



County Health Rankings

Mobilizing Action Toward Community Health

2010

South Dakota



Robert Wood Johnson Foundation



UNIVERSITY OF WISCONSIN

Population Health Institute

Translating Research into Policy and Practice

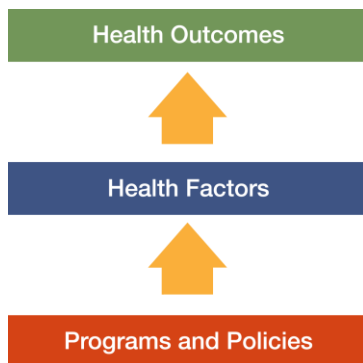
Introduction

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.

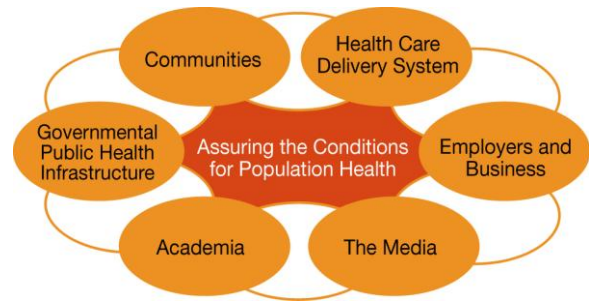
The problem is that there are big differences in health across communities, with some places being much healthier than others. And up to now, it has been hard to get a standard way to measure how healthy a county is and see where they can improve.

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.



