



County Health Rankings

Mobilizing Action Toward Community Health

2011

Missouri



Robert Wood Johnson Foundation



UNIVERSITY OF WISCONSIN

Population Health Institute

Translating Research into Policy and Practice

Introduction

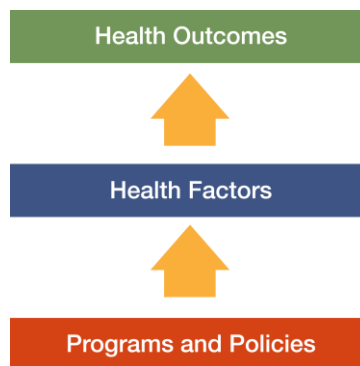
Where we live matters to our health. The health of a community depends on many different factors, including quality of health care, individual behavior, education and jobs, and the environment. We can improve a community's health through programs and policies. For example, people who live in communities 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 2011 *County Health Rankings*, a collection of 50 reports that reflect the overall health of counties in every state across the country. For the second year in a row, 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 allows communities 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.

To compile the *Rankings*, we built on our prior work in Wisconsin, obtained input from a team of expert advisors, and worked closely with staff from the National Center for Health Statistics. Together we selected a number of population health measures based on scientific relevance, importance, and availability of data at the county level.

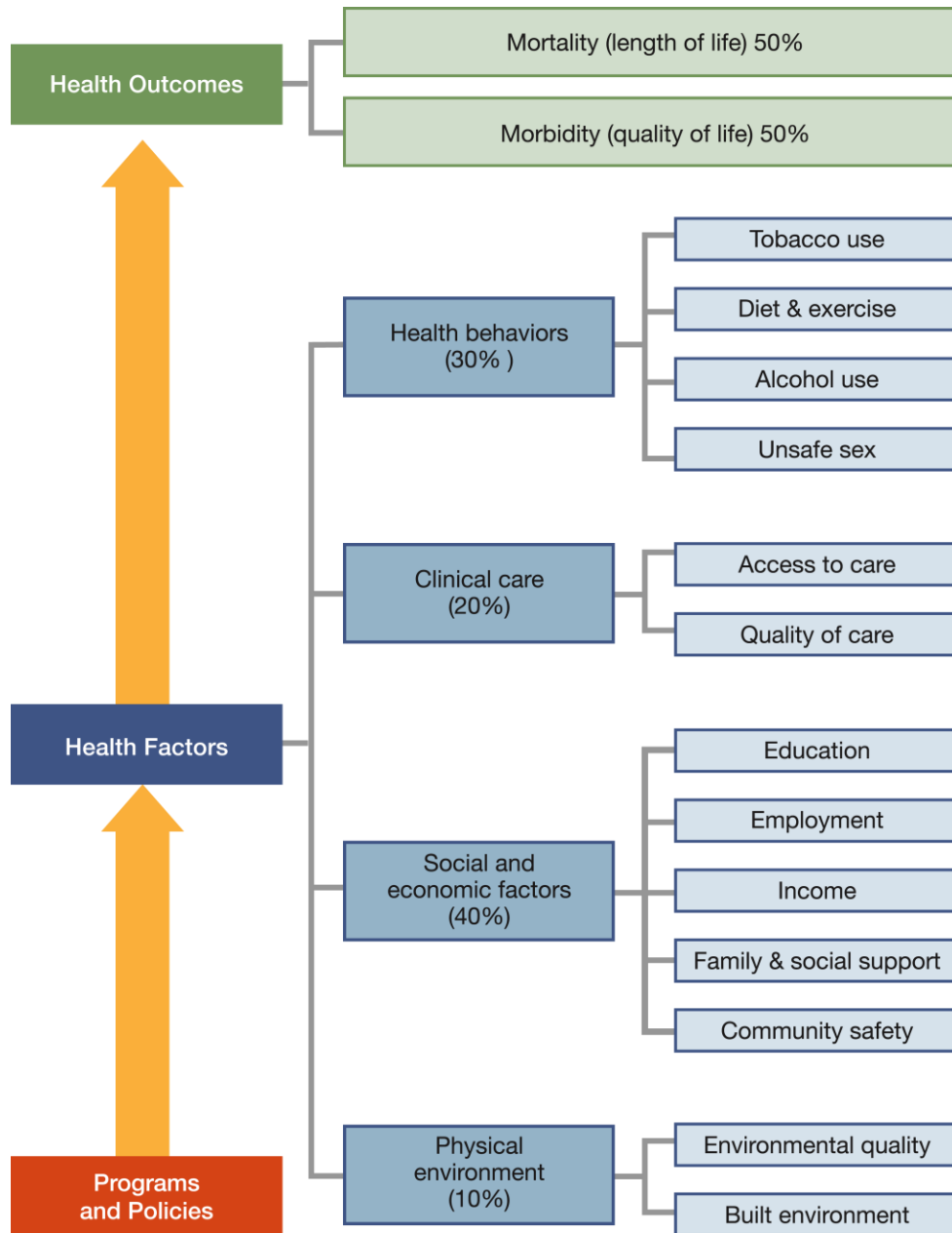
For a more detailed explanation of our approach, the methods used to compile the *Rankings*, information on the action steps communities can take to improve their health, and examples of communities in action, see www.countyhealthrankings.org



