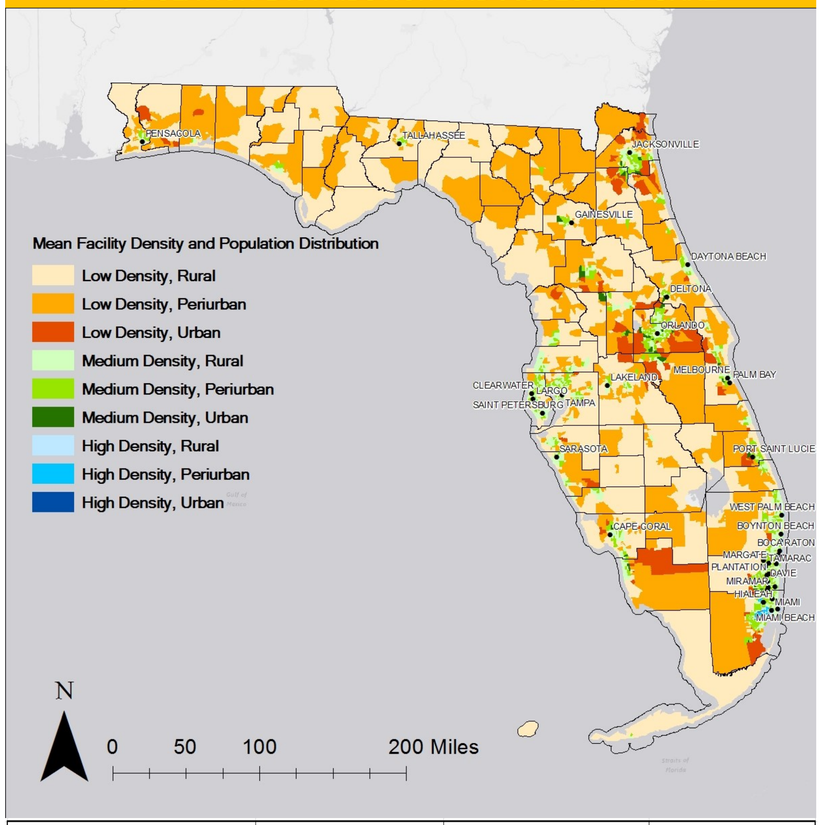
Redefining Access To Care

A Density Analysis of Healthcare Availability in Florida

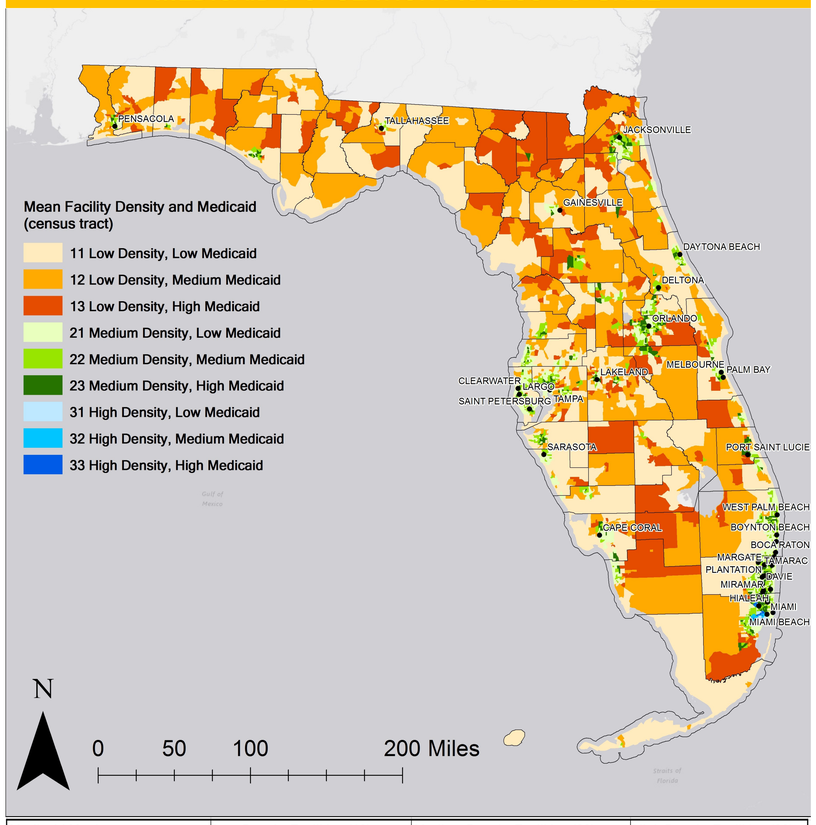
Tufts University

Population Distribution and Access to Care



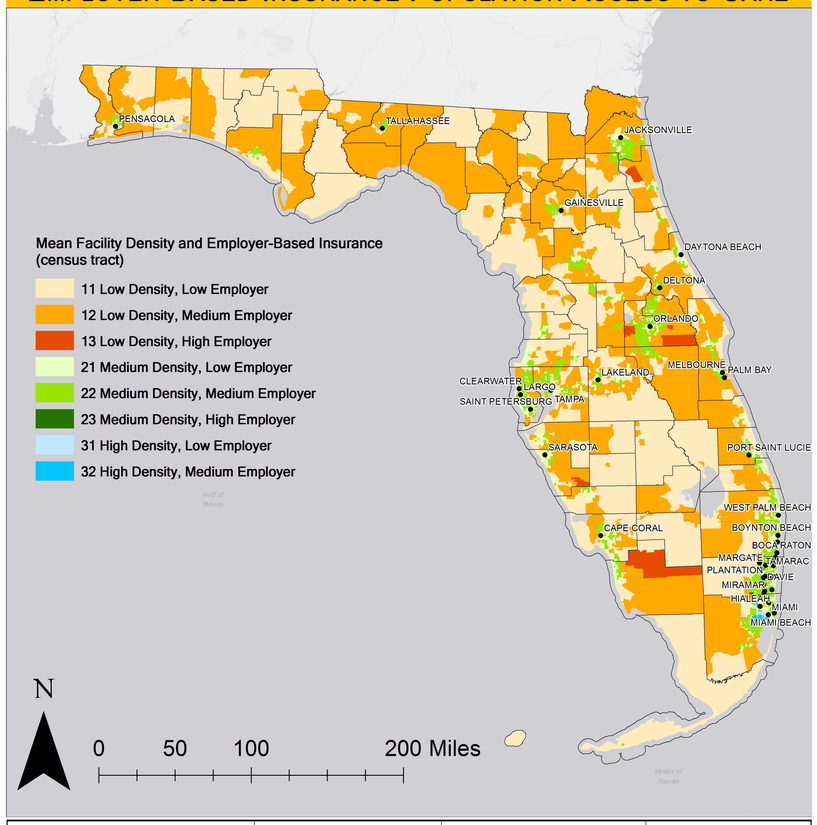
Population Distribution Matrix	Low Density Facilities (10)	Medium Density Facilities (20)	High Density Facilities (30)
Rural Population (1)	2,976,820	5,185,556	267,147
Periurban Population (2)	3,602,801	5,375,732	443,218
Urban Population (3)	1,282,095	491,743	20,660

Medicaid Population Access to Care



Medicaid Matrix	Low Density Facilities (10)	Medium Density Facilities (20)	High Density Facilities (30)
Low Medicaid Population (1)	135,856	206,629	7,069
Medium Medicaid Population (2)	369,873	558,280	44,590
High Medicaid Population (3)	434,104	624,639	50,573

Employer-Based Insurance Population Access to Care



Employer Insured Matrix	Low Density Facilities (10)	Medium Density Facilities (20)	High Density Facilities (30)
Low Employer Insured Population (1)	628,998	1,006,304	52,872
Medium Employer Insured Population (2)	2,131,889	3,010,568	157,508
High Employer Insured Population (3)	109,828	14,055	0

