

Baltimore City
2011 Neighborhood Health Profile
Madison/East End



Baltimore City Health Department
December 2011

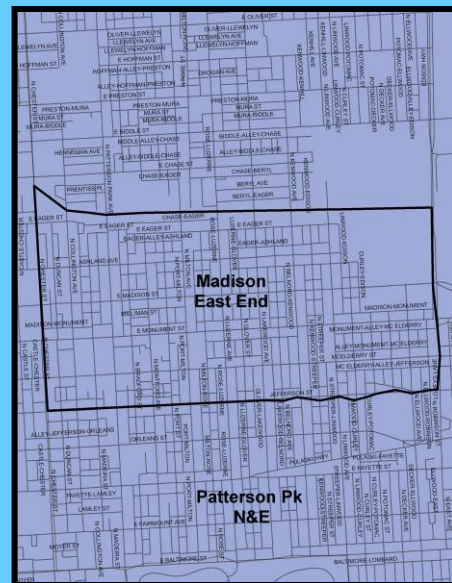
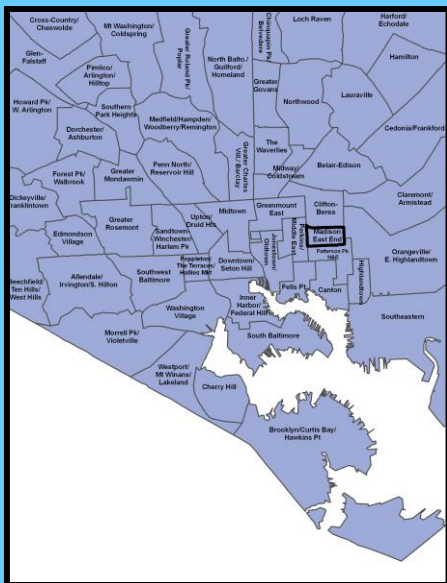


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Authors

Office of Policy and Planning

Alisa Ames, MHS

Mark Evans

Laura Fox, MPH

Adam J. Milam, MHS

Ryan J. Petteway, MPH

Regina Rutledge, MPH

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This report is available at <http://www.baltimorehealth.org/dataresearch.html>

Introduction

In the fall of 2008, the Baltimore City Health Department released its first iteration of the *Neighborhood Health Profiles*. The *2008 Profiles* were developed in an effort to provide residents information regarding the health status of their specific communities, as well as to facilitate identification of priority health areas and inspire collaborative action. These Profiles revealed stark inequities in health outcomes between our City's neighborhoods. The most harrowing of these inequities was a 20 year gap in life expectancy between two neighborhoods that are less than five miles apart.

The new *2011 Neighborhood Health Profiles* build on the *2008 Profiles* by looking at the underlying factors that affect health in each neighborhood—the social determinants of health. The social determinants of health are the conditions in which residents live, learn, work, and play, and include factors like access to healthy food, healthy housing, quality schools, and safe places to be active. According to the world's leading public health authority, the World Health Organization, "The social determinants of health are mostly responsible for health inequities." The *2011 Profiles* will thus allow residents to not only identify priority health issues, but also to identify underlying conditions that are more immediately actionable. Residents are presented with data on lung cancer mortality, for example, as well as data on tobacco retail density.

Each *2011 Neighborhood Health Profile* is divided into 10 sections. The first section provides an overview of demographic information—the total population, age, gender, and race and ethnicity of neighborhood residents. Sections Two through Six provide data on the social determinants of health by neighborhood—the conditions in which residents live, learn, work, and play that affect health. These include data on: socioeconomic factors, education, the community built and social environment, housing, and the food environment. The seventh section provides data on health outcomes, including data on life expectancy, mortality and causes of death, and maternal and child health outcomes. The eighth section summarizes how each neighborhood compares to the other neighborhoods for the social determinants of health indicators. The ninth section summarizes how each neighborhood compares to the other neighborhoods for health outcomes. Technical notes in section ten provide details on how the data were collected and tabulated. In this report, the terms "neighborhood" and "Community Statistical Area" are used interchangeably.

The *2011 Neighborhood Health Profiles* provide Baltimore citizens with objective data that accurately reflect local health issues. They clearly illustrate that neighborhoods have distinct health issues that must be addressed with full participation of affected communities. The *2011 Profiles* can help communities shift how they think about health to incorporate a robust spectrum of the social determinants of health. They are intended to be used in conjunction with *Healthy Baltimore 2015*, the city's health policy agenda. *Healthy Baltimore 2015* outlines the health priorities that account for the greatest amount of preventable disease, disability and death in Baltimore city. The *2011 Profiles* move us in our growing efforts to eliminate health inequities and achieve health equity for all Baltimore communities.

1. Demographics

Neighborhood: **Madison/East End** at a Glance

Total population in Baltimore City in 2010	616,802
Total population in Madison/East End in 2010	7,781

Age

The age distribution of Madison/East End compared to Baltimore City overall (2010).

