Milwaukee Health Report 2013

Health Disparities in Milwaukee
By Socioeconomic Status

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INTRODUCTION

The Center for Urban Population Health and the City of Milwaukee Health Department are pleased to present the Milwaukee Health Report 2013. Now in its fifth year, this report continues to summarize the status of the city’s health, as well as the distribution of key factors that may have implications for future health.

As the largest city in Wisconsin, Milwaukee represents 10.4% of the state’s population. In 2013, the Wisconsin County Health Rankings compared Milwaukee’s health outcomes and health determinants with the rest of the state; the City of Milwaukee ranked worse than all but one of the state’s 72 counties in terms of overall health outcomes, as well as health determinants or risk factors for future health (University of Wisconsin Population Health Institute, 2013).

The authors are grateful for the foundational work of the Population Health Framework (Kindig, 2007; Kindig, Asada, & Booske, 2008) and the University of Wisconsin Population Health Institute’s County Health Rankings (http://uwphi.pophealth.wisc.edu/pha/wchr.htm), which were first published in 2003 and began including the City of Milwaukee in 2006. The Milwaukee Health Report 2013 builds upon that work, particularly by examining the disparities in health outcomes and determinants among different areas of Milwaukee, as defined by socioeconomic status (SES).

The relationship between socioeconomic determinants of health and health outcomes is one of the most robust and well documented findings in social science (Marmot & Wilkinson, 2006) and has been documented across counties, states, and nations. Members of our current research team also uncovered health disparities within the City of Milwaukee itself (Vila, Swain, Baumgardner, Halsmer, Remington, & Cisler, 2007). Furthermore, in the U.S., race is strongly correlated with socioeconomic status, and a previous study found Milwaukee to be tied with Detroit as the most segregated large metropolitan area for blacks in the U.S. (Logan & Stults, 2011).

In the County Health Rankings framework, health outcomes are associated with four groups of modifiable health determinants: healthcare access and quality, individual health behaviors, physical environment, and socioeconomic factors such as income and education. Thus, distributions of health outcomes and disparities in health witnessed across the population result from distributional differences in health determinants.

The Milwaukee Health Report 2013 provides information regarding health disparities among SES groups within the city and offers comparisons of health outcomes and determinants among the City of Milwaukee, the State of Wisconsin, and the United States.

Because (1) health outcomes are driven by health determinants, (2) health determinants may be affected by policies or programs designed to alter their distribution in the community, and (3) the ultimate goal of population health is to improve the health of large groups of people, it follows that investments in policies and interventions moderating the influence of these health determinants are essential (Kindig, 2007; Kindig et al., 2008). Thus, the city itself – including not just the city government but also community groups, employers, and others – can play a significant role in improving health through the adoption of appropriate programs and policies. To that end, we hope that the information provided in the Milwaukee Health Report 2013 may inform further discussion on policy change, program implementation, and resource allocation.
METHODS

DEFINING SOCIOECONOMIC STATUS (SES)

The *Milwaukee Health Report 2013* describes the city’s health determinants and outcomes by socioeconomic status (SES). In this report, SES is determined based on income and education levels following a previous approach used by Vila and colleagues (Vila et al., 2007).

Twenty-nine ZIP (postal) codes are wholly or partially contained within the City of Milwaukee, representing over 10% of Wisconsin’s 5.7 million citizens. To stratify Milwaukee’s ZIP codes into three groups by SES, we used an SES index composed of two equally-weighted components (Mustard & Frohlich, 1995). These components were based on 2007 data and included:

1. An index of income based on median reported income values within the ZIP codes; and
2. An index of education based on the percentages of people with bachelor’s degrees.

Z-scores representing the income and education indices were computed for each ZIP code by taking the median value for that ZIP code minus the mean of median values from all ZIP codes, divided by the standard deviation of median values in all ZIP codes. Index values for education and income were then averaged per ZIP code, thereby computing the final SES index value. Based on SES index values, ZIP codes were ranked and divided into three groups or tertiles, representing higher, middle, and lower SES areas of the city (see Figure 3).

The **Income Index** for each ZIP code was defined as:

\[
\text{Income Index} = \frac{(\text{Household Median Income})_i - (\text{Household Median Income})_{\text{Mean}}}{(\text{Household Median Income})_{\text{SD}}}
\]

The **Education Index** for each ZIP code was defined as:

\[
\text{Education Index} = \frac{(% \text{ People with a Bachelor’s Degree})_i - (% \text{ People with a Bachelor’s Degree})_{\text{Mean}}}{(% \text{ People with a Bachelor’s Degree})_{\text{SD}}}
\]

The **SES Index** for each ZIP code was defined as:

\[
\text{SES Index} = \frac{\text{Income Index} + \text{Education Index}}{2}
\]

where....

\(i\) = the value for an individual ZIP code

\(\text{Mean}\) = the average value across all the ZIP codes

\(\text{SD}\) = the standard deviation of values across all the ZIP codes
SELECTION OF POPULATION HEALTH MEASURES

The Milwaukee Health Report 2013 employs the Population Health Framework (Kindig, 2007; Kindig et al., 2008) and focuses on two categories of health measures: health outcomes and health determinants. Health outcomes are intended to describe the current state of health, whereas health determinants are viewed as risk factors or predictors of health outcomes. In this report, a total of 36 measures of health outcomes and determinants were selected using the following criteria:

1. The measure is a direct or proxy measure of an important aspect of population health;
2. The data are sufficiently valid;
3. The data are available at the ZIP code level;
4. The data are adequately large for stratifying into SES-defined ZIP code tertiles; and
5. The data are current and updated periodically, in order to track measures over time.

Health Outcomes
The selection of health outcome measures was primarily guided by the County Health Rankings produced by the University of Wisconsin Population Health Institute. Consistent with County Health Rankings, this report assessed morbidity and mortality based on life expectancy, premature death, poor or fair health, poor physical health days, poor mental health days and low birthweight. In addition, this current report includes both infant mortality (as an additional mortality measure) and preterm births (as an additional morbidity measure). The eight health outcome measures are shown in Figure 1.

Health Determinants
The selection of health determinant measures was largely guided by the Wisconsin State Health Plan priorities (Wisconsin Department of Health and Family Services, 2005) and the County Health Rankings (University of Wisconsin Population Health Institute, 2013). We divided the 28 health determinant measures into four major components: health care, health behaviors, socioeconomic factors, and physical environment. Some of the four major components are comprised of multiple categories of health measures, as shown in Figure 1.

Although the selection of health measures for this report was principally based on the framework of the County Health Rankings (University of Wisconsin Population Health Institute, 2013), some important differences existed between the reports in terms of measures used. In the Milwaukee Health Report 2013, no motor vehicle crash measure was included, because, while ZIP code level data were collected based on drivers’ information, residence information for passengers was not available. Physical environment measures of air and water quality were also not included in this report, as these measures typically encompass large areas and differences between neighboring ZIP codes may be negligible. Finally, while socioeconomic factors such as education and income are strong determinants of health, they were not summarized in this report but instead combined at the ZIP code level to stratify Milwaukee’s population by SES.
Figure 1. Health Determinants and Outcomes Assessed in this Report.

Health Outcomes
- Mortality
  - Life expectancy
  - Premature death
  - Infant mortality
- Morbidity
  - Poor or fair health
  - Poor physical health days
  - Poor mental health days
  - Low birthweight
  - Preterm births

Health Care
- Access to/quality of care
  - Uninsured adults
  - Did not receive needed health care
  - No routine checkup
  - No recent dental visit
  - No influenza vaccination
  - No pneumonia vaccination
  - No biennial mammography
  - No pap smear
  - No early prenatal care

Health Behaviors
- Substance use
  - Cigarette smoking
  - Smoking during pregnancy
  - Binge drinking
- Diet and exercise
  - Physical inactivity
  - Obesity
  - Overweight
  - Inadequate fruit/vegetable consumption
- High-risk sexual behavior
  - Chlamydia rate
  - HIV rate
  - Teen birth rate
- Safety
  - Violent assault
  - Did not wear seat belt

Socioeconomic Factors
- Income
  - Median income
- Education
  - College degree
- Family and social support
  - Single parent households
  - Inadequate social support

SES Index
- Physical Environment
  - Radon risk
  - Housing built before 1940
  - Lead poisoning
  - Access to healthy food
  - Liquor license density

Adapted from: University of Wisconsin Population Health Institute, 2013.
DATA SOURCES

Data describing sociodemographic characteristics, health determinants, and health outcomes were retrieved from various existing public health data sets. Sources of health data pertaining to the City of Milwaukee only (versus the State of Wisconsin or U.S.) are described below. A comprehensive list, including the health determinant and outcome components of our assessment, categories within each component, specific measures within categories, and the sources of data used to compile our report, is provided in Table 1. This project was initially approved by the institutional review board at the University of Wisconsin-Madison.

Aurora Community Health Survey (ACHS)
The Aurora Community Health Survey (ACHS) is a random digit dial telephone survey of people 18 years and older who live in the City of Milwaukee and certain other counties in eastern Wisconsin. It is conducted every 3 years through a grant provided by Aurora Health Care. The survey gathers information on the health practices and health-related behavioral risks of residents. For the Milwaukee Health Report 2013, all data from the ACHS were adjusted using survey sampling weights (or reciprocals of selection probabilities for sampling units). ZIP code level data obtained from the ACHS contained data only within the City of Milwaukee. The ACHS website is located at http://www.aurorahealthcare.org/yourhealth/comm-health-reports/index.asp.

Behavioral Risk Factor Surveillance System (BRFSS)
The Behavioral Risk Factor Surveillance System (BRFSS) is a national random digit dial telephone survey. Data obtained from the BRFSS are representative of the total Wisconsin (non-institutionalized) population over 18 years of age living in households with a land line telephone or cell phone. For the Milwaukee Health Report 2013, all BRFSS data were adjusted using survey sampling weights (or reciprocals of selection probabilities for sampling units). To best measure specific health determinants and outcomes, ZIP code level data were obtained directly from DHS and contained only responses from within the City of Milwaukee. The BRFSS website is located at http://dhs.wisconsin.gov/stats/BRFS.htm.

Community Mapping and Analysis for Safety Strategies (COMPASS)
The Milwaukee COMPASS Project is a federally-funded initiative that aims to build and support collaborative efforts to improve and sustain cities. For the Milwaukee Health Report 2013, data describing the number of liquor licenses valid per ZIP code were obtained directly from COMPASS. The COMPASS website is located at http://www.milwaukee.gov/compass/.

U.S. Census Data (CENSUS)
The U.S. Census Bureau takes a census of the entire United States every 10 years, as mandated by the U.S. Constitution. While originally used for apportionment of the representatives for the U.S. House of Representatives, the census has evolved to serve many other purposes, including population-based research. For the Milwaukee Health Report 2013, 2010 census data were used to describe population demographics within the City of Milwaukee. Also, data from County Business Patterns (CBP), an annual series providing subnational economic data by industry, were used to estimate the measure of no access to healthy food. Census data are available online at http://www.census.gov; CBP data are available at http://www.census.gov/econ/cbp/index.html.
Wisconsin Department of Health Services (DHS)
The Wisconsin Department of Health Services (DHS), specifically the Division of Public Health (DPH), is the state department responsible for public health in Wisconsin. For the Milwaukee Health Report 2013, DHS provided data to quantify radon risk, chlamydia rate (monitored through the Wisconsin STD Program) and HIV infection risk (monitored through the Wisconsin AIDS/HIV Program). The DHS website is located at http://dhs.wisconsin.gov. DHS additionally supported the Milwaukee Health Report 2013 through two additional sources:

Wisconsin Family Health Survey (FHS)
The Wisconsin Family Health Survey (FHS) is an annual survey carried out by the DHS, DPH, Bureau of Health Information and Policy. Conducted by the University of Wisconsin Survey Center, FHS is used to assess health coverage, health status, health-related activity limitations, chronic conditions, and health services utilization. All FHS data were adjusted using survey sampling weights (or reciprocals of selection probabilities for sampling units). To best measure specific health determinants, ZIP code level data were purchased directly from DHS and contained only responses from within the City of Milwaukee. The FHS website is located at http://dhs.wisconsin.gov/stats/familyhealthsurvey.htm.

Wisconsin Interactive Statistics on Health (WISH)
The Wisconsin Interactive Statistics on Health (WISH) database is prepared and maintained by the DHS, DPH, Bureau of Health Information and Policy. WISH reports on numerous public health indicators, several of which were incorporated into the Milwaukee Health Report 2013. These data are available at http://dhs.wisconsin.gov/wish.

Easy Analytic Software, Inc. (EASI)
Easy Analytic Software, Inc. (EASI) is a leading publisher of demographic data and software. EASI has created The Right Site™ for demographic research. The Right Site™ provides various data such as standard demographics, site analyses, trend reports, etc. For the Milwaukee Health Report 2013, The Right Site™ data are used to obtain the sociodemographic factors. The EASI website is located at http://www.easidemographics.com.

Milwaukee Health Department (MHD)
The City of Milwaukee Health Department (MHD) is responsible for protecting and promoting public health in the City of Milwaukee. For the Milwaukee Health Report 2013, MHD data were used to quantify life expectancy, premature death, infant mortality rate, teen birth rate, and lead poisoning. ZIP code level data obtained from MHD contained information from within the City of Milwaukee only. The MHD website is located at http://www.milwaukee.gov/health.
DATA ANALYSES

For all health measures included in this report, data were analyzed per each of three socioeconomic status (SES) groups within Milwaukee (see page 2) and at the geographic levels of City of Milwaukee, State of Wisconsin, and U.S. Most health measures were represented by rates, equivalent to the number of units of interest (e.g., infant deaths) per total number of units or 1,000, 10,000, or 100,000 units within the sample or target population (e.g., live births) and given year. Whenever possible, mean rates or other metrics of interest were computed with corresponding 95% confidence intervals (CI).

Whereas most values computed for this report were the weighted means of three years of data (e.g., 2009-2011), values based on BRFSS data incorporated only 2011 data due to changes in methodologies from the previous survey, and values based on ACHS data incorporated data from the two most recent surveys (2009 and 2012; see Table 1). Other alternative year ranges were used to assess some health measures, including:

1. The single newly-assessed health measure of Life Expectancy;
2. Health measures updated from our previous report but using different data sources than original (No Biennial Mammography and No Pap Smear); and
3. Measures not updated from our previous report due to multi-year intervals between data collection and no alternative resources used (Inadequate Social Support, Radon Risk, Housing Built Before 1940, Liquor License Density).

Data used for 20 of the 36 health measures in this report were collected through the three independent surveys of BRFSS, ACHS, and FHS. All three surveys utilized survey-sampling methodology, wherein sampling weights were computed as the reciprocals of selection probabilities to representatively adjust influence of the individual responses recorded. However, the geographic ranges of the populations targeted and the exact sampling protocols used to randomly select individuals or households differed among the surveys, resulting in somewhat differing estimates of population size per SES group and for the City of Milwaukee. Only in cases where the sum of weights did not approximate the targeted population size did we appropriately adjust the survey weights used.

