



Kansas County Health Rankings 2009

*allen | anderson | atchison | barber | barton | bourbon | brown | butler | chase | chautauqua | cherokee | cheyenne
 clark | clay | cloud | coffey | comanche | cowley | crawford | decatur | dickinson | doniphan | douglas | edwards
 elk | ellis | ellsworth | finney | ford | franklin | geary | gove | graham | grant | gray | greeley | greenwood | hamilton
 harper | harvey | haskell | hodgeman | jackson | jefferson | jewell | johnson | kearny | kingman | kiowa | labette
 lane | leavenworth | lincoln | linn | logan | lyon | mcpherson | marion | marshall | meade | miami | mitchell
 montgomery | morris | morton | nemaha | neosho | ness | norton | osage | osborne | ottawa | pawnee | phillips
 pottawatomie | pratt | rawlins | reno | republic | rice | riley | rooks | rush | russell | saline | scott | sedgwick | seward
 shawnee | sheridan | sherman | smith | stafford | stanton | stevens | sumner | thomas | trego | wabaunsee | wallace
 washington | wichita | wilson | woodson | wyandotte*



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The Kansas Health Institute is an independent, nonprofit health policy and research organization based in Topeka, Kansas. Established in 1995 with a multiyear grant from the Kansas Health Foundation, the Kansas Health Institute conducts research and policy analysis on issues that affect the health of Kansans.

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About the Report

Authors

“*Kansas County Health Rankings 2009*” was written by Gianfranco Pezzino, M.D., M.P.H. Primary data analysis was provided by Cheng-Chung Huang, M.P.H.

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On the Web

An electronic version of this report and supporting materials is available at www.khi.org.

The online report features an interactive Web application that allows users to explore the data used in compiling the health rankings.

Introduction

We love rankings and we use them in our everyday lives. They tell us where our favorite sports teams stand compared to the competition. They give us guidance on the best places to live and eat as well as the most reliable cars and appliances to buy. They can also tell us a lot about our health and well-being.

The Kansas Health Institute hopes to stimulate an ongoing discussion about the health of Kansans and the powerful factors that influence it with this report, “*Kansas County Health Rankings 2009*.”

In it, we rank all 105 counties based on a summary measure of the health of their residents. These rankings are displayed on page 5 in Table 1. This health index is calculated by analyzing two sets of indicators — health determinants and health outcomes.

Health outcomes are those things that describe how healthy we are as a population

at a given moment. Specific indicators include mortality rates and low birth weights. Health determinants are those things that influence health outcomes. They include socioeconomic status, education, genetics, access to health care and the physical environment in which we live. Many people do not realize that the factors that most powerfully influence our health have little to do with health care provided in doctors’ offices and hospitals.

A full description of the methods used to generate the county health rankings is contained in a separate online technical document.¹

