



# County Health Rankings

Mobilizing Action Toward Community Health

2010

**Massachusetts**



Robert Wood Johnson Foundation



UNIVERSITY OF WISCONSIN

**Population Health Institute**

*Translating Research into Policy and Practice*

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## Introduction

Where we live matters to our health. The health of a community depends on many different factors, including quality of health care, individual behavior, education and jobs, and the environment. We can improve a community's health through programs and policies. For example, people who live in communities with ample park and recreation space are more likely to exercise, which reduces heart disease risk. People who live in communities with smoke-free laws are less likely to smoke or to be exposed to second-hand smoke, which reduces lung cancer risk.

The problem is that there are big differences in health across communities, with some places being much healthier than others. And up to now, it has been hard to get a standard way to measure how healthy a county is and see where they can improve.

The Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute are pleased to present the 2010 *County Health Rankings*, a collection of 50 reports that reflect the overall health of counties in every state across the country. For the first time, counties can get a snapshot of how healthy their residents are by comparing their overall health and the factors that influence their health, with other counties in their state. This will allow them to see county-to-county where they are doing well and where they need to improve. Everyone has a stake in community health. We all need to work together to find solutions. The *County Health Rankings* serve as both a call to action and a needed tool in this effort.

All of the *County Health Rankings* are based upon this model of population health improvement:



In this model, health outcomes are measures that describe the current health status of a county. These health outcomes are influenced by a set of health factors. These health factors and their outcomes may also be affected by community-based programs and policies designed to alter their distribution in the community. Counties can improve health outcomes by addressing all health factors with effective, evidence-based programs and policies.