The Rankings

This report ranks Missouri 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.

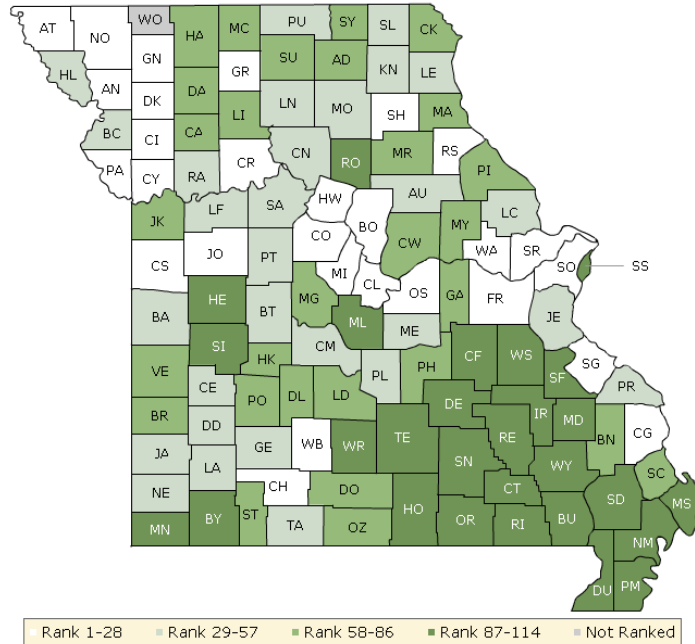


County Health Rankings model ©2010 UWPHI

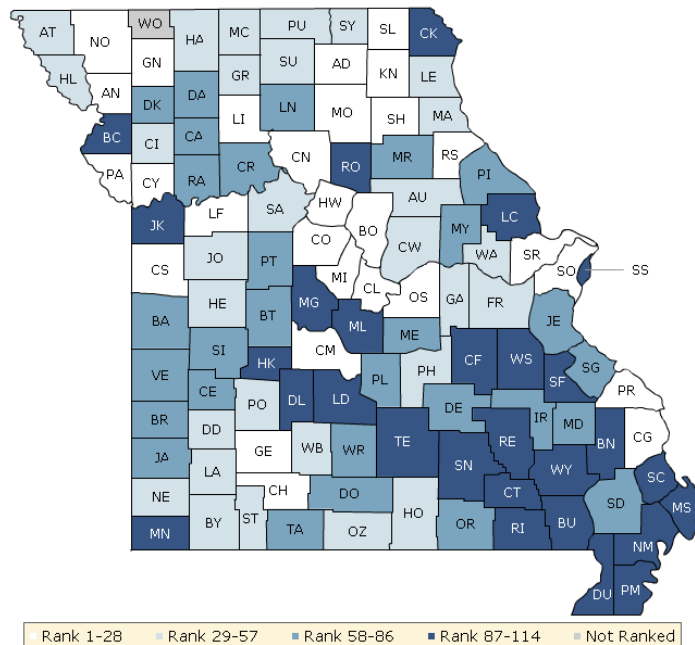
The maps on this page display Missouri's counties divided into groups by health rank. The lighter colors indicate better performance in the respective summary rankings. The green map shows the distribution of summary health outcomes. The blue displays the distribution of the summary rank for health factors.

