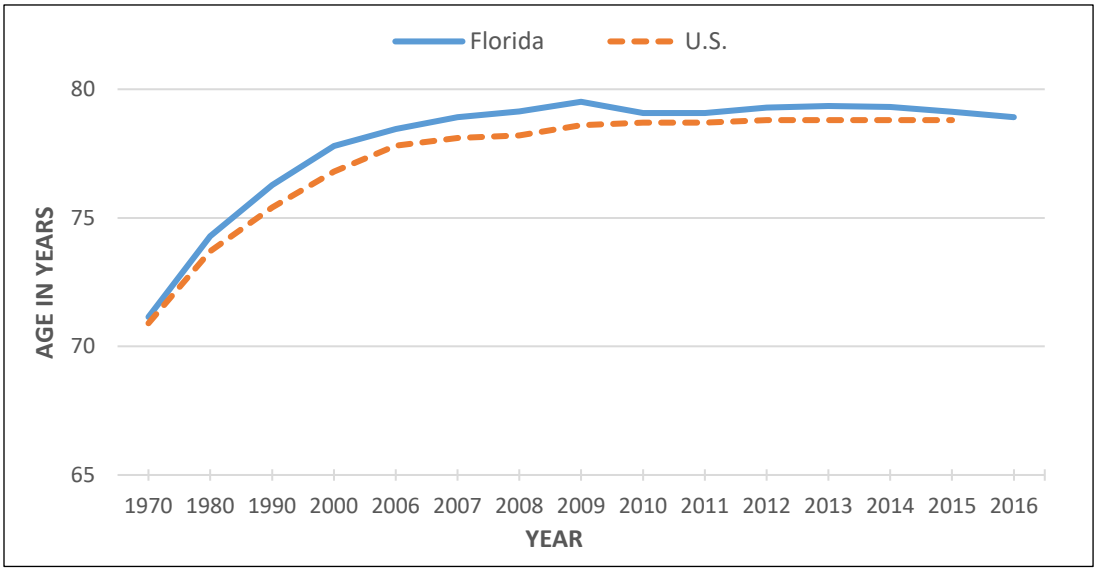
Health outcomes can be measured at an individual level or a population level. For example, an individual may measure their blood pressure; at the population level, we may measure the percent of the population that is hypertensive. Knowing the status of population-based health outcomes brings focus to public health strategies and provides the foundation for monitoring progress.[i] Many health outcome measures are defined nationally and used by all states so that comparisons can be made. For example, infant mortality, length of life, causes of death, and ages at death are common measures tabulated from death certificates. Infant health in terms of birthweight and maturity are common measures based on birth records.[i] All 50 states, as well as the District of Columbia and three U.S. territories, collect survey data that assesses quality of life perceptions and health behaviors using the Behavioral Risk Factor Surveillance System (BRFSS). By looking at health outcomes, we gain perspective about how healthy our citizens are and the progress we make toward improved health.

This section presents findings on specific Health Outcomes topics including Life Expectancy, Chronic Diseases and Conditions, Infectious and Reportable Diseases, and Pregnancy and Birth Outcomes.

Life Expectancy

Life expectancy (length of life) is a measure commonly used to gauge the overall health of a population. Life expectancy represents the average number of years a person can be expected to live if death rates for the year of their birth remain constant.[ii] Exhibit 1 illustrates that life expectancy for a person born in Florida is slightly longer than the U.S. average and that it has generally continued to lengthen.[iii, iv] Life expectancy at birth is strongly influenced by infant and child mortality.[v] Improvements in nutrition, housing, hygiene, medical care, and prevention and control of infectious disease continue to increase life expectancy.[i]

Exhibit 1: Year of Life Expectancy at Birth, Florida and U.S., 1970–2000 and 2005–2016



Source: Florida Department of Health, Florida Vital Statistics Annual Report, 2016

As shown in Exhibit 2, Floridians born in 2015 are expected to live eight years longer (79.1 years) than they were in 1970 (71.1 years).[iii] This is reflected in a corresponding decline in Florida's age-adjusted death rate from 1,082.9 per 100,000 persons in 1970 to 679.8 per 100,000 in 2015.[iii] In Florida, Hispanic females have the longest life expectancy at 85.6 years, followed by white females at 82.3 years and black females at 80.6 years. Males have a shorter life expectancy than females with the longest life expectancy ascribed to Hispanic males at 79.9 years followed by white males at 76.6 years and black males at 74.5 years. The most significant changes in life expectancy since 1970 have occurred among black males and females, with males increasing their life expectancy from 59.1 to 74.5 years, and females increasing their life expectancy from 68.7 years to 80.6 years.[iii]

Exhibit 2: Years of Life Expectancy at Birth by Race, Ethnicity and Gender, Florida and U.S. Total, 1970–2000 and 2005–2015

CHART P-1: YEARS OF LIFE EXPECTANCY AT BIRTH, BY RACE, ETHNICITY AND GENDER FOR FLORIDA RESIDENTS AND UNITED STATES TOTAL, CENSUS YEARS 1970-2000 AND 2006-2016

	FLORIDA							UNITED STATES			
		WHITE*		BLACK*		HISPANIC**					
YEAR	TOTAL	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	TOTAL	WHITE*	BLACK*	HISPANIC**
1970	71.1	68.5	77.0	59.1	68.7	NA	NA	70.9	71.1	NA	NA
1980	74.3	71.2	79.4	63.2	72.8	NA	NA	73.7	74.4	68.0	NA
1990	76.3	73.5	81.1	64.4	73.8	NA	NA	75.4	76.1	69.1	NA
2000	77.8	75.5	81.5	69.6	75.7	NA	NA	76.8	77.3	71.8	NA
2006	78.5	75.9	82.0	71.4	77.3	78.4	84.7	77.8	78.3	73.4	80.3
2007	78.9	76.4	82.4	71.7	78.2	78.6	85.4	78.1	78.5	73.8	80.7
2008	79.1	76.5	82.5	72.5	78.9	79.3	85.3	78.2	78.5	74.3	80.8
2009	79.5	76.9	82.8	73.1	79.1	79.7	86.0	78.6	78.8	74.7	81.1
2010	79.1	76.6	82.2	73.6	79.1	80.5	86.0	78.7	78.9	75.1	81.2
2011	79.1	76.6	82.3	73.4	79.2	79.6	85.3	78.7	79.0	75.3	81.4
2012	79.3	76.9	82.3	73.7	79.9	79.8	85.0	78.8	79.1	75.5	81.6
2013	79.3	77.1	82.4	73.9	80.0	80.2	85.2	78.8	79.1	75.5	81.6
2014	79.3	76.9	82.4	74.3	80.1	79.9	85.6	78.8	79.0	75.6	81.8
2015	79.1	76.6	82.4	73.8	80.2	79.7	85.6	78.8	NA	NA	NA
2016	78.9	76.3	82.1	73.9	79.8	79.5	85.5	NA	NA	NA	NA

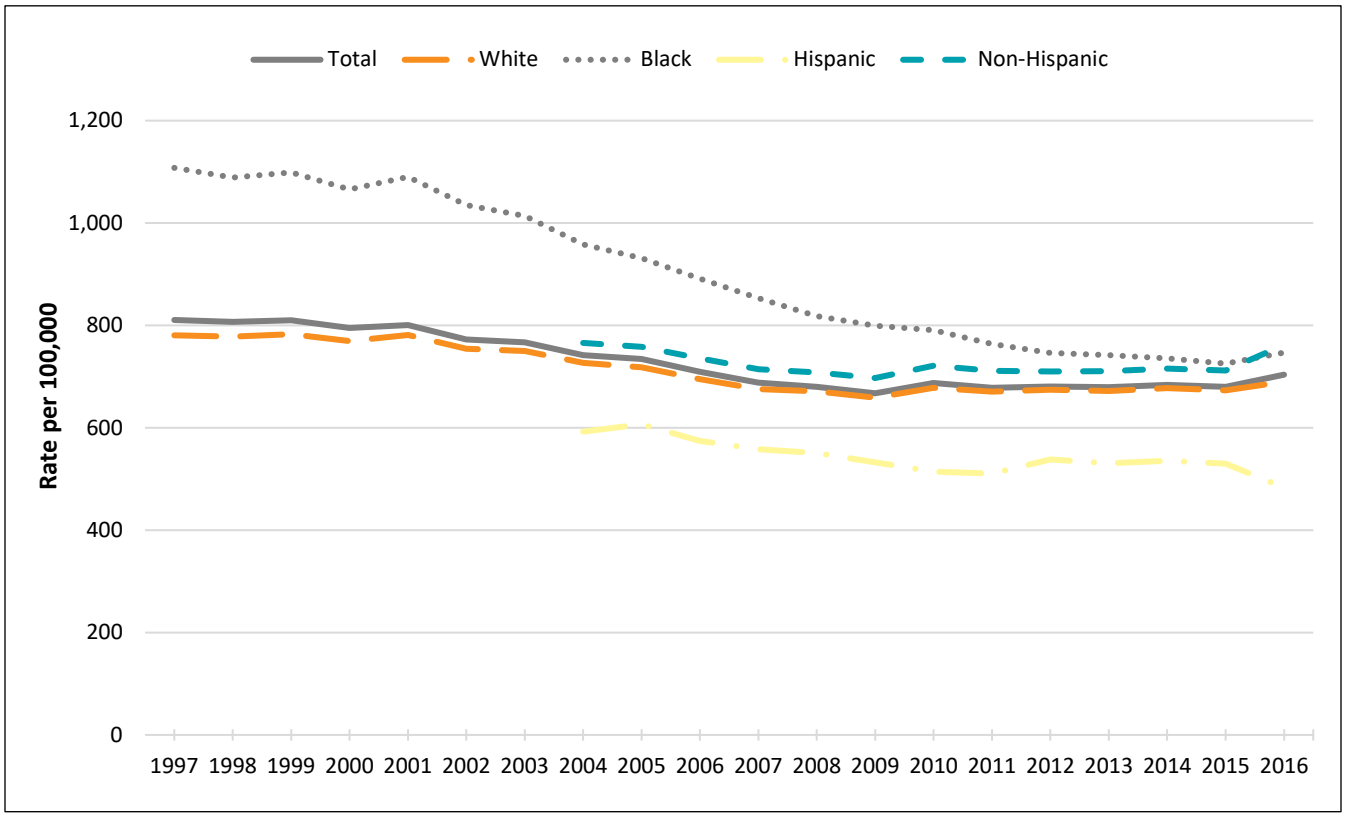
Source: Florida Department of Health, Florida Vital Statistics Annual Report, 2016

Age-adjusted Death Rates

The frequency of many health events is related to age. In fact, the relationship of age to risk often dwarfs other important risk factors. For example, acute respiratory infections are more common in children of school age because of their immunologic susceptibility and exposure to other children in schools. Chronic conditions, such as arthritis and atherosclerosis, occur more frequently in older adults because of a variety of physiologic consequences of aging. Mortality rates tend to increase after the age of 40. Because of the relationship between health and age, age-adjusted rates are used to show comparisons of health statistics independent of age structure.

Age-adjusted death rates declined from 826.8 per 100,000 in 1996 to 679.8 in 2015.[iii] The largest decline is seen for the black population (1152.2 deaths per 100,000 in 1996 to 725.4 in 2015), diminishing the rate ratio between black and white deaths from 1.4:1 to 1.1:1. In 2004, when official estimates of the Hispanic population became available, age-adjusted death rates (AADRs) showed slight decreases (592.2 per 100,000 in 2004 to 530.2 per 100,000 in 2015) with a rate ratio among Hispanics lower than the non-Hispanic population (rate ratio of .8:1 in 2004 and .7:1 in 2015).[iii]

Exhibit 3: All Causes of Death, Age-Adjusted Death Rate per 100,000 Population, by Race and Ethnicity, Florida 1997–2016



Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Leading Causes of Death

In the early 1900s, infectious diseases such as influenza, pneumonia, tuberculosis, syphilis and enteric infections were among the top causes of death, and people often died in the prime of their youth. As new developments in hygiene, treatment and sanitation emerged, and advances in the control of infectious diseases and standards of living increased, chronic diseases have overtaken infectious diseases as the leading causes of death in the U.S. and many developed countries. Leading causes of death account for the majority of deaths.[vi] The 50 leading causes of death list is established and maintained by the World Health Organization and used worldwide as a standard.

Florida's three-year age-adjusted death rates (AADRs) for leading causes of death compared with those from 15 years ago show reductions among several AADRs.[iii] AADRs of heart disease, cancer, chronic lower respiratory disease, cerebrovascular disease, diabetes, and influenza and pneumonia have been reduced; however, they are countered by increased AADRs for unintentional injury; Alzheimer's disease; nephritis, nephrotic syndrome and nephrosis; suicide; and chronic liver disease and cirrhosis.[iii] The table that follows shows relative ranks of the top 11 leading causes of death in 1999-2011 compared to 2013-2015 along with AADRs.[vii] The top five causes showed little change in rank, while influenza and pneumonia dropped from the 7th highest to 11th and Alzheimer's Disease increased from 8th to 6th.

Exhibit 4: Leading Causes of Death, Age-Adjusted Death Rates 2013–2015 and 1999–2001

2013-15			1999-2001	
Rank	Rate	Cause of Death	Rate	Rank
1	153.6	Heart Diseases	238.5	1
2	156.1	Malignant Neoplasm (Cancer)	187.6	2
3	39.9	Chronic Lower Respiratory Disease	41.3	4
4	34.5	Cerebrovascular Diseases	48.9	3
5	42.1	Unintentional Injury	38.0	5
6	19.8	Alzheimer's Disease	15.1	8
7	19.5	Diabetes Mellitus	21.7	6
8	11.1	Nephritis, Nephrotic Syndrome, Nephrosis	9.2	11
9	14.1	Suicide	12.8	9
10	11.6	Chronic Liver Disease & Cirrhosis	11.0	10
11	9.5	Influenza & Pneumonia	15.7	7

decrease increase

Source: National Center for Health Statistics (U.S. (2016)

Leading Causes of Death by Age Group

In 2015, leading causes of death by age group show that perinatal period conditions and congenital malformations were leading causes of death among those less than 1 year of age, while cancer was a leading cause of death among all age groups, except those less than 1 year of age.[iii, vii] Exhibit 5 shows the change in leading causes of death across the lifespan, skewed toward causes on the upper left side for younger ages and toward the lower right for older ages.

Heart disease, cancer and unintentional injury were leading causes of death regardless of age.i[ii, vii] Congenital malformations were a leading cause from birth through age 14. Suicide was a leading cause for persons between 5 and 54 years of age. Stroke emerged among those 65 years of age and older. Diabetes was a leading cause of death for individuals between 65 and 74 years of age, and Alzheimer's disease was a leading cause for those 75 years of age or older.

Exhibit 5: Leading Causes of Death by Age Group and Rank, Florida 2015

Age Groups	*<1*	*1-4*	*5-14*	*15-24*	*23-34*	*35-44*	*45-54*	*55-64*	*65-74*	*75-84*	*85+*
Perinatal Period Conditions	1										
Congenital Malformations	2	4	4								
Unintentional Injury	3	1	1	1	1	1	3	3			
Sudden Infant Death Syndrome	4										
Heart Diseases	5	5		5	5	3	2	2	2	2	1
Malignant Neoplasms (Cancer)		2	2	4	4	2	1	1	1	1	2
Homicide		3	5	2	3	5					
Suicide			3	3	2	4	5				
Chronic Liver Disease & Cirrhosis							4	5			
Chronic Lower Respiratory Diseases (CLRD)								4	3	3	5
Cerebrovascular Diseases (Stroke)									4	4	3
Diabetes Mellitus									5		
Alzheimer's Disease										5	4

Numbers show the rank for each cause of death by age group.

Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Quality of Life

As people live longer, quality of life (QOL) becomes increasingly important. QOL refers to perceived physical and mental health that impacts overall health status. Self-assessed health status has been determined to be a more accurate indicator of mortality and morbidity than many objective measures of health. Measuring QOL can help determine the burden of preventable disease, injury and disability.[viii] It can help monitor progress in meeting the state's health goals. In Florida, the annual Behavioral Risk Factor Surveillance System (BRFSS) provides an ongoing assessment of key QOL measures. Other sources for QOL measures include preventable hospitalizations and the American Communities Survey (ACS).

- The majority (about 81.6%) of Floridians report a "good to excellent" quality of life that includes both mental and physical health. The groups rating their health good to excellent most frequently were: males, white race, and those in the 18-44 age group. This quality of life rating has remained relatively stable since 2002 (2002: 83.3%, 2007: 83.4%; 2010: 82.9%; 2013: 80.5%; 2014: 80.7%).[ix]
- A minority of adult Floridians reported poor physical health (14.0%) or poor mental health (13.0%) on 14 or more of the past 30 days.[ix]
- 16.5% of adults had been diagnosed with a depressive disorder.[ix]
- 26.2% of adults were sedentary.[ix]
- Only 15.8% of adults were current smokers, down from 22.2% in 2002.[ix]
- Preventable hospitalizations under age 65 have declined slightly since 2010, from 1257.0 per 100,000 to 1179.9 in 2014.[iii]
- Only 3.6% of the population ages 18-64 had difficulty with independent living.[x]

Chronic Diseases and Conditions

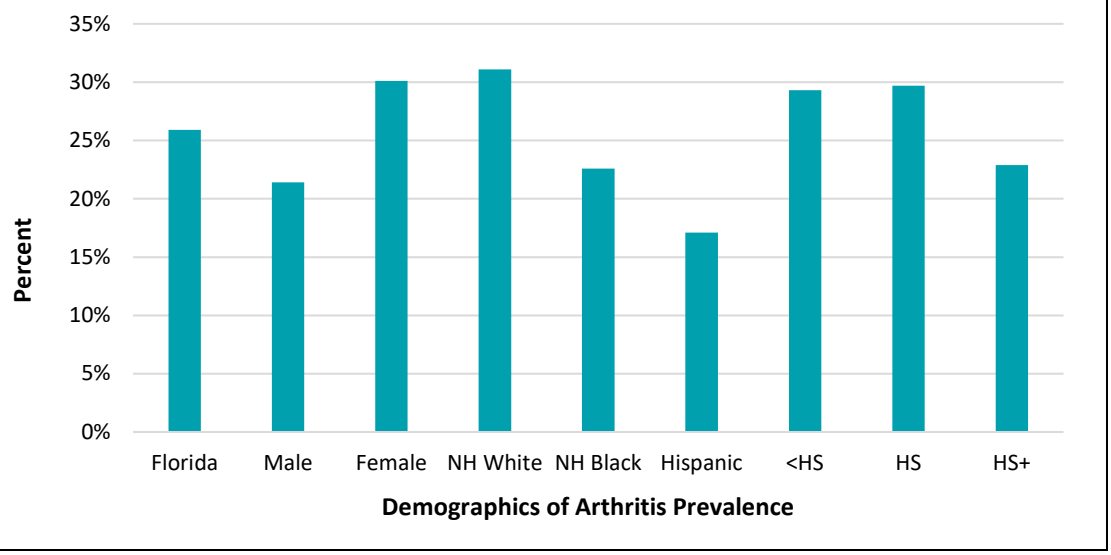
Chronic diseases are among the leading causes of morbidity, mortality, and disability in the U.S. Treating people with chronic diseases accounts for 86% of our nation's health care costs.[xi] In Florida, chronic diseases were responsible for one out of seven deaths (more than 130,000 deaths) in 2015.[iii] The risk of developing many chronic diseases increases with age. As Florida has the second largest elderly population in the nation, preventing and controlling chronic diseases is critical for the state. Unhealthy behaviors, unhealthy weight, poor nutrition, lack of physical activity, tobacco use, and alcohol consumption are additional risk factors for the development of chronic diseases. In 2015, more than one-third of Florida adults (37.3%) were overweight and over one-fourth (26.8%) were obese; four out of five (82%) did not consume the recommended five or more servings of fruits and vegetables per day; only one in five (21.8%) met aerobic and muscle strengthening physical activity recommendations; 17.4% were heavy or binge drinkers; and 15.8% were current smokers.[iii] In 2015, tobacco-related cancer deaths for people 35 years and older was 69.1 per 100,000 in Florida.[iii] These modifiable risk behaviors place individuals at an unnecessary increased risk for chronic conditions.

Arthritis

Arthritis is a term that describes more than 100 rheumatic diseases and conditions that affect joints and the tissues which surround the joint and other connective tissue. The pattern, severity and location of symptoms can vary depending on the specific form of the disease. Typically, rheumatic conditions are characterized by pain and stiffness in and around one or more joints. The symptoms can develop gradually or suddenly. Certain rheumatic conditions can also involve the immune system and various internal organs of the body. About 1 out of every 5 U.S. adults has doctor-diagnosed arthritis. Many risk factors are attributable to arthritis. Non-modifiable risk factors include age, gender and genetics. Modifiable risk factors include overweight/obesity, joint injuries, infection and occupation. According to the 2015 Florida BRFSS, overall prevalence of arthritis (including arthritis, rheumatoid arthritis, gout, lupus or fibromyalgia) is 25.9%.[ix] Among adult females, the prevalence is 30.1%; for adult males, 21.4%. Among non-Hispanic whites, 33.1% were diagnosed with arthritis, while 22.6% of non-Hispanic blacks and 17.1% of Hispanics have an arthritis diagnosis.[ix] In Florida, non-Hispanic whites have a significantly higher prevalence than non-Hispanic blacks and Hispanics. Arthritis is also more common among women but less common among people with more than a high school education. Some important ways to prevent the onset of arthritis or control its severity include: early diagnosis and medical care; being active; maintaining a healthy weight; protecting the joints from sports or occupational injuries; and acquiring arthritis management skills.

Exhibit 6: Adults Who Have Been Told They Have Some Form of Arthritis, Rheumatoid Arthritis, Gout, Lupus or Fibromyalgia, Florida 2015

Arthritis Prevalence[ix]	Percent
FL	25.9%
Sex	
Male	21.4%
Female	30.1%
Race/Ethnicity (Non-Hispanic = NH)	
NH White	31.1%
NH Black	22.6%
Hispanic	17.1%
High School (HS) Education	
<HS	29.3%
HS	29.7%
HS+	22.9%



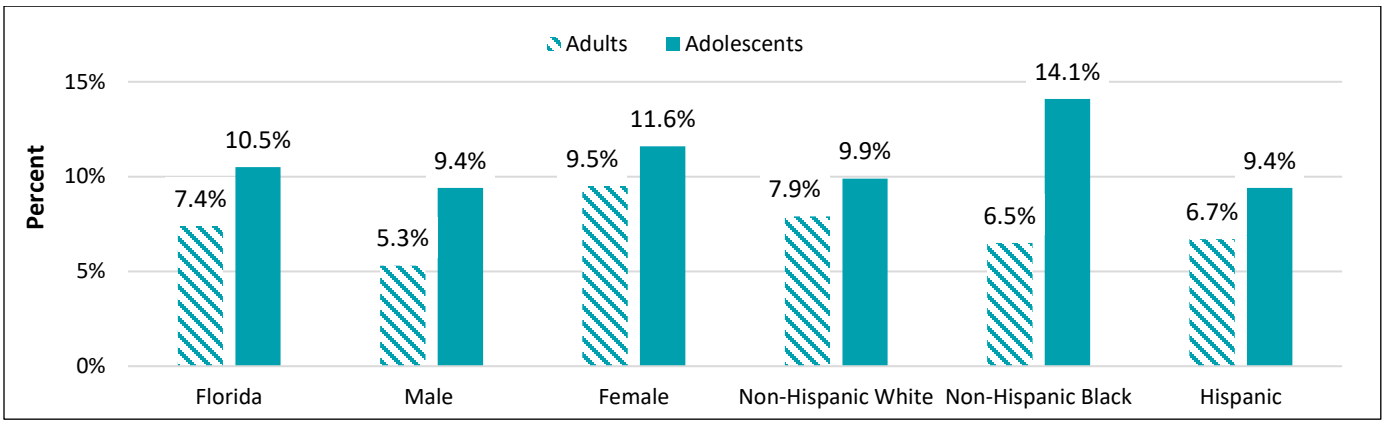
Source: Florida Behavioral Risk Factor Surveillance System, 2015

Asthma

Asthma is a common lifelong chronic disease affecting the lungs, causing repeated episodes of wheezing, breathlessness, chest tightness and coughing. It can be life-threatening. Asthma is a leading cause of emergency department (ED) visits and hospitalizations in Florida. Burdens of chronic school absenteeism, lost workdays and productivity, lower quality of life and high costs of care weigh heavily on individuals with asthma and their families. Floridians with asthma also tend to have higher rates of other chronic conditions such as diabetes and heart disease, and are more likely to use tobacco or be exposed to secondhand smoke than Floridians who do not have asthma.