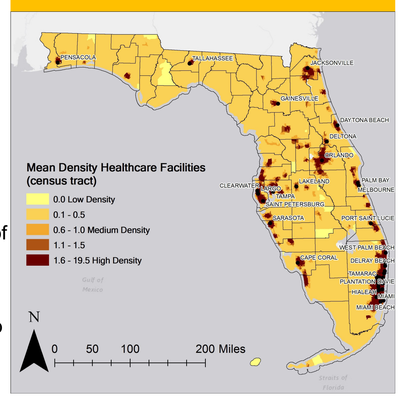
Background

This analysis examines the efficacy of the current access and availability of healthcare facilities in Florida. This study is especially important in light of the recent political debates around healthcare reform, specifically related to Medicaid coverage and repealing and replacing the Affordable Care Act (ACA). Proposed reformations to the ACA, such as the American Health Care Act (AHCA), through reconciliation will have major implications for individuals and families that rely on the public health system for insurance. A study by the Urban Institute estimates that the number of uninsured residents in Florida under the age of 65 in 2019 to increase by 2,230,000 people, while the number of residents to lose Medicaid coverage would increase by 449,000 people.[1] In March of this year, the Florida House passed two pieces of legislation that are key components for a free-market health agenda.[2] Especially given its contentious political divide along with the location of its major urban centers, the state of Florida in particular may present a vulnerable state to such healthcare reforms.

