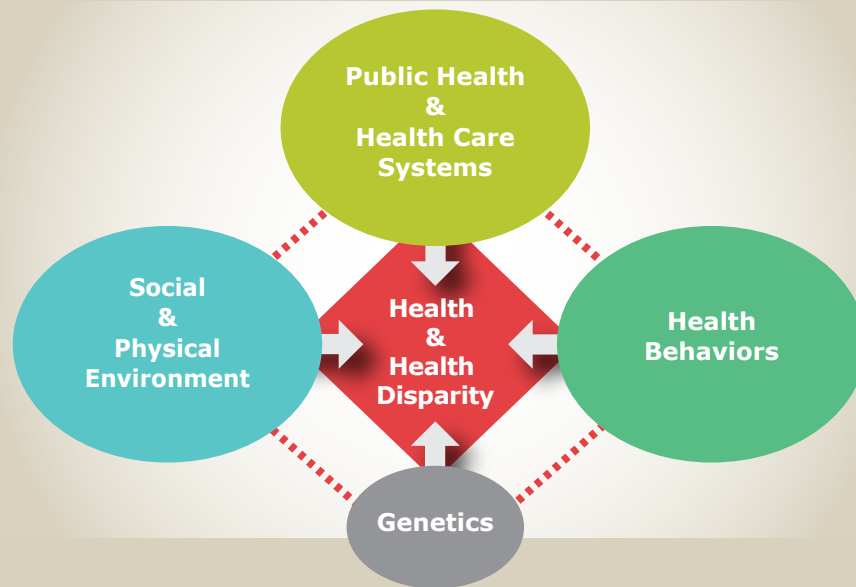


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# Opportunities to Make Wisconsin the Healthiest State



February 2008  
(revised November 2008)



University of Wisconsin  
**SCHOOL OF MEDICINE  
AND PUBLIC HEALTH**

University of Wisconsin Population Health Institute  
Department of Population Health Sciences

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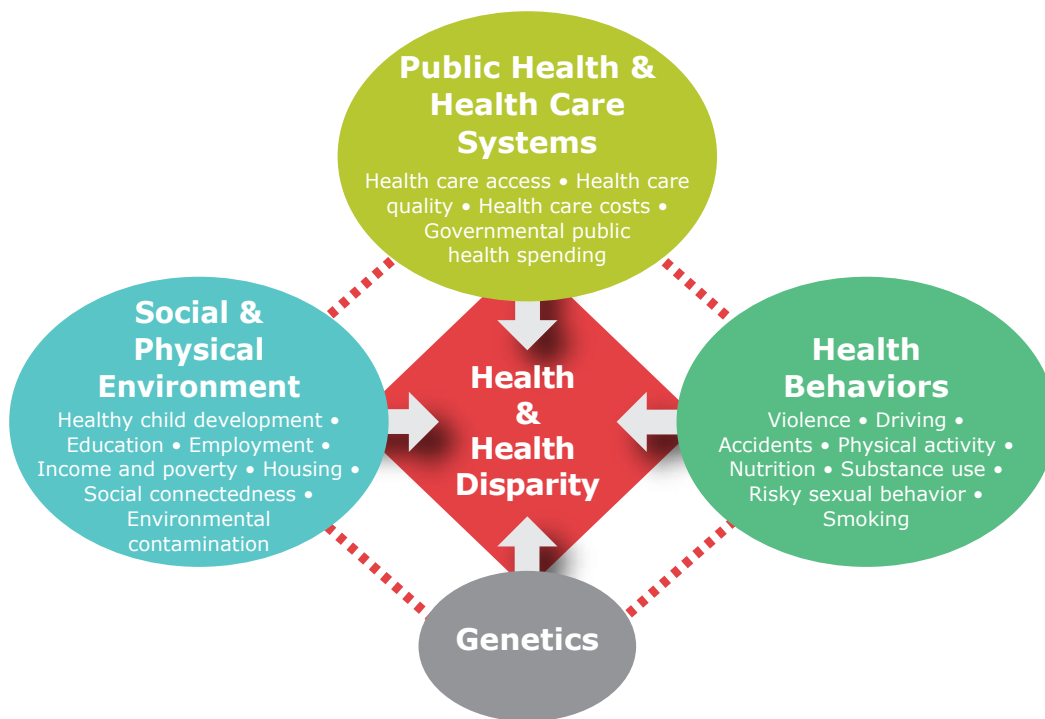
Suggested citation: Booske BC, Kindig DA, Rohan AK, Jovaag A, Remington PL. *Opportunities to Make Wisconsin the Healthiest State* University of Wisconsin Population Health Institute. 2008.

Bridget Booske is a senior scientist, David Kindig is senior advisor, Angela Rohan is a graduate student, Amanda Jovaag is a researcher, and Patrick Remington is director of the University of Wisconsin Population Health Institute.

# Introduction

The recently published Health of Wisconsin Report Card 2007 from the “Making Wisconsin the Healthiest State” Project focused on how healthy Wisconsin is (overall and disparities, mortality and non-mortality measures, at each stage of life, and for a variety of population subgroups) in our quest to become healthier or even healthiest. Population health research has identified that improving broad health outcomes requires improvement in a number of health determinants that can bring about a change in health.