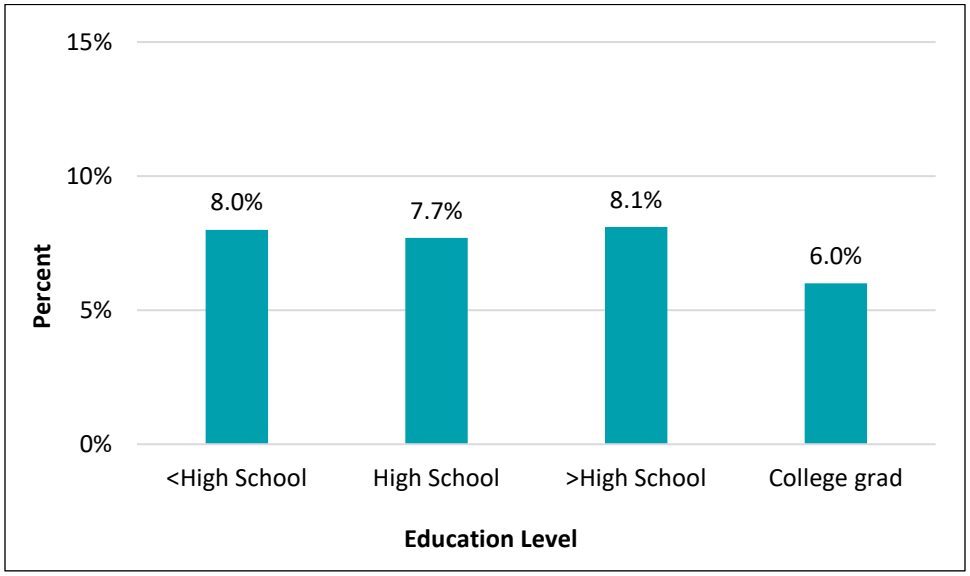
The Behavioral Risk Factor Surveillance System (BRFSS) and the Florida Youth Tobacco Survey (FYTS) contain questions about asthma. Responses from these surveys provide Florida's asthma prevalence information for adults and youth. Over the past five years, the prevalence of lifetime and current asthma have remained relatively stable. In 2015, 7.1% of adults and one out of ten adolescents (10.5%) reported having current asthma.[xii, xiii] Males had a significantly lower prevalence of current asthma than females, for both adults and adolescents. Non-Hispanic black adolescents (14.1%) had a significantly higher prevalence of current asthma than their non-Hispanic white (9.9%) and Hispanic (9.4%) peers.[xii, xiii] There were no statistically significant differences in current asthma prevalence by race/ethnicity for adults. The prevalence of adult asthma decreases with increasing education and income levels as shown in Exhibit 8 and Exhibit 9.[xii]

Exhibit 7: Adult and Adolescent Current Asthma Prevalence, by Gender, Race and Ethnicity, Florida 2015



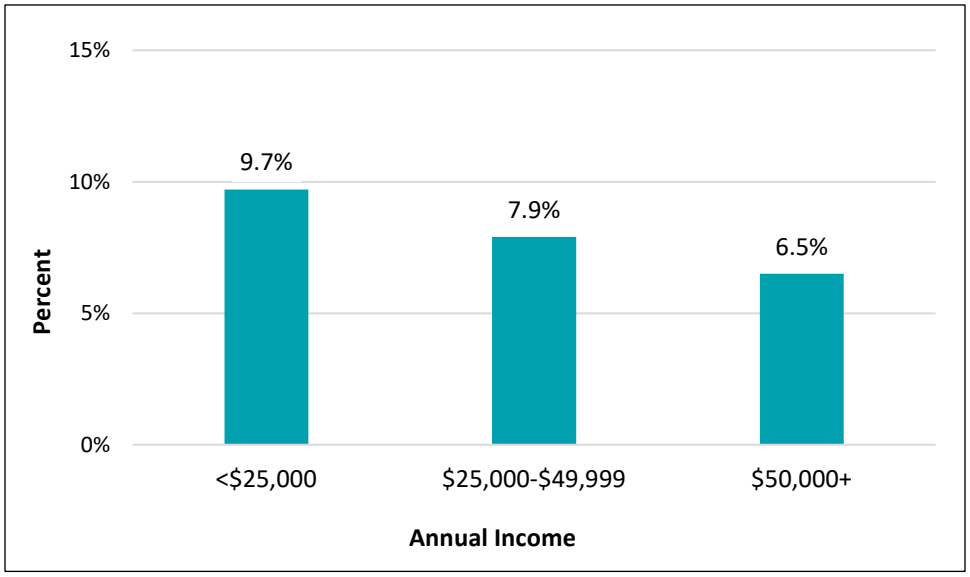
Source: Florida Behavioral Risk Factor Surveillance System (BRFSS), 2015 and Florida Youth Tobacco Survey (FYTS), 2015

Exhibit 8: Adult Current Asthma Prevalence by Education Level, Florida 2015



Source: Florida Behavioral Risk Factor Surveillance System (BRFSS), 2015

Exhibit 9: Adult Current Asthma Prevalence by Annual Income, Florida 2015

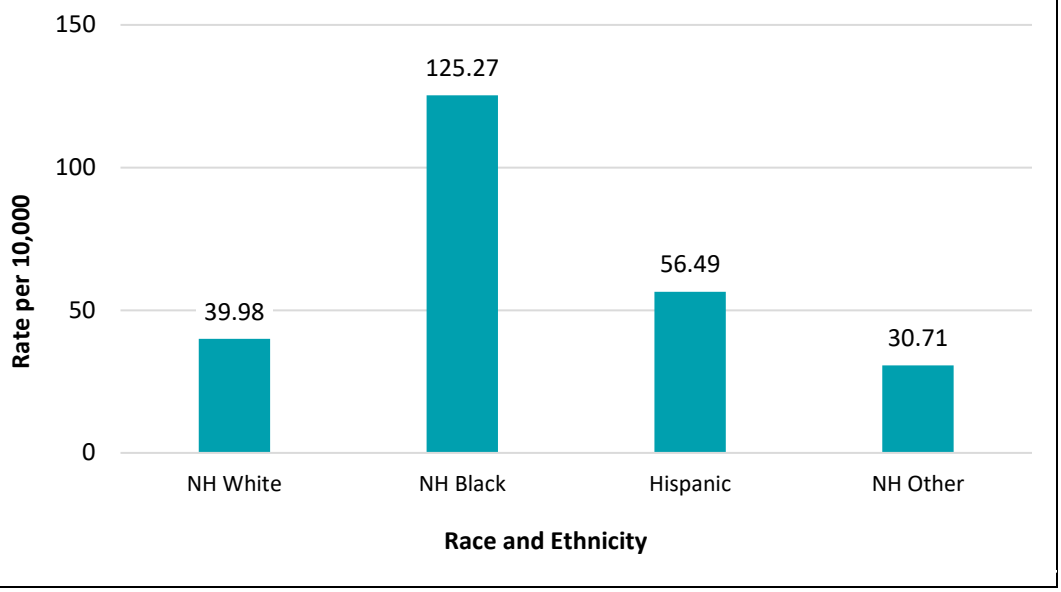


Source: Florida Behavioral Risk Factor Surveillance System (BRFSS), 2015

In 2014, there were 105,416 emergency department visits with asthma listed as the principle diagnosis.[xiv] The number and rate of asthma ED visits increased over the past five years, with the age-adjusted rate increasing from 51.9 per 10,000 population in 2010 to 60.65 per 10,000 population in 2014.[xiv] Substantial disparities can be seen in the rates of ED visits and hospitalizations which are indications of poorly controlled asthma. In 2014, the age-adjusted rate of asthma ED visits for non-Hispanic blacks (125.27 per 10,000) was more than double that of Hispanics (56.49 per 10,000) and more than three times that of non-Hispanic whites (39.98 per 10,000).[xiv] Children had higher rates of asthma ED visits than adults. Florida's youngest children (ages 0-4) had the highest rates at 162.62 per 10,000 population.

Exhibit 10: Asthma ED Visits by Race and Ethnicity Age-Adjusted Rate per 10,000 Population, Florida 2014

Asthma ED Visit Rates per 10,000[xiv]	Rate
FL	60.65
Sex	
Male	63.32
Female	57.74
Race/Ethnicity (Non-Hispanic = NH)	
NH White	39.98
NH Black	125.27
Hispanic	56.49
NH Other	30.71
Age	
0 – 4	162.62
5 – 17	102.62
18 – 34	55.72
35 – 64	37.12
65+	13.49



Source: Environmental Public Health Tracking, 2014

Many risk and behavioral factors complicate asthma management in Florida's children and adults. Environmental pollutants, exposure to secondhand smoke, toxic stress, and exercise may induce asthma symptoms. Improving asthma outcomes requires a multi- sector approach. With proper clinical treatment, education, adherence to medications, and avoidance of triggers, asthma can be controlled, and individuals with asthma can lead normal and active lives.

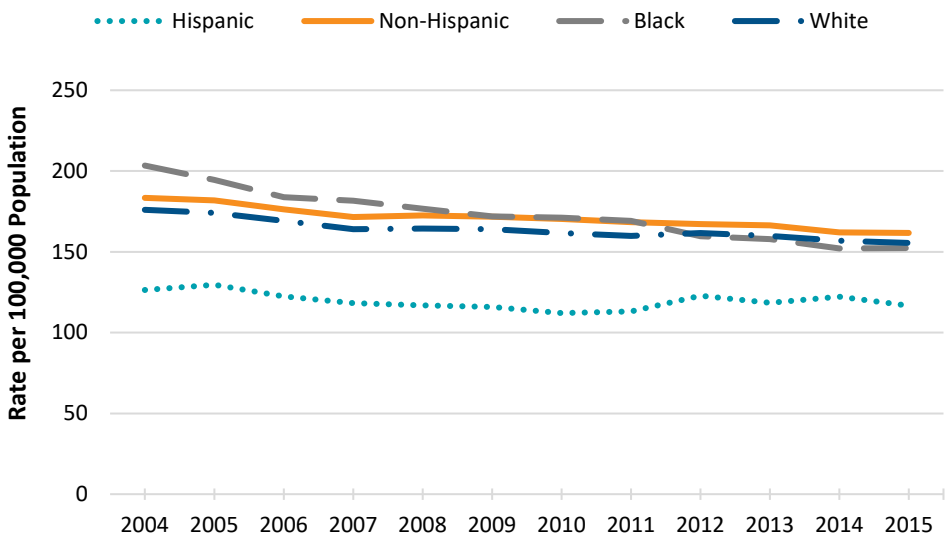
Cancer

Approximately one out of three Americans will develop cancer in their lifetime, and cancer will affect three out of four families. The risk of developing cancer increases with age. As the population ages, more cases of cancer are expected in our communities. Florida ranks second in the nation in newly diagnosed cancer cases and mirrors national trends for the top cancer sites: lung and bronchus, female breast, prostate, and colorectal. Together, these four cancers account for about half of all new cancer cases (2012-2014). Cancer constitutes an enormous economic burden on Floridians, with over $5 billion in hospital charges for inpatient hospital care where cancer is the primary diagnosis. On average, there are over 105,000 new cancer cases diagnosed and reported annually to the statewide cancer registry, the Florida Cancer Data System (FCDS).[xv]

Next to heart disease, cancer was the second leading cause of death in Florida with nearly 44,000 deaths in 2015.[iii] However, cancer outranks heart disease with 1,652.5 years of potential life lost versus 1,070.6 per 100,000 population indicating cancer deaths occur throughout the live span more than with heart disease. Advancing age is the top risk factor for developing cancer. In 2015, cancer was the leading cause of deaths among those ages 45-54, 55-64, 65-74 and 75-84.

Exhibit 11: Cancer Age-Adjusted Death Rate by Race and Ethnicity, Florida, 2004–2015

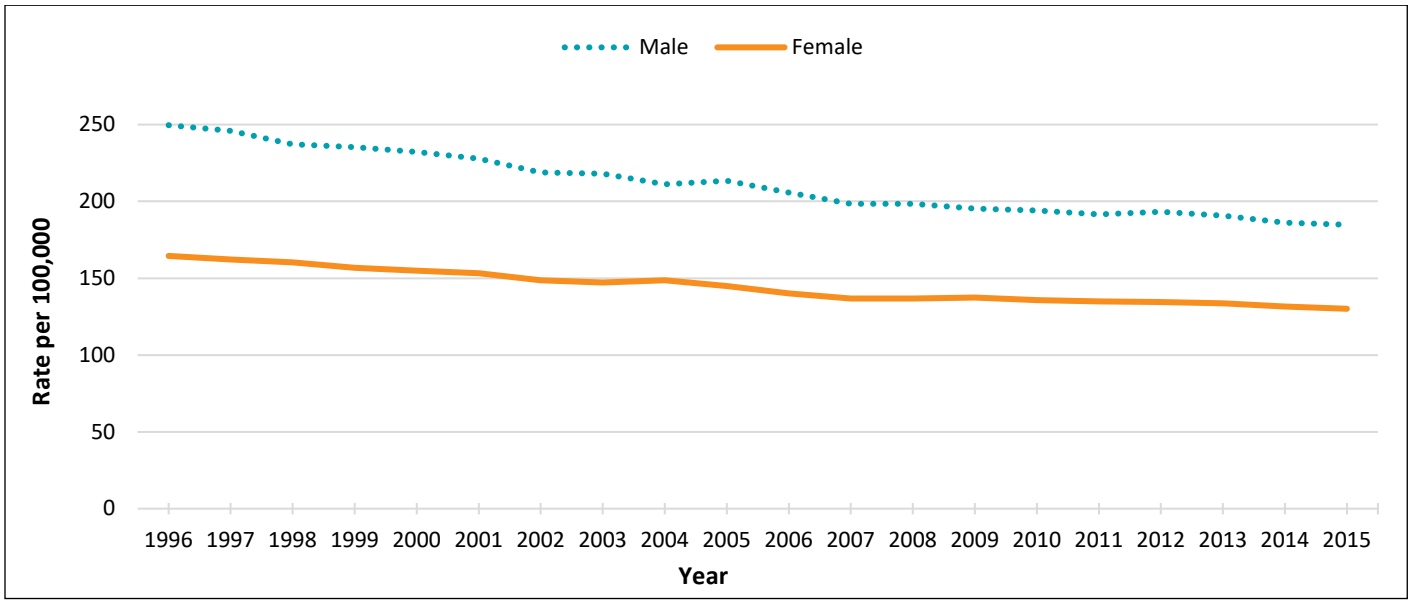
Cancer Age-Adjusted Death Rates per 100,000[iv]	Rate
FL	154.3
Gender	
Male	184.8
Female	130.1
Race/Ethnicity	
White	155.5
Black	152.3
Hispanic	116.6
Non-Hispanic	161.7



Source: Florida Department of Health, Florida Vital Statistics Annual Report, 2016

It is estimated that less than 10% of cancers are caused by environmental exposures. However, those who engage in behaviors such as smoking, poor diet, obesity, heavy alcohol use, sexual and reproductive history and genetic factors are more likely to develop some form of cancer. In contrast, cigarette smoking, a behavior, causes about 30% of cancers. In addition, family history is an important contributor to some types of cancer. Risks for many cancers can be reduced by increasing physical activity, reducing excessive alcohol use, reducing exposure to radiation and environmental toxins such as radon, and eliminating tobacco use in all its forms.

Exhibit 12: Cancer Age-Adjusted Death Rate by Gender, Single Year Rates, Florida 2015



Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Overall cancer death rates have been declining in Florida, and the gap between the white and black rates has been reduced. Hispanic death rates have been consistently lower than the non-Hispanic, white and black rates over time. A large disparity also exists between males (184.8 deaths per 100,000) and females (130.1 deaths per 100,000) despite the decline in the cancer death rate.

Diabetes

Two out of every five Americans are expected to develop Type 2 diabetes during their lifetime. The economic burden for a person with diagnosed diabetes averages $10,970 per year. In Florida, the total cost of diabetes exceeds $19 billion annually. Since early treatment can prevent serious complications, such as loss of eyesight or kidney damage, it is important to find out early if a person has Type 2 diabetes. People with Type 2 diabetes can prevent or delay complications by taking diabetes self-management education (DSME) which is recognized by the American Diabetes Association or accredited by the American Association of Diabetes Educators.

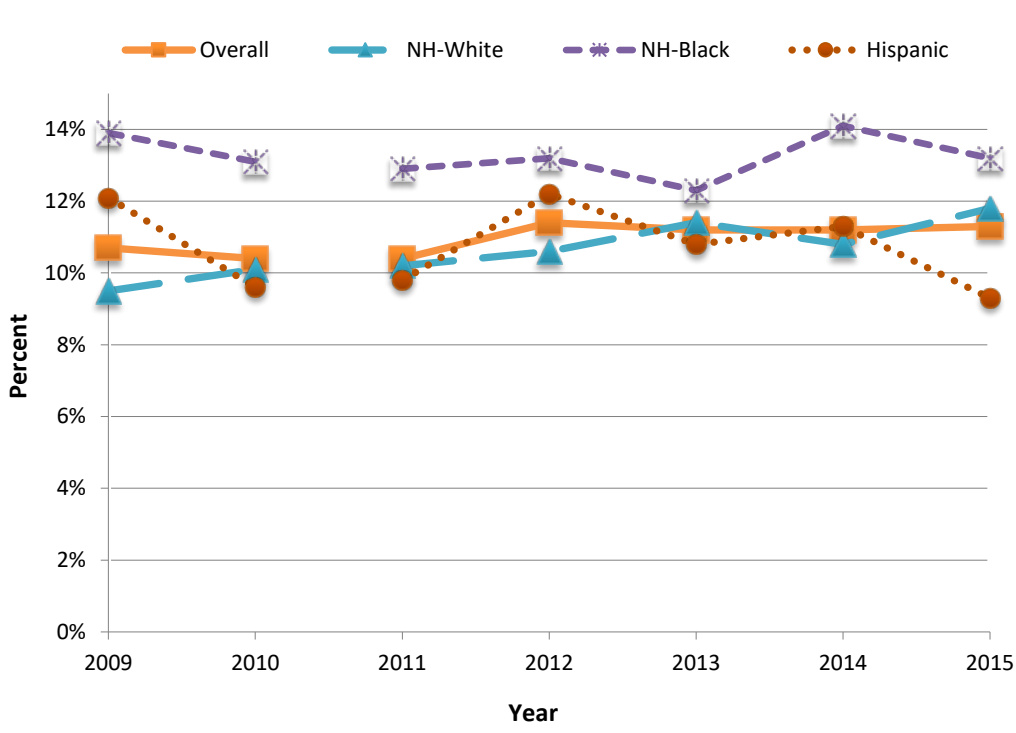
Prediabetes is a serious health condition that increases the risk of developing Type 2 diabetes, heart disease, and stroke. A person with prediabetes has a blood sugar level higher than normal, but not high enough for a diagnosis of diabetes. People with prediabetes are 5 to 15 times more likely to develop Type 2 diabetes than someone with normal blood glucose (blood sugar) levels. It is estimated that 86 million American adults (1 of every 3 U.S. adults) have prediabetes, and half of all Americans aged 65 years and older have prediabetes. However, nine out of ten people with prediabetes don't know they have it.

Some risk factors for diabetes include older age, being overweight, lack of physical activity, and having a family history of diabetes. Certain race and ethnicity groups are at greater risk: African American, Hispanic and Latino, American Indian, Asian American, and Pacific Islanders. Individuals diagnosed with prediabetes, women who develop diabetes while pregnant (gestational diabetes), and women who gave birth to a baby weighing nine pounds or more are also at an increased risk for developing Type 2 diabetes.

In Florida, the prevalence of diabetes among adults increased from 10.4% in 2011 to 11.3% in 2015, but this change was not statistically significant. Due to methodological changes in BRFSS survey, data collected in 2010 and earlier are not comparable to data collected in 2011 and later. In 2015, the prevalence of diabetes did not differ significantly by gender or race/ethnicity overall. However, an interesting pattern emerges when examining prevalence of diabetes by race/ethnicity by gender. Non-Hispanic white males (13.6%) had a statistically significant higher prevalence of diabetes than non-Hispanic white females (10.1%). Conversely, non-Hispanic black females (16.5%) had a statistically significant higher prevalence of diabetes than non-Hispanic black males (9.2%).[xii] Adults with greater than high school education (9.1%) had a statistically significant lower prevalence of diabetes compared to those with high school education (13.0%) and of less than high school education (16.4%)

Exhibit 13: Adults with Diagnosed Diabetes, Florida 2009–2015

Percent of Adults that Have Been Told They Have Diabetes[xii]	Percent
FL	11.3%
US	10.0%
HP2020	7.2%
Sex	
Male	11.7%
Female	10.9%
Race/Ethnicity (Non-Hispanic = NH)	
NH White	11.8%
NH Black	13.2%
Hispanic	9.3%
High School (HS) Education	
<HS	16.4%
HS	13.0%
HS+	9.1%



Source: Behavioral Risk Factor Surveillance System, 2015

Disability

A disability is any condition of the body or mind that limits activity or restricts participation between the person with the condition and the world around them. During the past 40 to 50 years there have been numerous changes with respect to the management and treatment of people with disabilities. As health care improved, many of the once acute and fatal conditions become chronic and manageable. Many institutions for people with developmental disabilities closed. As a result, most of these individuals live in the community and depend upon community-based services and health care. Approximately 52 million Americans have some type of disabling condition that affects their vision, movement, thinking, memory, learning, communication, hearing, mental health, and social relationships. Examples are cerebral palsy, mental retardation, depression, spinal cord injury, visual impairment, arthritis, and muscular dystrophy, to name a few.

To minimize disabilities, newborn screening identifies issues early in life by diagnosing and managing newborns at risk for many disorders that, without detection and treatment, could lead to permanent developmental and physical damage. Early Steps programs throughout Florida provide early intervention services to children from birth to 36 months who have significant developmental delays or a condition likely to result in a developmental delay. For those of school age, Exceptional Education and Student Services coordinates student services and inter-agency efforts that augment opportunities available to the approximately 13% of Florida's students with special needs. The ACS estimates that Florida has over 200,000 adults (ages 18-64) with independent living difficulties and, among those over age 65, another 14% of the population is affected.[x]

While not all disabilities are avoidable, efforts to prevent disability are paramount. According to the Centers for Disease Control and Prevention, each year in the U.S. 80,000 to 90,000 people experience a traumatic brain injury resulting in long-term or lifelong disability. Millions of Americans ride bicycles, but less than half wear bicycle helmets. The National Stroke Association estimates that about 80% of strokes can be prevented through lifestyle changes and health care interventions. These examples underscore the significance of preventing unintentional injuries and chronic diseases as important strategies in preventing disability.

Healthy Weight

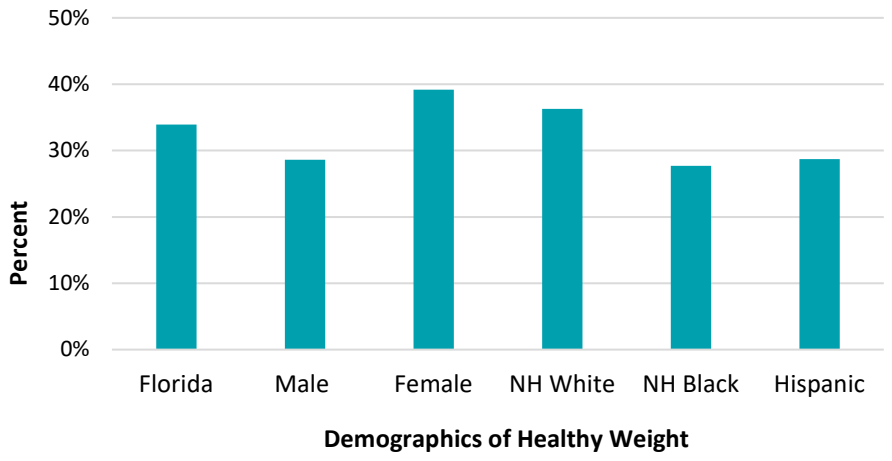
Across the nation, obesity has become a persistent public health threat; currently, more than one-third of adults (36.5%) are obese.[xvi] Obesity is one of the biggest drivers of preventable chronic diseases and healthcare costs in the U.S. Currently, estimates for these costs range from $147 billion to nearly $210 billion per year.[xvii] Obese individuals are at a greater risk for developing serious health conditions including Type 2 diabetes, heart disease, hypertension, stroke, and certain types of cancer. Achieving and maintaining a healthy weight by eating well and being physically active lowers risk of developing these health conditions.[xvi]

The weight status of Florida adults has remained relatively stable over the past four years. In 2015, more than three out of five adults were overweight or obese (64.1%), and approximately one out of three adults (33.9%) were at a healthy weight.[iii] Females (39.2%) had a statistically significant higher prevalence of being at a healthy weight compared to males (28.6%). Healthy weight prevalence also differs statistically significantly by race/ethnicity with 36.3% of non-Hispanic whites at a healthy weight compared to 27.7% of non-Hispanic blacks and 28.7% of Hispanics.[xii]

Exhibit 14: Adults at A Healthy Weight, Florida 2015

Percent of Adults at a Healthy Weight[xii]	Percent
FL	33.9%
US	32.7%
HP2020*	33.9%
Sex	
Male	28.6%
Female	39.2%
Race/Ethnicity (Non-Hispanic = NH)	
NH White	36.3%
NH Black	27.7%
Hispanic	28.7%
High School (HS) Education	
<HS	29.4%
HS	31.2%
HS+	36.4%

**HP2020 uses a different data source*

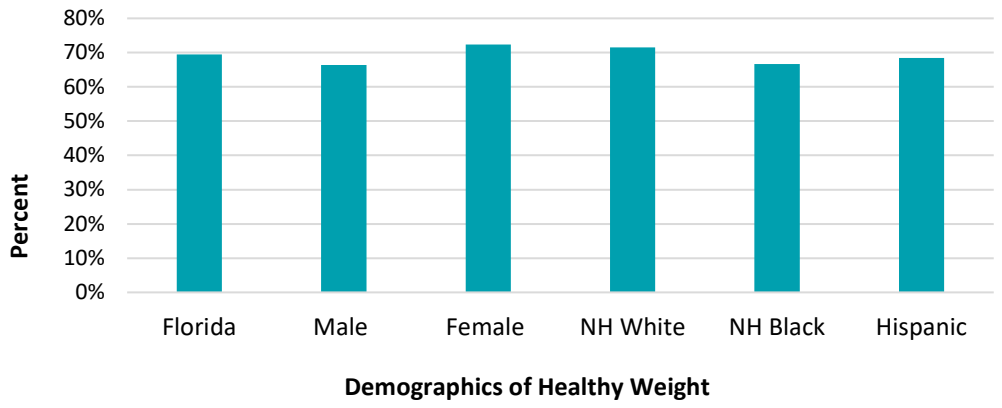


Source: Behavioral Risk Factor Surveillance System, 2015

Like adults, the weight status of public high school students in Florida has remained relatively stable over the past five years. In 2015, more than one out of four adolescents were overweight (14.5%) or obese (12.3%), and approximately seven out of 10 adolescents (69.4%) were at a healthy weight.[xviii] Gender differences in healthy weight among public high school students are less striking than among adults yet follow similar trends. In 2015, Florida public high school females (72.4%) had a higher prevalence of healthy weight than their male counterparts (66.4%). In addition, 71.5% of non-Hispanic white public high school students were at a healthy weight compared to 66.7% of non-Hispanic black students, and 68.4% of Hispanic students in 2015.[xviii]

Exhibit 15: High School Students at a Healthy Weight, Florida 2015

Percent of High School Students at a Healthy Weight[xviii]*	Percent
FL	69.4%
Sex	
Male	66.4%
Female	72.4%
Race/Ethnicity (Non-Hispanic = NH)	
NH White	71.5%
NH Black	66.7%
Hispanic	68.4%



* Note: Similar US data not available

Source: Florida Youth Risk Behavior Survey, 2015

These rates indicate a contrast among genders and ethnicities, and illustrate the need for increased public health focus on lessening health disparities. Behavioral risk factors for developing obesity include unhealthy diet and sedentary lifestyle. Healthy lifestyle behaviors taught during childhood would solidify healthy choices throughout the lifespan. Because of the high rates of obesity in adults and youth in Florida and nationally, prevention strategies are imperative to change health behaviors, most importantly, increasing physical activity, consuming heathy foods, and achieving and maintaining a healthy weight.[xvi, xvii, xviii]

Heart Disease

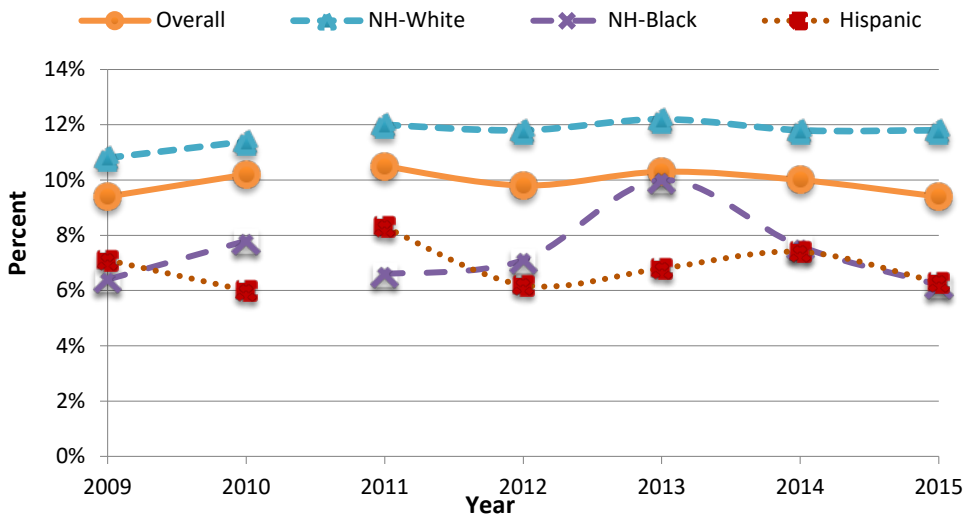
Cardiovascular disease (CVD) is the leading cause of death for both men and women in the U.S. and in Florida. CVD includes conditions such as atherosclerosis, heart attack, ischemic stroke, heart failure, arrhythmia, heart valve problems, and coronary heart disease (CHD). About 610,000 people die of heart disease in the U.S. every year. Approximately 370,000 of those deaths result from CHD, which is the most common type of heart disease in the U.S.[xix] Heart disease and stroke accounted for more than $500 billion in health care expenditures and related expenses in the year 2010 alone. In 2015, there were 60,632 deaths due to major cardiovascular diseases in Florida, accounting for about three out of ten deaths.[iii] However, heart disease and associated risk factors are often controllable and mostly require inexpensive lifestyle modifications. According to CDC, about half (47%) of all Americans have at least one of the three key risk factors for heart disease: high blood pressure, high cholesterol, and smoking.[xix] In Florida, 15.8% of adults reported that they are current smokers, 38.8% of adults reported that they have high cholesterol, and 33.5% of adults have been told they have high blood pressure.[iii] Other risk factors for heart disease include age, gender, family history and race/ethnicity. These factors are not modifiable, but through the proper treatment as prescribed by a physician, the risk of developing heart disease would decrease significantly.