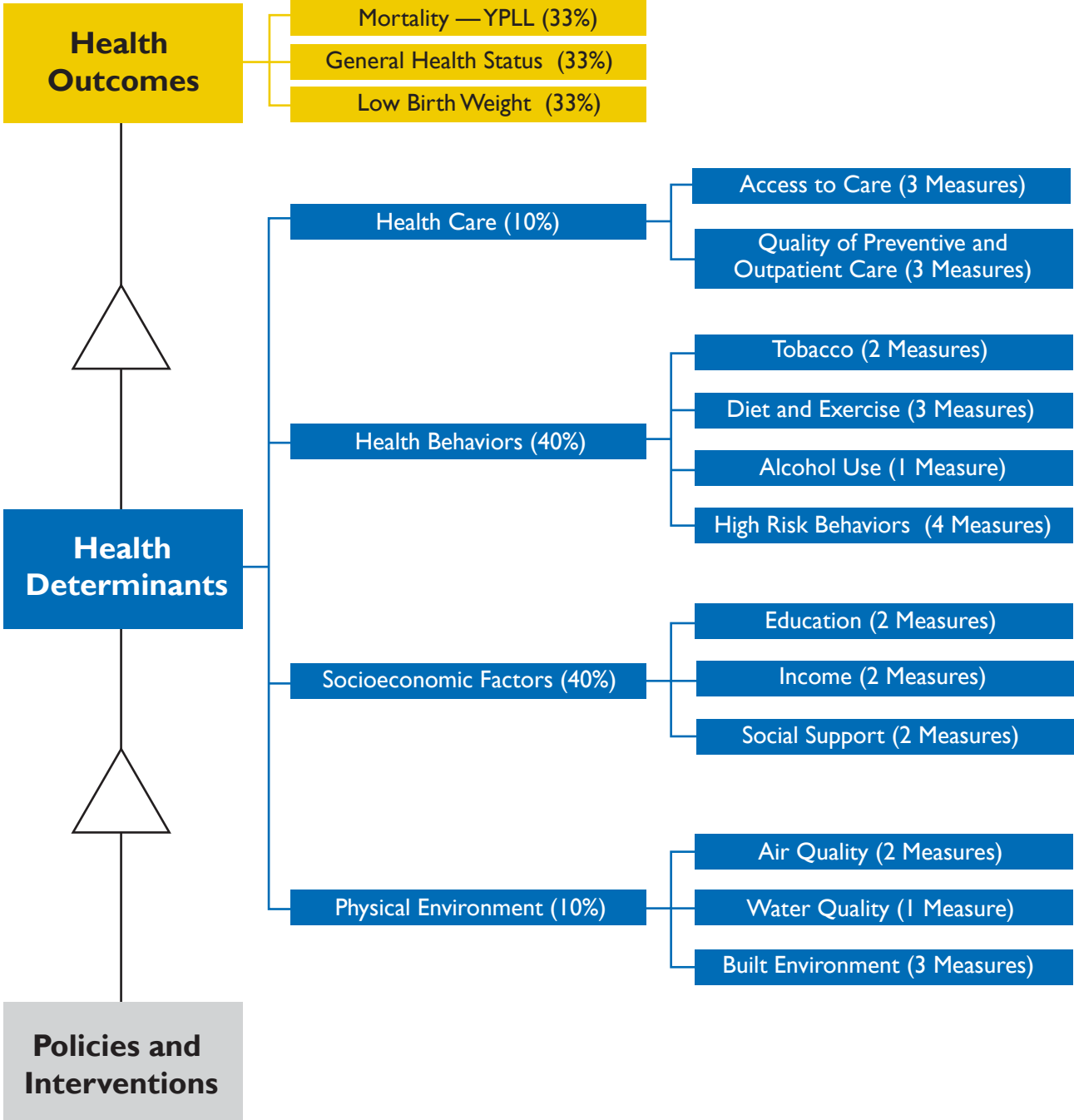
This broad approach to measuring the health of Kansans is meant to generate discussion at the community, county and state levels about ways to improve our health. A similar methodology has been used for years by the United Health Foundation to publish “*America’s Health Rankings*,” which ranks

each state on several health determinants and outcomes measures. At the state level, the University of Wisconsin Population Health Institute has published six annual reports that rank that state’s counties in ways similar to those in this report. A handful of other states have produced similar reports. In addition, the Robert Wood Johnson Foundation is supporting a project to develop county-level indicators of health across the entire country.

The goal of this report and others like it is to stimulate discussion and action by individuals, communities, policymakers, health care providers and public health officials to improve the health of their communities. The development of policies and interventions that affect health determinants is critical. That means policies capable of changing those systemic factors that influence our health.

Measuring Health

Figure 1. Logic Model for the “Kansas County Health Rankings 2009”²



Measuring Health

Health and its determinants

The question of what constitutes “good health” has been debated for a long time. Different definitions have been formulated that emphasize one aspect or another of the health domain, but two concepts appear to be well-established:

- First, health is more than the absence of disease. It is the overall physical, mental and social well-being of a person or community of persons.
- Second, health is the result of the interaction of a variety of factors. We are all born with our own genetic predispositions to certain diseases. But the extent to which we remain healthy is the result of our personal behaviors, the environment and communities in which we live, the social structure that we share and the clinical care that we receive. These four domains (health behaviors, physical environment, socioeconomic factors and health care) are referred to in this report as health determinants. Health determinants are agents that interact with each other in complex ways to influence both our health as individuals and that of our communities.

Health (both in its outcomes and in its determinants) can be profoundly affected by public policies enacted by local, state and federal governments. For example, restrictions on smoking in public places affect behavior (how much one smokes) and the environment (how much exposure one has to secondhand smoke).

The health of a community is represented by the overall health of its members, determined by their personal behaviors, their level of access to health care, the quality of their physical environment, and the socioeconomic factors specific to their community.

