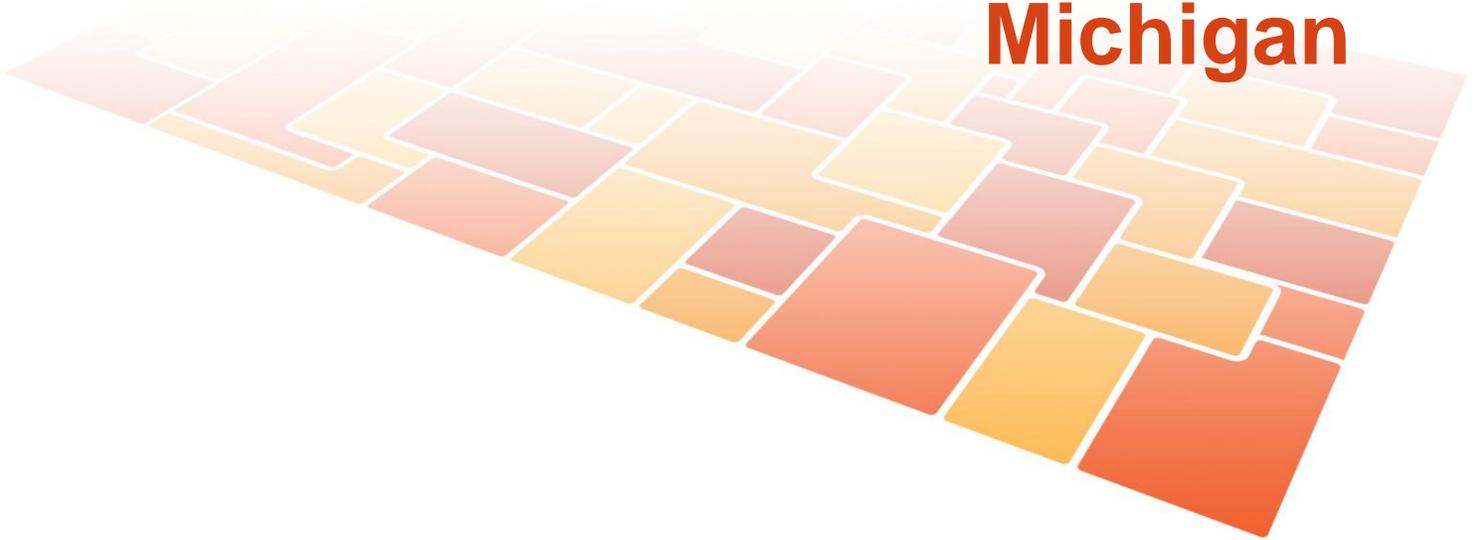


County Health Rankings

Mobilizing Action Toward Community Health

2010

Michigan



Robert Wood Johnson Foundation



UNIVERSITY OF WISCONSIN

Population Health Institute

Translating Research into Policy and Practice

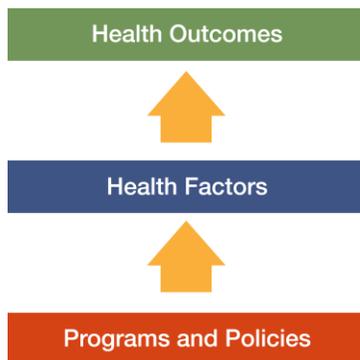
Introduction

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.



