



Environmental Public Health Tracking Project

June 2020



Abstract

A GIS map analysis of birth outcomes with environmental and socio-economic factors for the Southern Region of Miami-Dade County.

Prepared by

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in partnership with the Florida
Department of Health in Miami-Dade
County



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Overview

The Florida Department of Health in Miami-Dade County (DOH Miami-Dade) partnered with the Health Council of South Florida (HCSF) to conduct an analysis of reproductive health outcomes in conjunction with environmental factors and social determinants of health in the Southern Region of Miami-Dade County (MDC). For this analysis, the Southern Region refers specifically to the following thirteen zip codes; 33030, 33031, 33032, 33033, 33034, 33035, 33039, 33170, 33189, 33190, 33157, 33177, and 33187. This analysis is part of a series of evaluations conducted by DOH Miami-Dade in order to highlight racial, ethnic, and geographical disparities in birth outcomes in MDC. This report, produced by the HCSF, consists of two sections; an updated demographic profile of the Southern Region and three Geographic Information System (GIS) maps overlaying birth outcome data with different environmental and socio-economic indicators.

Background: Florida Department of Health in Miami-Dade

DOH Miami-Dade is the County's branch of the Florida Department of Health (FDOH), a state public agency created by the Florida legislature in 1997. DOH Miami-Dade strives to protect, promote and improve the health of all people in Florida through integrated state, county and community efforts. Serving the largest population out of the 67 county health departments, DOH Miami-Dade is committed to promoting and protecting the public's health and safety. DOH Miami-Dade offers protection, prevention, and treatment through a variety of programs and services to improve the quality of life in MDC. Program and service areas offered by DOH Miami-Dade include; clinical services, wellness programs, community health planning, environmental health, emergency preparedness and response, infectious disease services, community health centers, and support for women, infants and children (WIC). Every five years, DOH Miami-Dade develops a Community Health Improvement Plan (CHIP) to guide strategic programming for the County. In 2018, DOH Miami-Dade began a new cycle of Mobilizing for Action Through Planning and Partnerships (MAPP) by completing the first of four community-based assessments. In 2019, the Department finalized the Community Health Assessment (CHA) and the Community Health Improvement Plan (CHIP). All documents can be viewed on the Consortium for a Healthier Miami-Dade website, www.healthymiamidade.org.

About the Health Council of South Florida

As one of eleven health planning agencies created by S 408.033 to provide health planning services across the state of Florida, the HCSF is a 501(c)(3) non-profit that serves Miami-Dade and Monroe Counties (District 11). For over 50 years, the HCSF has set the standard for excellence in our community by providing unbiased public health and social determinants of health data and analysis, strategic health planning, program management, project evaluation, facilitation of partnerships and collaboration, and capacity building. Guided by our mission, the vision of the organization is to drive integration, collaboration, and engagement for improved health and wellness. The work of the HCSF is centered around 5 key principles:

- Holism - A holistic approach to health to include physical, psychological, spiritual and social dimensions
- Informed Choice - Having access to the right information to make informed choices about health services, treatment options, and end of life care
- Cultural Diversity - Reducing disparity through culturally sensitive communication and interactions
- Responsibility - Shared responsibility by providers, purchasers, consumers, and governmental agencies to work collaboratively to promote and protect the health of the community
- Accountability - Creating equitable and accountable systems of care within the limited resources available

Introduction

In 2016, the FDOH launched the statewide “Florida’s Healthy Babies” initiative to positively influence social determinants of health and reduce racial disparities in infant mortality statewide. Following the initiative, the DOH Miami-Dade conducted an extensive analysis of infant mortality in MDC. This countywide analysis reviewed infant mortality rates and ratios, and further examined specific infant and maternal health factors in conjunction with social determinants of health. Results from the analysis revealed that while progress has been made in reducing infant mortality rates overall for MDC, infant mortality rates still vary greatly by race and ethnicity. These findings are consistent with results from the DOH Miami-Dade’s MAPP CHA as well. Persistent racial and ethnic disparities in infant mortality data suggest that racial and ethnic groups have not benefitted equally from social and medical advances.

Disparities are also seen among different geographical regions of MDC. Many of MDC’s resources are concentrated in the central and northern parts of the County, leaving a limited number of resources available in the Southern Region. Data shows that infant mortality rates vary by geographical area as well, with higher rates of infant mortality in all thirteen zip codes of the Southern Region, compared to other areas of the County. The DOH Miami-Dade has partnered with the HCSF to analyze reproductive health outcomes in conjunction with environmental factors and social determinants of health, specifically in the Southern Region. The analysis includes a demographic profile of the Southern Region, followed by three GIS maps depicting preterm births and infant mortality rates cross-referenced with one environmental indicator and two socio-economic indicators.

Methodology

The HCSF used various sources to collect the relevant data for this analysis. For the demographic profile, the most recent (2018) five-year estimate data was pulled from the U.S. Census Bureau's American Community Survey at the zip code level. Three different data sources were utilized in the development of the GIS maps to pull birth outcome data, environmental data, and social determinants of health data. Due to limited availability of environmental indicators at a more local level other than county and statewide level data, the FDOH utilizes the indicator "percent living 500 feet within a busy roadway", available at the census tract level, to estimate air pollution exposure by a specific community. Census tracts are small, relatively permanent statistical subdivisions of a county that have a population range of 1,200-8,000¹. Census tract data is on a more local level than zip code level data, so it is possible to combine multiple census tracts to represent one zip code. The "percent living 500 feet within a busy roadway" indicator was retrieved from the Florida Environmental Public Health Tracking system. In an effort to align census tract level data retrieved for this environmental indicator, birth outcome data (preterm and infant mortality) was also analyzed at this level. The HCSF referred to the FDOH's data repository platform, FLHealthCHARTS, to retrieve data, at the census tract level, for these two birth outcomes.

The indicators chosen to represent social determinants of health include a percent of the population that are uninsured and a percent of residents living below poverty level. Both indicators were filtered by the census tract corresponding to the Southern Region, and derive from American Community Survey, five-year estimates, collected annually by the U.S. Census Bureau.

After extracting the data, the HCSF developed three GIS maps to overlay the different data points and show the relationships between birth outcomes, environmental health and social determinants of health. Map 2 shows percent of preterm births and percent of population that live below poverty level; Map 3 highlights percent of preterm births and proximity to a congested roadway; and Map 4 depicts the distribution of infant mortality rate according to percent of the population without health insurance. As cited earlier, all three maps present the census tract-level data within zip code boundaries of the Southern Region of MDC.

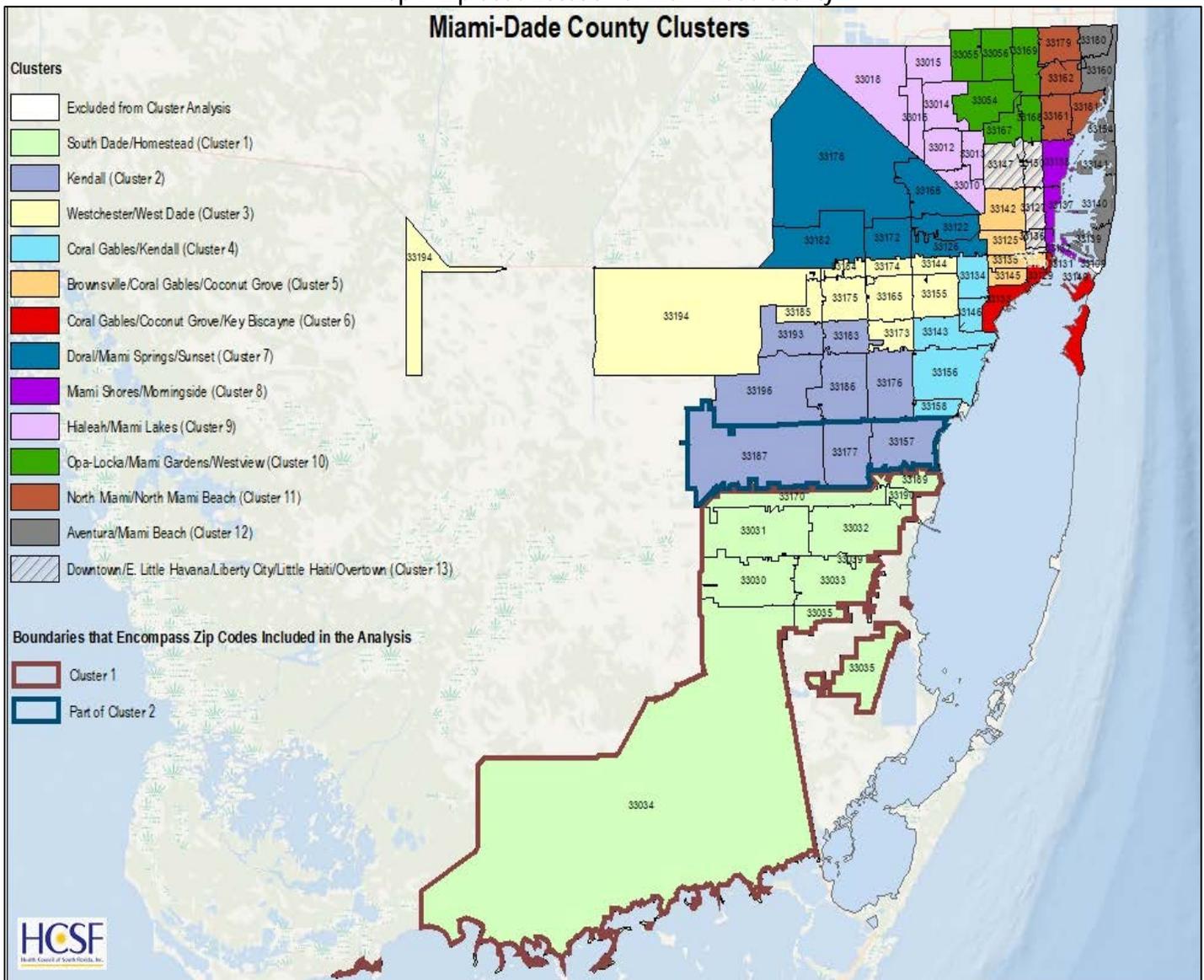
¹U.S. Census Bureau. Glossary. Available from: https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_13

Demographic Profile

Map 1 portrays MDC at the zip code level (please see Appendix 1 for a larger image). The dark red border at the bottom of the map outlines Cluster 1, while the blue border outlines part of Cluster 2. Clusters have been used by DOH Miami-Dade in previous assessments, and were most recently used in the 2018 MDC Wellbeing Survey. Clusters are zip codes linked according to their perceived community identity and geographic contiguity. However, at times these clusters also cross boundaries based upon socioeconomic status or population counts. There are 13 total clusters for sampling, 12 standard clusters and 1 oversampled cluster. Cluster 13 is the oversampled cluster consisting of contiguous zip codes representing the most economically and socially deprived neighborhoods, many of which also suffer from the highest rates of hospitalization for preventable conditions.