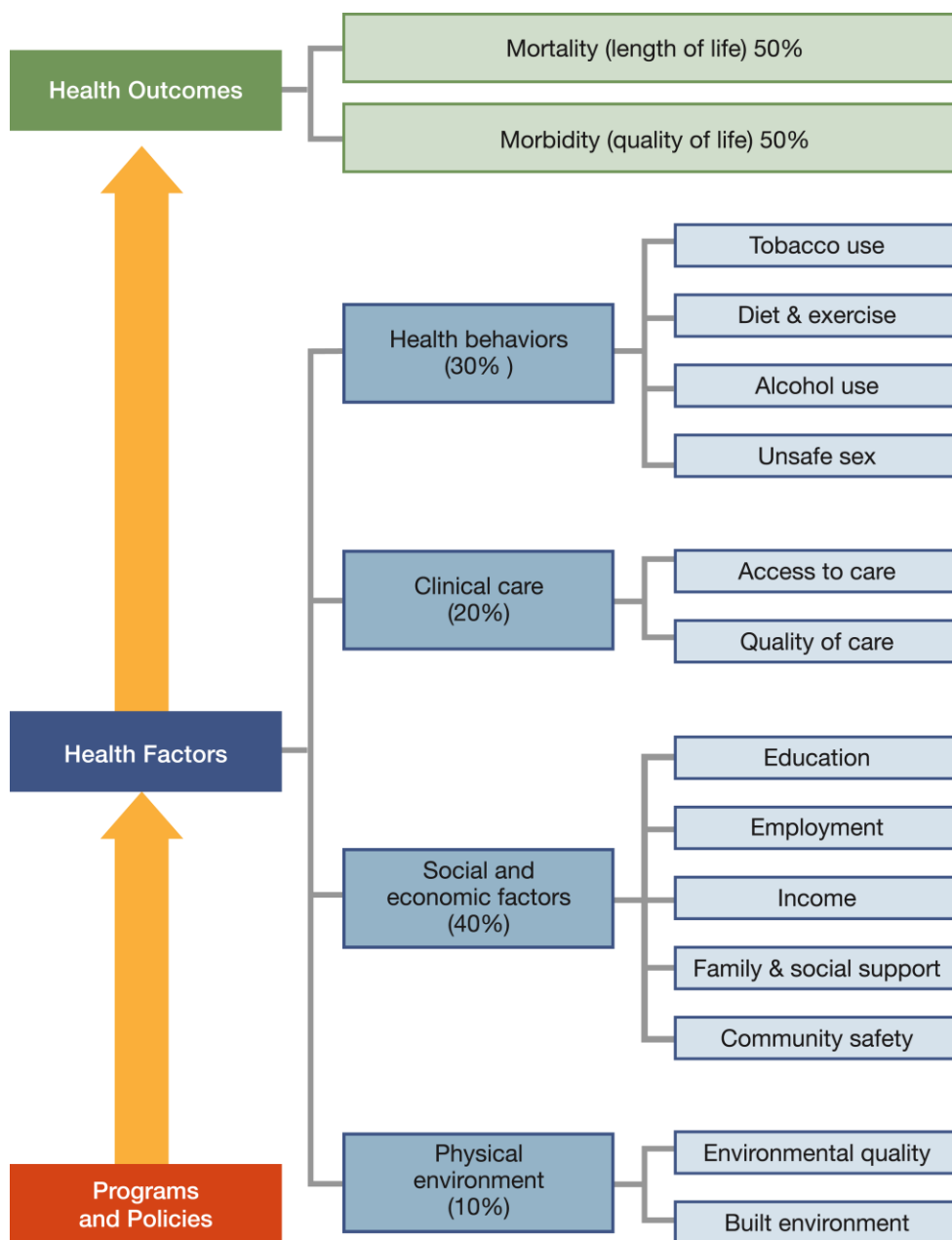
Institute of Medicine, 2002

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.

The Rankings

This report ranks South Dakota 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.

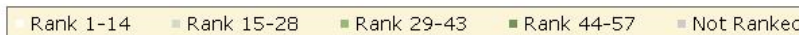
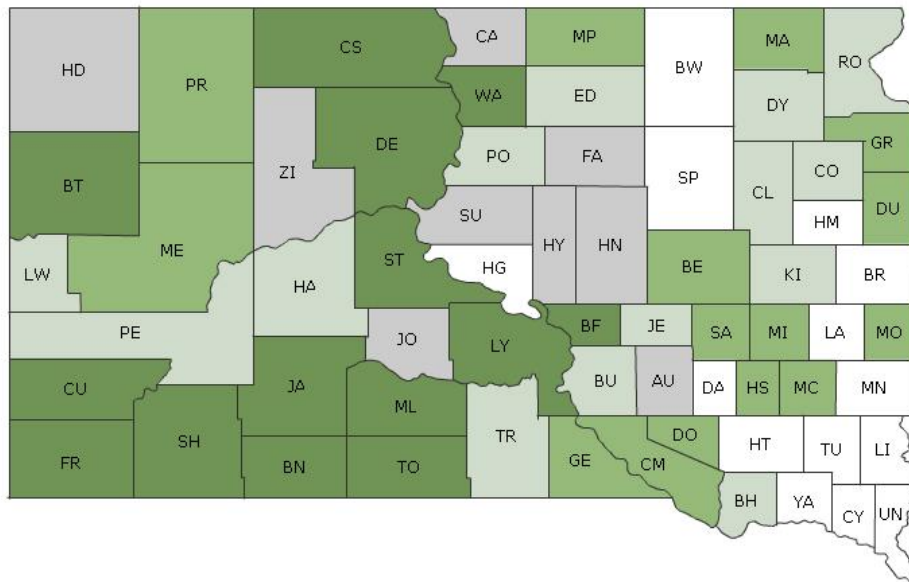


County Health Rankings model ©2010 UWPHI

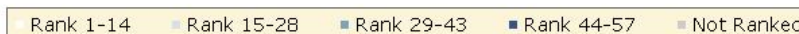
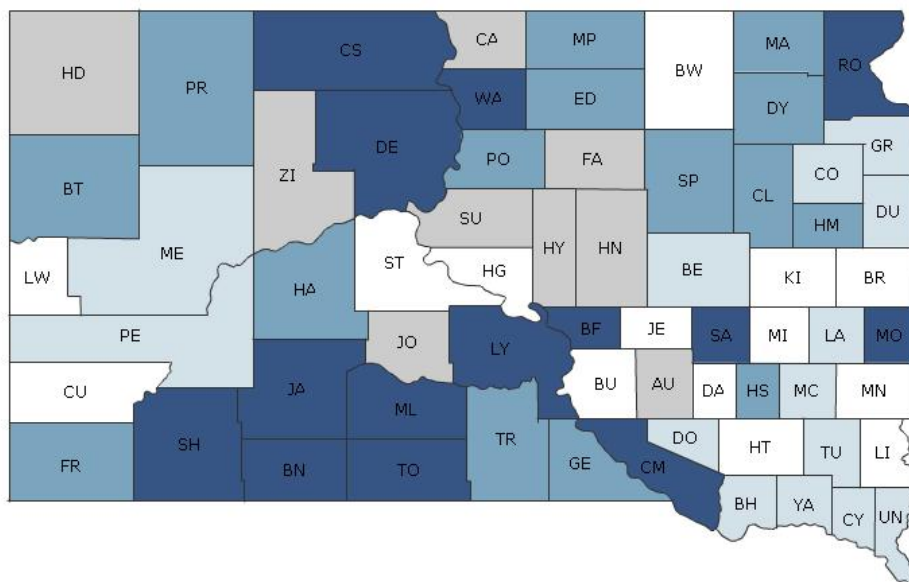
The maps on this page display South Dakota's counties divided into groups by health rank. The lighter colors indicate better performance in the respective summary rankings. The green map shows the distribution of summary health outcomes. The blue displays the distribution of the summary rank for health 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	Brookings	1	Lincoln
2	Lincoln	2	Lawrence
3	Clay	3	Brookings
4	Union	4	Hughes
5	Turner	5	Minnehaha
6	Hamlin	6	Brule
7	Spink	7	Miner
8	Brown	8	Kingsbury
9	Hughes	9	Custer
10	Yankton	10	Hutchinson
11	Minnehaha	11	Davison
12	Davison	12	Brown
13	Hutchinson	13	Stanley
14	Lake	14	Jerauld
15	Clark	15	Yankton
16	Bon Homme	16	Union
17	Jerauld	17	Grant
18	Codington	18	Lake
19	Kingsbury	19	Codington
20	Brule	20	Deuel
21	Lawrence	21	McCook
22	Pennington	22	Meade
23	Tripp	23	Pennington
24	Roberts	24	Clay
25	Haakon	25	Bon Homme
26	Potter	26	Turner
27	Edmunds	27	Douglas
28	Day	28	Beadle
29	Meade	29	Spink
30	Beadle	30	Hanson
31	Charles Mix	31	Fall River
32	Miner	32	Hamlin
33	Gregory	33	Clark
34	Moody	34	Haakon
35	McCook	35	Edmunds
36	Perkins	36	Butte
37	Hanson	37	Potter
38	Sanborn	38	Tripp
39	Grant	39	McPherson
40	Douglas	40	Day