Our model below indicates that there are numerous factors that influence health and health disparity across life stages. We characterize these factors into four groups of health determinants: genetics, health behaviors, the social and physical environment, and public health and health care systems.



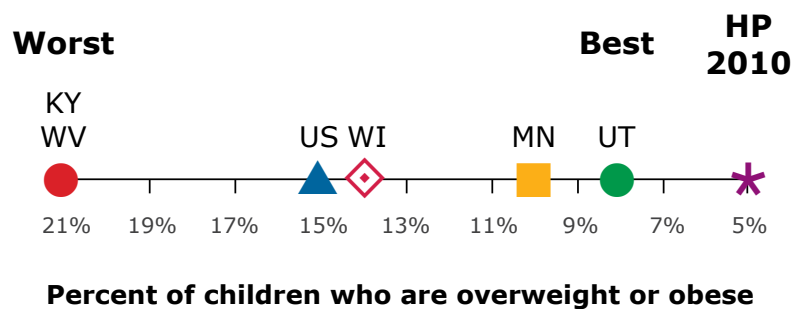
In this report, the Making Wisconsin the Healthiest State team examines multiple interrelated factors within the three modifiable health determinant groups: the social and physical environment, health behaviors, and public health and health care systems. We are using this compilation of data to help us identify opportunities for making Wisconsin the healthiest state.

## Overview of Report

In this report, we present the most current data available for selected factors in the three groups of modifiable determinants: the social and physical environment, health behaviors, and public health and health care systems. We report data on between one and five indicators for each factor within these determinant groups. Each indicator is presented in a consistent format, comparing the values for:

- Wisconsin ◇
- the United States ▲
- the best ● and worst ● states
- our healthier neighboring state-Minnesota ■ and
- where applicable, the 2010 target established for Healthy People 2010 ✱

For example, here is the graphic depicting one of the indicators we use to measure the nutrition factor:



The states with the highest percent of children who are overweight or obese have a “worst” value of 21% while Utah has the “best” value of 8% and the Healthy People 2010 target value is 5%. At 10%, Minnesota is doing better in this factor than Wisconsin at 14%, while Wisconsin is slightly better than the US average of 15%.

One important caveat is that these results focus on Wisconsin overall: they do not indicate the extent of differences that occur in health determinants between population subgroups (e.g., subgroups defined by race/ethnicity, education, income, geographic location, or other factors). Consideration of such differences will be an important part of future analysis and priority setting.

This information is guiding us as we look for opportunities for improving Wisconsin’s health. Factors where the greatest opportunities lie may be those where Wisconsin’s indicators are below the US average or those where Wisconsin is performing better than the US but worse than Minnesota. In the next phase of our research, we will be identifying the most effective policies and programs to address these factors and to improve Wisconsin’s health and reduce health disparities.

## Key Findings

What can be learned from these data? First, Wisconsin has some strengths such as better housing, less violence, and better quality of health care but clearly has room to improve in many other areas. Second, no state is #1 in all factors, so even the healthiest can still get healthier. Third, even in areas of relative strength, such as housing, where Wisconsin's indicators are all better than those for the US and Minnesota, Wisconsin is still a long way from being "best".

The table below summarizes Wisconsin's strengths and challenges across the three groups of modifiable determinants:

◇ = One indicator

Modifiable Determinants	Factors (# of indicators)	Number of WI Indicators better than US	Number of WI Indicators worse than US
Social and Physical Environment	Healthy child development (3)	◇◇	◇
	Education (3)	◇◇	◇
	Employment (2)	◇	◇
	Income and poverty (2)	◇◇	
	Housing (3)	◆◆◆	
	Social connectedness (3)	◇	◇◇
	Environmental contamination (2)	◇	◇
Health Behaviors	Violence (2)	◇◆	
	Driving (3)	◇	◇◇
	Accidents (3)		◇◇◇
	Physical activity (2)	◇◆	
	Nutrition (5)	◇◇	◇◇◇
	Substance use/addiction (2)	◆	◇
	Risky sexual behavior (3)	◇	◇◇
	Smoking (3)		◇◇◇
Public Health and Health Care Systems	Access to health care (5)	◇◇◆	◇◇
	Quality of care (2)	◆◆	
	Health care costs (2)	◇	◇
	Governmental public health spending (1)		◇

◆ Better than Minnesota

Even in the areas where Wisconsin is better than the US average and Minnesota, there is still room for improvement. For example, even though Wisconsin ranks 3rd among all states for the percentage of adults who participate in recommended levels of physical activity, over 40 percent of adults do not get enough exercise.