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	Christian	1	St. Charles
2	Platte	2	Boone
3	St. Charles	3	Nodaway
4	Johnson	4	St. Louis
5	Atchison	5	Platte
6	Ralls	6	Christian
7	Osage	7	Cole
8	Clay	8	Osage
9	Moniteau	9	Greene
10	Boone	10	Cape Girardeau
11	Nodaway	11	Andrew
12	Ste. Genevieve	12	Scotland
13	Cole	13	Clay
14	Clinton	14	Adair
15	DeKalb	15	Perry
16	Cass	16	Cass
17	Gentry	17	Chariton
18	St. Louis	18	Gentry
19	Andrew	19	Ralls
20	Cooper	20	Lafayette
21	Cape Girardeau	21	Shelby
22	Warren	22	Cooper
23	Webster	23	Macon
24	Grundy	24	Howard
25	Franklin	25	Knox
26	Shelby	26	Livingston
27	Howard	27	Moniteau
28	Carroll	28	Camden
29	Perry	29	Newton
30	Lafayette	30	Grundy
31	Macon	31	Phelps
32	Greene	32	Atchison
33	Holt	33	Harrison
34	Bates	34	Polk
35	Scotland	35	Franklin
36	Newton	36	Holt
37	Lincoln	37	Clinton
38	Jefferson	38	Audrain
39	Knox	39	Johnson
40	Camden	40	Marion

Rank	Health Outcomes	Rank	Health Factors
41	Linn	41	Mercer
42	Jasper	42	Schuyler
43	Lewis	43	Warren
44	Pettis	44	Lewis
45	Audrain	45	Putnam
46	Ray	46	Gasconade
47	Dade	47	Howell
48	Lawrence	48	Callaway
49	Putnam	49	Saline
50	Saline	50	Barry
51	Benton	51	Lawrence
52	Pulaski	52	Webster
53	Taney	53	Sullivan
54	Buchanan	54	Ozark
55	Chariton	55	Henry
56	Cedar	56	Stone
57	Maries	57	Dade
58	Stone	58	Jefferson
59	Harrison	59	Montgomery
60	Adair	60	Dent
61	Barton	61	Pettis
62	Dallas	62	Douglas
63	Hickory	63	St. Clair
64	Gasconade	64	Barton
65	Schuyler	65	Benton
66	Mercer	66	Carroll
67	Daviess	67	Pike
68	Jackson	68	Ste. Genevieve
69	Caldwell	69	Cedar
70	Phelps	70	Maries
71	Polk	71	Taney
72	Ozark	72	Bates
73	Clark	73	DeKalb
74	Callaway	74	Caldwell
75	Laclede	75	Stoddard
76	Douglas	76	Madison
77	Marion	77	Jasper
78	Morgan	78	Vernon
79	Scott	79	Oregon
80	Livingston	80	Ray
81	Bollinger	81	Pulaski
82	Montgomery	82	Wright
83	Sullivan	83	Iron
84	Vernon	84	Daviess
85	Monroe	85	Linn
86	Pike	86	Monroe
87	Randolph	87	Morgan
88	Miller	88	St. Francois

