

# Maternal, Infant and Early Childhood Home Visiting Program



## Community Needs Assessment

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8/9/10

# Affordable Care Act Maternal, Infant and Early Childhood Home Visiting Program

- Legislation requires that each state conduct a **statewide** needs assessment that identifies **communities** with concentrations of:
  - Premature birth
  - Low-birth weight infants
  - Infant Mortality (including death due to neglect)
  - Or other indicators of prenatal, maternal, newborn, or child health risk

# Additional Home Visiting Program Required Assessment Indicators

- Poverty
- Crime
- Domestic Violence
- High School Dropout Rate
- Substance Abuse
- Unemployment
- Child Maltreatment

# Funding Opportunity Announcement

- FOA released on June 10<sup>th</sup>
  - Stated that final guidance for the Needs Assessment would be published by HRSA/MCHB by late June
- Final guidance has not been published.
- Needs Assessment is Due September 1st

# Needs Assessment Methodology

## Criteria for metric selection

- Data had to be available statewide
- Finest granularity available (census tract when possible)
- Most recent data available

# Needs Assessment Methodology

- Metrics for At-Risk Prenatal, Maternal, Newborn, and Child Health:
  - Data Source: MD DHMH, Vital Statistics Administration
  - Granularity: Census Tract
  - Years Available: 2004-2008
    - % of births that were premature
    - % of births that were low birth weight
    - % of births with late or no prenatal care
    - Adolescent birth rate
    - Infant mortality rate
    - Infant deaths due to abuse or neglect

# Needs Assessment Methodology

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    - Adolescent birth rate
    - Infant mortality rate
    - ~~Infant deaths due to abuse or neglect~~ Insufficient numbers identified

# Needs Assessment Methodology

## Poverty Indicators

Metric	Source	Granularity	Years
% of families with children (< 18 yrs) at or below the poverty level	MDP (US Census Bureau)	Census Tract	2000
% of population enrolled in Medicaid	MD Medicaid	Zip Code	2004-2008

# Needs Assessment Methodology

## Crime, Domestic Violence, Child Maltreatment

Metric	Source	Granularity	Years
Crime rate (all offenses)	MD State Police (Uniform Crime Report)	Jurisdiction and Municipalities	2007-2008
Protective and peace order filing rate	MD Judiciary	Jurisdiction	2007-2008
Child abuse and neglect investigations	MD DHR	Census Tract	2004-2008

# Needs Assessment Methodology

## High School Dropouts, Substance Abuse

Metric	Source	Granularity	Years
High school dropout rate	MSDE	Jurisdiction	2008-2009
Treatment rate for substance abuse among women of childbearing (15-44 yrs) age	MD DHMH, Alcohol and Drug Abuse Administration	Zip Code	2004-2008

# Metrics Based on Vital Statistics Data

- Most accurate and reliable data source
- However there is still some error in the data because not all addresses listed on the birth/death records could be geocoded
- Any census tracts with fewer than 5 events did not have rates computed (unstable), and are not displayed
- 5 years of data were aggregated in order to get reasonable numbers of events in each census tract

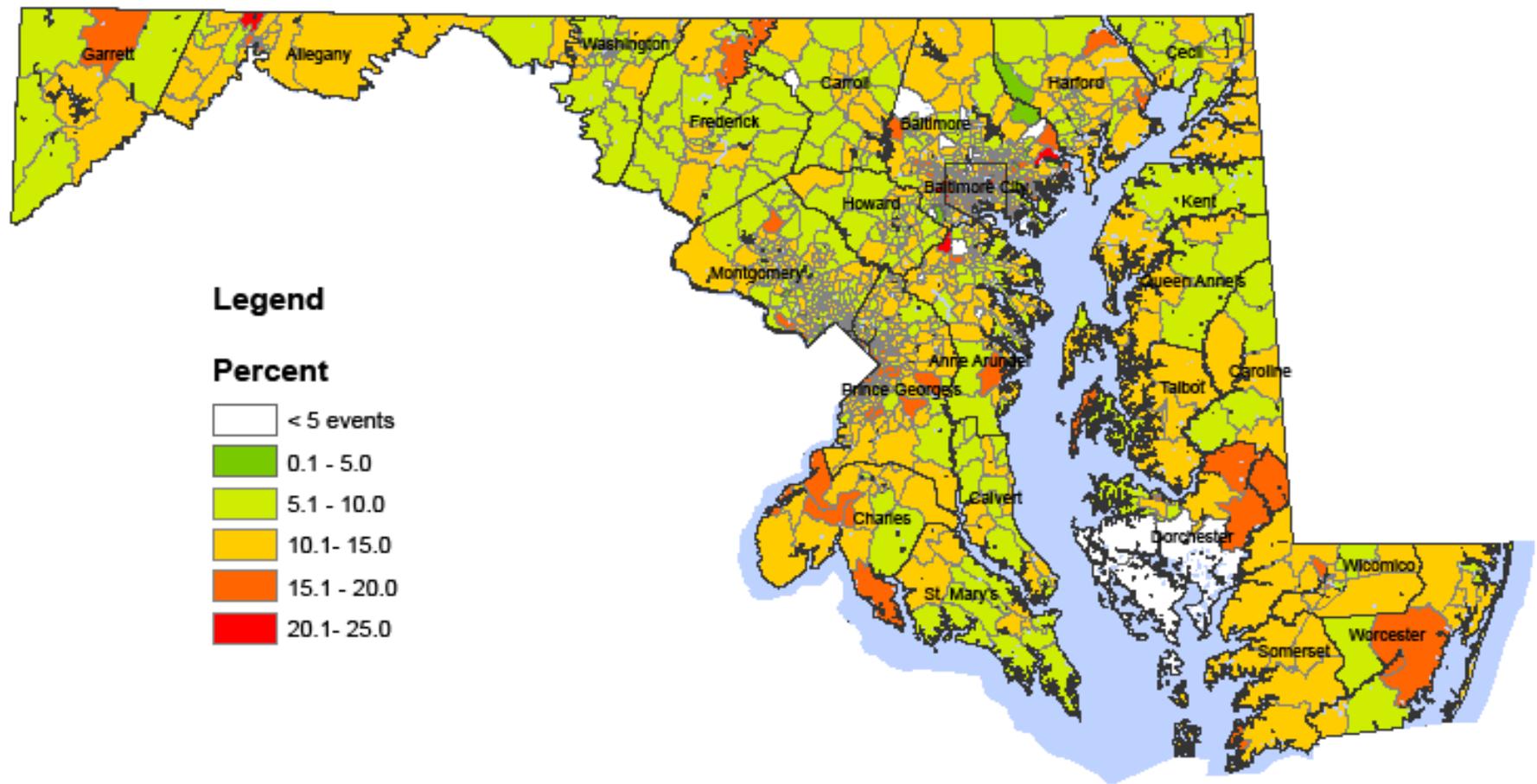
## % of Births that were Premature

- Preterm Birth (<37 weeks gestation)
- For each census tract:

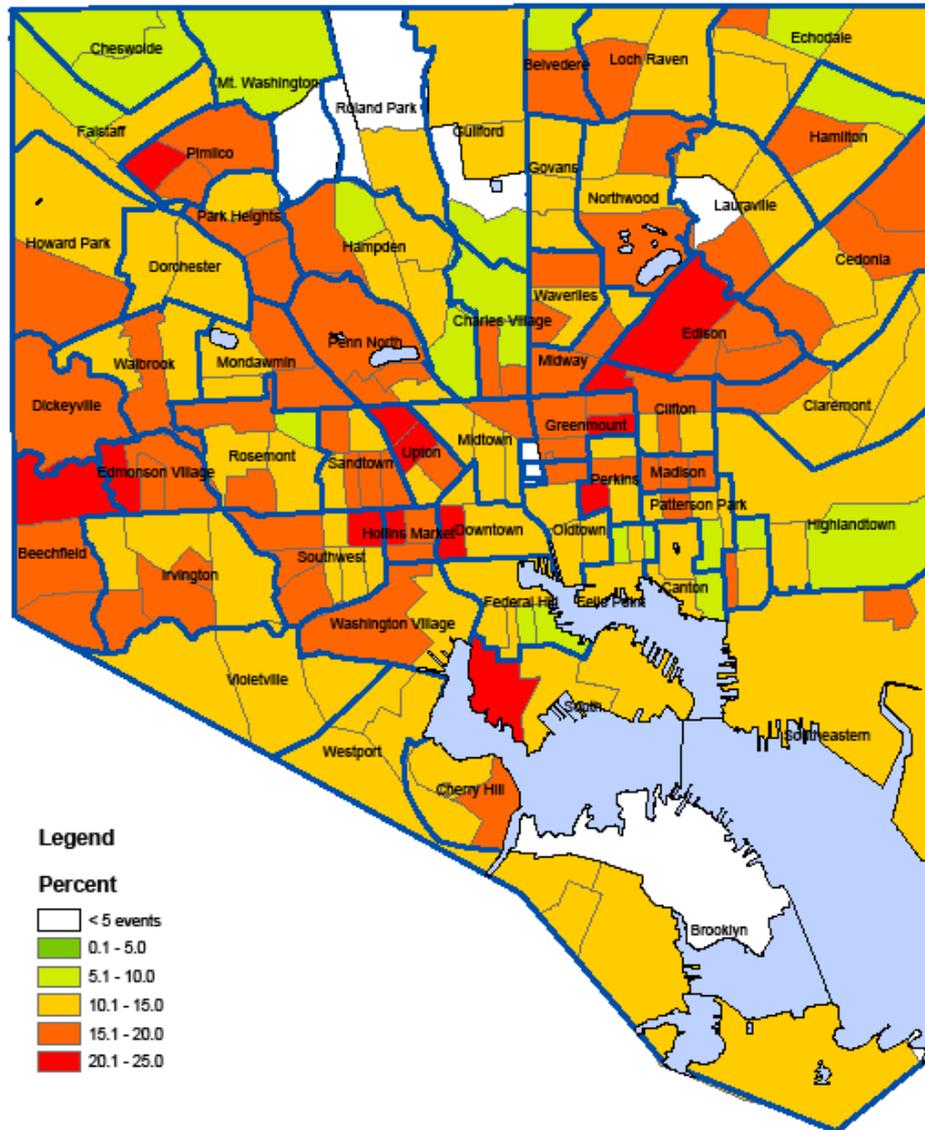
$$\% \text{ Preterm} = (\# \text{ of preterm births} / \# \text{ of total births}) * 100$$

- MD State Average in 2008 was 11.0%

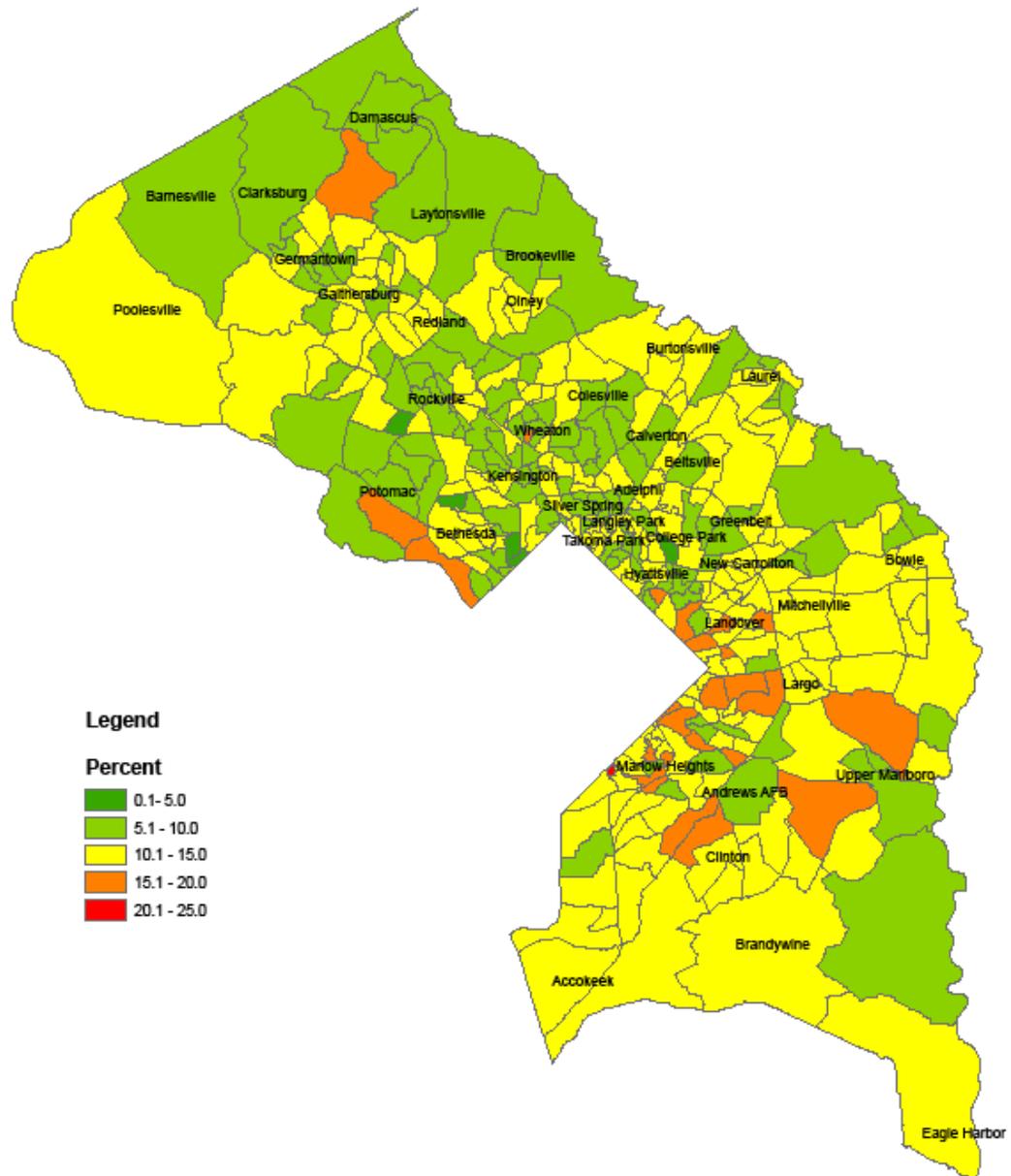
# Percent of Births that were Preterm (<37 weeks) by Census Tract, Maryland, 2004-2008