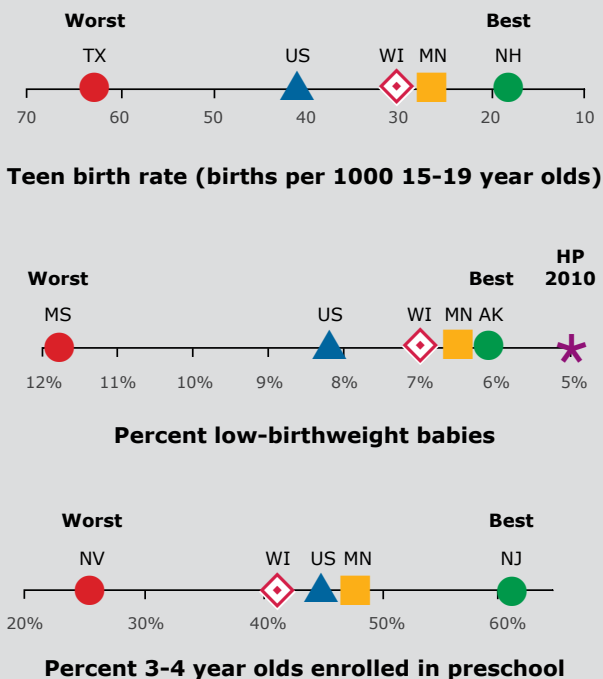
Unfortunately, current research does not allow us to easily determine the best combination of factors to maximize overall health, reduce disparities, and address the health of each life stage. These issues and a list of specific policies and interventions within each group of factors to make Wisconsin healthier with less disparity will be the subject of our next report (to be published later in 2008).

## Social and Physical Environment

Beginning even before birth and continuing through old age, the resources we have and the environments we work, play, eat, and sleep in impact our health.<sup>1</sup> Resources such as educational attainment, family income, and quality jobs, and environmental factors such as biological/chemical contamination, man-made structures, and social characteristics of neighborhoods can all affect health.

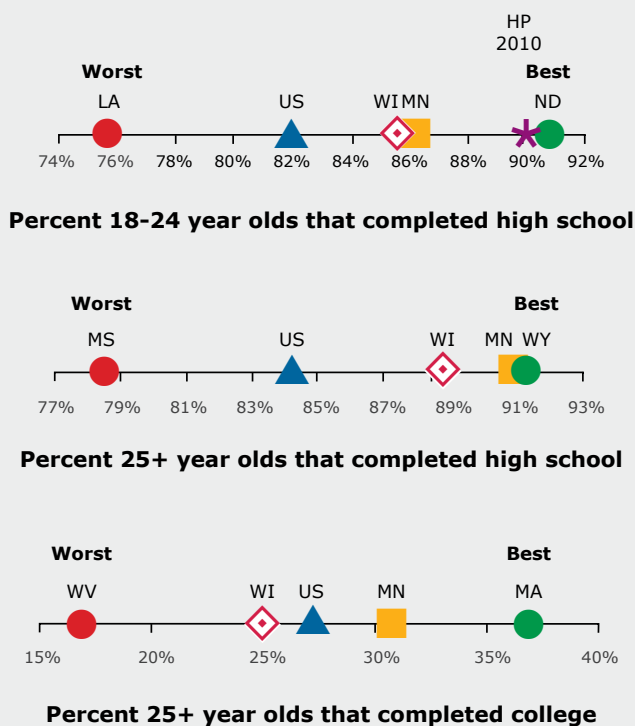
### Healthy Child Development

A healthy life begins even before birth with appropriate preparations such as adequate and timely prenatal care, good nutrition, and minimal stress. Low birthweight is a significant barrier to a healthy childhood. Other important characteristics of healthy child development include good parenting skills, access to high quality early childhood education, and access to affordable quality child care.



### Education

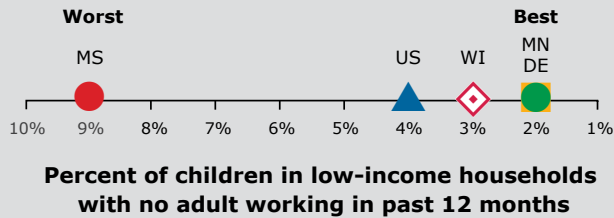
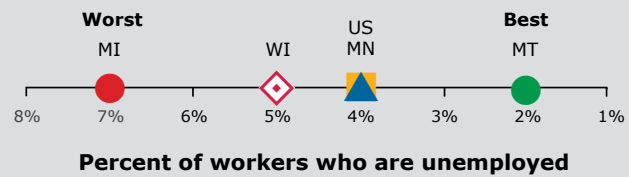
Education is associated with improved health throughout life. Specific strategies include improving the quality of the K-12 educational system, improving high school graduation rates, increasing access to post-high school education, and generally improving levels of literacy, health literacy, job skill training and occupational mobility, and stress coping skills.



## Social and Physical Environment (continued)

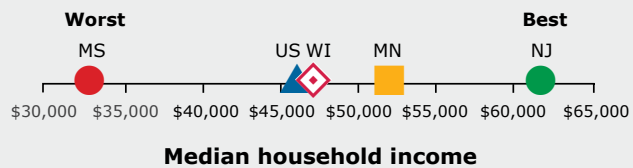
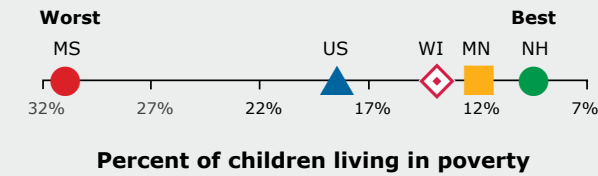
### Employment

Employment impacts health not only through the income it provides but also through its provision of health benefits and pension plans, and other pathways to financial security. The type of employment can also be an influential factor in determining health with higher levels of health associated with more job control and security, less stress, and less exposure to danger or toxins.