	Madison/East End	Baltimore City
0-17 years	32.8%	21.6%
18-24 years	13.1%	12.5%
25-44 years	24.9%	28.8%
45-64 years	22.6%	25.2%
65+ years	6.6%	11.8%

Source: 2010 US Census.

Gender

The percent of men and women in Madison/East End compared to Baltimore City overall (2010).

	Madison/East End	Baltimore City
Men	46.1%	46.7%
Women	53.9%	53.3%

Source: 2010 US Census.

Race/Ethnicity

The race and ethnicity distribution of Madison/East End compared to Baltimore City overall (2010).

	Madison/East End	Baltimore City
Black or African American	91.1%	63.6%
White	4.0%	29.7%
Asian	0.9%	2.4%
Some Other Race ¹	2.2%	2.2%
Two or More Races	1.7%	2.1%
Hispanic or Latino ²	4.0%	4.2%

¹Hispanic or Latino ethnicity overlaps with other race categories.

²Some other race includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and choosing other races as an option on the census.

Source: 2010 US Census.

2. Socioeconomic Characteristics

Median Household Income

The household income distribution of Madison/East End compared to Baltimore City overall (2010).

	Madison/East End	Baltimore City
Median Household Income	\$30,389	\$37,395
Less than \$25,000	40.5%	33.3%
\$25,000-\$39,999	25.0%	18.1%
\$40,000-\$59,999	17.2%	17.1%
\$60,000-\$74,999	6.5%	9.1%
\$75,000 and over	10.7%	22.5%

Source: American Community Survey, 2005-2009.

Unemployment

The percent of the Madison/East End population 16 years of age and older that are unemployed in the civilian labor force.

	Madison/East End	Baltimore City
Percent Unemployed	14.4%	11.1%

Source: American Community Survey, 2005-2009.

Family Poverty Rate

The percent of families in Madison/East End that have an income below the poverty level compared to Baltimore City overall (2010).

	Madison/East End	Baltimore City
Percent of Families in Poverty	27.6%	15.2%

Source: American Community Survey, 2005-2009.

Percent of Single-Parent Households

The percent of households with children <18 years in Madison/East End. The denominators are based on the number of families in each CSA (2010).

	Madison/East End	Baltimore City
Percent of Single-Parent Households	39.0%	26.0%

Source: 2010 US Census.

3. Education

Educational attainment is one of the most critical determinants of health around the world. The World Health Organization has indicated that the single most important step in improving health and eliminating health inequities is making a greater investment in early childhood development and ensuring that all children can attain their full education potential. In Baltimore, many of the largest documented health inequities are between residents with differing levels of educational attainment. For example, residents with only a high school education or less have an all-cause death rate that is almost three times higher than that for residents with a bachelor’s degree or higher. Ensuring all residents can achieve their full education potential is essential to efforts to improve community health and eliminate health inequities.

School Readiness and 3rd and 8th Grade Reading Proficiency

The percent of kindergartners assessed as “fully ready” in Madison/East End compared to Baltimore City overall (in school years 2007-2008 and 2008-2009). The percent of 3rd and 8th graders who are reading at “Proficient or Advanced” level in Madison/East End compared to Baltimore City overall (school year 2008-2009).

	Madison/East End	Baltimore City
Percent of Kindergartners “Fully Ready” to Learn ¹	64.2%	65.0%
3 rd Graders at “Proficient or Advanced” Reading Level ²	70.9%	77.6%
8 th Graders at “Proficient or Advanced” Reading Level ²	41.0%	58.6%

¹ Source: Baltimore City Public Schools-Work Sampling System (WSS) of the Maryland Model for School Readiness (MMSR).

² Source: Baltimore Neighborhood Indicators Alliance (BNIA) from the Baltimore City Public Schools

School Absenteeism

The percent of elementary, middle, and high school students who missed 20 or more days of school in Madison/East End compared to Baltimore City overall (school year 2008-2009).

	Madison/East End	Baltimore City
Percent of Elementary School Students Missing 20+ Days	14.2%	10.1%
Percent of Middle School Students Missing 20+ Days	26.5%	16.3%
Percent of High School Students Missing 20+ Days	52.6%	39.2%

Source: Baltimore Neighborhood Indicators Alliance (BNIA) from the Baltimore City Public Schools.

Adult Educational Attainment

Educational attainment among residents 25 years and older in Madison/East End compared to Baltimore City overall.

	Madison/East End	Baltimore City
Percent of residents 25 years and older with a high school degree or less	68.1%	52.6%
Percent of residents 25 years and older with a bachelors degree or more	4.4%	25.0%

Source: American Community Survey, 2005-2009.