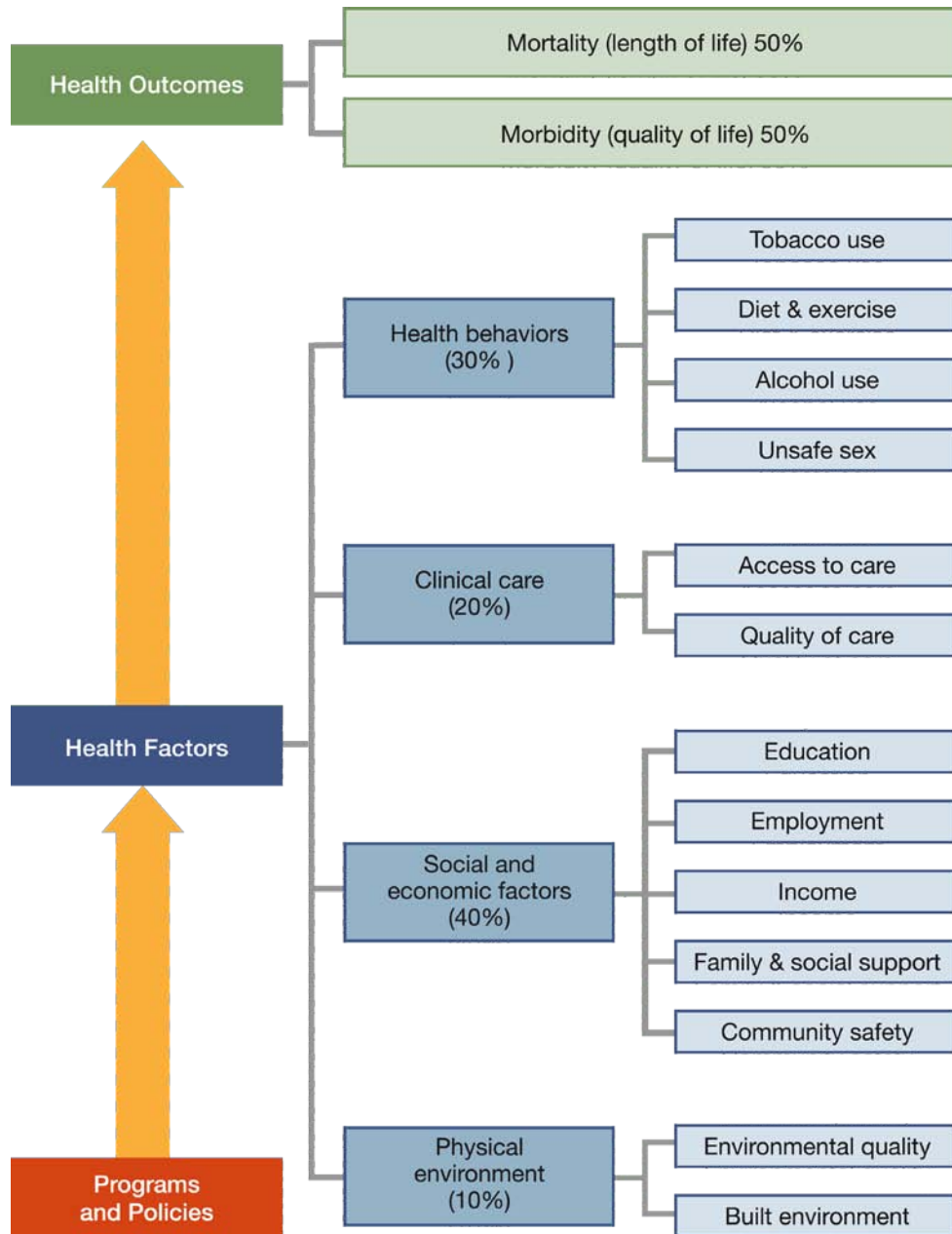
Institute of Medicine, 2002

To compile the *Rankings*, we built on our prior work in Wisconsin, worked closely with staff from the Centers for Disease Control and Prevention and Dartmouth College, and obtained input from a team of expert advisors. Together we selected a number of population health measures based on scientific relevance, importance, and availability of data at the county level. For a more detailed explanation of the choice of measures, see [www.countyhealthrankings.org](http://www.countyhealthrankings.org).

## The Rankings

This report ranks Massachusetts counties according to their summary measures of **health outcomes** and **health factors**, as well as the components used to create each summary measure. The figure below depicts the structure of the *Rankings* model. Counties receive a rank for each population health component; those having high ranks (e.g., 1 or 2) are estimated to be the “healthiest.”

Our summary **health outcomes** rankings are based on an equal weighting of mortality and morbidity measures. The summary health **factors** rankings are based on weighted scores of four types of factors: behavioral, clinical, social and economic, and environmental. The weights for the factors (shown in parentheses in the figure) are based upon a review of the literature and expert input, but represent just one way of combining these factors.