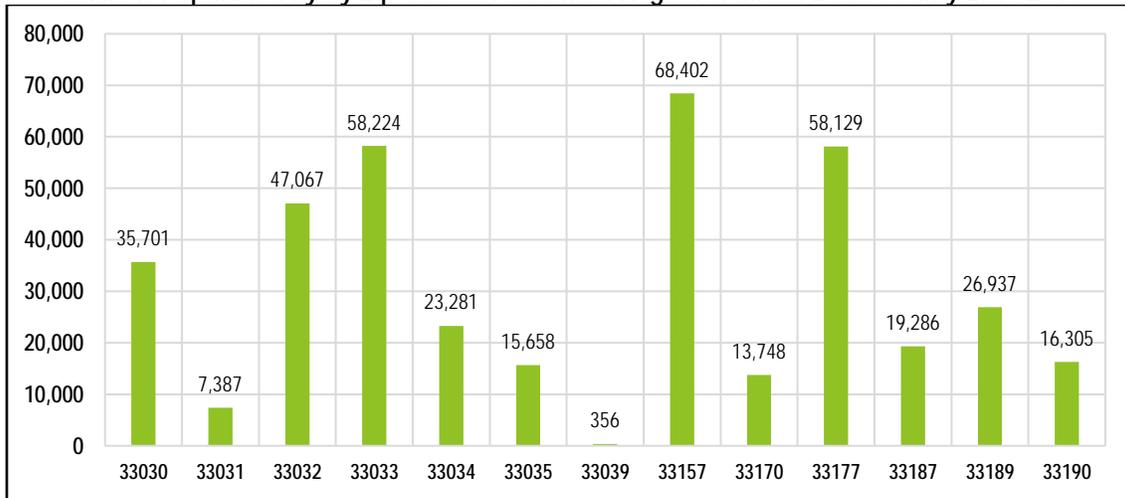
Cluster 1 (outlined in dark red) plus the three zip codes from Cluster 2 (outlined in blue) represent the Southern Region of MDC, which is the focus of this analysis. This region consists of the following thirteen zip codes; 33030, 33031, 33032, 33033, 33034, 33035, 33039, 33157, 33170, 33177, 33187, 33189, and 33190. The following section presents several demographic and socio-economic indicators at the zip code level for the Southern Region.

Map 1: Zip Code Location of Miami-Dade County



According to the most recent five-year estimates (2014-2018) from the US Census Bureau’s American Community Survey, MDC has a total population of 2,715,516. Chart 1 shows the population distribution by zip code for the Southern Region. The most populous zip codes in the Southern Region are 33157, 33177 and 33033, while the least populous zip codes include 33039, 33031 and 33170. Zip code 33039 has a significantly lower population compared to the remaining zip codes in the Southern Region because it only pertains to the Homestead Air Reserve Base. Many military bases in the United States, like the Homestead Air Reserve Base, have independent zip codes, which pertain only to military addresses.

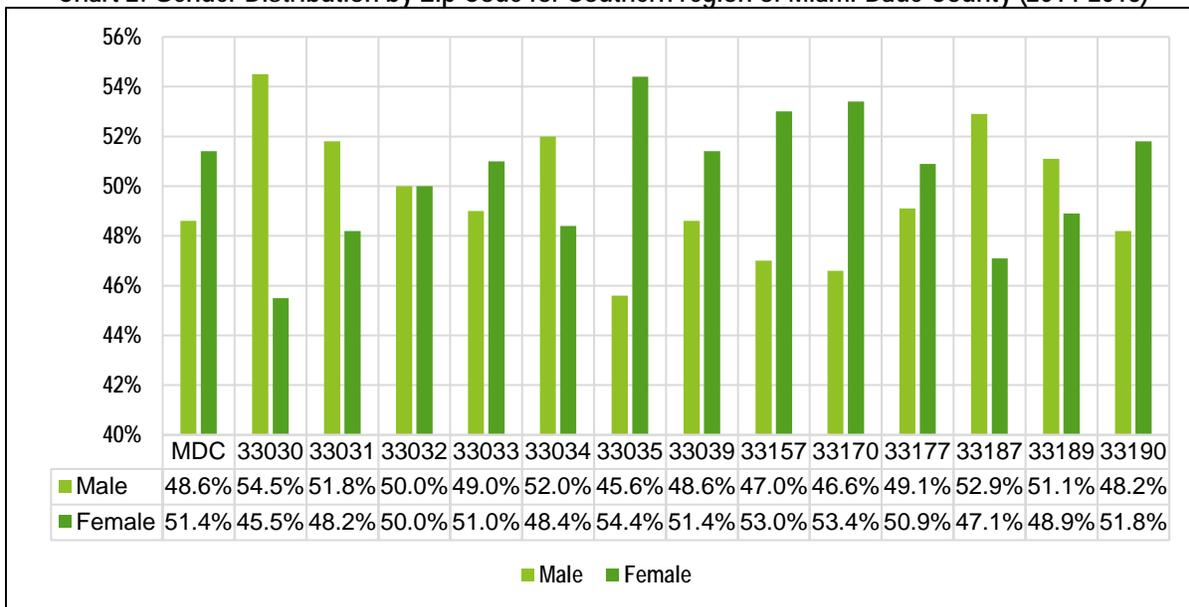
Chart 1: Population by Zip Code for Southern Region of Miami-Dade County 2014-2018



Source: US Census, American Community Survey, Five-Year Estimates, 2014-2018

Chart 2 illustrates gender distribution by zip code in the Southern Region. Within the MDC population, 51.4% identify as female and 48.6% identify as male. Zip codes 33030 and 33035 have the largest gaps among people who identify as male and people who identify as female, with almost a 9% difference for each zip code. Zip code 33030 has a higher percentage of males compared to females, whereas zip code 33035 has a higher percentage of females compared to males. Similarly, zip codes 33157 and 33170 each show almost a 6% gender gap, each with higher percentages of females compared to males.

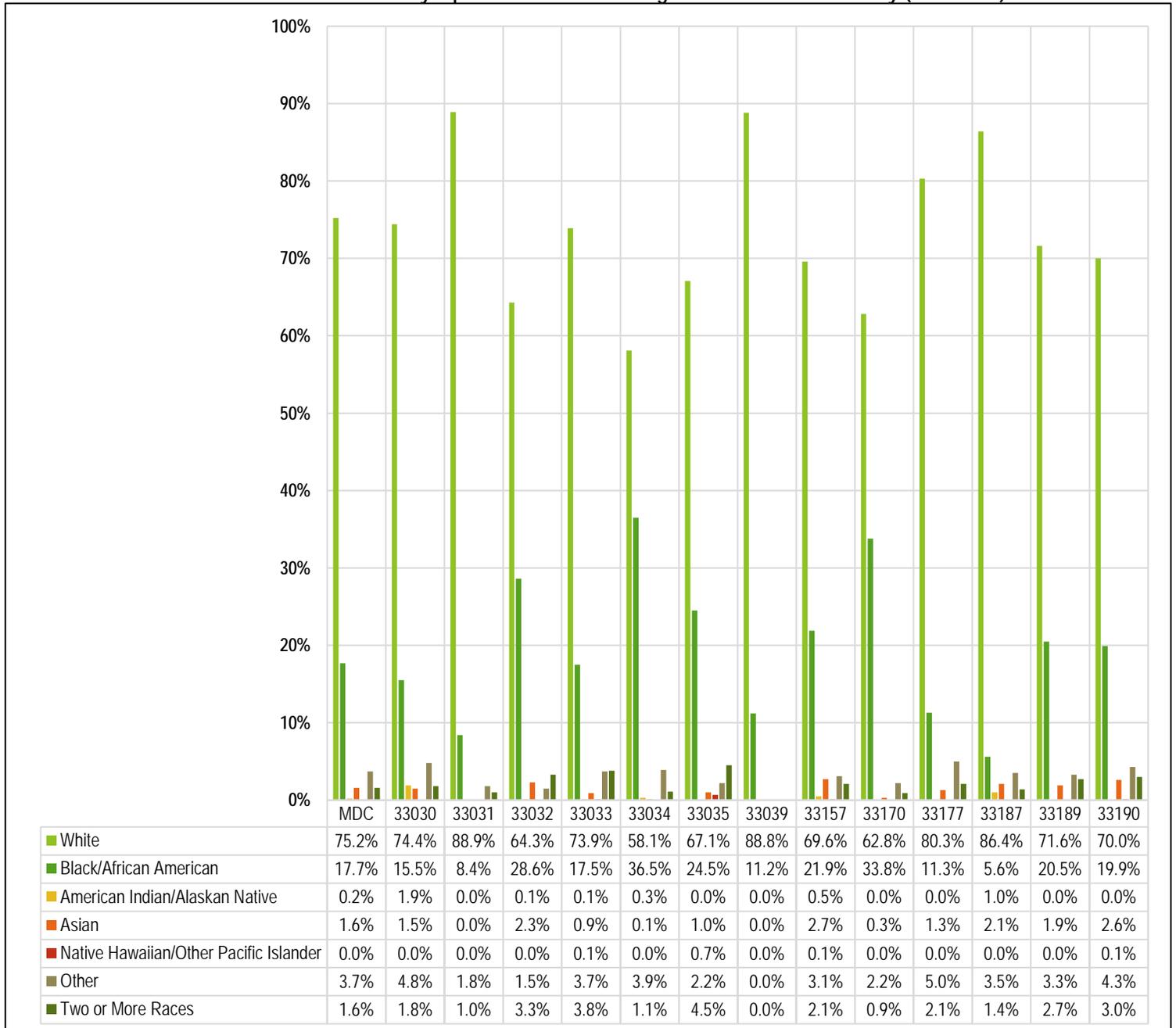
Chart 2: Gender Distribution by Zip Code for Southern region of Miami-Dade County (2014-2018)



Source: US Census, American Community Survey, Five-Year Estimates, 2014-2018

The racial makeup of MDC, according to the most recent ACS data, is 75.2% White, 17.7% Black or African-American, 3.7% other race category, 1.6% Asian, and 0.2% American Indian/Alaskan Native and 1.6% 2 or more races. Chart 3 depicts the race distribution by zip code in the Southern Region, most of which follow a similar pattern to that of MDC. For each of the 13 zip codes in this region there is a higher percentage of people identifying as White compared to all other race categories, including Black/African-American, American Indian/Alaskan Native, Asian, Native Hawaiian/Other Pacific Islander, and Other. Following the White race category, the second highest percentages for each zip code are attributed to people identifying as Black/African-American. All other race categories each constitute less than 5% of the population for each zip code in the region. Seven out of the 13 zip codes in the Southern Region show higher percentages of people who identify as Black/African American, compared to the overall percentage of people who identify as Black/African American in MDC (17.7%).