In Florida, the prevalence of heart disease, heart attack, or stroke among adults decreased from 10.2% in 2011 to 9.4% in 2015, but this change was not statistically significant. Due to methodological changes in BRFSS survey, data collected in 2010 and earlier are not comparable to data collected in 2011 and later. In 2015, males (10.6%) had a statistically significant higher prevalence of heart disease, heart attack, or stroke than females (8.3%). Non-Hispanic whites had a statistically higher prevalence of heart disease, heart attack, or stroke (11.8%) when compared to non-Hispanic blacks (6.2%) and Hispanics (6.3%).[xii] Higher prevalence of these conditions has consistently been observed among non-Hispanic whites and has remained constant as shown in Exhibit 16. The data below suggest

that the CVD prevalence for Hispanics increased in 2013 when compared to other races. Heart disease prevalence among non-Hispanic blacks increased from 2011 to 2013, then declined in 2014 and 2015.[xii]

Exhibit 16: Prevalence of Heart Disease, Heart Attack or Stroke in Florida 2009–2015

Prevalence of Coronary Heart Disease, Heart Attack, or Stroke[xii]	Percentage
FL	9.4%
Sex	
Male	10.6%
Female	8.3%
Race/Ethnicity (Non-Hispanic = NH)	
NH White	11.8%
NH Black	6.2%
Hispanic	6.3%
High School (HS) Education	
<HS	13.2%
HS	10.9%
HS+	7.7%



Source: Behavioral Risk Factor Surveillance System, 2015

Injuries

The major categories of injury are unintentional and intentional. Unintentional injuries include those that result from motor vehicle collisions, falls, fires, poisonings, drownings, suffocation, chokings, and recreational and sports-related activities. Intentional injuries result from interpersonal or self-inflicted violence, and include homicide, assaults, suicide and suicide attempts, child abuse and neglect (including child sexual abuse), intimate partner violence, elder abuse, and sexual assault.

In 2015, unintentional injuries were the single leading cause of death for Florida residents ages 1 – 44. Unintentional injury was the fifth leading cause of death overall claiming 10,346 lives and accounting for 5.4% of all resident deaths.[iii] In Florida, falls accounted for the largest number of unintentional injury deaths (2,870 deaths; 27.7% of all unintentional injury deaths), closely followed by motor vehicle related deaths (2,861 deaths; 27.7% of all unintentional injury deaths) and poisonings (2,748 deaths; 26.6% of unintentional injury deaths). Drownings and suffocation were notable causes as well, both at about 4% of unintentional injury deaths with 456 and 420 deaths respectively. According to the most recent national injury data in 2014, Florida's age-adjusted unintentional injury death rates by type of injury were higher than the national rates, excluding poisoning.

In 2015, suicide was the 10th leading cause of death in Florida, accounting for 3,152 deaths. Homicide, ranked 17th, accounting for 1,185 deaths. Age-adjusted death rates from suicide and homicide exceed national rates.[xx] Exhibit 17 compares Florida's age-adjusted injury death rates with the most populous states and the U.S.[xx]

Exhibit 17: Injury Age-Adjusted Death Rates per 100,000 Population, U.S. and Five Largest States, 2014

	U.S.	FL	CA	TX	NY	IL	Percent Difference FL vs. U.S.
Injury Deaths, Unintentional Causes							
All Unintentional Injuries	40.37	**41.22**	29.08	37.23	27.47	34.19	**+2.11%**
Poisonings	13.11	**11.97**	10.08	8.68	10.26	11.99	**-8.7%**
Motor Vehicle Injuries, overall	10.76	**12.38**	8.56	13.74	5.50	8.02	**+15.1%**
Falls	8.74	**9.43**	5.69	7.77	6.52	7.29	**+7.9%**
Drownings (Ages 1–4)	2.44	**6.90**	2.48	2.04	*1.27	*2.68	**+182.8%**

Injury Deaths, Intentional Causes							
Suicides	12.93	**13.84**	10.46	12.18	8.09	10.43	**+7.0%**
Homicide/Legal Intervention	5.19	**6.35**	4.83	5.27	3.39	6.32	**+22.4%**

**=rate based on less than 20 deaths*

Source: CDC Injury Prevention & Control: Data & Statistics (WISQARS): Fatal Injury Data

Mental and Behavioral Health

The World Health Organization defines mental health as a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and can contribute to his or her community.[xxi] Positive mental health is associated with improved health outcomes. On the other hand, mental illness, or behavioral disorders, is characterized by alterations in thinking, mood, behavior, or a combination of the three, and is associated with distress and/or impaired functioning. Depression is the most common type of mental illness. Other behavioral disorders include substance use disorders, bipolar disorder, post-traumatic stress disorder (PTSD), anxiety disorders, and more. Behavioral disorders increase the risk of many of the major causes of death in Florida, but they are medical conditions that people can recover from.

In Florida, about 422,000 individuals aged 12 or older (2.6% of all individuals in this age group) per year in 2009–2013 were dependent on or abused illicit drugs within the year prior to being surveyed. The percentage did not change significantly over this period. The vast majority (about 85-90%) do not receive treatment.

Approximately 17% of adults experience any form of mental illness in a year and 4% experience a serious mental illness. Of those who experience any form of mental illness, only 36% receive treatment or counseling. Approximately 9% of children experience a major depressive episode; only 30% of those receive treatment or counseling. Approximately 73% of non-Hispanic whites with serious mental illness received mental health treatment or counseling in the past year, compared to 62% of Hispanics and 54% of blacks.[xxii] Untreated mental disorders account for 13% of the total global burden of disease. Current predictions indicate that by 2030, depression will be the leading cause of disease burden globally.[xxi]

Infectious and Reportable Diseases

Every year, thousands of Floridians are infected with HIV, viral hepatitis, sexually transmitted diseases (STDs), tuberculosis (TB), or other reportable disease, and over 1,000 people die from the infections. Most of these diseases share common traits from modes of transmission to demographic, social, and economic conditions that increase risk. Yet several infectious diseases, such as influenza, pneumonia, hepatitis A and B, measles and varicella, are vaccine-preventable.

The financial burden of these diseases on the health care system is substantial. For example, the lifetime treatment costs of HIV in 2010 (the most recent data available) is $379,668 per case.[xxiii] New, shorter course hepatitis C drugs can range from $84,000 to $168,000, depending on the length of time needed to clear the virus. These treatments can be debilitating with severe side effects and, in the case of HIV, require lifelong compliance.

Though many infectious and reportable diseases are on the decline, many affect populations disproportionately or are increasing in certain populations. For example, overall, there has been a 14% decrease in newly diagnosed HIV infection cases over the past 10 years. However, black adults are disproportionately affected by HIV and AIDS. In Florida, the rate of AIDS cases per 100,000 persons was 11.2 overall, with a rate of 4.8 among non-Hispanic whites compared to 36.9 for non-Hispanic blacks in 2015. Rates of some sexually transmitted diseases have increased: infectious syphilis from 2.5 per 100,000 population in 1996 to 10.5 in 2015 and chlamydia from 168.7 in 1996 to 456.4 in 2015. Gonorrhea rates decreased from 130.5 per 100,000 in 1996 to 121.8 in 2015. Tuberculosis case rates have also declined from 9.3 per 100,000 population in 1997 to 3.0 in 2015.

Human Immunodeficiency Virus (HIV)

Assessing the local HIV epidemic is an important step in community planning for HIV prevention and HIV/AIDS patient care. The HIV prevalence estimate is the estimated number of persons living with HIV infection, which includes those living with a diagnosis of HIV or AIDS and those who may be infected but are unaware of their serostatus. Per recent estimates published by CDC, more than 1.2 million people are currently living with HIV infection in the U.S.[xxiv] Florida has consistently reported between 10% and 12% of the national AIDS morbidity and currently accounts for 12% of all persons living with AIDS in the U.S. There are nearly 112,000 persons diagnosed and living with HIV in Florida through 2015. The Florida Department of Health now estimates that at least an additional 12.4% of persons are unaware of their HIV status.[xxv]

Florida has a larger proportion of HIV infected women (28%) compared to the U.S. (24%). By race/ethnicity, Florida has a larger proportion of infected non-Hispanic blacks (47%) compared to the U.S. (42%). By mode of exposure, Florida has a smaller proportion of HIV infected men who have sex with men (MSM) (49% vs. 53%) and persons exposed via injection drug use (IDU) (8% vs. 14%). However, Florida has a larger proportion of cases with heterosexual contact (37% vs. 26%). By age group, Florida has a larger proportion of persons living with HIV infection older than the age of 50 (49% vs. 45%).

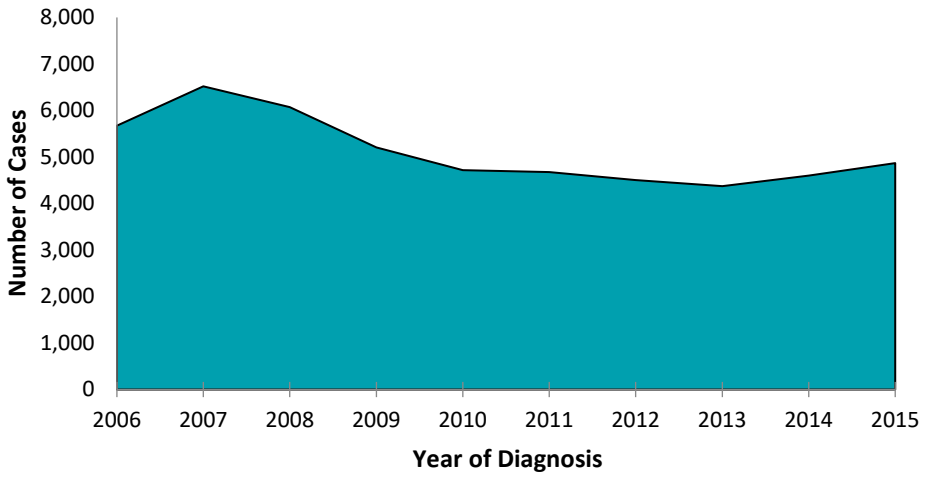
Overall, newly diagnosed HIV infection cases have decreased 14% over the past 10 years. Enhanced laboratory reporting (ELR) laws in 2006 and the expansion of ELR in 2007 led to an artificial peak in newly diagnosed cases of HIV infection in 2008. This was followed by a general decline in diagnosed cases through 2013. An increase in new HIV infection cases, primarily among non-Hispanic white, non-Hispanic black, and Hispanic MSM was observed in both 2014 and 2015.

In 2015, a total of 3,826 males and 1,027 females ages 13 and older (adult cases) were diagnosed with HIV infection. In 2015, 79% of these cases were male, compared to 71% in 2006. From 2006 to 2015, the proportion of HIV infection cases among men has increased with a corresponding decrease among women. The result is an increase in the male-to-female HIV case ratio, from 2.4:1 in 2006 to 3.7:1 in 2015. The relative increase in male HIV cases might be attributed to proportional increases in HIV transmission among MSM.

Differences between the proportional distributions of populations living with HIV infection in Florida as compared to the U.S. are noted in Exhibit 18.

Exhibit 18: HIV Infection Cases by Year of Diagnosis, Florida 2006–2015

Cases Diagnosed in 2015 by Selected Demographics and Risk Factors in the U.S. and Florida[1, 2]		
	U.S.	FL
N=	39,513	4,868
Sex		
Male	81%	79%
Female	19%	21%
Race/Ethnicity (Non-Hispanic = NH)		
NH White	27%	25%
NH Black	45%	42%
Hispanic	23%	31%
NH Other[3]	5%	2%
Age at Diagnosis		
Age <13	<1%	<1%
Age 13–29	41%	36%
Age 30–49	41%	43%
Age 50+	17%	21%
Mode of Transmission		
MSM	67%	62%
IDU	6%	4%
MSM/IDU	3%	2%
Heterosexual	24%	32%
Other[4]	<1%	<1%



[1] Source: U.S. data: HIV Surveillance Report, 2015 (most recent available) Vol. 27, Table 18a (HIV data for all 50 states) http://www.cdc.gov/hiv/topics/surveillance/resources/reports/index.htm

[2] Source: Florida data: FL Department of Health, HIV/AIDS Section, alive and diagnosed through 2015, as of 06/30/2016.

[3] Other includes American Indian/Alaska Native, Asian/Pacific Islander, and multi-racial individuals.

[4] Other includes hemophilia, transfusion, perinatal, other pediatric risks and other confirmed risks.

Source: Florida Department of Health, HIV Data Center, alive and diagnosed through 2015, as of 06/30/2016

A greater proportion of HIV infection cases diagnosed in 2015 were among those aged 20–29 (32%), followed by those aged 30–39 (24%). Over the past 10 years, the proportion of newly-diagnosed adult HIV cases has increased 11% for the 20–29 age group and a 3% for those aged 50 and older. Non-Hispanic blacks comprise only 15% of the population age 13 and older in Florida, but represent 42% of adult HIV infection cases. Similarly, Hispanics comprise 23% of Florida's adult population, yet account for 31% of the HIV infection cases. From 2006 to 2015, the proportion of adult HIV cases increased by 10% among Hispanics.

Mode of Transmission: From 2006 to 2015, MSM remained as the primary mode of exposure among adult male HIV infection cases in Florida, followed by heterosexual contact. The number of adult males infected with HIV via MSM contact increased by 14% from 2006 to 2015. In contrast, the number of adult males infected with HIV via heterosexual contact decreased by 29% over the same timeframe.

Over the past 10 years, heterosexual contact continues to be the primary mode of exposure among adult female HIV infection cases in Florida, followed by IDU. The number of adult females infected with HIV via heterosexual contact decreased by 36% from 2006 to 2015. Similarly, the number of adult females infected with HIV via IDU decreased by 52% over the same timeframe.

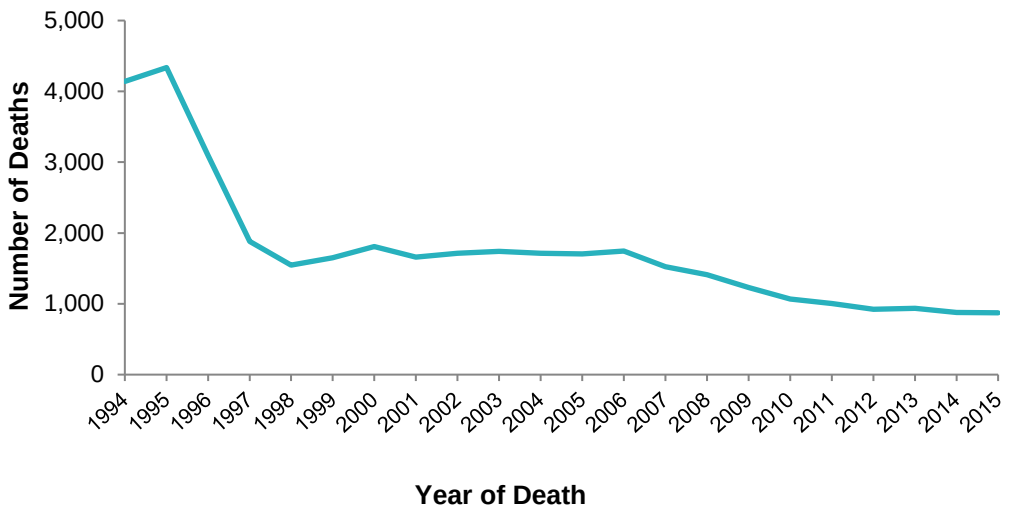
Mortality: HIV/AIDS deaths decreased markedly from 1996–1998 after the advent of highly active anti-retroviral therapy in 1996. A leveling of the trend since 1998 may reflect factors such as viral resistance, late diagnosis of HIV, adherence problems, and lack of access to or acceptance of care. Overall, there has been an 80% decline in the number of Florida resident deaths due to HIV disease from 1995 (the peak of resident HIV-related deaths) to 2015. Since 2007, deaths have maintained a downward trend. Per the Florida Bureau of Vital Statistics, for persons 25–44 years of age, in 2015:

- HIV is the 6th leading cause of death overall (same as 2014)
  - HIV is the 6th leading cause among males
  - HIV is the 5th leading cause among females
- HIV is the 9th leading cause among whites (same as 2014)
- HIV is the 4th leading cause among blacks (up from 5th in 2014)
- HIV is the 8th leading cause of death among Hispanics (down from 7th in 2014)

Exhibit 19: Resident Deaths Due to HIV Disease, by Year of Death, 1994–2015, Florida

Resident Deaths due to HIV in 2015, Florida

Race/Ethnicity (Non-Hispanic = NH)	Count	Rate
NH White Male	209	3.9
NH White Female	46	0.8
NH Black Male	281	18.9
NH Black Female	197	12.3
Hispanic Male	107	4.5
Hispanic Female	19	0.8
NH Other[1]	14	1.6



[1]Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and Multi-racial individuals.

Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 06/20/2016); Population data are provided by Florida CHARTS as of 06/20/2016

Sexually Transmitted Diseases

Sexually transmitted diseases (STDs) may be spread by anal, vaginal, or oral sex, and sometimes from mother to child during pregnancy or delivery.

Chlamydia: Chlamydia is the most commonly reported STD in Florida and the U.S. Incidence is highest among 15 to 24-year-old women (partly due to emphasis on screening and treating women) and in the black population. Severe complications can occur in women, including pelvic inflammatory disease, infertility, and ectopic pregnancies (16 cases of *chlamydia ophthalmia neonatorum* diagnosed in newborns are not included in summary table).

Exhibit 20: Summary of Chlamydia Case Demographics, 2015[iii]

Summary		
Number of cases		90,633
Incidence rate (per 100,000)		456.3
Change from 5-year average incidence		+11.2%
Age (in years)		
Mean		24
Median		22
Min-max		3–98
Gender	**Number (Percent of Known Value)**	**Rate per 100,000**
Female	62,166 (68.6)	612.9
Male	28,385 (31.4)	292.2
Unknown gender	87	
Race	**Number (Percent of Known Value)**	**Rate per 100,000**
NH White	20,973 (38.6)	190.0
NH Black	32,553 (60.0)	1,051.2
Other	773 (1.4)	74.5
Unknown race	19,644	
Ethnicity	**Number (Percent of Known Value)**	**Rate per 100,000**
Non-Hispanic	56,164 (80.2)	374.3
Hispanic	13,863 (19.8)	285.6
Unknown ethnicity	20,568	

Source: Florida Department of Health, Bureau of STD Prevention and Control, 2015

Gonorrhea: Gonorrhea is caused by the *Neisseria gonorrhoeae* bacteria and is frequently asymptomatic, but may produce symptoms such as abnormal discharge from the vagina or penis or a burning sensation when urinating. The incidence of gonorrhea is highest among 20–24-year-olds, followed by 15–19-year-olds. Although incidence increased nationally from 2013 to 2014, Florida case rates decreased slightly. A shift in treatment guidelines and recommendations for screening women under 25 years of age likely contributed to the long-term decrease in cases (1 case of *gonorrhea ophthalmia neonatorum*, diagnosed in newborns is not included in summary table).

Exhibit 21: Summary of Gonorrhea Case Demographics, 2015[iii]

Summary		
Number of cases		24,186
Incidence rate (per 100,000)		121.8
Change from 5-year average incidence		+15.3%
Age (in years)		
Mean		27.7
Median		25
Min-max		0–87
Gender	**Number (Percent of Known Value)**	**Rate per 100,000**
Female	10,100 (41.8)	99.6
Male	14,079 (58.2)	144.9
Unknown gender	7	
Race	**Number (Percent of Known Value)**	**Rate per 100,000**
NH White	5,766 (32.4)	52.2
NH Black	11,866 (66.7)	383.2
Other	167 (0.9)	16.1
Unknown race	1,863	
Ethnicity	**Number (Percent of Known Value)**	**Rate per 100,000**
Non-Hispanic	18,189 (86.7)	121.2
Hispanic	2,797 (13.3)	57.6
Unknown ethnicity	3,190	

Source: Florida Department of Health, Bureau of STD Prevention and Control, 2015

Syphilis: Syphilis is separated into early syphilis, infections of less than one year duration, and late syphilis or late latent syphilis, infections diagnosed more than one year after infection. Cases of early syphilis may be either infectious or latent. Rates are higher in men than in women. MSMs have a higher incidence of early syphilis than men who do not and are also more likely to be co-infected with HIV. (Thirty-eight cases of congenital syphilis are not included in the summary table.)

Exhibit 22: Summary of Syphilis Cases Demographics, 2015*[iii]

Summary		
Number of cases		7,118
Incidence rate (per 100,000)		35.8
Change from 5-year average incidence		+45.1%
Age (in years)		
Mean		36
Median		34
Min-max		0–95
Gender	**Number (Percent of Known Value)**	**Rate per 100,000**
Female	1,139 (16.2)	11.2
Male	5,979 (83.8)	61.5
Unknown gender	1	
Race	**Number (Percent of Known Value)**	**Rate per 100,000**
NH White	1,835 (43.7)	16.6
NH Black	2,299(54.8)	74.23
Other	64(1.5)	6.2
Unknown race	627	
Ethnicity	**Number (Percent of Known Value)**	**Rate per 100,000**
Non-Hispanic	4,285 (65.6)	28.5
Hispanic	2,249 (34.4)	46.3
Unknown ethnicity	587	

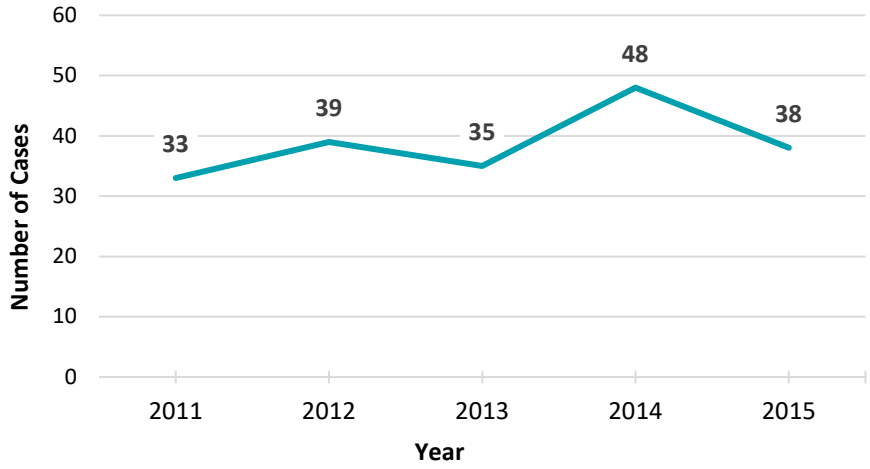
*Cases include infectious, early latent, and late latent syphilis.

Source: Florida Department of Health, Bureau of STD Prevention and Control, 2015

Congenital Syphilis: Increases in the number of reported syphilis cases among the heterosexual population has had an impact on congenital syphilis. Congenital syphilis in Florida has increased over the last five years with 38 cases reported in 2015. Congenital syphilis can have fatal outcomes and cause miscarriage, stillbirth, or death shortly after birth. Over the last five years, there have been 13 cases of fetal and infant death in the state associated with untreated syphilis in the mother.

Exhibit 23: Congenital Syphilis Cases in Florida by Year, 2011–2015

2015 Congenital Syphilis Rates per 100,000 Live Births	
Rate	
FL	16.9
US	12.4
Rank	6
Sex	
Male	20
Female	17
Race/Ethnicity (Non-Hispanic = NH)	
NH White	8
NH Black	21
Hispanic	6



Source: US data: CDC Division of STD Prevention, 2015; Florida Data: Florida Department of Health, Bureau of STD Prevention and Control, 2015

Tuberculosis

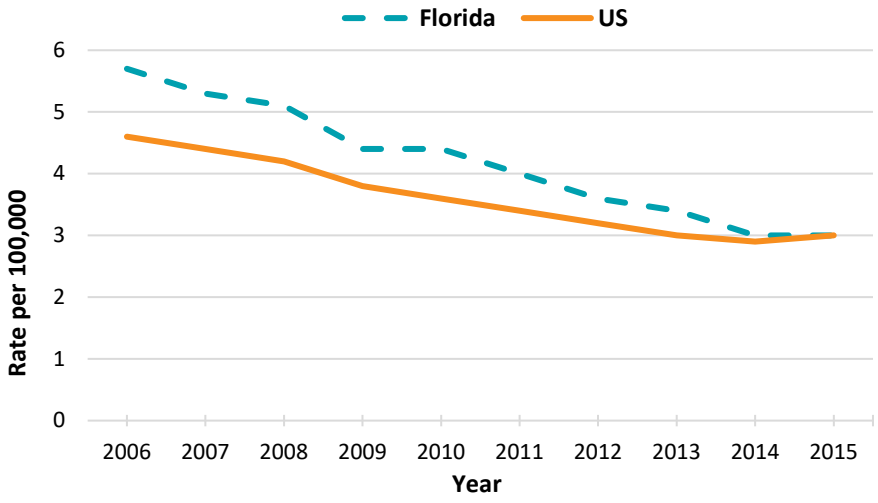
TB is a preventable, treatable, and curable disease. *Mycobacterium tuberculosis* is the bacteria that causes TB. TB is transmitted by breathing the same air as someone with active disease while that person is infectious. Only TB of the lungs or larynx is infectious. The risk of infection is influenced by the infectiousness of the person with TB and the duration and proximity of exposure. People with sputum smear-positive TB, cavitation on chest x-ray, and cough are most likely to spread infection. The longer and closer the exposure, the higher the risk of infection. The environment in which the exposure occurs also impacts the likelihood of infection. Exposure in poorly-ventilated areas is most likely to result in infection.