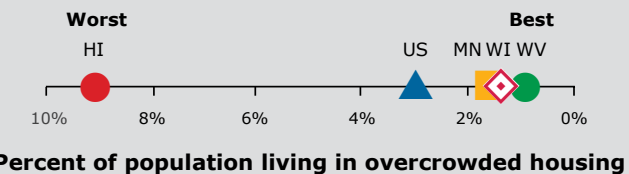
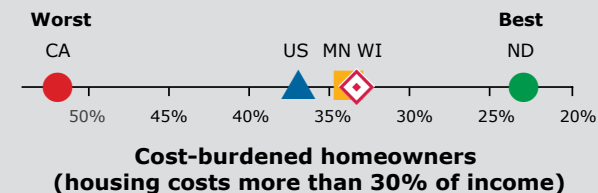
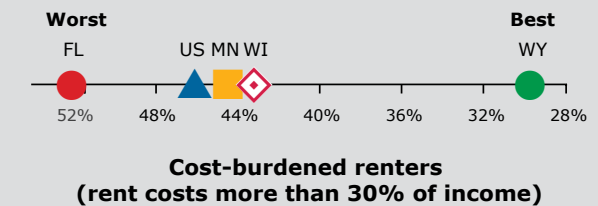
### Income and Poverty

Income and health have a well-established reciprocal relationship that operates in both directions: higher income leads to better health and better health leads to higher income. Children who grow up in poverty are more likely to suffer from conditions such as chronic diseases, injuries, asthma, and physical inactivity.



### Housing

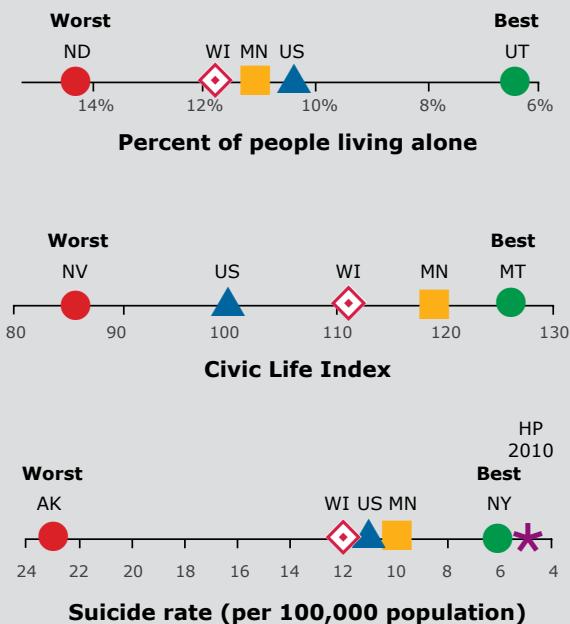
Living in adequate affordable housing in safe, stress-free neighborhoods contributes to better health. In addition to the well-known potential effects of lead paint, the quality of housing has a number of other established effects on health including those of environmental toxins and allergens that can lead to long term chronic conditions such as asthma.



## Social and Physical Environment (continued)

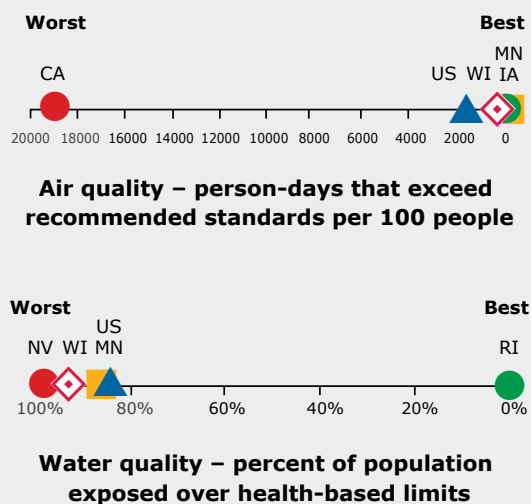
### Social Connectedness

Research has shown that people with greater social support, less isolation, and greater interpersonal trust live longer and healthier lives. This is exhibited through lower levels of anxiety and depression and reduced tendencies towards stress-related behaviors such as overeating and smoking.



### Environmental Contamination

Air and water pollution are the two most common environmental factors that can impair health and lead to increased respiratory disease, gastrointestinal disorders, and other illness.

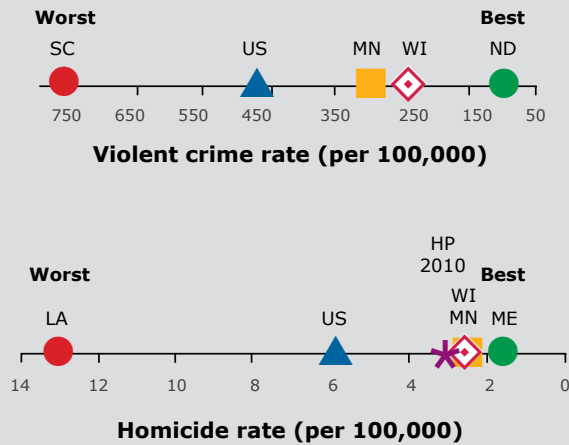


# Health Behaviors

Health Behaviors such as smoking, diet and nutrition, physical activity, and alcohol and drug use, are important determinants of health. Nearly half of all preventable deaths in Wisconsin each year have been attributed to a handful of health-compromising behaviors.<sup>2</sup> However, these behaviors are not only a question of will-power but are also often constrained by individual and community circumstances.