Health is often thought of as an individual status, but the concept of physical well-being can be expanded from individuals to communities. If we use the broad definition of health and its determinants described above, the health of a community is represented by the overall health of its members, determined by their personal

behaviors, their level of access to health care, the quality of their physical environment, and the socioeconomic factors specific to their community.

How to measure health

Measuring health outcomes and health determinants at the local level is challenging. Each community is different and has unique factors that affect positively or negatively the health of its residents.

Comprehensive community health assessment tools exist to create in-depth profiles of a community’s strengths and challenges in the health arena. These tools and the assessments they generate can be valuable for policy and planning purposes, but often require significant resources. In addition, the results of individual assessments are difficult to compare to those of other communities.

This report uses an alternative approach of selecting a number of measures to describe health outcomes and health determinants in each county. While the scope is narrower than that of a comprehensive community health assessment, the use of a limited number of measures across all the counties makes the comparison among counties easier.

Measuring Health

The selection of these measures was based upon the public health priorities of the state, their scientific validity, their importance to overall health, and availability of data at the county level. The relative lack of county-level data proved to be a particularly important challenge and shaped considerably the way that the report was prepared. Those limitations are discussed in more detail on page 17.

Health outcomes measures included in this report are mortality (expressed as years of potential life lost, or YPLL), low birth weight (LBW) rate, and self-reported general health status. For health determinants, the four broad components of

health behaviors, health care, socioeconomic factors and physical environment were further divided into several subcategories, each of which was assigned one or more measures. For example, the health care category includes two subcategories: access to care, and quality of preventive and outpatient care. The access to care subcategory has three measures and the quality of preventive and outpatient care subcategory also has three. The values of all the measures were combined to create a specific index for each component, as well as an overall index. The summary health index, featured on page 5, includes measures

from all the determinants and the outcomes, and represents a comprehensive view of the health of individual counties. Finally, counties received a rank for health outcomes and for each component of the health determinants, as well as for the summary health index. Counties with a high rank (e.g., 1 or 2) are considered to be the healthiest. A full list of the measures, categories and components used to prepare the “*Kansas County Health Rankings 2009*” is included in Table 5 on page 15.

The logic model that served as the foundation for this report is illustrated in Figure 1 on page 2.

HEALTH DETERMINANTS

Following a model used by other organizations in similar projects, this report looks at four groups of health determinants that can affect the health of individuals and communities:

1. **Health behaviors** include the activities that we engage in that affect our personal health. It includes habits and practices such as what we routinely eat, how much we exercise, whether we smoke and how much alcohol we drink. While these behaviors can be modified with individual effort, various community support systems and clinical interventions also play important roles.
2. **Physical environment** determines the daily conditions in which we live. These conditions — the quality of the air we breathe and the water we drink among them — significantly affect our health.
3. **Socioeconomic factors** have been known for a long time to have a significant impact on health. In addition to income, these factors include the safety of our neighborhoods, the healthfulness of our food choices and perhaps most importantly having access to a quality education.
4. **Health care** reflects the quality, appropriateness and cost of the clinical care that we receive at doctors’ offices, clinics and hospitals when we are sick.

The Rankings

Table 1. Summary Health Index Ranking

RANK	COUNTY	RANK	COUNTY	RANK	COUNTY
1	Gove	36	Marshall	71	Jackson
2	Sheridan	37	Miami	72	Pawnee
3	Johnson	38	Haskell	73	Pratt
4	Greeley	39	Ottawa	74	Dickinson
5	Logan	40	Butler	75	Kearny
6	Pottawatomie	41	Cheyenne	76	Ford
7	Mitchell	42	Ellis	77	Osborne
8	Nemaha	43	Clark	78	Shawnee
9	McPherson	44	Stevens	79	Barton
10	Jewell	45	Barber	80	Greenwood
11	Kiowa	46	Morris	81	Osage
12	Lane	47	Ness	82	Neosho
13	Riley	48	Jefferson	83	Sherman
14	Smith	49	Coffey	84	Grant
15	Chase	50	Leavenworth	85	Sedgwick
16	Scott	51	Norton	86	Cowley
17	Wabaunsee	52	Lincoln	87	Brown
18	Decatur	53	Morton	88	Wichita
19	Rawlins	54	Wallace	89	Hamilton
20	Meade	55	Stafford	90	Seward
21	Harvey	56	Sumner	91	Finney
22	Hodgeman	57	Kingman	92	Chautauqua
23	Thomas	58	Rice	93	Anderson
24	Comanche	59	Cloud	94	Allen
25	Marion	60	Phillips	95	Elk
26	Ellsworth	61	Republic	96	Atchison
27	Douglas	62	Linn	97	Crawford
28	Washington	63	Saline	98	Cherokee
29	Edwards	64	Rush	99	Wilson
30	Stanton	65	Harper	100	Bourbon
31	Graham	66	Doniphan	101	Woodson
32	Rooks	67	Russell	102	Geary
33	Gray	68	Lyon	103	Labette
34	Trego	69	Reno	104	Montgomery
35	Clay	70	Franklin	105	Wyandotte