The risk of progression from latent TB infection (LTBI) to active TB disease is increased in persons with a compromised immune system. Progression is most likely in young children, the elderly, and those with medical conditions (for example, HIV/AIDS) or on treatments (for example, tumor necrosis factor antagonists) that weaken the immune system.

TB incidence decreased by 5.8% in Florida over the past five years, from 678 cases in 2012 to 639 cases in 2016, despite an increase of 1.2% in 2015 and 6.1% in 2016 from an historic low of 595 cases in 2014.

Exhibit 24: TB Case Rates per 100,000 Population, U.S. and Florida

TB Case Rates per 100,000 Population	
Rate	
FL	3.0
US	3.0
Rank	9
Sex	
Male	3.8
Female	2.3
Race/Ethnicity (Non-Hispanic = NH)	
NH White	1.1
NH Black	7.3
Hispanic	3.6



Source: Centers for Disease Control and Prevention (CDC); Florida Department of Health, Division of Disease Control and Health Protection, Tuberculosis Section, 2015; American Fact-Finder, 2015

In 2015, for the first time since formal TB reporting began in 1993, the TB case rate in Florida did not exceed the case rate of the U.S. The 2015 TB case rate was 3.0 in Florida, matching that of the U.S., ranking Florida ninth among all reporting areas. The case rate for men in Florida was higher than for females and for all cases was highest among non-Hispanic blacks.

In 2016, non-Hispanic blacks accounted for 35% of all TB cases in Florida, followed by 26% in Hispanics, 22% in non-Hispanic whites, and 17% in the Asian/Pacific islander population. In the foreign-born population, Hispanics accounted for 39% of all TB cases, followed by non-Hispanic blacks at 28%, Asian/Pacific islanders at 25%, and non-Hispanic whites at 7%. In the U.S.-born population, non-Hispanic blacks accounted for 46% of all TB cases, followed by non-Hispanic whites at 47%, Hispanics at 4%, and Asian/Pacific islanders at 3%.

From 2012 to 2016, 20 county health departments (CHDs) reported 25 or more TB cases, 26 reported between 6–24 cases, 16 reported 5 or fewer cases, and 5 reported no cases of TB. In 2016, 50 CHDs reported TB, but only 14 reported 10 or more cases.

Contact investigation is essential to any effective TB prevention and control program. From 2012–2016, Florida's CHDs identified 16,605 contacts to potentially infectious TB. Of these, 2,759 (16.6%) were diagnosed as having LTBI. These recently-infected contacts are at high risk for progression to active disease within the next two years unless preventive treatment is initiated and completed. Contact investigation has also proven to be an effective case-finding activity. Over this five-year period, 242 previously undiagnosed

TB cases, or 7.6% of 3,165 total cases reported, were identified because of contact investigation, limiting the spread of the disease in the community.

Vaccine-Preventable Diseases

Before vaccines, many people died from diseases that vaccines now prevent, such as whooping cough, measles, and polio. Since the introduction of vaccines, there has been a 99% reduction in most vaccine-preventable diseases (VPDs). Immunization is the most cost-effective and widely used public health and safety intervention available. Wide usage of vaccinations has significantly decreased the spread of VPDs that historically resulted in severe morbidity and mortality rates among the most vulnerable populations. Routine childhood immunizations from 1994-2013 saved taxpayers an estimated $295 billion in medical costs.[xxvi]

The refusal to vaccinate increases the risk of mortality among vulnerable populations including infants too young to be immunized, individuals who are immunocompromised due to disease or medication, and those who can't be immunized due to medical contraindications (e.g., severe allergy to vaccine component). For example, pertussis infection can be deadly among newborns since they cannot receive the Diphtheria, tetanus, and acellular pertussis (DTaP) vaccine until age 2 months. Therefore, the Advisory Committee on Immunization Practices has recommended the administration of one dose of combined tetanus, diphtheria, and pertussis (Tdap) vaccine to pregnant women during each pregnancy (preferably between 27-36 weeks gestation) to provide temporary protection to the newborn and the period prior to age 2 months.[xxvii]

Influenza

Each week, influenza and influenza-like illness (ILI) kills 23 people over age 65, admits two pregnant women to the Intensive Care Unit (ICU), and sends more than 1,000 children to the Emergency Department (ED). In children under age five, ILI is responsible for over 55,000 ED visits annually and over $20,000/day ($7 million each year) in productivity lost. In adults over age 65, it is responsible for more than 12,500 ED visits annually.[xxviii]

Those at risk for severe outcomes and death include children under age 5 and adults over 65, those with comorbidities (other illness or disease), pregnant women, those who are not vaccinated, and those without access to health care or antiviral medications. Florida has the highest proportion of people over age 65 in the U.S. as well as a large proportion of individuals with chronic respiratory, cardiovascular, or neurological diseases. Florida ranks last in vaccinating its pregnant women against influenza. In Florida, over 50% of pregnant women are eligible for Medicaid. Compared to non-Medicaid receiving pregnant women, Medicaid receiving pregnant women are twice as likely to be seen in a hospital emergency department with influenza like illness and, if hospitalized, are twice as likely to incur ICU-level charges.

Pregnancy and Birth Outcomes

Pregnancy and birth outcomes, such as fetal and infant mortality, preterm and low birthweight births, and pregnancy-related maternal deaths are primary indicators of population health.[i,v] Other adverse health issues, such as those identified by newborn metabolic and developmental screening, also serve as measures of the future health of populations. For example, due to the rising misuse of opioids, screening for neonatal abstinence syndrome has recently been brought into the public health spotlight.

A pregnancy is considered full term when gestation lasts from 37 to 42 weeks. Low birthweight (LBW) means a child was born weighing less than 2,500 grams (5 pounds, 8 ounces). Infants born earlier than 37 weeks (preterm) or with low birthweight face many challenges. Their bodies and nervous systems may not have fully developed which can cause complications such as breathing problems. Both preterm birth and low birthweight are associated with greater risk of infant mortality. For surviving infants, preterm birth and low birthweight are associated with a significantly increased risk of morbidity, including developmental delay, vision problems, hearing impairment, neurodevelopmental disabilities, cerebral palsy, and respiratory disorders.[xxix]

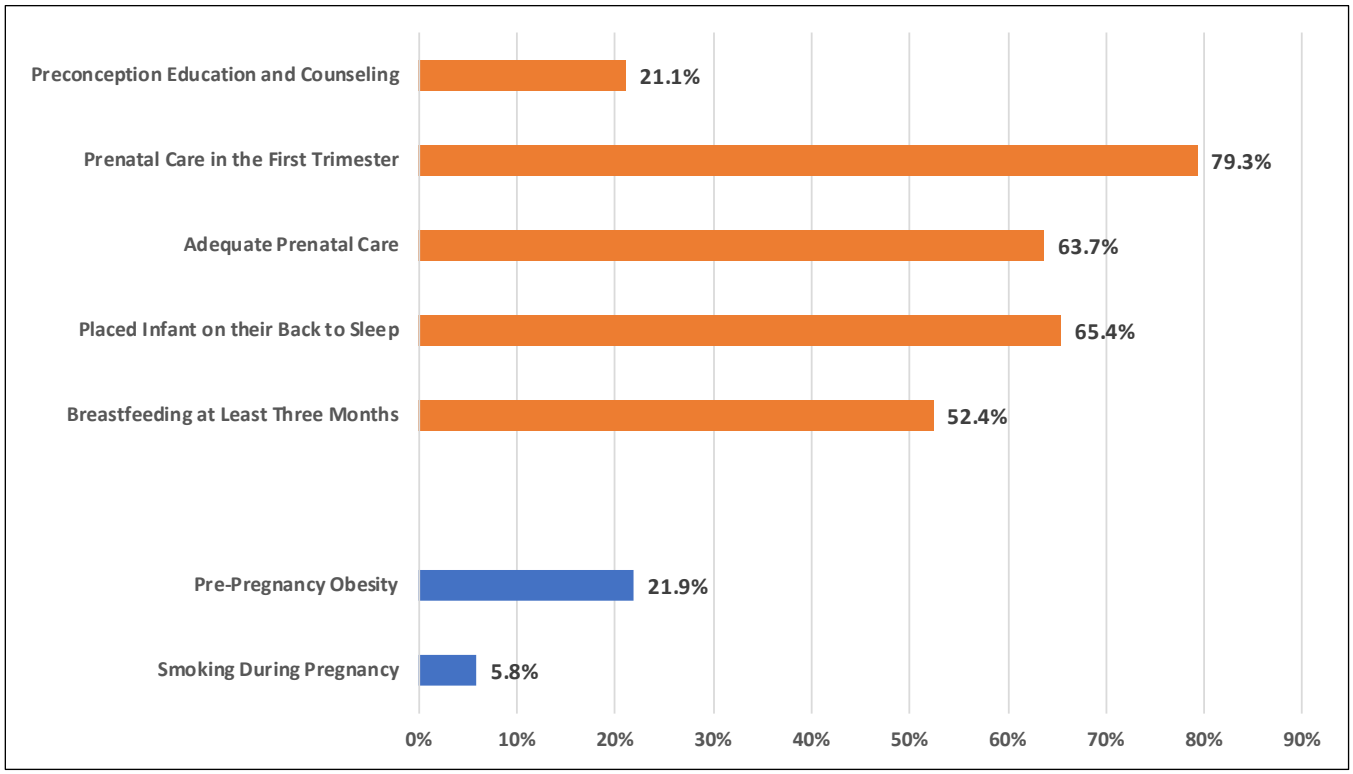
Prematurity and Low Birthweight

In 2015, 10.0% (22,388) of infants born in Florida were preterm and 8.6% (19,367 babies) were low birthweight.[iii] The percent of both preterm and low birthweight births was highest among non-Hispanic blacks (13.5%, 13.3%) compared to non-Hispanic whites (8.9%, 7.2%) and Hispanics (9.0%, 7.3%).[iii] Mothers' behavior before, during and after their pregnancies can help their babies. Before becoming pregnant, preconception education and counseling helps women take steps to protect their own health and the health of their baby in the future. According to Florida-PRAMS, preconception education and counseling was 21.1% in 2013.[xxx]

During pregnancy, receiving adequate prenatal care and beginning care in the first trimester are important. In 2015, 79.3% of Florida mothers had prenatal care during the first trimester and 63.7% had adequate prenatal care.[xxx] After the baby is born, breastfeeding exclusively for at least three months and placing the infant on its back to sleep are beneficial, protective practices. In Florida, 52.4%

of mothers breastfed their infant for at least three months and 65.4% placed their infant on their back to sleep.[xxx] Conversely, maternal obesity and smoking during pregnancy are associated with greater risks for the newborn.[xxx]

Exhibit 25: Maternal and Infant Health, Risk and Protective Factors, Florida



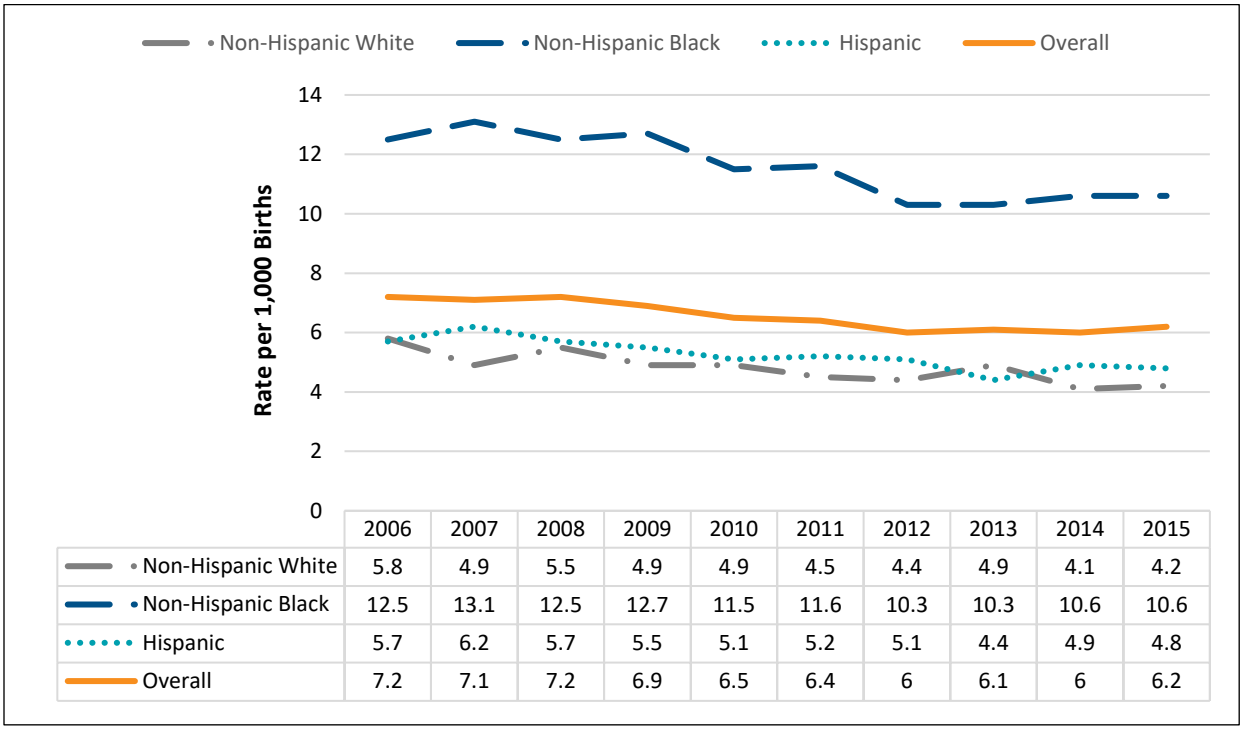
***Florida PRAMS, 2013**
****Florida Department of Health, Bureau of Vital Statistics, 2015**

Source: Florida Department of Health, Bureau of Vital Statistics, 2015; Florida PRAMS, 2013

Infant Mortality

Infant mortality is defined as the death of a child within the first year of life. Neonatal and post neonatal mortality are defined respectively as infant death that occurs between 0 and 27 days of life, and between 28 and 364 days of life. Infant, neonatal and post neonatal mortality rates are expressed as a number of deaths per 1,000 live births. In Florida, infant mortality rates declined from 6.5 infant deaths per 1,000 live births in 2010 to 6.2 infant deaths per 1,000 live births in 2015.[iii, xxxi] Neonatal and post neonatal mortality rates followed similar downward trends during the same timeframe. Significant racial disparities persist with infants born to non-Hispanic black mothers being much more likely to die during their first year of life. Perinatal conditions such as prematurity, low birthweight, congenital anomalies (birth defects) and sudden unexpected infant deaths (including SIDS), accounted for about 85% of infant deaths from 2006-2015.[iii]

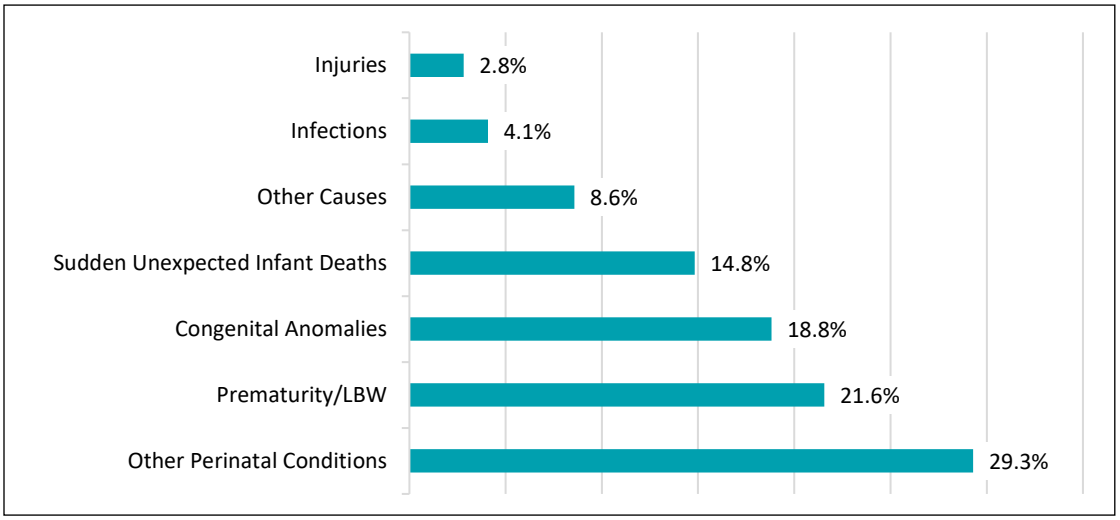
Exhibit 26: Infant Mortality Rate by Race and Ethnicity, Florida 2006–2015



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Non-Hispanic White	5.8	4.9	5.5	4.9	4.9	4.5	4.4	4.9	4.1	4.2
Non-Hispanic Black	12.5	13.1	12.5	12.7	11.5	11.6	10.3	10.3	10.6	10.6
Hispanic	5.7	6.2	5.7	5.5	5.1	5.2	5.1	4.4	4.9	4.8
Overall	7.2	7.1	7.2	6.9	6.5	6.4	6	6.1	6	6.2

Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Exhibit 27: Infant Deaths by Cause, Florida 2006–2015



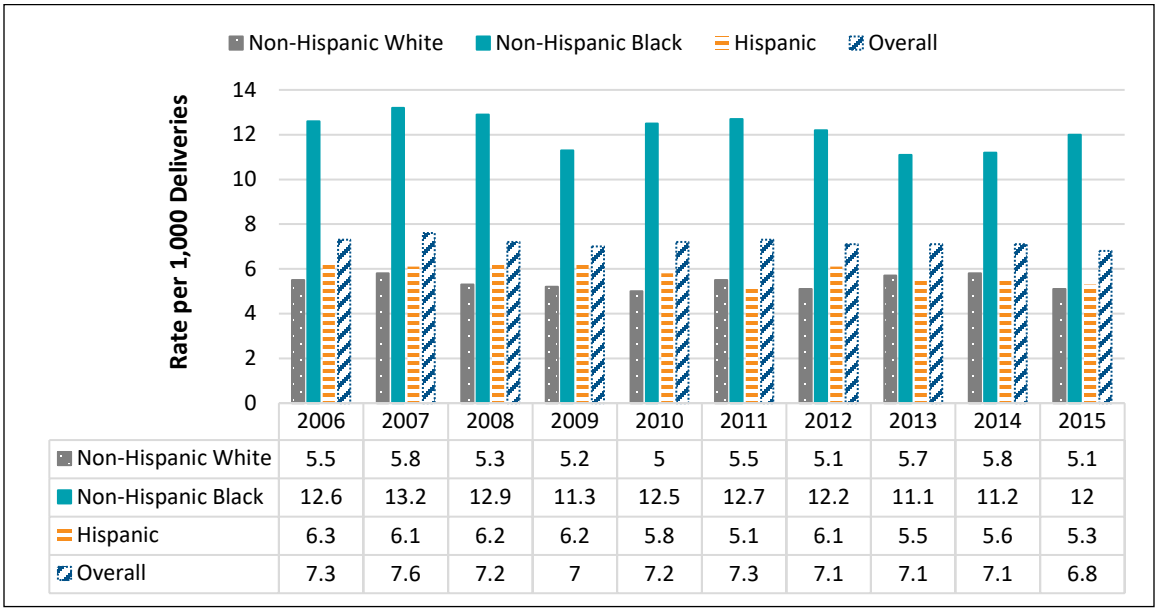
Grouped 130 causes of infant death, N=14,696

Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Fetal Mortality

Florida collects data about fetal deaths occurring after 20 weeks of gestation. The fetal mortality rate is the ratio of fetal deaths per 1,000 deliveries (live births plus fetal deaths). In 2015, Florida's fetal mortality rate was 6.8 fetal deaths per 1,000 deliveries.[iii] Like infant mortality, the fetal mortality rate among non-Hispanic black women was higher than the rate among non-Hispanic white and Hispanic women. Fetal and infant mortality can be impacted by preconception, prenatal, and interconception care, as well as other preventive health services.

Exhibit 28: Fetal Death Rate by Race and Ethnicity, Florida 2006–2015



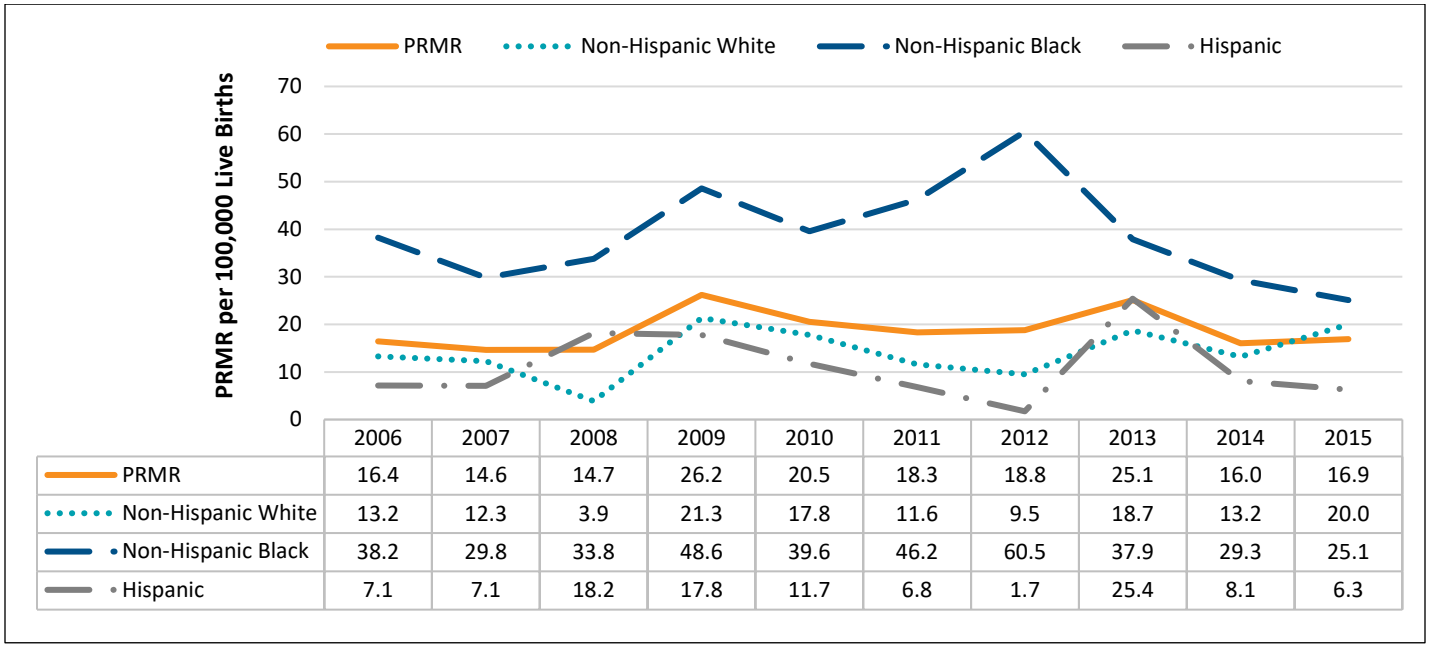
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Non-Hispanic White	5.5	5.8	5.3	5.2	5	5.5	5.1	5.7	5.8	5.1
Non-Hispanic Black	12.6	13.2	12.9	11.3	12.5	12.7	12.2	11.1	11.2	12
Hispanic	6.3	6.1	6.2	6.2	5.8	5.1	6.1	5.5	5.6	5.3
Overall	7.3	7.6	7.2	7	7.2	7.3	7.1	7.1	7.1	6.8

Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Pregnancy-Related Death

A pregnancy-related death is the death of a woman while pregnant or within a year after the pregnancy has ended from any cause related to the pregnancy. Since 2006, there have been an average of 47 pregnancy-related deaths each year.[iii] The pregnancy-related mortality ratio (PRMR) is the number of pregnancy-related deaths per 100,000 live births.

Exhibit 29: Pregnancy-Related Mortality Ratios (PRMRs) by Race/Ethnicity, Florida, 2006–2015



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
PRMR	16.4	14.6	14.7	26.2	20.5	18.3	18.8	25.1	16.0	16.9
Non-Hispanic White	13.2	12.3	3.9	21.3	17.8	11.6	9.5	18.7	13.2	20.0
Non-Hispanic Black	38.2	29.8	33.8	48.6	39.6	46.2	60.5	37.9	29.3	25.1
Hispanic	7.1	7.1	18.2	17.8	11.7	6.8	1.7	25.4	8.1	6.3

Source: PAMR database, MCH Section

The highest overall Florida PRMR was observed in 2009 with 58 deaths and a ratio of 26.2 pregnancy-related deaths per 100,000 live births. In 2015, 38 deaths occurred, with a PRMR of 16.9 pregnancy-related deaths per 100,000 live births.[iii]

PRMRs among non-Hispanic black women are disproportionately higher than those of other racial/ethnic groups. In 2015, the PRMR for non-Hispanic black women was 25.1 pregnancy-related deaths per 100,000 live births compared to 20.0 pregnancy-related deaths per 100,000 live births among non-Hispanic whites and 6.3 deaths among Hispanic women.[iii] Addressing why black women have higher rates of pregnancy-related death is a major challenge for public health.

