

Youth Mortality

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a moment of silence

for youth who lost their lives far too early, and
for those struggling to find their way

The Health and Wellbeing of Children, Youth, and Families in Baltimore City: Child and Youth Mortality

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The Johns Hopkins Urban Health Institute supported the work presented in this report. Stacey Lloyd also acknowledges funding from the C. Sylvia and Eddie C. Brown Community Health Scholarship Program.

Significance

Actionable Health Intelligence

Health Needs Assessment

- Track city-wide trends
- Examine population-level outcomes across neighborhoods
- Broadly applicable framework

Data Sources

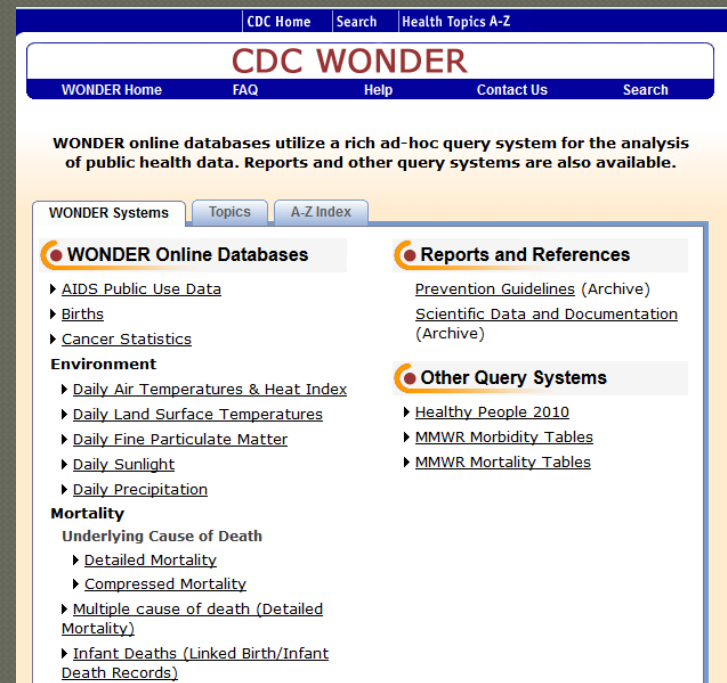
Citywide analysis 2001-2012

2001-2010

wonder.cdc.gov

2011-2012

dhmh.maryland.gov



The screenshot shows the CDC WONDER website. At the top, there are navigation links for 'CDC Home', 'Search', and 'Health Topics A-Z'. Below this is the 'CDC WONDER' header with sub-links for 'WONDER Home', 'FAQ', 'Help', 'Contact Us', and 'Search'. A descriptive paragraph states: 'WONDER online databases utilize a rich ad-hoc query system for the analysis of public health data. Reports and other query systems are also available.' Below the text are three tabs: 'WONDER Systems', 'Topics', and 'A-Z Index'. The 'WONDER Systems' tab is active, displaying a list of databases and reports. The list is organized into sections: 'WONDER Online Databases' (including AIDS Public Use Data, Births, and Cancer Statistics), 'Environment' (including Daily Air Temperatures & Heat Index, Daily Land Surface Temperatures, Daily Fine Particulate Matter, Daily Sunlight, and Daily Precipitation), 'Mortality' (including Underlying Cause of Death, Detailed Mortality, Compressed Mortality, Multiple cause of death, and Infant Deaths), 'Reports and References' (including Prevention Guidelines and Scientific Data and Documentation), and 'Other Query Systems' (including Healthy People 2010, MMWR Morbidity Tables, and MMWR Mortality Tables).