Rank	Health Outcomes	Rank	Health Factors
41	Deuel	41	Perkins
42	McPherson	42	Marshall
43	Marshall	43	Gregory
44	Lyman	44	Moody
45	Bennett	45	Sanborn
46	Stanley	46	Walworth
47	Fall River	47	Roberts
48	Custer	48	Charles Mix
49	Walworth	49	Mellette
50	Butte	50	Lyman
51	Jackson	51	Jackson
52	Mellette	52	Bennett
53	Todd	53	Buffalo
54	Dewey	54	Corson
55	Buffalo	55	Dewey
56	Corson	56	Todd
57	Shannon	57	Shannon

Not Ranked: Aurora, Campbell, Faulk, Hand, Harding, Hyde, Jones, Sully, Ziebach

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	Rank	Morbidity
1	Lake	1	Lincoln
2	Brookings	2	Brookings
3	Union	3	Hamlin
4	Brown	4	Clay
5	Davison	5	Turner
6	Yankton	6	Hutchinson
7	Lawrence	7	Clark
8	Lincoln	8	Union
9	Clay	9	Bon Homme
10	Minnehaha	10	Jerauld
11	Grant	11	Kingsbury
12	Spink	12	Spink
13	Tripp	13	Day
14	Pennington	14	Hughes
15	Codington	15	Brown
16	Turner	16	Haakon
17	Hughes	17	Brule
18	Butte	18	Potter
19	Beadle	19	Roberts
20	Moody	20	Edmunds
21	McCook	21	Yankton
22	Meade	22	Minnehaha
23	Deuel	23	Davison
24	Hamlin	24	Miner
25	Brule	25	Gregory
26	Custer	26	Charles Mix
27	Roberts	27	Jackson
28	Charles Mix	28	Perkins
29	Bon Homme	29	Hanson
29	Clark	30	Sanborn
29	Douglas	31	Douglas
29	Edmunds	32	Codington
29	Gregory	33	McPherson
29	Haakon	34	Lake
29	Hanson	35	Pennington
29	Hutchinson	36	Meade
29	Jerauld	37	Lyman
29	Marshall	38	Marshall
29	McPherson	39	Lawrence
29	Miner	40	Tripp

Rank	Mortality	Rank	Morbidity
29	Perkins	41	Bennett
29	Potter	42	Fall River
29	Sanborn	43	Beadle
29	Stanley	44	McCook
45	Lyman	45	Deuel
46	Kingsbury	46	Moody
47	Walworth	47	Stanley
48	Day	48	Todd
49	Bennett	49	Grant
50	Fall River	50	Mellette
51	Jackson	51	Walworth
52	Buffalo	52	Dewey
53	Mellette	53	Custer
54	Todd	54	Shannon
55	Dewey	55	Butte
56	Corson	56	Corson
57	Shannon	57	Buffalo