## Percent of Births that were Preterm (<37 weeks) by Census Tract, Baltimore City, Maryland, 2004-2008



**Percent of Births that were Preterm (<37 weeks) by Census Tract, Montgomery and Prince George's Counties, Maryland, 2004-2008**



Data Source: MD DHMH, Vital Statistics Administration

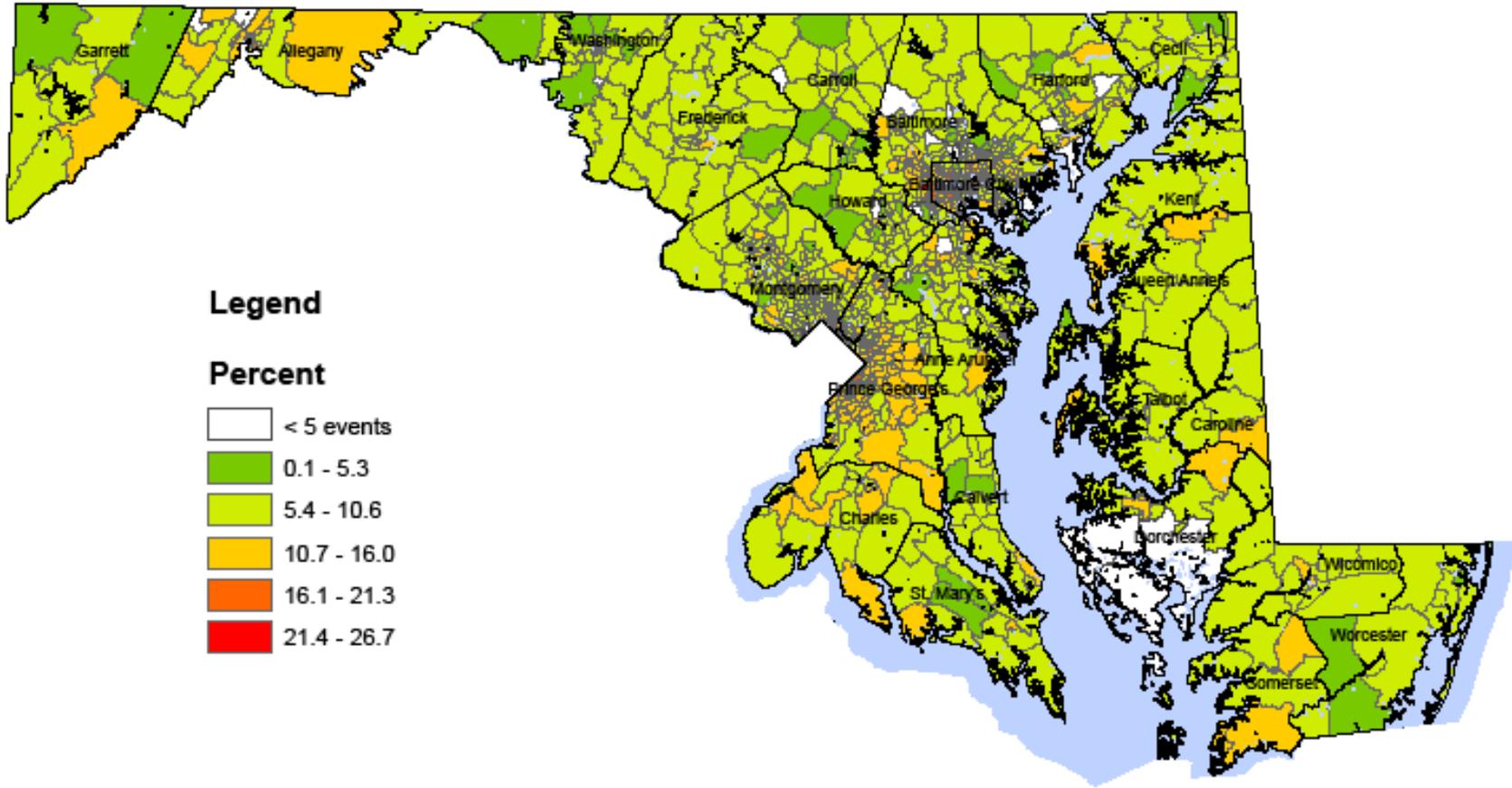
## % of Births that were Low Birth Weight

- Low Birth Weight Birth (<2500 grams)
- For each census tract:

$$\% \text{ LBW} = (\# \text{ of LBW births} / \# \text{ of total births}) * 100$$

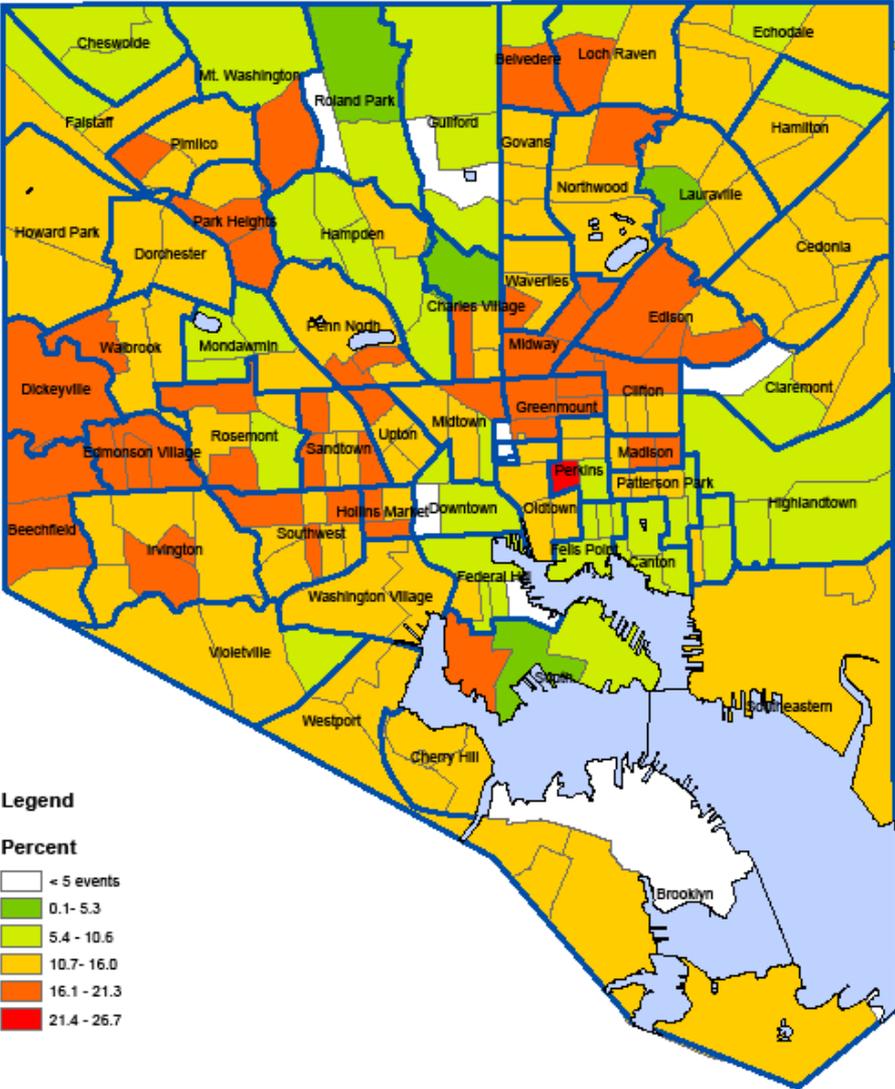
- MD State Average in 2008 was 9.3%

# Percent of Births that were Low Birth Weight (<2500g) by Census Tract, Maryland, 2004-2008



Data Source: MD DHMH, Vital Statistics Administration

**Percent of Births that were Low Birth Weight (<2500g) by Census Tract, Baltimore City, Maryland, 2004-2008**



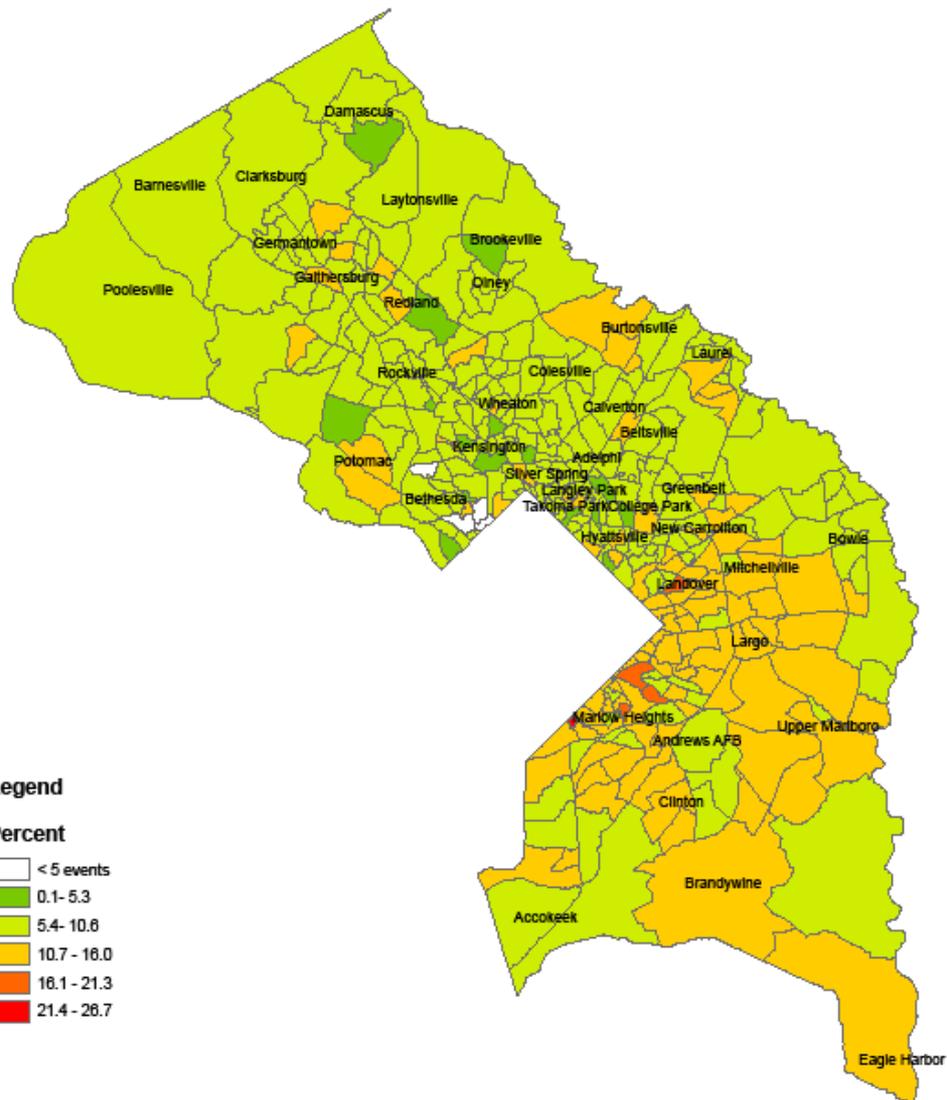
**Legend**

**Percent**

White	< 5 events
Light Green	0.1 - 5.3
Yellow	5.4 - 10.6
Yellow-Orange	10.7 - 16.0
Orange	16.1 - 21.3
Red	21.4 - 26.7

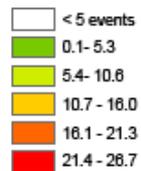
Data Source: MD DHMH, Vital Statistics Administration

## Percent of Births that were Low Birth Weight (<2500g) by Census Tract, Montgomery and Prince George's Counties, Maryland, 2004-2008



### Legend

#### Percent



## % of Births with Late or No Prenatal Care

- Late or No Prenatal Care (PNC initiated in 3<sup>rd</sup> trimester or no PNC)