Risk ratios (RR), also known as estimates of relative risk, were derived for each health measure to compare the risk of adverse outcome or risky condition between each the lower and middle SES groups and the higher SES group. For example, as the infant mortality rate for 2009-2011 was 11.40 infants per 1,000 live births in the lower SES group and 8.67 infants per 1,000 live births in the higher SES group, the RR of lower to higher SES was 11.40 ÷ 8.67 = 1.30.

Methods of computing RRs (and 95% CIs) depended on data structure. Ratios of percentages or rates based on survey data were computed as relative risks using the SURVEYFREQ procedure in SAS, and ratios based on counts were computed as Mantel-Haenszel common estimates of relative risk across years using the FREQ procedure. Note that RRs for Life Expectancy are presented in this report as inverse values (or the ratio of higher SES risk to either lower or middle SES risk). Significant differences in risk between SES groups were examined using the Student’s t-test for Life Expectancy and the SURVEYREG procedure in SAS for Poor Physical and Poor Mental Health Days. For all other health measures, RRs were deemed statistically significant at p<0.05 if the RR’s 95% CI was either entirely <1 or entirely >1.

All statistical analyses were performed using SAS/STAT software, Version 9.2 of the SAS System for Windows, Copyright © 2002-2008 SAS Institute Inc., Cary, NC, USA.
Table 1. Overview of Data Sources for All Health Measures.¹

<table>
<thead>
<tr>
<th>Health Report Framework</th>
<th>Measures</th>
<th>Data</th>
<th>Years</th>
</tr>
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<td><strong>Health Outcome</strong></td>
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<tr>
<td>Mortality</td>
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<td>MHD</td>
<td>2010</td>
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<td></td>
<td>Premature Death²</td>
<td>MHD</td>
<td>2009-2011</td>
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<tr>
<td></td>
<td>Infant Mortality²</td>
<td>MHD</td>
<td>2009-2011</td>
</tr>
<tr>
<td>Morbidity</td>
<td>Poor or Fair Health²</td>
<td>BRFSS</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Poor Physical Health Days²</td>
<td>BRFSS</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Poor Mental Health Days²</td>
<td>BRFSS</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Low Birthweight²</td>
<td>MHD</td>
<td>2009-2011</td>
</tr>
<tr>
<td></td>
<td>Preterm Births²</td>
<td>MHD</td>
<td>2009-2011</td>
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<tr>
<td><strong>Health Determinants</strong></td>
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<td></td>
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<td>Health Care</td>
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<td>FHS</td>
<td>2009-2011</td>
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<tr>
<td></td>
<td>Did Not Receive Needed Health Care²</td>
<td>FHS</td>
<td>2009-2011</td>
</tr>
<tr>
<td></td>
<td>No Routine Checkup²</td>
<td>FHS</td>
<td>2009-2011</td>
</tr>
<tr>
<td></td>
<td>No Recent Dental Visit²</td>
<td>FHS</td>
<td>2009-2011</td>
</tr>
<tr>
<td></td>
<td>No Influenza Vaccination²</td>
<td>BRFSS</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>No Pneumonia Vaccination²</td>
<td>ACHS</td>
<td>2009, 2012</td>
</tr>
<tr>
<td></td>
<td>No Biennial Mammography²</td>
<td>ACHS</td>
<td>2012</td>
</tr>
<tr>
<td></td>
<td>No Pap Smear²</td>
<td>ACHS</td>
<td>2012</td>
</tr>
<tr>
<td></td>
<td>No Early Prenatal Care²</td>
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<td>2009-2011</td>
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<td>Cigarette Smoking²</td>
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</tr>
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<td></td>
<td>Smoking During Pregnancy²</td>
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<td>2009-2011</td>
</tr>
<tr>
<td></td>
<td>Binge Drinking²</td>
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<td>2011</td>
</tr>
<tr>
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<td>Physical Inactivity²³</td>
<td>ACHS</td>
<td>2009, 2012</td>
</tr>
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<td></td>
<td>Obesity²</td>
<td>BRFSS</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Overweight²</td>
<td>BRFSS</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Inadequate Fruit/Vegetable Consumption²</td>
<td>ACHS</td>
<td>2009, 2012</td>
</tr>
<tr>
<td>High-risk Sexual Behavior</td>
<td>Chlamydia Rate³</td>
<td>DHS</td>
<td>2009-2011</td>
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<td></td>
<td>HIV Infection³</td>
<td>DHS</td>
<td>2007-2011</td>
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<td></td>
<td>Teen Birth Rate²</td>
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<td>Violent Assault²</td>
<td>ACHS</td>
<td>2009, 2012</td>
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<td>Did Not Wear Seat Belt²</td>
<td>BRFSS</td>
<td>2011</td>
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<td>Inadequate Social Support²</td>
<td>BRFSS</td>
<td>2008-2010</td>
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<td>Social Support</td>
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<td>Physical Environment</td>
<td>Radon Risk³</td>
<td>DHS</td>
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<td>Built Environment</td>
<td>Housing Built Before 1940³</td>
<td>EASI</td>
<td>2007</td>
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<td>Lead Poisoning²</td>
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<td>2009-2011</td>
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<td>No Access to Healthy Food³</td>
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<td>2011</td>
</tr>
<tr>
<td></td>
<td>Liquor License Density²</td>
<td>COMPASS</td>
<td>2012</td>
</tr>
</tbody>
</table>

¹ Only lists city data sources; state and national data sources can be found on the page of each measure.
² ZIP code level data wholly contained within the City of Milwaukee.
³ ZIP code level data wholly or partially contained within the City of Milwaukee.
RESULTS: OVERVIEW OF THE CITY OF MILWAUKEE

SOCIOECONOMIC STATUS (SES) GROUPS

Table 2 lists Milwaukee’s ZIP codes stratified into three groups by SES. Figure 2 displays the ZIP code stratification process, wherein ZIP codes were ranked by SES index in order to define tertiles. While ZIP codes were not intentionally stratified by geographic location, ZIP codes in the lower SES group were clustered in the central and near-northwest portions of the City of Milwaukee, and those within the higher SES group were distributed along the outer edges of the city, as shown in Figure 3. Data for ZIP code 53235 were included in computations of all measures, except those utilizing MHD data.

Table 2. City of Milwaukee ZIP Codes by Socioeconomic Status (SES) Group.

<table>
<thead>
<tr>
<th>ZIP Code</th>
<th>Lower SES Group</th>
<th>Middle SES Group</th>
<th>Higher SES Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>53204, 53205, 53206, 53208, 53210, 53212, 53215, 53216, 53218, 53233</td>
<td>53207, 53209, 53214, 53219, 53220, 53221, 53224, 53225, 53227, 53235</td>
<td>53202, 53203, 53211, 53213, 53217, 53222, 53223, 53226, 53228</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2. Socioeconomic Status (SES) Groups within the City of Milwaukee, as Determined by ZIP Code Tertiles of SES Index.

(For example, Zip code "05" means "53205.")
Figure 3. Socioeconomic Status (SES) Groups and Zip Codes within the City of Milwaukee (bounded by thick black line).

DEMOGRAPHIC PROFILE

Demographic characteristics of the City of Milwaukee’s population were principally obtained from 2010 U.S. Census data and are provided in Table 3 by SES group. Characteristics of the larger Wisconsin and U.S. populations are also provided for comparative purposes. Data suggest differences in population density, household size, income, and percentage occupied by renters, and distributions of age, race, and ethnicity among SES groups.
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Milwaukee SES Groups</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>Lower</td>
<td>Middle</td>
<td>Higher</td>
<td>Wisconsin</td>
<td>U.S.</td>
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<tr>
<td>Population 1</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Total Number of People</td>
<td>320,585</td>
<td>294,292</td>
<td>202,078</td>
<td>5,686,986</td>
<td>308,745,538</td>
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<tr>
<td>Number of Square Miles</td>
<td>35.8</td>
<td>72.2</td>
<td>52.2</td>
<td>54,310</td>
<td>3,537,438</td>
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<td>Population Density 2</td>
<td>8,955</td>
<td>4,076</td>
<td>3,871</td>
<td>105</td>
<td>87</td>
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<tr>
<td>Age 1</td>
<td></td>
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<tr>
<td>Median (years)</td>
<td>28.1</td>
<td>36.7</td>
<td>36.3</td>
<td>38.5</td>
<td>37.2</td>
</tr>
<tr>
<td>0 – 17 years (%)</td>
<td>31.2</td>
<td>23.7</td>
<td>18.7</td>
<td>23.6</td>
<td>24.0</td>
</tr>
<tr>
<td>18 – 64 years (%)</td>
<td>62.1</td>
<td>62.8</td>
<td>67.2</td>
<td>62.7</td>
<td>63.0</td>
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<tr>
<td>&gt; 65 years (%)</td>
<td>6.7</td>
<td>13.6</td>
<td>14.1</td>
<td>13.7</td>
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<td>Gender 1 (%1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>48.4</td>
<td>47.8</td>
<td>48.0</td>
<td>49.6</td>
<td>49.2</td>
</tr>
<tr>
<td>Female</td>
<td>51.6</td>
<td>52.2</td>
<td>52.0</td>
<td>50.4</td>
<td>50.8</td>
</tr>
<tr>
<td>Race 1 (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>30.9</td>
<td>67.3</td>
<td>79.6</td>
<td>86.2</td>
<td>72.4</td>
</tr>
<tr>
<td>Black</td>
<td>49.5</td>
<td>22.2</td>
<td>12.7</td>
<td>6.3</td>
<td>12.6</td>
</tr>
<tr>
<td>Asian</td>
<td>3.7</td>
<td>2.8</td>
<td>3.9</td>
<td>2.3</td>
<td>4.8</td>
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<td>Other Races</td>
<td>15.8</td>
<td>7.7</td>
<td>3.8</td>
<td>5.2</td>
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<tr>
<td>Hispanic Ethnicity 1 (%)</td>
<td>21.1</td>
<td>24.6</td>
<td>10.5</td>
<td>3.8</td>
<td>5.9</td>
</tr>
<tr>
<td>Education 3 (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than High School</td>
<td>30.9</td>
<td>15.6</td>
<td>7.6</td>
<td>12.9</td>
<td>17.1</td>
</tr>
<tr>
<td>High School</td>
<td>29.7</td>
<td>33.7</td>
<td>18.4</td>
<td>33.5</td>
<td>27.7</td>
</tr>
<tr>
<td>Some College</td>
<td>20.9</td>
<td>24.4</td>
<td>20.6</td>
<td>21.9</td>
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<tr>
<td>Associate Degree</td>
<td>5.1</td>
<td>6.8</td>
<td>5.9</td>
<td>7.7</td>
<td>6.5</td>
</tr>
<tr>
<td>College</td>
<td>9.1</td>
<td>13.6</td>
<td>29.5</td>
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<td>16.8</td>
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<td>Graduate Degree</td>
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<td>5.7</td>
<td>18.1</td>
<td>7.6</td>
<td>9.4</td>
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<tr>
<td>Language Spoken 3 (%)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>English</td>
<td>79.3</td>
<td>91.6</td>
<td>91.1</td>
<td>93.9</td>
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<tr>
<td>Spanish</td>
<td>16.5</td>
<td>4.2</td>
<td>2.6</td>
<td>3.6</td>
<td>11.6</td>
</tr>
<tr>
<td>Average Household Size 1</td>
<td>2.7</td>
<td>2.3</td>
<td>2.1</td>
<td>2.2</td>
<td>2.4</td>
</tr>
<tr>
<td>Housing Occupied by Renters 1 (%)</td>
<td>61.7</td>
<td>44.8</td>
<td>46.4</td>
<td>31.9</td>
<td>34.9</td>
</tr>
<tr>
<td>Household Income ($) 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>29,066</td>
<td>45,405</td>
<td>55,935</td>
<td>52,048</td>
<td>49,565</td>
</tr>
<tr>
<td>Mean</td>
<td>38,356</td>
<td>53,988</td>
<td>74,836</td>
<td>64,034</td>
<td>66,816</td>
</tr>
<tr>
<td>Parkland as % of Total Land 4</td>
<td>3.4</td>
<td>3.4</td>
<td>5.6</td>
<td>4.7</td>
<td>na5</td>
</tr>
</tbody>
</table>

1 Data Source: U.S. Census 2010.
2 Number of people per square mile.
4 Data Source: Milwaukee County Parks Department.
5 Not available.
RESULTS: OVERVIEW OF HEALTH MEASURES

The following section of this report provides a single page of detailed information for each of 36 health measures. Each page provides a definition of the measure, lists the data sources used and reasons for inclusion of the measure, and summarizes statistics for the City of Milwaukee in comparison to available statistics for the state and nation. Statistics are also provided for lower, middle, and higher socioeconomic status (SES) groups within the City of Milwaukee.

For all levels reported, whether SES group, City of Milwaukee, State of Wisconsin, or U.S., mean rates or other computed measures are coupled with 95% confidence intervals, if possible. Values listed for each of the three derived SES groups additionally include the numerator and denominator components of rates, where appropriate. For the measures of Life Expectancy, Poor Physical Health Days, and Poor Mental Health Days, relevant population or sample sizes are included.

Differences in values among SES groups (as well as among city, state, and nation) for individual measures should be interpreted cautiously by considering the respective confidence intervals provided. Cautious interpretation should also be used for the measures of Radon Risk and Lead Poisoning, as neither was based on data from complete counts or random sampling. Lastly, each page contains some important facts about the health measure.
LIFE EXPECTANCY

About the Measure

What It Is: Life expectancy at birth is the mean number of years infants would be expected to live if they were to experience the same age-specific mortality probabilities as witnessed throughout the population at the time of their births. Calculation of life expectancy is based on a statistical tool called a life table, which is composed of sets of values showing the mortality patterns across all age groups within the broader population.

Where It Comes from: Milwaukee Life Expectancy Data: MHD, 2010
Wisconsin State Data: DHS, 2009-2011
U.S. National Data: National Center for Health Statistics, 2010

Reasons for Reporting: Life expectancy at birth is often used to describe the overall health status of a population. Low life expectancy may reflect high infant and child death rates and/or poor to no access to quality health care. Moreover, life expectancy at birth (or any age) is potentially affected by all health determinants, and differences in life expectancy by gender or race/ethnicity may be great.