4. Community Built and Social Environment

A neighborhood's *built environment* includes its physical attributes and structures, like buildings and lots, parks and green space, streets and sidewalks, hazardous waste sites, and businesses and retail shops. The built environment affects how people use space and interact with one another and has impacts on health. For example, clean and safe parks and green space allow for social interaction and opportunities to be physically active, whereas dirty streets and alleys may restrict or deter engaging in such opportunities. Having a selection of businesses and shops in a neighborhood also promotes social interaction and encourages more walking—things that are good for community and individual health. On the other hand, the presence of alcohol stores is strongly associated with crime and community violence, which deter outdoor activity and impose physical and mental health burdens.

A neighborhood's *social environment* includes factors related to the living, working, learning, and playing conditions of its residents. The social environment includes social institutions (cultural and religious institutions, economic systems, and political structures), social surroundings (workplace and school environments), and how its residents interact with one another, as well as how they interact with and within the contexts of their social institutions and surroundings. General socioeconomic conditions, such as poverty, income, employment, and educational attainment, as well as factors like discrimination, crime, and incarceration rates all impact a neighborhood's social environment. These elements interact to shape opportunities for individual and community health in many ways.

Alcohol Store Density

The number of alcohol stores (Class A) per 10,000 residents of Madison/East End compared to Baltimore City overall (2009).

	Madison/East End	Baltimore City
Alcohol Store Density	5.1	4.6

Source: Baltimore City Liquor Board.

Tobacco Store Density

The number of tobacco stores per 10,000 residents of Madison/East End compared to Baltimore City overall (2009).

	Madison/East End	Baltimore City
Tobacco Store Density	50.1	21.8

Source: Baltimore City Comptroller.

Juvenile Arrest Rate

The number of arrests per 1,000 10-17 year olds in Madison/East End compared to Baltimore City overall (2005-2009).

	Madison/East End	Baltimore City
Juvenile Arrest Rate	280.2	145.1

Source: Baltimore Neighborhood Indicators Alliance (BNIA) from the Baltimore City Police Department.

Domestic Violence Rate

The number of incidents reported per 1,000 residents in Madison/East End compared to Baltimore City overall (2005-2009).

	Madison/East End	Baltimore City
Domestic Violence Rate	66.2	40.6

Source: Baltimore Neighborhood Indicators Alliance (BNIA) from the Baltimore City Police Department.

Non-Fatal Shooting Rate

The number of non-fatal shootings per 10,000 residents in Madison/East End compared to Baltimore City overall (2005-2009).

	Madison/East End	Baltimore City
Non-Fatal Shooting Rate	169.6	46.5

Source: Baltimore City Police Department.

Homicide Incidence Rate

The number of homicides that occurred per 10,000 residents in Madison/East End compared to Baltimore City overall (2005-2009). Based on the location of the incident, not residence of the victim.

	Madison/East End	Baltimore City
Homicide Incidence Rate	46.3	20.9

Source: Baltimore City Police Department.

5. Housing

Housing affects health in many ways. Lead-free homes minimize the likelihood of childhood lead poisoning. Housing with structural deficiencies or inadequately maintained housing can increase the risk of injury and fires. Housing that is not energy efficient can make heating and cooling costs high and difficult to manage for low-income residents: this can increase the risk of illness and death in extremely hot or cold weather; alternatively, paying disproportionately high energy bills reduces money available for food, medicine, and other health-related needs. Like other indicators of the built environment, the presence of a high number of vacant buildings and vacant lots is strongly associated with crime and community violence.

Lead Paint Violation Rate

The number of lead paint violations per year, per 10,000 households in Madison/East End compared Baltimore City overall (2000-2008).

	Madison/East End	Baltimore City
Lead Paint Violation Rate	90.3	11.8

Source: Mayor's Office of Information Technology from the Baltimore City Real Property Systems.

Energy Cut-off Rate

The number of energy cut-offs per 10,000 households each month in Madison/East End compared to Baltimore City overall (2009-2010).

	Madison/East End	Baltimore City
Energy Cut-off Rate	89.8	39.1

Source: Baltimore Gas and Electric

Vacant Building Density

The number of vacant buildings per 10,000 housing units in Madison/East End compared to Baltimore City overall (2009).

	Madison/East End	Baltimore City
Vacant Building Density	2697.1	567.2

Source: Mayor's Office of Information Technology from the Baltimore City Housing Department.

Vacant Lot Density

The number of vacant lots per 10,000 housing units in Madison/East End compared to Baltimore City overall (2009).

	Madison/East End	Baltimore City
Vacant Lot Density	459.7	593.1

Source: Mayor's Office of Information Technology from the Real Property Dataset.

6. Food Environment

The food environment includes all of the potential food sources in a community, as well as messages and advertising related to food. Food purchasing behaviors and diet are affected by the food opportunities our communities either provide or restrict. In many Baltimore communities, especially in the City's food desert areas, the existing food options make eating healthy difficult—there are very few or no healthy, affordable, fresh options, but many unhealthy options. Thus, improving the food environment is critical to improving health and eliminating health inequities in diet-related outcomes, like obesity, heart disease, stroke, and diabetes.