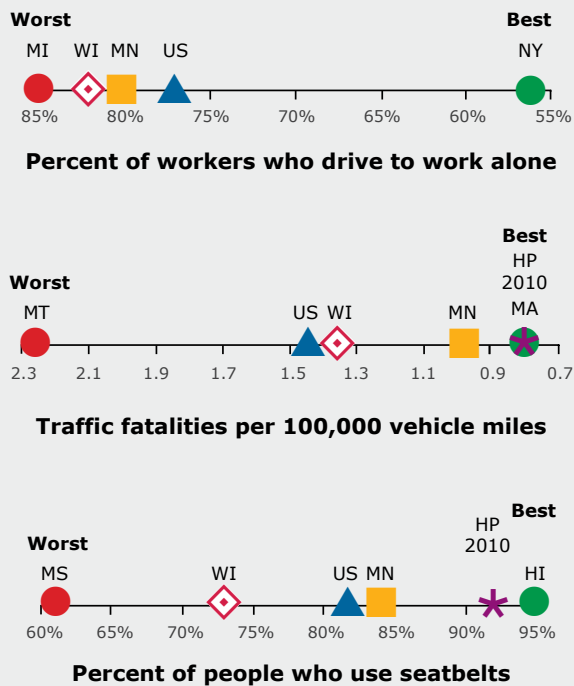
## Violence

Violence and abuse not only have a physical impact on health with the injuries and fatalities that they cause but they also have a significant psychological impact on not only the victims but also other residents of high crime areas.



## Driving

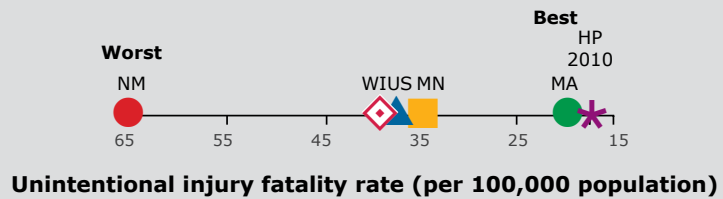
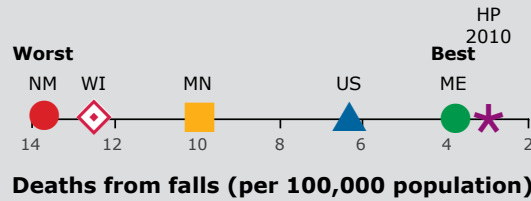
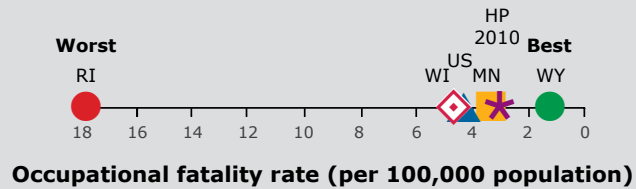
Driving impacts health in a number of ways including its negative impact on air quality and physical activity and its relatively high probability of accidents that cause numerous injuries and fatalities.



## Health Behaviors (continued)

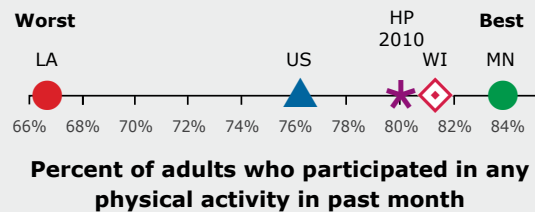
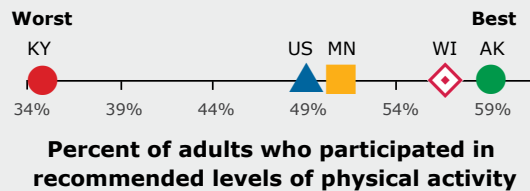
### Accidents

Accidents can lead to injuries with a wide range of severity: mild injuries that briefly impact quality of life, serious injuries that lead to permanent disability, or death.



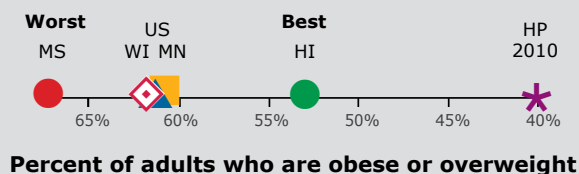
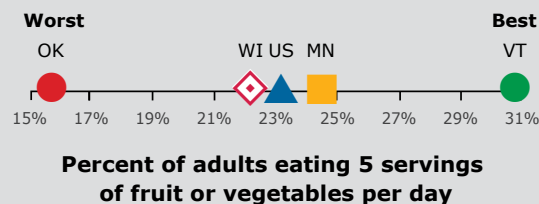
### Physical Activity

Along with poor diet, inadequate physical activity is a major cause of obesity, premature death, and a range of chronic conditions.