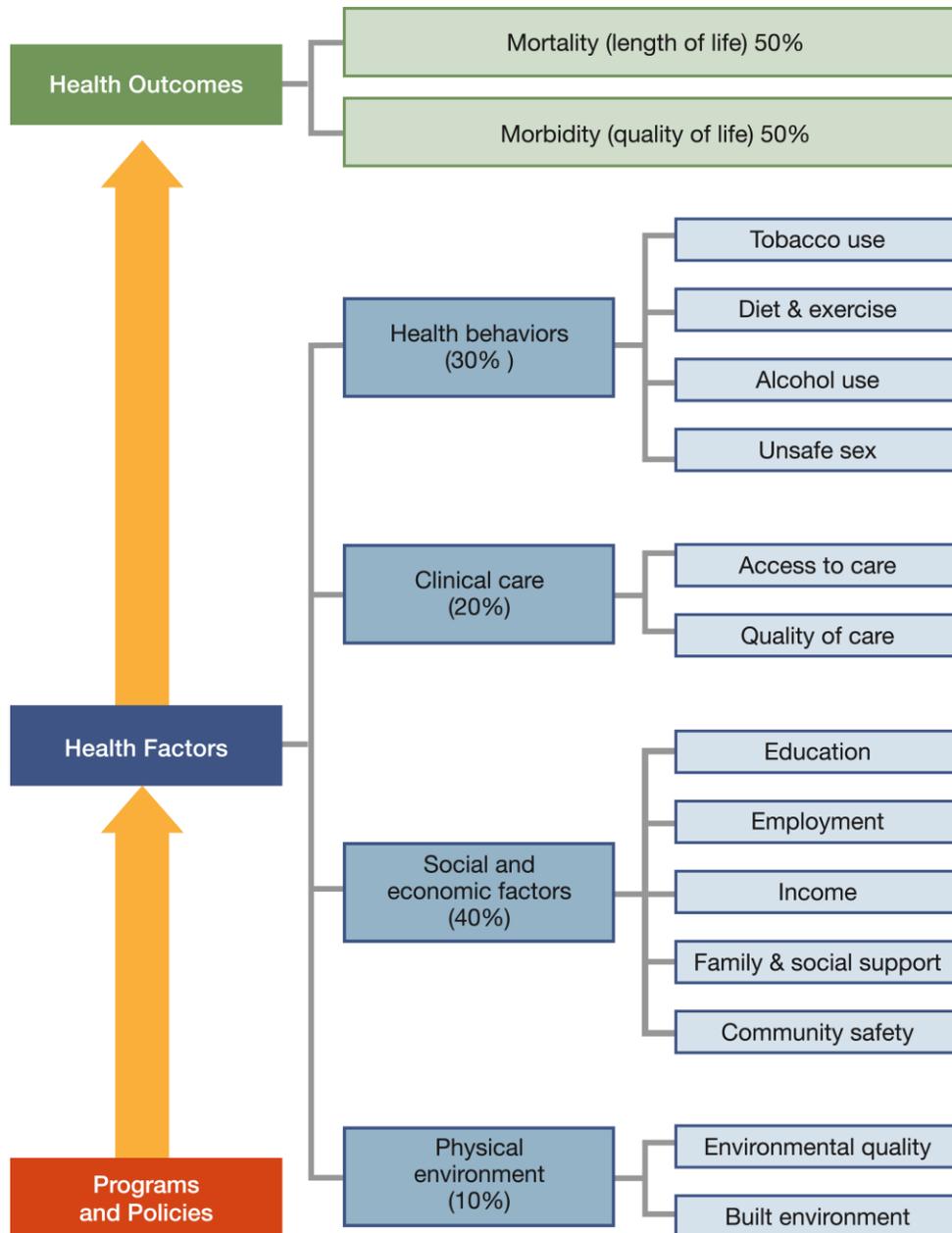
Institute of Medicine, 2002

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 Michigan 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.