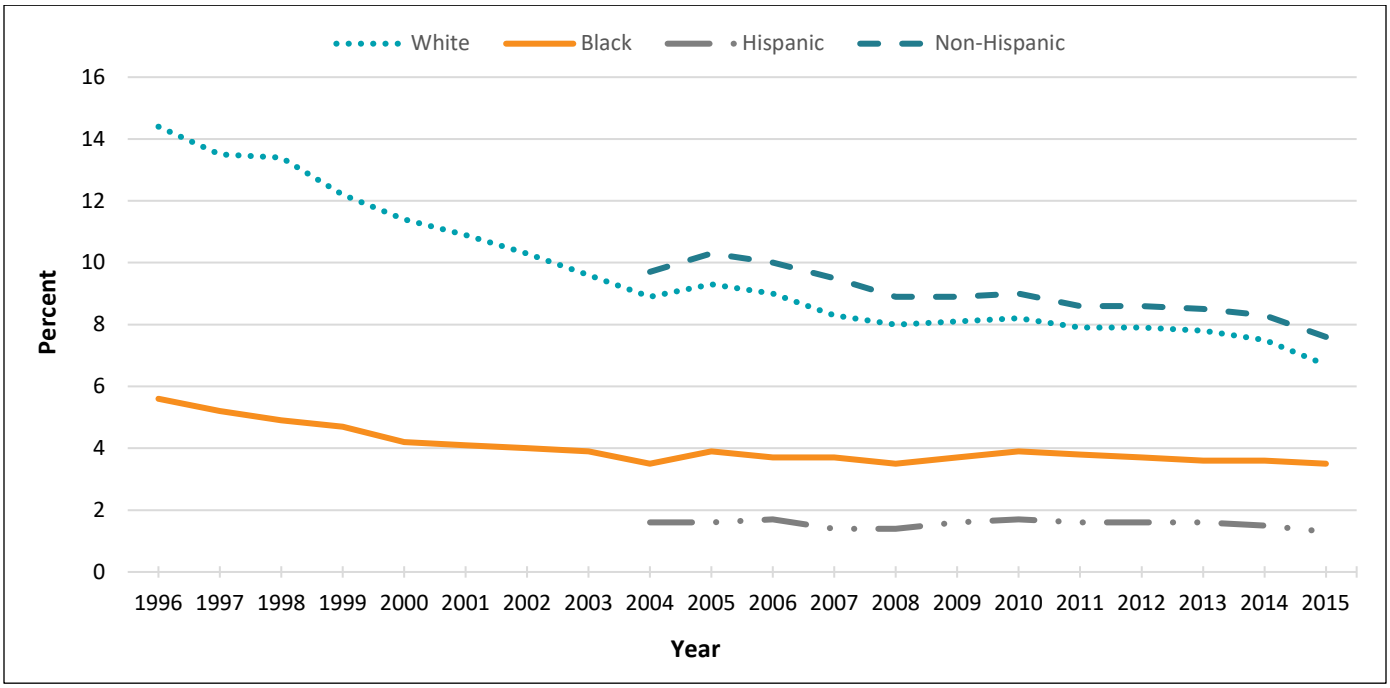
Smoking During Pregnancy

Smoking during pregnancy adversely impacts both the mother and baby's health. Maternal smoking may:

- Lower the amount of oxygen available for both mother and growing baby.
- Increase the baby's heart rate.
- Increase the chances of miscarriage and stillbirth.
- Increase the risk that the baby is born prematurely and/or born with low birthweight.
- Increase the baby's risk of developing respiratory (lung) problems.
- Increase the risk of birth defects.
- Increase the risk of Sudden Infant Death Syndrome.

In Florida, while 15.8% of the adult population were smokers in 2015, smoking during pregnancy has significantly decreased.[iii] From a high of 19.3% in 1989, by 2015 only 5.8% of women smoked during their pregnancy. In 2015, the highest rate of smoking is among non-Hispanic mothers (7.6%) compared to Hispanic mothers (1.3%).[iii] In addition, white mothers (6.7%) have a higher rate of smoking than black mothers (3.5%).[iii] The decrease of yearly smoking trends among mothers is depicted in Exhibit 30.

Exhibit 30: Resident Live Births to Mothers Who Smoked During Pregnancy, Single Year Rates, Florida 2015



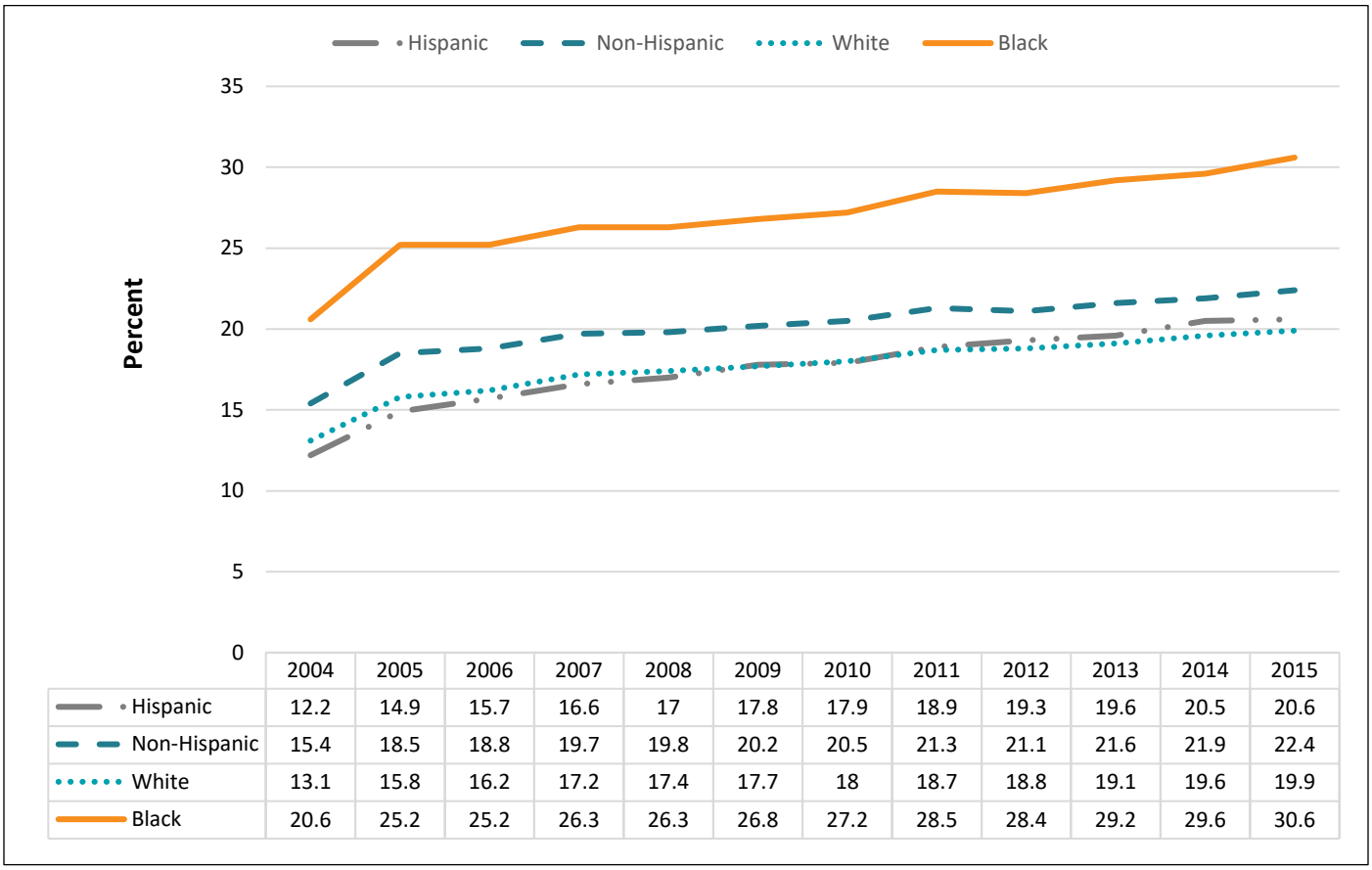
Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Obesity During Pregnancy

Obesity during pregnancy is associated with several serious health problems for both mothers and babies. Obese pregnant women are at greater risk of gestational diabetes, preeclampsia, infection, miscarriage, preterm birth, labor problems and C-section complications.[xxix] Babies are at increased risk of birth defects (heart and neural tube defects), macrosomia (being larger than normal), and medically indicated preterm birth (when the baby is delivered early for a medical reason). Macrosomia can increase the risk of the baby being injured during birth. For example, the baby's shoulder can become stuck during delivery. Macrosomia also increases the risk of cesarean delivery. Infants born with too much body fat have a greater chance of being obese later in life.[xxix]

In Florida, 24.4% of the population was obese in 2013, and obesity during pregnancy is increasing. Rates have risen from 17.8% of pregnant women in 2006 to 21.9% in 2015. Rates are highest among black women (30.6%) and lowest among white women (19.9%).[iii] Numerous strategies for attaining healthy weight are available and can make a difference in infant health in Florida.

Exhibit 31: Births to Obese Mothers at Time Pregnancy Occurred, Single Year Rates, Florida 2015



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Hispanic	12.2	14.9	15.7	16.6	17	17.8	17.9	18.9	19.3	19.6	20.5	20.6
Non-Hispanic	15.4	18.5	18.8	19.7	19.8	20.2	20.5	21.3	21.1	21.6	21.9	22.4
White	13.1	15.8	16.2	17.2	17.4	17.7	18	18.7	18.8	19.1	19.6	19.9
Black	20.6	25.2	25.2	26.3	26.3	26.8	27.2	28.5	28.4	29.2	29.6	30.6

Source: Florida Department of Health, Bureau of Vital Statistics, 2015

Neonatal Abstinence Syndrome (NAS)

Infants with neonatal abstinence syndrome (NAS) are born exposed to certain prescription or illicit drugs taken by a mother during pregnancy. NAS is associated with numerous central nervous, gastrointestinal, metabolic, vasomotor, and respiratory system complications. NAS trends have been increasing nationally. In Florida, NAS diagnoses increased rapidly from 4.0 to 66.7 discharges per 10,000 live births from 1995-2011.[xxxii] The 2014 NAS rate was 76.6 per 10,000 live births, an increase of 10% from the previous year. Racial and ethnic disparities exist such that NAS rates were substantially higher among non-Hispanic white infants than among non-Hispanic black and Hispanic infants. Based on county–level prevalence estimates, three areas of high concern are North Central to Northeastern Florida, the Western Panhandle, and Southwest Florida. To gather more accurate statewide data, Florida added NAS to the Practitioner List of Reportable Diseases/Conditions in 2014.

Sudden Unexpected Infant Death (SUID) and Infant Safe Sleep

Sudden unexpected infant death (SUID) is the unforeseen death of an infant in which the cause of death is not immediately known prior to investigation.[xxxiii] Many SUID deaths are attributable to unsafe infant sleep positions and environments. Three cause of death categories comprise sleep-related SUID classification: sudden infant death syndrome (SIDS), accidental suffocation/strangulation in bed, and death of unknown cause. In 2011, the American Academy of Pediatrics expanded recommendations to reduce the risks of sleep-related SUID and included a recommendation to place healthy infants on their backs to sleep alone in a crib or safe sleep surface.[xxxiv] From 2006 to 2015, SUIDS death rates have been consistently between 0.9 – 1.1 per 1,000 live births. In 2015, *sleep-related* SUID mortality rate (suffocation and strangulation in bed) was 0.3 deaths per 1,000 live births. Sleep-related SUID mortality rates were lowest among Hispanic and non-Hispanic white infants (0.2 and 0.3 deaths per 1,000 live births, respectively) compared to non-Hispanic black infants (0.5 deaths per 1,000 live births).[xxx]

In 2013, the percentage of Florida infants placed to sleep on their backs was 65.4%, and the percentage who never bed-shared was 61.9%. These safe sleep behaviors were least practiced among non-Hispanic black infants.[xxx]

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Appendix B

State Public Health System Assessment Findings

Introduction

The Florida Department of Health led a statewide effort to assess the state public health system. The state's capacity to deliver the ten EPHS was measured with the NPHPSP state instrument. The goals of the assessment were to create stronger systems through collaboration; identify strengths, challenges and system-wide solutions; foster quality improvement by using national benchmarks more fully inform community health improvement planning efforts; fulfill national voluntary public health agency accreditation requirements; and positively impact health outcomes of Floridians. This report focuses on the results of the state public health system assessment.

Background

The NPHPSP seeks to ensure that strong and effective public health systems are in place to deliver essential public health services. Developed as a collaborative effort of seven national public health organizations led by the CDC, the NPHPSP provides instruments to assess state and local capacities. Four key concepts frame the national standards: 1) Their design around the ten EPHS, 2) a focus on public health systems, 3) a structure that describes optimal standards of performance and 4) applicability to quality improvement processes. A public health system is defined as all public, private and voluntary entities that contribute to public health activities within a given area. Depicted as a network of entities, this construct recognizes the contributions and roles of partners in the health and well-being of communities and the state. In 1999, Florida served as a test site for the NPHPSP state and local instruments. The assessment was completed again in 2005 and 2011.

The Ten EPHS serve as the underlying framework for the performance assessment instruments. Each Essential Service is divided into several indicators, which represent major components of performance for each service. Each indicator has an associated model standard that describes aspects of optimal performance, along with a series of assessment questions that serve as measures of performance.

Exhibit 1: Ten Essential Public Health Services

EPHS 1: Monitor Health Status to Identify and Solve Community Health Problems

EPHS 2: Diagnose and Investigate Health Problems and Health Hazards in the Community

EPHS 3: Inform, Educate and Empower People about Health Issues

EPHS 4: Mobilize Community Partnerships and Action to Identify and Solve Health Problems

EPHS 5: Develop Policies and Plans that Support Individual and Community Health Efforts

EPHS 6: Enforce Laws and Regulations that Protect Health and Ensure Safety

EPHS 7: Link People to Needed Personal Health Services and Assure the Provision of Health Care When Otherwise Unavailable

EPHS 8: Assure a Competent Public and Personal Health Care Workforce

EPHS 9: Evaluate Effectiveness, Accessibility and Quality of Personal and Population-based Health Services

EPHS 10: Research for New Insights and Innovative Solutions to Health Problems

Assessment Method

Diverse groups of public health professionals and partners representing a wide spectrum of expertise gathered for two half-day forums to assess the performance and capacity of Florida's public health system. The groups assessed six of ten essential public health services. During each forum, a facilitator read aloud the essential service description, activities and model standard for each group of indicators. A brief discussion followed, during which participants shared how their organization contributed to meeting the standard and Florida's overall performance in the area under consideration.

Utilizing the 10 EPHS as a framework, a total of 30 Model Standards (2–4 Model Standards per Essential Service) describe an optimally performing local public health system. Each Model Standard is follow by assessment questions that serve as measures of performance. Responses to these questions should indicate how well the Model Standard, or "gold standard," is being met. Participants in the State Public Health System Assessment were led in a facilitated discussion. Each Model Standard was read and discussed, with follow-up voting on each question. After discussion, participants utilized electronic voting technology to cast their votes, ranging from no activity to optimal. Results for each indicator were immediately available upon voting. In addition, a survey was administered to a core group of Department of Health staff and partners to assess the remaining four (4) essential public health services. Respondents were given ten (10) business days to complete their assessments.

Exhibit 2: Summary of Assessment Response Options

Optimal Activity (76–100%)	The public health system is doing absolutely everything possible for this activity, and there is no need for improvement.
Significant Activity (51–75%)	The public health system participates a great deal in this activity and there is opportunity for minor improvement.
Moderate Activity (26–50%)	The public health system somewhat participates in this activity and there is opportunity for greater improvement.
Minimal Activity (1–25%)	The public health system provides limited activity and there is opportunity for substantial improvement.
No Activity (0%)	The public health system does not participate in this activity at all.

Scores range from 0 to 100 with higher scores depicting greater performance in each area. Responses for all ten EPHS were entered into a standardized CDC-developed Excel scoring spreadsheet from which final results were obtained. In addition to the scores that were collectively assigned by the respondents, qualitative information was recorded and assessed. The comments by respondents were captured by note takers throughout the face-to-face meetings, and were recorded within the surveys. Data were analyzed and included in the results of the assessment.

Participants

Representatives from the Florida Department of Health, county health departments and external partner organizations participated in the assessment process. A core team of participants assessed all ten EPHS. At the beginning of each face-to-face forum, facilitators gave an overview of the NPHPSP instruments and assessment tool. A skilled facilitator guided the workgroups through the NPHPSP state instrument questions and discussion, supported by recorders who documented discussion points and proceedings. Participants completing the survey were instructed through email messaging and prompts within the survey for comments.

Date & Method	2016 Public Health System Assessment Schedule
May 19, 2016 Face-to-Face	EPHS 6: Enforce laws and regulations that protect health and ensure safety EPHS 8: Assure a competent public and personal health care workforce EPHS 9: Evaluate effectiveness, accessibility and quality of personal and population based health services
May 20, 2016 Face-to-Face	EPHS 3: Inform, educate and empower people about health issues EPHS 4: Mobilize partnerships to identify and solve health problems EPHS 7: Link people to needed personal health services and assure the provision of healthcare when otherwise unavailable
May 9–20, 2016 Survey	EPHS 1: Monitor health status to identify health problems EPHS 2: Diagnose and investigate health problems and health hazards EPHS 5: Develop policies and plans that support individual and community health efforts EPHS 10: Research for new insights and innovative solutions to health problems

Assessment Results

Assessment results point to areas of relative strength and challenges for the state public health system. Reports use standard groupings, from optimal to no activity, to indicate how well the model standard is being met.

Highest Scores	Lowest Scores
EPHS 2: Diagnose and investigate health problems and health hazards 75%, significant activity	EPHS 8: Assure a competent public health and personal health care workforce 31.7%, moderate activity
EPHS 1: Monitor health status to identify community health problems 70.8%, significant activity	EPHS 7: Link people to needed personal health services 25.5%, minimal activity
EPHS 7 had most recently been ranked 5th	
EPHS 8 had previously been ranked last	
No EPHS received performance score in the “no activity” (0%) category	
No EPHS was ranked “optimal”	

Exhibit 3: Summary of EPHS Performance Scores and Overall Scores

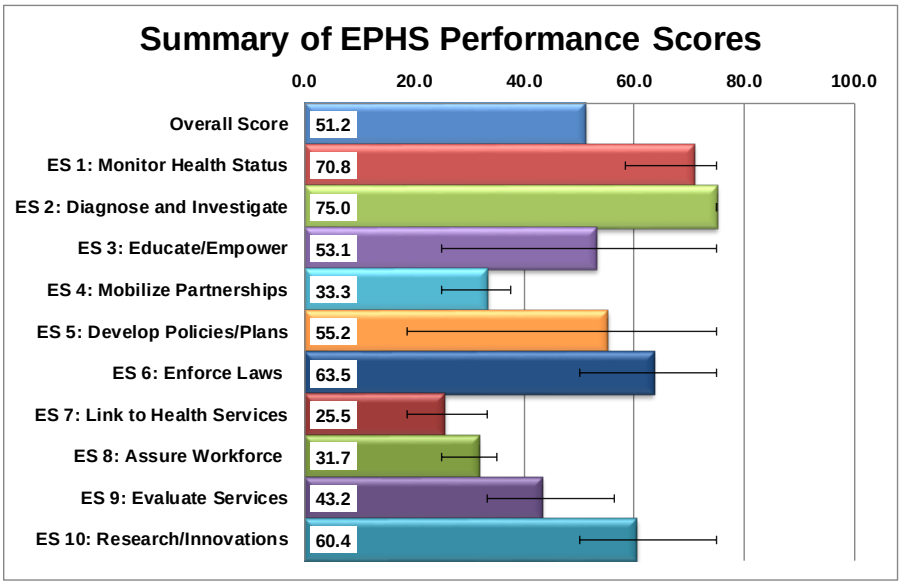


Exhibit 3 displays the average of the scores for how assessment participants rated the Florida public health system on how well it meets each model standard in each EPHS and the overall score for the average performance level for all 10 EPHS. The range bars show the minimum and maximum value of response within the EPHS and overall score.

Exhibit 4: Relative Ranking of EPHS Over Time

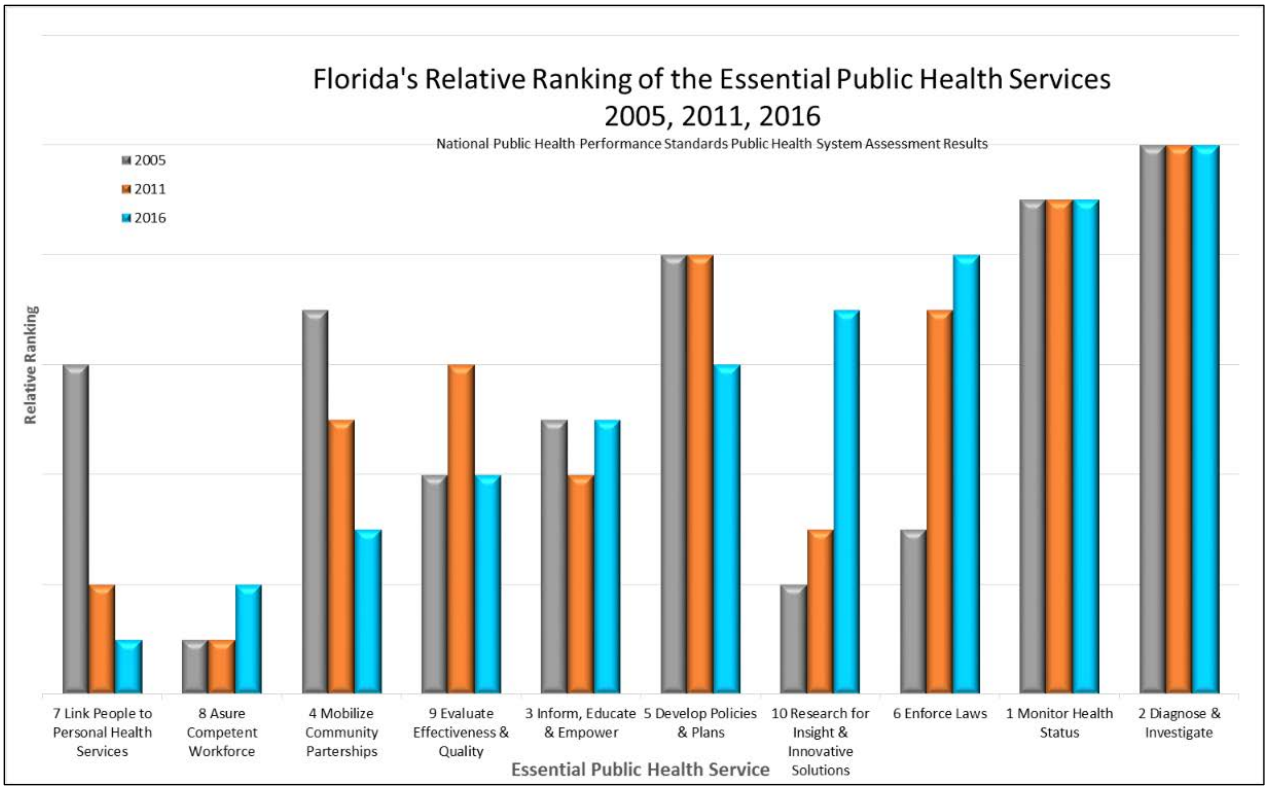


Exhibit 4 displays the ranking of each EPHS for each of the three years the assessment was conducted in Florida. Each bar represents the average of how assessment participants rated the Florida public health system on how well it meets the model standards in each

EPHS. This is a relative ranking because it shows a comparison across three years of the assessment. Over time, Florida's highest ranked capacities have not changed. Florida consistently ranked the EPHS 2 and 1 highest in all three years of assessment. A description and ranking of each essential service follows:

- EPHS 1: Monitor health status to identify community health problems. Ranked 2nd highest across all assessment years, the capacity of this EPHS went from optimal in 2005 and 2011 to significant in 2016.
- EPHS 2: Diagnose and investigate health problems and health hazards. Ranked first in all assessment years, the capacity of this EPHS went from optimal in 2005 and 2011 to significant in 2016.
- EPHS 3: Inform, educate and empower people about health issues. This essential service showed little change. Ranked 6th, 7th and 6th, its capacity remained as significant in 2016 as it was in 2005.
- EPHS 4: Mobilize Partnerships to Identify and Solve Health Problems. EPHS 4 as was ranked 4th in 2005 with significant capacity. By 2011 it dropped to 6th and was ranked 8th in 2016 with minimal capacity.
- EPHS 5: Develop policies and plans that support individual and statewide health efforts. In 2005, this essential service was at optimal capacity, ranking 3rd. By 2016, its rank dropped to 5th and its capacity changed to significant.
- EPHS 6: Enforce Laws and Regulations that Protect Health and Ensure Safety. This EPHS had a significant capacity in each of the three assessments, but its relative ranking changed from 8th to 4th to 3rd in 2005, 2011and 2016 respectively.
- EPHS 7: Link People to Needed Personal Health Services and Assure the Provision of Health Care when Otherwise Unavailable. Seen as a significant capacity in 2005, EPHS 7 is now rated as minimal. Relative to its previous rankings of 5th in 2005 and 9th in 2011, this EPHS is now ranked last.
- EPHS 8: Assure a Competent Public and Personal Health Care Workforce. Although this capacity is rated as moderate in all three assessment periods, its relative ranking increased from 10th in 2005 and 2011 to 9th in 2016.
- EPHS 9: Evaluate effectiveness, accessibility and quality of personal and population-based health services. This essential service did not change much in its ranking (7th, 5th, 7th), but its capacity dropped from significant to moderate in 2016.
- EPHS 10: Research for New Insights and Innovative Solutions to Health Problems. This EPHS grew from a moderate capacity in 2005 to a significant one in 2016, with a relative ranking change from 9th to 8th to 4th in 2005, 2011 and 2016 respectively.

Results by Model Standard

The NPHPSP state assessment tool includes four model standards. The degree to which these standards are met is assessed along with the capacity to meet each essential service.