Report Methodology

Summary Measure: Health Outcomes
Mortality
Years of Data Used: 2009-2011

Summary Information
Overall in Milwaukee: 76.9 (76.6 – 77.3)
Overall in Wisconsin: 80.2
Overall in U.S.: 78.7

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population</th>
<th>Life Expectancy</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>320,585</td>
<td>74.3</td>
<td>73.7 – 75.0</td>
</tr>
<tr>
<td>Middle</td>
<td>175,087</td>
<td>77.3</td>
<td>76.7 – 77.9</td>
</tr>
<tr>
<td>Higher</td>
<td>83,133</td>
<td>80.1</td>
<td>79.4 – 80.8</td>
</tr>
</tbody>
</table>

Facts about life expectancy:

- The general health of the U.S. population can be assessed, in part, by monitoring life expectancy. Twenty-five countries have longer life expectancies at birth than the U.S., including Portugal and Slovenia.
- Differences in life expectancy at birth existed across genders and racial/ethnic groups in the U.S in 2011. The life expectancies of men and women were 76.3 years and 81.1 years, respectively. White men and black men had life expectancies of 76.6 years and 72.1 years, respectively, whereas the respective life expectancies of white women and black women were 81.3 years and 78.2 years.

---

PREMATURE DEATH

About the Measure

What It Is: Premature Death is a measure of premature mortality (early death) and is represented by the years of potential life lost (YPLL) before the age of 75. Every death occurring before the age of 75 years contributes to total YPLL. For example, a person dying at age 50 would contribute 25 years of life lost. Premature death is reported as a rate per 100,000 people.

Where It Comes from: Milwaukee City Data: MHD, 2009-2011
Wisconsin State Data: WISH - Mortality Module, 2009-2011
U.S. National Data: WISQARS, 2010

Reasons for Reporting: Premature death is a widely used measure of the rate and distribution of premature mortality, and it is associated with a variety of factors, such as overall health, quality of and access to medical care, socioeconomic conditions, physical environment, health behaviors, and public health practices.

Report Methodology

Summary Measure: Health Outcomes
Mortality

Years of Data Used: 2009-2011

Summary Information

Overall in Milwaukee: 8,478 (8,406 – 8,550)
Overall in Wisconsin: 6,051 (6,031 – 6,072)
Overall in U.S.: 6,441 (6,438 – 6,444)

SES Group | Population | Total # Years | Years / 100,000 people | 95% CI
--- | --- | --- | --- | ---
Lower | 320,585 | 27,689 | 8,637 | 8,540 – 8,734
Middle | 175,087 | 14,401 | 8,225 | 8,096 – 8,354
Higher | 83,133 | 6,981 | 8,397 | 8,209 – 8,586

Facts about premature death:

- Premature deaths are a national problem, and reduction of these deaths is an important objective for health policy.
- One of Healthy People 2020’s overarching goals is to attain high quality, longer lives free of preventable disease, disability, injury, and premature death.

---

# INFANT MORTALITY

## About the Measure

### What It Is:
Infant Mortality is measured by the infant mortality rate (IMR), reported as the number of infant deaths (at or before 365 days of age) occurring in a given year per 1,000 live births occurring during that same calendar year.

### Where It Comes from:
- **Milwaukee City Data:** WISH - Infant Mortality Module and MHD, 2009-2011
- **Wisconsin State Data:** WISH - Infant Mortality Module, 2008-2010
- **U.S. National Data:** National Center for Health Statistics, 2010

### Reasons for Reporting:
Infant mortality is an important measure of a population’s health, and it is associated with a variety of factors such as maternal health, quality and access to medical care, socioeconomic conditions, and public health practices.

## Report Methodology

### Summary Information
- **Overall in Milwaukee:** 10.0 (8.1 – 11.9)
- **Overall in Wisconsin:** 6.2 (5.7 – 6.8)
- **Overall in U.S.:** 6.1

### Years of Data Used:
- **2008-2011**

## Summary Information

### SES Group

<table>
<thead>
<tr>
<th>SES Group</th>
<th># Live Births</th>
<th># Infant Deaths</th>
<th>Infant Mortality Rate (IMR)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>6,306</td>
<td>72</td>
<td>11.4</td>
<td>8.8 – 14.0</td>
</tr>
<tr>
<td>Middle</td>
<td>2,965</td>
<td>23</td>
<td>7.6</td>
<td>4.5 – 10.8</td>
</tr>
<tr>
<td>Higher</td>
<td>1,213</td>
<td>11</td>
<td>8.7</td>
<td>3.4 – 13.9</td>
</tr>
</tbody>
</table>

## Facts about infant mortality:

- From 2005 through 2011, the infant mortality rate declined 12%, nearing the Healthy People 2020 goal of 6.0 deaths per 1,000 births (Maternal Infant Child Health Objective 1.3).
- Milwaukee continues to experience significant racial disparities in infant mortality. The 2010-2012 3-year rolling-average IMR for Milwaukee was 8.1 overall, 14.1 for blacks, and 4.6 for whites.
- The leading causes of infant deaths in Milwaukee are prematurity, birth defects, and babies sleeping in unsafe environments.

---

POOR OR FAIR HEALTH

About the Measure

What It Is: Poor or Fair Health is a self-reported health status measure based on answers to the question, “In general, would you say that your health is excellent, very good, good, fair, or poor?” Percentages provided in this report represent the percentage of people reporting “fair” or “poor” health.

Where It Comes from: Milwaukee City Data: BRFSS, 2011
Wisconsin State Data: BRFSS, 2011
U.S. National Data: BRFSS, 2011

Reasons for Reporting: Self-reported health status provides an estimate of the health-related quality of life, or morbidity, of a population.

Report Methodology

Summary Measure: Health Outcomes
Morbidity

Years of data used: 2011

Summary Information

Overall in Milwaukee: 21.7 (15.8 – 27.6)
Overall in Wisconsin: 14.6 (13.1 – 16.0)
Overall in U.S.: 18.1 (17.9 – 18.4)

SES Group Population (Weighted) # Poor/Fair % Poor/Fair 95% CI
Lower 186,971 51,681 27.6 18.3 – 37.0
Middle 148,685 26,175 17.6 7.7 – 27.6
Higher 66,576 8,172 12.3 2.8 – 21.8

Facts about poor or fair health:

- Self-rated health status has been found to be predictive of all caused morbidity and mortality.
- Trends in racial and ethnic disparities show a narrowing of the gap for blacks and whites who self-report health status in that blacks are responding to self-reported health measures no differently than white respondents.

POOR PHYSICAL HEALTH DAYS

About the Measure

What It Is: Poor Physical Health Days is a measure based on responses to the question: “Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?” We present the average number of days the adult respondents reported that their physical health was not good.

Where It Comes from: Milwaukee City Data: BRFSS, 2011
Wisconsin State Data: BRFSS, 2011
U.S. National Data: BRFSS, 2011

Reasons for Reporting: Poor physical health days can be the result of acute or chronic illness or injury, and may interfere with an individual’s ability to enjoy good quality of life. Feeling physically unhealthy can lead to reduced ability to perform normal activities such as work, recreational activities, and household tasks.

Report Methodology

Summary Measure: Health Outcomes
Morbidity

Years of data used: 2011

Summary Information

Overall in Milwaukee: 4.8 (3.6 – 6.0)
Overall in Wisconsin: 3.6 (3.3 – 3.9)
Overall in U.S.: 3.9 (3.9 – 4.0)

SES Group | Sample Size | Mean Poor Physical Health Days | 95% CI
--- | --- | --- | ---
Lower | 525 | 5.8 | 4.2 – 7.4
Middle | 196 | 4.5 | 2.1 – 6.9
Higher | 122 | 3.1 | 0.9 – 5.2

Facts about poor physical health days:

- In a 2012 study of the prevalence of chronic disease, 24.3% of respondents reported at least one chronic disease.²
- Counties with higher unemployment rates, lower educational achievement, higher proportion of uninsured persons, and higher poverty rates are inhabited by persons who experience more unhealthy days.

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POOR MENTAL HEALTH DAYS

About the Measure

What It Is: Poor Mental Health Days is a measure based on responses to the question: “Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?” We present the average number of days the adult respondents reported that their mental health was not good.

Where It Comes from:
- Milwaukee City Data: BRFSS, 2011
- Wisconsin State Data: BRFSS, 2011
- U.S. National Data: BRFSS, 2011

Reasons for Reporting: Overall health depends on both physical and mental well-being. The number of days when people feel that their mental health is not good affects their ability to perform normal activities such as work, recreational activities, and household tasks, and represents an important measure of health-related quality of life. Moreover, poor mental health can affect physical health.

Report Methodology

Summary Measure: Health Outcomes
- Morbidity

Years of data used: 2011

Summary Information

Overall in Milwaukee: 4.7 (3.6 – 5.9)
Overall in Wisconsin: 3.2 (2.9 – 3.6)
Overall in U.S.: 3.9 (3.8 – 3.9)

SES Group Sample Size Mean Poor Mental Health Days 95% CI

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Sample Size</th>
<th>Mean Poor Mental Health Days</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>528</td>
<td>5.9</td>
<td>4.1 – 7.7</td>
</tr>
<tr>
<td>Middle</td>
<td>196</td>
<td>4.3</td>
<td>2.2 – 6.5</td>
</tr>
<tr>
<td>Higher</td>
<td>122</td>
<td>2.3</td>
<td>0.4 – 4.3</td>
</tr>
</tbody>
</table>

Facts about poor mental health days:

- About one in four adults suffer from a diagnosable mental disorder in a given year. Mental disorders are the leading cause of disability in the U.S. for ages 15-44 years.¹

- Mental illness worsens the likelihood of morbidity from multiple chronic diseases. This increased morbidity is attributed to lower use of medical care and treatment adherence.²


PRETERM BIRTHS

About the Measure

What It Is: Preterm Births is the percent of live births for which the infant was born before 37 completed weeks of gestation.

Where It Comes from: Milwaukee City Data: WISH - Birth Counts Module and MHD, 2009-2011
Wisconsin State Data: WISH - Birth Counts Module, 2008-2010

Reasons for Reporting: Preterm birth is a serious health problem. Preterm babies are at increased risk for death as well as for serious, long-term health complications, such as breathing problems, mental retardation, learning and behavioral problems, cerebral palsy, and vision and hearing loss.

Report Methodology

Summary Measure: Health Outcomes
Morbidity

Years of Data Used: 2008-2011

Summary Information

Overall in Milwaukee: 13.3 (12.7 – 14.0)
Overall in Wisconsin: 10.9 (10.7 – 11.1)
Overall in U.S.: 11.7

SES Group | # Live Births | # Preterm Births | % Preterm Births | 95% CI
--- | --- | --- | --- | ---
Lower | 6,306 | 878 | 13.9 | 13.0 – 14.7
Middle | 2,965 | 380 | 12.8 | 11.6 – 14.0
Higher | 1,213 | 147 | 12.1 | 10.2 – 13.9

Facts about preterm births:

- The Healthy People 2020 goal for preterm birth is 11.4% (Maternal Infant Child Health Objective 9).
- Preterm babies have an increased risk of death in the first year of life (infant mortality), with the greatest risk occurring in the first month of life (neonatal mortality).
- Most premature babies survive, but many have lifelong complications, ranging from trouble breathing to learning disabilities.
- In 2013, the rate of infants born before 34 weeks gestation was 10.4% in Wisconsin and 11.4% in the U.S. The rate was 10.7% for non-Hispanic whites, 16.2% for non-Hispanic blacks, and 11.3% for Hispanics.

LOW BIRTHWEIGHT

About the Measure

What It Is: Low Birthweight is the percentage of live births for which the infant weighed less than 2,500 grams (approximately 5 lbs, 8 oz) at birth.


Reasons for Reporting: Low birthweight correlates with maternal exposure to health risks as well as with an infant’s current morbidity, future morbidity, and premature mortality risk. The health consequences of low birthweight are numerous and serious.

Report Methodology

Summary Measure: Health Outcomes Morbidity

Years of Data Used: 2008-2011

Summary Information

Overall in Milwaukee: 10.7 (10.1 – 11.2)
Overall in Wisconsin: 7.1 (6.9 – 7.2)
Overall in U.S.: 8.0

SES Group | # Live Births | # Low Birthweight | % Low Birthweight | 95% CI
--- | --- | --- | --- | ---
Lower | 6,306 | 711 | 11.3 | 10.5 – 12.1
Middle | 2,965 | 303 | 10.2 | 9.1 – 11.3
Higher | 1,213 | 104 | 8.5 | 7.0 – 10.1

Facts about low birthweight:

- The Healthy People 2020 goal for low birthweight is 7.8% (Maternal Infant Child Health Objective 8.1).
- Birthweight is a strong indicator not only of a birth mother’s health and nutritional status but also a newborn’s risk for infant mortality and its chances for healthy long-term growth, psychosocial development, and school performance.
- Preterm birth and fetal growth restriction are two prominent reasons for why a baby may be born with low birthweight. About 6.7% of Milwaukee’s 2010-2012 births were both low-birthweight and preterm.

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UNINSURED ADULTS

About the Measure

What It Is: Uninsured Adults is the percentage of the adult population under 65 years of age that reported not having health insurance coverage of any kind, including prepaid plans, HMOs, or government plans such as Medicare or Medicaid, at the time of the survey.

Where It Comes From: Milwaukee City Data: FHS, 2009-2011
Wisconsin State Data: FHS, 2009-2011
U.S. National Data: CENSUS, 2011

Reasons for Reporting: Lack of health care coverage is a strong barrier to health care access and makes people more likely to forego appropriate preventive care as well as chronic disease management and needed acute care.

Report Methodology

Summary Measure: Health Determinants
Health Care

Years of data used: 2009-2011

Summary Information

Overall in Milwaukee: 22.7 (19.3 – 26.1)
Overall in Wisconsin: 11.4 (10.4 – 12.3)
Overall in U.S.: 15.7 (15.5 – 15.9)

SES Group | Population (Weighted) | # Uninsured | % Uninsured | 95% CI
--- | --- | --- | --- | ---
Lower | 192,600 | 53,178 | 27.6 | 22.2 – 33.0
Middle | 129,427 | 24,296 | 18.8 | 13.9 – 23.6
Higher | 48,891 | 5,194 | 10.6 | 4.7 – 16.6

Facts about uninsured adults:

- The Healthy People 2020 goal for all persons less than 65 years old and having some type of health care coverage is 100%, which means that the goal for “Uninsured Adults” is 0%.²
- In 2012, the percentage of people uninsured was 14.7% (45.5 million) for people of all ages, 16.9% (45.2 million) for people less than 65 years old, 20.9% (40.3 million) for people aged 18-64 years, and 6.6% (4.9 million) for children under the age of 18 years.³
- Population estimates of health insurance coverage are necessary for the development and assessment of federal and state insurance programs and policies.⁴

DID NOT RECEIVE NEEDED HEALTH CARE

About the Measure

What It Is: Did Not Receive Needed Health Care is the percentage of the population reporting that they did not get the medical or surgical care they felt they should have had within the past 12 months. This measure is based on answers to the question, “During the last 12 months, was there any time when you or anyone in your household needed medical care or surgery but did not get it?”