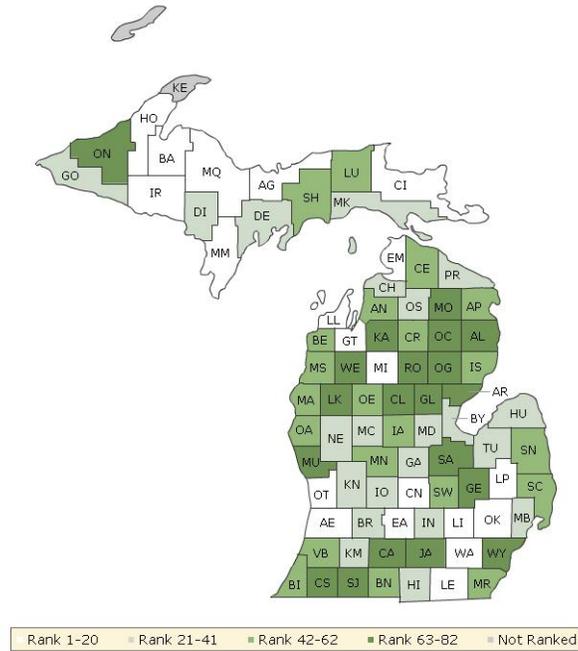


County Health Rankings model ©2010 UWPHI

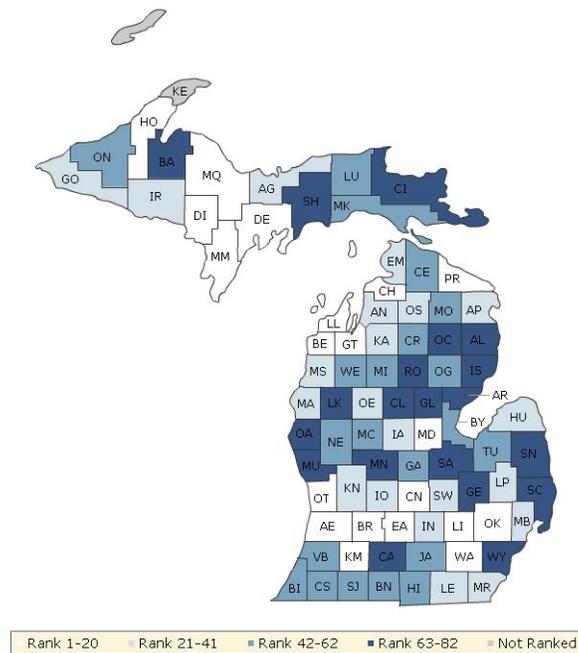
The maps on this page display Michigan's counties divided into groups by health rank. The lighter colors indicate better performance in the respective summary rankings. The green map shows the distribution of summary health outcomes. The blue displays the distribution of the summary rank for health factors.

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	Livingston	1	Washtenaw
2	Ottawa	2	Livingston
3	Leelanau	3	Ottawa
4	Alger	4	Oakland
5	Clinton	5	Clinton
6	Emmet	6	Marquette
7	Washtenaw	7	Grand Traverse
8	Grand Traverse	8	Leelanau
9	Marquette	9	Midland
10	Houghton	10	Dickinson
11	Lapeer	11	Charlevoix
12	Eaton	12	Delta
13	Menominee	13	Kalamazoo
14	Allegan	14	Houghton
15	Lenawee	15	Allegan
16	Chippewa	16	Benzie
17	Iron	17	Eaton
18	Oakland	18	Barry
19	Baraga	19	Presque Isle
20	Missaukee	20	Menominee
21	Ionia	21	Huron
22	Kent	22	Isabella
23	Midland	23	Emmet
24	Dickinson	24	Lenawee
25	Charlevoix	25	Kent
26	Presque Isle	26	Macomb
27	Gogebic	27	Gogebic
28	Gratiot	28	Alger
29	Hillsdale	29	Manistee
30	Mackinac	30	Ingham
31	Barry	31	Antrim
32	Ingham	32	Mason
33	Huron	33	Ionia
34	Macomb	34	Kalkaska
35	Otsego	35	Monroe
36	Mecosta	36	Shiawassee
37	Kalamazoo	37	Alpena
38	Tuscola	38	Otsego
39	Newaygo	39	Iron
40	Delta	40	Osceola

Rank	Health Outcomes	Rank	Health Factors
41	Bay	41	Lapeer
42	Isabella	42	Ontonagon
43	Antrim	43	Mecosta
44	Mason	44	Missaukee
45	Osceola	45	Tuscola
46	Van Buren	46	Wexford
47	Branch	47	Van Buren
48	St. Clair	48	Bay
49	Monroe	49	Crawford
50	Montcalm	50	Cass
51	Benzie	51	Newaygo
52	Luce	52	Ogemaw
53	Crawford	53	Jackson
54	Alpena	54	Gratiot
55	Iosco	55	Berrien
56	Sanilac	56	Hillsdale
57	Cheboygan	57	Mackinac
58	Shiawassee	58	St. Joseph
59	Berrien	59	Luce
60	Schoolcraft	60	Branch
61	Oceana	61	Montmorency
62	Manistee	62	Cheboygan
63	Cass	63	Alcona
64	Muskegon	64	Schoolcraft
65	Jackson	65	St. Clair
66	Kalkaska	66	Arenac
67	Oscoda	67	Chippewa
68	Wexford	68	Oceana
69	St. Joseph	69	Roscommon
70	Roscommon	70	Muskegon
71	Ogemaw	71	Oscoda
72	Arenac	72	Montcalm
73	Saginaw	73	Calhoun
74	Montmorency	74	Iosco
75	Calhoun	75	Baraga
76	Alcona	76	Clare
77	Gladwin	77	Sanilac
78	Genesee	78	Gladwin
79	Ontonagon	79	Saginaw
80	Lake	80	Lake
81	Wayne	81	Genesee
82	Clare	82	Wayne