Fast Food Density

The number of fast food restaurants per 10,000 residents in Madison/East End compared to Baltimore City overall (2009).

	Madison/East End	Baltimore City
Fast Food Density	1.3	2.4

Source: BCHD Open Food Facilities Permit/License Database.

Carryout Density

The number of carry-out restaurants per 10,000 residents in Madison/East End compared to Baltimore City overall (2009).

	Madison/East End	Baltimore City
Carryout Density	24.4	12.7

Source: BCHD Open Food Facilities Permit/License Database.

Corner Store Density

The number of corner stores per 10,000 residents in Madison/East End compared to Baltimore City overall (2009).

	Madison/East End	Baltimore City
Corner Store Density	25.7	9.0

Source: The Johns Hopkins Center for a Livable Future.

Supermarket Proximity

The estimated travel time in minutes to the nearest supermarket using different modes of transportation from the most populated area in Madison/East End compared to city CSA average (2009).

	Madison/East End	Baltimore City
Estimated Travel Time to Nearest Supermarket by Car (in min)	5.0	3.7
Estimated Travel Time to Nearest Supermarket by Bus (in min)	8.0	12.3
Estimated Travel Time to Nearest Supermarket by Walking (in min)	15.0	16.6

Source: BCHD Open Food Facilities Permit/License Database

7. Health Outcomes

Life Expectancy and Premature Mortality

Life expectancy is a measure that summarizes health over the entire lifespan. Life expectancy at birth is the *average* number of years a newborn can expect to live, assuming she or he experiences the currently prevailing rates of death throughout her or his lifespan. The mortality rate is the rate at which individuals in a population die, expressed in terms of deaths per 10,000 residents per year, and is age-adjusted. Age-adjusted mortality reflects all deaths from all causes, taking into account differences in population size and age distribution. Years of potential life lost (YPLL) is a measure of the impact of premature mortality on a population. Premature mortality is death before the age of 75. YPLL is calculated by adding together the years of life that were not lived because people died before age 75. Both life expectancy and YPLL are heavily influenced by deaths in the first few decades of life.

	Madison/East End	Baltimore City
Life Expectancy at birth (in years)	64.8	71.8
Age-adjusted mortality (Deaths per 10,000 residents)	158.1	110.4
Total Annual Years of Potential Life Lost (Years per 10,000 residents)	2266.5	1372.3

Sources: Maryland State Vital Statistics Administration 2005-2009 & the 2010 US Census.

Avertable Deaths

Avertable deaths are deaths that could have been avoided if all Baltimore communities had the same opportunity at health. Data presented here are based on the assumption that the death rates achieved in the five communities with the highest incomes should be achievable in every community, regardless of income. A positive percentage indicates the percentage of deaths that could have been avoided if a particular neighborhood had the same death rates as the five highest-income neighborhoods. A negative percentage indicates that a particular neighborhood has *lower* death rates than those of the five highest-income neighborhoods.

	Madison/East End	Baltimore City
Avertable Deaths	64.2%	36.1%

Sources: Maryland State Vital Statistics Administration 2005-2009 & the 2010 US Census.

Top Ten Causes of Death

These are the 10 causes of death that account for the greatest number of deaths in Baltimore City. They can help determine where efforts and resources should be directed to best prevent premature deaths. The following table displays mortality rates, percent of total deaths, and percent of premature deaths by cause for the citywide top 10 causes of death, comparing Madison/East End to Baltimore. The percent of premature deaths indicates the percent of all premature deaths that each specific cause accounts for. The mortality rate for each cause provides an absolute measure of the impact of each cause on residents. The percents of total deaths and percent of YPLL indicate the impact of a particular cause relative to others.

Cause of Death	Madison/East End			Baltimore City		
	Rate ¹ (Deaths per 10,000)	Percent of Total Deaths	Percent of YPLL	Rate ¹ (Deaths per 10,000)	Percent of Total Deaths	Percent of YPLL
1. Heart Disease	35.4	20.6%	13.1%	28.4	25.8%	15.4%
2. Cancer	28.6	17.4%	10.2%	23.1	20.8%	14.8%
Lung Cancer	9.3	5.6%	3.4%	6.9	6.3%	4.2%
Colon Cancer	2.4	1.7%	1.0%	2.3	2.1%	1.3%
Breast Cancer ²	2.0	1.1%	1.1%	3.3	3.2% ²	4.1%
Prostate Cancer ²	4.2	1.7%	0.3%	3.1	2.5% ²	0.6%
3. Stroke	8.4	4.1%	1.9%	5.2	4.7%	2.6%
4. HIV/AIDS	5.9	4.8%	6.9%	3.9	3.5%	7.6%
5. Chronic Lower Respiratory Disease³	6.2	2.9%	1.6%	3.9	3.5%	1.6%
6. Homicide	10.6	10.9%	24.2%	3.5	3.4%	12.5%
7. Diabetes	5.1	2.4%	0.5%	3.5	3.2%	2.0%
8. Septicemia (Blood Poisoning)	4.7	2.7%	2.0%	3.5	3.1%	2.1%
9. Drug-induced Deaths of Undetermined Manner⁴	5.8	4.6%	6.5%	3.2	2.8%	6.9%
10. Injury	4.6	3.4%	4.4%	2.8	2.5%	4.8%

Sources: Maryland State Vital Statistics Administration & the 2010 US Census.