The Rankings

Why the health rankings?

Creating rankings is a controversial process. Each county in the state can claim diverse populations, environments and resources, and has particular strengths, weaknesses and public health challenges. Despite this variability, we think that rankings can serve a constructive purpose. They are easy to understand for nontechnical audiences and policymakers and they help to identify high and low performers in each area. Successful counties can serve as role models for their lower-ranked peers. In addition, comparisons always stimulate discussion. We hope that our efforts to summarize and communicate this information to a broad audience will add value to the state's public health and health policy discussions and stimulate communities to honestly assess their strengths and challenges and develop effective strategies for dealing with those challenges.

Interpreting the rankings

The measures that comprise the Kansas county health rankings are of two types — health determinants and health outcomes. Health determinants represent factors that can affect the future health of the

population, meaning that they eventually produce health outcomes. Generally speaking, therefore, a county's health determinants ranking indicates the direction in which health in that county can be expected to move in the near future. A county's health outcomes measure, on the other hand, reflects the more current health status of its population.

A county's health determinants ranking indicates the direction in which health in that county can be expected to move in the near future.

Since there is a delay (up to several years) between the collection of information on each measure and its availability for analysis, in reality the outcome ranking represents the health outcomes that were present some time in the recent past.

For a county to improve the health of its population, it must focus on changing the determinants of health.

The indicators that we selected are based on similar projects done elsewhere and represent the best information available in the

domains studied in this project. In some cases, particularly for the indicators related to the physical environment, these indicators may not fully represent the complexity of the interaction between health determinants and outcomes. In the absence of better measures, we decided to use the best data available today, with the hope that as new information is generated, our ability to measure the effects of health determinants also will improve.

One important limitation of the rankings is that for some indicators the sample size available in each county is too small to produce stable and reliable measurements, even when information from multiple years is pooled together. In addition, some indicators are subject, by their own nature, to considerable fluctuations from year to year. For these reasons, the ranking positions should be interpreted as broad indicators, and not exact measures of health in each county. Attention should be paid more to general trends in the rankings, rather than the individual value of one measure or small differences in ranking position. For example, a county that consistently appears in the bottom part of the rankings for most health determinants is more

The Rankings

likely to experience problems with its health outcomes in the future than a county that has one health determinant that ranks towards the bottom but most others in the middle or upper portions.

Another limitation of the rankings is that while they show a comparison among counties in Kansas, they do not provide information about how the health in Kansas counties compares to national and state goals, nor do they assess the extent to which each county has achieved its full health potential. Despite the limitations, these comparisons can be used as a learning process

to identify practices and potential changes likely to improve health across the state.