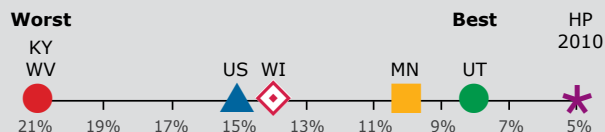
### Nutrition

Good nutrition is essential for health beginning in the prenatal period and extending throughout life. Both the quantity and quality of consumption can impact health. Insufficient nutrition can harm growth and development while excessive consumption can lead to overweight, obesity, and numerous health complications.

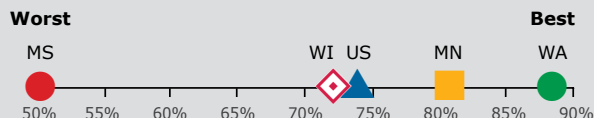


## Health Behaviors (continued)

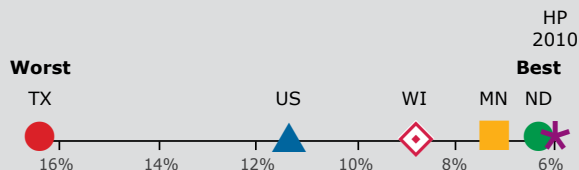
### Nutrition (continued)



Percent of children who are overweight



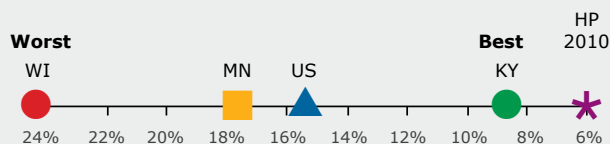
Percent of children who are breastfed



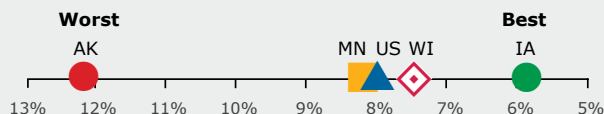
Percent of population who are food insecure

### Substance use/addiction

While there is some evidence that moderate drinking may reduce the risk of some diseases, heavy consumption can lead to violence, injury, liver disease, cancer, and premature death. Other forms of substance use/addiction are also associated with poor physical and mental health.



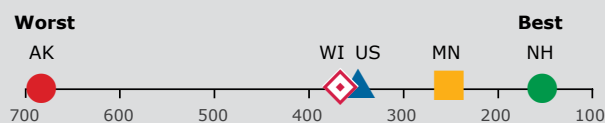
Percent of adults who are binge drinkers



Percent aged 12 and over who use illicit drugs

### Risky Sexual Behavior

High risk sexual practices, e.g., without the use of condoms, lead to the risk for transmission of a number of sexually transmitted diseases (STDs).

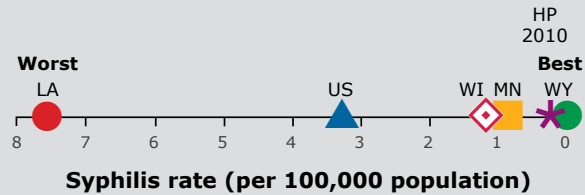
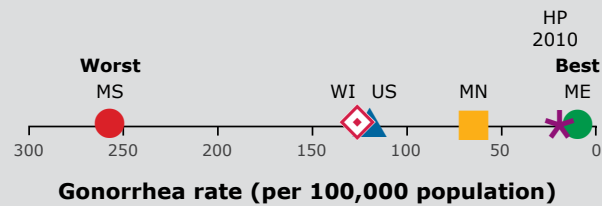


Chlamydia rate (per 100,000 population)

## Health Behaviors (continued)

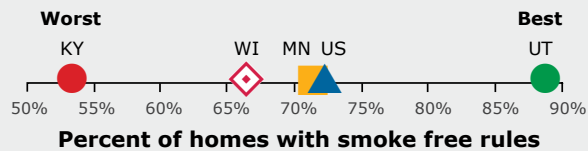
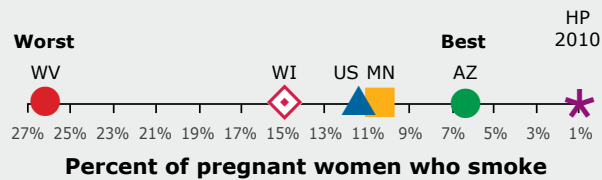
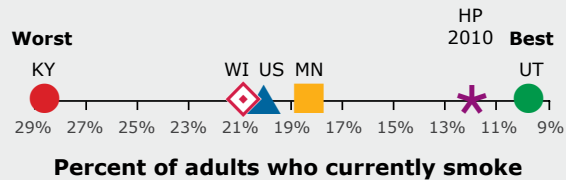
### Risky Sexual Behavior (continued)

STDs can affect the health of men, women, and unborn children. Risky sexual behavior also leads to unwanted pregnancies (which can have long term negative consequences for teenage mothers and their children).



### Smoking

Smoking is the most frequent cause of preventable deaths. Its negative impact is not only well established for those who smoke but also for those who breathe secondhand smoke.