Data Sources

Neighborhood analysis 2008-2012

Mortality rates and
CSA characteristics

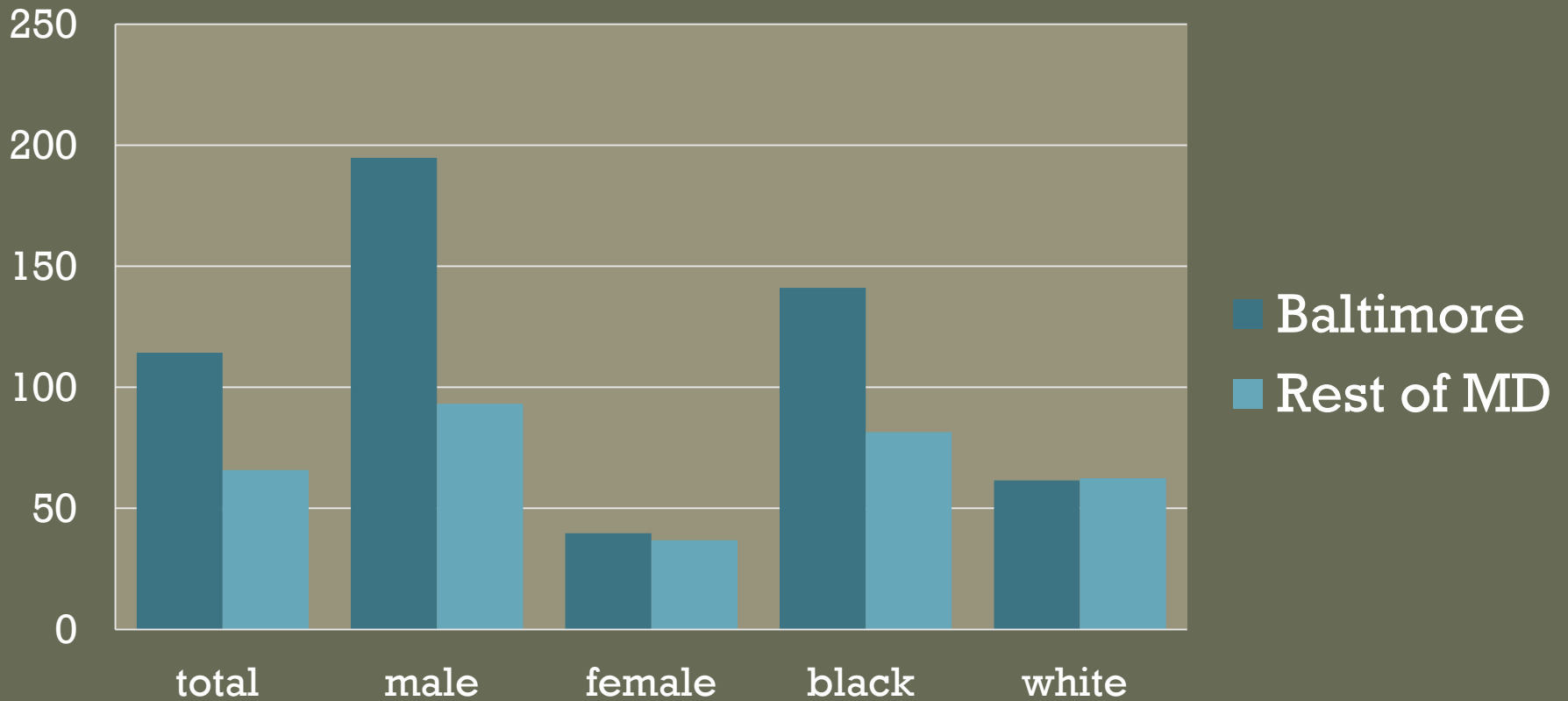
bniajfi.org
factfinder2.census.gov



The screenshot shows the American FactFinder search interface. At the top, it displays the U.S. Department of Commerce logo, the United States Census Bureau logo, and the American FactFinder logo. Below the logos are navigation tabs: MAIN, COMMUNITY FACTS, GUIDED SEARCH, ADVANCED SEARCH (highlighted), and DOWNLOAD CENTER. The main content area is titled "Search - Use the options on the left (topics, geographies, ...) to narrow your search results". On the left, there is a "Your Selections" box that is currently empty. Below that, a section titled "Search using the options below:" lists five categories: Topics (age, income, year, dataset, ...), Geographies (states, counties, places, ...), Race and Ethnic Groups (race, ancestry, tribe), Industry Codes (NAICS industry, ...), and EEO Occupation Codes (executives, analysts, ...). On the right, there is a search form with two input fields: "topic or table name" and "state, county or place (optional)". Below the form are radio buttons for "topics" (selected), "race/ancestry", "industries", and "occupations". A "GO" button is to the right of the form. Below the form, there are three numbered steps: 1. Enter search terms and an optional geography and click GO. 2. Next, select Geographies (states, counties, cities, towns, etc.). 3. Select one or more Search Results and click View.