In order to understand how healthcare reforms will impact Floridians, it is important to consider the spatial characteristics that factor into accessibility and availability of primary care facilities.

The purpose of this analysis is to provide a foundational understanding and begin to shed light on differential access to care based on insurance coverage, facility density, proximity to transit, and socio-demographic variables.

Density of Healthcare Facilities

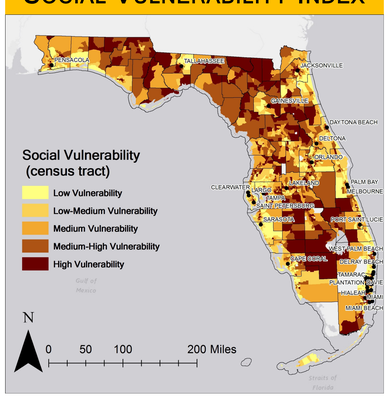


Methods

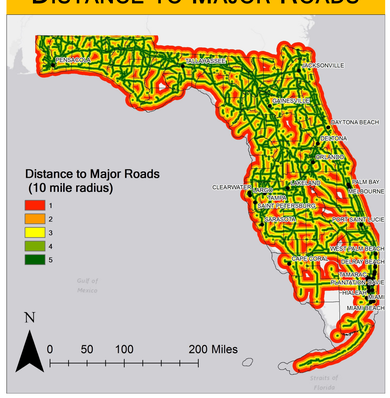
Access to care was operationalized by creating a kernel density for concentration of short term, primary healthcare facilities. This data set was then joined with Florida census tracts to create a density of facilities by census tract. Three matrices were made to analyze the efficacy of Floridian resident's access to care. The first matrix was population distribution, which was coded into three categories: rural, peri-urban, and urban. The other two matrices investigated access as it related to insurance coverage, specifically populations on Medicaid and those insured by their respective employer.

The other maps include a social vulnerability index collected from the Center for Disease Control and Prevention, as well as Euclidean distance rasters to demonstrate access to major roads and public buses. These maps are meant to supplement the density analyses above.

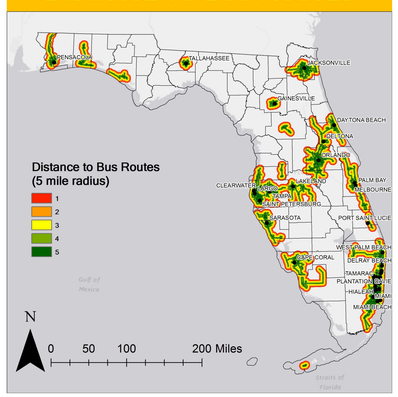
Social Vulnerability Index



Distance to Major Roads



Distance to Bus Routes



Results & Discussion

The highest density of facilities correlates with location of major urban centers in Florida, especially in Southeast Florida in Palm Beach County, Broward County, Miami-Dade County. This is contrasted with over eight million people living in rural areas with limited access to care-many of these people have appropriate access to at most one facility without having to travel longer distances. For populations that rely on Medicaid coverage, access to facilities is also limited. The highest Medicaid populations correspond with a lower density of facilities per tract. In contrast, populations that are provided coverage by their employer have relatively greater access to care.

This analysis demonstrates that there are both physical and social limitations to access to healthcare in Florida. These inequalities are limited in the currency of the data used–most of the data was collected in 2015 or earlier, prior to some policy implementations from the ACA and other legislative changes related to healthcare. However, this study indicates a need for further research into differential access and availability to care on both a state level and municipal level. More attention needs to be paid to rural areas and to populations that depend on public health insurance for coverage.

Cartographer: Aaron Pomerance May 2017 UEP232

Projection: Albers Conic Equal Area

Data Sources: Florida Geographic Data Library, Florida DOT, ACS 2015 Tract Level Data, Center for Disease Control and Prevention (CDC)

Additional Sources: Urban Institute[1], Miami Herald[2]