¹ Rates are annual averages for 2005-2009 and are age-adjusted.

² The statistics accounted for by breast and prostate cancers are based only among deaths and populations of women or for men, respectively.

³ These are deaths due to chronic diseases that affect the lower respiratory tract (which includes the lungs); includes Chronic Obstructive Pulmonary Disease (COPD), emphysema, chronic bronchitis, and asthma.

⁴ These are deaths due to legal or illegal drug poisoning that are not accidents, suicides, or homicides.

Mortality by Age

Examining mortality rates in different age groups allows the identification of the age groups with the highest rates of death.

Age group	Madison/East End	Baltimore City
Less than 1 year old ¹	16.7	12.1
1-14 years old	3.2	1.8
15-24 years old	12.8	28.9
25-44 years old	26.6	43.6
45-64 years old	81.9	115.0
65-84 years old	366.4	489.9
85 and up	1350.2	1333.3

Source: Maryland State Vital Statistics Administration & the 2010 US Census

All rates are deaths per 10,000 residents in that age group. Rates are annual averages for 2005-2009.

¹This measure is the Infant Mortality Rate (IMR) which is the most universally measured and stable mortality indicator. Infant Mortality Rates are measured by calculating the number of infant deaths (babies <1 year of age) per 1,000 live births in a given time period.

Maternal and Child Health

Lead Poisoning

Childhood lead poisoning can substantially impact intellectual and emotional development of children, placing them at risk for poor school performance and difficulties throughout adulthood. All children in Maryland should be tested for lead in the first years of their life. We present here the percent of children ages 0-6 years with elevated blood lead levels out of all children tested in Madison/East End in 2008. An elevated blood lead level is a level exceeding 10µg of lead per dL of blood.

	Madison/East End	Baltimore City
Percent of children with elevated blood lead levels (> 10µg/dL) ¹	10.7%	3.4%

Source: Maryland Department of Environment, Lead Poisoning Prevention Program.

¹There were 338 children ages 0-6 tested in Madison/East End in 2008.

Birth Outcomes

The health of mothers and their babies is one of the most sensitive measures of a community's health. Women who receive early prenatal care have greater access to important medical and social services that support healthy pregnancies and deliveries. Women who do not space their pregnancies healthfully and report smoking during pregnancy have a greater risk of delivering babies who are preterm and low birth weight. Babies who are born full term and at a healthy weight are more likely to reach their first birthday.

	Madison/East End	Baltimore City
Birth Rate (live births per 1,000 persons)	25.8	15.4
Teen Birth Rate (Live births to females ages 15-19 per 1,000 persons 15-19 years old)	121.5	65.4
Percent of Live Births with Inadequate Spacing	13.4%	15.1%
Percent of Women Receiving Prenatal Care in the First Trimester	72.6%	77.3%
Percent of Births to Women Who Reported Smoking While Pregnant	13.4%	8.8%
Percent of live births occurring preterm (Less than 37 weeks gestation)	16.4%	13.1%
Percent of Births Classified as Low Birthweight (LBW, <5lbs, 8oz.)	16.9%	12.8%
Infant Mortality Rate (IMR) per 1,000 live births (2005-2009) ¹	16.7	12.1

Sources: Maryland State Vital Statistics Administration & the 2010 US Census Source.

Data above represent annual averages for the years 2005-2009, and include only data for live births.

¹Infant Mortality Rate(IMR) is the most universally measured and stable mortality indicator. Infant Mortality Rates are measured by calculating the number of infant deaths (babies <1 year of age) per 1,000 live births in a given time period. Infant Mortality Rates rely on vital statistics reporting, not estimations from census or sampling, and are therefore considered one of the most sensitive and accurate measures of mortality in the population.

8. Neighborhood Summary: Social Determinants of Health

The summary table below shows how Madison/East End compares to the other 54 Baltimore neighborhoods in terms of underlying factors that affect health and health opportunities—the social determinants of health. These indicators do not represent all factors that affect health. Rather, they comprise a snapshot of the conditions that determine whether residents will have a fair chance at living long, healthy lives.