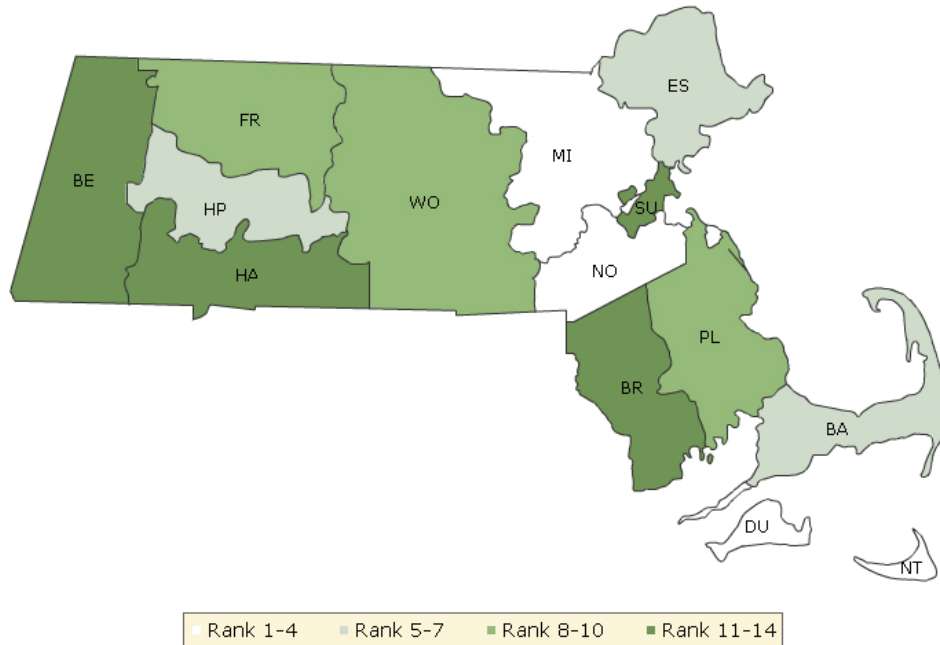


County Health Rankings model ©2010 UWPHI

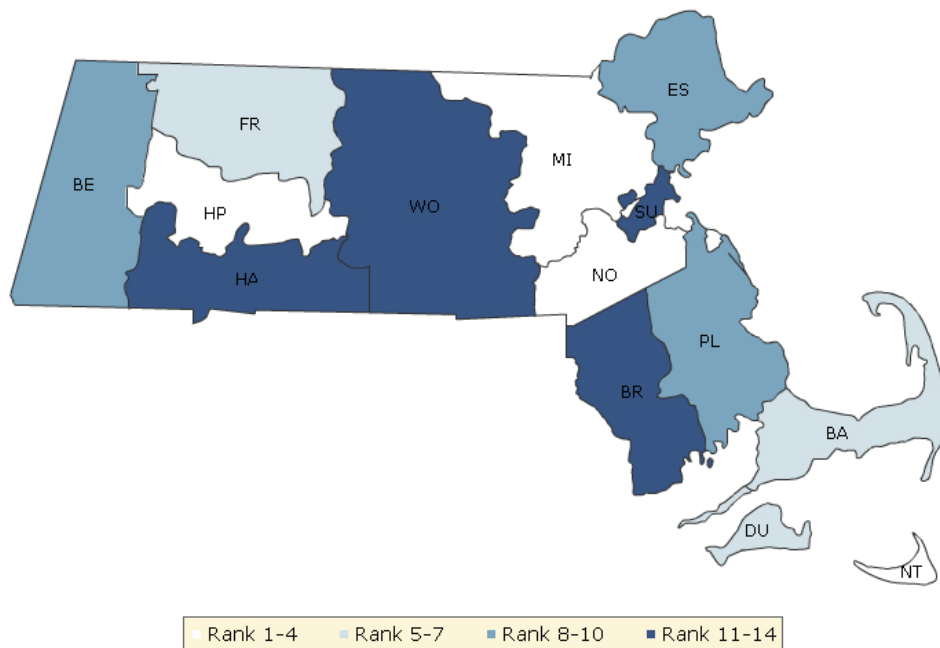
The maps on this page display Massachusetts's counties divided into groups by health rank. The lighter colors indicate better performance in the respective summary rankings. The green map shows the distribution of summary health outcomes. The blue displays the distribution of the summary rank for health factors.

Maps help locate the healthiest and least healthy counties in the state. The health factors map appears similar to the health outcomes map, showing how health factors and health outcomes are closely related.

### HEALTH OUTCOMES



### HEALTH FACTORS



## Summary Health Outcomes & Health Factors Rankings

Counties receive two summary ranks:

- Health Outcomes
- Health Factors

Each of these ranks represents a weighted summary of a number of measures.

Health outcomes represent how healthy a county is while health factors are what influences the health of the county.

Rank	Health Outcomes	Rank	Health Factors
1	Nantucket	1	Norfolk
2	Dukes	2	Middlesex
3	Middlesex	3	Hampshire
4	Norfolk	4	Nantucket
5	Hampshire	5	Barnstable
6	Barnstable	6	Dukes
7	Essex	7	Franklin
8	Franklin	8	Berkshire
9	Worcester	9	Essex
10	Plymouth	10	Plymouth
11	Berkshire	11	Worcester
12	Bristol	12	Suffolk
13	Suffolk	13	Bristol
14	Hampden	14	Hampden

## Health Outcomes Rankings

The summary health outcomes ranking is based on measures of mortality and morbidity. Each county's ranks for mortality and morbidity are displayed here. The mortality rank, representing length of life, is based on a measure of premature death: the years of potential life lost prior to age 75.

The morbidity rank is based on measures that represent health-related quality of life and birth outcomes. We combine four morbidity measures: self-reported fair or poor health, poor physical health days, poor mental health days, and the percent of births with low birthweight.

Rank	Mortality	Morbidity
1	Nantucket	Dukes
2	Hampshire	Nantucket
3	Middlesex	Barnstable
4	Norfolk	Norfolk
5	Dukes	Middlesex
6	Essex	Hampshire
7	Franklin	Franklin
8	Barnstable	Essex
9	Worcester	Worcester
10	Berkshire	Plymouth
11	Plymouth	Berkshire
12	Bristol	Bristol
13	Suffolk	Suffolk
14	Hampden	Hampden

## Health Factors Rankings

The summary health factors ranking is based on four factors: health behaviors, clinical care, social and economic, and physical environment factors. In turn, each of these factors is based on several measures. Health behaviors include measures of smoking, diet and exercise, alcohol use, and risky sex behavior. Clinical

care includes measures of access to care and quality of care. Social and economic factors include measures of education, employment, income, family and social support, and community safety. The physical environment includes measures of environmental quality and the built environment.