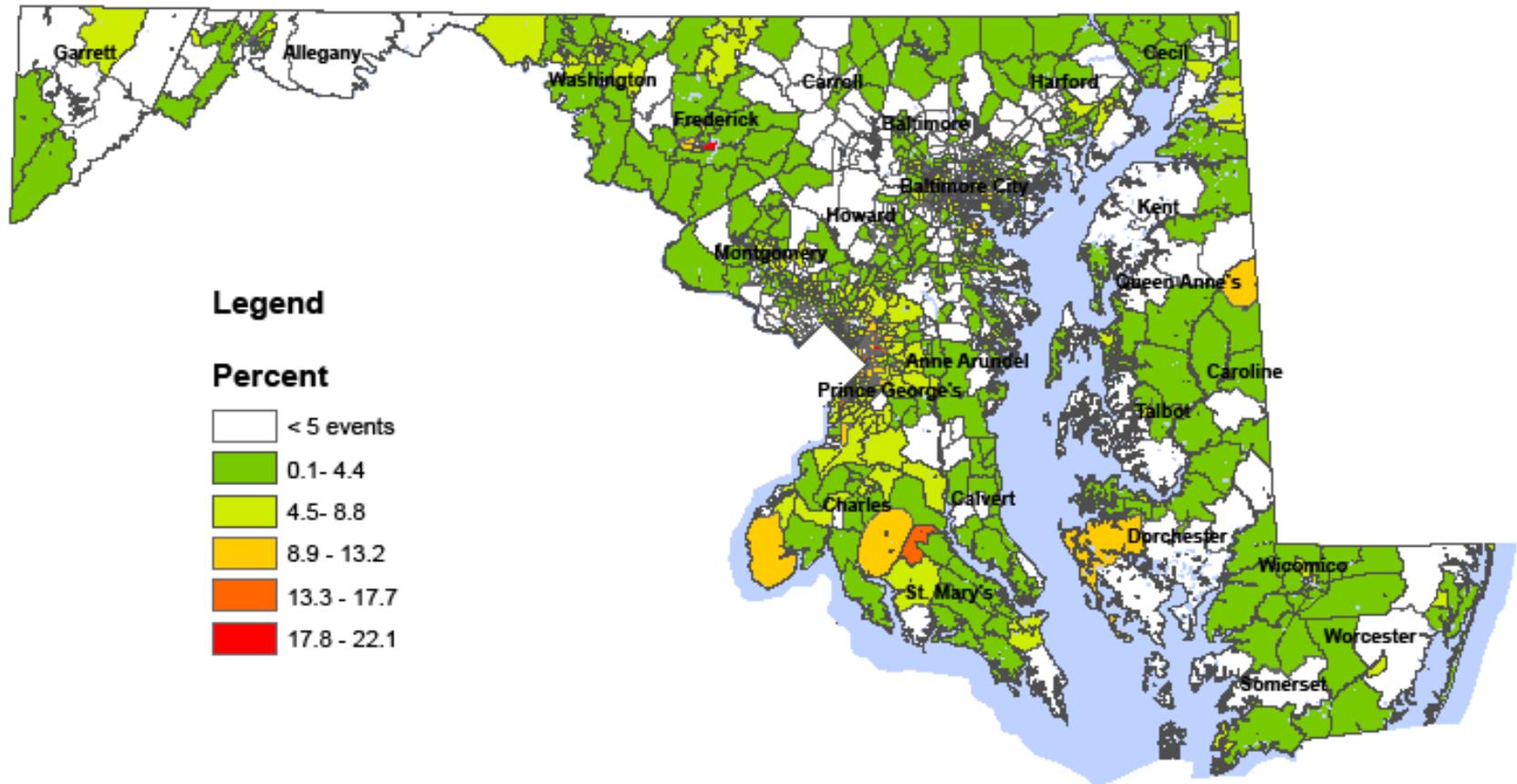
- For each census tract:

% Late or No PNC =

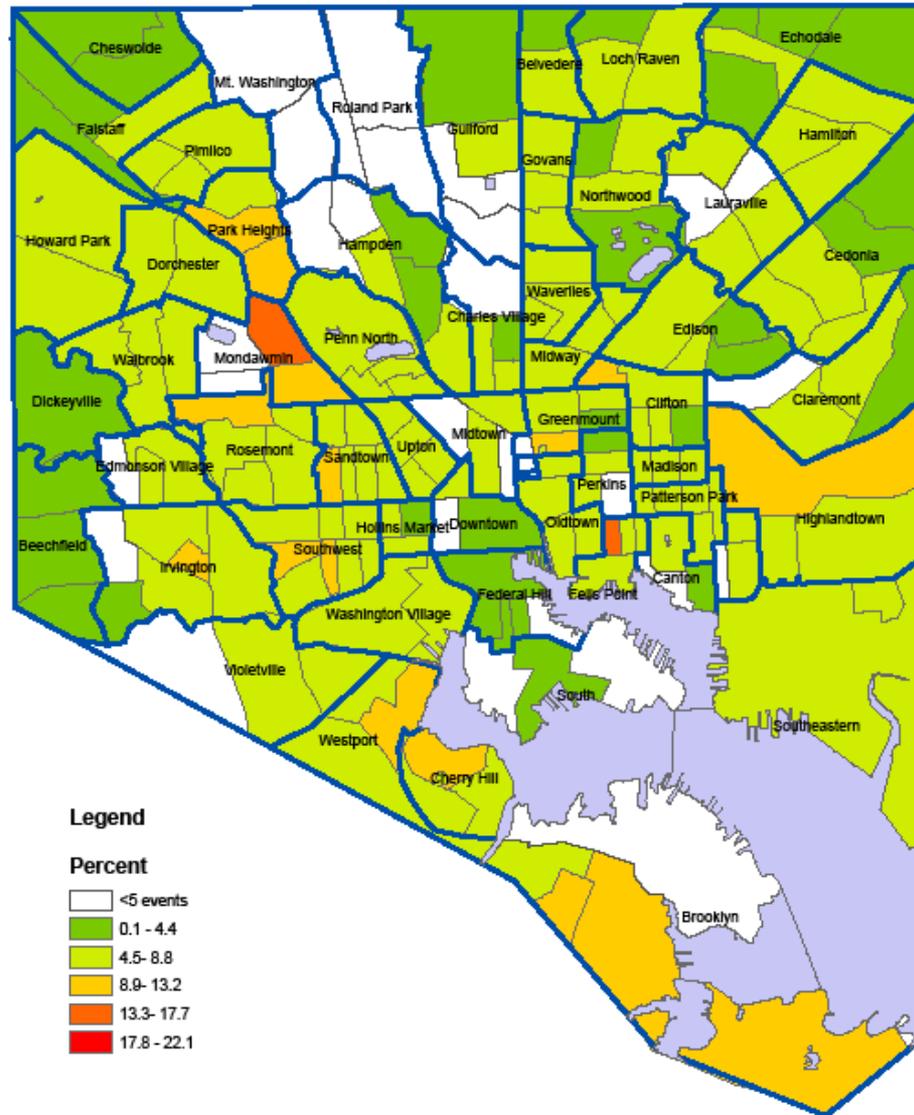
$(\# \text{ of births with Late or No PNC} / \# \text{ of total births}) * 100$

- MD State Average in 2008 was 4.2%

## Percent of Births that Received Late or No Prenatal Care by Census Tract, Maryland, 2004-2008

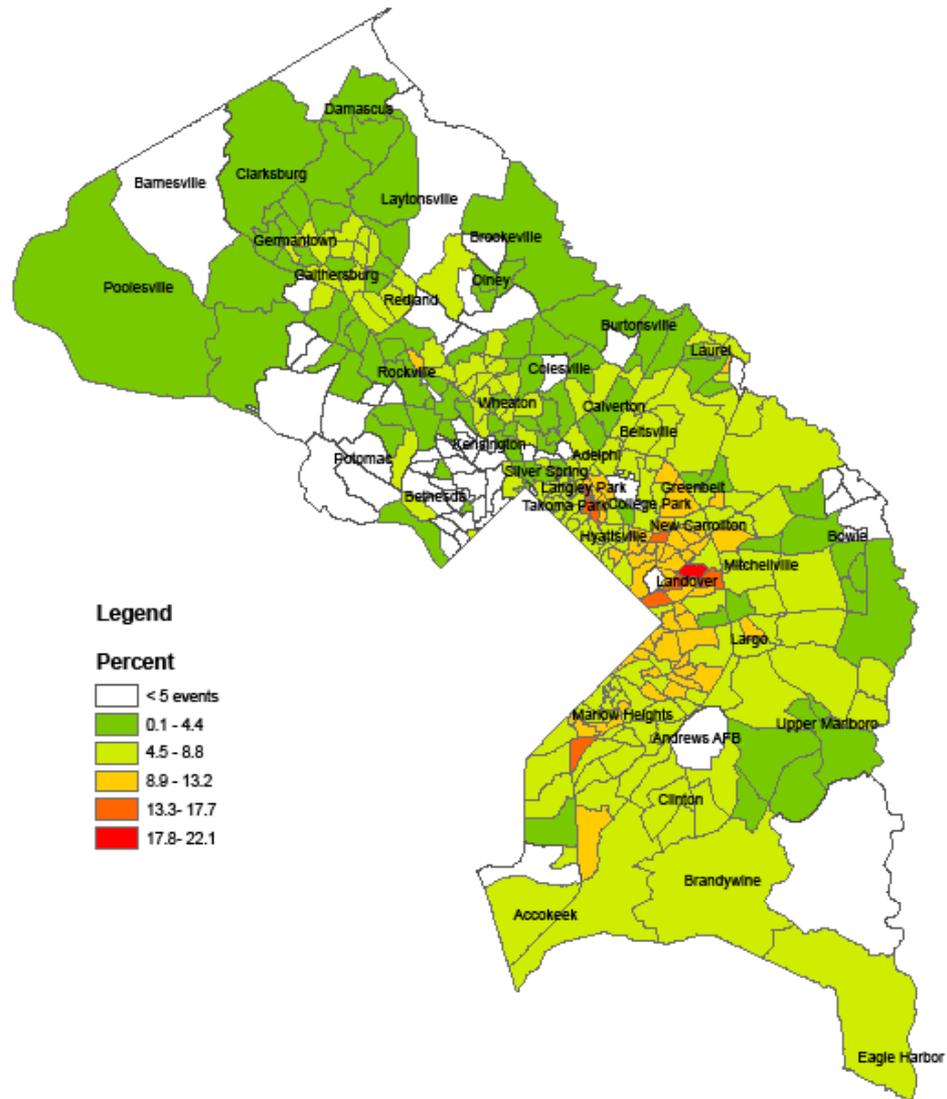


## Percent of Births that Received Late or No Prenatal Care by Census Tract, Baltimore City, Maryland, 2004-2008



Data Source: MD DHMH, Vital Statistics Administration

## Percent of Births that Received Late or No Prenatal Care by Census Tract, Montgomery and Prince George's Counties, Maryland, 2004-2008



Data Source: MD DHMH, Vital Statistics Administration

## Teen Birth Rate

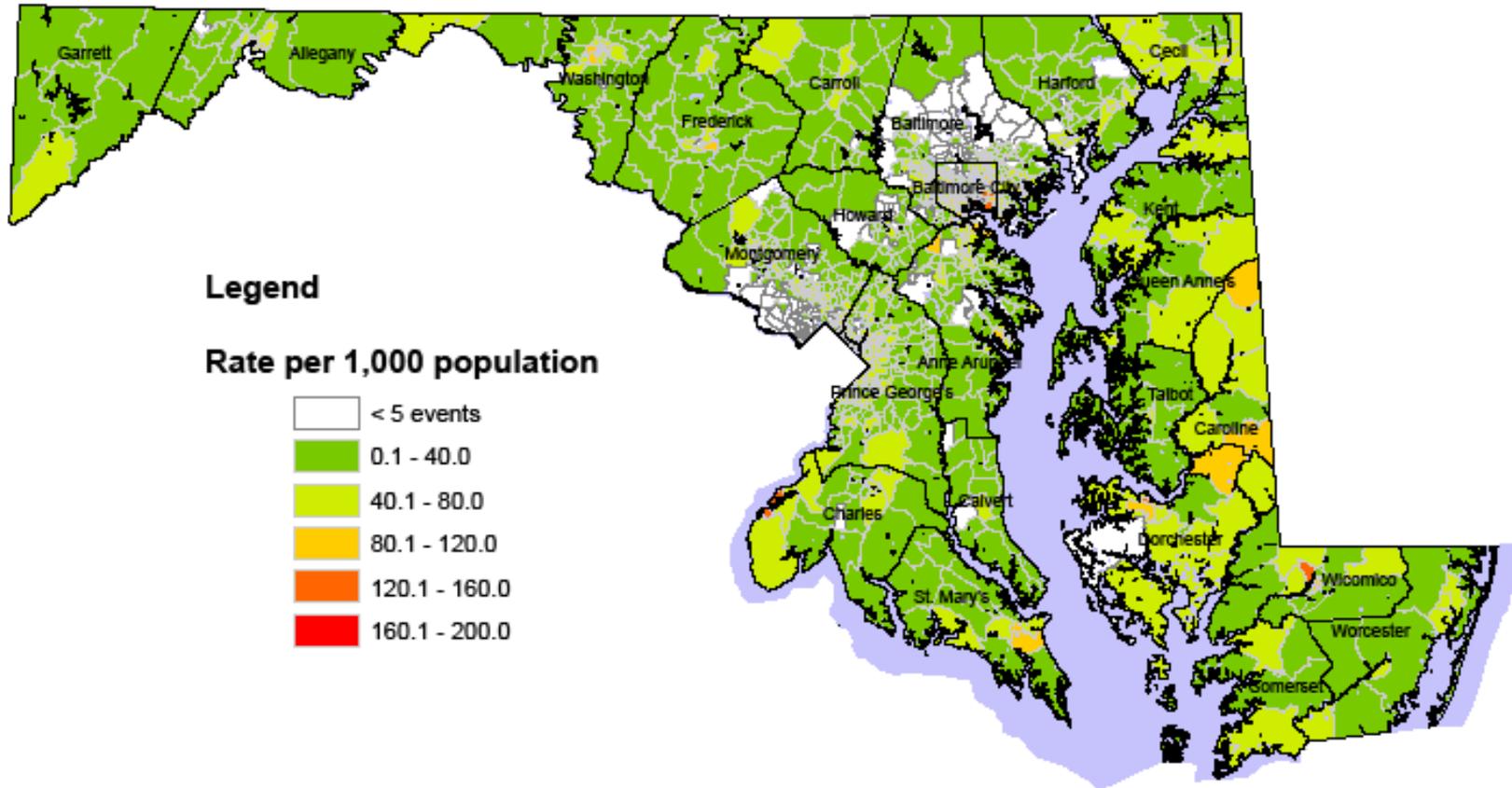
- Birth Rate Among Adolescents (15-19 years)
- For each census tract:

Teen Birth Rate =

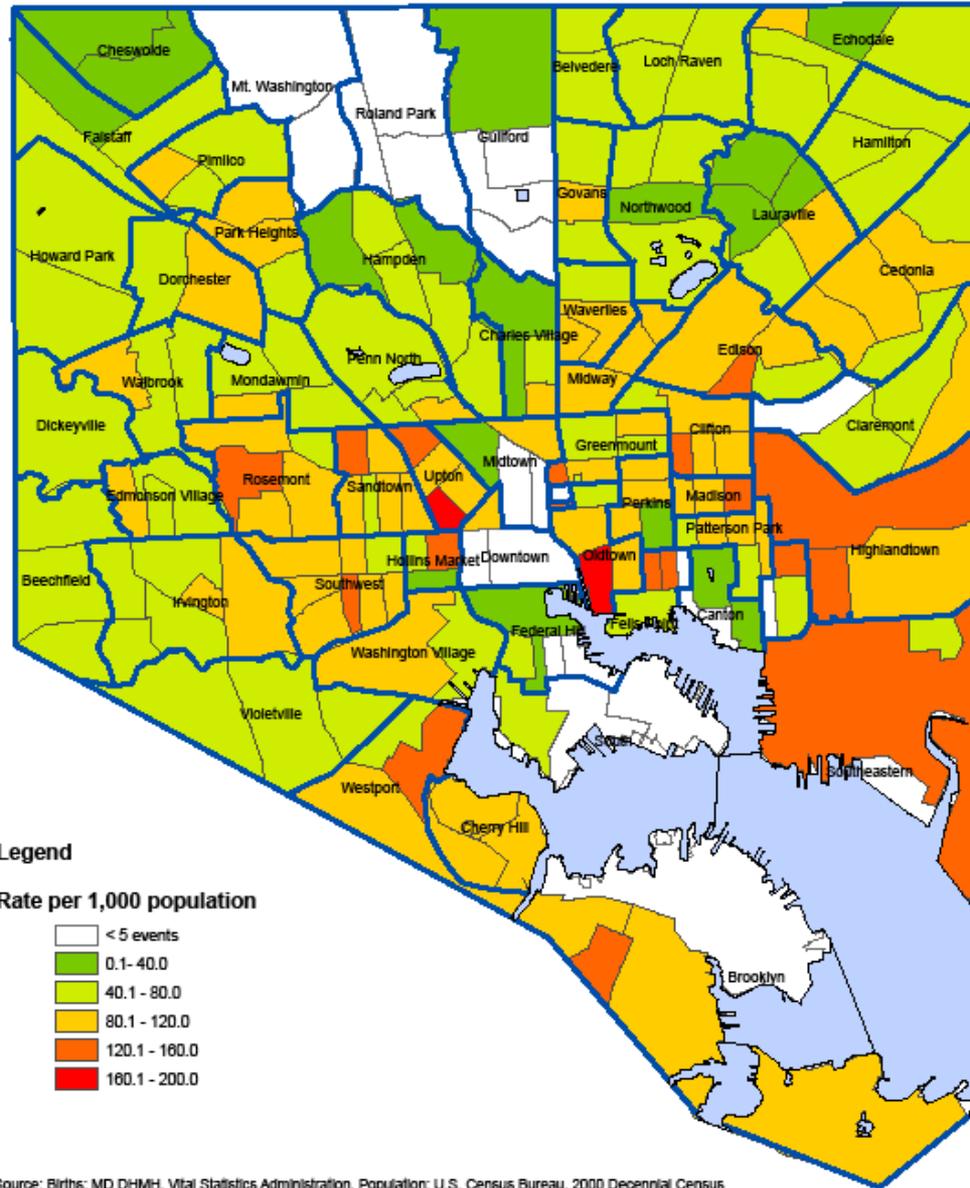
$$\frac{\text{(# of births to adolescent (15-19 yrs) mothers)}}{\text{# of females (15-19 years old)}} * 1,000$$

- Population counts based on 2000 Decennial Census
- MD State Average in 2008 was 32.7%

# Birth Rate Among Adolescents (15-19 years) by Census Tract, Maryland, 2004-2008

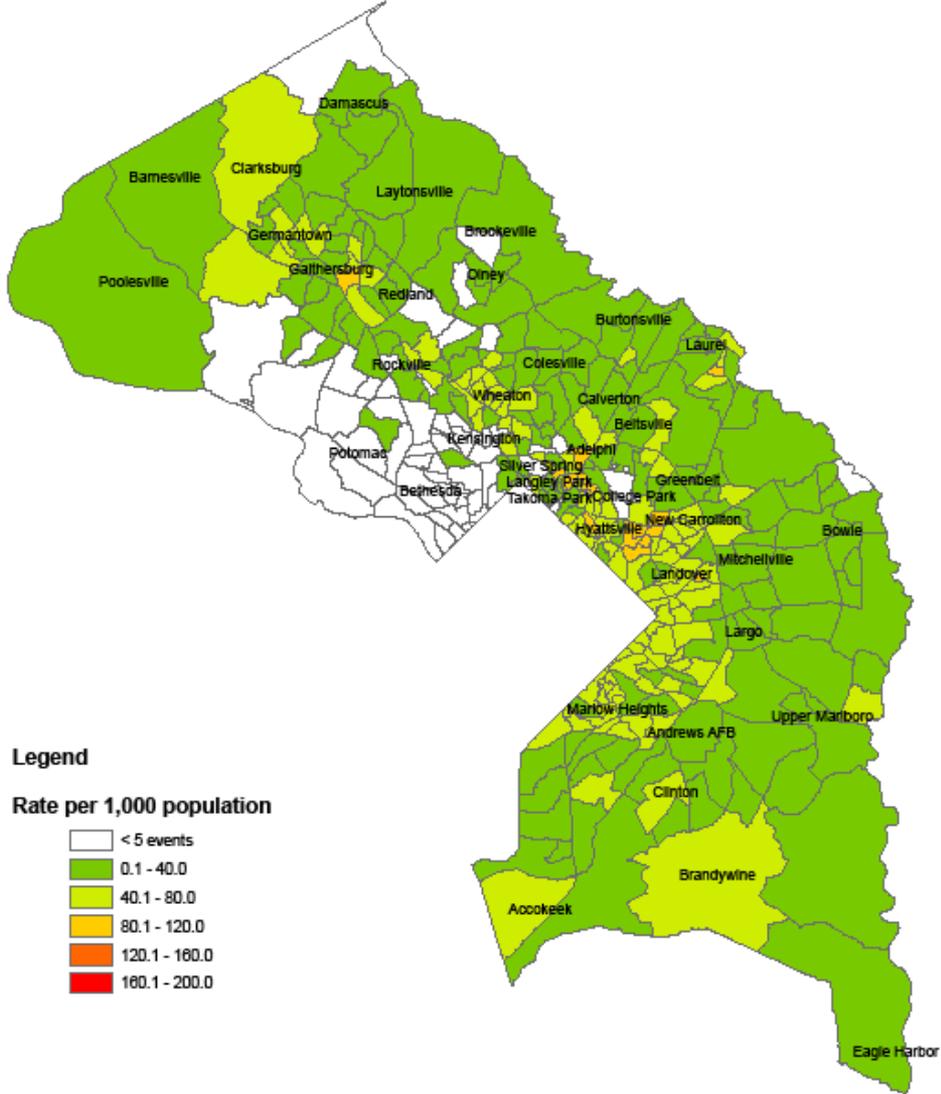


## Birth Rate Among Adolescents (15-19 years) by Census Tract, Baltimore City, Maryland, 2004-2008



Data Source: Births: MD DHMH, Vital Statistics Administration, Population: U.S. Census Bureau, 2000 Decennial Census

# Birth Rate Among Adolescents (15-19 years) by Census Tract, Montgomery and Prince George's Counties, Maryland, 2004-2008



Data Source: Births: MD DHMH, Vital Statistics Administration, Population: U.S. Census Bureau, 2000 Decennial Census

# Infant Mortality Rate

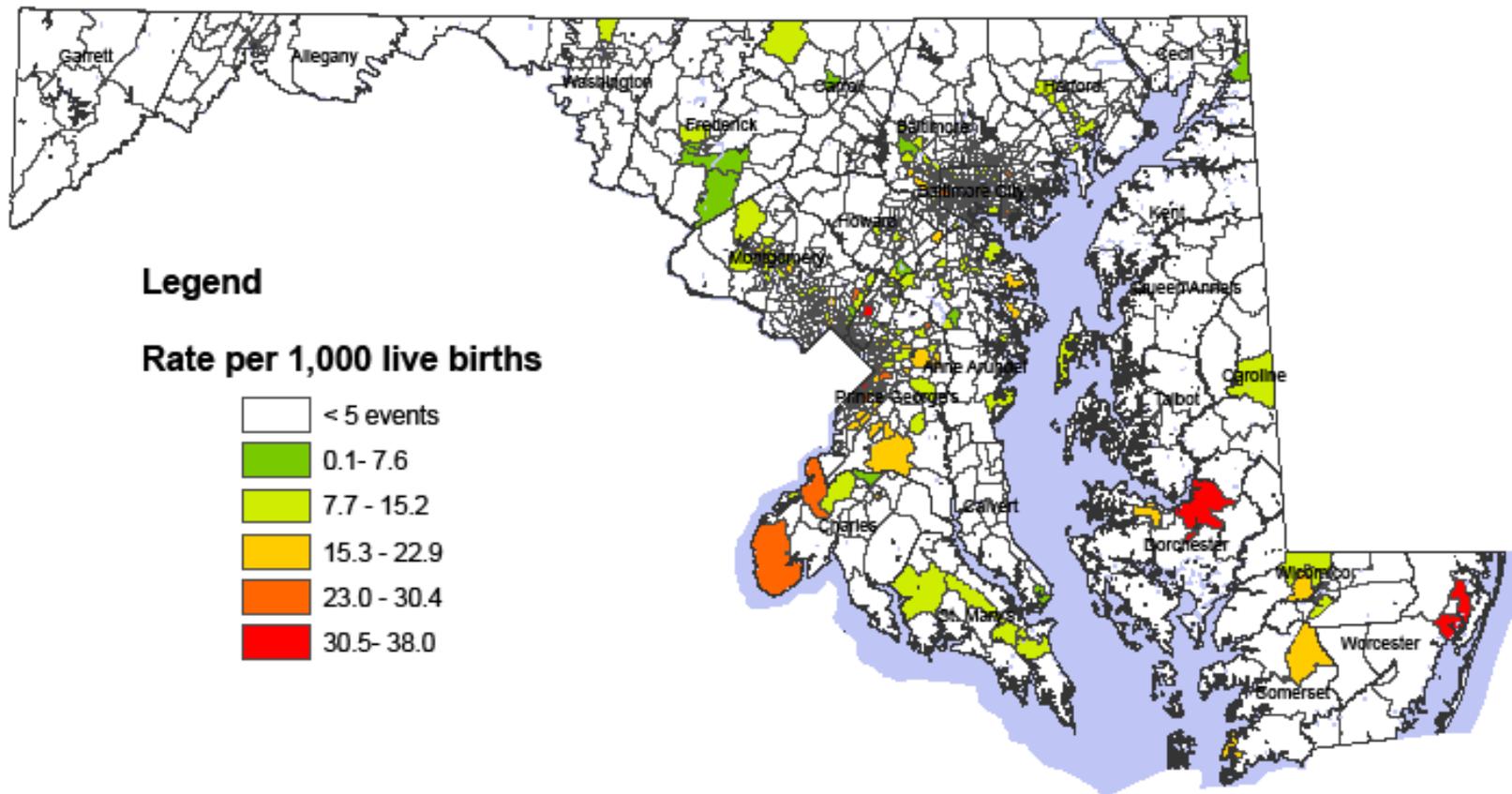
- For each census tract:

Infant Mortality Rate =

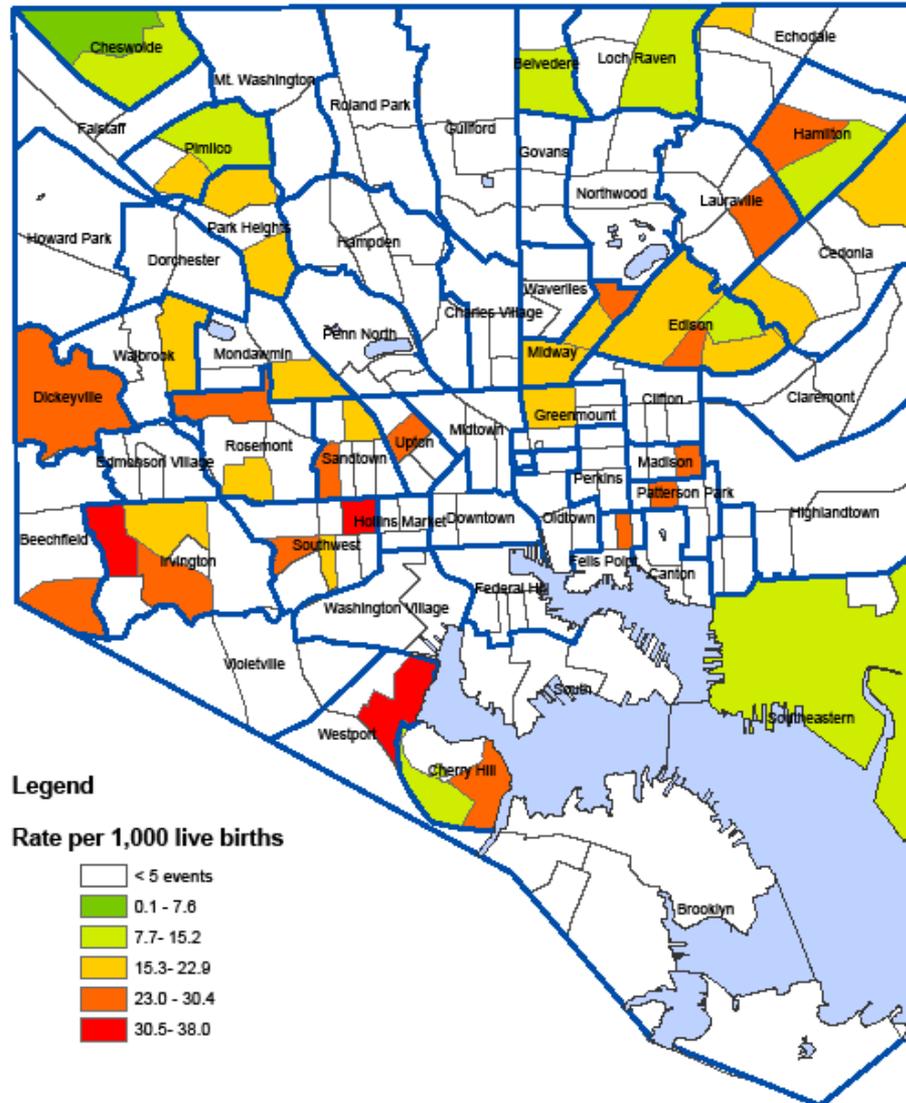
$$(\# \text{ of infant } (<1 \text{ yr}) \text{ deaths} / \# \text{ of live births}) * 1,000$$

- MD State Average in 2008 was 8.0%

# Infant Mortality Rate by Census Tract, Maryland, 2004-2008

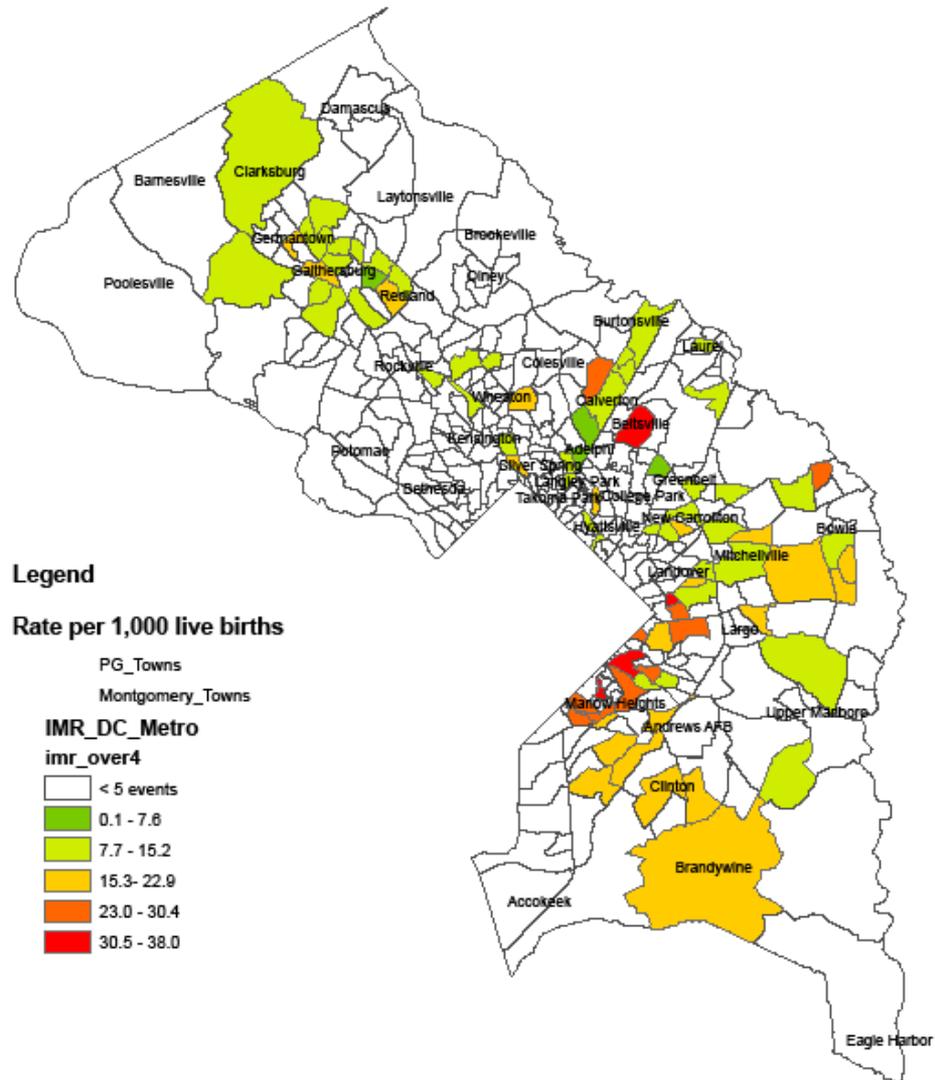


## Infant Mortality Rate by Census Tract, Baltimore City, Maryland, 2004-2008



Data Source: MD DHMH, Vital Statistics Administration

## Infant Mortality Rate by Census Tract, Montgomery and Prince George's Counties, Maryland, 2004-2008



Data Source: MD DHMH, Vital Statistics Administration

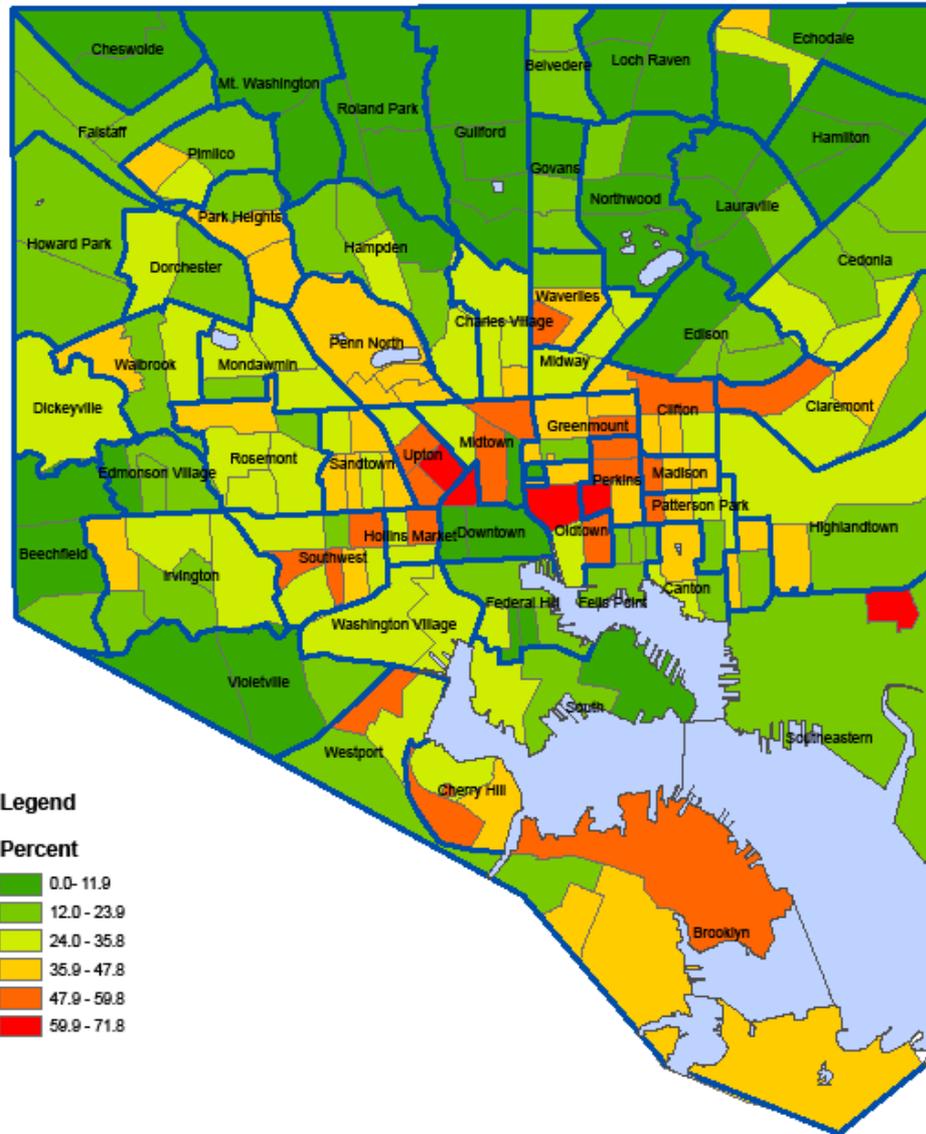
# Children Living in Poverty

- % of families with children <18 years old with household incomes at or below the poverty level
- For each census tract:  
% of families in poverty =  
$$\left( \frac{\text{\# of families with children <18 living at or below the poverty level}}{\text{\# of families with children <18}} \right) * 100$$
- MD State Average in 2000 was 8.7%

## Percent of Families with Children <18 years with Incomes At or Below the Poverty Level by Census Tract, Maryland, 2000

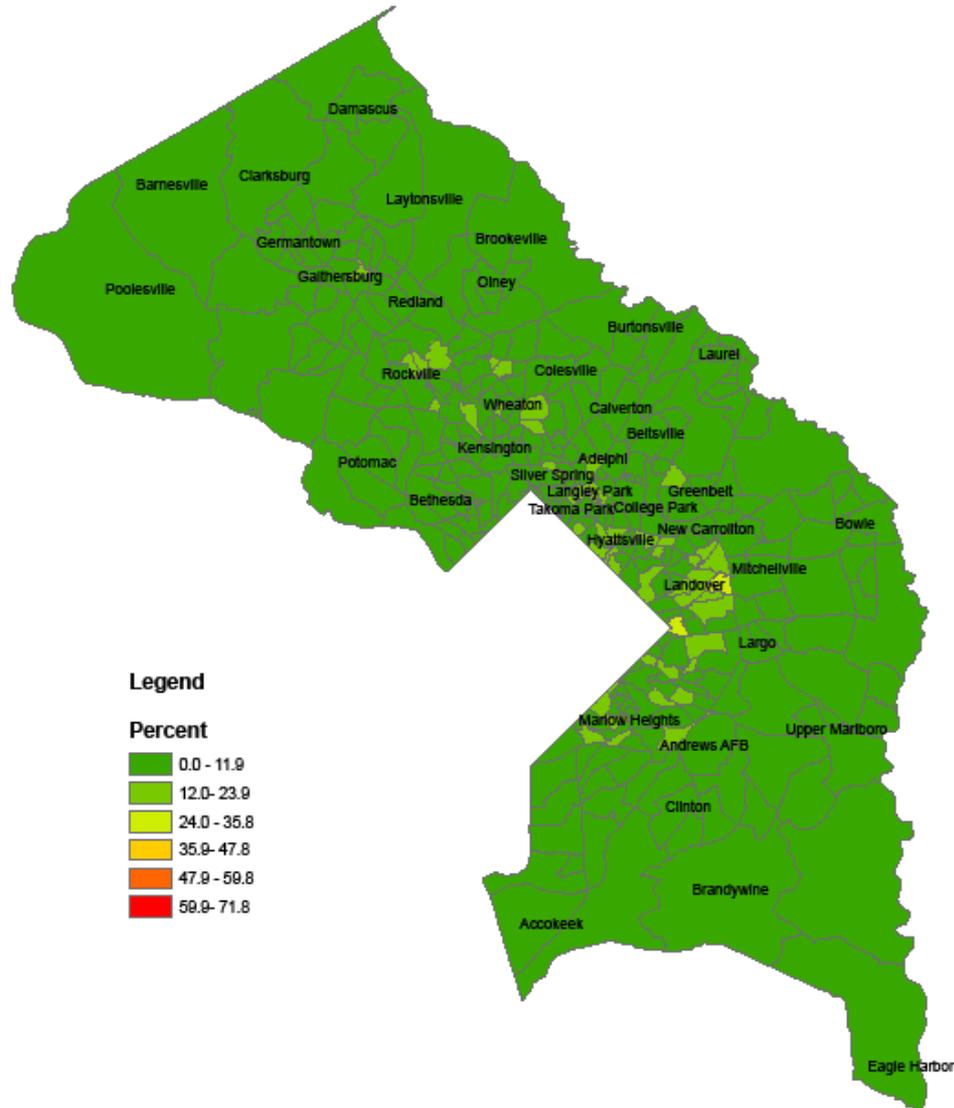


**Percent of Families with Children <18 years with Incomes  
At or Below the Poverty Level by Census Tract,  
Baltimore City, Maryland, 2000**