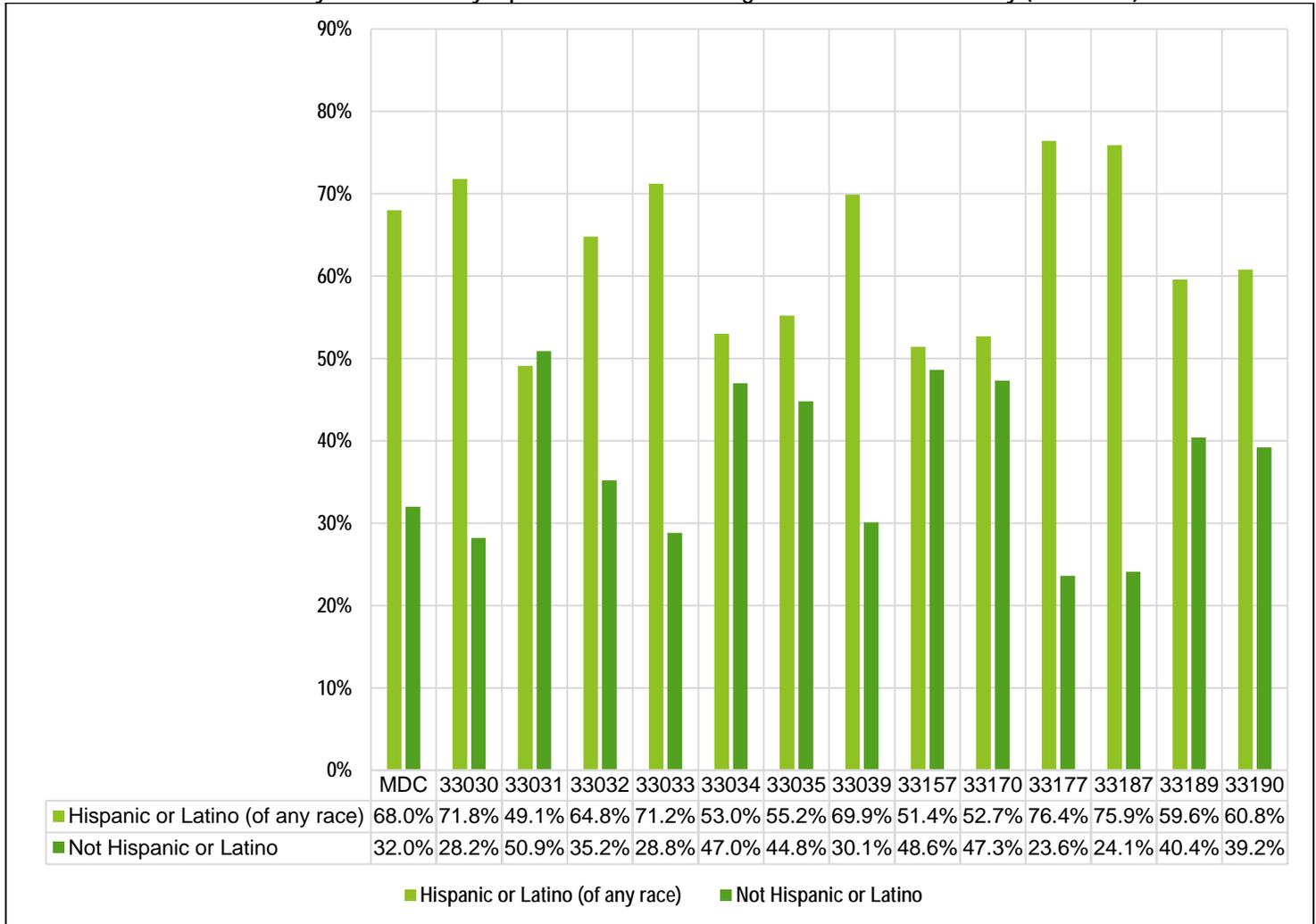
Chart 3: Race Distribution by Zip Code for Southern region of Miami-Dade County (2014-2018)



Source: US Census, American Community Survey, Five-Year Estimates, 2014-2018

Chart 4 displays the population distribution according to ethnic identity by zip code of residence for the Southern Region, comparing the percentages of people that identify as Hispanic or Latino to people that identify as non-Hispanic or Latino. At the County level, 68% of the Miami-Dade population identifies as Hispanic or Latino and 32% identifies as non-Hispanic or Latino. There is a higher percentage of people identifying as Hispanic or Latino for all of the zip codes in the Southern Region except for zip code 33031, which has a slightly higher percentage of people who identify as non-Hispanic or Latino (50.9%). The zip codes with the largest gap between those that identify as Hispanic or Latino and those that do not, include 33177 and 33187, which show a 52.8% and 51.8% difference, respectively.

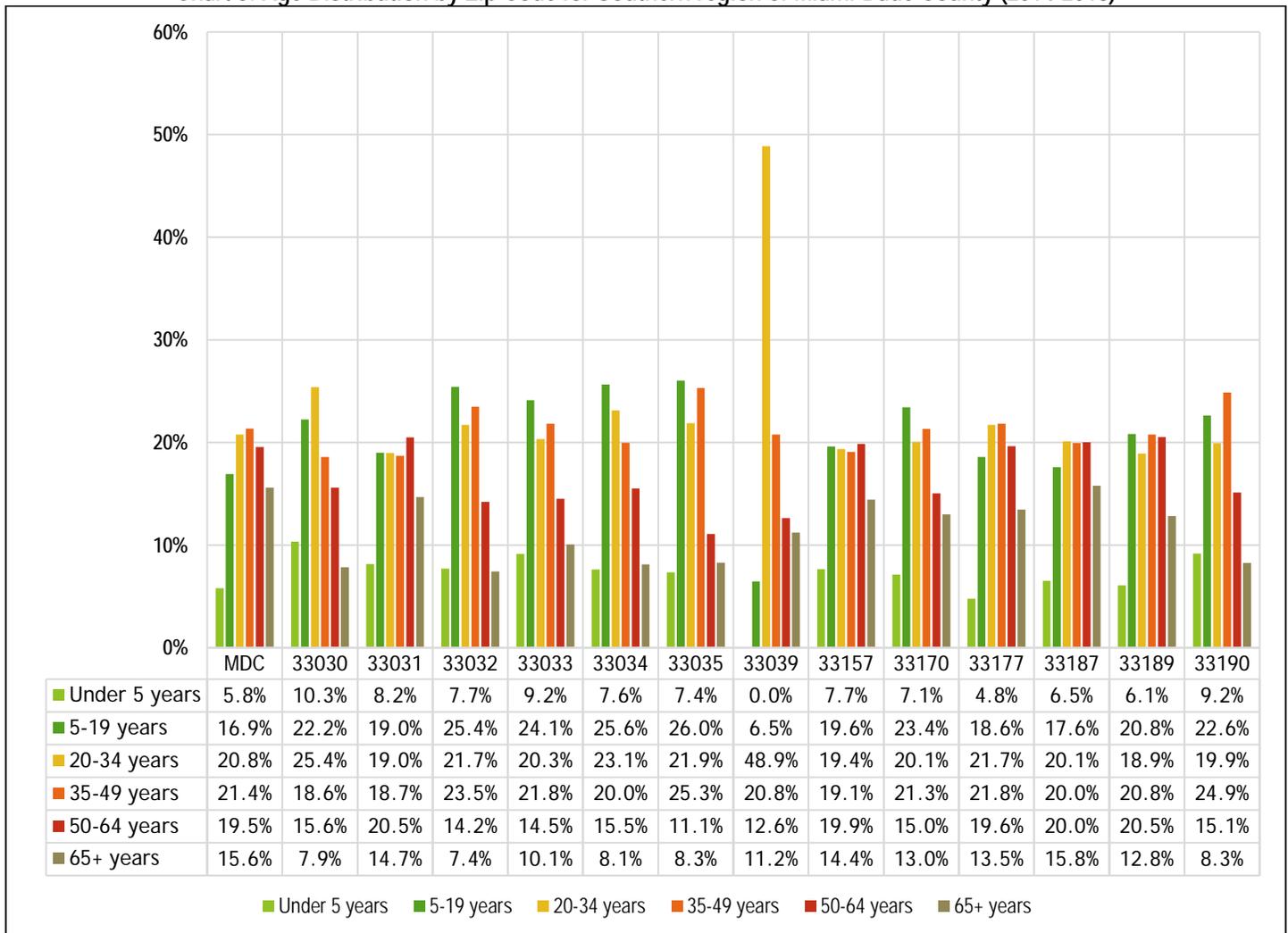
Chart 4: Ethnicity Distribution by Zip Code for Southern region of Miami-Dade County (2014-2018)



Source: US Census, American Community Survey, Five-Year Estimates, 2014-2018

Chart 5 presents the age distribution by zip code for the Southern Region, comparing percentages of people belonging to six different age categories: under 5 years old, 5 to 19 years old, 20 to 34 years old, 35 to 49 years old, 50 to 64 years old, and 65 years and older. Overall, the age distribution for MDC is 5.8% under 5 years old, 16.9% 5-19 years old, 20.8% 20-34 years old, 21.4% 35-49 years old, 19.5% 50-64 years old and 15.6% 65 years and over. As illustrated in Chart 5, the majority of the zip codes have a similar age distribution to that of the County, except for zip code 33039, which has a much higher percentage of people in the 20-34 age category (48.9%). As previously noted, zip code 33039 represents the Homestead Air Reserve Base, which accounts for the difference in age distribution. Zip codes 33030, 33032, 33034, 33035 and 33190 all have younger populations, with less than 10% of their population falling into the 65 and older age category.