Model Standard	Focus of Model Public Health Standards
Planning and Implementation	The state public health system's collaborative planning and implementation of key activities to accomplish the EPHS
State-Local Relationships	The assistance, capacity building and resources that the state public health systems provides in efforts to implement the EPHS
Performance Management and Quality Improvement	The state public health system's efforts to review the effectiveness of its performance and the use of these reviews to continuously improve performance
Public Health Capacity and Resources	The state public health system's efforts to effectively invest in and use human, information, technology, organizational and financial resources to monitor health status and to identify health problems in the state

Exhibit 5: Summary of Average Scores Across the Model Standards

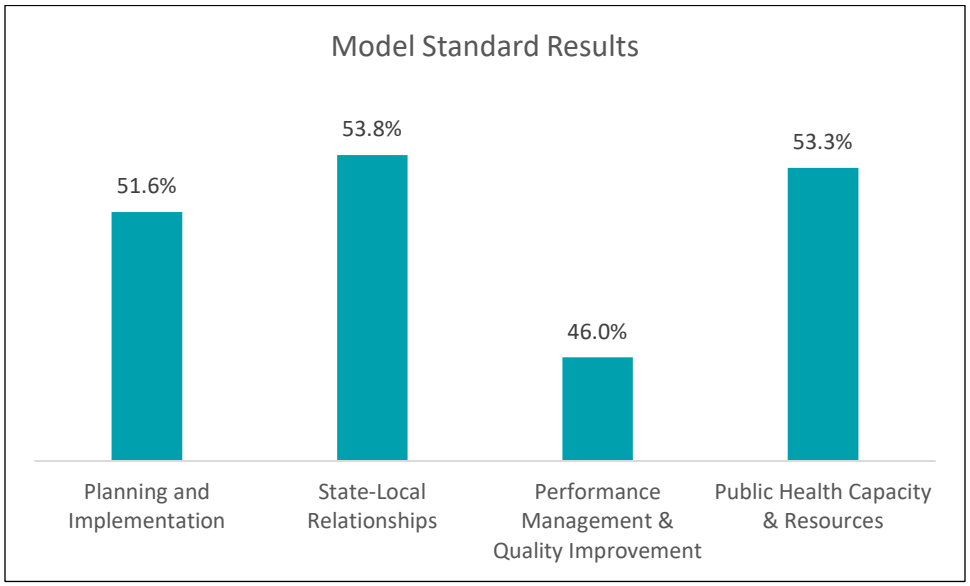
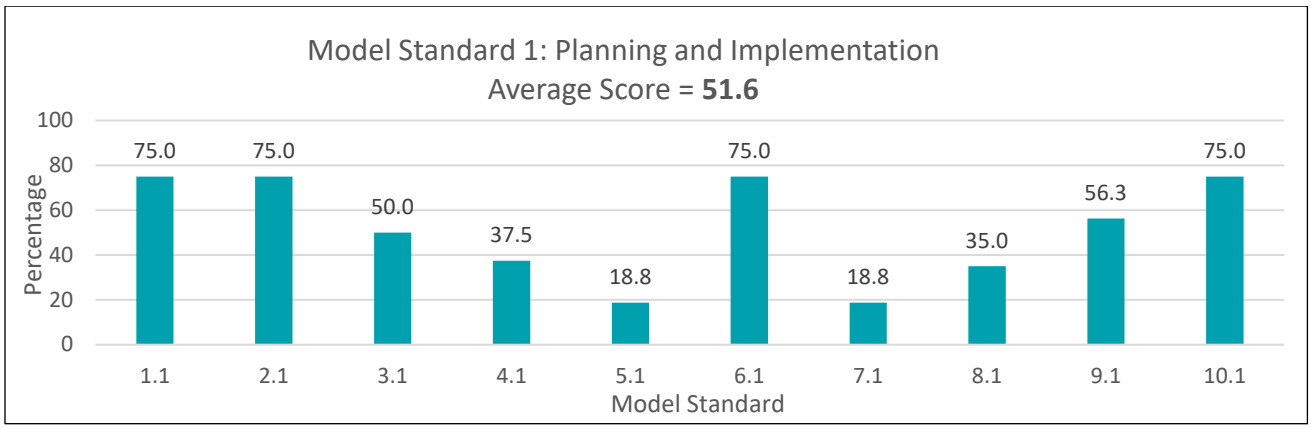
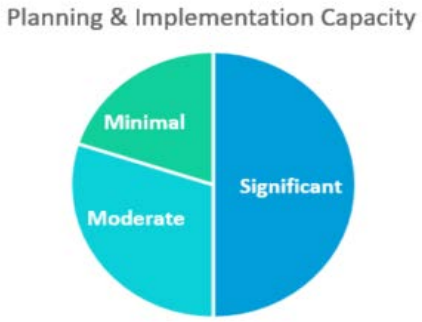


Figure 4 shows that Florida's public health system had significant capacity in three of four model standards: planning and implementation, state-local relationships, and public health capacity and resources. Moderate activity was found in performance management and quality improvement.

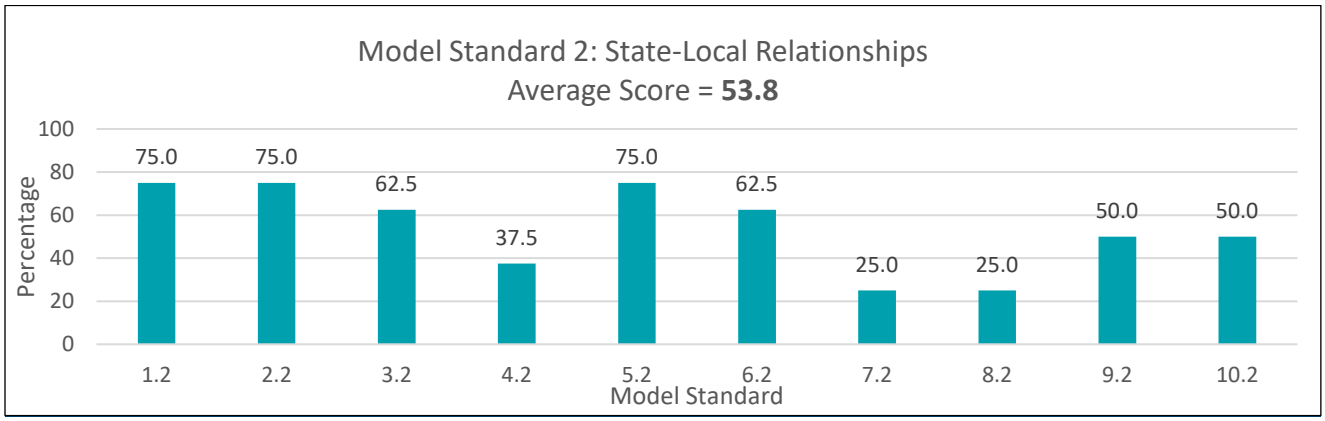
Exhibit 6: Scores by EPHS for Model Standard 1: Planning and Implementation

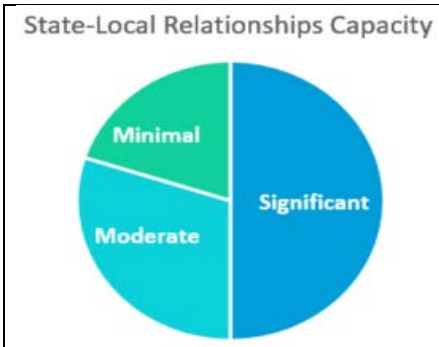




Across the ten EPHS, the state's capacity for planning and implementation was rated from 18% to 75%. The lowest scores, indicating minimal activity, were in developing policies and plans (5.1) and linking people to health services (7.1). Four EPHS—monitoring health status (1.1), diagnosing and investigating health problems (2.1), enforcing laws (6.1) and researching for innovations (10.1)—had significant activity in this area, with scores of 75%.

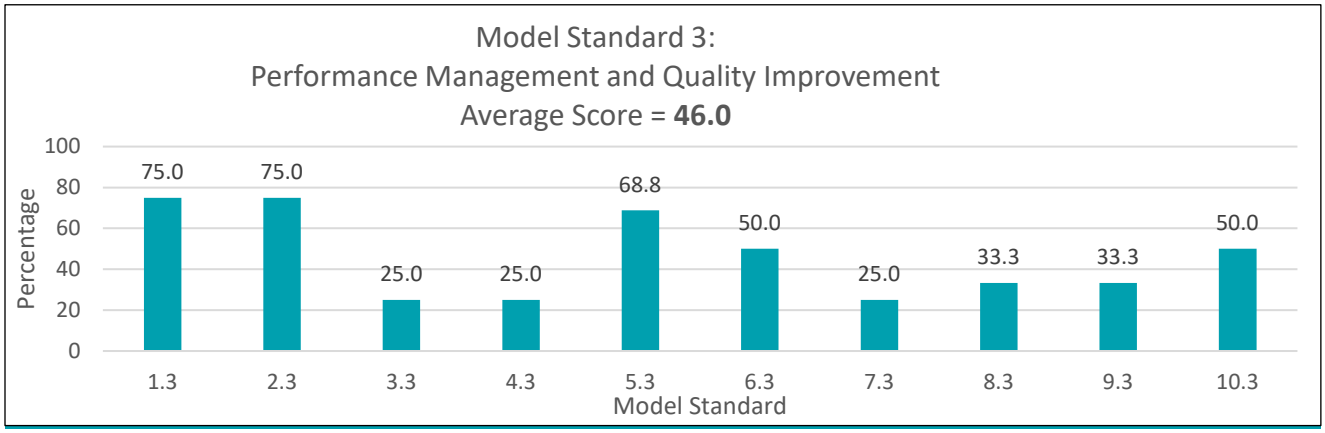
Exhibit 7: Scores by EPHS for Model Standard 2: State-Local Relationships





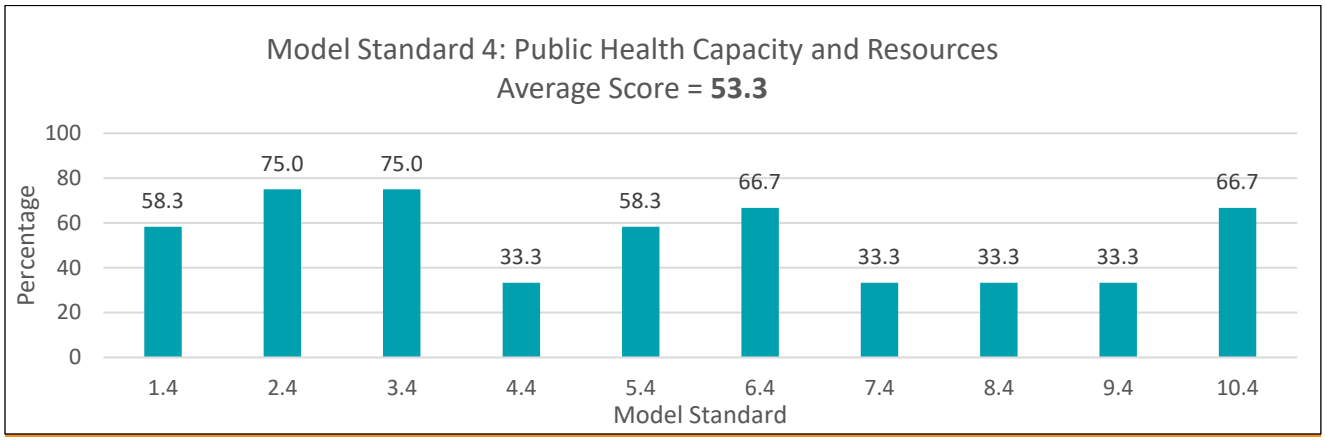
Across the ten EPHS, Florida's capacity for state-local relationships was rated from 25% to 75%. Linking people to needed health care services (7.2) and assuring a competent workforce (8.2) showed the least (minimal) activity, while monitoring health status (1.2), diagnosing and investigating health problems (2.2) and developing policies and plans (5.2) were rated highest.

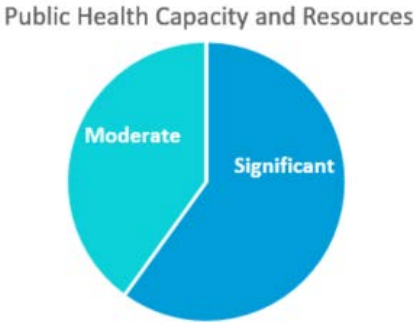
Exhibit 8: Scores by EPHS for Model Standard 3: Performance Management and Quality Improvement



Among all the model standards, the overall score for performance management and quality improvement was lowest. In the areas of educating and empowering people about health issues (3.3), mobilizing partnerships (4.3) and linking people to health services (7.3) had only minimal activity (25%). The highest rated activities in this model standard at 75% were in EPHS 1, monitoring health status, and EPHS 2, diagnosing and investigating health problems and health hazards. EPHS 3, developing policies and plans (5.3) also had a 68.8% level of activity.

Exhibit 9: Scores by EPHS for Model Standard 4: Public Health Capacity and Resources





In the model standard of public health capacity and resources, four EPHS had moderate activity at 33.3%. These EPHS services were mobilizing partnerships (4.4), linking people to health services (7.4), assuring a competent workforce (8.4) and evaluating effectiveness and quality of health services (9.4). Highest in this model standard were EPHS 2 and 3, diagnosing and investigating health problems (2.4) and informing and educating people about health issues (3.4); both had significant activity levels at 75%.

Assessment Findings

The following challenges and opportunities emerged from the state public health system assessment. These attributes will be considered when determining priorities, goals and strategies for the state health improvement plan.

Challenges: Essential Public Health Services

1. **Linking people to needed health services** (EPHS 7): lowest performance score (25.5%, minimal activity)

   Related findings include:

   - Fewer resources
     - Focus has been redirected from this area
   - Challenges getting and sharing data about services provided
   - Challenges meeting disparate needs of populations due to geography, age, language, race/ethnicity, income and co-morbidities

2. **Assuring a competent workforce** (EPHS 8): second lowest performance score (31.7%, moderate activity)

   Related findings include:

   - Lack of resources for training, continuing education, recruitment and retention
   - Lack of succession planning, career ladders and advancement/leadership opportunities
   - Inefficient, ineffective leveraging of partnerships among agencies and institutions of higher learning to enhance and improve current workforce
   - Inefficient use of training opportunities

3. **Mobilize community partnerships to solve health issues** (EPHS 4): third lowest performance score (33.3%, moderate activity)

   Related findings include:

   - Lack of resources for sustainability
   - Inefficient use of training opportunities
   - Limited or no system-wide review of partnership development activities
   - Challenge of optimizing use of diverse perspectives
   - Minimal activity to determine effectiveness of partnership efforts

Challenges: Model Standards

1. **Performance management and quality improvement** (Model Standard 3) garnered minimal capacity ratings in EPHS 3, 4 and 7. Educating, empowering and informing about health issues (EPHS 3) mobilizing partnerships (EPHS 4) and linking people to health services (EPHS 7) all scored 25% (minimal activity).
2. **Planning and implementation** (Model Standard 1) was rated second lowest and included the very lowest rankings at 18.8% in EPHS 5 and 7.

   Related findings include:

   - Limited or no review of effectiveness of health communications, health education and promotion interventions
   - Minimal system-wide assurance of accurate and current content of health communications, health education and promotion interventions
   - Minimal activity to assess system-wide effectiveness of efforts to reach targeted populations with culturally and linguistically appropriate health communications and resources materials
   - Limited activity to manage overall system performance in informing, educating and empowering people about health issues

Opportunities

The state public health system is not without opportunities that could enhance system performance and improve the health outcomes of Floridians. Potential opportunities include:

- Nationally recognized disease and vital statistics reporting systems
- Emerging technologies in health care
- Capitalizing on strong system performance on EPHS 1 and 2 (monitoring health status and diagnosing and investigating health problems)

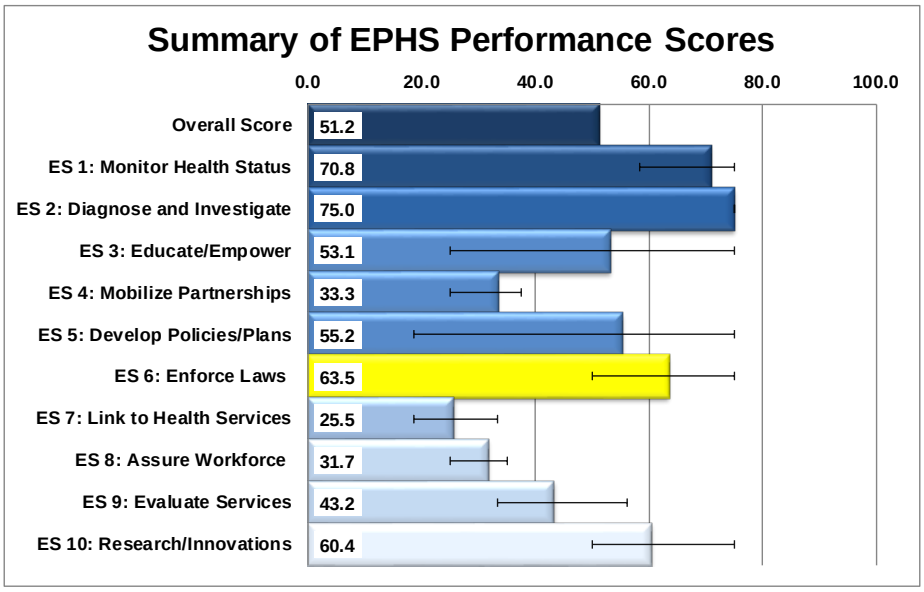
Assessment results indicate that Florida's state of public health system demonstrates moderate to significant activity on national benchmarks for performance of the essential public health services. Results also point to areas in which the system can focus on performance improvement.

Essential Service 1 – Monitor Health Status to Identify Health Problems

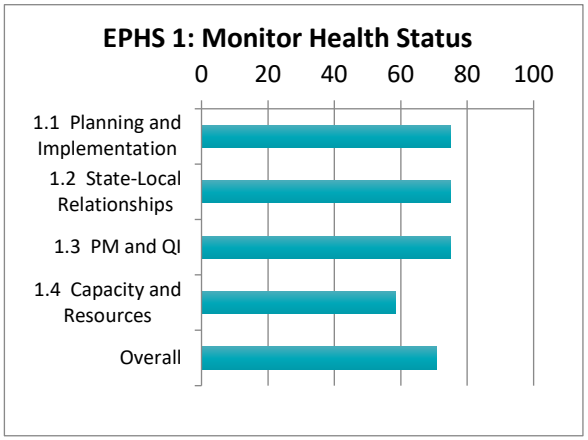
This service includes:

Significant Activity
Overall Score: 70.8
Rank: 2 of 10

- Assessment of statewide health status and its determinants, including the identifications of health threats and the determination of health service needs
- Analysis of the health-specific groups that are at higher risk for health threats than the general population
- Identification of community assets and resources, which support the state public health system in promoting health and improve quality of life
- Interpretation and communication of health information to diverse audiences in different stories
- Collaboration in integrating and managing public health-related information systems



Score	Activity Level	Standard
75.0	Significant	1.1 Planning and Implementation – The state public health system measures, analyzes and reports on the health status of the state's population. The state's health status is monitored through data describing critical indicators of health, illness and health resources. Monitoring health is a collaborative effort involving many state public health partners and local public health systems. The effective communication of health data and information is a primary goal of all systems partners that participate in this effort to generate new knowledge about health in the state.
75.0	Significant	1.2 State-Local Relationships – The state public health system works with local public health systems to provide assistance, capacity building and resources for local efforts to monitor health status and identify health problems.
75.0	Significant	1.3 Performance Management and Quality Improvement – The state public health system reviews the effectiveness of its performance in monitoring health status. Members of the system actively use the information from these reviews to continuously improve the quality of monitoring efforts.
58.3	Significant	1.4 Capacity and Resources – The state public health system effectively invests in and utilizes its human, information, technology, organizational and financial resources to monitor health status and to identify health problems in the state.



"Skilled staff and excellent surveillance and vital statistics systems are some of our strengths." —State Public Health System Performance Assessment Participant

Best Practices

- State Health Assessment and State Health Improvement Planning processes
- Vital Statistics infrastructure including timelines and electronic filing
- Continuous improvement of data and data systems
- Regular review of practices for monitoring health status

Strengths

- Institutionalized strategic planning process and alignment within levels of the organization
- Well-established vital statistics, disease surveillance and data communication systems
- Timely filing and dissemination of data
- Excellent partnerships and experience with reportable disease and surveillance data feeds, analysis, reporting and information products
- Strongly supported community needs assessments
- Assistance to local public health systems in health surveillance and data use

Challenges

- Connecting data systems, sharing data among agencies and partners
- Lack of system-wide resources or stable funding sources to monitor health status
- Little data on mental health, substance abuse, homeless population, occupational disease, child and adolescent health. Acute manifestations of chronic diseases and some injuries
- Staffing turnover and training
- Addressing results with partners

Strategies for Improvement

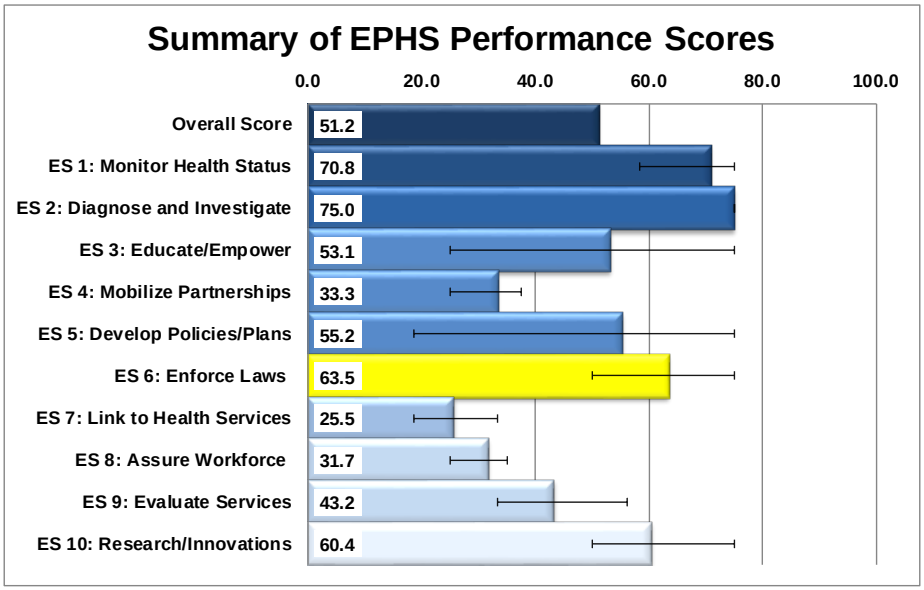
- Increase health care sector involvement
- Unify systems through electronic records
- Improve data sharing with key partner agencies; develop health information exchanges
- Select evidence-based indicators to focus resources and efforts
- Increase capacity in electronic laboratory reporting
- Improve communication among partners and with legislators
- Establish roles among partners for making improvements

Essential Service 2 – Diagnose and Investigate Health Problems and Health Hazards

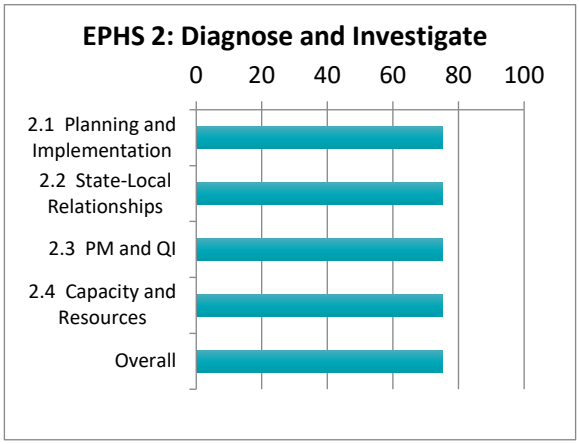
This service includes:

Significant Activity
Overall Score: 75.0
Rank: 1 of 10

- Epidemiologic investigation of disease outbreaks and patterns of infectious and chronic diseases, injuries and other adverse health conditions
- Population-based screening, case finding, investigations and the scientific analysis of health problems
- Rapid screening, high volume testing and active infectious disease epidemiology investigations



Score	Activity Level	Standard
75.0	Significant	2.1 Planning and Implementation – The state public health system works collaboratively to identify and respond to public health threats, including infectious disease outbreaks, chronic disease prevalence, the incidence of serious injuries, environmental contaminations, the occurrence of natural disasters, the risk of exposure to chemical and biological hazards, and other threats.
75.0	Significant	2.2 State-Local Relationships – The state public health system works with local public health system to provide assistance, capacity building and resources for local efforts to identify, analyze and respond to public health problems and threats.
75.0	Significant	2.3 Performance Management and Quality Improvement – The state public health system reviews the effectiveness of its performance in diagnosing and investigating health problems. Members of the state public health system actively use the information from these reviews to continuously improve the quality and responsiveness of their efforts.
75.0	Significant	2.4 Capacity and Resources – The state public health system effectively invests in and utilizes its human, information, organizational and financial resources to diagnose and investigate health problems and hazards that affect the state's population.



"Florida's excellence in disease surveillance is nationally recognized." —State Public Health System Performance Assessment Participant

Best Practices

- Incident-command training and infrastructure to respond to incidents of public health significance
- Assistance provided to local public health systems and state partners to interpret epidemiologic findings
- Nationally-recognized vital statistics and disease surveillance

Strengths

- Reporting systems that identify potential public health threats
- Training, consultation and communication between state and local public health epidemiologists
- Plans for investigating and responding to public health threats
- Agency commitment to strategic planning and quality improvement

Challenges

- Knowledge of various emergency plans related to disease outbreaks
- Involvement of multiple disciplines in investigations adverse public health events
- Insufficient resources, coordination and involvement by all of the Department of Health (state and local) to move the needle on achieving goals and objectives
- Insufficient and fragile funding for epidemiology and laboratory staff and systems
- Understaffed for the size of the state, geographic and demographic diversity and scope of surveillance needed

Strategies for Improvement

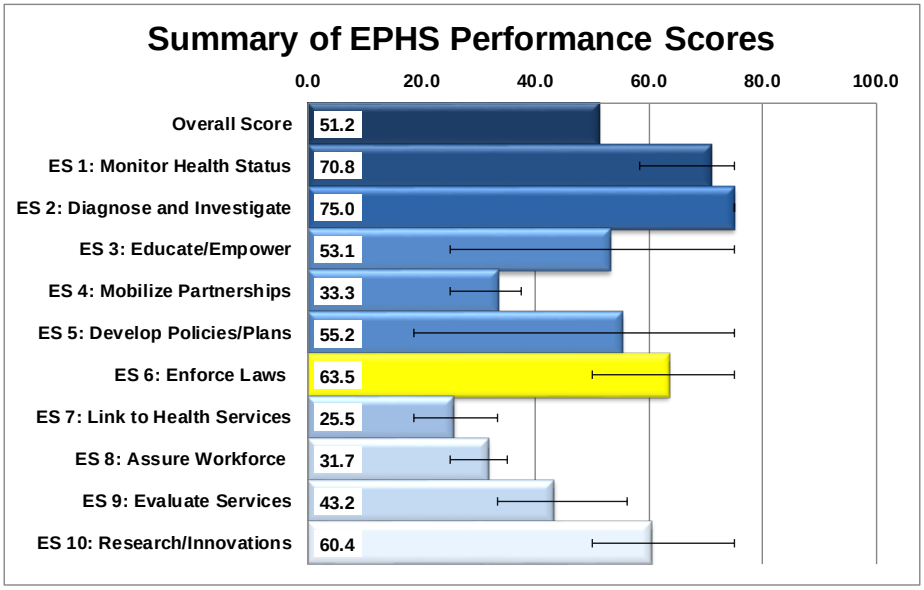
- Leverage healthcare coalitions and public health entities in planning and exercises
- Design and deploy plans to improve understanding of population health among public health system partners
- Develop statewide advocacy group and action plans to address epi and lab issues
- Leverage program councils and performance reports to achieve strategic plan goals and objectives

Essential Service 3 – Inform, Educate and Empower People about Health Issues

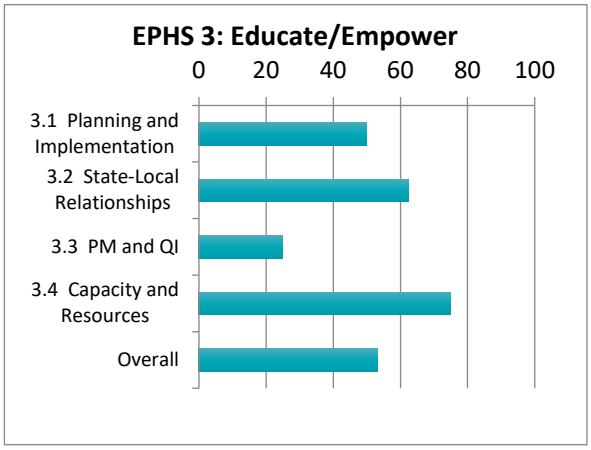
This service includes:

Significant Activity
Overall Score: 53.1
Rank: 6 of 10

- Health information, health education and health promotion activities designed to reduce health risk and promote better health
- Health communication plans and activities such as media advocacy and social marketing
- Accessible health information and educational resources
- Health education and promotion program partnerships with schools, faith communities, work sites, personal care providers and others to implement and reinforce health promotion programs and messages.