Where It Comes From: Milwaukee City Data: FHS, 2009-2011
Wisconsin State Data: FHS, 2009-2011
U.S. National Data: N/A

Reasons for Reporting: Not receiving needed health care may contribute to chronic conditions and cause more serious health problems in the future.

Report Methodology

Summary Measure: Health Determinants
Health Care

Overall in Milwaukee: 3.6 (2.5 – 4.6)
Overall in Wisconsin: 2.3 (2.0 – 2.6)
Overall in U.S.: ----

Summary Information

Facts about needed health care:

- The Healthy People 2020 goal for the proportion of families that experience difficulties or delays in obtaining medical care or do not receive needed care for one or more family members is 4.2%.
  (Note that our measure does not include those who experienced “difficulties or delays.”)

- Various barriers impede receipt of needed medical services, including:
  - financial barriers (e.g., having no health insurance or being underinsured).
  - structural barriers (e.g., no facilities or health care professionals nearby, services not available during non-work hours, lack of public transportation options, or environmental challenges for people with disabilities).
  - personal barriers (e.g., sexual orientation, cultural differences, language, not knowing what to do).

SES Group | Population (Weighted) | # No Care | % No Care | 95% CI
--- | --- | --- | --- | ---
Lower | 305,896 | 9,518 | 3.1 | 1.9 – 4.3
Middle | 201,055 | 8,700 | 4.3 | 2.3 – 6.4
Higher | 73,591 | 2,975 | 4.0 | 0.0 – 8.6

NO ROUTINE CHECKUP

About the Measure

What It Is: No Routine Checkup measures the percentage of respondents reporting that they didn’t have a routine health checkup within the past 2 years. The measure is based on answers to the question, “A routine checkup is a general physical exam, not an exam for a specific injury, illness or condition. About how long has it been since you last received a routine checkup?”

Where It Comes From: Milwaukee City Data: FHS, 2009-2011
Wisconsin State Data: FHS, 2009-2011
U.S. National Data: BRFSS, 2011

Reasons for Reporting: Routine visits can be used to monitor a person’s health (e.g., blood pressure) and help prevent minor health issues from becoming major problems. People receive immunizations and other important preventive care at routine visits.

Report Methodology

Summary Measure: Health Determinants
Health Care
Years of data used: 2009-2011

Summary Information

Overall in Milwaukee: 14.4 (12.4 – 16.4)
Overall in Wisconsin: 16.5 (15.7 – 17.3)
Overall in U.S.: 19.0 (18.8 – 19.2)

SES Group | Population (Weighted) | # No Checkup | % No Checkup | 95% CI
--- | --- | --- | --- | ---
Lower | 296,043 | 37,404 | 12.6 | 10.0 – 15.3
Middle | 199,309 | 35,609 | 17.9 | 14.1 – 21.6
Higher | 73,359 | 8,660 | 11.8 | 7.2 – 16.4

Facts about routine checkup:

- Adults with health insurance are twice as likely to receive a routine checkup as adults without health insurance.  
- Women have routine checkups more frequently than men.  
- The U.S. Preventive Services Task Force lists a number of evidence-based, cost-effective, recommended preventive services that are often best delivered during a routine checkup.

---

NO RECENT DENTAL VISIT

About the Measure

What It Is: No Recent Dentist Visit is the percentage of the population reporting that they did not have a dental visit in the year prior to being interviewed. This measure is based on answers to the question, “How long has it been since you last visited a dentist or a dental clinic for any reason? Include visits to dental specialists, such as orthodontists.”

Where It Comes From: Milwaukee City Data: FHS, 2009-2011
Wisconsin State Data: FHS, 2009-2011
U.S. National Data: N/A

Reasons for Reporting: Oral health is an essential and integral component of health throughout life. Poor dental health markedly affects quality of life. Tooth and gum diseases are not only important themselves but also related to various other health problems, including cardiovascular health.¹

Report Methodology

Summary Measure: Health Determinants
Health Care

Summary Information

Overall in Milwaukee: 34.7 (31.8 – 37.5)
Overall in Wisconsin: 27.3 (26.4 – 28.2)
Overall in U.S.: ----

SES Group Population (Weighted) # No Visit % No Visit 95% CI

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population (Weighted)</th>
<th># No Visit</th>
<th>% No Visit</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>295,527</td>
<td>112,448</td>
<td>38.1</td>
<td>33.7 – 42.4</td>
</tr>
<tr>
<td>Middle</td>
<td>197,032</td>
<td>66,611</td>
<td>33.8</td>
<td>29.4 – 38.2</td>
</tr>
<tr>
<td>Higher</td>
<td>72,415</td>
<td>17,403</td>
<td>24.0</td>
<td>17.8 – 30.2</td>
</tr>
</tbody>
</table>

Facts about dental visit:

- The Healthy People 2020 goal for an annual dental visit is at least 49% of the population, which means the goal for “no dental visit” is no more than 51% (Objective 7).²
- Lifestyle behaviors such as tobacco use, alcohol use, and poor dietary choices also affect oral health.²
- Persons with Medicaid (19%) report poorer oral health care than persons with private health insurance (4%). Additionally, persons with Medicaid were twice as likely to not have had a dental visit in more than 5 years.²
- Fewer dentist graduated in 2009 than in 1980 yet, over the same period, the U.S. population has increased by 78 million.³


Milwaukee Health Report 2013 | 24
NO INFLUENZA VACCINATION

About the Measure

What It Is: No Influenza Vaccination is a measure of the percentage of respondents age 65 years and older reporting that they did not have a “flu” shot or a “flu” vaccine that was sprayed in their nose within the past year.

Where It Comes From: Milwaukee City Data: BRFSS, 2011
Wisconsin State Data: BRFSS, 2011
U.S. National Data: BRFSS, 2011

Reasons for Reporting: Vaccination is an effective strategy to reduce illness and deaths due to influenza. Influenza vaccine is safe and effective, but must be given every year to protect against that year’s circulating strain(s).

Report Methodology

Summary Measure: Health Determinants
Health Care

Years of data used: 2011

Summary Information

Overall in Milwaukee: 31.8 (19.3 – 44.3)
Overall in Wisconsin: 43.5 (39.6 – 47.3)
Overall in U.S.: 39.8

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population (Weighted)</th>
<th># No Vaccination</th>
<th>% No Vaccination</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>14,616</td>
<td>7,029</td>
<td>48.1</td>
<td>37.5 – 58.7</td>
</tr>
<tr>
<td>Middle</td>
<td>24,200</td>
<td>5,670</td>
<td>23.4</td>
<td>3.1 – 43.8</td>
</tr>
<tr>
<td>Higher</td>
<td>2,909</td>
<td>1,075</td>
<td>37.0</td>
<td>16.8 – 57.1</td>
</tr>
</tbody>
</table>

Facts about influenza (“flu”) vaccination:

- The Healthy People 2020 goal for adults age 65 years and older having an influenza vaccination annually is 90%, which means the goal for not having an influenza vaccination is no more than 10% (Immunization and Infection Disease Objective 12.7).¹
- Over the past 31 years, the average number of Americans who die each year from influenza or its complications ranges from 3,000 to about 49,000.²
- The influenza vaccine is covered by Medicare. Levels of vaccination coverage vary widely among age, racial, and ethnic groups. Despite continually increasing vaccination rates among persons age 65 years and older over the past decade, coverage rates for certain racial and ethnic groups remain substantially below the general population.³

NO PNEUMONIA VACCINATION

About the Measure

What It Is: No Pneumonia Vaccination is a measure of the percentage of respondents age 65 years or older who report that they have never had a pneumonia vaccination. This measure is based on answers to the question, “Have you ever had a pneumonia or pneumococcal shot?”

Where It Comes From: Milwaukee City Data: ACHS, 2009 and 2012
Wisconsin State Data: BRFSS, 2011
U.S. National Data: BRFSS, 2011

Reasons for Reporting: Pneumococcal disease is common and serious, causing a significant number of hospitalizations and deaths. People age 65 years and older are at greater risk from pneumococcal disease. A pneumococcal vaccine is usually given once or twice in a person’s lifetime. It is more than 90% effective against serious pneumococcal disease.

Report Methodology

Summary Measure: Health Determinants
Health Care

Years of data used: 2009, 2011-2012

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population (Weighted)</th>
<th># No Vaccination</th>
<th>% No Vaccination</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>35,384</td>
<td>11,048</td>
<td>31.2</td>
<td>24.6 – 37.9</td>
</tr>
<tr>
<td>Middle</td>
<td>13,427</td>
<td>4,102</td>
<td>30.6</td>
<td>21.1 – 40.0</td>
</tr>
<tr>
<td>Higher</td>
<td>10,260</td>
<td>2,309</td>
<td>22.5</td>
<td>14.0 – 31.1</td>
</tr>
</tbody>
</table>

Facts about pneumonia vaccination:

- Pneumococcal pneumonia, which is preventable via vaccine, is a significant cause of serious illness and death in the U.S., especially among the elderly. Vaccination can be received at the same time as influenza or any other vaccination.
- The Healthy People 2020 goal for pneumococcal vaccination by people aged 65 years and older is 90%, which means the goal for not receiving the pneumococcal vaccine is no more than 10%. (Immunization and Infection Disease Objective 13.1).

---

NO BIENNIAL MAMMOGRAPHY

About the Measure

What It Is: No Biennial Mammography is a measure of the percentage of female respondents age 40 years and older who reported that they did not have a mammogram within the past 2 years. This measure is based on answers to the question, “A mammogram is an x-ray of each breast to look for breast cancer. How long has it been since you had your last mammogram?”

Where It Comes From: Milwaukee City Data: ACHS, 2012
Wisconsin State Data: BRFSS, 2008 and 2010
U.S. National Data: BRFSS, 2008 and 2010

Reasons for Reporting: Breast cancer is extremely common, and mammography plays a central role in diagnosing breast cancer at an early stage. Improving mammography rates can lead to earlier identification of breast cancer, and can improve the survival rate of people with the disease.

Report Methodology

Summary Measure: Health Determinants
Health Care

Summary Information

| Overall in Milwaukee: | 27.9 (23.4 – 32.4) |
| Overall in Wisconsin: | 21.3 (19.2 – 23.5) |
| Overall in U.S.: | 24.8 |

SES Group | Population (Weighted) | # No Mammogram | % No Mammogram | 95% CI |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>67,209</td>
<td>17,761</td>
<td>26.4</td>
<td>20.8 – 32.1</td>
</tr>
<tr>
<td>Middle</td>
<td>28,172</td>
<td>7,558</td>
<td>26.8</td>
<td>17.6 – 36.0</td>
</tr>
<tr>
<td>Higher</td>
<td>19,233</td>
<td>6,311</td>
<td>32.8</td>
<td>21.0 – 44.7</td>
</tr>
</tbody>
</table>

Facts about mammography:

- The Healthy People 2020 goal for women receiving a breast cancer screening is 81.1% (Cancer Objective 17), which means the goal for not having a mammogram is no more than 18.9%.
- Breast cancer deaths have decreased 34% in the U.S. since 1990, but breast cancer is still the most common form of cancer among women. In 2014, an estimated 232,670 women are expected to be newly-diagnosed with breast cancer, and about 40,000 women will die from the disease.
- Most women are recommended to have their first mammogram at the age of 50 years; high-risk women should begin at 40 years old. Thereafter, routine screening is recommended every two years.

**NO PAP SMEAR**

**About the Measure**

**What It Is:** No Pap Smear is a measure of the percentage of female respondents age 18 years and older reporting that they did not have a pap test within the past 3 years. This measure is based on the question, “How long has it been since you had your last pap smear?”

**Where It Comes From:**
- Milwaukee City Data: ACHS, 2012
- Wisconsin State Data: BRFSS, 2008 and 2010
- U.S. National Data: BRFSS, 2008 and 2010

**Reasons for Reporting:** The pap smear is a screening test used to detect cancer and pre-cancerous conditions of the cervix. Pre-cancerous changes can often be treated, thus preventing cervical cancer. Improving pap smear rates can also lead to early detection of cervical cancer, which has a better survival rate if treated in early stages compared to later stages.

**Report Methodology**

<table>
<thead>
<tr>
<th>Summary Measure</th>
<th>Health Determinants Health Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of data used</td>
<td>2012</td>
</tr>
</tbody>
</table>

**Summary Information**

<table>
<thead>
<tr>
<th></th>
<th>Overall in Milwaukee: 14.7 (11.1 – 18.4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall in Wisconsin: 15.2 (12.9 – 17.5)</td>
</tr>
<tr>
<td></td>
<td>Overall in U.S.: 18.7</td>
</tr>
</tbody>
</table>

**SES Group**

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population (Weighted)</th>
<th># No Pap Smear</th>
<th>% No Pap Smear</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>112,319</td>
<td>17,507</td>
<td>15.6</td>
<td>10.6 – 20.5</td>
</tr>
<tr>
<td>Middle</td>
<td>47,993</td>
<td>7,587</td>
<td>15.8</td>
<td>8.4 – 23.2</td>
</tr>
<tr>
<td>Higher</td>
<td>26,959</td>
<td>2,577</td>
<td>9.6</td>
<td>3.1 – 16.0</td>
</tr>
</tbody>
</table>

**Facts about Pap smear:**

- The Healthy People 2020 goal for women receiving a cervical cancer screening based on the most recent guidelines is 93% (Cancer Objective 15), which means the goal for not having a pap smear is ≤7%.  

- Cervical cancer morbidity and mortality rates in the U.S. are higher among black than white women. Such a pattern may be due, in part, to fewer black than white women getting pap smears overall.

- All women are at risk for cervical cancer. Routine pap smear screening is recommended to begin within three years of the onset of sexual activity or at the age of 21 years (whichever comes first) and should, generally, be repeated at least every three years.

---


Milwaukee Health Report 2013 | 28
**NO EARLY PRENATAL CARE**

### About the Measure

**What It Is:** Prenatal care refers to the medical care recommended for women during pregnancy. No Early Prenatal Care measures the percentage of live births to women who did not receive prenatal care in the first trimester (first 3 months) of pregnancy.