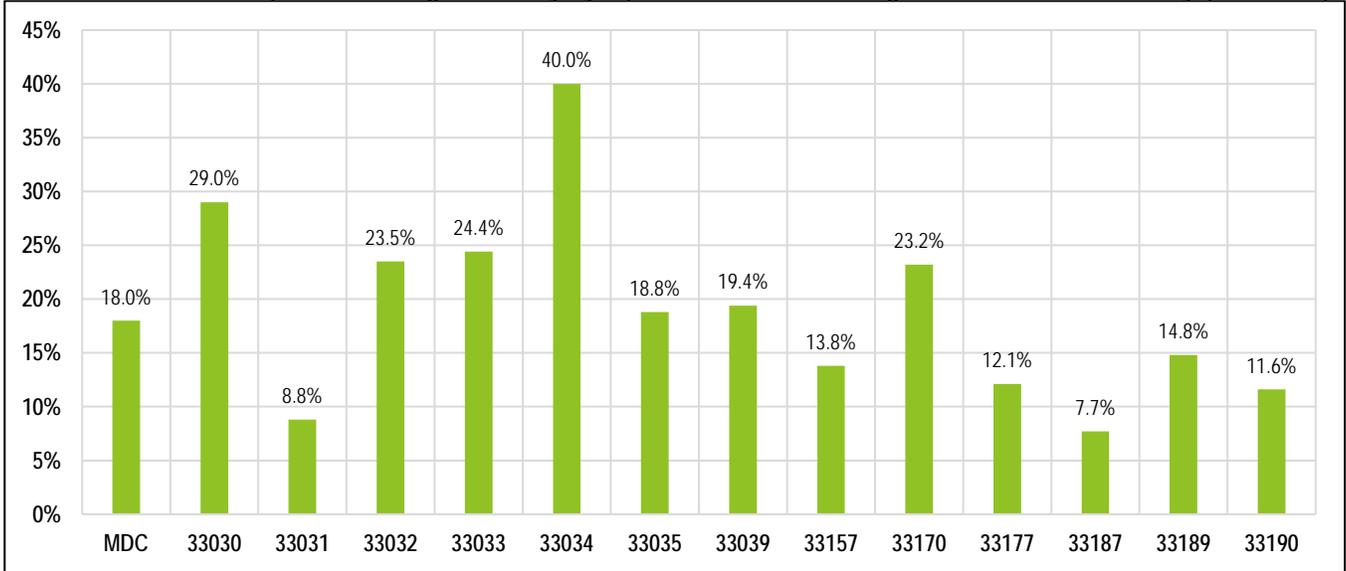
Chart 5: Age Distribution by Zip Code for Southern region of Miami-Dade County (2014-2018)



Source: US Census, American Community Survey, Five-Year Estimates, 2014-2018

In MDC, 18% of the population are living in poverty, according to the most recent ACS data. Chart 6 shows the percentage of people living in poverty by zip code for the Southern Region. For the Southern Region, 7 of the zip codes have a higher percentage of people living in poverty than the County level, with zip code 33034 having the highest percentage at 40%. The remaining 6 zip codes have lower percentages of people living in poverty compared to the County with zip code 33187 having the lowest percentage at 7.7%.

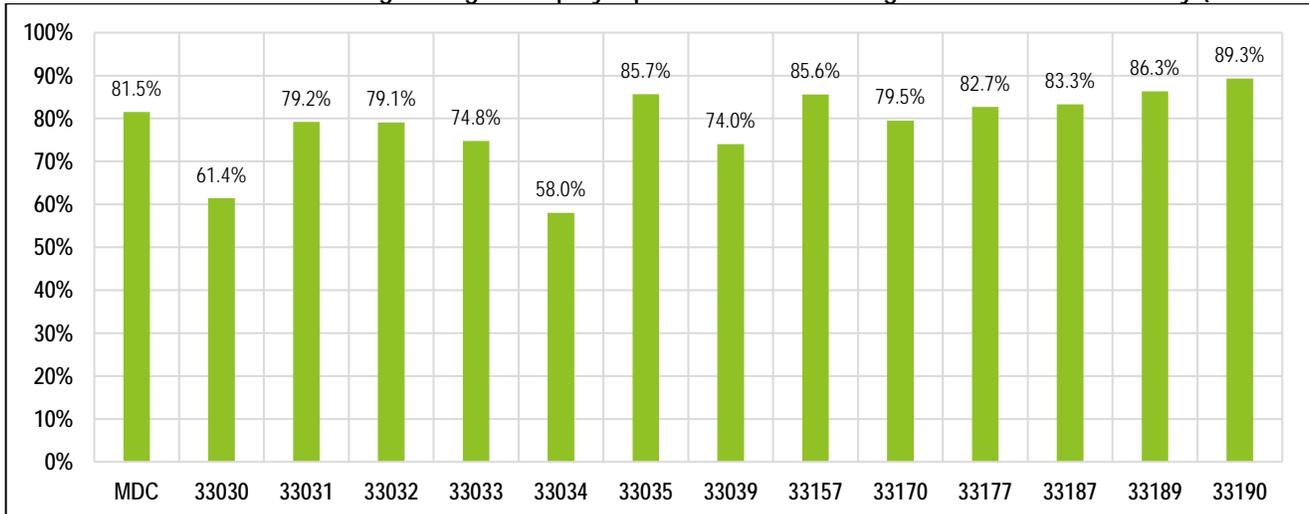
Chart 6: Percent of Population Living in Poverty by Zip Code for Southern region of Miami-Dade County (2014-2018)



Source: US Census, American Community Survey, Five-Year Estimates, 2014-2018

Chart 7 explores educational attainment in the Southern Region and illustrates the percent of people with 25 years of age or more that have achieved a high school degree or higher by zip code. Specifically, this category includes people who are 25 years old or older and have accomplished at least one of the following: graduated high school (or completed an equivalent), completed some college without a degree, achieved an associate’s degree, a bachelor’s degree, or a graduate or professional degree. According to the most recent ACS data, 81.5% of people in MDC aged 25 and older have completed at least a high school degree. Following Chart 7, seven zip codes in the Southern Region (33034, 33030, 33039, 33033, 33032, 33031, and 33170) have a lower percentage of people in the 25+ age category that have completed high school or higher, compared to the County, ranging from 58.0% to 79.5%. Zip codes 33034 and 33030 have the lowest percentages of people in the 25+ age category that have achieved a high school degree or higher, with 58% and 61.4%, respectively. On the other hand, 6 zip codes in the Southern Region (33177, 33187, 33157, 33035, 33189, and 33190) have a higher percentage of people in the 25+ age category that have completed high school or higher, compared to the County, ranging from 82.7% to 89.3%. Zip codes 33190 and 33189 have the highest percentages of people in the 25+ age category with at least a high school education or higher, with 89.3% and 86.3%, respectively.

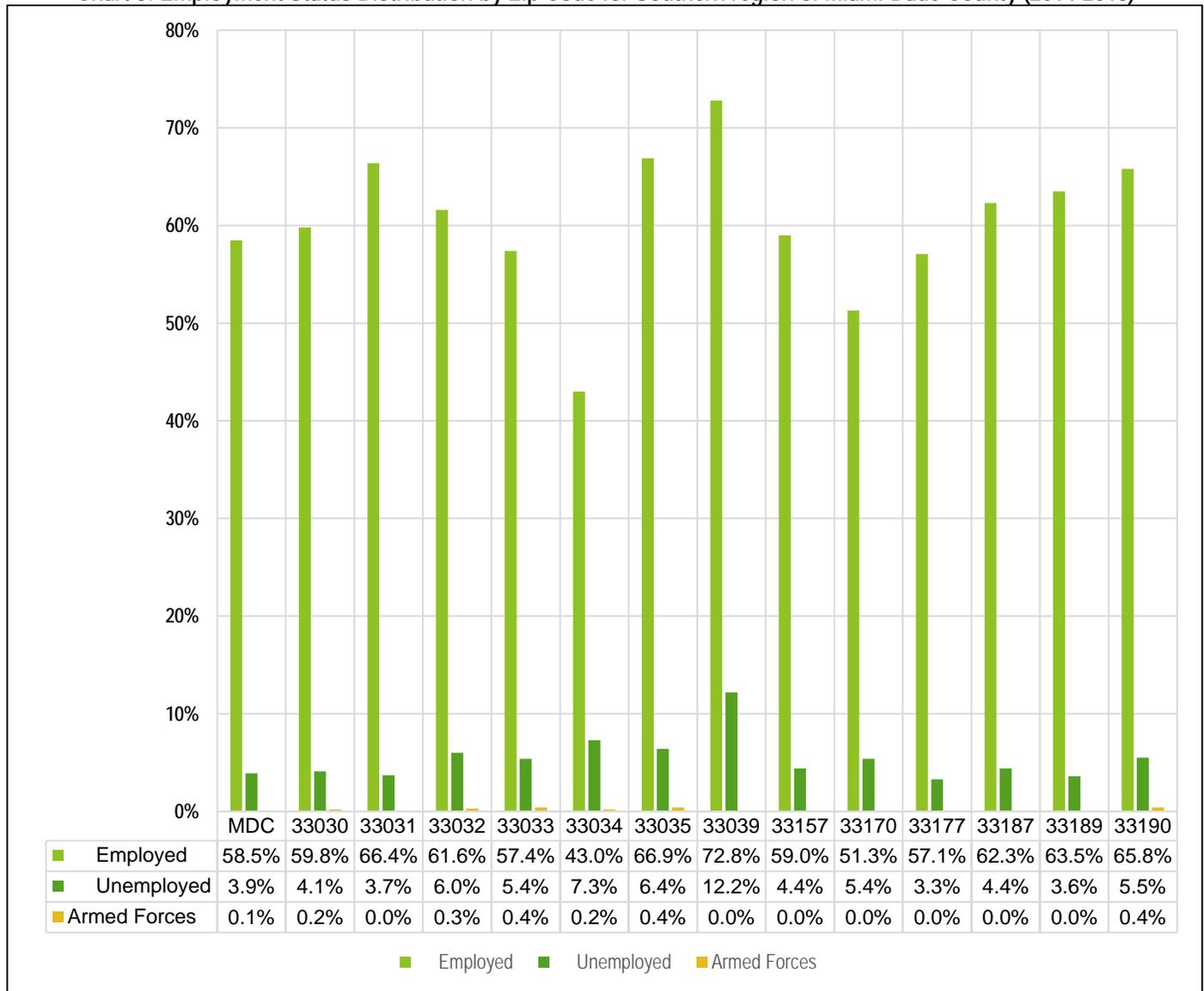
Chart 7: Educational Attainment among 25+ Age Group by Zip Code in Southern region of Miami-Dade County (2014-2018)



Source: US Census, American Community Survey, Five-Year Estimates, 2014-2018

In MDC, 62.5% of the population aged 16 years and older are participating in the labor force. Of those in the labor force, 58.5% are employed in the civilian labor force, 0.1% are employed in the armed forces, and 3.9% are unemployed (Chart 8). The remaining 37.5% of people over the age of 16 in MDC are not participating in the labor force. The U.S. Census Bureau defines the “not in labor force” category as all people 16 years old and over who are not classified members of the labor force, including students, homemakers, retired workers, seasonal workers in an off season who were not looking for work, institutionalized people, and people doing only incidental unpaid family work.² Chart 8 displays the employment distribution, among the portion of the population 16 years old and over that are currently participating in the labor force, by zip code for the Southern Region. Out of the 13 zip codes in the Southern Region, 10 zip codes have higher percentages of unemployment compared to the County (3.9% unemployment rate). The zip codes with the highest unemployment percentages are zip code 33039 with 12.2% unemployment and zip code 33034 with 7.3% unemployment. On the other hand, zip codes 33031, 33189, and 33177 each have a lower rate of unemployment compared to the County rate, with 33177 having the lowest rate (3.3%).