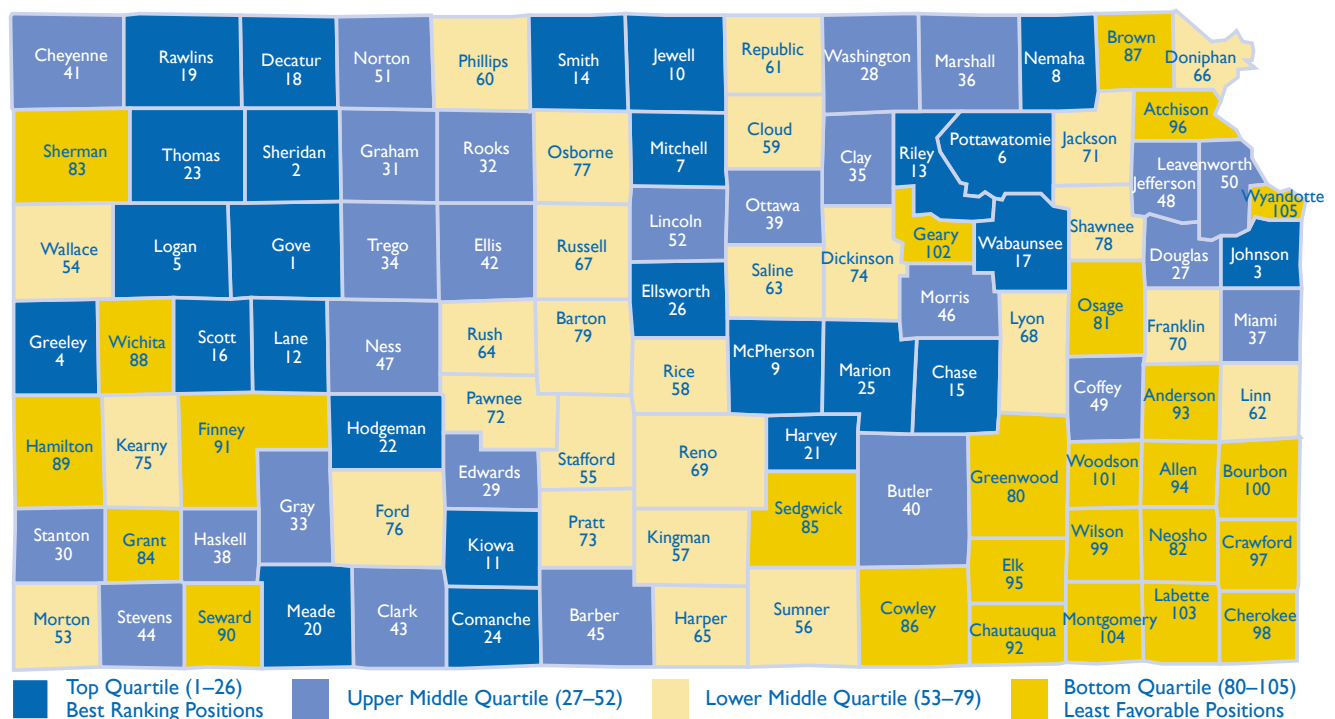
Results

As expected, we observed wide variability among counties when measuring the health determinants and outcomes included in this report. Based on the model we used, one could expect a correlation between the position of a county in the health determinants ranking and its health outcomes ranking. We found that statistically, the correlation coefficient between the two rankings was 0.47. That means that an increase of one position in the ranking

of determinants is statistically linked to an increase (on average) of 0.47 positions in the ranking of outcomes. In statistical terms, the strength of this correlation is moderate, meaning that the model we used to calculate the rankings is only broadly accurate.

After listing the counties based on their rank, we organized them in four groups of equal size (quartiles), based on their ranking positions (Figure 2). Counties in the top quartile exhibited the best ranking positions, while those in the bottom quartile had the least favorable positions, with those in quartiles number two and three occupying intermediate positions.

Figure 2. Summary Health Index by Quartile



The Rankings

Table 2. Health Outcomes and Health Determinants Rankings

TOP QUARTILE			UPPER MIDDLE QUARTILE		
Rank	Health Outcomes	Health Determinants	Rank	Health Outcomes	Health Determinants
1	Sheridan	Johnson	27	Nemaha	Edwards
2	Gove	Gove	28	Lane	Rooks
3	Chase	Comanche	29	Barber	McPherson
4	Mitchell	Greeley	30	Wabaunsee	Haskell
5	Kiowa	Sheridan	31	Smith	Kiowa
6	Decatur	Pottawatomie	32	Miami	Butler
7	Johnson	Nemaha	33	Norton	Riley
8	Greeley	Logan	34	Rice	Stevens
9	Logan	Scott	35	Ford	Ness
10	Riley	Wallace	36	Harvey	Stafford
11	Coffey	Lane	37	Cloud	Ellsworth
12	Morton	Hodgeman	38	Lyon	Gray
13	Jewell	Cheyenne	39	Saline	Jefferson
14	Stanton	Smith	40	Phillips	Miami
15	Pottawatomie	Marshall	41	Lincoln	Douglas
16	Trego	Graham	42	Finney	Decatur
17	Douglas	Ottawa	43	Dickinson	Morris
18	Marion	Marion	44	Scott	Clay
19	Ellsworth	Wabaunsee	45	Edwards	Chase
20	Clay	Harvey	46	Leavenworth	Clark
21	Rawlins	Washington	47	Sumner	Stanton
22	Ellis	Mitchell	48	Rooks	Republic
23	Meade	Jewell	49	Reno	Trego
24	Clark	Meade	50	Morris	Ellis
25	Thomas	Thomas	51	Seward	Barber
26	Gray	Rawlins	52	Butler	Leavenworth

