Infant Mortality in Miami-Dade County

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Special Thanks for Data Providing/Arranging!

- Nancy Vazquez
- Britney James
- Epidemiology Team
County Infant Mortality Analysis

The Florida Department of Health in Miami-Dade County conducted a County Infant Mortality Analysis

- to review infant mortality rates
- to examine select maternal and infant health factors
- to assess social determinants of health
Introduction

What is infant mortality and why does it matter to health equity and health disparity?
Overview

Although Miami-Dade County experienced declining infant mortality rates, persistent racial and ethnic disparities continue.

Non-Hispanic Black infants experience high infant mortality rates, almost three times the rates of Non-Hispanic White and Hispanic infants.

Such health disparities are generally associated with social determinants.
Key Miami-Dade County Findings

- The infant mortality rate is 4.6, decreasing 24% over last 10 years.
- This rate is lower than Florida’s and U.S.’s rate.
- This rate is the same or lower than Hillsborough, Broward, and Palm Beach Counties.
- Neighborhoods with high Low Birth Weight (LBW) percentages and high infant mortality rates are strongly correlated.
- Neighborhoods with increasing social disadvantage correlated with areas with high infant mortality rates.
Background

Health is determined in part by social conditions in the places where residents live, learn, work, and play (CDC, 2015).
Infant Mortality & Morbidity

Pregnancy

Conception
Conception

Infant Mortality & Morbidity

Preconception

Pregnancy
Life Course Perspective
Perinatal Mortality

Perinatal Mortality Rates, Miami-Dade County, 2006-2013

<table>
<thead>
<tr>
<th>Years</th>
<th>Fetal Mortality Rate</th>
<th>Infant Mortality Rate</th>
<th>Neonatal Mortality Rate</th>
<th>Postneonatal Mortality Rate</th>
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</thead>
<tbody>
<tr>
<td>2006</td>
<td>8.1</td>
<td>6.1</td>
<td>3.9</td>
<td>2.1</td>
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<td>2013</td>
<td>7.3</td>
<td>4.6</td>
<td>3</td>
<td>1.7</td>
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</tbody>
</table>

Source: 2016 Miami-Dade County Infant Mortality Analysis
3-Year Infant Mortality Rates
Miami-Dade County, 2005-2014

Rate per 1,000 Live Births

Years

2006 2007 2008 2009 2010 2011 2012 2013

Total IMR Black IMR White IMR Other Race IMR Hispanic IMR (All Races)

Source: 2016 Miami-Dade County Infant Mortality Analysis
3-Year Infant Mortality Rates across Florida, 2005-2014

Source: 2016 Miami-Dade County Infant Mortality Analysis

Source: 2016 Miami-Dade County Infant Mortality Analysis
Fetal mortality represents a spontaneous intrauterine death of a fetus. In Florida, fetal death registration occurs for fetal deaths at 20+ gestational weeks.
3-Year Fetal Mortality Rates
Miami-Dade County, 2005-2014

Rate per 1,000 Live Births

Source: 2016 Miami-Dade County Infant Mortality Analysis
3-Year Neonatal Infant Mortality Rates
Miami-Dade County, 2005-2014

Source: 2016 Miami-Dade County Infant Mortality Analysis
3-Year Postneonatal Infant Mortality Rates
Miami-Dade County, 2005-2014

Rate per 1,000 Live Births

Years:
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013

Total Postneonatal IMR
Black Postneonatal IMR
White Postneonatal IMR
Hispanic Postneonatal IMR (All Races)

Source: 2016 Miami-Dade County Infant Mortality Analysis
Infant Health Factors

Preterm Births, Low Birth Weight (LBW), and VLBW Births in Miami-Dade County, 2005-2014

Source: 2016 Miami-Dade County Infant Mortality Analysis
Select Causes of Infant Death

Over the last ten years, the leading causes of Infant Mortality:

1. Congenital Anomaly/Birth Defect
2. Sudden Unexpected Infant Death (SUID)
3. Prematurity/Low Birth Weight
4. Unintentional Injury (non-SUID accidents)
5. Intentional Injury (homicide)
3-Year Cause Specific Infant Mortality Rates
Miami-Dade County, 2005-2014

- Congenital Anomaly/Birth Defect
- Prematurity/Low Birth Weight
- Sudden Unexpected Infant Death (SUID)
- Unintentional Injury (non-SUID accidents)
- Intentional Injury (homicide)

Source: 2016 Miami-Dade County Infant Mortality Analysis
Sudden Unexpected Infant Death (SUID) in Miami-Dade County, 2005-2014

Years
2006 2007 2008 2009 2010 2011 2012 2013

Rate per 1,000 Live Births
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0

- Total
- Non-Hispanic Black Race
- Non-Hispanic White Race
- Hispanic Ethnicity (All Races)

Source: 2016 Miami-Dade County Infant Mortality Analysis
Maternal Health Factors

Covered in a later presentation
Life Course Perspective
Neighborhood Area Analysis

<table>
<thead>
<tr>
<th>Group</th>
<th>Area</th>
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<th>Area</th>
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<td>H</td>
<td>Miami Shores/Morningside</td>
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<tr>
<td>B</td>
<td>Kendall</td>
<td>I</td>
<td>Downtown/East Little Havana/Liberty City/Little Haiti/Overtown</td>
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<tr>
<td>C</td>
<td>Westchester/West Dade</td>
<td>J</td>
<td>Hialeah/Miami Lakes</td>
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<tr>
<td>D</td>
<td>Coral Gables/Kendall</td>
<td>K</td>
<td>Opa-Locka/Miami Gardens/Westview</td>
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<tr>
<td>E</td>
<td>Brownsville/Coral Gables/Coconut Grove</td>
<td>M</td>
<td>North Miami/North Miami Beach</td>
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<tr>
<td>F</td>
<td>Coral Gables/Coconut Grove/Key Biscayne</td>
<td>N</td>
<td>Aventura/Miami Beach</td>
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<td>G</td>
<td>Doral/Miami/Springs/Sunset</td>
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</table>
5-Year Infant Mortality Rate by Neighborhood
Miami-Dade County, 2010-2014

Highest Neighborhood Rates:

- **Group I**: Downtown/East Little Havana/Liberty City/Little Haiti/Overtown
- **Group K**: Opa-Locka/Miami Gardens/Westview
- **Group A**: South Dade/Homestead
- **Group M**: North Miami/North Miami Beach
- **Group E**: Brownsville/Coral Gables/Coconut Grove
- **Group B**: Kendall

Source: 2016 Miami-Dade County Infant Mortality Analysis
Low Birthweight

Highest Neighborhood Percentages:

- **Group I**: Downtown/East Little Havana/Liberty City/Little Haiti/Overtown
- **Group K**: Opa-Locka/Miami Gardens/Westview
- **Group M**: North Miami/North Miami Beach
- **Group E**: Brownsville/Coral Gables/Coconut Grove
- **Group A**: South Dade/Homestead
- **Group H**: Miami Shores/Morningside

Source: 2016 Miami-Dade County Infant Mortality Analysis
Preterm Birth

Highest Neighborhood Percentages:

- **Group I**: Downtown/East Little Havana/Liberty City/Little Haiti/Overtown
- **Group K**: Opa-Locka/Miami Gardens/Westview
- **Group M**: North Miami/North Miami Beach
- **Group E**: Brownsville/Coral Gables/Coconut Grove
- **Group H**: Miami Shores/Morningside
- **Group A**: South Dade/Homestead

Source: 2016 Miami-Dade County Infant Mortality Analysis
### Summary of Neighborhood Findings: Maternal and Child Health Outcomes

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<td><strong>High % of Low Birth Weight</strong></td>
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<td><strong>High % of Preterm Births</strong></td>
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**Highest Neighborhood Rates and Percentages**