Rank	Health Outcomes	Rank	Health Factors
89	Henry	89	Dallas
90	Stoddard	90	Lincoln
91	McDonald	91	Wayne
92	Shannon	92	Buchanan
93	St. Francois	93	Scott
94	Madison	94	Crawford
95	Dent	95	Randolph
96	Oregon	96	Jackson
97	Carter	97	Laclede
98	St. Clair	98	McDonald
99	Crawford	99	Texas
100	Barry	100	Butler
101	Howell	101	Bollinger
102	Wright	102	Hickory
103	Texas	103	Carter
104	Mississippi	104	Clark
105	St. Louis City	105	Miller
106	Wayne	106	New Madrid
107	Iron	107	Reynolds
108	Washington	108	Ripley
109	Butler	109	Mississippi
110	Reynolds	110	Shannon
111	New Madrid	111	Washington
112	Ripley	112	Dunklin
113	Dunklin	113	Pemiscot
114	Pemiscot	114	St. Louis City

Not Ranked: Worth

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	St. Charles	1	Christian
2	Platte	2	Ralls
3	Atchison	3	Lafayette
4	Christian	4	Osage
5	Clay	5	Andrew
6	Johnson	6	Webster
7	Boone	7	Holt
8	Nodaway	8	Johnson
9	Gentry	9	Cedar
10	Moniteau	10	DeKalb
11	Osage	11	Platte
12	Ralls	12	Carroll
13	St. Louis	13	St. Charles
14	Ste. Genevieve	14	Atchison
15	Cape Girardeau	15	Moniteau
16	Warren	16	Scotland
17	Cole	17	Knox
18	Grundy	18	Ste. Genevieve
19	Cooper	19	Clinton
20	Howard	20	Cole
21	Perry	21	Cass
22	Clinton	22	Benton
23	Cass	23	Macon
24	Audrain	24	Nodaway
25	Jefferson	25	Jasper
26	Lincoln	26	Shelby
27	Linn	27	Clay
28	Franklin	28	Franklin
29	Ray	29	Boone
30	Greene	30	Morgan
31	DeKalb	31	Polk
32	Shelby	32	Bates
33	Taney	33	Cooper
34	Newton	34	St. Louis
35	Pettis	35	Lawrence
36	Bates	36	Chariton
37	Camden	37	Greene
38	Macon	38	Lewis
39	Harrison	39	Camden
40	Hickory	40	Dallas

Rank	Mortality	Rank	Morbidity
41	Daviess	41	Newton
42	Andrew	42	Warren
43	Webster	43	Dade
44	Putnam	44	Cape Girardeau
45	Phelps	45	Gentry
46	Lewis	46	Grundy
47	Caldwell	47	Saline
48	Adair	48	Ozark
49	Buchanan	49	Howard
50	Barton	50	Pulaski
51	Carroll	51	Perry
52	Callaway	52	Maries
53	Saline	53	Stone
54	Dade	54	Vernon
55	Pulaski	55	Pettis
56	Gasconade	56	Buchanan
57	Stone	57	McDonald
58	Jasper	58	Putnam
59	Maries	59	Lincoln
60	Lawrence	60	Linn
61	Stoddard	61	Monroe
62	Holt	62	Jackson
62	Knox	63	Jefferson
62	Mercer	64	Schuyler
62	Schuyler	65	Mercer
62	Scotland	66	Laclede
67	Clark	67	Adair
68	Lafayette	68	Barton
69	Scott	69	Gasconade
70	Jackson	70	Montgomery
71	Chariton	71	Madison
72	Bollinger	72	Douglas
73	Sullivan	73	Miller
74	Marion	74	Taney
75	Douglas	75	Harrison
76	Randolph	76	Clark
77	Dallas	77	Pike
78	Laclede	78	Carter
79	Livingston	79	Dent
80	Benton	80	Shannon
81	Ozark	81	Ray
82	Barry	82	Marion
83	Henry	83	Livingston
84	Pike	84	Hickory
85	Texas	85	Caldwell
86	St. Clair	86	Audrain
87	Montgomery	87	St. Francois
88	Crawford	88	Daviess