The Rankings

LOWER MIDDLE QUARTILE

Rank	Health Outcomes	Health Determinants
53	McPherson	Rush
54	Hodgeman	Lincoln
55	Franklin	Wichita
56	Shawnee	Doniphan
57	Linn	Sherman
58	Haskell	Kingman
59	Kingman	Norton
60	Russell	Sumner
61	Washington	Osborne
62	Neosho	Linn
63	Marshall	Harper
64	Stevens	Osage
65	Sedgwick	Pratt
66	Harper	Russell
67	Jefferson	Jackson
68	Hamilton	Phillips
69	Greenwood	Cloud
70	Cowley	Rice
71	Kearny	Pawnee
72	Woodson	Grant
73	Pawnee	Saline
74	Ness	Kearny
75	Barton	Franklin
76	Jackson	Reno
77	Brown	Lyon
78	Graham	Anderson
79	Doniphan	Barton

BOTTOM QUARTILE

Rank	Health Outcomes	Health Determinants
80	Pratt	Coffey
81	Republic	Morton
82	Rush	Greenwood
83	Atchison	Shawnee
84	Ottawa	Dickinson
85	Chautauqua	Neosho
86	Stafford	Ford
87	Geary	Sedgwick
88	Grant	Elk
89	Allen	Cowley
90	Crawford	Cherokee
91	Osborne	Brown
92	Osage	Chautauqua
93	Cheyenne	Allen
94	Comanche	Wilson
95	Montgomery	Hamilton
96	Wyandotte	Bourbon
97	Elk	Crawford
98	Bourbon	Labette
99	Sherman	Seward
100	Cherokee	Atchison
101	Wilson	Finney
102	Labette	Geary
103	Anderson	Montgomery
104	Wallace	Woodson
105	Wichita	Wyandotte

The Rankings

Table 3. Summary of Ranking Positions Sorted by County

COUNTY	SUMMARY HEALTH INDEX	OUTCOMES	DETERMINANTS				
			Overall	Health Care	Health Behaviors	Socioeconomic Factors	Physical Environment
Allen	94	89	93	58	102	81	63
Anderson	93	103	78	62	54	84	69
Atchison	96	83	100	40	105	92	71
Barber	45	29	51	25	66	42	75
Barton	79	75	79	61	79	69	103
Bourbon	100	98	96	83	65	100	83
Brown	87	77	91	55	88	91	62
Butler	40	52	32	27	36	34	57
Chase	15	3	45	93	38	44	73
Chautauqua	92	85	92	21	91	93	80
Cherokee	98	100	90	71	53	99	70
Cheyenne	41	93	13	86	9	28	6
Clark	43	24	46	88	84	17	19
Clay	35	20	44	53	44	46	46
Cloud	59	37	69	28	83	58	58
Coffey	49	11	80	15	47	90	77
Comanche	24	94	3	64	1	4	102
Cowley	86	70	89	54	96	83	68
Crawford	97	90	97	75	95	95	52
Decatur	18	6	42	6	75	26	64
Dickinson	74	43	84	69	100	60	67
Doniphan	66	79	56	77	26	74	82
Douglas	27	17	41	72	51	36	32
Edwards	29	45	27	100	4	61	13
Elk	95	97	88	80	37	97	100
Ellis	42	22	50	8	90	30	21
Ellsworth	26	19	37	44	30	57	33
Finney	91	42	101	97	81	98	96
Ford	76	35	86	101	48	86	101
Franklin	70	55	75	41	58	82	61
Geary	102	87	102	50	94	104	39
Gove	1	2	2	57	2	5	20
Graham	31	78	16	82	7	35	12
Grant	84	88	72	45	87	70	3
Gray	33	26	38	99	43	25	18
Greeley	4	8	4	65	8	3	4