Data Source: MDP: Decennial Census 2000

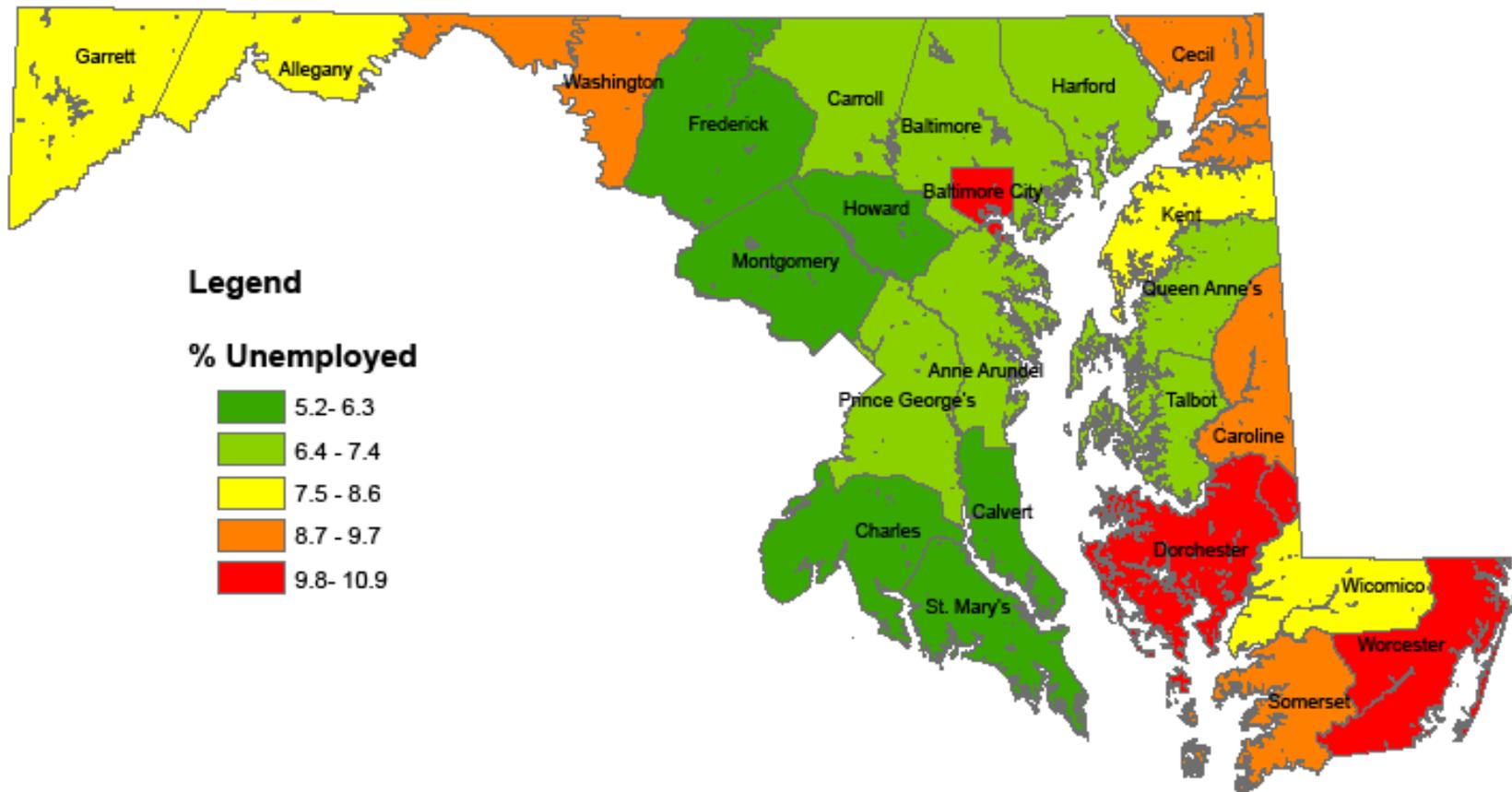
**Percent of Families with Children <18 years with Incomes  
At or Below the Poverty Level by Census Tract,  
Montgomery and Prince George's Counties, Maryland, 2000**



# Unemployment

- % of the labor force that is unemployed
- For each jurisdiction:  
% unemployed =  
$$\left( \frac{\# \text{ unemployed}}{\# \text{ in labor force}} \right) * 100$$
- MD State Average in 2009 was 7.0%

## Percentage Unemployed by Jurisdiction, Maryland 2009



# Crime Rate

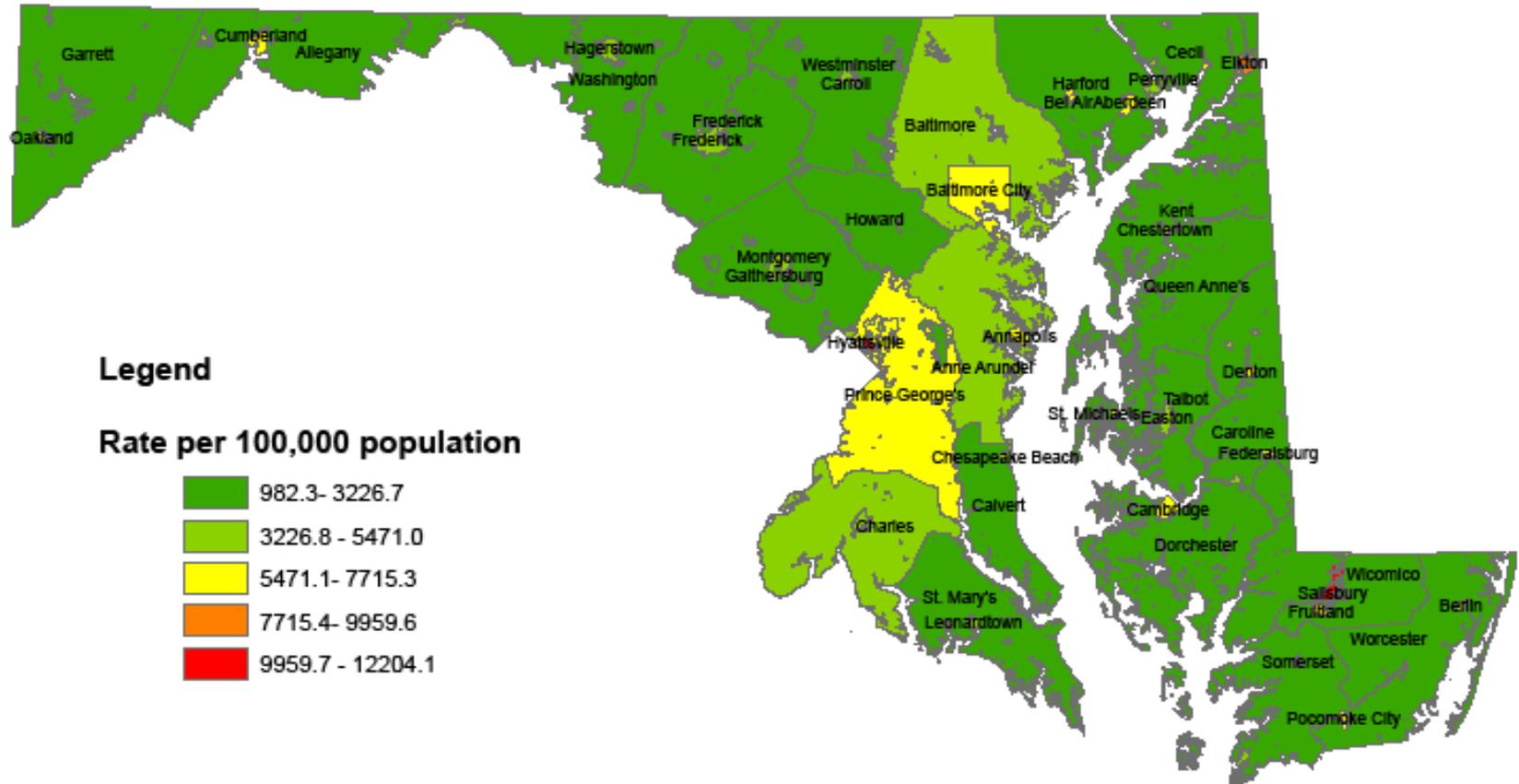
- Rate of crime incidents reported (all types of offenses)
- For each jurisdiction and municipality:

Crime Rate =

$$(\# \text{ of crimes} / \text{population in jurisdiction}) * 100,000$$

- Crime rate was computed for municipalities with > 20 crimes/year
  - Crimes reported by municipalities were subtracted from jurisdictional rates
  - Ocean City/Worcester County rates adjusted for seasonal population influx
- 
- MD State Average in 2008 was 4,146 per 100,000

## Crime Rate (all offenses) by Jurisdiction and Municipalities, Maryland, 2007-2008



Data Source: Crimes: MD State Police, Uniform Crime Report, Population: MDP Census Estimates

\*Note that municipalities with <20 offenses per year are not reported separately

# Domestic Violence

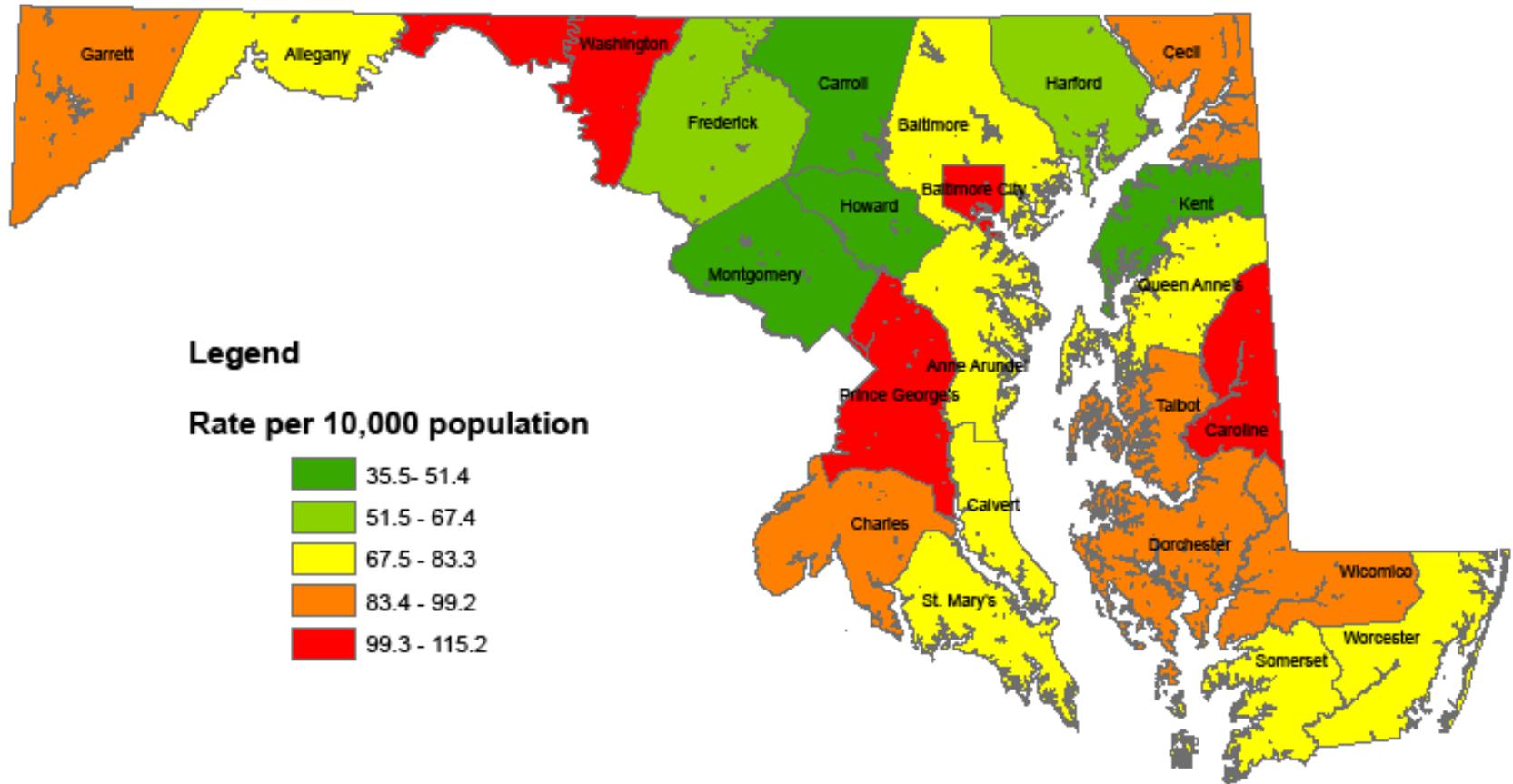
- Rate of protective and peace order filings
- For each jurisdiction:

Protective/Peace Order Rate =

$$\left( \frac{\text{\# of protective/peace orders filed}}{\text{population in jurisdiction}} \right) * 100,000$$

- MD State Average in 2009 was 76.0 per 10,000

## Protective and Peace Order Filings Rate by Jurisdiction, Maryland, 2008-2009



## High School Dropouts

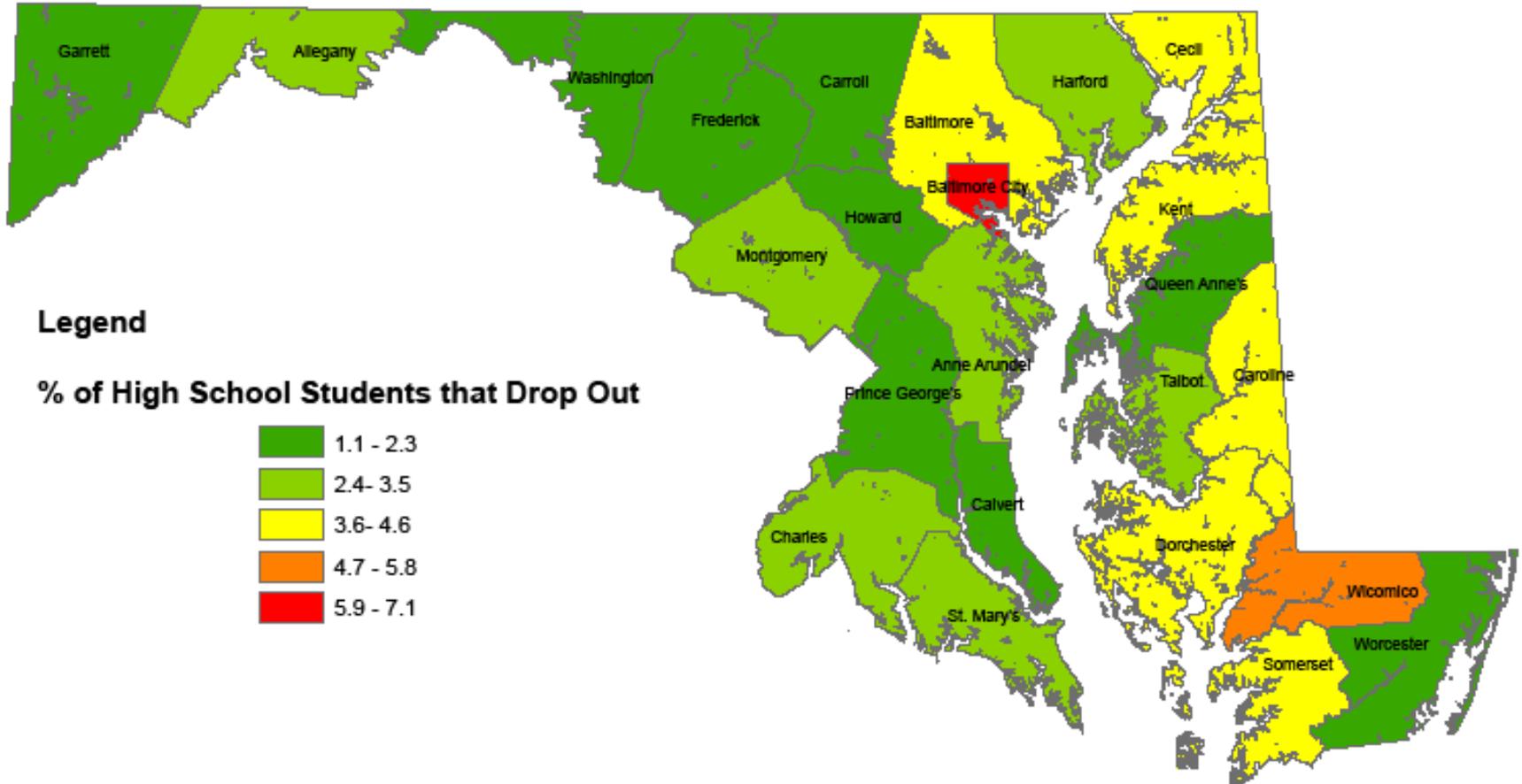
- Percentage of students in grades 9-12 that drop out
- For each jurisdiction:

HS Dropout Rate =

$$\left( \frac{\text{\# of students that dropped out}}{\text{total \# of students}} \right) * 100$$

- MD State Average in 2009 was 2.8%

# High School Drop Out Percentage by Jurisdiction, Maryland, 2008-2009



## Substance Abuse

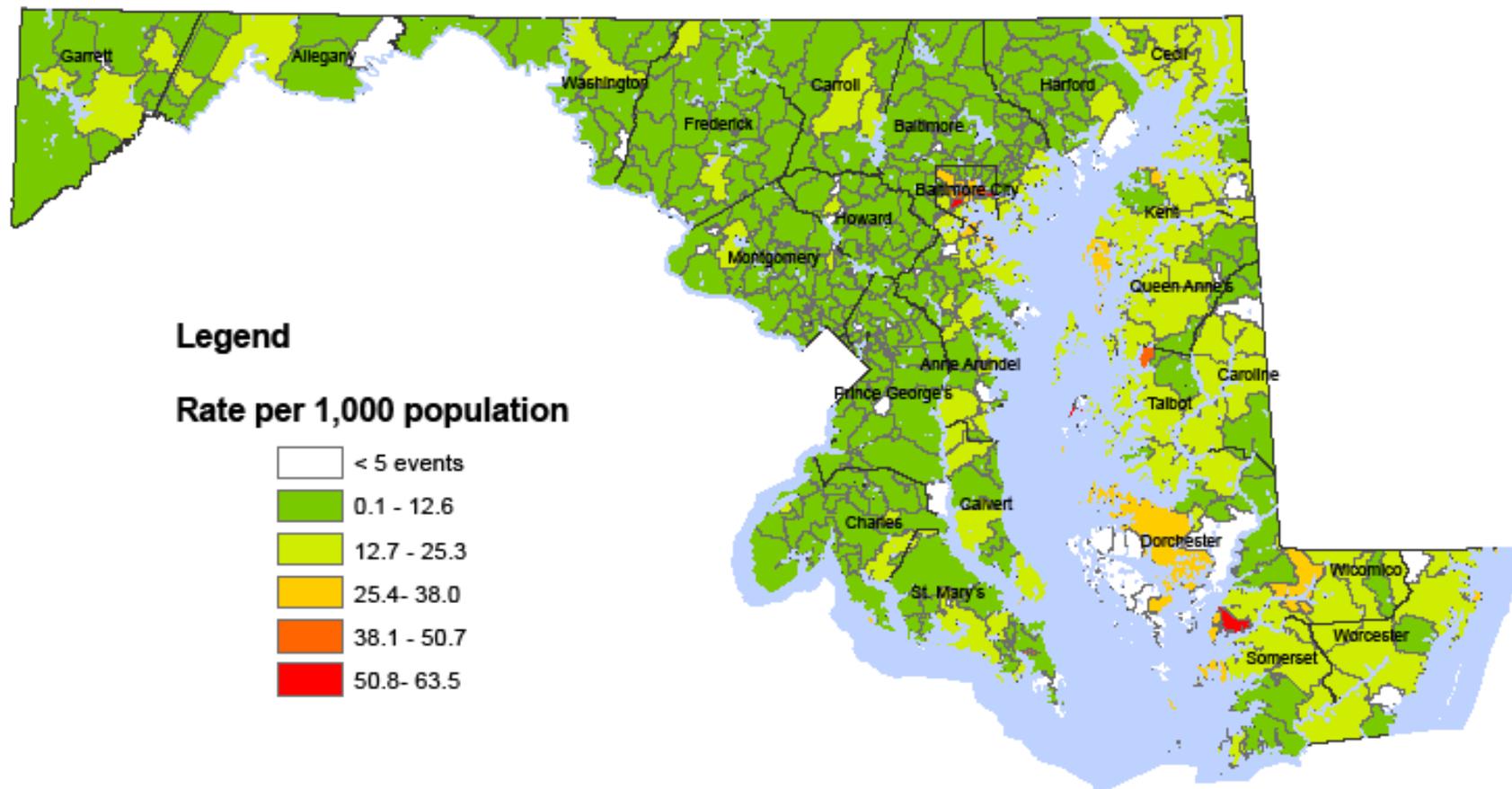
- Treatment rate for substance abuse among women of childbearing age (15-44 years)
- For each zip code:

Treatment Rate =

$$\left( \frac{\text{\# of women receiving ADAA funded treatment}}{\text{total \# of women (ages 15-44 years)}} \right) * 1,000$$

- MD State Average for 2004-2008 was 10.4 per 1,000

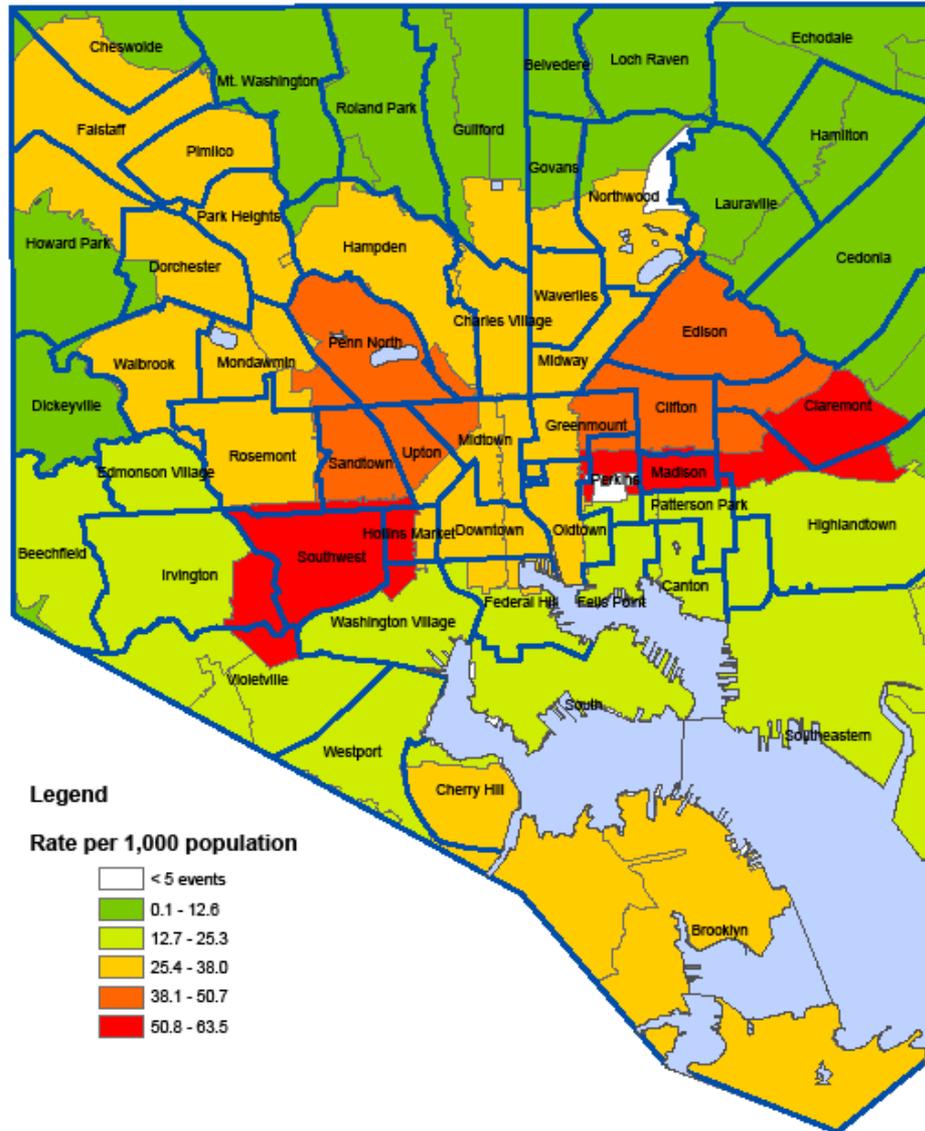
## Substance Abuse Treatment\* Rate among Women of Childbearing Age (15-44 yrs) by Zip Code, Maryland, 2004-2008