**Where It Comes From:**
- Milwaukee City Data: WISH - Prenatal Care Module and MHD, 2009-2011
- Wisconsin State Data: WISH - Prenatal Care Module, 2008-2010
- U.S. National Data: N/A

**Reasons for Reporting:** Routine prenatal care can help in reducing maternal death rates and miscarriages as well as birth defects, low birth weight, pre-term labor, eclampsia, and other preventable maternal and infant problems.1

### Report Methodology

<table>
<thead>
<tr>
<th>Summary Measure:</th>
<th>Health Determinants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health Care</td>
</tr>
<tr>
<td>Years of data used:</td>
<td>2008-2011</td>
</tr>
</tbody>
</table>

### Summary Information

<table>
<thead>
<tr>
<th></th>
<th>Overall in Milwaukee: 28.5 (27.7 – 29.4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall in Wisconsin: 16.7 (16.4 – 17.0)</td>
</tr>
<tr>
<td>Overall in U.S.:</td>
<td>----</td>
</tr>
</tbody>
</table>

### SES Group

<table>
<thead>
<tr>
<th>SES Group</th>
<th># Live Births</th>
<th># No Early Care</th>
<th>% No Early Care</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>6,306</td>
<td>2,021</td>
<td>32.4</td>
<td>31.3 – 33.6</td>
</tr>
<tr>
<td>Middle</td>
<td>2,965</td>
<td>689</td>
<td>23.4</td>
<td>21.8 – 24.9</td>
</tr>
<tr>
<td>Higher</td>
<td>1,213</td>
<td>248</td>
<td>20.8</td>
<td>18.5 – 23.1</td>
</tr>
</tbody>
</table>

### Facts about prenatal care:

- The Healthy People 2020 goal for pregnant women receiving prenatal care beginning in first trimester is 77.9%, meaning the goal for no early care is ≤22.1% (Maternal Infant Child Health Objective 10.1).2
- Various barriers impede receipt of needed medical services, including:
  - financial barriers (e.g., having no health insurance or being underinsured).3
  - structural barriers (e.g., no facilities or health care professionals nearby, services not available during non-work hours, lack of public transportation options, or environmental challenges for people with disabilities).3
  - personal barriers (e.g., sexual orientation, cultural differences, language, not knowing what to do).4

---

CIGARETTE SMOKING

About the Measure

What It Is: Cigarette Smoking is a measure of the percentage of the population reporting that they have smoked at least 100 cigarettes in their lifetime and that they currently smoke.

Where It Comes from: Milwaukee City Data: BRFSS, 2011
Wisconsin State Data: BRFSS, 2011
U.S. National Data: BRFSS, 2011

Reasons for Reporting: Cigarette smoking has been shown to cause a variety of health problems including heart disease, several kinds of cancer (lung, larynx, esophagus, pharynx, mouth, and bladder), and chronic lung disease (e.g., emphysema).

Report Methodology

Summary Measure: Health Determinants
Health Behaviors

Years of Data Used: 2011

Summary Information

Overall in Milwaukee: 31.7 (24.5 – 38.9)
Overall in Wisconsin: 20.9 (19.1 – 22.7)
Overall in U.S.: 20.1 (19.8 – 20.3)

SES Group Population (Weighted) # Smoking % Smoking 95% CI

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population (Weighted)</th>
<th># Smoking</th>
<th>% Smoking</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>186,881</td>
<td>69,330</td>
<td>37.1</td>
<td>26.9 – 47.3</td>
</tr>
<tr>
<td>Middle</td>
<td>148,540</td>
<td>42,114</td>
<td>28.4</td>
<td>14.6 – 42.1</td>
</tr>
<tr>
<td>Higher</td>
<td>66,576</td>
<td>16,516</td>
<td>24.8</td>
<td>9.6 – 40.0</td>
</tr>
</tbody>
</table>

Facts about cigarette smoking:

- The Healthy People 2020 goal for adult smoking is no more than 12% (Tobacco Use Objective 1).²
- Cigarette smoking remains the leading preventable cause of death in the U.S.²
- Cigarette smoking is more common among men (20.5%) than women (15.8%) and more common among adults who live below the poverty level (27.9%) than those living at or above the poverty level (17.0%).³
- Nicotine, including that in cigarettes, cigars, and e-cigarettes, is addictive, toxic to developing fetuses, and may have lasting consequences for adolescent development.⁴

---

SMOKING DURING PREGNANCY

About the Measure

What It Is: Women giving birth in a hospital are asked about their smoking status after delivering the baby. Smoking During Pregnancy measures the percentage of women in the population reporting that they smoked during their pregnancy.

Where It Comes from: Milwaukee City Data: WISH - Birth Counts Module and MHD, 2009-2011
Wisconsin State Data: WISH - Birth Counts Module, 2008-2010
U.S. National Data: N/A

Reasons for Reporting: Smoking during pregnancy has been shown to be associated with prematurity, low birth weight, miscarriages, and Sudden Infant Death Syndrome (SIDS).1

Report Methodology

Summary Measure: Health Determinants
Health Behaviors

Years of Data Used: 2008-2011

Summary Information

Overall in Milwaukee: 12.8 (12.2 – 13.5)
Overall in Wisconsin: 13.8 (13.5 – 14.1)
Overall in U.S.: ----

<table>
<thead>
<tr>
<th>SES Group</th>
<th># Live Births</th>
<th># Smoked</th>
<th>% Smoked</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>6,306</td>
<td>913</td>
<td>14.5</td>
<td>13.6 – 15.4</td>
</tr>
<tr>
<td>Middle</td>
<td>2,965</td>
<td>338</td>
<td>11.4</td>
<td>10.3 – 12.6</td>
</tr>
<tr>
<td>Higher</td>
<td>1,213</td>
<td>95</td>
<td>7.8</td>
<td>6.3 – 9.3</td>
</tr>
</tbody>
</table>

Facts about smoking during pregnancy:

- Healthy People 2020 goal for females abstaining from smoking cigarettes during pregnancy is 98.6%, which means the goal for smoking during pregnancy is no more than 1.4% (Maternal Infant Child Health Objective 11.3).2
- Smoking before and during pregnancy is one of the most preventable causes of illness and death among mothers and infants. In particular, smoking increases the risk of preterm labor, low birth weight, infant mortality, and the development of chronic diseases in the infant.1

---

Binge Drinking

About the Measure

What It Is: Binge Drinking is a measure of the percentage of the population reporting that they drank more than five alcoholic beverages in one day, at least once per month. Binge Drinking is defined as 5 or more drinks on an occasion for men, and 4 or more drinks for women.

Where It Comes from:
- Milwaukee City Data: BRFSS, 2011
- Wisconsin State Data: BRFSS, 2011
- U.S. National Data: BRFSS, 2011

Reasons for Reporting: Binge drinking is associated with many health problems, such as liver disease, sexually transmitted diseases (STDs), and neurological damage. Alcohol abuse can also cause psychosocial problems, including violence, and can contribute to injuries and deaths from drunk driving.

Report Methodology

Summary Measure:
- Health Determinants
- Health Behaviors

Years of Data Used: 2011

Summary Information

Overall in Milwaukee: 26.9 (19.8 – 33.9)
Overall in Wisconsin: 24.3 (22.3 – 26.2)
Overall in U.S.: 18.3 (18.0 – 18.5)

SES Group | Population (Weighted) | # Binge Drinking | % Binge Drinking | 95% CI
--- | --- | --- | --- | ---
Lower | 159,748 | 42,144 | 26.4 | 16.7 – 36.1
Middle | 131,040 | 30,002 | 22.9 | 10.6 – 35.2
Higher | 61,554 | 21,852 | 35.5 | 17.6 – 53.4

Facts about binge drinking:

- The Healthy People 2020 goal for adult binge drinking is no more than 24.3% (Substance Abuse Objective 14.3).
- Approximately 79,000 deaths are attributable to excessive alcohol use each year in the U.S.
- Binge drinking is twice as prevalent among men as women and the proportion of current binge drinkers is highest in the 18 to 24-year-old group.
- Wisconsin has one of the highest rates of drunk-driving in the U.S.

---

PHYSICAL INACTIVITY

About the Measure

What It Is: Physical Inactivity is a measure of the percentage of the population reporting levels of activity that do not meet the recommended levels of moderate physical activity (30 minutes per day of moderate physical activity >5 days per week) or vigorous physical activity (20 minutes per day of vigorous physical activity for >3 days per week).


Reasons for Reporting: Regular physical activity has been shown to prevent or reduce the severity of coronary heart disease (CHD), heart attack, diabetes, obesity, cancer, depression, dementia, and a variety of other health problems. 2, 3

Report Methodology

Summary Measure: Health Determinants Health Behaviors

Years of Data Used: 2009, 2011-2012

Summary Information

Overall in Milwaukee: 45.5 (42.7 – 48.4) Overall in Wisconsin: 42.6 (40.4 – 44.8) Overall in U.S.: 48.6 (48.3 – 48.9)

SES Group | Population (Weighted) | # Inactive | % Inactive | 95% CI
--- | --- | --- | --- | ---
Lower | 206,496 | 97,544 | 47.2 | 43.5 – 51.0
Middle | 70,800 | 31,448 | 44.4 | 43.8 – 45.0
Higher | 58,672 | 23,955 | 40.8 | 33.9 – 47.8

Facts about physical inactivity:

- On average, physically active people outlive those who are inactive. 3
- The Healthy People 2020 goal is for at least 47.9% of adults to engage in aerobic physical activity of moderate intensity for at least 150 minutes/week or of vigorous intensity for at least 75 minutes/week or an equivalent combination (Physical Activity Objective 2.1). 4
- While there are racial and ethnic differences in physical activity rates in the U.S., in general, people with lower SES tend to be more inactive during their leisure time than people with high SES. 5

---

OBESITY

About the Measure

What It Is: Obesity is a measure of the percentage of the population that has a body mass index (BMI) ≥ 30 kg/m². This measure is calculated using a formula, which is based on answers to the questions, “About how much do you weigh without shoes?” and “About how tall are you without shoes?”

Where It Comes from: Milwaukee City Data: BRFSS, 2011
Wisconsin State Data: BRFSS, 2011
U.S. National Data: BRFSS, 2011

Reasons for Reporting: Obesity is a strong determinant of various health problems including hypertension, diabetes, coronary heart disease (CHD), stroke, sleep apnea, and a variety of others.

Report Methodology

Summary Measure: Health Determinants
Health Behaviors

Years of Data Used: 2011

Summary Information

Overall in Milwaukee: 37.6 (30.1 – 45.0)
Overall in Wisconsin: 27.7 (25.8 – 29.7)
Overall in U.S.: 27.4 (27.2 – 27.7)

SES Group | Population (Weighted) | # Obese | % Obese | 95% CI
--- | --- | --- | --- | ---
Lower | 176,328 | 76,681 | 43.5 | 33.1 – 53.9
Middle | 145,482 | 51,409 | 35.3 | 21.1 – 49.6
Higher | 64,768 | 16,998 | 26.2 | 12.3 – 40.2

Facts about obesity:

- The Healthy People 2020 goal for the proportion of adults who are obese is no more than 30.6% (Nutrition and Weight Status Objective 9).²
- Obesity is especially prevalent among non-Hispanic black, Hispanic, and non-Hispanic white adults.³
- Women with higher incomes are less likely to be obese than low income women however, most obese women are not low income.⁴

OVERWEIGHT

**About the Measure**

**What It Is:** Overweight is a measure of the percentage of the population that has a body mass index (BMI) ≥25 but <30 kg/m². This measure is calculated using a formula, which is based on answers to the questions, “About how much do you weigh without shoes?” and “About how tall are you without shoes?”

**Where It Comes from:**
- Milwaukee City Data: BRFSS, 2011
- Wisconsin State Data: BRFSS, 2011
- U.S. National Data: BRFSS, 2011

**Reasons for Reporting:** Overweight is associated with increased risk of various health problems including hypertension, diabetes, coronary heart disease (CHD), stroke, sleep apnea, cancer, and a variety of others.

**Report Methodology**

<table>
<thead>
<tr>
<th>Summary Measure:</th>
<th>Health Determinants Health Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of Data Used:</td>
<td>2011</td>
</tr>
</tbody>
</table>

**Summary Information**

Overall in Milwaukee: 32.7 (26.0 – 39.5)

Overall in Wisconsin: 36.2 (34.2 – 38.3)

Overall in U.S.: 35.8 (35.5 – 36.1)

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population (Weighted)</th>
<th># Overweight</th>
<th>% Overweight</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>176,328</td>
<td>50,967</td>
<td>28.9</td>
<td>20.9 – 36.9</td>
</tr>
<tr>
<td>Middle</td>
<td>145,482</td>
<td>57,336</td>
<td>39.4</td>
<td>25.6 – 53.3</td>
</tr>
<tr>
<td>Higher</td>
<td>64,768</td>
<td>21,132</td>
<td>32.6</td>
<td>16.5 – 48.7</td>
</tr>
</tbody>
</table>

**Facts about overweight:**

- The Healthy People 2020 goal for healthy weight (BMI of 18.5-25) is 33.9% for people age 20 years and older (Nutrition and Weight Status Objective 8).³

- More than half of adults in the U.S. are estimated to be overweight or obese. Overweight and obesity and their associated health problems have a significant economic impact on the U.S. health care system.²

- Because overweight youth are at increased risk of remaining overweight, efforts to maintain a healthy weight should be especially aimed at starting early in childhood and continuing throughout adulthood.²

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INADEQUATE FRUIT AND VEGETABLE CONSUMPTION

About the Measure

What It Is: Inadequate Fruit and Vegetable Consumption is a measure of the percentage of the population reporting that they consume <5 servings of fruits and/or vegetables per day.

Where It Comes from: Milwaukee City Data: ACHS, 2009 and 2012
Wisconsin State Data: N/A
U.S. National Data: N/A

Reasons for Reporting: There is strong evidence that a diet with a sufficient level of fruits and vegetables can lower the risk of heart disease, cancer, and stroke.\(^1\) This may also lead to decreased risk of overweight or obesity.\(^1,2\)

Report Methodology

Summary Measure: Health Determinants
Health Behaviors
Years of Data Used: 2009, 2012

Summary Information

<table>
<thead>
<tr>
<th>Overall in Milwaukee:</th>
<th>68.5 (66.1 – 70.9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall in Wisconsin:</td>
<td>----</td>
</tr>
<tr>
<td>Overall in U.S.:</td>
<td>----</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population (Weighted)</th>
<th># Inadequate consumption</th>
<th>% Inadequate consumption</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>257,442</td>
<td>179,472</td>
<td>69.7</td>
<td>66.6 – 72.8</td>
</tr>
<tr>
<td>Middle</td>
<td>93,550</td>
<td>64,772</td>
<td>69.2</td>
<td>64.2 – 74.3</td>
</tr>
<tr>
<td>Higher</td>
<td>69,661</td>
<td>43,817</td>
<td>62.9</td>
<td>56.4 – 69.4</td>
</tr>
</tbody>
</table>

Facts about fruit and vegetable consumption:

- The Healthy People 2020 goal for people aged two years and older is to consume 0.9 cup equivalents of fruit per 1,000 calories (Nutrition and Weight Status Objective 14) and 1.1 cup equivalents of vegetables per 1,000 calories (Nutrition and Weight Status Objective 15.1).\(^2\)
- A diet high in fruits and vegetables is associated with decreased risk for chronic diseases.\(^3\)
- Persons aged 65 and over are more likely to eat fruit than any other age group.\(^4\)

---


CHLAMYDIA RATE

About the Measure

What It Is: Chlamydia Rate is reported as incidence, or the number of new cases reported per year, per 100,000 population.