Rank	Mortality	Rank	Morbidity
89	St. Francois	89	Phelps
90	Polk	90	Henry
91	Oregon	91	Callaway
92	Monroe	92	Scott
93	Cedar	93	Bollinger
94	Miller	94	Oregon
95	Shannon	95	Sullivan
96	Vernon	96	Howell
97	Wright	97	Randolph
98	Dent	98	Wright
99	Morgan	99	Stoddard
100	Madison	100	Crawford
101	Howell	101	St. Clair
102	McDonald	102	Ripley
103	Mississippi	103	Mississippi
104	Carter	104	Barry
105	St. Louis City	105	Iron
106	New Madrid	106	Texas
107	Wayne	107	St. Louis City
108	Washington	108	Reynolds
109	Butler	109	Wayne
110	Iron	110	Pemiscot
111	Dunklin	111	Butler
112	Reynolds	112	Washington
113	Pemiscot	113	Dunklin
113	Ripley	114	New Madrid

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	Nodaway	1	St. Louis	1	St. Charles	1	Atchison
2	Stone	2	Boone	2	Nodaway	2	Gentry
3	Christian	3	Greene	3	Boone	3	Shelby
4	Scotland	4	Cape Girardeau	4	Osage	4	Boone
5	St. Charles	5	St. Charles	5	Platte	5	Knox
6	Chariton	6	Butler	6	Christian	6	Madison
7	St. Louis	7	Franklin	7	Andrew	6	Mercer
8	Adair	8	St. Louis City	8	Clay	6	Shannon
9	Platte	9	Platte	9	Cole	9	Webster
10	Polk	10	Cole	10	Cass	10	Barry
11	Ozark	11	Jackson	11	Perry	11	St. Clair
12	Macon	12	Howell	12	Scotland	12	Warren
13	Cole	13	Clay	13	Adair	13	Holt
14	Morgan	14	Marion	14	St. Louis	14	Greene
15	Camden	15	Christian	15	Gentry	15	Buchanan
16	Gentry	16	Scott	16	Pulaski	16	Cooper
17	Knox	17	Taney	17	Cooper	17	Franklin
18	Osage	18	Howard	18	Johnson	18	Iron
19	Boone	19	Perry	19	Mercer	18	Moniteau
20	Ralls	20	Polk	20	Atchison	20	Wright
21	Shelby	21	Audrain	21	Knox	21	Cedar
22	Atchison	22	Andrew	22	Ralls	22	Cole
23	Lafayette	23	Dallas	23	Clinton	23	Phelps
24	Greene	24	Barry	24	Cape Girardeau	24	Scotland
25	Livingston	25	Buchanan	25	Shelby	25	Schuyler
26	Newton	26	Warren	26	Lafayette	26	Morgan
27	Benton	27	Callaway	27	Harrison	27	St. Francois
28	Schuyler	28	Saline	28	Callaway	28	Sullivan
29	Hickory	29	Wright	29	Moniteau	29	Lawrence
30	Phelps	30	Cooper	30	Grundy	30	Camden
31	Moniteau	31	Lawrence	31	Caldwell	31	Grundy
32	Barton	32	Cass	32	Livingston	32	Pulaski
33	Cape Girardeau	33	Douglas	33	Holt	33	Taney
34	Clinton	34	Webster	34	Howard	34	Benton
35	Carroll	35	Jasper	35	Ray	35	Chariton
36	Putnam	36	Dunklin	36	Chariton	35	Saline
37	Clay	37	Nodaway	37	Greene	37	Montgomery
38	Bates	38	Laclede	38	Jefferson	38	Macon
39	St. Clair	39	Vernon	39	Newton	39	Audrain