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	Rank	Clinical Care	Rank	Social & Economic Factors	Rank	Physical Environment
1	Miner	1	Minnehaha	1	Brookings	1	Davison
2	Jerauld	2	Lincoln	2	Lincoln	2	Brule
3	Lawrence	3	Lawrence	3	Custer	2	Stanley
4	McPherson	4	Codington	4	Hughes	4	Hutchinson
5	Hutchinson	5	Union	5	Clay	5	Bon Homme
6	Lincoln	6	Pennington	6	Brown	6	Todd
7	Kingsbury	7	Hutchinson	7	Minnehaha	7	Edmunds
8	Perkins	8	Lake	8	McCook	8	Mellette
9	Brule	9	Brule	9	Douglas	8	Sanborn
10	Hughes	10	Brown	10	Kingsbury	10	Kingsbury
11	Haakon	11	Yankton	11	Yankton	11	Butte
12	Meade	12	Fall River	12	Hanson	12	Lawrence
13	Bon Homme	13	Custer	13	Stanley	13	Meade
14	Edmunds	14	Beadle	14	Turner	14	Hughes
15	Brookings	15	Hughes	15	Potter	15	Miner
16	Grant	16	Davison	16	Lawrence	16	Charles Mix
17	McCook	17	Grant	17	Grant	17	Douglas
18	Custer	18	Meade	18	Lake	18	Fall River
19	Yankton	19	Clay	19	Union	19	Tripp
20	Spink	20	Stanley	20	Hamlin	20	Deuel
21	Deuel	21	Jerauld	21	Codington	21	Dewey
22	Day	22	Miner	22	Davison	22	McPherson
23	Fall River	23	Tripp	23	Deuel	23	Jackson
24	Davison	24	Walworth	24	Brule	24	Hanson
25	Pennington	25	Hamlin	25	Bon Homme	25	Brown
26	Gregory	26	Clark	26	Pennington	26	Clark
27	Clark	27	Brookings	27	Spink	26	Shannon
28	Turner	28	Mellette	28	Miner	28	Brookings
29	Marshall	29	Roberts	29	Beadle	29	Codington
30	Union	30	Bennett	30	Butte	30	Day
31	Potter	31	Deuel	31	Jerauld	31	Marshall
32	Minnehaha	32	Kingsbury	32	Haakon	32	Beadle
33	Douglas	33	Butte	33	Edmunds	33	Jerauld
34	Brown	34	Buffalo	34	Perkins	34	Lake
35	Tripp	35	Spink	35	Moody	35	Lyman
36	Lake	36	Haakon	36	Meade	36	Turner
37	Stanley	37	Hanson	37	Hutchinson	37	Buffalo
38	Beadle	38	McCook	38	Clark	38	Perkins
39	Sanborn	39	Day	39	Marshall	39	Bennett
40	Clay	40	Turner	40	Tripp	40	Roberts

Rank	Health Behaviors	Rank	Clinical Care	Rank	Social & Economic Factors	Rank	Physical Environment
41	Codington	41	Corson	41	Gregory	41	Potter
42	Moody	42	Jackson	42	Day	42	Spink
43	Hamlin	43	Lyman	43	Fall River	43	Union
44	Hanson	44	Sanborn	44	Walworth	44	Minnehaha
45	Butte	45	Douglas	45	McPherson	45	Lincoln
46	Walworth	46	Moody	46	Sanborn	46	Grant
47	Jackson	47	Bon Homme	47	Charles Mix	47	Corson
48	Roberts	48	McPherson	48	Roberts	48	McCook
49	Charles Mix	49	Gregory	49	Lyman	49	Gregory
50	Mellette	50	Marshall	50	Bennett	50	Hamlin
51	Lyman	51	Edmunds	51	Mellette	51	Moody
52	Bennett	52	Potter	52	Jackson	52	Custer
53	Buffalo	53	Dewey	53	Corson	53	Walworth
54	Corson	54	Shannon	54	Dewey	54	Haakon
55	Todd	55	Perkins	55	Todd	55	Clay
56	Dewey	56	Todd	56	Shannon	56	Yankton
57	Shannon	57	Charles Mix	57	Buffalo	57	Pennington