- **Group A**: South Dade/Homestead
- **Group B**: Kendall
- **Group E**: Brownsville/Coral Gables/Coconut Grove
- **Group H**: Miami Shores/Morningside
- **Group I**: Downtown/East Little Havana/Liberty City/Little Haiti/Overtown
- **Group K**: Opa-Locka/Miami Gardens/Westview
- **Group M**: North Miami/North Miami Beach

**Source**: 2016 Miami-Dade County Infant Mortality Analysis
### Unwed Mothers

Highest Neighborhood Percentages:

- **Group I**: Downtown/East Little Havana/Liberty City/Little Haiti/Overtown
- **Group K**: Opa-Locka/Miami Gardens/Westview
- **Group E**: Brownsville/Coral Gables/Coconut Grove
- **Group A**: South Dade/Homestead
- **Group J**: Hialeah/Miami Lakes
- **Group M**: North Miami/North Miami Beach

### Source:
2016 Miami-Dade County Infant Mortality Analysis
Highest 5-Year Percent of Early Prenatal Care by Neighborhood, Miami-Dade County, 2010-2014

<table>
<thead>
<tr>
<th>Neighborhood Group</th>
<th>Percent</th>
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<td>Group F</td>
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<td>Group D</td>
<td>84.88</td>
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<td>84.8</td>
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<td>Group N</td>
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<tr>
<td>Group B</td>
<td>83.74</td>
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<td>Group C</td>
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<td>Group G</td>
<td>83.14</td>
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<td>Group E</td>
<td>82.3</td>
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<td>Group M</td>
<td>81.74</td>
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<td>Group I</td>
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<td>Group A</td>
<td>77.88</td>
</tr>
<tr>
<td>Group K</td>
<td>76.76</td>
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Lowest Neighborhood Percentages:
- **Group K**: Opa-Locka/Miami Gardens/Westview
- **Group A**: South Dade/Homestead
- **Group J**: Hialeah/Miami Lakes
- **Group I**: Downtown/East Little Havana/Liberty City/Little Haiti/Overtown
- **Group M**: North Miami/North Miami Beach
- **Group E**: Brownsville/Coral Gables/Coconut Grove

Source: 2016 Miami-Dade County Infant Mortality Analysis
Highest Neighborhood Percentages:

- **Group N**: Aventura/Miami Beach
- **Group F**: Coral Gables/Coconut Grove/Key Biscayne
- **Group I**: Downtown/East Little Havana/Liberty City/Little Haiti/Overtown
- **Group C**: Westchester/West Dade
- **Group H**: Miami Shores/Morningside
- **Group D**: Coral Gables/Kendall

Source: 2016 Miami-Dade County Infant Mortality Analysis
## Summary of Neighborhood Findings: Substance Abuse and Tobacco Use

<table>
<thead>
<tr>
<th>% Current Drinker</th>
<th>Grp A</th>
<th>Grp B</th>
<th>Grp C</th>
<th>Grp D</th>
<th>Grp E</th>
<th>Grp F</th>
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<thead>
<tr>
<th>% Illicit Drug Use in Past Month</th>
<th>Grp A</th>
<th>Grp B</th>
<th>Grp C</th>
<th>Grp D</th>
<th>Grp E</th>
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<tr>
<th>% Current Smoker</th>
<th>Grp A</th>
<th>Grp B</th>
<th>Grp C</th>
<th>Grp D</th>
<th>Grp E</th>
<th>Grp F</th>
<th>Grp G</th>
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<thead>
<tr>
<th>% Someone Smokes at home</th>
<th>Grp A</th>
<th>Grp B</th>
<th>Grp C</th>
<th>Grp D</th>
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### Highest Neighborhood Percentages