Not Ranked: Keweenaw

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	Leelanau	Houghton
2	Alger	Mackinac
3	Ottawa	Livingston
4	Emmet	Iron
5	Clinton	Ottawa
6	Livingston	Marquette
7	Washtenaw	Grand Traverse
8	Eaton	Dickinson
9	Grand Traverse	Lapeer
10	Menominee	Allegan
11	Lapeer	Washtenaw
12	Oakland	Missaukee
13	Marquette	Charlevoix
14	Baraga	Crawford
15	Chippewa	Clinton
16	Lenawee	Alger
17	Ionia	Emmet
18	Kent	Lenawee
19	Allegan	Gogebic
20	Presque Isle	Benzie
21	Midland	Eaton
22	Delta	Otsego
23	Kalamazoo	Chippewa
24	Missaukee	Leelanau
25	Barry	Van Buren
26	Macomb	Midland
27	Ingham	Tuscola
28	Charlevoix	Menominee
29	Mecosta	Newaygo
30	Antrim	Ionia
31	Hillsdale	Baraga
32	Gratiot	Kent
33	St. Clair	Schoolcraft
34	Manistee	Osceola
35	Bay	Presque Isle
36	Houghton	Oakland
37	Huron	Ogemaw
38	Monroe	Huron
39	Dickinson	Isabella
40	Gogebic	Gratiot

Rank	Mortality	Morbidity
41	Iron	Hillsdale
42	Shiawassee	Branch
43	Mason	Mason
44	Montcalm	Lake
45	Oceana	Roscommon
46	Kalkaska	Iosco
47	Muskegon	Barry
48	Alpena	Montcalm
49	Branch	Ingham
50	Cass	Luce
51	Otsego	Bay
52	Luce	Mecosta
53	Isabella	Macomb
54	Cheboygan	Arenac
55	Newaygo	Wexford
56	Tuscola	Monroe
57	Osceola	Oscoda
58	Sanilac	Sanilac
59	Berrien	Montmorency
60	Jackson	St. Joseph
61	Van Buren	St. Clair
62	Iosco	Antrim
63	Benzie	Alpena
64	Oscoda	Berrien
65	Crawford	Kalamazoo
66	Schoolcraft	Cheboygan
67	Saginaw	Jackson
68	Mackinac	Ontonagon
69	St. Joseph	Delta
70	Wexford	Cass
71	Calhoun	Oceana
72	Gladwin	Shiawassee
73	Genesee	Muskegon
74	Arenac	Saginaw
75	Roscommon	Alcona
76	Alcona	Kalkaska
77	Montmorency	Calhoun
78	Ogemaw	Manistee
79	Wayne	Genesee
80	Clare	Clare
81	Ontonagon	Gladwin
82	Lake	Wayne

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	Washtenaw	1	Marquette	1	Livingston	1	Montmorency
2	Livingston	2	Wexford	2	Clinton	2	Kalkaska
3	Oakland	3	Muskegon	3	Washtenaw	3	Gladwin
4	Ottawa	4	Oakland	4	Leelanau	4	Luce
5	Leelanau	5	Washtenaw	5	Ottawa	4	Otsego
6	Presque Isle	6	Alpena	6	Grand Traverse	6	Clare
7	Clinton	7	Kent	7	Midland	7	Osceola
8	Grand Traverse	8	Grand Traverse	8	Marquette	8	Gogebic
9	Benzie	9	Charlevoix	9	Oakland	9	Oscoda
10	Marquette	10	Ottawa	10	Barry	10	Baraga
11	Charlevoix	11	Dickinson	11	Dickinson	11	Crawford
12	Houghton	12	Midland	12	Eaton	11	Ontonagon
13	Kalamazoo	13	Otsego	13	Isabella	13	Charlevoix
14	Midland	14	Emmet	14	Allegan	14	Ogemaw
15	Kent	15	Cheboygan	15	Menominee	15	Montcalm
16	Huron	16	Mecosta	16	Delta	16	Presque Isle
17	Manistee	17	Saginaw	17	Monroe	17	Oceana
18	Macomb	18	Presque Isle	18	Macomb	18	Delta
19	Ingham	19	Kalamazoo	19	Benzie	19	Eaton
20	Montmorency	20	Newaygo	20	Kalamazoo	20	Dickinson
21	Allegan	21	Genesee	21	Houghton	21	Mecosta
22	Isabella	22	Delta	22	Antrim	22	Roscommon
23	Tuscola	23	Berrien	23	Ontonagon	23	Menominee
24	Alcona	24	Lenawee	24	Lapeer	24	Manistee
25	Arenac	25	Livingston	25	Huron	25	St. Joseph
26	Lenawee	26	Allegan	26	Emmet	26	Alger
27	Iron	27	Gogebic	27	Cass	27	Leelanau
28	Delta	28	Schoolcraft	28	Lenawee	28	Missaukee
29	Ionia	29	Calhoun	29	Charlevoix	29	Clinton
30	Osceola	30	Kalkaska	30	Mason	30	Antrim
31	Alger	31	Ingham	31	Kent	31	Marquette
32	Dickinson	32	Mason	32	Alger	32	Jackson
33	Gogebic	33	Alger	33	Bay	33	Benzie
34	Missaukee	34	Shiawassee	34	Ionia	34	Newaygo
35	Kalkaska	35	Van Buren	35	Shiawassee	35	Ionia
36	Van Buren	36	Roscommon	36	Ingham	36	Huron
37	Antrim	37	Osceola	37	Manistee	37	Midland
38	Menominee	38	Chippewa	38	Iron	38	Houghton
39	Ogemaw	39	Iosco	39	Branch	39	Lake
40	Mason	40	Jackson	40	Otsego	40	Alpena