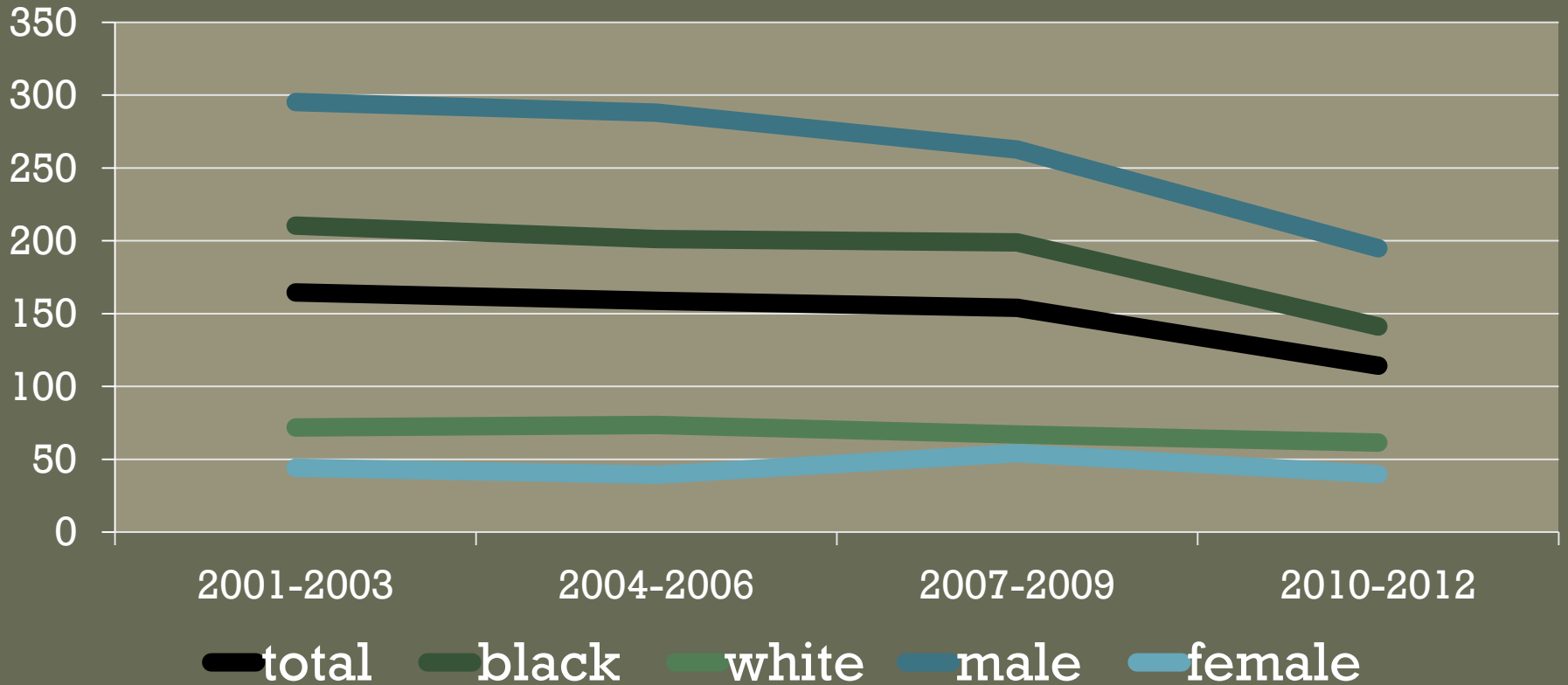
2010-2012

Youth Morality Rate per 100,000



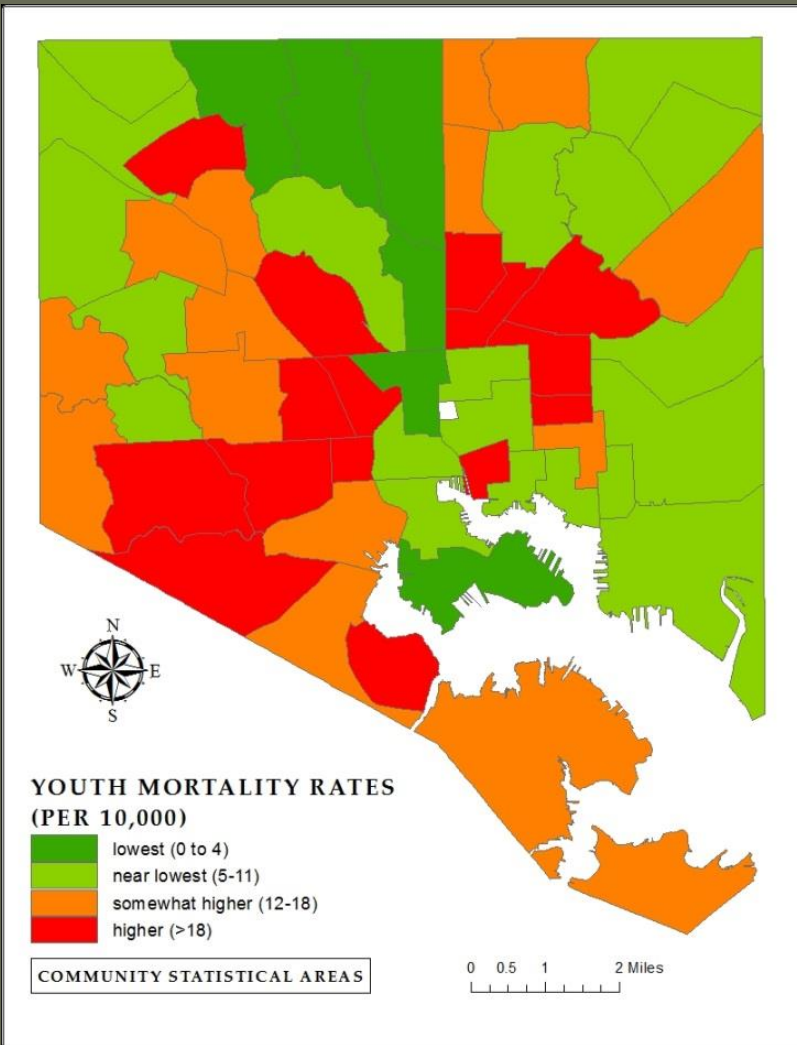
Trends 2001-2012

Youth Morality Rate
per 100,000



Youth Mortality Rate 2008-2012

by CSA
*per 10,000



Mean (sd) 13 (8)

Range 0-32

*Best 4

*average of best 25% of CSAs

Neighborhood Inequities

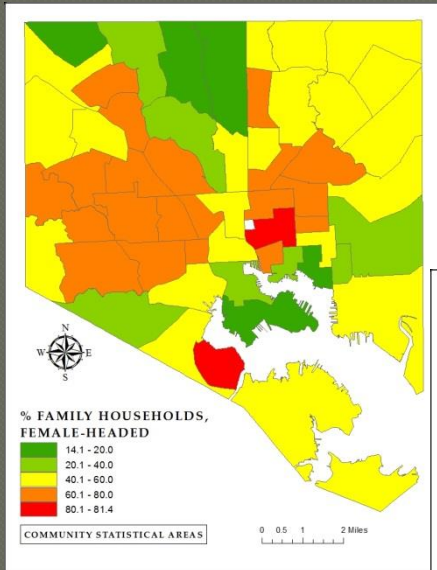
Objective Neighborhood Disadvantage
Ross & Mirowsky, 2001

<i>Disadvantage</i>	Social % family HH, female-headed	Economic % HH in poverty
<i>Advantage</i>	Wealth % HH, owner-occupied	Human Capital % adults, \geq bachelor's