Chart 8: Employment Status Distribution by Zip Code for Southern region of Miami-Dade County (2014-2018)



Source: US Census, American Community Survey, Five-Year Estimates, 2014-2018

²U.S. Census Bureau. Glossary. Available from: https://www.census.gov/glossary/#term_Notinlaborforce

GIS Maps

The following section presents three GIS maps with each map representing a dual indicator analysis (e.g., birth outcomes and social determinants of health) corresponding to the census tracts in the Southern Region of MDC. This dual indicator analyses includes the following comparisons: preterm births and poverty level; preterm births and proximity to a congested highway; and infant mortality compared to lack of health insurance coverage among residents in this geographic area.

Each map is represented by a color-coded underlying indicator, overlaid by a graduated symbol (e.g., circle or bubble) with their respective values (e.g., percentages or rates) distributed across the Southern Region of the County for comparison purposes. For instance, Map 2 illustrates the percentage of preterm births, the underlying indicator, coded with the color blue, with the darker hue representing the highest percentage of preterm births and the lightest hue indicating the lowest percentage of preterm births. For analytical purposes, the indicator, “percentage of population that live below poverty level”, has been overlaid on Map 2 and its distribution is presented by a graduated green circle, with the biggest circle illustrating the highest percentage of the population that live below poverty level, and the smallest circle signifying the smallest percentage of the population that live below poverty level.

Preterm Births and Poverty

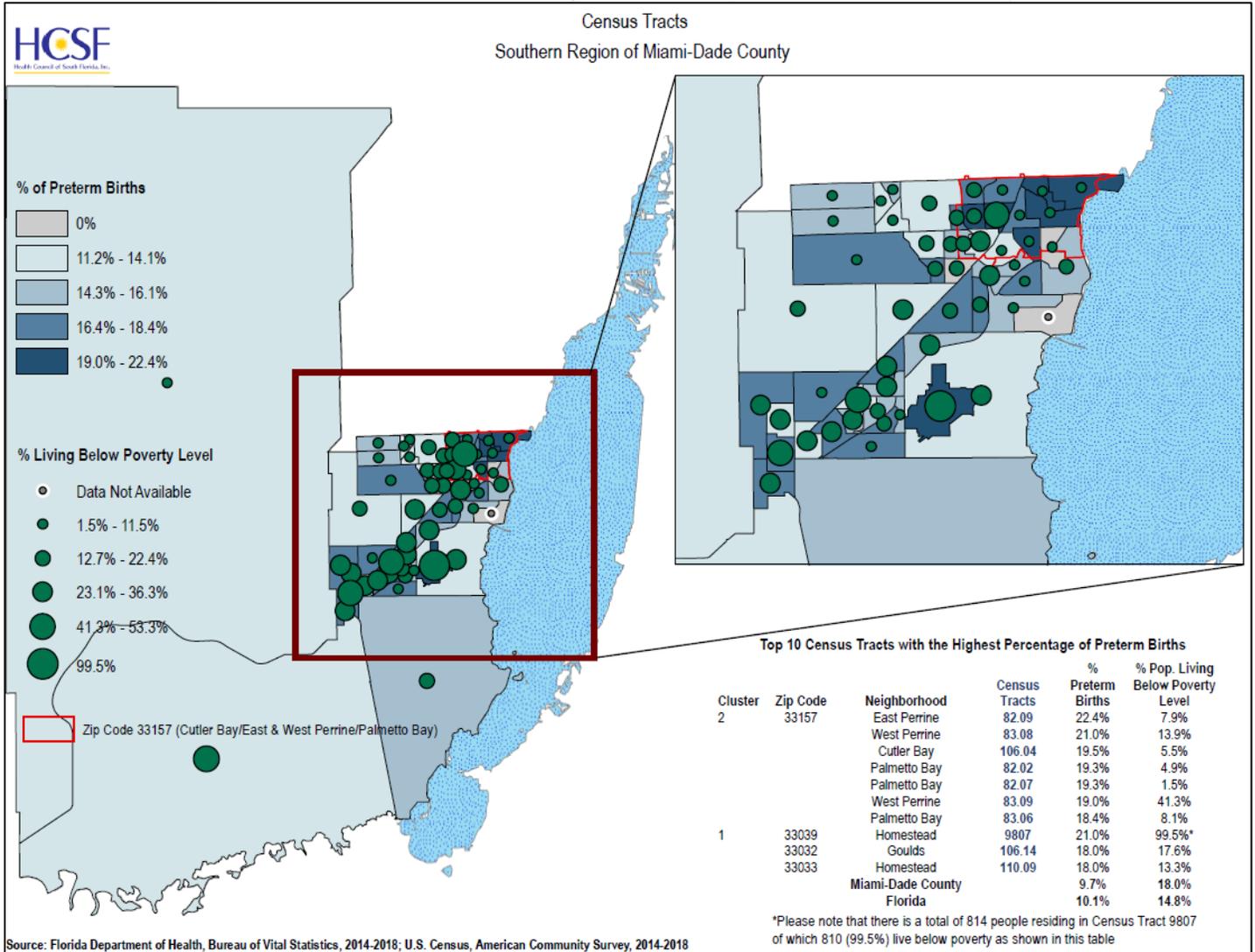
According to the FDOH and the National Center for Health Statistics, infants that are born preterm are at increased risk for death, short and long-term medical complications, and neurodevelopmental sequelae when compared to full term births. Furthermore, researchers cite several factors that contribute to preterm births, such as the mother's demographic characteristics, including Black race, young or advanced age, and low socioeconomic status, as well as unhealthy lifestyle, including tobacco use, substance abuse, and low or high pre-pregnancy body mass index.³

Map 2 highlights the distribution of preterm births (< 37 weeks gestation) in the Southern Region, by census tract level, according to the percent of the population that live below poverty level (for an expanded version of Map 2, please refer to the Appendix section). The objective of this graphic representation was to observe whether there is an association between preterm births and poverty level in this geographic area of MDC. Seven of the ten census tracts with the highest percentage of preterm births derive from zip code 33157 (Cutler Bay/East and West Perrine/Palmetto Bay). There were two census tracts that ranked among the top ten with the highest rates of preterm births and poverty which include census tracts 9807 and 83.09 (Homestead and West Perrine, respectively). It is important to note that the majority of the population residing in census tract 9807 (810 out of 814 or 99.5%) live below poverty level and between years 2014 and 2018, 21% of total live births observed in this geographical area were preterm births.

The highest percentage of preterm births were observed in census tract 82.09 (East Perrine) with 22.4% of total live births, which is twice as high as the County and State rates of 9.7% and 10.2%, respectively. However, the percentage of residents that live below poverty level in census tract 82.09 (7.9%) is significantly lower than the census tracts that ranked among the top ten with the highest poverty rates, which ranged between 30.2% and 99.5% (noted above).

³ Barfield, W.D. Public Health Implications of Very Preterm Births. Clinics in Perinatology [Internet]. 2019 [cited 2020 Apr 29]. 45(3): 565-577. Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6193262/pdf/nihms-992275.pdf>

Map 2: Percent of Preterm Births According to Percent of Population that live Below Poverty Level



Preterm Births and Proximity to a Congested Roadway

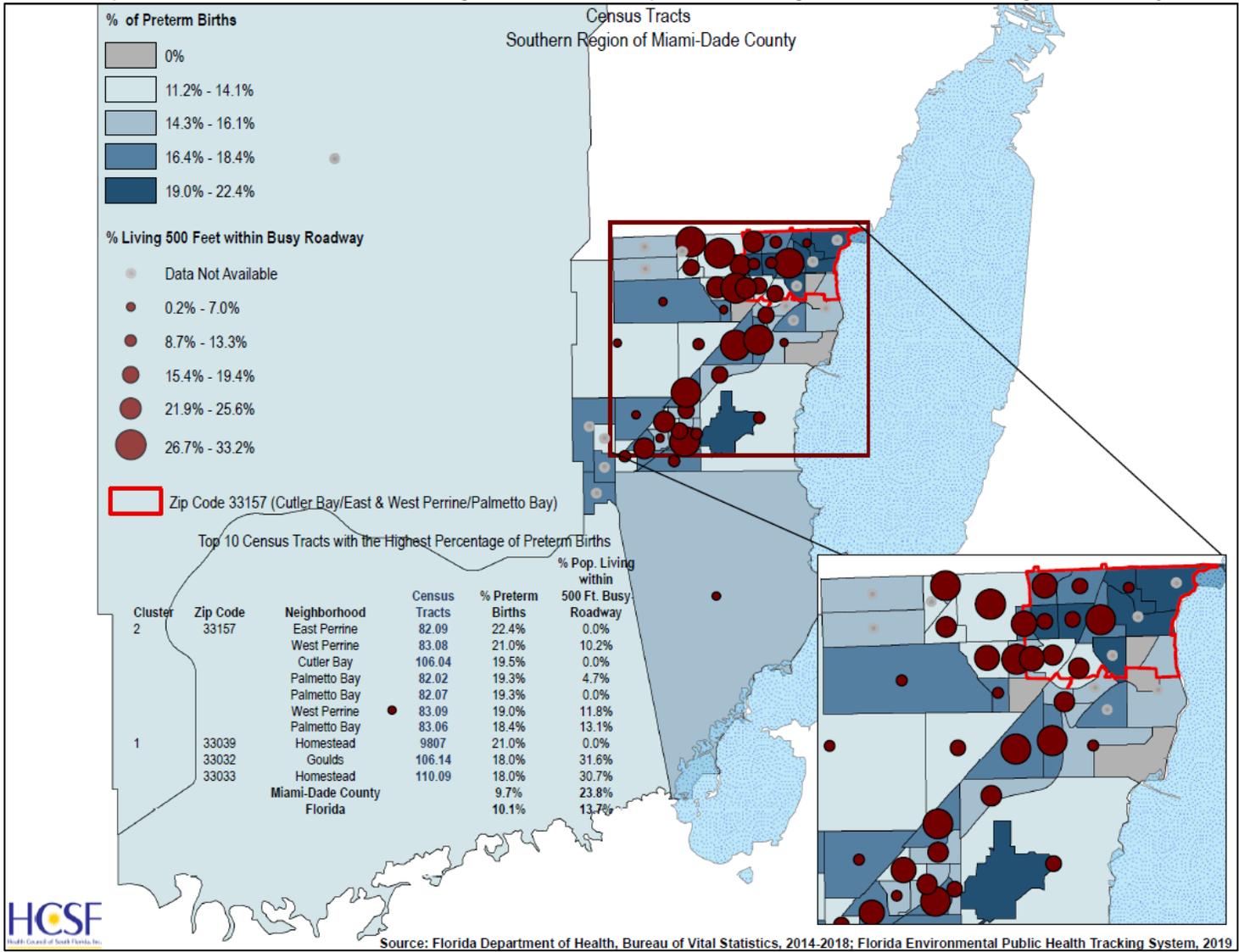
According to the FDOH, poor air quality has been a major public health and environmental concern in the United States for approximately 70 years. Air pollution has been correlated with specific health problems, such as asthma, heart disease, and breathing problems. One of the indicators that is employed to measure air pollution by the U.S. Environmental Protection Agency (EPA) and the Centers for Disease Control and Prevention (CDC) is levels of Particulate Matter (PM) in a specific community.⁴ The size of PM particles is directly linked to health issues, as such particles that are equal to or less than 2.5 micrometers (fine particles) in diameter present the greatest health threat to residents since they could potentially penetrate the lungs and the bloodstream. Fine particles, for instance, could be found in smoke or haze.