Where It Comes from:
- Milwaukee City Data: DHS, Wisconsin STD Program, 2009-2011
- Wisconsin State Data: DHS, Wisconsin STD Program, 2009-2011
- U.S. National Data: Sexually Transmitted Disease Surveillance, 2009-2011

Reasons for Reporting: Chlamydia is the most common bacterial sexually transmitted disease (STD) in North America and one of the major causes of tubal infertility, ectopic pregnancy, pelvic inflammatory disease, and chronic pelvic pain. STDs, in general, are associated with significantly increased risks of morbidity and mortality, including cervical cancer, involuntary infertility, and premature death.

Report Methodology

Summary Measure: Health Determinants
- Health Behaviors

Years of Data Used: 2009-2011

Facts about chlamydia rate:

- No specific Healthy People 2020 goal has been identified for chlamydia cases per year in the general population. The Healthy People 2020 goal for STDs is to promote healthy sexual behaviors, strengthen community capacity, and increase access to quality services to prevent STDs and their complications.

- Increases in reported chlamydia infections may reflect the expansion of chlamydia screening, use of increasingly sensitive diagnostic tests, increased emphasis on case reporting from providers and laboratories, improvements in the information systems for reporting, and actual increases in incidence of disease.

- Nationally, STD rates tend to be higher in poor, urban areas and highest among young people, aged 15-24 years.

Summary Information

<table>
<thead>
<tr>
<th>Summary Measure</th>
<th>Overall in Milwaukee</th>
<th>Overall in Wisconsin</th>
<th>Overall in U.S.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Determinants</td>
<td>1,240 (1216 – 1264)</td>
<td>399 (394 – 405)</td>
<td>428 (427 – 429)</td>
</tr>
<tr>
<td>Health Behaviors</td>
<td>1,240 (1216 – 1264)</td>
<td>399 (394 – 405)</td>
<td>428 (427 – 429)</td>
</tr>
</tbody>
</table>

SES Group | Population | Total # Cases | Cases / 100,000 people | 95% CI |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>320,585</td>
<td>6,726</td>
<td>2,098</td>
<td>2,048 – 2,148</td>
</tr>
<tr>
<td>Middle</td>
<td>294,292</td>
<td>2,456</td>
<td>835</td>
<td>802 – 867</td>
</tr>
<tr>
<td>Higher</td>
<td>202,076</td>
<td>946</td>
<td>468</td>
<td>438 – 498</td>
</tr>
</tbody>
</table>

---

**HIV INFECTION**

**About the Measure**

**What It Is:** HIV Infection is a measure of the average annual number of reported cases of Human Immunodeficiency Virus (HIV) infection and is reported as the crude rate per 100,000 in the population. The reported rate is not age-adjusted.

**Where It Comes from:**
- Milwaukee City Data: DHS, Wisconsin AIDS/HIV Program, 2007-2011

**Reasons for Reporting:** In the United States, HIV/AIDS remains a significant cause of illness, disability, and death. Elimination of disparities in the rate of infection among certain racial and ethnic groups, particularly African American and Hispanic populations, remains a challenge.

**Report Methodology**

**Summary Measure:** Health Determinants
- Health Behaviors

**Years of Data Used:** 2007-2011

**Summary Information**

Overall in Milwaukee: 18.1 (15.2 – 21.0)
Overall in Wisconsin: 4.6 (4.0 – 5.2)
Overall in U.S.: 15.6 (15.5 – 15.8)

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population</th>
<th>Total # Cases</th>
<th>Cases / 100,000 people</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>320,585</td>
<td>96</td>
<td>29.9</td>
<td>23.9 – 35.9</td>
</tr>
<tr>
<td>Middle</td>
<td>294,292</td>
<td>35</td>
<td>11.9</td>
<td>8.0 – 15.8</td>
</tr>
<tr>
<td>Higher</td>
<td>202,076</td>
<td>17</td>
<td>8.4</td>
<td>4.4 – 12.4</td>
</tr>
</tbody>
</table>

**Facts about HIV infection:**

- In the U.S., approximately 1.1 million people are living with HIV, 180,900 or 15% of which are unaware of their infections.\(^1\)
- HIV and AIDS have affected African Americans and Hispanics disproportionately, as compared to other racial and ethnic groups.\(^2\)

---


TEEN BIRTH RATE

About the Measure

What It Is: Teen Birth Rate is reported as the number of live births per 1,000 females aged 15-19 years.

Where It Comes from: Milwaukee City Data: WISH - Birth Counts Module and MHD, 2009-2011
Wisconsin State Data: WISH - Birth Counts Module, 2008-2010

Reasons for Reporting: The adverse long-term consequences of teen parenthood, such as lower levels of educational attainment, higher rates of marital instability, increased risk of living in poverty, and increased likelihood of single parenthood, compared to older mothers, make it a particularly crucial health measure for communities to track and an important health risk to target for intervention.

Report Methodology

Summary Measure: Health Outcomes
Health Behaviors

Years of Data Used: 2008-2011

Summary Information

Overall in Milwaukee: 48.9 (46.5 – 51.3)
Overall in Wisconsin: 28.8 (28.0 – 29.5)
Overall in U.S.: 34.5 (34.4 – 34.6)

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population (Females 15-19 years)</th>
<th># Live Births</th>
<th>Teen Birth Rate</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>15,533</td>
<td>1,045</td>
<td>67.3</td>
<td>63.3 – 71.2</td>
</tr>
<tr>
<td>Middle</td>
<td>8,398</td>
<td>356</td>
<td>42.4</td>
<td>38.1 – 46.7</td>
</tr>
<tr>
<td>Higher</td>
<td>6,708</td>
<td>98</td>
<td>14.6</td>
<td>11.7 – 17.4</td>
</tr>
</tbody>
</table>

Facts about teen birth rate:

- The Healthy People 2020 goal for pregnancies among adolescent females is 36.2 pregnancies per 1,000 females aged 15-17 years (Family Planning Objective 8.1) and 105.9 pregnancies per 1,000 females aged 18-19 years (Family Planning Objective 8.2).

- Pregnant teens are more likely than older women to receive late or no prenatal care. Younger pregnant teens may also be more likely to have a pre-term delivery and low birth weight, increasing the risk of child developmental delay, illness, and mortality.

- The U.S. birth rate for teenagers aged 15-19 in 2013 was 26.6% per 1,000 women.

---

VIOLENT ASSAULT

About the Measure

What It Is:
Violent Assault is a measure of the percentage of the respondents reporting that they had been pushed, kicked, slapped or hit in the past year. It is based on the answers to the question, “During the past year has anyone pushed, kicked, slapped, hit or otherwise hurt you?”

Where It Comes from:
Milwaukee City Data: ACHS, 2009 and 2012
Wisconsin State Data: N/A
U.S. National Data: N/A

Reasons for Reporting:
Each year, violence causes approximately 50,000 deaths and results in over 2.5 million injuries in the U.S. Violence erodes communities by reducing productivity, decreasing property values, disrupting social services, reducing social cohesion, and increasing overall stress levels.

Report Methodology

Summary Measure:
Health Determinants
Health Behaviors

Years of Data Used:
2009, 2012

Summary Information

Overall in Milwaukee: 5.1 (3.9 – 6.2)
Overall in Wisconsin: ----
Overall in U.S.: ----

SES Group | Population (Weighted) | # Assaulted | % Assaulted | 95% CI
--- | --- | --- | --- | ---
Lower | 262,865 | 14,439 | 5.5 | 4.0 – 7.0
Middle | 96,155 | 3,951 | 4.1 | 1.9 – 6.4
Higher | 70,642 | 3,442 | 4.9 | 2.2 – 7.6

Facts about violent assault:

- In 2011, deaths caused by injury and violence for persons aged one through 44 years outnumbered death by non-communicable and infectious diseases in the United States.¹
- The estimated total costs associated with violence and its impact on health services and lost productivity is $406 billion annually.²
- Violence against women is a serious public health issue and often times results in poor maternal outcomes.²

DID NOT WEAR SEAT BELT

About the Measure

What It Is: Did Not Wear Seat Belt is a measure of the percentage of the respondents reporting that they seldom or never wear a seat belt while driving or riding in a motor vehicle. It was based on answers to the question “How often do you use seat belts when you drive or ride in a car?”

Where It Comes from: Milwaukee City Data: BRFSS, 2011
Wisconsin State Data: BRFSS, 2011
U.S. National Data: BRFSS, 2011

Reasons for Reporting: Motor vehicle crashes are the single most predictable and preventable cause of death and injury in the U.S. Seat belts remain the most effective tool for preventing deaths and injuries from motor vehicle crashes.

Report Methodology

Summary Information

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population (Weighted)</th>
<th># Did Not Wear Seat Belt</th>
<th>% Did Not Wear Seat Belt</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>159,571</td>
<td>16,471</td>
<td>10.3</td>
<td>0.6 – 20.0</td>
</tr>
<tr>
<td>Middle</td>
<td>136,910</td>
<td>18,074</td>
<td>13.2</td>
<td>0.0 – 26.7</td>
</tr>
<tr>
<td>Higher</td>
<td>2,763</td>
<td>2,763</td>
<td>4.4</td>
<td>0.0 – 11.1</td>
</tr>
</tbody>
</table>

Facts about wearing seat belts:

- Every 12 minutes, someone dies in a car crash in the United States. Estimates suggest that increased seat belt usage across all states would save $5.2 billion per year in medical, legal, and productivity costs.2
- Research further suggests that lap/shoulder seat belts reduce the risk of fatal injury to front-seat passenger car occupants by 45% and the risk of moderate-to-critical injury by 50%.3
- The Healthy People 2020 goal for using safety belts within the total population is 92.4%, which means the goal for not using safety belts is no more than 7.6% (Injury Violence Prevention Objective 15).4

SINGLE PARENT HOUSEHOLDS

About the Measure

What It Is: Single Parent Households is a measure of the number of households run by a single parent (male householder with no female partner present, or female householder with no male partner present) with one or more of their own children under 18 years. It is reported as a percentage of the total number of households.

Where It Comes from: Milwaukee City Data: CENSUS, American Community Survey, 2008-2012
Wisconsin State Data: CENSUS, American Community Survey, 2010-2012
U.S. National Data: CENSUS, American Community Survey, 2010-2012

Reasons for Reporting: This measure is included as a proxy for social and economic support from the family and the community. Studies have shown that being raised in a single-headed household can have negative effects on health in the future, such as increased anxiety symptoms.

Report Methodology

Summary Measure: Health Determinants Socioeconomic Factor
Years of Data Used: 2008-2012

SES Group Total # Households # Single-parent Households % Single-parent Households 90% CI
Lower 106,305 25,824 23.2 19.1 – 27.7
Middle 126,232 16,416 13.0 10.0 – 16.2
Higher 91,013 5,696 6.3 4.1 – 8.1

Facts about single parent households:

- According to U.S. Census data on America’s families and households, the percentage of households headed by single parents increased by 10% between 1970-2012, from 17% to 27%.
- Many factors influence how children develop in single-parent households, including the age, education level, occupation, and income of parents, and support network of friends and extended family members. The disadvantageous characteristics of many single parents (e.g., young age, low income) may be more strongly associated with poor health than the single-parenting itself.

---

INADEQUATE SOCIAL SUPPORT

About the Measure

What It Is: Inadequate Social Support measure is based on responses to the question: “How often do you get the social and emotional support you need?” The percentages stated in this report are the percentages of adult population reporting that they “never,” “rarely,” or “sometimes” get the support they need.

Where It Comes from: Milwaukee City Data: BRFSS, 2008-2010
Wisconsin State Data: BRFSS, 2008-2010
U.S. National Data: BRFSS, 2008-2010

Reasons for Reporting: Poor family support, minimal contact with others, and limited involvement in community life are associated with increased morbidity and early mortality. Furthermore, social support networks have been identified as powerful predictors of health behaviors, suggesting that people without a strong social network are less likely to participate in healthy individual behaviors.

Report Methodology

Summary Measure: Health Determinants
Socioeconomic Factor
Years of Data Used: 2008-2010

Summary Information

Overall in Milwaukee: 21.9 (18.1 – 25.7)
Overall in Wisconsin: 16.0 (15.0 – 17.0)
Overall in U.S.: 19.5 (19.5 – 19.5)

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population (Weighted)</th>
<th># Inadequate Social Support</th>
<th>% Inadequate Social Support</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>126,117</td>
<td>34,155</td>
<td>27.1</td>
<td>22.3 – 31.8</td>
</tr>
<tr>
<td>Middle</td>
<td>119,077</td>
<td>21,496</td>
<td>18.1</td>
<td>11.7 – 24.4</td>
</tr>
<tr>
<td>Higher</td>
<td>45,193</td>
<td>5,528</td>
<td>12.2</td>
<td>7.0 – 17.5</td>
</tr>
</tbody>
</table>

Facts about inadequate social support:

- The association between socially isolated individuals and poor mental and physical health outcomes has been well established in literature.
- The effects of poor mental and physical health on the individual, families, and society as a whole have prompted policymakers to build a policy foundation that supports both health and social inclusion.

---

RADON RISK

About the Measure

What It Is: Radon Risk is the percentage of homes tested that report radon levels greater than 10 pCi/L at the basement level, which corresponds to a level of at least 4 pCi/L at ground level. This measure is not based on a complete or random sample of housing units and, therefore, should be interpreted with caution.

Where It Comes from: Milwaukee City Data: DHS, 2009
Wisconsin State Data: DHS, 2009
U.S. National Data: N/A

Reasons for Reporting: Indoor radon is the second leading cause of lung cancer after smoking, according to a 1999 report from the National Academy of Sciences.¹ The U.S. Environmental Protection Agency and U.S. Surgeon General strongly recommend all homes be tested for radon, and when a problem exists, corrective action be taken.

Report Methodology

Summary Measure: Health Determinants
Physical Environment

Years of Data Used: 2009

Summary Information

Overall in Milwaukee: 5.1 (4.7 – 5.6)
Overall in Wisconsin: 12.4 (12.2 – 12.5)
Overall in U.S.: ----

SES Group | # Homes | # Homes >10 pCi/L | % Homes >10 pCi/L | 95% CI
--- | --- | --- | --- | ---
Lower | 1,370 | 25 | 1.8 | 1.1 – 2.5
Middle | 3,256 | 202 | 6.2 | 5.4 – 7.0
Higher | 3,897 | 210 | 5.4 | 4.7 – 6.1

Facts about radon risk:

- The Healthy People 2010 goal for radon risk is to increase the proportion of people who live in homes tested for radon and the number of new homes constructed to be radon resistant (Environmental Health Objective 14).¹

- Radon is a naturally occurring, odorless, toxic, radioactive gas that can cause lung cancer.²

- The only way to know the radon level in a house is to measure it. If radon is detected, it can be relatively easy to install equipment to reduce radon levels in the home.²

**About the Measure**

**What It Is:** Housing Built Before 1940 is the percentage of houses that were built before the year of 1940. Residents of these houses are more likely to be exposed to lead paint, which is a leading cause of childhood lead poisoning.