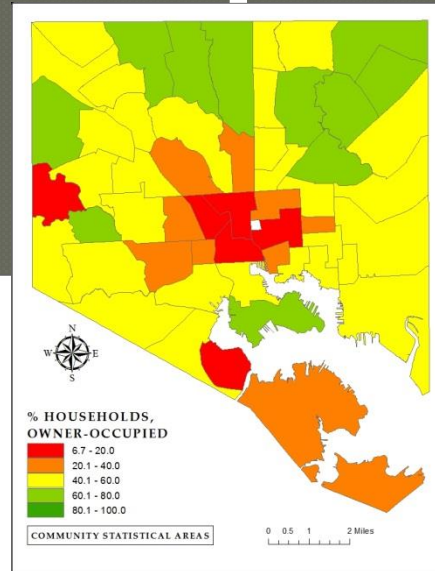
HH = households

Neighborhood Disadvantage

% family HH
female-head

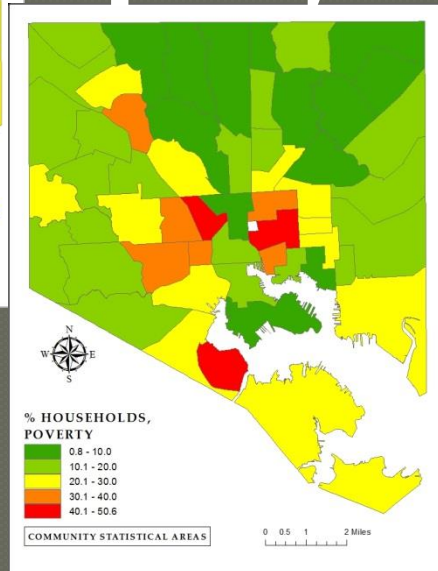


% HH owner-
occupied

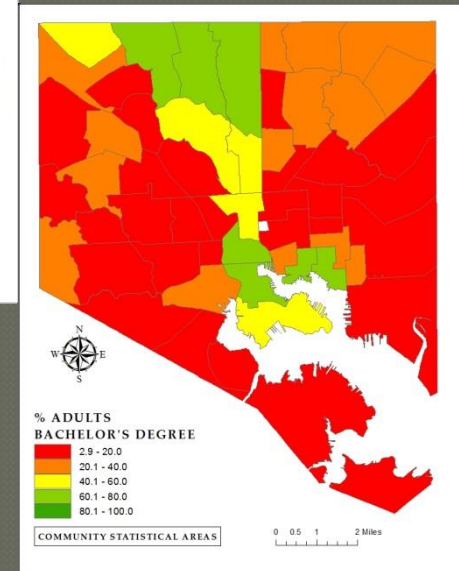


Data Sources:
BNIA Vital Signs
2010 US Census

% HH
poverty



% adults
bachelor's



Neighborhood Disadvantage

Ross & Mirowsky, 2001

$$\frac{\% \text{ in poverty}}{10} + \frac{\% \text{ family households, female headed}}{10} = \mathbf{A}$$

$$\frac{\% \text{ households, owner occupied}}{10} + \frac{\% \text{ with } > \text{ bachelor's degree}}{10} = \mathbf{B}$$