As noted earlier, due to limited collection of air quality data at a more granular level (e.g., census tract, block group level data) than county and state level data, the FDOH and other national agencies refer to the number of people who live within 500 feet to a congested roadway as a way to assess air pollution exposure in a specific community. This indicator is collected at the census tract level in the State of Florida.

Map 3 highlights the distribution of preterm births (< 37 weeks gestation) in the Southern Region, by census tract level, according to the percent of the population in this geographical area that reside within 500 feet of a busy roadway (for an expanded version of Map 3, please refer to the Appendix section). The table included in Map 3 depicts the top ten census tracts with the highest percentage of preterm births and the corresponding percentage of residents in each of these ten census tracts living within 500 feet of a congested or busy roadway. There were two census tracts that ranked among the top ten with the highest rates for both of these indicators, which included census tracts 106.14 and 110.09 (Goulds and Homestead, respectively). For instance, 18% of total births observed in census tract 106.14 between the years 2014 and 2018 were preterm births and close to 32% of people residing in this geographical area live within 500 feet of a congested roadway (the second highest percentage of residents living within 500 feet of a congested roadway). Additionally, zip code 33157 (Cutler Bay/East and West Perrine/Palmetto Bay) encompassed seven of the ten census tracts with the highest percentages of premature births; not necessarily exhibiting the highest percentages of the population residing within 500 feet of a busy highway as noted earlier. All of the top ten census tracts exhibited higher percentages of premature births than the County and State level rates.

⁴ United States Environmental Protection Agency. What is Particulate Matter; 2017 [Internet]. Available from: <https://www3.epa.gov/region1/eco/uep/particulatematter.html>

Map 3: Percent of Preterm Births According to Percent of the Population Residing within 500 Feet of a Congested Roadway



Infant Mortality and the Uninsured

The FDOH defines infant mortality as the death of a live-born baby during the first year of life, and is represented by the infant mortality rate or the number of infant deaths per 1,000 live births.⁵ Additionally, in the United States, the five leading causes of infant deaths include birth defects, maternal pregnancy complications, Sudden Infant Death Syndrome (SIDS), injuries, and preterm and low-birth weight, which have been linked to access to quality of health care.⁶

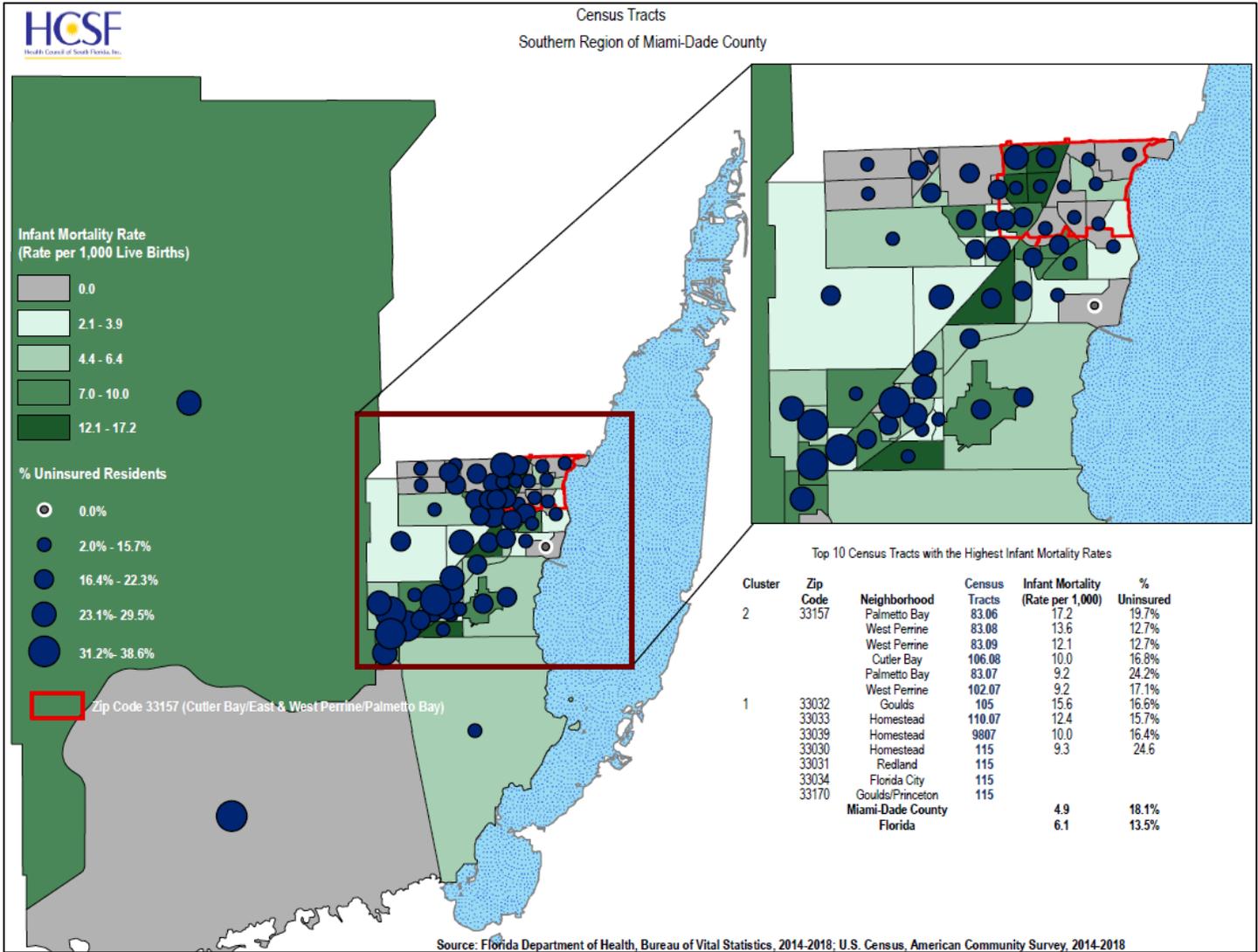
As mentioned previously, in 2016, DOH Miami-Dade participated in a statewide initiative to conduct a countywide analysis on infant mortality to assess rates, ratios, and cause-specific infant mortality rates. In conjunction with social determinants of health, infant and maternal health factors were also examined as part of this initiative. The results of this effort indicated that even though the countywide infant mortality rates have decreased and are lower than the statewide and nationwide rates, there continues to be racial and ethnic disparities as it relates to infant mortality. These disparities are mainly observed in the Southern Region and, as noted by DOH Miami-Dade, particularly due to the limited number of resources that are available to residents in this area of the County.

The following analysis depicts infant mortality rates in the Southern Region, by census tract, according to the uninsured rate for this geographical area of the County. When all census tracts in the Southern Region were analyzed for these two indicators, it was observed that none of these census tracts ranked among the top ten with the highest rates for both indicators. For instance, census tract 83.06 (Palmetto Bay) exhibited the highest infant mortality rate in Southern Region with 17.2 infant deaths per 1,000 live births (Map 4). For an expanded version of Map 4, please refer to the Appendix section. However, close to 20% of residents of this geographical area were uninsured, which falls outside of the top ten areas with the highest uninsured rates. The highest uninsured rate in the Southern Region was 38.6% observed in census tract 111.01, located within the boundaries of zip code 33033 in Homestead. Additionally, six out of the ten census tracts with the highest infant mortality rate are located within the boundaries of zip code 33157 (Cutler Bay/East and West Perrine/Palmetto Bay), as highlighted earlier with respect to other birth outcomes. All of the top ten census tracts exhibited infant mortality rates substantially higher than the County and State level rates (4.9 and 6.1 infant deaths per 1,000 live births, respectively).

⁵ Florida Department of Health. Infant Deaths [Internet]; 2020. Available from <http://www.flhealthcharts.com/charts/DataViewer/InfantDeathViewer/InfantDeathViewer.aspx?indNumber=0053>

⁶ Centers for Disease Control and Prevention. Reproductive Health [Internet]; 2020 [Updated 2019 Mar 27]. Available from <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm>

Map 4: Infant Mortality Rate According to Percent of Residents that are Uninsured



Conclusion

The Southern Region, consisting of thirteen zip codes in MDC, has a population of 390, 481. The racial make-up of the Southern Region differs slightly from the racial make-up of MDC, as the majority of zip codes in the Southern Region have higher percentages of people who identify as Black/African American, compared to the County. Looking at the socio-economic indicators, a vast majority of the zip codes in the Southern Region show higher unemployment rates than the overall unemployment rate of MDC (3.9%). Similarly, a majority of the zip codes in the Southern Region have show lower educational attainment and higher rates of poverty than MDC.