The Rankings

COUNTY	SUMMARY HEALTH INDEX	OUTCOMES	DETERMINANTS				
			Overall	Health Care	Health Behaviors	Socioeconomic Factors	Physical Environment
Greenwood	80	69	82	63	85	76	15
Hamilton	89	68	95	105	103	62	26
Harper	65	66	63	35	63	65	86
Harvey	21	36	20	11	15	43	35
Haskell	38	58	30	89	29	37	10
Hodgeman	22	54	12	85	32	6	8
Jackson	71	76	67	79	77	52	66
Jefferson	48	67	39	23	67	24	55
Jewell	10	13	23	70	5	27	105
Johnson	3	7	1	4	14	1	74
Kearny	75	71	74	102	73	67	27
Kingman	57	59	58	43	61	48	89
Kiowa	11	5	31	32	3	85	16
Labette	103	102	98	36	93	96	81
Lane	12	28	11	42	12	21	72
Leavenworth	50	46	52	5	40	71	60
Lincoln	52	41	54	68	72	41	49
Linn	62	57	62	56	39	75	45
Logan	5	9	8	1	18	10	99
Lyon	68	38	77	51	64	80	48
Marion	25	18	18	12	31	19	22
Marshall	36	63	15	14	25	18	24
McPherson	9	53	29	9	52	22	40
Meade	20	23	24	90	19	23	90
Miami	37	32	40	13	50	40	51
Mitchell	7	4	22	3	27	33	30
Montgomery	104	95	103	66	104	102	93
Morris	46	50	43	31	34	47	98
Morton	53	12	81	96	97	56	17
Nemaha	8	27	7	18	23	2	84
Neosho	82	62	85	22	89	78	88
Ness	47	74	35	39	76	15	37
Norton	51	33	59	34	71	51	38
Osage	81	92	64	24	46	73	85
Osborne	77	91	61	94	59	49	56
Ottawa	39	84	17	67	24	13	43

The Rankings

Table 3 (continued). Summary of Ranking Positions Sorted by County

COUNTY	SUMMARY HEALTH INDEX	OUTCOMES	DETERMINANTS				
			Overall	Health Care	Health Behaviors	Socioeconomic Factors	Physical Environment
Pawnee	72	73	71	7	86	64	78
Phillips	60	40	68	59	99	29	50
Pottawatomie	6	15	6	17	17	8	36
Pratt	73	80	65	87	68	55	44
Rawlins	19	21	26	98	16	38	9
Reno	69	49	76	16	57	87	54
Republic	61	81	48	38	82	14	104
Rice	58	34	70	81	74	66	28
Riley	13	10	33	74	70	11	11
Rooks	32	48	28	37	21	45	76
Rush	64	82	53	2	78	53	25
Russell	67	60	66	33	45	77	59
Saline	63	39	73	19	62	79	65
Scott	16	44	9	73	13	20	14
Sedgwick	85	65	87	30	69	94	79
Seward	90	51	99	104	42	101	92
Shawnee	78	56	83	20	60	89	91
Sheridan	2	1	5	47	6	7	23
Sherman	83	99	57	91	35	72	42
Smith	14	31	14	29	11	39	5
Stafford	55	86	36	26	22	63	47
Stanton	30	14	47	76	56	54	1
Stevens	44	64	34	92	10	68	7
Sumner	56	47	60	52	55	50	97
Thomas	23	25	25	60	49	9	29
Trego	34	16	49	49	80	32	41
Wabaunsee	17	30	19	46	33	12	34
Wallace	54	104	10	10	20	31	2
Washington	28	61	21	48	28	16	53
Wichita	88	105	55	95	41	59	31
Wilson	99	101	94	78	92	88	87
Woodson	101	72	104	84	98	103	95
Wyandotte	105	96	105	103	101	105	94

Looking for Trends

We analyzed the rankings to see if there was any important pattern of performance in different parts of the state, based on the characteristics of the counties. In general, we found no consistent differences that could be related to population density, with one exception. The exception is represented by the degree of difference between the rankings for health outcomes and health determinants. If the difference is represented by a positive number, it indicates that the ranking for determinants is

better than that for outcomes. A negative number means the opposite. Generally speaking, if the determinants ranking is better than the outcomes ranking it means that the health of a county’s population is likely to improve over time. When the determinants ranking is lower than the outcomes ranking, it generally means that the health of a county’s population is likely to decline. Table 4 presents an example of how the distance between rankings can be interpreted.