$$\frac{\mathbf{A - B}}{4} = \text{neighborhood disadvantage}$$

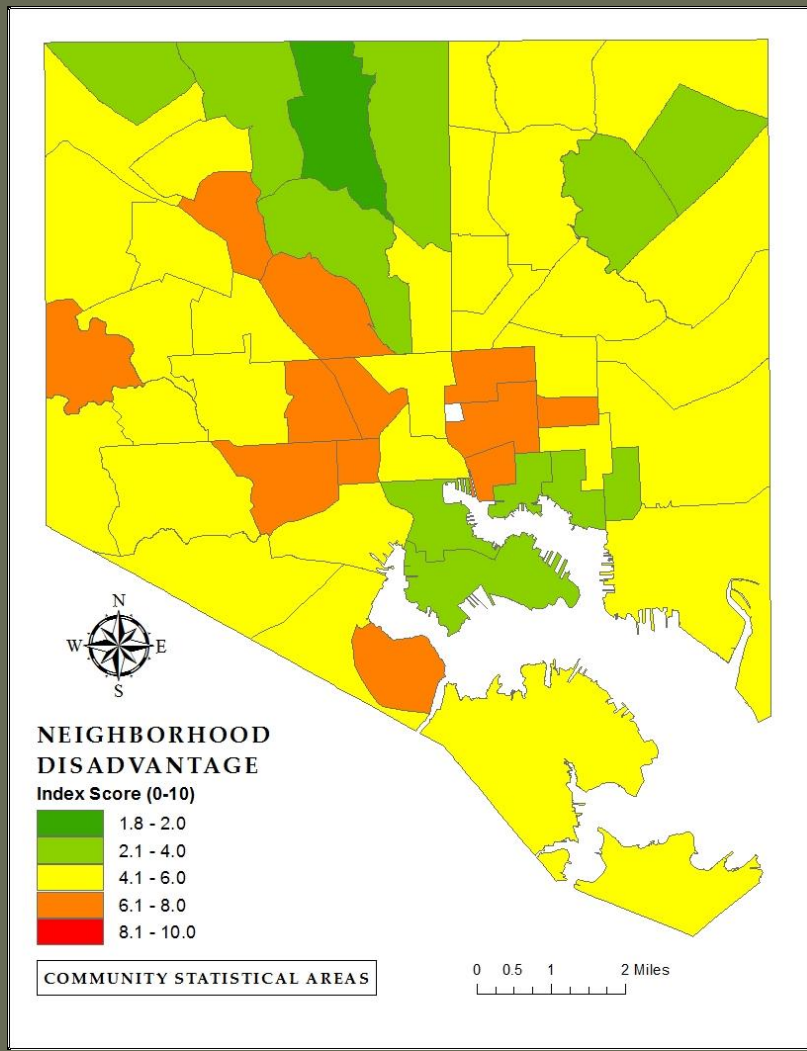
(range -5 to 5)



+ 5 (range 0-10)

Neighborhood Disadvantage

by CSA



Mean (sd) 5.0 (1.4)