The final section of this report presented a geographical analysis of five indicators which fall within three main categories: social determinants of health (2), birth outcomes (2), and the environment (1). More specifically, the relationship or association between the following pair of indicators was examined as they relate to the Southern Region: preterm birth and poverty, preterm birth and proximity to a congested roadway, and infant mortality and the uninsured. When the percentage of preterm births and the percentage of residents that live below poverty level were analyzed, a certain degree of association was observed between these two indicators. For instance, there were two census tracts, one located in West Perrine (83.09) and the other in Homestead (9807), that ranked among the top 10 census tracts in the Southern Region with the highest rate for both indicators – both significantly higher than the County and State level rates.

Extensive research in the United States has shown the adverse health effects of air pollution in a community. The environmental indicator “percent of the population living within 500 feet of a busy roadway” is employed by the FDOH to assess exposure to poor air quality in a community. When the distribution of preterm births and this environmental indicator were analyzed, a similar outcome was noted as in the previous geographical analysis in which two census tracts, one in Homestead (110.09) and the other in Princeton (106.14), exhibited the top 10 highest rates for both of these indicators. Contrary to the results observed in the previous two analyses, the examination of infant mortality rate as it relates to the uninsured for this area of the County revealed that none of the census tracts exhibited the highest rates (top 10) for both indicators. However, it is noteworthy that, independently, census tract 83.06 (Palmetto Bay) experienced an infant mortality rate that was three times as high as the County statistic; while census tract 111.01 (Homestead) displayed the highest uninsured rate – twice as high as the County rate.

Next Steps

DOH Miami-Dade seeks to raise awareness of the needs and disparities that affect many of our communities. Many of the communities that are most affected by poverty, lack of insurance, and higher infant and maternal mortality are communities of color. The information contained in this report, through the assistance of the HCSF, is meant to highlight these disparities and spur to action some changes that can be implemented going forward in an effort to help with addressing these areas of concern. DOH Miami-Dade is committed to the following:

- Create a website for information related to environmental factors and Maternal Child Health.
- Create a community resource map that is interactive and updated every 6 months for the community to learn what resources are available to them and their families.
- Provide education to community residents and professionals helping them to understand the importance of infant and maternal health and how they can become involved to reduce these disparities.
- Conduct community outreach through videos, webinars and social media to highlight disparities and identify policy, systems, or environmental changes that can lead to lasting change.

To learn more about the work that is happening please visit the Consortium for a Healthier Miami-Dade website at www.healthymiamidade.org and register to become part of the conversation by joining the Healthy Baby Taskforce. Together we can make a difference.

Appendices

Map 1: Zip Code Location of Miami-Dade County

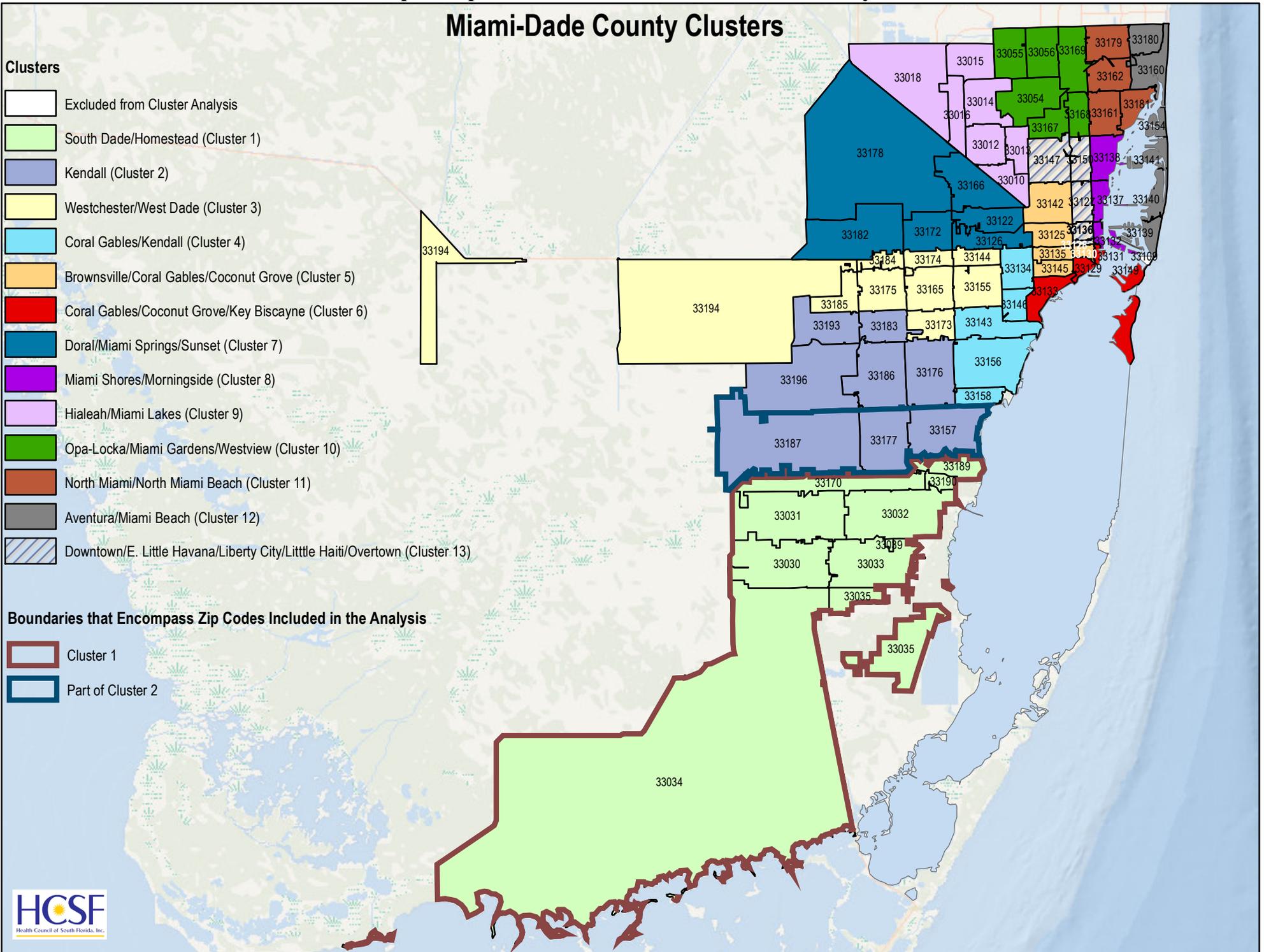
Miami-Dade County Clusters

Clusters

- Excluded from Cluster Analysis
- South Dade/Homestead (Cluster 1)
- Kendall (Cluster 2)
- Westchester/West Dade (Cluster 3)
- Coral Gables/Kendall (Cluster 4)
- Brownsville/Coral Gables/Coconut Grove (Cluster 5)
- Coral Gables/Coconut Grove/Key Biscayne (Cluster 6)
- Doral/Miami Springs/Sunset (Cluster 7)
- Miami Shores/Morningside (Cluster 8)
- Hialeah/Miami Lakes (Cluster 9)
- Opa-Locka/Miami Gardens/Westview (Cluster 10)
- North Miami/North Miami Beach (Cluster 11)
- Aventura/Miami Beach (Cluster 12)
- Downtown/E. Little Havana/Liberty City/Little Haiti/Overtown (Cluster 13)

Boundaries that Encompass Zip Codes Included in the Analysis

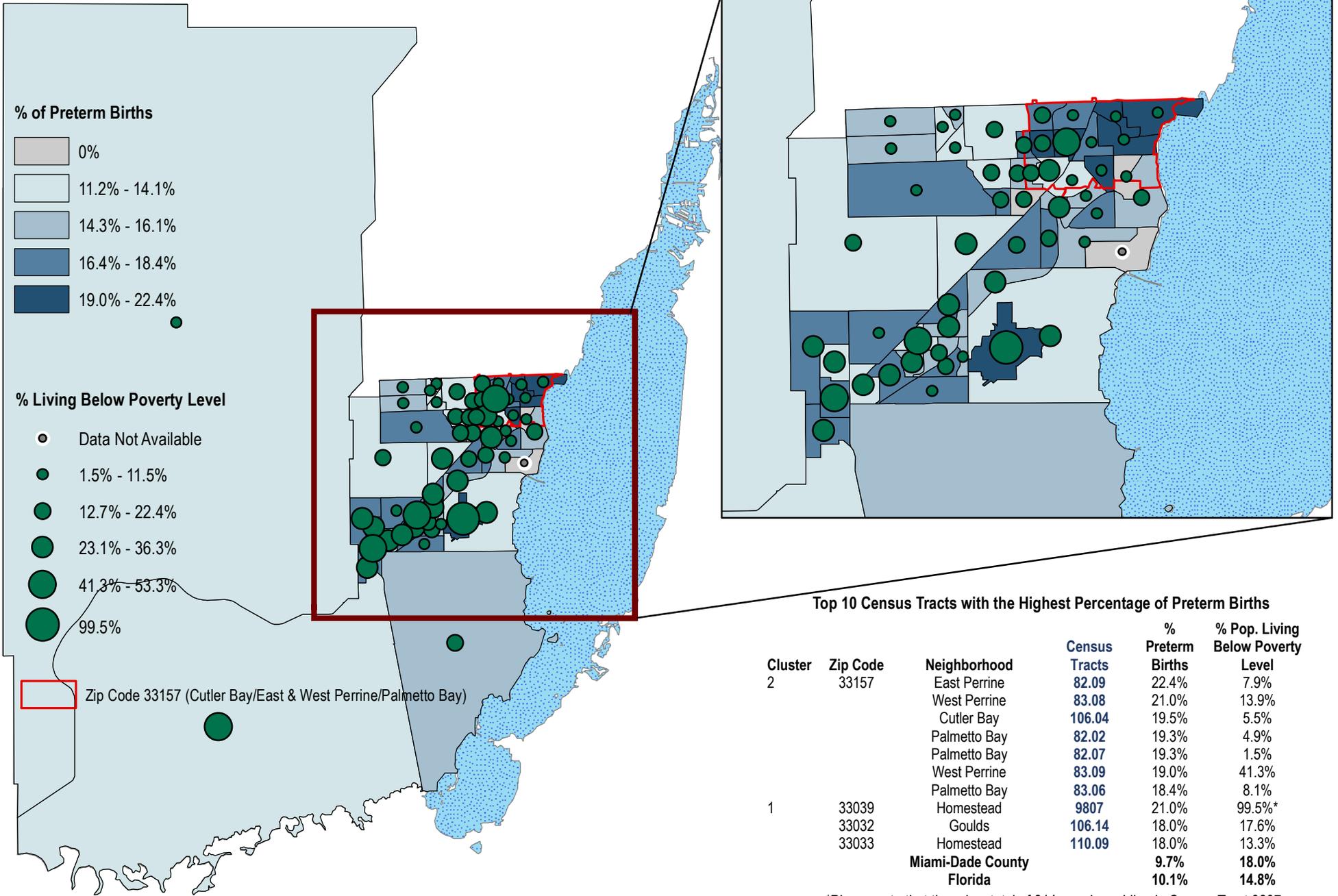
- Cluster 1
- Part of Cluster 2



Map 2: Preterm Births and Poverty

Census Tracts

Southern Region of Miami-Dade County



Top 10 Census Tracts with the Highest Percentage of Preterm Births

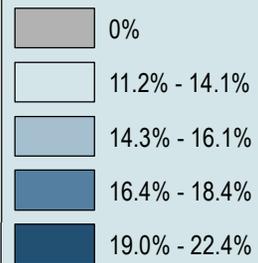
Cluster	Zip Code	Neighborhood	Census Tracts	% Preterm Births	% Pop. Living Below Poverty Level
2	33157	East Perrine	82.09	22.4%	7.9%
		West Perrine	83.08	21.0%	13.9%
		Cutler Bay	106.04	19.5%	5.5%
		Palmetto Bay	82.02	19.3%	4.9%
		Palmetto Bay	82.07	19.3%	1.5%
		West Perrine	83.09	19.0%	41.3%
		Palmetto Bay	83.06	18.4%	8.1%
1	33039 33032 33033	Homestead	9807	21.0%	99.5%*
		Goulds	106.14	18.0%	17.6%
		Homestead	110.09	18.0%	13.3%
Miami-Dade County				9.7%	18.0%
Florida				10.1%	14.8%