**Where It Comes from:**
- Milwaukee City Data: EASI, 2007
- Wisconsin State Data: EASI, 2007
- U.S. National Data: EASI, 2007

**Reasons for Reporting:** Housing that was built before 1940 has a higher risk of lead poisoning for its inhabitants. In children, lead poisoning can cause learning disabilities, attention deficit disorder (ADD), violent behavior, poor impulse control, and many other problems, many of which may persist into adulthood.¹

---

**Report Methodology**

**Summary Measure:** Health Determinants
- Physical Environment

**Years of Data Used:** 2007

**Summary Information**

- Overall in Milwaukee: 30.6 (30.4 – 30.7)
- Overall in Wisconsin: 21.3 (21.2 – 21.3)
- Overall in U.S.: 13.2 (13.2 – 13.2)

---

**SES Group**

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Total # Houses</th>
<th># Houses built before 1940</th>
<th>% Housing built before 1940</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>118,218</td>
<td>53,619</td>
<td>45.4</td>
<td>45.1 – 45.6</td>
</tr>
<tr>
<td>Middle</td>
<td>130,758</td>
<td>24,761</td>
<td>18.9</td>
<td>18.7 – 19.1</td>
</tr>
<tr>
<td>Higher</td>
<td>94,935</td>
<td>26,700</td>
<td>28.1</td>
<td>27.8 – 28.4</td>
</tr>
</tbody>
</table>

---

**Facts about housing built before 1940:**

- Any home or multifamily housing building built before 1978 may contain lead-based paint. After 1940, paint manufacturers voluntarily began to reduce the amount of lead they added to their consumer paints. As a result, painted surfaces in homes built before 1940 are likely to have higher levels of lead than homes built between 1940 and 1978.²³
- Peeling, chipping, chalking, or cracking lead-based paint is a hazard and needs immediate attention. Lead-based paint may also be a hazard when found on surfaces that get a lot of wear-and-tear, including windows and window sills, doors and door frames, stairs, railings and banisters and porches and fences.²³

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Milwaukee Health Report 2013 | 45
LEAD POISONING

About the Measure

What It Is: Lead Poisoning is a measure of the percentage of positive lead tests from children <72 months (6 years) old. A positive test for a child is defined as a blood lead level (BLL) ≥10 micrograms per deciliter (μg/dL). This measure is not based on a complete or random sample and, therefore, should be interpreted with caution.

Where It Comes from: Milwaukee City Data: MHD, 2009-2011
Wisconsin State Data: DHS, 2009-2011

Reasons for Reporting: Lead poisoning has been shown to cause many health problems. In children, lead poisoning can cause learning disabilities, attention deficit disorder (ADD), violent behavior, poor impulse control, and many other problems, many of which may persist into adulthood.

Report Methodology

Summary Measure: Health Determinants
Physical Environment

Years of Data Used: 2009-2011

Summary Information

Overall in Milwaukee: 3.7 (3.6 – 3.9)
Overall in Wisconsin: 1.4 (1.3 – 1.4)
Overall in U.S.: 1.1 (1.0 – 1.1)

SES Group | # Tested Children | # Positive Tests | % Positive Tests | 95% CI
--- | --- | --- | --- | ---
Lower | 63,625 | 2,972 | 4.7 | 4.5 – 4.8
Middle | 22,261 | 381 | 1.7 | 1.5 – 1.9
Higher | 6,139 | 85 | 1.4 | 1.1 – 1.7

Facts about lead poisoning:

- Children in the cities of Milwaukee and Racine should be tested at ages 12, 18, and 24 months. If a child is enrolled in WIC, Medicaid or uninsured he or she is then tested annually until the age of 6 years. For children living outside of the cities of Milwaukee and Racine, targeted screening is done for those who are at high risk of exposure to lead poisoning.
- Lead poisoning is more prevalent among children who are enrolled in Medicaid or WIC than among those who are not, possibly due to higher exposure to lead hazards in low-income neighborhoods.

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NO ACCESS TO HEALTHY FOOD

About the Measure

What It Is: No Access to Healthy Foods is measured as the percentage of all food outlets (grocery stores, produce stands, and farmers’ markets) deemed “non-healthy”, which is defined as outlets employing <5 employees.

Where It Comes from: Milwaukee City Data: CENSUS, County Business Patterns, 2011
Wisconsin State Data: CENSUS, County Business Patterns, 2011
U.S. National Data: CENSUS, County Business Patterns, 2011

Reasons for Reporting: Studies have linked the food environment to consumption of healthy food, which is in turn linked to overall health outcomes.

Report Methodology

Summary Measure: Health Determinants
Physical Environment

Years of Data Used: 2011

Summary Information

Overall in Milwaukee: 48.3 (40.9 – 55.7)
Overall in Wisconsin: 25.7 (22.9 – 28.4)
Overall in U.S.: 37.8 (37.5 – 38.2)

Facts about access to healthy food:

- There is strong evidence that a diet with a sufficient level of fruits and vegetables can lower the risk of heart disease, cancer, and stroke.\(^1\)
- There is strong evidence that access to supermarkets rather than smaller “corner grocery” or convenience stores correlates with lower prevalence of overweight, obesity, and hypertension.\(^2,3\)
- Household fruit and vegetable use among Food Stamp (“SNAP”) Program participants increased when there was easy access to supermarket shopping.\(^4\)

---


LIQUOR LICENSE DENSITY

About the Measure

What It Is: Liquor License Density is measured as the number of liquor licenses per 10,000 people. Data represent valid licenses for July 2011-June 2012.

Where It Comes from: Milwaukee City Data: COMPASS, 2011-2012
Wisconsin State Data: N/A
U.S. National Data: N/A

Reasons for Reporting: Researchers have documented a variety of problems associated with the physical availability of alcohol including assaultive violence, motor vehicle accidents, drinking and driving, riding with a drinking driver, high mortality rates due to liver cirrhosis, and binge drinking.\(^1\),\(^2\)

Report Methodology

Summary Measure: Health Determinants
Physical Environment

Years of Data Used: 2012

Summary Information

Overall in Milwaukee: 19.1 (18.0 – 20.3)
Overall in Wisconsin: ----
Overall in U.S.: ----

<table>
<thead>
<tr>
<th>SES Group</th>
<th>Population</th>
<th># Licenses</th>
<th>Licenses / 10,000 people</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>320,585</td>
<td>547</td>
<td>17.1</td>
<td>15.6 – 18.5</td>
</tr>
<tr>
<td>Middle</td>
<td>175,087</td>
<td>223</td>
<td>12.7</td>
<td>11.1 – 14.4</td>
</tr>
<tr>
<td>Higher</td>
<td>83,133</td>
<td>337</td>
<td>40.5</td>
<td>36.2 – 44.9</td>
</tr>
</tbody>
</table>

Facts about liquor license density:

- Research shows that as alcohol outlet density increases, the risk for drinking and driving, riding with a drinking driver, liver cirrhosis, binge drinking, and partner violence increases.\(^1\),\(^2\)
- Liquor license density can be controlled through zoning policy.\(^3\)

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SUMMARY

Summary Tables 4 and 5, on the following pages, list all 36 health measures examined in this report in descending order of risk ratio (RR). Each RR compares the health risk of the lower socioeconomic status (SES) group to that of the higher SES group (Table 4) or health risk of the middle SES group to that of the higher SES group (Table 5). Differences in risk by SES group are identified as statistically significant at the p-value level of <0.05 if the RR’s corresponding 95% confidence interval was determined as entirely <1 or entirely >1. Figure 4 identifies health measures that were found to be significantly better or worse in each the lower and middle socioeconomic status groups than in the higher SES group. Color coded blocks within the figure represent specific ranges in RR values.

Note that most measures were based on multiple years of data (see Table 1, page 8). While Premature Death was determined to be worse in the lower than higher SES group and better in the middle than higher SES group overall, it was actually found to be significantly worse in both the lower and middle SES groups than the higher SES group during the first two years and significantly better in both groups than the higher group during the third year.
<table>
<thead>
<tr>
<th>Health Measure</th>
<th>Lower SES</th>
<th>Higher SES</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>No access to healthy food (% of markets with &lt;5 employees)</td>
<td>64.08</td>
<td>6.90</td>
<td>9.29*</td>
</tr>
<tr>
<td>Teen birth rate (# of births per 1,000 females aged 15-19 years)</td>
<td>67.25</td>
<td>14.56</td>
<td>4.62*</td>
</tr>
<tr>
<td>Chlamydia rate (# of new cases per 100,000 people)</td>
<td>2098</td>
<td>468</td>
<td>4.48*</td>
</tr>
<tr>
<td>Single parent household (% of households)</td>
<td>23.25</td>
<td>6.26</td>
<td>3.88*</td>
</tr>
<tr>
<td>HIV infection rate (# of new cases per 100,000 people)</td>
<td>29.88</td>
<td>8.41</td>
<td>3.55*</td>
</tr>
<tr>
<td>Lead poisoning (% of children aged &lt;72 months with blood levels ≥10 μg/dL)</td>
<td>4.67</td>
<td>1.38</td>
<td>3.35*</td>
</tr>
<tr>
<td>Uninsured (% of adult population &lt;65 years of age)</td>
<td>27.61</td>
<td>10.62</td>
<td>2.60*</td>
</tr>
<tr>
<td>Poor mental health days (# of days per last 30 days)</td>
<td>5.91</td>
<td>2.34</td>
<td>2.53*</td>
</tr>
<tr>
<td>Did not always wear seat belt (% of adult population)</td>
<td>10.32</td>
<td>4.37</td>
<td>2.36</td>
</tr>
<tr>
<td>Poor or fair health (% of adult population)</td>
<td>27.64</td>
<td>12.27</td>
<td>2.25</td>
</tr>
<tr>
<td>Inadequate social support (% of adult population)</td>
<td>27.08</td>
<td>12.23</td>
<td>2.21*</td>
</tr>
<tr>
<td>Poor physical health days (# of days per last 30 days)</td>
<td>5.83</td>
<td>3.09</td>
<td>1.89*</td>
</tr>
<tr>
<td>Smoking during pregnancy (% of live births)</td>
<td>14.49</td>
<td>7.80</td>
<td>1.85*</td>
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<td>Obesity (% of adult population)</td>
<td>43.49</td>
<td>26.24</td>
<td>1.66</td>
</tr>
<tr>
<td>No pap smear (% of adult female population)</td>
<td>15.59</td>
<td>9.56</td>
<td>1.63</td>
</tr>
<tr>
<td>Housing built before 1940 (% of houses)</td>
<td>45.36</td>
<td>28.12</td>
<td>1.61*</td>
</tr>
<tr>
<td>No recent dental visit (% of adult population)</td>
<td>38.05</td>
<td>24.03</td>
<td>1.58*</td>
</tr>
<tr>
<td>No early (first trimester) prenatal care (% of live births)</td>
<td>32.44</td>
<td>20.81</td>
<td>1.56*</td>
</tr>
<tr>
<td>Cigarette smoking (% of adult population)</td>
<td>37.10</td>
<td>24.81</td>
<td>1.50</td>
</tr>
<tr>
<td>No pneumonia vaccination (% of population ≥65 years of age)</td>
<td>31.22</td>
<td>22.50</td>
<td>1.39</td>
</tr>
<tr>
<td>Low birthweight (% of live births)</td>
<td>11.28</td>
<td>8.53</td>
<td>1.32*</td>
</tr>
<tr>
<td>No influenza vaccination (% of population ≥65 years of age)</td>
<td>48.09</td>
<td>36.97</td>
<td>1.30</td>
</tr>
<tr>
<td>Infant mortality rate (# of infant deaths per 1,000 live births)</td>
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<td>8.67</td>
<td>1.30</td>
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<td>Physical inactivity (% of adult population)</td>
<td>47.24</td>
<td>40.83</td>
<td>1.16</td>
</tr>
<tr>
<td>Preterm birth (% of live births)</td>
<td>13.86</td>
<td>12.06</td>
<td>1.15*</td>
</tr>
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<td>Violent assault (% of adult population)</td>
<td>5.49</td>
<td>4.87</td>
<td>1.13</td>
</tr>
<tr>
<td>Inadequate fruit/vegetable consumption (% of adult population)</td>
<td>69.71</td>
<td>62.90</td>
<td>1.11</td>
</tr>
<tr>
<td>Life expectancy (# of years expected to live at birth)</td>
<td>74.30</td>
<td>80.10</td>
<td>1.08*</td>
</tr>
<tr>
<td>No routine checkup (% of adult population)</td>
<td>12.63</td>
<td>11.80</td>
<td>1.07</td>
</tr>
<tr>
<td>Premature death (# of years of potential life lost)</td>
<td>8637</td>
<td>8397</td>
<td>1.03*</td>
</tr>
<tr>
<td>Overweight (% of adult population)</td>
<td>28.90</td>
<td>32.63</td>
<td>0.89</td>
</tr>
<tr>
<td>No biennial mammogram (% of female population aged ≥40 years)</td>
<td>26.43</td>
<td>32.82</td>
<td>0.81</td>
</tr>
<tr>
<td>Did not receive needed health care (% of adult population)</td>
<td>3.11</td>
<td>4.04</td>
<td>0.77</td>
</tr>
<tr>
<td>Binge drinking (% of adult population)</td>
<td>26.38</td>
<td>35.50</td>
<td>0.74</td>
</tr>
<tr>
<td>Liquor license density (# of licenses per 10,000 people)</td>
<td>17.06</td>
<td>40.54</td>
<td>0.42*</td>
</tr>
<tr>
<td>Radon risk (% of tested basements with levels &gt;10 pCi/L)</td>
<td>1.82</td>
<td>5.39</td>
<td>0.33*</td>
</tr>
</tbody>
</table>

*Statistically significant risk ratio or test of differences between means at p<0.05 level.
Table 5. Risk Ratios Comparing Middle SES Risk to Higher SES Risk.