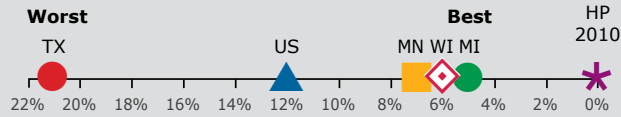
# Public Health and Health Care Systems

Although experts do not agree about the importance of health care relative to the preceding factors in terms of its ability to improve health, they all agree that health care matters. Health care can both save lives and improve quality of life. Governmental public health also plays an important role in promoting, protecting, and restoring health.

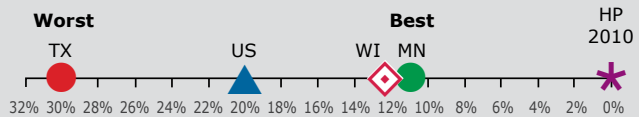
## Access to Health Care

A prerequisite for access to health care means having adequate coverage for preventive, acute, and chronic care. In addition to having affordable health insurance, access to health care means that the full range of health care services, including medical, dental, mental health, and long term care, are available. Being available means that care is offered when, where, and how it is needed.

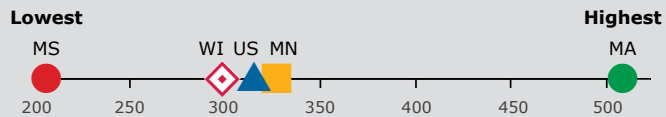
*\* The evidence suggests that the highest and lowest values for this indicator may not necessarily represent the "best" and "worst" values for a state.*



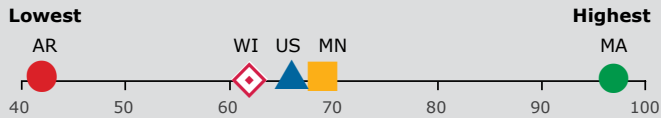
**Percent of children (0-17) without health insurance**



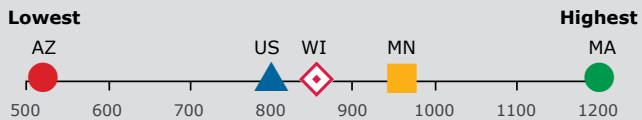
**Percent of adults (18-64) without health insurance**



**Physicians per 100,000 population\***



**Dentists per 100,000 population\***

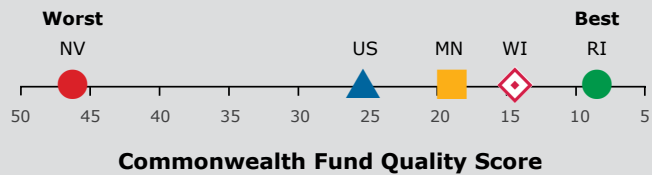
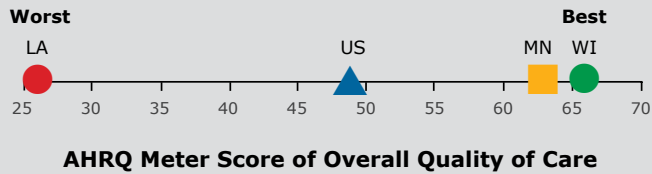


**Nurses per 100,000 population\***

## Public Health and Health Care Systems (continued)

### Quality of Care

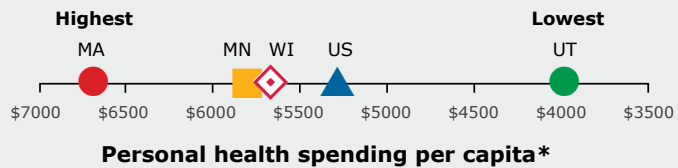
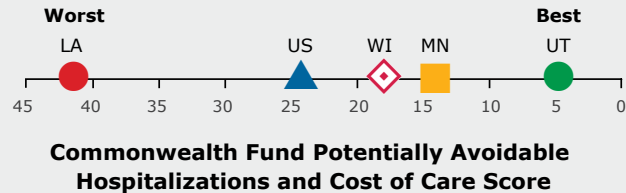
Having access to health care will only improve health if the care provided is safe, effective, patient-centered, and timely.



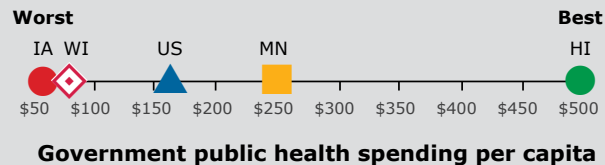
### Health Care Costs

High costs make it harder to provide insurance for everyone and reduce the coverage of the insured. It is also likely that spending more on health care may reduce investments in other areas which also affect health, such as wages and education.