- **Group C**: Westchester/West Dade
- **Group D**: Coral Gables/Kendall
- **Group E**: Brownsville/Coral Gables/Coconut Grove
- **Group F**: Coral Gables/Coconut Grove/Key Biscayne
- **Group H**: Miami Shores/Morningside
- **Group I**: Downtown/East Little Havana/Liberty City/Little Haiti/Overtown
- **Group J**: Hialeah/Miami Lakes
- **Group N**: Aventura/Miami Beach

*Source: 2016 Miami-Dade County Infant Mortality Analysis*
Highest Neighborhood Percentages:

- **Group A**: South Dade/Homestead (33034, 33039, 33030)
- **Group I**: Downtown/East Little Havana/Liberty City/Little Haiti/Overtown (33136, 33128, 33127, 33150, 33147)
- **Group E**: Brownsville/Coral Gables/Coconut Grove (33142, 33130, 33135, 33125)
- **Group K**: Opa-Locka/Miami Gardens/Westview (33034)
- **Group J**: Hialeah/Miami Lakes (33010)
- **Group M**: North Miami/North Miami Beach (33161)

Source: 2016 Miami-Dade County Infant Mortality Analysis
Highest Neighborhood Rates:

- **Group E**: Brownsville/Coral Gables /Coconut Grove (33142, 33130, 33145)
- **Group H**: Miami Shores/Morningside (33034)
- **Group I**: Downtown/East Little Havana /Liberty City/Little Haiti/Overtown (33010)
- **Group K**: Opa-Locka/Miami Gardens /Westview (33167, 33056)
- **Group M**: North Miami/North Miami Beach (33181)
- **Group N**: Aventura/Miami Beach (33139)

**Infectious Syphilis**

**Highest Infectious Syphilis Rate by Zip Codes**

**Miami-Dade County, 2014**

- **Zip Code**
  - 33126: 24.9
  - 33147: 25.3
  - 33145: 25.7
  - 33133: 26.5
  - 33181: 28
  - 33130: 28.4
  - 33056: 31.2
  - 33142: 32.8
  - 33167: 34.9
  - 33137: 57
  - 33138: 57.6
  - 33132: 67.4
  - 33136: 82.9
  - 33139: 114.6
  - 33128: 132.1

**Rate per 100,000 population**

**Source**: 2016 Miami-Dade County Infant Mortality Analysis
Highest Reported HIV Rate by Zip Code
Miami-Dade County, 2014

Highest Neighborhood Rates:

- **Group E**: Brownsville/Coral Gables /Coconut Grove (33142, 33130, 33145)
- **Group H**: Miami Shores/Morningside (33137, 33138)
- **Group I**: Downtown/East Little Havana /Liberty City/Little Haiti/Overtown (33136, 33128, 33147, 33150, 33127)
- **Group K**: Opa-Locka/Miami Gardens /Westview (33056)
- **Group M**: North Miami/North Miami Beach (33181, 33161)
- **Group N**: Aventura/Miami Beach (33139, 33141)

Source: 2016 Miami-Dade County Infant Mortality Analysis
### Summary of Neighborhood Findings: Sexually Transmitted Diseases

<table>
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<tr>
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<td>Syphilis Rate</td>
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</table>

**Highest Neighborhood Rates:**

- **Group E** - Brownsville/Coral Gables/Coconut Grove  
- **Group H** - Miami Shores/Morningside  
- **Group I** - Downtown/East Little Havana/Liberty City/Little Haiti/Overtown  
- **Group K** - Opa-Locka/Miami Gardens/Westview  
- **Group M** - North Miami/North Miami Beach  
- **Group N** - Aventura/Miami Beach

*Source: 2016 Miami-Dade County Infant Mortality Analysis*
Initial Conclusions

Neighborhoods with increasing social disadvantage correlated with areas with high infant mortality rates and other adverse birth outcomes.
Life Course Perspective

[Graph showing reproductive potential over the life course for White and African American individuals, with risk factors and protective factors indicated.]
Questions?

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Email: wsappenvf@health.usf.edu