Score	Activity Level	Standard
50.0	Moderate	3.1 Planning and Implementation – The state public health system actively creates, communicates and delivers health information and health interventions using customer-centered and science-based strategies to protect and promote the health of diverse populations. The state's population understands and uses timely health information and interventions to protect and promote their health and the health of their families and communities.
62.5	Significant	3.2 State-Local Relationships – The state public health system works with local public health systems to provide assistance, capacity building and resources for local efforts to inform, educate and empower people about health issues.
25	Minimal	3.3 Performance Management and Quality Improvement – The state public health system reviews the effectiveness of its performance in informing, educating and empowering people about health issues. Members of the state public health system use the information from these reviews to continuously improve the quality of their efforts in these areas.
75	Significant	3.4 Public Health Capacity and Resources – The state public health system effectively invests, manages and utilizes its human, information, organizational and financial resources to inform, educate and empower people about health issues.



"Skilled staff and excellent surveillance and vital statistics systems are some of our strengths." —State Public Health System Performance Assessment Participant

Best Practices

- Design and implementation of multidimensional health communication, health promotion and education programs for diverse audiences
- Model emergency and crisis communication plans
- Training for public information officers

Strengths

- Ability to deliver culturally and linguistically appropriate health education and promotion materials and activities to many target audiences
- Use of multiple channels to provide current health information, education and promotion activities
- Use of professional expertise in the development of health communications, health education and promotion interventions
- Ability to communicate across systems in emergencies
- Collaboration and communication among partners

Challenges

- Involving target populations in the evaluation and review processes of health promotion and communication services
- Assisting partners in the development of effective health communications and health education/promotion initiatives
- Using resources and sharing them with partners more effectively
- Applying review findings to improve health communication and health education/promotion programs
- Developing meaningful performance indicators for health education, health promotion and health literacy

Strategies for Improvement

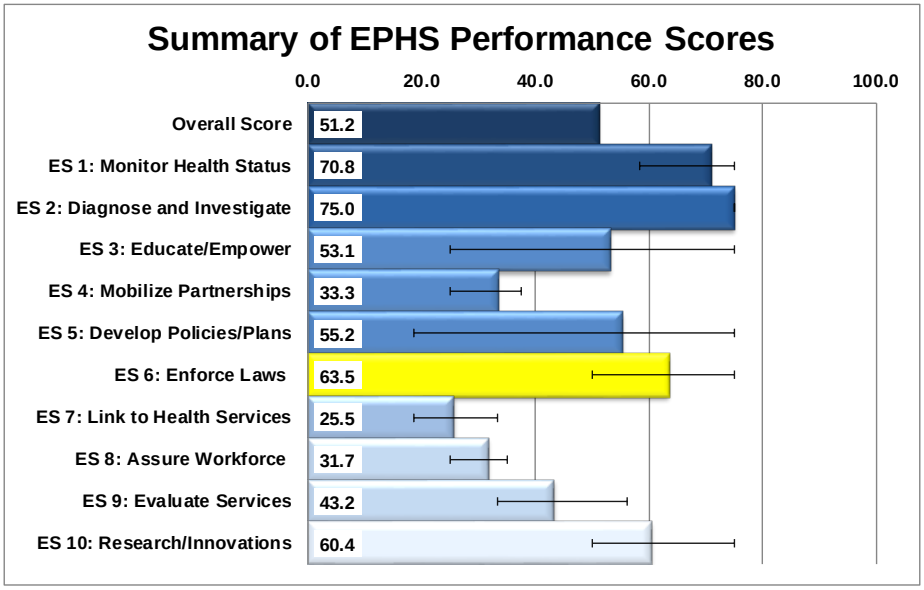
- Develop expertise in health literacy to serve diverse target audiences
- Use evidence-based interventions to inform and educate about health issues
- Develop performance indicators

Essential Service 4 – Mobilize Partnerships to Identify and Solve Health Problems

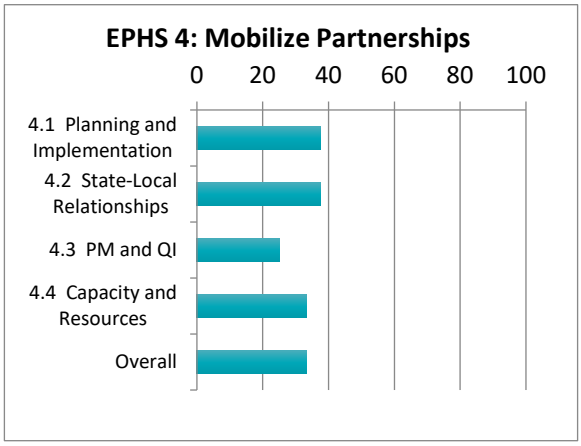
This service includes:

Moderate Activity
Overall Score: 33.3
Rank: 8 of 10

- The organization and leadership to convene, facilitate and collaborate with statewide partners (including those not typically considered to be health-related) to identify public health priorities and create effective solutions to solve state and local health problems
- Statewide partnerships to collaborate in the performance of public health functions and EPHS in an effort to utilize the full range of available human and material resources to improve the state's health status
- Assistance to partners and communities to organize and undertake actions to improve the health of the state's communities



Score	Activity Level	Standard
37.5	Significant	4.1 Planning and Implementation – The state public health system conducts a variety of statewide community-building practices to identify and solve health problems. These practices include community engagement, constituency development and partnership mobilization, which is the most formal and potentially far-reaching of these practices.
37.5	Moderate	4.2 State-Local Relationships – The state public health system engages in a robust partnership with local public health systems to provide technical assistance, capacity building and resources for community partnership development.
25	Minimal	4.3 Performance Management and Quality Improvement – The state public health system reviews the effectiveness of its performance in mobilizing partnerships. Members of the state public health system actively use the information from these reviews to continuously improve the quality of their partnership efforts.
33.3	Moderate	4.4 Public Health Capacity and Resources – The state public health system effectively invests in and utilizes its human, information, organizational and financial resources to assure that its partnership mobilization efforts meet the needs of the state's population.



"We do a great job of providing training and working with local partners in terms of community health improvement." —State Public Health System Performance Assessment Participant

Best Practices

- Constituency-building efforts are established, key components of programmatic planning and implementation
- Florida counties have demonstrated results in mobilizing communities around health issues—Community Health Improvement Plans
- Program-specific resources are available for community partnership building (Florida Coordinated School Health Program, Protocol for Assessing Community Excellence in Environmental Health (PACE EH) and MAPP, Chronic Disease and HIV/AIDS)

Strengths

- Collaboration among partners
- Processes to keep state and local policy leaders abreast of priority health issues
- Resources and expertise, although program-specific, build sustainability and establish cultural norms for organizational behavior

Challenges

- More consistent reviews of partnership facilitation activities
- Sharing system-wide resources to develop partnerships
- Budget cuts and resource shortages
- Systematic approaches rather than project or program-specific ones

Strategies for Improvement

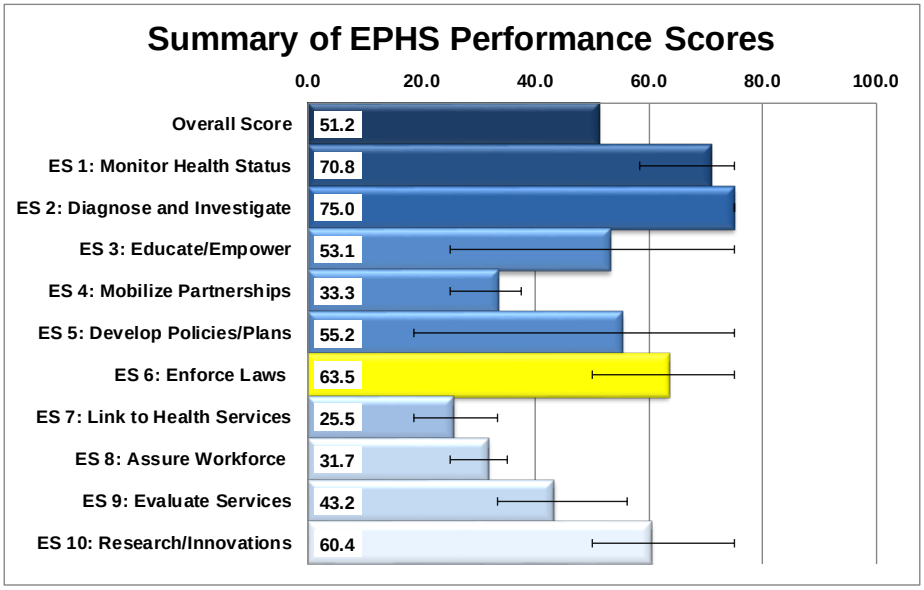
- Include partnership evaluation as element of quality improvement (Program to Analyze, Record and Track Networks to Enhance Relationship (PARTNER))
- Develop plans across partnerships to maximize resources

Essential Service 5 – Develop Policies and Plans that Support Individual and Statewide Health Efforts

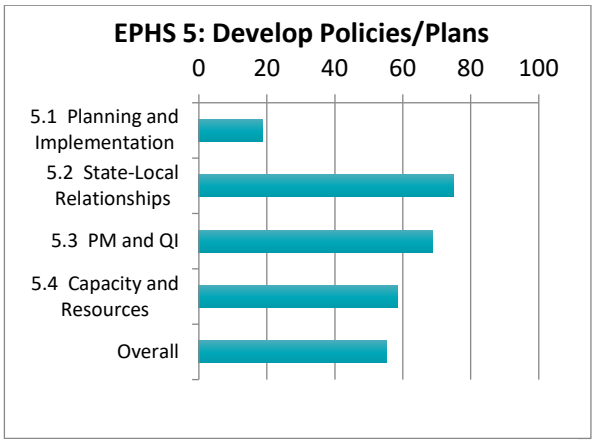
This service includes:

Significant Activity
Overall Score: 55.2
Rank: 5 of 10

- The organization and leadership to convene, facilitate and collaborate with statewide partners (including those not typically considered to be health-related) to identify public health priorities and create effective solutions to solve state and local health problems
- Statewide partnerships to collaborate in the performance of public health functions and EPHS in an effort to utilize the full range of available human and material resources to improve the state's health status
- Assistance to partners and communities to organize and undertake actions to improve the health of the state's communities



Score	Activity Level	Standard
18.8	Minimal	5.1 Planning and Implementation – The state public health system conducts comprehensive and strategic health improvement planning and policy development that integrates health status information, public input and communication, analysis of policy options and recommendations for action based on best evidence. Planning and policy development are conducted for public health programs, for organizations and for the public health system, each with the purpose of improving public health performance and effectiveness.
75.0	Significant	5.2 State-Local Relationships – The state public health system works with local public health systems to provide assistance, capacity building and resources for their efforts to develop policies and plans that support individual and statewide health efforts.
68.8	Significant	5.3 Performance Management and Quality Improvement – The state public health system reviews the effectiveness of its performance in policy development and planning. Members of the state public health system actively use the information from these reviews to continuously improve the quality of policy and planning activities in supporting individual and statewide health efforts.
58.3	Significant	5.4 Public Health Capacity and Resources – The state public health system effectively invests in and utilizes its human, information, organizational and financial resources to assure that its health planning and policy practices meet the needs of the state's population.



"The process of developing the State Health Improvement Plan and local Community Health Improvement Plans is a great example of systematic planning that includes dialogue between groups." —State Public Health System Performance Assessment Participant

Best Practices

- Florida's comprehensive emergency management plan is revised every two years and adopted by rule

Strengths

- Mechanisms for policy development that include input from diverse groups
- State supports local health improvement processes that foster collaboration and convene partners
- Chronic Disease, HIV/AIDS, Tobacco Programs provide technical assistance in local policy development
- Chronic Disease Program efforts focus on environmental change and policy development
- Department of Health's Long-Range Program Plan tracks outcomes in program areas

Challenges

- Sharing of resources system-wide to conduct health planning and policy development
- Integrating health issues and strategies into community development plans
- Using workforce expertise to develop health policy
- Using pertinent data for policy development
- Budget cuts
- Aligning program-specific plans, local community health plans and state health improvement plan

Strategies for Improvement

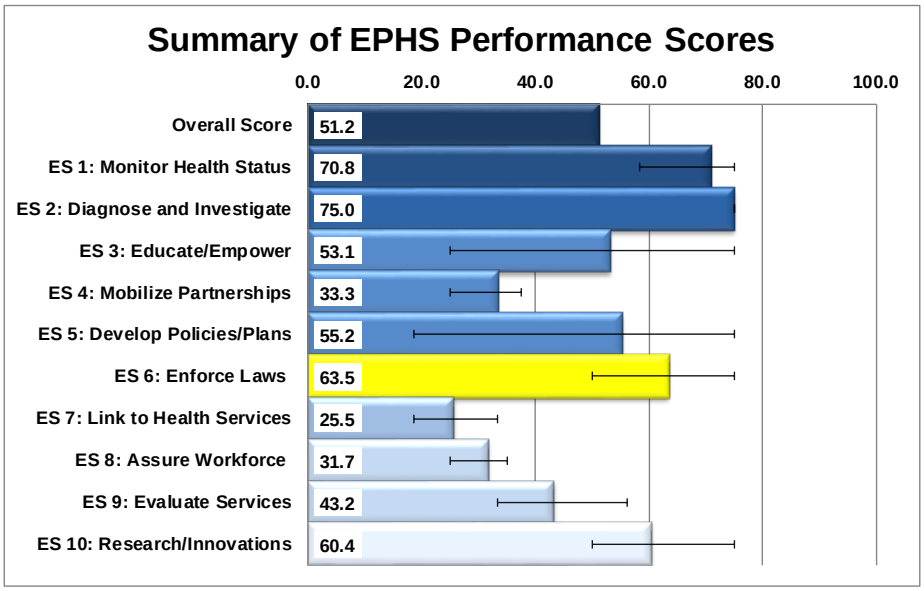
- Advocate for equitable, continuing funding and resource allocation for local community health improvement planning processes
- Enhance workforce capacity for planning and policy development

Essential Service 6 – Enforce Laws and Regulations that Protect Health and Ensure Safety

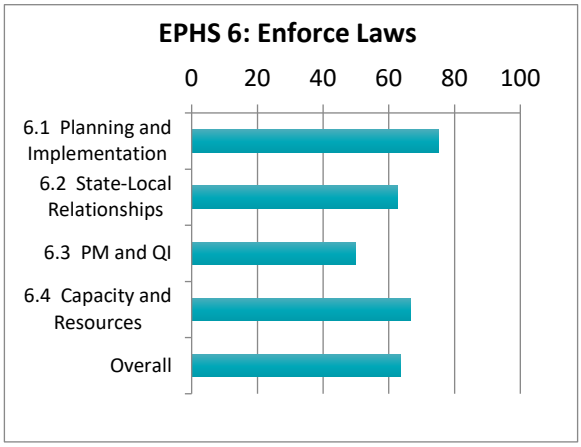
This service includes:

Significant Activity
Overall Score: 63.5
Rank: 3 of 10

- The organization and leadership to convene, facilitate and collaborate with statewide partners (including those not typically considered to be health-related) to identify public health priorities and create effective solutions to solve state and local health problems
- Statewide partnerships to collaborate in the performance of public health functions and EPHS in an effort to utilize the full range of available human and material resources to improve the state's health status
- Assistance to partners and communities to organize and undertake actions to improve the health of the state's communities



Score	Activity Level	Standard
75.0	Significant	6.1 Planning and Implementation – The state public health system assures that laws and enforcement activities are based on current public health science and best practices for achieving compliance. The state public health system emphasizes collaboration between those who enforce laws and those in the regulated environment, and provides education to all those affected by public health laws to encourage compliance.
62.5	Significant	6.2 State-Local Relationships – The state public health system works with local public health systems to provide assistance, capacity building and resources for local efforts to enforce laws that protect health and safety.
50.0	Moderate	6.3 Performance Management and Quality Improvement – The state public health system reviews the effectiveness of its performance in enforcing laws that protect health and safety. Members of the state public health system actively use the information from these reviews to continuously improve the quality of enforcement efforts.
66.7	Significant	6.4 Public Health Capacity and Resources – The state public health system effectively invests in and utilizes its human, information, organizational and financial resources to enforce laws that protect health and safety in the state.



"We do a great job managing outbreaks."

"In enforcement of tobacco and smoking laws, for example, we collaborate very well with partners."—State Public Health System Performance Assessment Participant

Best Practices

- Written guidelines for administration of enforcement activities
- Online systems for licensing, permitting
- Electronic vital statistics records
- Streamlined, electronic health care provider licensing processes

Strengths

- Technical assistance for local and state partners on enforcing laws, developing ordinances and complex enforcement operations
- Workforce expertise in enforcement of public health laws
- Focus on compliance and education of those in the regulated environment
- Excellent use of technology
- Comprehensive reviews of Florida's public health laws and administrative code (2013–2014)
- Managing disease outbreaks well

Challenges

- Keeping up with technology and developing a training cycle to meet the needs of a changing workforce
- Compliance is viewed differently by different system partners (e.g. alcohol use as health issue vs legal issue)
- Sharing system-wide resources to implement enforcement activities
- Making improvements in enforcement activities based on reviews
- More effective use of workforce expertise to educate the public about public health laws and regulations
- Lack of understanding of public health and its functions by community at large

Strategies for Improvement

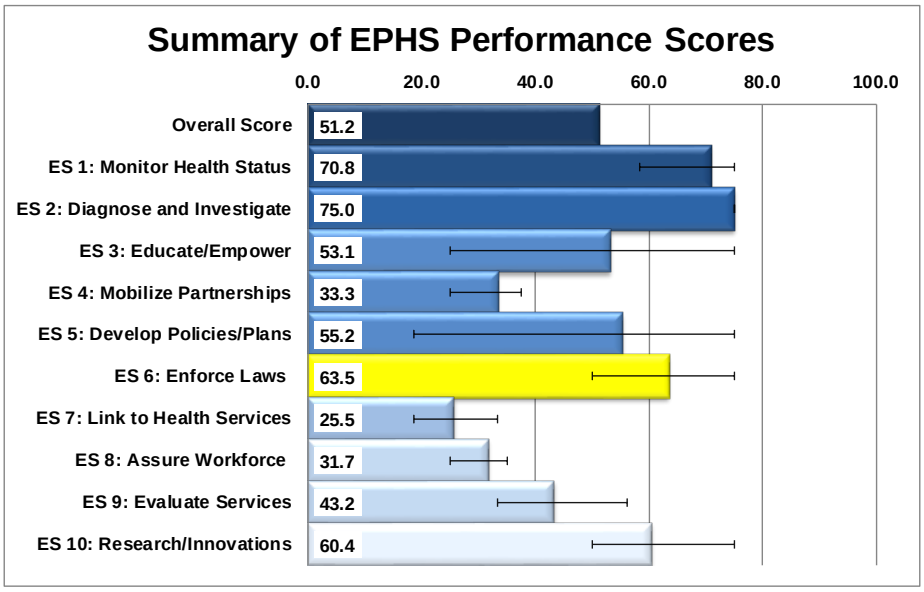
- Develop a communication plan to educate the public and policymakers on regulatory aspects of public health
- Conduct systematic assessments of administrative processes to ensure they are customer-centered for convenience, cost and quality

Essential Service 7 – Link People to Needed Personal Health Services and Assure the Provision of Health Care when Otherwise Unavailable

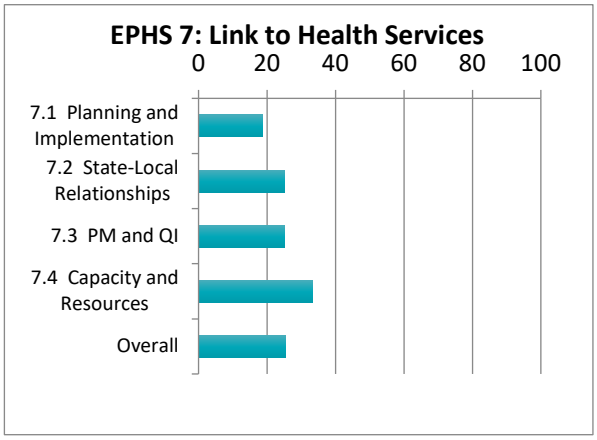
This service includes:

Significant Activity
Overall Score: 25.5
Rank: 10 of 10

- Assessment of, access to and availability of quality personal health care services for the state's population
- Assurances that access is available in a coordinated system of quality care which includes outreach services to link populations to preventative and curative care, medical services, case management, enabling social and mental health services, culturally and linguistically appropriate services, and health care quality review programs
- Partnership with public, private and voluntary sectors to provides populations with a coordinated system of health care



Score	Activity Level	Standard
18.8	Minimal	7.1 Planning and Implementation – The state public health system assesses the availability of personal health care services for the state's population and works collaboratively with state and local partners to assure that the entire state population has access to high quality personal health care.
25.0	Minimal	7.2 State-Local Relationships – The state public health system works with local public health systems to provide assistance, capacity building and resources for local efforts to identify underserved populations and develop innovative approaches for meeting their health care needs.
25.0	Minimal	7.3 Performance Management and Quality Improvement – The state public health system reviews the effectiveness of its performance in the provision of personal health care to the state's population. Members of the state public health system actively use the information from these reviews to continuously improve the quality of its efforts to link people to needed personal health services.
33.3	Minimal	7.4 Public Health Capacity and Resources – The state public health system effectively invests in and utilizes its human, information, organizational and financial resources to assure the provision of health care to meet the needs of the state's population.



"We are very knowledgeable about the data sources, but we just don't get down into the level of data we need to really answer the question. It's really hard to evaluate whether people got the services they needed."—State Public Health System Performance Assessment Participant

Best Practices

- Statewide assessment of availability of personal health care services
- Breast and cervical cancer program is a good example of doing this well

Strengths

- We are very knowledgeable about different data sources
- Public health preparedness and emergency plans include assessments of vulnerable populations and their needs
- Collaboration with health care providers to assure access to health care is strong among certain program areas
- Volunteer medical services provider programs deliver many services

Challenges

- Acquiring new partners such as insurance companies
- Improving data-sharing capacities
- Linking to and/or providing health, dental and social services in rural areas
- Understanding the extent of health care needs of vulnerable populations, including the homeless

Strategies for Improvement

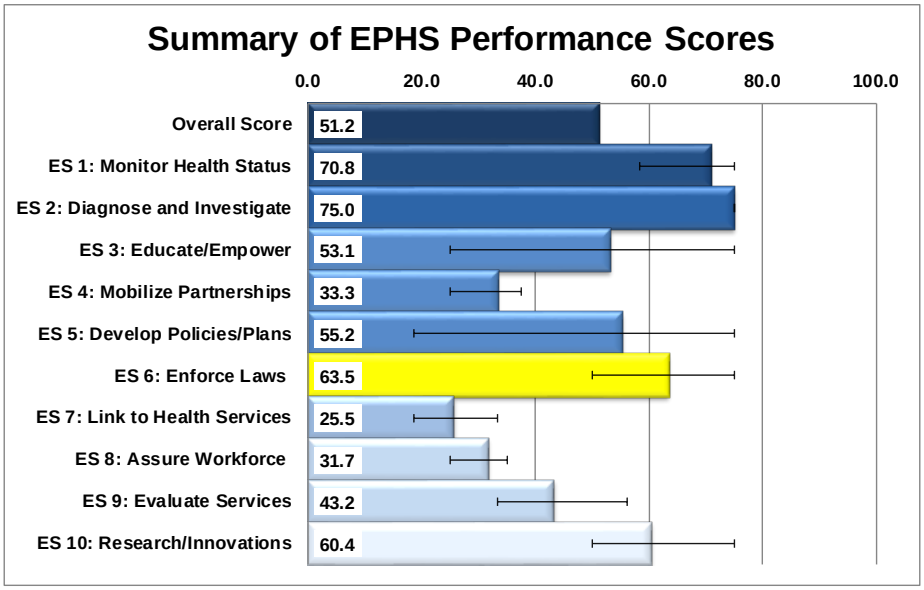
- Obtain input from consumers of personal health care services
- Include insurance companies as partners
- Convene statewide workgroup to address needs
- Integrate linking and referral efforts among complementary programs to optimize opportunities for consumers

Essential Service 8 – Assure a Competent Public and Personal Health Care Workforce

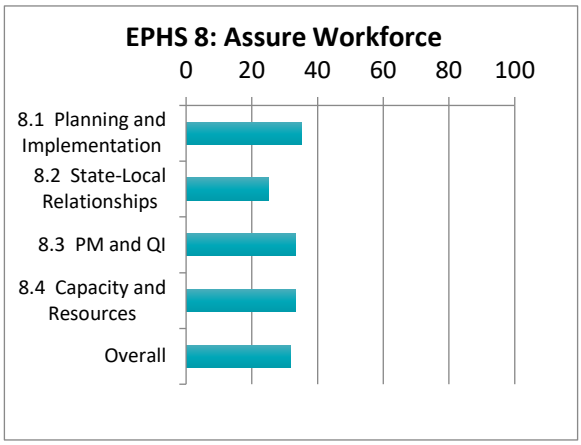
This service includes:

Moderate Activity
Overall Score: 31.7
Rank: 9 of 10

- Education, training, development and assessment of health professionals—including partners, volunteers and other lay community health workers—to meet statewide needs for public and personal health services
- Efficient processes for credentialing technical and professional health personnel
- Adoption of continuous quality improvement and life-long learning programs
- Partnership with professional workforce development programs to assure relevant learning experiences for all participants
- Continuing education in management, cultural competence and leadership development programs



Score	Activity Level	Standard
35.0	Moderate	8.1 Planning and Implementation – The state public health system identifies the public health workforce needs of the state and implements recruitment and retention policies to fill those needs. The public health workforce is the array of personnel providing population-based and personal (clinical) health services in public and private settings across the state, all working to improve the public's health through community prevention and clinical prevention services. The state public health system provides training and continuing education to assure that the workforce will effectively deliver the EPHS.
25.0	Significant	8.2 State-Local Relationships – The state public health system works with local public health systems to provide assistance, capacity building and resources for local efforts to assure a competent, population-based and personal health care workforce.
33.3	Moderate	8.3 Performance Management and Quality Improvement – The state public health system reviews the effectiveness of its performance in assuring a competent, population-based and personal care workforce. Members of the state public health system actively use the information from these reviews to continuously improve the quality of workforce development efforts.
33.3	Moderate	8.4 Public Health Capacity and Resources – The state public health system effectively invests in and utilizes its human, information, organizational and financial resources to assure a competent, population-based and personal health care workforce.