Rank	Health Behaviors	Rank	Clinical Care	Rank	Social & Economic Factors	Rank	Physical Environment
41	Shiawassee	41	Crawford	41	Gogebic	41	Barry
42	Crawford	42	Ionia	42	Gratiot	42	Mackinac
43	Ontonagon	43	Macomb	43	St. Clair	43	Tuscola
44	Monroe	44	Gratiot	44	Tuscola	44	Shiawassee
45	Lapeer	45	Manistee	45	Mecosta	45	Chippewa
46	Emmet	46	Eaton	46	Jackson	46	Bay
47	Hillsdale	47	St. Clair	47	St. Joseph	47	Mason
48	Berrien	48	Montcalm	48	Missaukee	48	Emmet
49	Branch	49	Clinton	49	Sanilac	49	Arenac
50	Mackinac	50	Monroe	50	Chippewa	50	Iron
51	Alpena	51	Houghton	51	Hillsdale	51	Van Buren
52	Newaygo	52	Ogemaw	52	Kalkaska	52	Isabella
53	Oceana	53	Barry	53	Van Buren	53	Cass
54	Barry	54	Wayne	54	Mackinac	54	Cheboygan
55	Oscoda	55	Clare	55	Alpena	55	Sanilac
56	Schoolcraft	56	Missaukee	56	Crawford	56	Livingston
57	Bay	57	Alcona	57	Ogemaw	57	Wexford
58	Eaton	58	Hillsdale	58	Newaygo	58	Calhoun
59	Jackson	59	Luce	59	Osceola	59	Lapeer
60	Wexford	60	Lake	60	Berrien	60	Gratiot
61	St. Joseph	61	Huron	61	Luce	61	Washtenaw
62	Luce	62	Montmorency	62	Wexford	62	Lenawee
63	Cass	63	Bay	63	Muskegon	63	Kalamazoo
64	Roscommon	64	Mackinac	64	Cheboygan	64	Hillsdale
65	Baraga	65	Menominee	65	Schoolcraft	65	Saginaw
66	Clare	66	Antrim	66	Iosco	66	Ingham
67	Mecosta	67	Iron	67	Presque Isle	67	Grand Traverse
68	St. Clair	68	St. Joseph	68	Oceana	68	Oakland
69	Gratiot	69	Leelanau	69	Arenac	69	Branch
70	Otsego	70	Oscoda	70	Montcalm	70	Iosco
71	Calhoun	71	Tuscola	71	Alcona	71	Ottawa
72	Gladwin	72	Lapeer	72	Baraga	72	Monroe
73	Cheboygan	73	Cass	73	Gladwin	73	Berrien
74	Montcalm	74	Benzie	74	Calhoun	74	Muskegon
75	Iosco	75	Oceana	75	Roscommon	75	Genesee
76	Lake	76	Sanilac	76	Oscoda	76	Allegan
77	Chippewa	77	Isabella	77	Saginaw	77	Alcona
78	Sanilac	78	Arenac	78	Genesee	78	Macomb
79	Saginaw	79	Branch	79	Clare	79	Schoolcraft
80	Muskegon	80	Gladwin	80	Montmorency	80	St. Clair
81	Wayne	81	Baraga	81	Lake	81	Kent
82	Genesee	82	Ontonagon	82	Wayne	82	Wayne

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.

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