Rank	Health Behaviors	Rank	Clinical Care	Rank	Social & Economic Factors	Rank	Physical Environment
40	Montgomery	40	Lincoln	40	Schuyler	40	Ralls
41	Dent	41	Dade	41	Ste. Genevieve	41	St. Charles
42	Gasconade	42	Stone	42	Phelps	42	Oregon
43	Grundy	43	Osage	43	Putnam	43	Pemiscot
44	Pike	44	Randolph	44	Lewis	44	Marion
45	Ripley	45	Henry	45	Maries	45	Lewis
46	Stoddard	46	Harrison	46	Saline	46	Bates
47	Perry	47	Lafayette	47	DeKalb	47	Jasper
48	Mercer	48	Gasconade	48	Macon	48	Harrison
49	Lewis	49	New Madrid	49	Buchanan	48	Monroe
50	Holt	50	Jefferson	50	Sullivan	50	Platte
51	Cedar	51	Camden	51	Warren	51	Pettis
52	Henry	52	Newton	52	Franklin	51	Randolph
53	Marion	53	Stoddard	53	Camden	53	Douglas
54	Howard	54	Livingston	54	Audrain	54	Dallas
55	Cass	55	Montgomery	55	Linn	55	Howell
56	Douglas	56	Cedar	56	Carroll	56	Caldwell
57	Andrew	57	Ralls	57	Pettis	57	Newton
58	Sullivan	58	Macon	58	Gasconade	58	Cass
59	Clark	59	Monroe	59	Daviess	59	Pike
60	Dade	60	Iron	60	Lincoln	60	Crawford
61	Webster	61	Dent	61	Dade	61	Christian
62	Reynolds	62	Crawford	62	Henry	62	St. Louis City
63	Audrain	63	St. Francois	63	Barry	63	Texas
64	Howell	64	Phelps	64	Marion	64	Carter
65	Lawrence	65	Clinton	65	Lawrence	64	Maries
66	Harrison	66	Oregon	66	Barton	66	Laclede
67	DeKalb	67	Johnson	67	Bates	67	Polk
68	Madison	68	Grundy	68	Pike	68	Jefferson
69	Cooper	69	St. Clair	69	Howell	69	Miller
70	Bollinger	70	Chariton	70	Webster	70	Johnson
71	Carter	71	Madison	71	McDonald	71	Stone
72	Shannon	72	Pettis	72	Jasper	72	Lafayette
73	Wayne	73	Mississippi	73	Dent	73	Callaway
74	Crawford	74	Wayne	74	Oregon	74	Hickory
75	Warren	75	Ozark	75	St. Francois	75	McDonald
76	Maries	76	Morgan	76	Monroe	76	Barton
77	Dallas	77	Moniteau	77	Polk	76	Howard
78	Vernon	78	Ste. Genevieve	78	Ozark	78	Scott
79	Johnson	79	Ray	79	Stoddard	79	Vernon
80	Barry	80	Lewis	80	Texas	80	Livingston
81	Pettis	81	Holt	81	Clark	80	Ripley
82	Wright	82	Shelby	82	Iron	82	Andrew
83	Oregon	83	Putnam	83	Benton	83	Cape Girardeau
84	Franklin	84	Adair	84	Vernon	84	Ray
85	McDonald	85	Sullivan	85	Bollinger	85	Gasconade
86	Daviess	86	Texas	86	Randolph	85	Osage
87	Taney	87	Linn	87	Taney	85	Ste. Genevieve