"Training is often the first thing to be cut when resources become scarce." --State Public Health System Performance Assessment Participant

"We are fortunate to have opportunities for free college courses for government employees."—State Public Health System Performance Assessment Participant

Best Practices

- Standards and mechanisms assure that regulated professionals meet all competencies required by law
- The Department of Health's Workforce Development Plan

Strengths

- Life-long learning opportunities for workforce, including pre-service and in-service education programs
- Personnel who have acquired advanced degrees through state tuition assistance/waiver programs have paid back with loyalty
- Scholarship and tuition forgiveness programs for nurses
- Public Health credentialing programs and certification requirements

Challenges

- Lack of career ladders and opportunities for these professionals outside of state government
- Developing training programs to enhance skills in the areas of leadership, information technologies, core functions of public health
- Budget cuts
- Maintaining up-to-date technology for learning management system
- Fragmented approach to training, recruitment and retention of employees

Strategies for Improvement

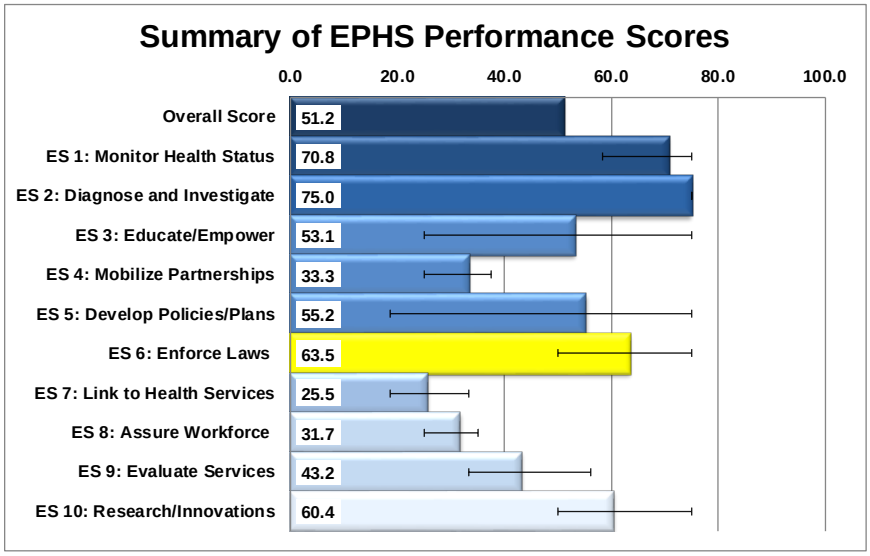
- Develop core competencies and succession plan for health care workforce
- Provide resources for leadership development in public health
- Assure that employees have Individual Development Plans
- Link local and state public health workforce with academic institutions for continuing education opportunities, resources and internships

Essential Service 9 – Evaluate Effectiveness, Accessibility and Quality of Personal and Population-Based Health Services

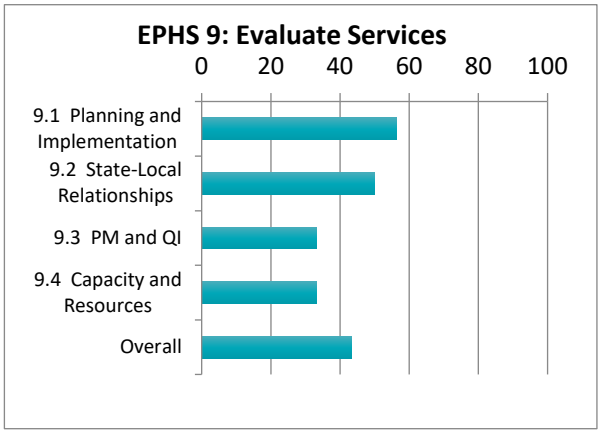
This service includes:

Moderate Activity
Overall Score: 43.2
Rank: 7 of 10

- Evaluation and critical review of health programs, based on analyses of health status and service utilization data, are conducted to determine program effectiveness and to provide information necessary for allocating resources and reshaping programs for improved efficiency, effectiveness and quality
- Assessment of and quality improvement in the state public health system



Score	Activity Level	Standard
56.3	Significant	9.1 Planning and Implementation – The state public health system conducts evaluations to improve the effectiveness of population-based services and personal health services within the state. Evaluation is considered a core activity of the public health system and is essential to understand how to improve the quality of services to the state's population. Routine evaluations identify strengths and weaknesses in programs, services and the public health system overall and are actively used in quality and performance improvement.
50.0	Moderate	9.2 State-Local Relationships – The state public health system works with local public health systems to provide assistance, capacity building and resources for local efforts to evaluate the performance and effectiveness of population-based programs, personal health services and local public health systems.
33.3	Moderate	9.3 Performance Management and Quality Improvement – The state public health system reviews the effectiveness of its performance in evaluating the effectiveness, accessibility and quality of population-based programs, personal health services and public health systems. Members of the state public health system actively use the information from these reviews to continuously improve the quality of evaluation efforts.
33.3	Moderate	9.4 Public Health Capacity and Resources – The state public health system effectively invests in and utilizes its human, information, organizational and financial resources to evaluate the effectiveness, accessibility and quality of population-based and personal health services. Evaluations are appropriately resourced so they can be routinely conducted.



"In order to improve collectively, there is the challenge of being evaluated collectively."
—State Public Health System Performance Assessment Participant

Best Practices

- Florida Department of Health quality improvement process that evaluates, shares results and monitors action for outcomes at county health departments
- Florida Department of Health's participation in CDC's National Public Health Improvement Initiative grants
- Florida Department of Health's use of County Snapshot process to monitor processes and outcomes in county health departments

Strengths

- Standards that assess performance of state public health system
- National standards to evaluate personal health care services
- Technical assistance to evaluation performance of local public health systems

Challenges

- Developing, administering and monitoring results of customer satisfaction studies
- Inconsistencies and variations in evaluation approached across programs
- Managing and sharing evaluation resources and results
- Lack of resources for evaluation
- Workforce reductions

Strategies for Improvement

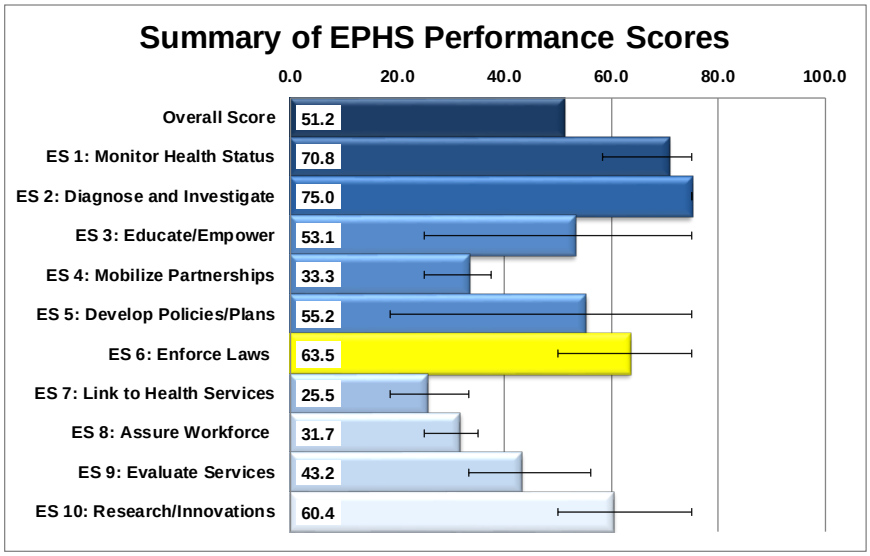
- Develop plan to implement and monitor progress in addressing challenges and implementing strategies as identified in state public health system assessment using National Public Health Performance Standards
- More fully develop Department of Health's performance management system

Essential Service 10 – Research for New Insights and Innovative Solutions of Health Problems

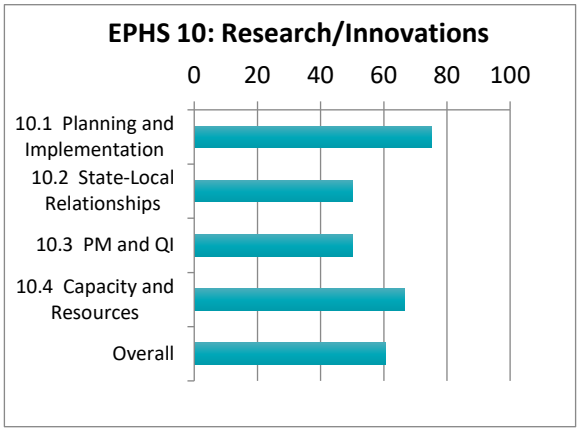
This service includes:

Significant Activity
Overall Score: 60.4
Rank: 4 of 10

- A full continuum of research ranging from field-based efforts to foster improvements in public health practice to formal scientific research
- Linkage with research institutions and other institutions of higher learning
- Internal capacity to mount timely epidemiologic and economic analyses and conduct needed health services research



Score	Activity Level	Standard
75.0	Significant	10.1 Planning and Implementation – The state public health system contributes to public health science by identifying and participating in research activities that address new insights in the implementation of the EPHS. State public health system organizations foster innovation by continuously using best scientific knowledge and new knowledge about effective practice in their work to improve the health of the state's population.
50.0	Moderate	10.2 State-Local Relationships – The state public health system works with local public health systems to provide assistance, capacity building and resources for local efforts to carry out research for new insights and innovative solutions to health problems.
50.0	Moderate	10.3 Performance Management and Quality Improvement – The state public health system reviews the effectiveness of its performance in conducting and using research for new insights and innovative solutions to health problems. Members of the state public health system actively use the information from these reviews to continuously improve the quality of research efforts.
66.7	Moderate	10.4 Public Health Capacity and Resources – The state public health system effectively invests in, manages and utilizes its human, information, organizational and financial resources to conduct research that meets the needs of the state's population.



"One of our greatest strengths is commitment to practical research to improve delivery of public health services in a community." --State Public Health System Performance Assessment Participant

Best Practices

- There is a Public Health Based Research Network
- Academic-practice collaboration is well established between the Florida Department of Health and the state universities
- Florida Department of Health Office of Public Health Research has national accreditation
- Strong research workforce and leadership that supports research efforts

Strengths

- State public health system partners with expertise to assist and involve local public health systems in research projects
- Strong partnerships among Florida's universities and institutions of higher learning and the practice community
- Excellent and competent public health researchers in Florida
- Commitment of the public health system for research

Challenges

- Sharing of system-wide resources for research; not all local health departments have a connection to the public health research agenda
- Need mechanisms to invest in analytical tools for research
- Budget cuts, workforce reductions

Strategies for Improvement

- Develop a public health research network newsletter and conferences
- Capitalize on relationships among county health departments, institutions of higher learning and research organizations
- Separate the research network from the actual researchers to show that there is not an opportunity for bias

Appendix C

State Health Themes and Strengths Assessment Findings

Assessment Resources

Statewide Surveys

Community Health Improvement Plans

Agency Strategic Plan

Public Health Statistics

Community Themes

Healthy Weight

Healthy Lifestyles and Behaviors

Access to Health Care

Physical Activity

Agency Themes

Competent Workforce

Balanced Budgets

Health Improvement Plan Implementation

Customer Service

Assessment Method

The Community Themes and Strengths Assessment answers key questions drawing from a cross-section of the public health system that includes local county health departments, state and community public health partners, and Florida residents. This assessment results in a strong understanding of community issues and concerns, perceptions about quality of life and a listing of assets. It answers the following questions:

- *What health-related issues are important to our state?*
- *How is quality of life perceived in our state?*
- *What assets do we have that can be used to improve Florida's health?*

Participants and Sources

Recognizing that any single approach could be insufficient in reaching a broad cross-section of such a diverse population, three different perspectives were used to frame this assessment:

1. County health department strategic plans illustrate local health priorities, existing infrastructure and resource allocation. Data from this source reflect specific needs across local health departments that can best be addressed through agency action. Department staff reviewed strategic plans and queried county health departments to ascertain themes and strengths from their perspectives.

2. County health departments all participate in community health improvement planning activities. Because they use the community-driven strategic planning tool, MAPP, their plans reflect the concerns of a wide spectrum of partners and residents of each county and are useful in understanding community themes and strengths. We used these Community Health Improvement Plans and queried all 67 community health improvement planners to inform the Themes and Strengths Assessment about community and partner-perceived priorities and resources.

3. The BRFSS survey asks respondents ages 18 and older throughout the state about their health behaviors and preventive health practices related to the leading causes of morbidity and mortality. Additionally, participants provide responses about their perceived quality of life and the factors that impact health and well-being. The survey sample is structured so that collective responses are representative of the state's population and its key subgroups. To provide insight about how residents of our state perceive their quality of life, the Department used data from the 2014 statewide survey.

Notes from Florida Community Health Planners

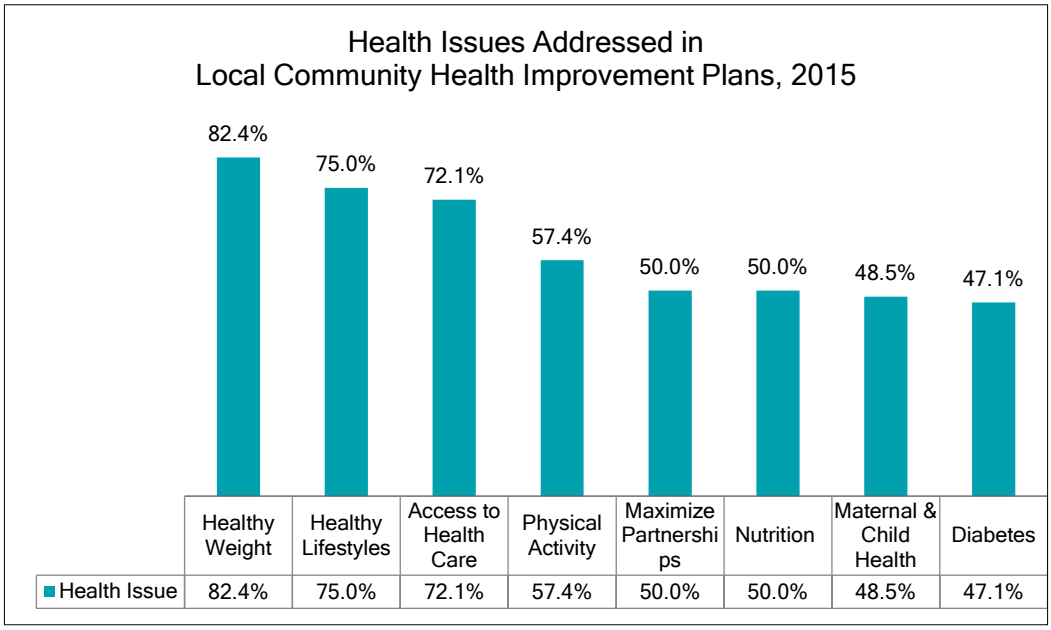
Improvement will happen with dedicated staff and clearly defined roles.

To fully leverage benefits of the community, you must plan for sustainability.

Assessment Results

What health-related issues are important to our state?

Recurring themes in local community health improvement planning processes in Florida are healthy weight (including overweight and obesity), healthy lifestyles and behaviors, and access to health care. More than 70% of county community health improvement plans identified these three areas as priorities in their community health improvement plans.



Strategic plans revealed similar themes. The most frequently identified priorities statewide were healthy weight, a competent workforce, balanced budgets, health improvement plan implementation and customer service.

How is quality of life perceived in our state?

As people are living longer, quality of life becomes increasingly important. Quality of life refers to perceived physical and mental health that impacts overall health status.

- The majority (about 81%) of Floridians report a "good to excellent" quality of life that includes both mental and physical health (BRFSS, 2014). The groups rating their health as being "good to excellent" were most frequently males, white and ages 18–44. This quality of life rating has remained relatively stable since 2002.
- A minority of adult Floridians reported poor physical health (12.7%) or poor mental health (12.3%) on 14 or more of the past 30 days (BRFSS, 2014).
- About 16% of adults had been diagnosed with a depressive disorder (BRFSS, 2014).

Health Related Quality of Life

Percent of adults who said their overall health was "Good" to "Excellent"

Overall	80.7 %
Male	82.4 %
Female	79.2 %
White	83.3 %
Black	79.2 %
Hispanic	75.4 %
Age 18–44	87.9%
Age 45–64	75.7%
Age 65+	74.6%

BRFSS, 2014

- About 24% of adults are sedentary (2014, BRFSS).
- Only 17.6% of adults are current smokers (BRFSS, 2014), down from 22.2% in 2002.
- Preventable hospitalizations for people under age 65 have declined slightly since 2010, from 1220.7 per 100,000 population to 1203.7 in 2014 (FloridaCHARTS.com).
- Only 3.7% of the population ages 18–64 had difficulty with independent living (ACS, 2014).

Notes from Florida Community Health Planners

All levels of community partners must be involved in the planning process.

You must have complete representation to make your assessments valid.

Community engagement is a key to success.

Unconventional, passionate partners are essential to help form a well-rounded group.

What assets do we have that can be used to improve Florida's health?

Through identifying resources, community partners can analyze whether there are unrecognized assets or opportunities from which they can draw to enhance quality of life and to improve health outcomes. Community partner recognized the following resources:

- Every county in Florida conducts comprehensive health assessment processes on a regular basis. This information drives the goals and objectives that are included in community health improvement plans. In 2015, 85% of county health departments (57/67) reported addressing or resolving a community health-related strategic issue and improving targeted indicators. Implementing action plans to improve community health and monitoring change in health status is integral to the process.
- Locally, networks of partnerships exist between health care providers and ancillary care groups that augment the health care needs of the population in each county. These strong partnerships are influential and inspire stakeholders to be participants in the process. In 2015, 94% (63/67) of counties reported having gained more and new community partners, and 95% (64/67) agreed with the statement "my county has strong community partnerships." At the state level, similar partnerships exist among health-related agencies and coalitions that foster service delivery, data exchange and collaboration.
- County health departments in all 67 counties are the primary service providers in the areas of infectious disease control and prevention, family health services and environmental health services. Statewide functions such as the laboratories, Vital Statistics, a state pharmacy, and disaster preparedness and emergency operations assure efficient and coordinated approaches to monitoring diseases and responding to emerging needs at a population level.
- Florida's Children's Medical Services Managed Care Plan (CMS Plan) provides a family-centered, comprehensive and coordinated system of care to children with special health care needs. The CMS Plan is designed to serve children under age 21 whose serious and chronic physical or developmental

conditions require extensive preventive and ongoing care. Through its 19 area offices, the CMS Plan provides care coordination services to enrollees, which includes coordinating care with community agencies such as schools and social service agencies.

- Florida improves access to health care and ensures practitioners meet licensing and practice requirements according to accepted standards of care through its Health Care Practitioner and Access program. This program coordinates the placement of health care professionals in underserved areas through Area Health Education Centers, rural health networks and local health planning councils.

Findings

Across Florida, there is consensus around health issues. These include healthy weight, healthy lifestyles and access to health care. Additional focus is on developing the workforce and sustaining the public health budget.

One fourth of adults are sedentary, but smoking is declining. Preventable hospitalizations have slightly declined. Most Floridians report they have a “good” or “excellent” quality of life, especially those in the 18–44 age group.

A strong public health system with local and statewide resources serves all counties. Partnerships and a commitment to health improvement planning are also illustrative of Florida’s strengths.

Data Sources

1 Florida Department of Health. Community Health Improvement Planning Survey, 2015
2 Florida Department of Health. Community Health Improvement Plans, 2015
3 Florida Department of Health. County Health Department Strategic Plans, 2015
4 Behavioral Risk Factor Surveillance Survey, Florida, 2014 (http://www.floridahealth.gov/statistics-and-data/survey-data/behavioral-risk-factor-surveillance-system/reports/index.html)
5 American Communities Survey, 2014. 5-year estimates (http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml)

Appendix D

State Forces of Change Assessment Findings

Changes in Health Care Environment Opportunities

Greater emphasis on health outcomes in reimbursement and evaluation systems

Greater integration of health care services and containment of costs

Higher quality and efficiency of care through advances in technology such as electronic health records, health information exchange and the dissemination of health information

Recruitment and mentorship of new health care professionals

Increasing use and awareness of technology-informed lifestyle management

Changes in the Health Care Environment Challenges

The number of uninsured Floridians

Access to health care

Privacy and security of patient information

Ongoing risk associated with emergent events

Continued potential for high levels of fraud, waste and abuse

Aging of health care workforce

In 2016, the Florida Department of Health led a coordinated, comprehensive and collaborative effort to conduct a Forces of Change Assessment. The purpose of this process was to assess significant factors, events and trends whose current or future occurrence might affect the state of health in Florida or the effectiveness of its public health system. Moreover, because of their relevance to the creation of public health strategic priorities, we included the challenges and opportunities associated with these forces. The results of the Forces of Change Assessment follow.

The Forces of Change Assessment is one of four comprehensive assessments recommended by NACCHO for states or communities to complete as they develop a health improvement plan. Participants engage in brainstorming sessions aimed at identifying trends, factors and events that influence the health and quality of life of the community, and the efficacy of the public health system, either now or in the foreseeable future.

Assessment Method

The Forces of Change Assessment was completed by the SHA Advisory Group, which is made up of more than 30 professionals who work in areas directly related to public health. Participants included leadership from the various divisions of the Department, representatives from other state agencies and stakeholders from the private sector. Participants were first invited to offer preliminary thoughts on Forces of Change from their individual professional perspectives in advance of the SHA Advisory Group meeting. This feedback was clarified and organized into a systematic framework at the meeting itself.

Assessment Results

At the Forces of Change facilitated session held on April 11, 2016, attendees first considered the feedback solicited in advance of the meeting, and then provided additional thoughts on Forces of Change significant to their organizations. Overall, they noted the presence and growing pervasiveness of several significant factors affecting multiple areas of public health. These include:

- The increasing proportion of seniors within Florida's population.
- The spike in the overweight/obesity rates among the state's residents, and related concerns about diet and exercise among both children and adults.
- The preservation of Florida's natural environment in the face of continued population growth.
- The disproportionate lack of sustained access to quality health care among low-income populations.
- The increasing awareness that social and economic factors (education, employment, income, family and social support, community safety) exert significant influences on health, functioning, and quality of life outcomes and risks.—

Changes in the Physical Environment Opportunities

Ability to develop unique partnerships with governmental, private and civic constituencies

Increased willingness to design communities that lead to healthier lifestyles

Potential for creation and implementation of new methods and technologies

Ability to educate, motivate and engage citizenry in environmentally-conscious initiatives

Potential collaboration with other governmental entities facing similar challenges

Changes in the Physical Environment Challenges

Aging utility structures and systems

The number of Floridians living in unsafe environments and communities that do not encourage healthy lifestyles (lack of sidewalks and bike trails, lack of healthy food choices, etc.)

Significant capital requirements for remediation of structural systems

Disaster preparedness

Housing affordability and proximity to health providers

These factors continue to test the ability of the public health system to increase the length and quality of life for Floridians. Regarding the administration of the public health system in general, the SHA Advisory Group advocated the pursuit of "health in all policies," a recent trend that emphasizes the need for decision makers in non-health sectors at the federal, state and local levels to bear in mind the implications for health of policies in education, economic and community development, transportation, and food and agriculture.

After much thoughtful and focused deliberation on numerous topics relevant to public health, the SHA Advisory Group reached consensus on the following Forces of Change:

- Changes in the health care environment;
- Changes in the physical environment; and
- Changes in social and family environments

Each of the Forces of Change identified by the group is addressed, along with related opportunities and challenges, in the sections below.

Changes in the Health Care Environment

Within the health care environment, the group identified several factors changing the health care system in Florida. One is the continued growth and expansion of managed care—in both the commercial and governmental spheres. The conversion of Medicaid to a managed care system has changed the health care landscape and has resulted in the transition of primary care services from CHDs to private entities. In addition, the ACA has resulted in a reduction in federal funding for certain safety net programs such as disproportionate share hospital (DSH) and low-income pool (LIP) programs. Florida is also facing a health care provider shortage as increasing numbers of practitioners retire and state medical schools strive to keep up with the demand. These forces affect the ability of Floridians to access health care. On the other hand, there has been a positive trend toward integrated systems of care in place of the more fragmented delivery systems of the past. The Accountable Care Organization (ACO) concept, where integrated provider groups receive payment adjustments based on quality of care and patient outcomes, is becoming increasingly favored. Public and private insurers are moving to replace fee-for-service reimbursement with reimbursement based on standard payments for health conditions, standard service bundles and capitation to reduce emphasis on quantity of services provided and increase emphasis on effective and efficient patient care.

Technology has great potential to impact health care and the health care system. Recent trends toward automation and digitization have led to the introduction of new methods for documenting the patient-provider experience and for transmitting patient information. Tools, such as telemedicine to extend care and smart phone technology to assist in patient management, have the

Changes in the Social and Family Environments Opportunities

Increased emphasis on population-based health and prevention

Greater amount of information available about health and healthy living

Potential expansion of workplace wellness initiatives

Promotion of more holistic concept of health (e.g. WHO's "Seven Dimensions of Wellness")

Widespread use of smart phones, tablets and computers, even among low-income persons, provides a potential point of intervention for public health and health education

Changes in the Social and Family Environments Challenges

Cultural and behavioral change is extremely difficult and requires sustained, multifaceted interventions

Aging and increasingly obese population

Generational poverty trends

Media influence on physical image

Lack of physical activity

Increased levels of stress

Provision of health resources for migrant, homeless and un(der)employed population

potential to revolutionize the delivery of health care services and health information. In addition, the amount of data available on numerous and diverse topics relating to public health has resulted in what some consider a "data backlog," with much information readily available for use in the management of public health functions not yet being fully utilized. This situation represents a distinct area of opportunity for professionals in both the health care and technology industries. Finally, the growing number of health information exchanges and the increasing ease with which such information can be communicated through social media also represent significant trends.

Changes in the Physical Environment

Looking forward, there is an ongoing need for strategic planning of the organizational structures that will be required to accommodate future population growth. In addition, there is an increasing awareness about how modifications to the built environment can have a positive impact on public health. As more people and policymakers recognize that chronic diseases and poor health behaviors affect quality of life, more opportunities arise for interventions related to the design of a built environment that encourages healthy lifestyles.

Regarding the potential impact of physical environmental factors on the public health system and the health of Floridians, the SHA Advisory Group highlighted:

- The continued growth of the state's population, changes in its distribution and the planning associated with these trends;
- The condition of physical infrastructures such as water and sewer systems; and
- The availability of sufficient clean water and air.

Changes in Social and Family Environments

The changing nature of domestic life, the increasingly stressful pursuit of a healthy work-life balance, the financial pressures associated with supporting a family, and the recognition that zip code or place of residence is a greater predictor of health than genetics pose significant risks for the mental, physical and social health of Floridians. From the Forces of Changes session, the SHA Advisory Group agreed to emphasize the following changes in the social and family environments:

- The force and impact of a disproportionate distribution of health and economic resources for certain groups across their life course;
- The role of generational behaviors in determining patterns for diet, exercise and life activities;
- The need to prioritize behavior management and social environments rather than merely increasing levels of awareness and education about healthy living; and
- The need to develop inter-sectoral partnerships to address the broader context of the social environment in which health occurs.

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