Data Source: MD DHMH, Alcohol and Drug Abuse Administration

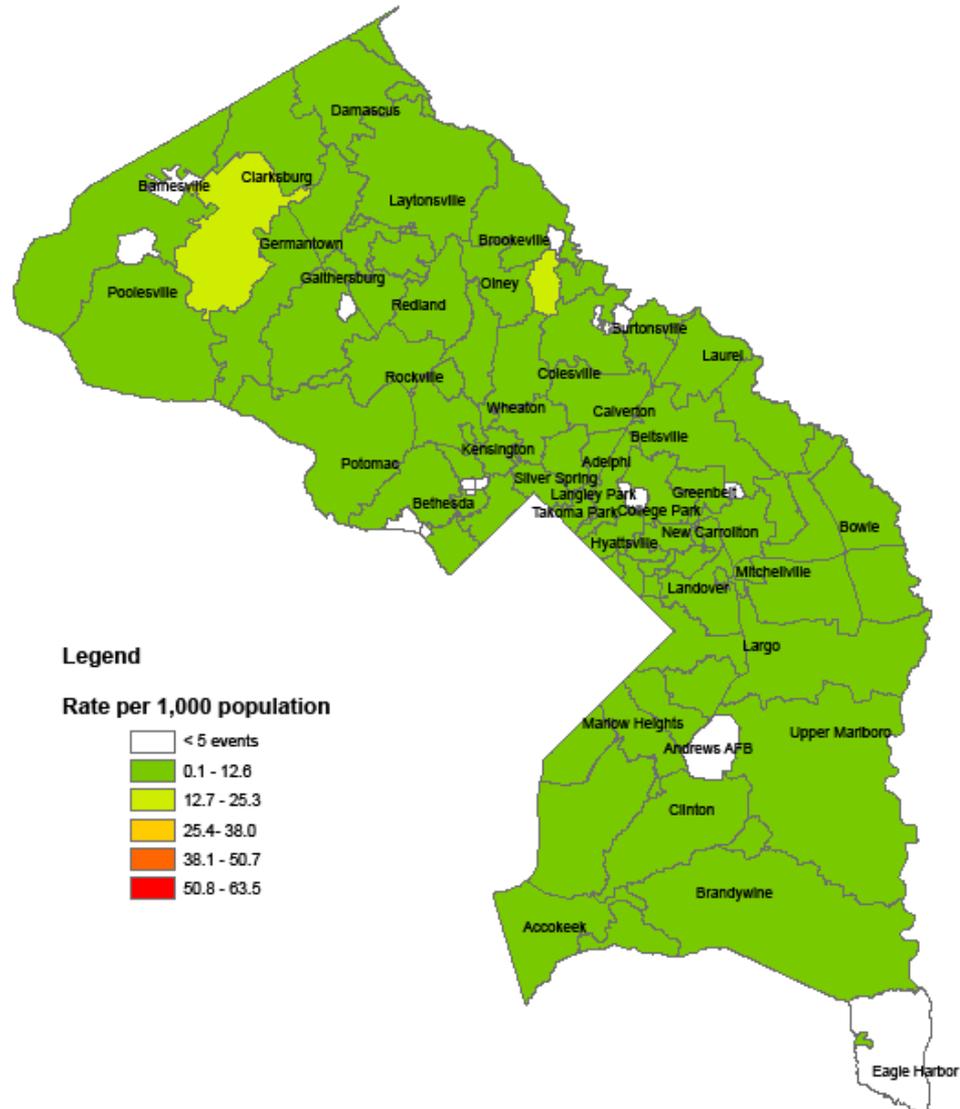
\*Limited to women enrolled in ADAA funded treatment

## Substance Abuse Treatment\* Rate among Women of Childbearing Age (15-44 yrs) by Zip Code, Baltimore City, Maryland, 2004-2008



Data Source: MD DHMH, Alcohol and Drug Abuse Administration  
\*Limited to women enrolled in ADA funded treatment

## Substance Abuse Treatment\* Rate among Women of Childbearing Age (15-44 yrs) by Zip Code, Montgomery and Prince George's Counties, Maryland, 2004-2008



Data Source: MD DHMH, Alcohol and Drug Abuse Administration  
\*Limited to women enrolled in ADA funded treatment

# Data Expected But Not Yet Available

- % of population enrolled in Medicaid
  - For each zip code:  
$$\% \text{ enrolled in MA} = (\# \text{ enrolled} / \text{population}) * 100$$
- Rate of child abuse and neglect investigations
  - For each census tract:  
$$\text{Rate of abuse and neglect investigations} = (\# \text{ of investigations} / \text{population} < 19 \text{ years}) * 1,000$$

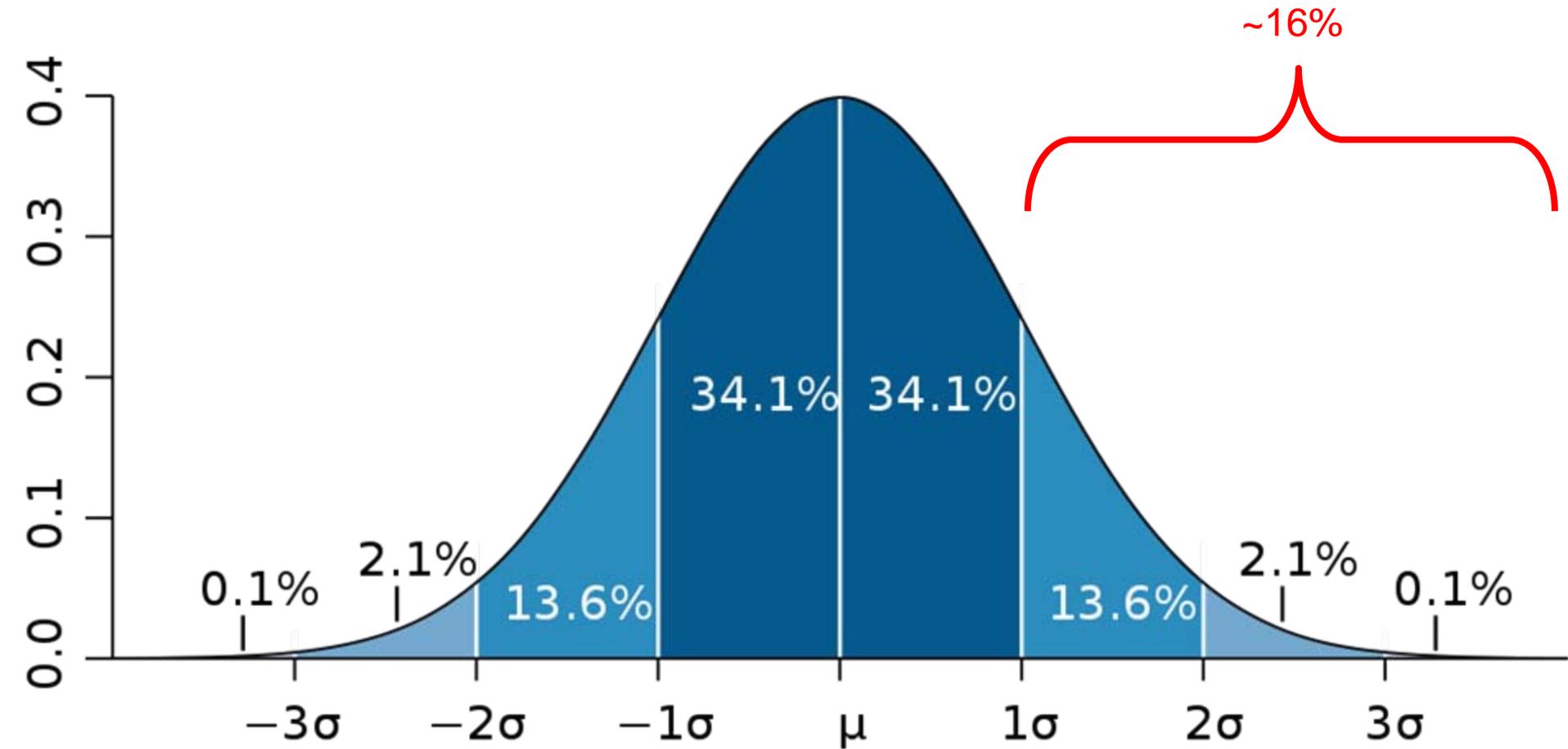
# Needs Assessment Methodology

## Next Steps

- Normalize the metrics
  - For each metric, compute the Z Score for each value (census tract, zip code, or jurisdiction)

$$\text{(Value - Mean) / Standard Deviation}$$

# Normal Distribution



# Needs Assessment Methodology

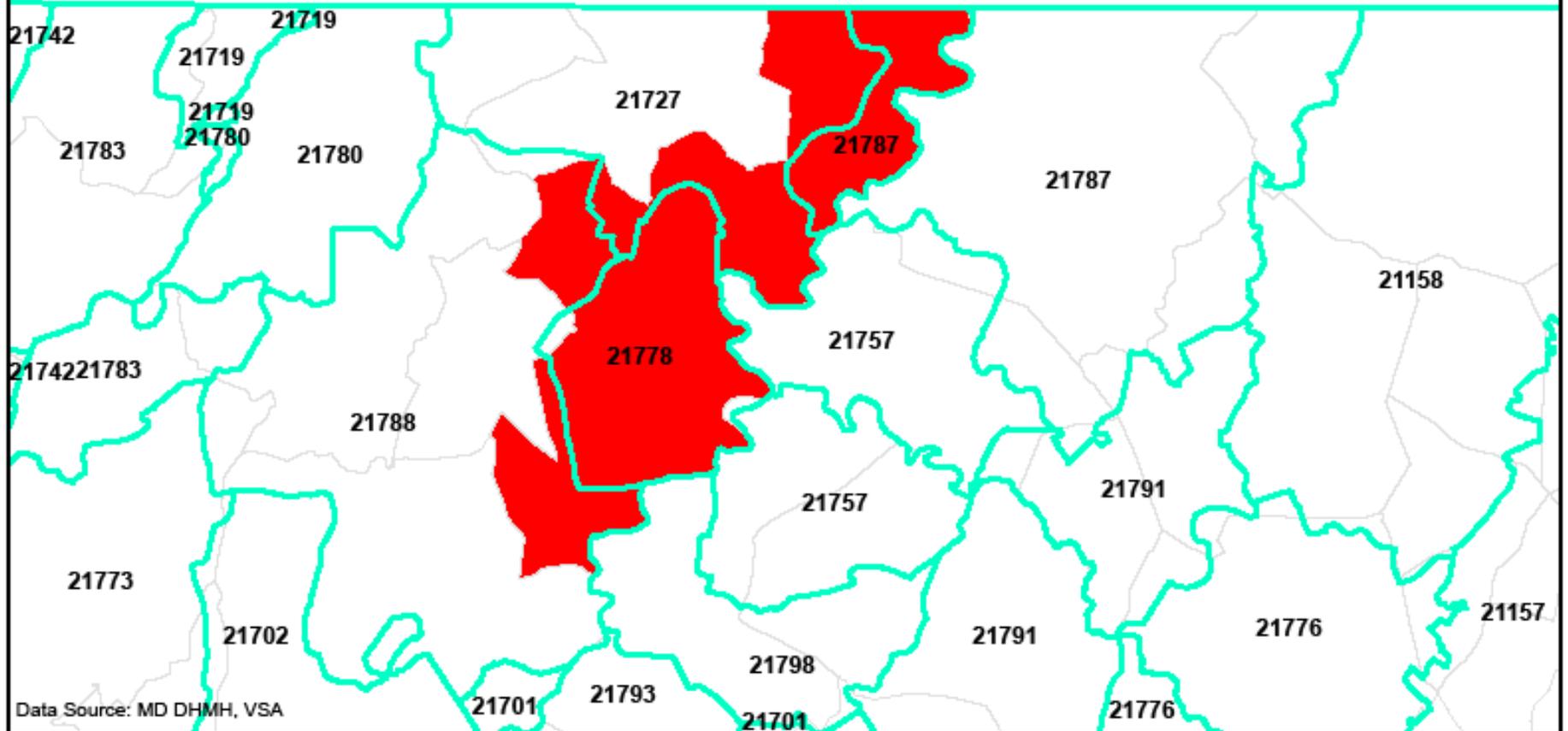
## Next Steps

- Define the at-risk population as living within those census tracts (zip codes or jurisdictions) that are at or above 1 standard deviation from the mean.
- Overlay Zip Codes (or Community Statistical Areas, CSAs, in Baltimore City)
- Zip Codes containing at least one census tract at-risk will be assigned a 1 for that metric, 0 otherwise.

# Percent of Births that were Preterm (<37 weeks) by Census Tract, with Zip Codes, Maryland, 2004-2008

## Legend

- Zip Code
- < 1 Std Dev
- $\geq 1$  Std Dev



# Needs Assessment Methodology

## Next Steps

- Repeat process for each metric.
- Add up scores for each zip code across the metrics.
  - Total Score for Zip Code (n) = Preterm Birth Score + LBW Score + IMR Score + ...

### Example

$$21842 = 1 + 0 + 0 + 1 + 0 + 1 + 1 + 1 + 0 + 0 + 1 + 1 + 0$$
$$= 7$$

# Needs Assessment Methodology

## Next Steps

- Rank Zip Codes (or CSAs in Baltimore City) by their total score
- Identify existing and proposed home visiting programs serving these at-risk communities

# Looking Ahead

- Future updates of the Needs Assessment will be able to incorporate improved sources of data:
  - Decennial Census 2010
  - New domestic violence incident tracking system being implemented by the Maryland State Police and the Governor's Office of Crime Control and Prevention

# Any questions?

- PDF versions of the community needs assessment maps will be posted to the CMCH website in the next week:

[www.fha.maryland.gov/mch](http://www.fha.maryland.gov/mch)