Range 1.8-7.6

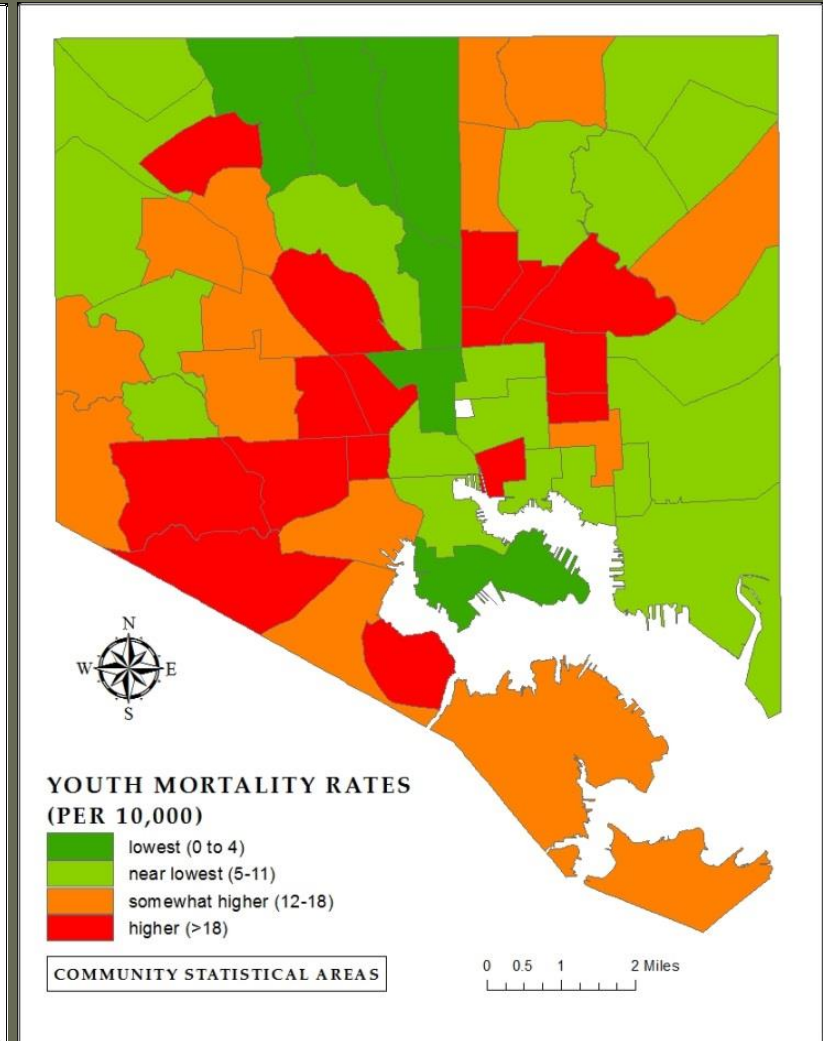
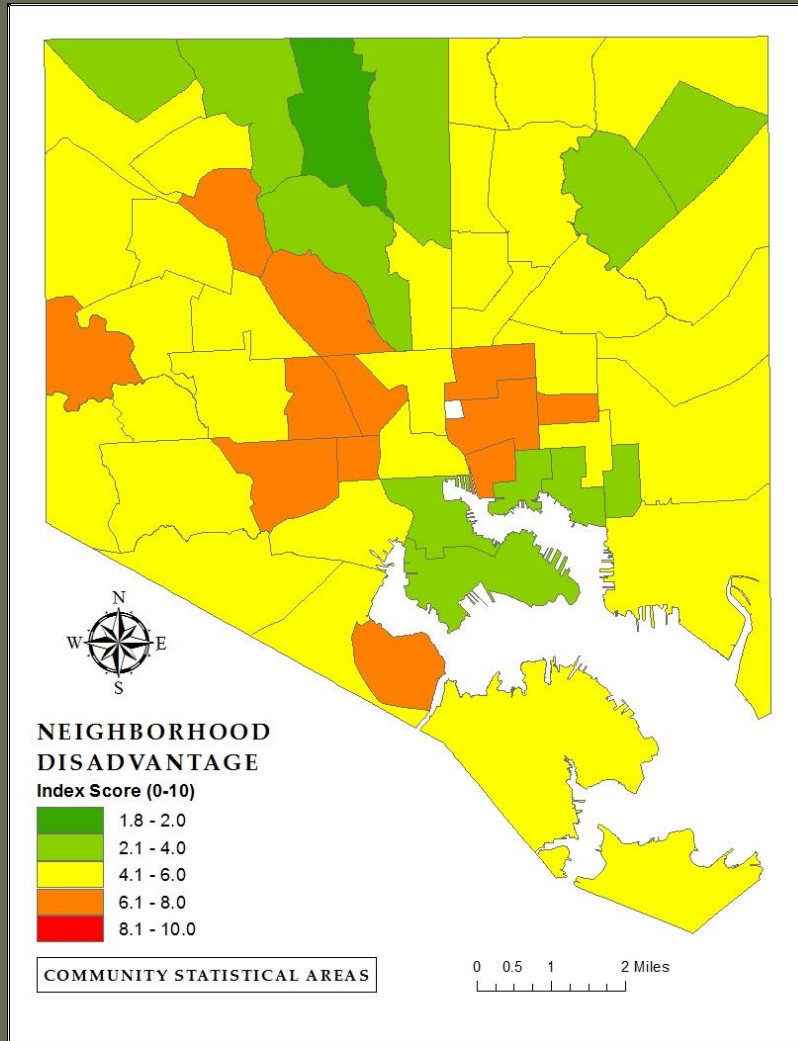
Low 22%

Moderate 56%

High 22%

Data Sources: BNIA Vital Signs, 2010 US Census

Disadvantage & Youth Mortality



Data Sources: BNIA Vital Signs, 2010 US Census

Disadvantage & Youth Mortality

- negative binomial regression models

Predictor variable (range)	Incidence Rate Ratio (95% CI)
neighborhood disadvantage (1.4-7.6)	1.4 (1.2-1.6)
low/no (1.4-4)	reference
moderate (4.1-6)	2.3 (1.5-3.5)
high (6.1-7.6)	3.1 (1.9-4.9)