*Please note that there is a total of 814 people residing in Census Tract 9807 of which 810 (99.5%) live below poverty as shown in this table

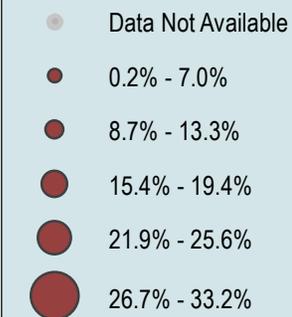
Source: Florida Department of Health, Bureau of Vital Statistics, 2014-2018; U.S. Census, American Community Survey, 2014-2018

Map 3: Preterm Births and Proximity to a Congested Roadway

% of Preterm Births



% Living 500 Feet within Busy Roadway

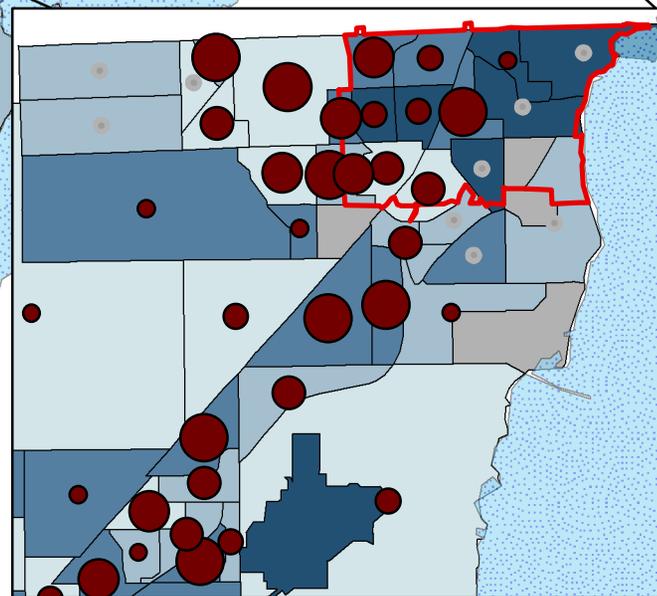
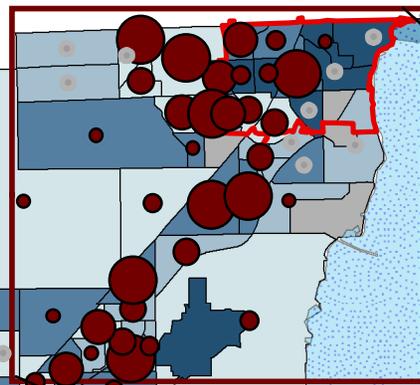


 Zip Code 33157 (Cutler Bay/East & West Perrine/Palmetto Bay)

Top 10 Census Tracts with the Highest Percentage of Preterm Births

Cluster	Zip Code	Neighborhood	Census Tracts	% Preterm Births	% Pop. Living within 500 Ft. Busy Roadway
2	33157	East Perrine	82.09	22.4%	0.0%
		West Perrine	83.08	21.0%	10.2%
		Cutler Bay	106.04	19.5%	0.0%
		Palmetto Bay	82.02	19.3%	4.7%
		Palmetto Bay	82.07	19.3%	0.0%
1	33039, 33032, 33033	West Perrine	83.09	19.0%	11.8%
		Palmetto Bay	83.06	18.4%	13.1%
		Homestead	9807	21.0%	0.0%
		Goulds	106.14	18.0%	31.6%
		Homestead	110.09	18.0%	30.7%
Miami-Dade County				9.7%	23.8%
Florida				10.1%	13.7%

Census Tracts
Southern Region of Miami-Dade County

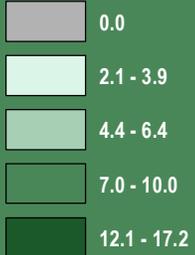


Map 4: Infant Mortality and the Uninsured

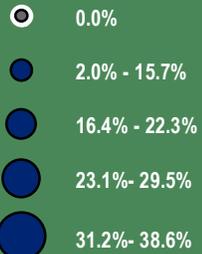


Census Tracts
Southern Region of Miami-Dade County

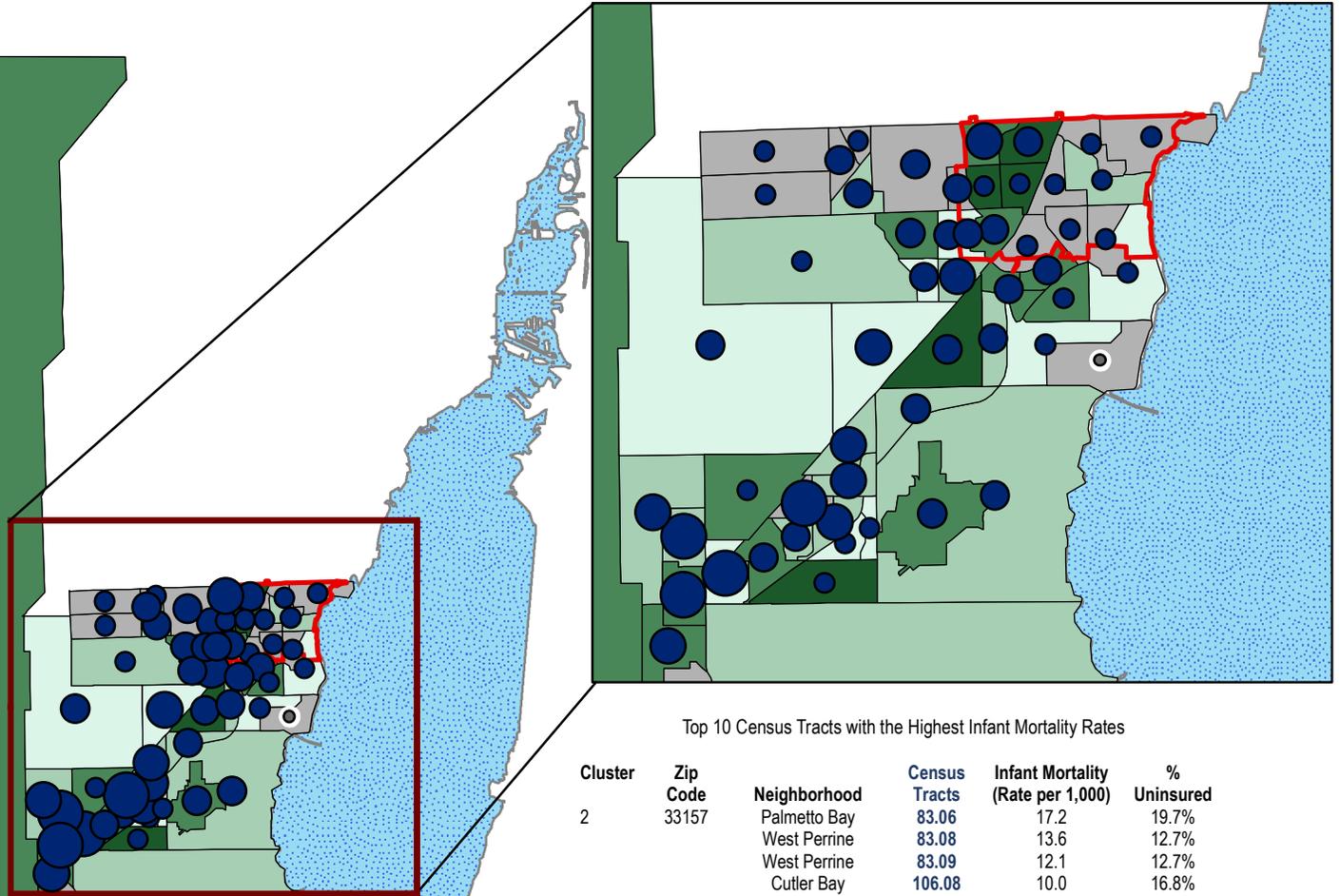
Infant Mortality Rate
(Rate per 1,000 Live Births)



% Uninsured Residents



Zip Code 33157 (Cutler Bay/East & West Perrine/Palmetto Bay)



Top 10 Census Tracts with the Highest Infant Mortality Rates

Cluster	Zip Code	Neighborhood	Census Tracts	Infant Mortality (Rate per 1,000)	% Uninsured	
2	33157	Palmetto Bay	83.06	17.2	19.7%	
		West Perrine	83.08	13.6	12.7%	
		West Perrine	83.09	12.1	12.7%	
		Cutler Bay	106.08	10.0	16.8%	
		Palmetto Bay	83.07	9.2	24.2%	
		West Perrine	102.07	9.2	17.1%	
1	33032, 33033, 33039, 33030, 33031, 33034, 33170	Goulds	105	15.6	16.6%	
		Homestead	110.07	12.4	15.7%	
		Homestead	9807	10.0	16.4%	
		Homestead	115	9.3	24.6	
		Redland	115			
		Florida City	115			
		Goulds/Princeton	115			
				Miami-Dade County	4.9	18.1%
				Florida	6.1	13.5%

Source: Florida Department of Health, Bureau of Vital Statistics, 2014-2018; U.S. Census, American Community Survey, 2014-2018