<table>
<thead>
<tr>
<th>Health Measure</th>
<th>Middle SES</th>
<th>Higher SES</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>No access to healthy food (% of markets with &lt;5 employees)</td>
<td>38.64</td>
<td>6.90</td>
<td>5.60*</td>
</tr>
<tr>
<td>Did not always wear seat belt (% of adult population)</td>
<td>13.20</td>
<td>4.37</td>
<td>3.02</td>
</tr>
<tr>
<td>Teen birth rate (# of births per 1,000 females aged 15-19 years)</td>
<td>42.43</td>
<td>14.56</td>
<td>2.91*</td>
</tr>
<tr>
<td>Single parent household (% of households)</td>
<td>13.00</td>
<td>6.26</td>
<td>2.08*</td>
</tr>
<tr>
<td>Poor mental health days (# of days per last 30 days)</td>
<td>4.35</td>
<td>2.34</td>
<td>1.86</td>
</tr>
<tr>
<td>Chlamydia rate (# of new cases per 100,000 people)</td>
<td>835</td>
<td>468</td>
<td>1.78*</td>
</tr>
<tr>
<td>Uninsured (% of adult population &lt;65 years of age)</td>
<td>18.77</td>
<td>10.62</td>
<td>1.77</td>
</tr>
<tr>
<td>No pap smear (% of adult female population)</td>
<td>15.81</td>
<td>9.56</td>
<td>1.65</td>
</tr>
<tr>
<td>No routine checkup (% of adult population)</td>
<td>17.87</td>
<td>11.80</td>
<td>1.51</td>
</tr>
<tr>
<td>Inadequate social support (% of adult population)</td>
<td>18.05</td>
<td>12.23</td>
<td>1.48</td>
</tr>
<tr>
<td>Smoking during pregnancy (% of live births)</td>
<td>11.41</td>
<td>7.80</td>
<td>1.46*</td>
</tr>
<tr>
<td>Poor physical health days (# of days per last 30 days)</td>
<td>4.51</td>
<td>3.09</td>
<td>1.46</td>
</tr>
<tr>
<td>Poor or fair health (% of adult population)</td>
<td>17.60</td>
<td>12.27</td>
<td>1.43</td>
</tr>
<tr>
<td>HIV infection rate (# of new cases per 100,000 people)</td>
<td>11.89</td>
<td>8.41</td>
<td>1.41*</td>
</tr>
<tr>
<td>No recent dental visit (% of adult population)</td>
<td>33.81</td>
<td>24.03</td>
<td>1.41*</td>
</tr>
<tr>
<td>No pneumonia vaccination (% of population ≥65 years of age)</td>
<td>30.55</td>
<td>22.50</td>
<td>1.36</td>
</tr>
<tr>
<td>Obesity (% of adult population)</td>
<td>35.34</td>
<td>26.24</td>
<td>1.35</td>
</tr>
<tr>
<td>Lead poisoning (% of children aged &lt;72 months with blood levels ≥10 μg/dL)</td>
<td>1.71</td>
<td>1.38</td>
<td>1.24</td>
</tr>
<tr>
<td>Overweight (% of adult population)</td>
<td>39.41</td>
<td>32.63</td>
<td>1.21</td>
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<tr>
<td>Low birthweight (% of live births)</td>
<td>10.21</td>
<td>8.53</td>
<td>1.20*</td>
</tr>
<tr>
<td>Radon risk (% of tested basements with levels &gt;10 pCi/L)</td>
<td>6.20</td>
<td>5.39</td>
<td>1.15</td>
</tr>
<tr>
<td>Cigarette smoking (% of adult population)</td>
<td>28.35</td>
<td>24.81</td>
<td>1.14</td>
</tr>
<tr>
<td>No early (first trimester) prenatal care (% of live births)</td>
<td>23.35</td>
<td>20.81</td>
<td>1.12*</td>
</tr>
<tr>
<td>Inadequate fruit/vegetable consumption (% of adult population)</td>
<td>69.24</td>
<td>62.90</td>
<td>1.10</td>
</tr>
<tr>
<td>Physical inactivity (% of adult population)</td>
<td>44.42</td>
<td>40.83</td>
<td>1.09</td>
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<tr>
<td>Did not receive needed health care (% of adult population)</td>
<td>4.33</td>
<td>4.04</td>
<td>1.07</td>
</tr>
<tr>
<td>Preterm birth (% of live births)</td>
<td>12.78</td>
<td>12.06</td>
<td>1.06</td>
</tr>
<tr>
<td>Life expectancy (# of years expected to live at birth)</td>
<td>77.30</td>
<td>80.10</td>
<td>1.04*</td>
</tr>
<tr>
<td>Premature death (# of years of potential life lost)</td>
<td>8225</td>
<td>8397</td>
<td>0.98*</td>
</tr>
<tr>
<td>Infant mortality rate (# of infant deaths per 1,000 live births)</td>
<td>7.64</td>
<td>8.67</td>
<td>0.88</td>
</tr>
<tr>
<td>Violent assault (% of adult population)</td>
<td>4.11</td>
<td>4.87</td>
<td>0.84</td>
</tr>
<tr>
<td>No biennial mammogram (% of female population aged ≥40 years)</td>
<td>26.83</td>
<td>32.82</td>
<td>0.82</td>
</tr>
<tr>
<td>Housing built before 1940 (% of houses)</td>
<td>18.94</td>
<td>28.12</td>
<td>0.67*</td>
</tr>
<tr>
<td>Binge drinking (% of adult population)</td>
<td>22.90</td>
<td>35.50</td>
<td>0.64</td>
</tr>
<tr>
<td>No influenza vaccination (% of population ≥65 years of age)</td>
<td>23.43</td>
<td>36.97</td>
<td>0.63</td>
</tr>
<tr>
<td>Liquor license density (# of licenses per 10,000 people)</td>
<td>12.74</td>
<td>40.54</td>
<td>0.31*</td>
</tr>
</tbody>
</table>

*Statistically significant risk ratio or test of differences between means at p<0.05 level.
Figure 4. Health Measures Found to be Significantly Better or Worse in the Lower and Middle SES Groups than Higher SES Group Using the Risk Ratio (RR).

<table>
<thead>
<tr>
<th>Better than Higher SES</th>
<th>Middle SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower SES</td>
<td></td>
</tr>
<tr>
<td>• Radon risk (% of tested basements with levels &gt;10 pCi/L)</td>
<td>• Liquor license density (# of licenses per 10,000 people)</td>
</tr>
<tr>
<td>• Liquor license density (# of licenses per 10,000 people)</td>
<td>• Housing built before 1940 (% of houses)</td>
</tr>
<tr>
<td>• Premature death (# of years of potential life lost)</td>
<td>• Premature death (# of years of potential life lost)</td>
</tr>
<tr>
<td>• Life expectancy (# of years expected to live at birth)</td>
<td>• Life expectancy (# of years expected to live at birth)</td>
</tr>
<tr>
<td>• Preterm birth (% of live births)</td>
<td>• No early (first trimester) prenatal care (% of live births)</td>
</tr>
<tr>
<td>• Low birthweight (% of live births)</td>
<td>• Premature death (# of years of potential life lost)</td>
</tr>
<tr>
<td>• Premature death (# of years of potential life lost)</td>
<td>• Low birthweight (% of live births)</td>
</tr>
<tr>
<td>• No early (first trimester) prenatal care (% of live births)</td>
<td>• No recent dental visit (% of adult population)</td>
</tr>
<tr>
<td>• No recent dental visit (% of adult population)</td>
<td>• HIV infection rate (# of new cases per 100,000 people)</td>
</tr>
<tr>
<td>• Housing built before 1940 (% of houses)</td>
<td>• Smoking during pregnancy (% of live births)</td>
</tr>
<tr>
<td>• Smoking during pregnancy (% of live births)</td>
<td>• Chlamydia rate (# of new cases per 100,000 people)</td>
</tr>
<tr>
<td>• Poor physical health days (# of days per last 30 days)</td>
<td>• Single parent household (% of households)</td>
</tr>
<tr>
<td>• Inadequate social support (% of adult population)</td>
<td>• Teen birth rate (# of births per 1,000 females aged 15-19 years)</td>
</tr>
<tr>
<td>• Poor mental health days (# of days per last 30 days)</td>
<td>• No access to healthy food (% of markets with &lt;5 employees)</td>
</tr>
<tr>
<td>• Uninsured (% of adult population &lt;65 years of age)</td>
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</tr>
<tr>
<td>• Lead poisoning (% of children aged &lt;72 months with blood levels ≥10 μg/dL)</td>
<td></td>
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<tr>
<td>• HIV infection rate (# of new cases per 100,000 people)</td>
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<tr>
<td>• Single parent household (% of households)</td>
<td></td>
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<tr>
<td>• Chlamydia rate (# of new cases per 100,000 people)</td>
<td></td>
</tr>
<tr>
<td>• Teen birth rate (# of births per 1,000 females aged 15-19 years)</td>
<td></td>
</tr>
<tr>
<td>• No access to healthy food (% of markets with &lt;5 employees)</td>
<td></td>
</tr>
</tbody>
</table>

Color Key:
- RR < 1.0
- RR 1.1 - 1.9
- RR ≥ 2.0
DISCUSSION

In this 2013 report, for health measures based on weighted sample data (i.e., from BRFSS, ACHS, and FHS data sources), methods used to compute confidence intervals were revised to better estimate dispersion in a survey-sampled population. Consequently, intervals are wider than in previous reports, and some differences between SES groups are no longer statistically significant as they were in the past. Nonetheless, for 22 of 36 measures, computed values are worse in the lower than higher SES group and worse in the middle than higher SES group. This same gradient was evident for 19 of the 35 measures included in the *Milwaukee Health Report 2012.*

*Some news is good...*

- All three of the SES groups met the Healthy People 2020 goals for Recent Dental Visits (all three SES groups also met Healthy People 2010 goals in 2011 and 2012).
- The overall Teen Birth Rate fell five percentage points from 2012; however, disparities still exist among SES groups.
- Overall Did Not Wear Seat Belt improved in Milwaukee, compared to 2012.

*Some news is mixed and/or surprising...*

- The lower to higher SES group gradient (worst to best) was observed for Life Expectancy in this report. For Premature Death, however, a mixed pattern was observed of lower SES and middle SES being worse and better, respectively, than the higher SES group. Reasons for this pattern are not clear, and such a pattern should be interpreted with caution.
- Rates of Preterm Birth in all SES categories were less than those from the 2012 Report. In addition, the overall Milwaukee Preterm Birth rate fell over one percentage point from 2012 figures. There was, however, no significant change in the percentage of low birthweight births in Milwaukee from 2012 to 2013.
- In 2012, the higher SES group had worse scores for Poor or Fair Health and Poor Mental Health Days then did the middle SES group. In 2013, the lower to higher SES gradient was also seen in these two measures.
- Similar to 2012, the proportion of those who Did Not Receive Needed Health Care was worse in the middle SES group, compared to the lower or higher SES groups, in 2013.
- Binge Drinking was highest in the higher SES group and lowest in the middle SES group. Percentages for all SES groups were well above values for the U.S. overall.

*Some news is not good...*

- Overall, as we reported in our initial publication (Vila et al., 2007) and in our 2009, 2010, 2011 and 2012 reports, substantial health disparities remain within geographic regions of differing socioeconomic status in Milwaukee.
- The overall rate of Cigarette Smoking in Milwaukee increased nearly 8 percentage points from 2012.
- The percentage of Binge Drinking significantly increased in the lower SES group, compared to 2012 (see additional comment above).
- Obesity status increased in the lower and middle SES groups again this year.
- Chlamydia Rate and HIV Infection Rate both modestly increased in all three SES groups. The SES gradient remained, and levels continued to greatly exceed that of the State of Wisconsin.

Limitations...

Like any report, the Milwaukee Health Report has limitations. In particular, we note the following:

- As compared to census-tract level data, unavoidable heterogeneity of ZIP code level data may result in an underestimation of the actual extent to which the lower SES correlates with poorer health in Milwaukee.
- Most of the data are self-reported, and subject to the limitations inherent with such approaches to data collection including sample representation and “halo effect” reporting biases. In addition, in a few cases our data are not based on a random sample.
- Limitations in data collection are noted for each measure where necessary on each measure page of the report.
- It is not appropriate to interpret these population-level data as a proxy for individual level data. That is, any given individual living in one of the three ZIP code tertiles in Milwaukee may have health outcomes or health behaviors far better – or far worse – than the population-level measures for that tertile.
- Education level and income data used to calculate each SES groups were taken from The Right Site, EASI 2007 using previous Census data because the current Census (2010) did not collect this information.
- It is difficult to comment on the percentage of uninsured adults because our data sources for this report only included statistics through 2011.
CONCLUSION

Dramatic health disparities exist – and persist – by socioeconomic status within Wisconsin’s largest city. These findings continue to support those of other researchers, including the County Health Rankings produced by the University of Wisconsin Population Health Institute which suggests socioeconomic status as one of the most powerful drivers of population-level health outcomes. As we noted in our inaugural publication in 2007, “…widely disparate environmental and socioeconomic contexts mean that not every individual has the same opportunity to initiate or sustain healthy choices” (Vila et al., 2007, pg. 369). Furthermore, it has become increasingly evident since then that the chronic stress of living with poverty, racism, low educational attainment, and social disruption can affect the physiology of people directly through chronic elevations in stress hormones, such as cortisol and adrenaline. Through their effects on blood pressure, glucose metabolism, and immune system functioning, such regular hormonal release can predispose individuals to heart disease, stroke, diabetes, cancer, and other chronic diseases (Conroy, Sandel & Zuckerman, 2010).

Our current report continues to call upon all health professionals, elected officials, community stakeholders and policy-makers to “work together to help change public policy so that individuals are more likely to live, work, and interact in environments that facilitate and support healthy behaviors” (Vila et al., 2007, pg. 369) and healthier outcomes. This means attending to governmental and institutional policies that improve the built environment, educational attainment and social cohesion, as well as address policies that reduce unemployment, racism, and poverty. The Healthiest Wisconsin 2020 Plan (Wisconsin Department of Health Services, 2010) and documents related to the What Works, Wisconsin project (Catlin, Bergum, & Russ, 2012; University of Wisconsin Cooperative Extension, 2014) provide additional details, objectives, and recommendations in these regards.

The population health framework (Kindig, 2007; Kindig et al., 2008) used to guide our work (see Figure 1, page 4), considers the important influence of policies and programs in affecting change. Researchers should consider advancing population and public health research that tests novel, multi-disciplinary, multi-level structural and economical interventions, with the ultimate goal of both contributing to scientific knowledge and improving health outcomes and reducing health disparities in the city. Moreover, it will be important to engage community representatives in the interpretation and dissemination of these data to generate community-driven solutions.

In short, Milwaukee’s large population, poor health outcomes, and large health disparities – many associated with socioeconomic status – continue to have significant impact on the overall health of the state as well as on the economic vibrancy of the city and the state. It seems likely that improvements in the city’s and the state’s health outcomes will require solutions related to their associated upstream, socioeconomic factors.
REFERENCES


Advancing population health research and education to improve the health of urban communities.

The Center for Urban Population Health is a partnership among the University of Wisconsin School of Medicine and Public Health, the University of Wisconsin-Milwaukee, and Aurora Health Care, Inc.