Social Determinants	Rank of 55 (1=Best)	Health Score
Kindergarten Readiness	27	●●
3rd Grade Reading	47	●
8th Grade Reading	54	●
Elementary School Absenteeism	52	●
Middle School Absenteeism	51	●
High School Absenteeism	54	●
Adults w/ High School or Less	43	●
Adults w/ Bachelor's or More	55	●
Community Built Environment		
Liquor Store Density	34	●●
Tobacco Retail Density	49	●
Community Social Environment		
Juvenile Arrests Rate	50	●
Domestic Violence Rate	53	●
Non-Fatal Shooting Rate	55	●
Homicide Incidence Rate	52	●
Housing		
Lead Paint Violation Rate	55	●
Energy Cutoff Rate	55	●
Vacant Building Density	53	●
Vacant Lot Density	27	●●
Food Environment		
Fast Food Density	26	●●
Carryout Density	52	●
Corner Store Density	53	●
Supermarket Proximity (Driving)	40	●
Supermarket Proximity (Bus)	14	●●●
Supermarket Proximity (Walking)	27	●●

Health Score Key

Below Average (Least Healthy Third)	●
Average (Middle Third)	●●
Above Average (Healthiest Third)	●●●

9. Neighborhood Summary: Health Outcomes

The summary table below shows how Madison/East End compares to the other 54 Baltimore neighborhoods in terms of key health outcomes. These outcomes are not exhaustive or representative of all meaningful health outcomes in Madison/East End. Rather, these indicators are just a snapshot of overall health and longevity in Madison/East End that will help identify potential priority areas for action.

Health Outcomes	Rank of 55 (1=Best)	Health Score
Life Expectancy	51	●
Avertable Deaths	54	●
YPLL (Per 10,000 Residents)	50	●
<u>Mortality</u>		
All Causes	52	●
Heart Disease	43	●
Cancer (all)	48	●
Lung Cancer	44	●
Colon Cancer	33	●●
Breast Cancer	11	●●●
Prostate Cancer	45	●
Stroke	51	●
HIV/AIDS	40	●
Chronic Lower Respiratory Disease	44	●
Homicide	54	●
Diabetes	45	●
Septicemia	42	●
Drug-Induced (of undetermined manner)	50	●
Injury (Accidents)	52	●
<u>Maternal and Child Health</u>		
Infant Mortality	47	●
Low Birthweight	50	●
Prenatal Care in First Trimester	42	●
Births to Mothers Who Smoke	48	●

Health Score Key

Below Average (Least Healthy Third)	●
Average (Middle Third)	●●
Above Average (Healthiest Third)	●●●

10. Technical Notes

Estimated life expectancy at birth

Defined as the average number of years a person born today would live if he/she experienced the mortality rates observed in this report over the course of his/her life. The life expectancy estimate in this report reflects the mortality rates among people living in Madison/East End from 2005 to 2009. Babies born today in Madison/East End would only experience this life expectancy only if the current age-specific mortality rates remained constant over the course of their lives. Life expectancy was calculated using a life table calculator for small area estimates developed by the South East Public Health Observatory in England (<http://www.sepho.org.uk/viewResource.aspx?id=8943>). The calculator uses an abridged life table methodology, with five-year age groups (except for under 5 and above 85 which were treated as under 1, 1-4 and above 85) and combines the Chiang and Silcocks methodologies. Some inaccuracy will result due to the use of age groups rather than single year age categories, as well as due to small numbers of deaths in certain age groups. For more information on this methodology, please refer to: Williams E, Dinsdale H, Eayres D, and Tahzib F. Technical Report – Calculating Life Expectancy in Small Areas. Oxford, England: Southeast England Public Health Observatory, 2005 (available at <http://www.sepho.org.uk/Download/Public/9847/1/Life%20Expectancy%20Nov%2005.pdf>).

Avertable deaths

Avertable deaths are deaths that could have been avoided if all neighborhoods in Baltimore had the same opportunities at health. Data presented here are based on the assumption that the death rates experienced in the five communities with the highest median incomes are achievable in every community. Age-sex-specific mortality rates were calculated for ten-year age groups (except for under 5 and above 85 which were treated as under 1, 1-4 and above 85) for the five CSA's with the highest median household incomes. These age-sex-specific reference mortality rates were then applied to the populations of all 55 CSA's and Baltimore City as a whole to generate a projected number of deaths for each area. The avertable deaths thus represents an estimate of the percent of area deaths that would have been avoided if they had experienced the same mortality rates as the highest income communities for years 2005-2009. A negative percentage means that the area experienced a lower mortality rate than the top 5 neighborhoods.

Age-adjusted mortality

This represents the number of deaths per 10,000 people per year assuming that each neighborhood had the same age structure (number of people in each age group). Age adjustment is done so that a neighborhood with a proportionally large number of elderly people (who are more likely to die because of their age) does not show a higher mortality rate simply because of the older age of its inhabitants. Age-adjustment was based on 10-year age groups and the 2000 projected US population distribution #1 (from: Klein RJ, Schoenborn CA. Age-adjustment using the 2000 projected US population. Healthy People Statistical Notes, no. 20. Hyattsville, Maryland: National Center for Health Statistics. January 2001). Breast and prostate cancer mortality rates used the sex-specific 2000 projected US Population with the same age groups (from: Day, Jennifer Cheeseman, Population Projections of the United States by Age, Sex, Race, and Hispanic Origin: 1995 to 2050, US Bureau of the Census, Current Population Reports, P25-1130, US Government Printing Office, Washington, DC, 1996).