Rank	Health Behaviors	Clinical Care	Social & Economic Factors	Physical Environment
1	Norfolk	Berkshire	Nantucket	Bristol
2	Dukes	Barnstable	Middlesex	Plymouth
3	Middlesex	Hampshire	Norfolk	Middlesex
4	Barnstable	Norfolk	Hampshire	Franklin
5	Hampshire	Franklin	Barnstable	Worcester
6	Nantucket	Middlesex	Dukes	Norfolk
7	Franklin	Essex	Plymouth	Essex
8	Essex	Suffolk	Franklin	Hampshire
9	Plymouth	Hampden	Worcester	Dukes
10	Suffolk	Worcester	Essex	Nantucket
11	Berkshire	Plymouth	Berkshire	Hampden
12	Worcester	Bristol	Bristol	Berkshire
13	Hampden	Dukes	Suffolk	Suffolk
14	Bristol	Nantucket	Hampden	Barnstable



## 2010 County Health Rankings: Measures, Data Sources, and Years of Data

	Measure	Data Source	Years of Data
<b>HEALTH OUTCOMES</b>			
<b>Mortality</b>	Premature death	National Center for Health Statistics	2004-2006
<b>Morbidity</b>	Poor or fair health	Behavioral Risk Factor Surveillance System	2002-2008
	Poor physical health days	Behavioral Risk Factor Surveillance System	2002-2008
	Poor mental health days	Behavioral Risk Factor Surveillance System	2002-2008
	Low birthweight	National Center for Health Statistics	2000-2006
<b>HEALTH FACTORS</b>			
<b>HEALTH BEHAVIORS</b>			
<b>Tobacco</b>	Adult smoking	Behavioral Risk Factor Surveillance System	2002-2008
<b>Diet and Exercise</b>	Adult obesity	National Center for Chronic Disease Prevention and Health Promotion	2006-2008
<b>Alcohol Use</b>	Binge drinking	Behavioral Risk Factor Surveillance System	2002-2008
	Motor vehicle crash death rate	National Center for Health Statistics	2000-2006
<b>High Risk Sexual Behavior</b>	Chlamydia rate	National Center for Health Statistics	2006
	Teen birth rate	National Center for Health Statistics	2000-2006
<b>CLINICAL CARE</b>			
<b>Access to Care</b>	Uninsured adults	Small Area Health Insurance Estimates, U.S. Census	2005
	Primary care provider rate	Health Resources & Services Administration	2006
<b>Quality of Care</b>	Preventable hospital stays	Medicare/Dartmouth Institute	2005-2006
	Diabetic screening	Medicare/Dartmouth Institute	2003-2006
	Hospice use	Medicare/Dartmouth Institute	2001-2005
<b>SOCIOECONOMIC FACTORS</b>			
<b>Education</b>	High school graduation	National Center for Education Statistics <sup>1</sup>	2005-2006
	College degrees	U.S. Census/American Community Survey	2000/2005-2007
<b>Employment</b>	Unemployment	Bureau of Labor Statistics	2008
<b>Income</b>	Children in poverty	Small Area Income and Poverty Estimates, U.S. Census	2007
	Income inequality	U.S. Census/American Community Survey <sup>2</sup>	2000/2005-2007
<b>Family and Social Support</b>	Inadequate social support	Behavioral Risk Factor Surveillance System	2005-2008
	Single-parent households	U.S. Census/American Community Survey	2000/2005-2007
<b>Community Safety</b>	Violent crime <sup>3</sup>	Uniform Crime Reporting, Federal Bureau of Investigation	2005-2007
<b>PHYSICAL ENVIRONMENT</b>			
<b>Air Quality<sup>4</sup></b>	Air pollution-particulate matter days	U.S. Environmental Protection Agency / Centers for Disease Control and Prevention	2005
	Air pollution-ozone days	U.S. Environmental Protection Agency / Centers for Disease Control and Prevention	2005
<b>Built Environment</b>	Access to healthy foods	Census Zip Code Business Patterns	2006
	Liquor store density	Census County Business Patterns	2006

<sup>1</sup> State data sources for KY, NH, NC, PA, SC, and UT (2007-2008).

<sup>2</sup> Income inequality estimates for 2000 were calculated by Mark L. Burkey, North Carolina Agricultural & Technical State University, [www.ncat.edu/~burkeym/Gini.htm](http://www.ncat.edu/~burkeym/Gini.htm).

<sup>3</sup> Homicide rate (2000-2006) from National Center for Health Statistics for AK, AZ, AR, CO, CT, GA, ID, IN, IA, KS, KY, LA, MN, MS, MT, NE, NH, NM, NC, ND, OH, SD, UT, and WV. State data source for IL.

<sup>4</sup> Not available for AK and HI.

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[countyhealthrankings.org](http://countyhealthrankings.org)