Rank	Health Behaviors	Rank	Clinical Care	Rank	Social & Economic Factors	Rank	Physical Environment
88	Ste. Genevieve	88	Reynolds	88	Madison	85	Wayne
89	Scott	89	Pike	89	Montgomery	89	Mississippi
90	Saline	90	Barton	90	Wayne	90	Adair
91	Jasper	91	Pemiscot	91	Butler	91	Nodaway
92	Texas	92	Benton	92	Douglas	92	Carroll
93	Iron	93	Carter	93	Laclede	92	Daviess
94	Miller	94	Miller	94	St. Clair	92	Ozark
95	Monroe	95	Daviess	95	Cedar	95	St. Louis
96	Linn	96	Schuyler	96	Miller	96	Henry
97	Laclede	97	Scotland	97	Jackson	97	Dent
98	Mississippi	98	Pulaski	98	Crawford	98	New Madrid
99	Jackson	99	Gentry	99	Wright	99	DeKalb
100	St. Francois	100	Caldwell	100	Scott	100	Linn
101	Jefferson	101	Hickory	101	Carter	101	Putnam
102	Caldwell	102	Knox	102	Ripley	102	Washington
103	Callaway	103	Bollinger	103	Stone	103	Clark
104	Randolph	104	McDonald	104	Dallas	103	Dade
105	New Madrid	105	Bates	105	New Madrid	103	Reynolds
106	Washington	106	Maries	106	Hickory	106	Bollinger
107	Lincoln	107	Washington	107	Mississippi	107	Perry
108	Ray	108	DeKalb	108	Reynolds	108	Jackson
109	Butler	109	Carroll	109	Morgan	109	Dunklin
110	Pulaski	110	Shannon	110	Dunklin	110	Lincoln
111	Pemiscot	111	Mercer	111	Shannon	111	Stoddard
112	Buchanan	112	Atchison	112	Washington	112	Butler
113	Dunklin	113	Ripley	113	Pemiscot	113	Clinton
114	St. Louis City	114	Clark	114	St. Louis City	114	Clay

2011 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	2005-2007
Morbidity	Poor or fair health	Behavioral Risk Factor Surveillance System	2003-2009
	Poor physical health days	Behavioral Risk Factor Surveillance System	2003-2009
	Poor mental health days	Behavioral Risk Factor Surveillance System	2003-2009
	Low birthweight	National Center for Health Statistics	2001-2007
HEALTH FACTORS			
HEALTH BEHAVIORS			
Tobacco	Adult smoking	Behavioral Risk Factor Surveillance System	2003-2009
Diet and Exercise	Adult obesity	National Center for Chronic Disease Prevention and Health Promotion	2008
Alcohol Use	Excessive drinking	Behavioral Risk Factor Surveillance System	2003-2009
	Motor vehicle crash death rate	National Center for Health Statistics	2001-2007
High Risk Sexual Behavior	Sexually transmitted infections	National Center for Hepatitis, HIV, STD and TB Prevention	2008
	Teen birth rate	National Center for Health Statistics	2001-2007
CLINICAL CARE			
Access to Care	Uninsured adults	Small Area Health Insurance Estimates, U.S. Census	2007
	Primary care providers	Health Resources & Services Administration	2008
Quality of Care	Preventable hospital stays	Medicare/Dartmouth Institute	2006-2007
	Diabetic screening	Medicare/Dartmouth Institute	2006-2007
	Mammography screening	Medicare/Dartmouth Institute	2006-2007
SOCIOECONOMIC FACTORS			
Education	High school graduation	National Center for Education Statistics ¹	2006-2007
	Some college	American Community Survey	2005-2009
Employment	Unemployment	Bureau of Labor Statistics	2009
Income	Children in poverty	Small Area Income and Poverty Estimates, U.S. Census	2008
Family and Social Support	Inadequate social support	Behavioral Risk Factor Surveillance System	2005-2009
	Single-parent households	American Community Survey	2005-2009
Community Safety	Violent crime ²	Uniform Crime Reporting, Federal Bureau of Investigation	2006-2008
PHYSICAL ENVIRONMENT			
Air Quality ³	Air pollution-particulate matter days	U.S. Environmental Protection Agency / Centers for Disease Control and Prevention	2006
	Air pollution-ozone days	U.S. Environmental Protection Agency / Centers for Disease Control and Prevention	2006
Built Environment	Access to healthy foods	Census Zip Code Business Patterns	2008
	Access to recreational facilities	Census County Business Patterns	2008

¹ State data sources for KY, NH, NC, PA, SC, and UT (2008-2009).

² Homicide rate (2001-2007) 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.

³ Not available for AK and HI.

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County Health Rankings

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