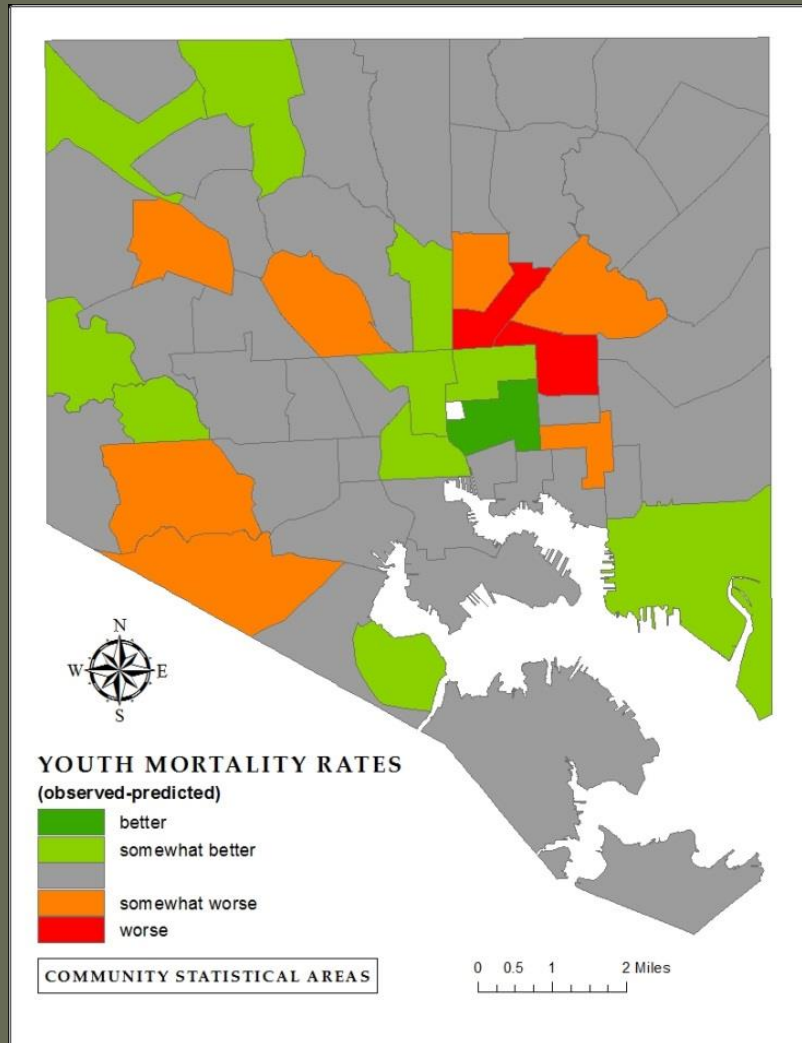
Data Sources: BNIA Vital Signs, 2010 US Census;
Baltimore City Health Department

Disadvantage & Youth Mortality

Residuals Analysis

- ◉ How much variation in youth mortality is **NOT** explained by disadvantage?
- ◉ GOAL: identify areas with better/worse mortality rate than predicted by model
- ◉ NEXT STEPS: explore neighborhood processes associated with better/worse outcomes; targeted interventions → greatest need

Residuals Analysis



Dark green and red $>2sd$
Lt. green and orange $>1sd$

Better ($>2sd$)

Oldtown/Middle East

Worse ($>2sd$)

Clifton-Berea

Midway/Colstream

Conclusions

- ① Youth mortality declined in Baltimore between 2001 and 2012
- ① Significant equity gaps remain
- ① Targeted community-based interventions in areas with the greatest need → help close the equity gaps in Baltimore

- ① **NEXT STEPS:** exploring processes in neighborhoods with highest rates and those with higher/lower rates than expected based on disadvantage alone will further guide the selection of responsive interventions

Thank you

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