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

	Measure	Data Source	Years of Data
HEALTH OUTCOMES			
Mortality	Premature death	National Center for Health Statistics	2004-2006
Morbidity	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
HEALTH FACTORS			
HEALTH BEHAVIORS			
Tobacco	Adult smoking	Behavioral Risk Factor Surveillance System	2002-2008
Diet and Exercise	Adult obesity	National Center for Chronic Disease Prevention and Health Promotion	2006-2008
Alcohol Use	Binge drinking	Behavioral Risk Factor Surveillance System	2002-2008
	Motor vehicle crash death rate	National Center for Health Statistics	2000-2006
High Risk Sexual Behavior	Chlamydia rate	National Center for Health Statistics	2007
	Teen birth rate	National Center for Health Statistics	2000-2006
CLINICAL CARE			
Access to Care	Uninsured adults	Small Area Health Insurance Estimates, U.S. Census	2005
	Primary care provider rate	Health Resources & Services Administration	2006
Quality of Care	Preventable hospital stays	Medicare/Dartmouth Institute	2005-2006
	Diabetic screening	Medicare/Dartmouth Institute	2003-2006
	Hospice use	Medicare/Dartmouth Institute	2001-2005
SOCIOECONOMIC FACTORS			
Education	High school graduation	National Center for Education Statistics ¹	2005-2006
	College degrees	U.S. Census/American Community Survey	2000/2005-2007
Employment	Unemployment	Bureau of Labor Statistics	2008
Income	Children in poverty	Small Area Income and Poverty Estimates, U.S. Census	2007
	Income inequality	U.S. Census/American Community Survey ²	2000/2005-2007
Family and Social Support	Inadequate social support	Behavioral Risk Factor Surveillance System	2005-2008
	Single-parent households	U.S. Census/American Community Survey	2000/2005-2007
Community Safety	Violent crime ³	Uniform Crime Reporting, Federal Bureau of Investigation	2005-2007
PHYSICAL ENVIRONMENT			
Air Quality⁴	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
Built Environment	Access to healthy foods	Census Zip Code Business Patterns	2006
	Liquor store density	Census County Business Patterns	2006

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

² Income inequality estimates for 2000 were calculated by Mark L. Burkey, North Carolina Agricultural & Technical State University, www.ncat.edu/~burkeym/Gini.htm.

³ 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.

⁴ Not available for AK and HI.

CREDITS

Report Editors

University of Wisconsin-Madison
School of Medicine and Public Health
Population Health Institute
Bridget Booske, PhD, MHSA
Jessica Athens, MS
Patrick Remington, MD, MPH

This publication would not have been possible without the following contributions:

Conceptual Development

David Kindig, MD, PhD
Paul Peppard, PhD
Patrick Remington, MD, MPH

Technical Advisors

Amy Bernstein, ScD, Centers for Disease Control and Prevention
Michele Bohm, MPH, Centers for Disease Control and Prevention
Vickie Boothe, MPH, Centers for Disease Control and Prevention
Ethan Burke, MD, MPH, Dartmouth Institute for Health Policy and Clinical Practice

Research Assistance

Clare O'Connor
Karen Odegaard
Hyojun Park
Matthew Rodock

Production and Editing

Chuck Alexander
Alex Field
Joan Fischer
Irene Golembiewski
Jennifer Robinson

Design

Forum One, Alexandria, VA
Media Solutions, UW School of Medicine and Public Health

Metrics Advisory Group

Yukiko Asada, PhD, Associate Professor, Community Health and Epidemiology, Dalhousie University, Halifax, Nova Scotia
Tom Eckstein, MBA, Principal, Arundel Street Consulting Inc, St. Paul, MN
Elliott Fisher, MD, MPH, Director, Center for Population Health, Dartmouth Institute for Health Policy and Clinical Practice, and
Professor of Medicine and Community and Family Medicine, Dartmouth Medical School, Lebanon, NH
Howard Frumkin, MD, MPH, Dr. PH, Director of the National Center for Environmental Health, ATSDR, CDC, Atlanta, GA
Thomas Kottke, MD, MSPH, Medical Director for Evidence-Based Health, HealthPartners, Minneapolis, MN
Ali Mokdad, PhD, Professor of Global Health, Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA
Roy Gibson Parrish, MD, Consultant in Population Health Information Systems, Peacham, VT
Robert M. (Bobby) Pestronk, MPH, Executive Director, National Association of County and City Health Officials (NACCHO),
Washington, DC
Tom Ricketts, PhD, Professor of Health Policy and Administration, University of North Carolina
Steven Teutsch, MD, MPH, Chief Science Officer, Los Angeles County Public Health, Los Angeles, CA
Julie Willems Van Dijk, PhD, RN, former Marathon County, WI Health Officer

Suggested citation: University of Wisconsin Population Health Institute. *County Health Rankings 2010*.



County Health Rankings

Mobilizing Action Toward Community Health

countyhealthrankings.org