*\* The evidence suggests that the lowest and highest values for this indicator may not necessarily represent the "best" and "worst" values for a state.*



### Governmental Public Health Spending



## Data Sources and References

(For more details, visit the UWPHI web site at <http://www.pophealth.wisc.edu/uwphi/>)

INDICATOR	YEAR	SOURCE
Teen birth rate (births per 1000 15-19 year olds)	2004	National Vital Statistics Reports, 55:1, Sept 29, 2006
Percent low-birthweight babies	2005	National Vital Statistics Reports 56, Dec 5, 2007
Percent 3-4 year olds enrolled in preschool	2005	"Education Counts." Editorial Projects in Education. edcounts.org.
Percent 18-24 year olds that completed high school	2006	American Community Survey
Percent 25+ year olds that completed high school	2005	American Community Survey
Percent 25+ year olds that completed college	2005	American Community Survey
Percent workers who are unemployed	2007	Kaiser Family Foundation State Health Facts
Percent of children in low-income households-no adult worked in past year	2006	Kids Count Data Center
Percent of children living in poverty	2005	American Community Survey
Median household income	2005	American Community Survey
Cost-burdened renters (rent costs more than 30% of income)	2006	American Community Survey
Cost-burdened homeowners (housing costs more than 30% of income)	2006	American Community Survey
Percent of population living in overcrowded housing	2006	American Community Survey
Percent of people living alone	2005	American Community Survey
Civic Life Index	2007	Corporation for National and Community Service
Suicide rate (per 100,000 population age-adjusted)	2004	CDC Wonder
Air quality - person-days that exceed recommended standards per 100 people	2003	www.scorecard.org
Water quality - percent of population exposed over health-based limits	1998-2000	Environmental Working Group
Violent crime rate (per 100,000)	2005	US Department of Justice
Homicide rate (per 100,000 age-adjusted)	2004	CDC Wonder
Percent of workers who drive to work alone	2005	American Community Survey
Traffic fatalities per 100,000 vehicle miles	2005	Fatality Analysis Reporting System
Percent of people who use seatbelts	2005	NHTSA's National Center for Statistics and Analysis
Occupational fatality rate (per 100,000 population)	2005	Bureau of Labor Statistics
Deaths from falls (per 100,000 population age-adjusted)	2004	CDC Wonder
Unintentional injury fatality rate (per 100,000 population age-adjusted)	2004	CDC Wonder
Percent of adults who met recommended levels of physical activity	2005	Behavioral Risk Factor Surveillance System
Percent of adults who participated in any physical activity in past month	2005	Behavioral Risk Factor Surveillance System
Percent of adults eating 5 servings of fruit or vegetables per day	2005	Behavioral Risk Factor Surveillance System
Percent of adults who are obese or overweight	2005	Behavioral Risk Factor Surveillance System
Percent of children who are overweight	2003	Kaiser Family Foundation State Health Facts
Percent of children who are breastfed	2007	2007 National Immunization Survey, CDC
Percent of population who are food insecure	2002-04	Economic Research Service, USDA
Percent of adults who are binge drinkers	2006	Behavioral Risk Factor Surveillance System
Percent aged 12 and over who use illicit drugs	2004-05	SAMHSA, National Survey on Drug Use and Health
Chlamydia rate (per 100,000 population)	2006	STD Surveillance, CDC
Gonorrhea rate (per 100,000 population)	2006	STD Surveillance, CDC
Syphilis rate (per 100,000 population)	2006	STD Surveillance, CDC
Percent of adults who currently smoke	2006	Behavioral Risk Factor Surveillance System
Percent of pregnant women who smoke	2002	MMWR Vol 53 No. 39 Oct 8, 2004
Percent of homes with smoke free rules	2003	MMWR Vol 56 No. 20 May 25, 2007
Percent of children (0-17) without health insurance	2005-06	Kaiser Family Foundation State Health Facts
Percent of adults (18-64) without health insurance	2005-06	Kaiser Family Foundation State Health Facts
Physicians per 100,000 population	2006	Kaiser Family Foundation State Health Facts
Dentists per 100,000 population	2006	Kaiser Family Foundation State Health Facts
Nurses per 100,000 population	2006	Kaiser Family Foundation State Health Facts
Meter Score of Overall Quality of Care	2006	Agency for Healthcare Research and Quality
Quality Score	2007	Commonwealth Fund
Potentially Avoidable Hospitalizations and Cost of Care Score	2007	Commonwealth Fund
Personal health spending per capita	2004	Martin et al, Health Affairs 26, no. 6 (2007): w651-663.
Public health spending per capita	2003	National Association of State Budget Officers

- 1 The John D. and Catherine T. MacArthur Foundation Research Network on Socioeconomic Status and Health. *Reaching for a Healthier Life: Facts on Socioeconomic Status and Health in the U.S.* 2007. Accessible on line at [www.macses.ucsf.edu](http://www.macses.ucsf.edu).
- 2 Vila PM, Booske BC, Wegner MV, and Remington PL. Preventable causes of death in Wisconsin, 2004. *Wisconsin Medical Journal*, 106(7): 373-379, 2007.

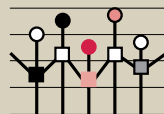


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M A D I S O N

### Contact Information

University of Wisconsin Population Health Institute  
Department of Population Health Sciences  
University of Wisconsin School of Medicine and Public Health  
760 WARF Building  
610 Walnut Street  
Madison, WI 53726-2397

Phone: (608) 263-6294

Fax: (608) 262-6404

<http://www.pophealth.wisc.edu/uwphi>