Years of potential life lost (YPLL)

The number of years of life lost due to death before age 75. For example, a person dying at age 74 accrues 1 YPLL, while a person dying at age 30 accrues 45 YPLL. YPLL provide a measure of the impact of premature mortality on a population. Deaths that occur earlier in life contribute more years of life lost than deaths later in life, capturing the value society places on young lives. At the neighborhood level, the YPLL was based on the sum of years of life lost for all the residents of that neighborhood who died in 2005-2009.

Cause of death

The top ten causes of death are those that accounted for the largest number of deaths in Baltimore in 2005-2009.

Built and social environment

Data for juvenile arrests and domestic violence are from the Baltimore Neighborhood Indicator's Alliance (BNIA). The rate was calculated using the rate provided by BNIA and was divided by 1,000 and then multiplied by the 2010 US Census data to get the raw values. The densities were then calculated based on 2010 US Census data.

Maternal and child health

Lead poisoning: lead poisoning is when a person has elevated lead in his/her body. This can be determined based on the amount of lead in the blood. The lead poisoning percentages represent the percentage of Baltimore City children age 0-6 years who had an elevated blood-lead level ($\geq 10\mu\text{g/dL}$) in 2008 out of all children who were tested. The elevated blood level was based on the highest venous or, in the absence of a venous test, the highest capillary test. Venous tests, which require a blood draw, are considered more reliable; however, in their absence, a capillary test (based on a finger stick) can indicate the presence of lead poisoning. In Baltimore City, children are required to receive a blood test for lead at 12 and 24 months of age, but, not all children present for testing.

Birth Outcomes: the birth rate is defined as the number of live births per 1,000 persons. The teen birth rate is the number of live births to females between 15-19 years of age per 1,000 females in the population in that age range. Adequate birth spacing is defined as spacing of births of greater than 27 months for women. Smoking during pregnancy was reported on the birth certificate. Preterm births are live births occurring before 37 weeks gestation. Low birth weight is defined as live births weighing less than 2500g (5 lbs 8oz) at delivery. Infant mortality rate: Number of infant deaths (babies less than 1 year of age) per 1,000 live births in a given year.

Aggregation to the Community Statistical Areas (CSAs): all data were aggregated first to the Census tract of residence. Since CSAs are groupings of census tracts, CSA data were obtained by aggregating Census tract-level data.

Data Sources and Notes

Demographics and socioeconomic

The total population of the city does not include the incarcerated population. The analysis was done excluding the incarcerated population. Data for the Community Statistical Areas and the city as a whole are from the 2010 Census, the American Community Survey, or were provided by the Baltimore Neighborhood Indicators Alliance—Jacob France Institute (<http://www.bniaifi.org/>). The American Community Survey (ACS), administered to a representative sample by the US Census Bureau, replaced the long form of the decennial census. Annual data is updated through monthly samples across the United States. Five years of samples are required for small-area data (e.g. census tracts); one year and three year estimates are available for larger areas (e.g. county-level). The 2010 Census was the short form and for this report provided the information for the neighborhood population, age, gender, race and ethnicity, family poverty rate, and single-parent household. The definition of Unemployment from the US Census is as follows: all civilians 16 years old and over are classified as unemployed if they were neither "at work" nor "with a job but not at work" during the reference week (the calendar week preceding the date on which the respondents completed their questionnaires or were interviewed), were actively looking for work during the last 4 weeks, and were available to start a job. Also included as unemployed are civilians who did not work at all during the reference week, were waiting to be called back to a job from which they had been laid off, and were available for work except for temporary illness.

Education

Kindergarten readiness data are from Baltimore City Public Schools for school years 2007-2008 and 2008-2009. School readiness was computed based on the Maryland Model for School Readiness Working Sampling System (WSS). Each year, teachers use seven domains of learning to assess students' readiness. The seven domains include: language and literacy, physical development, social studies, scientific thinking, mathematical thinking, the Arts, and social/personal development. School absenteeism and reading level data are from the Baltimore Neighborhood Indicators Alliance for school year 2008-2009. BNIA obtained their data from the Baltimore City School System. Adult educational attainment data are from the American Community Survey. Maryland School Assessments are scored using a three level system. "Proficient" is a realistic and rigorous level of achievement indicating proficiency in meeting the needs of students. "Advanced" is a highly challenging and exemplary level of achievement indicating outstanding accomplishment in meeting the needs of students. The reading levels of the students are based on where the students live, not the CSA where the students go to school.

Built and social environment

Vacant building and vacant lot data are from the Mayor's Office of Information Technology, updated December 2009. The Mayor's Office of Information Technology obtained the data on vacant buildings from the Baltimore City Housing Department and the data on vacant lots from the Real Property Management Database. Liquor store data are from the City Liquor Board and include only Class "A" licenses, updated May 2009. Tobacco data are from the City Comptroller, updated April 2009. The Comptroller maintains data on tax revenue, licensure, regulation, and other-related items related to alcohol and tobacco outlets. These data were geocoded by BCHD and used to calculate CSA-level densities. Data for juvenile arrests and domestic violence calls for service are from the Baltimore Neighborhood Indicator's Alliance (BNIA). BNIA obtained the data from the Baltimore City Police Department. BNIA calculated the rates for domestic violence and juvenile arrests based on population statistics from the 2000 US Census. The Baltimore City Health Department transformed the rates from BNIA back into counts using population statistics from the 2000 Census. We then calculated new rates for juvenile arrests and domestic violence based on newly available population statistics from the 2010 US Census. The juvenile arrest rate reflects the number of individuals who were arrested (e.g. apprehended, taken into custody or detention, held for investigation, arrested, charged with, indicted or tried for any offense). The arrest rate differs from the rate of conviction (not included here), which would reflect the number of persons found guilty and convicted of an offense.

Housing

Lead paint violation data are from the Mayor's Office of Information Technology, updated December 2009. Only lead paint violations for years 2000-2008 were used to calculate rates for this report. The Mayor's Office of Information Technology obtained the information from the Baltimore City Real Property Systems (BITs). Energy cutoff data are from Baltimore Gas and Electricity, as provided to BCHD from 9/1/2010 through 8/31/2010. Cutoffs were geocoded by BCHD and used to calculate CSA-

level rates. These data include only unduplicated complaints made to or fulfilled by Baltimore Housing and Community Development and grouped under “Housing Code Enforcement,” regardless of the outcome of the complaint (e.g. violation, citation, no action etc).

Food environment

Fast food and carryout data are from the BCHD open food facilities permit/license database, updated June 2009. These data were geocoded and used to calculate CSA-level densities. The Baltimore City Health Department identifies the establishments as a carryout and then separates the carryouts into chain fast food restaurants and carryouts. Fast food restaurants were categorized as the following: Blimpie, Burger King, California Tortilla, Chipotle, Dunkin’ Donuts, Five Guys, KFC, Long John Silver’s, McDonald’s, Popeye’s, Potbelly’s, Quizno’s, Subway, Taco Bell, and Wendy’s. Carryout data in this report reflect establishments coded as a “carryout” in the database, as well as establishments that were not coded as a carryout but had “carryout” either 1) in their restaurant name, or 2) on their restaurant signage (verified via Google Street View). Corner store data are from the Center for a Livable Future and include corner stores, convenience stores, dollar stores, and gas stations with minimarts. These data were updated January 2011 and used as provided. The travel time to the nearest supermarket was calculated by Nicole Robinson. To calculate this time, the center of population was calculated for each CSA by identifying the Census Block Group with the highest population. The geographic center of the most highly populated Census Block Group (i.e. the center of population) was used as the starting point for each CSA. ArcMap was used to identify the closest supermarket to the center of population. Google Maps was then used to determine the time it takes to arrive at the nearest grocery store from the center of population. Google Maps estimates travel time for multiple modes of transportation including walking, driving, and using public transportation (based on public transportation schedule). A food desert is an area that lacks access to healthy and affordable foods.

Life expectancy, years of potential life lost, avertable deaths, and mortality rates

Life expectancy, years of potential life lost, avertable deaths, and mortality rates were computed based on death records for 2005-2009 provided by the Vital Statistics Administration at the Maryland Department of Health and Mental Hygiene, and population denominators obtained from the Census 2010 Summary File 1 for Baltimore City, Maryland.

Maternal and child health

Lead poisoning: 2008 lead poisoning data were from the Maryland Department of the Environment, Lead Poisoning Prevention Program.

Birth outcomes: 2005-2009 Baltimore City birth outcomes were computed from birth records provided by the Vital Statistics Administration of the Maryland Department of Health and Mental Hygiene.

Limitations

Small numbers

Because neighborhoods can have small population sizes in certain age groups, there is the possibility that small differences could produce large differences in rates. We addressed this potential issue by grouping years together and thereby estimating rates using larger numbers. Despite this, there is some uncertainty associated with these estimates due to the small population sizes involved.

Data availability

These reports only contain data on a select set of indicators of health and the social determinants of health among many other possible indicators. Data were not included for smoking and healthcare-seeking behaviors, diet, exercise, the prevalence of chronic diseases, disability, drug addiction, and mental illness, air quality measures, stress, and a range of other individual- and community-level social determinants such as language ability, health literacy, social support, social capital, and social cohesion.