Generally speaking, if the determinants ranking is better than the outcomes ranking it means that the health of a county’s population is likely to improve over time.

Table 4. Intrepretation of Distance Between Rankings

Example	Ranking for Outcomes	Ranking for Determinants	Distance: Outcomes Minus Determinants	Interpretation
Example 1	15	10	5	Ranking for health determinants is slightly more favorable than for health outcomes. Health outcomes can be expected to improve in the future.
Example 2	60	75	-15	Ranking for health determinants is considerably worse than for health outcomes. Health outcomes are likely to worsen in the future.

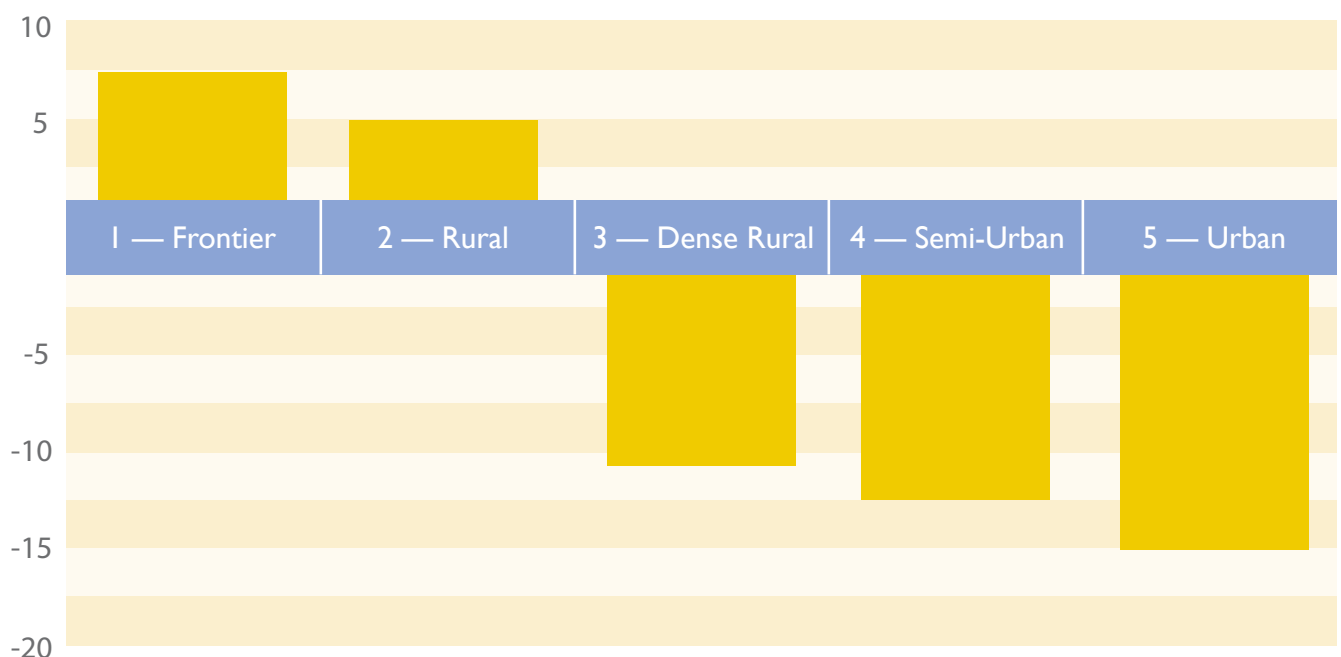
Looking for Trends

When we looked at the average distance between the two ranking positions for counties with different population densities, we found that frontier counties performed better on health determinants than on outcomes (Figure 3). Counties with increasing population density exhibit a progressive worsening of their ranking for health determinants compared to their ranking for health outcomes. In urban counties, the ranking for determinants was on average 15 positions worse than the ranking for outcomes. This means that urban settings may experience

a worsening of their health outcomes in the near future if policies are not implemented to improve the determinants that affect health. Among the five counties classified as urban,³ Johnson is the only county in which the ranking for determinants is better than that for outcomes, meaning that its health outcomes in the future may improve. It should be noted that Johnson County ranks very high on all the scales that we measured (#1 for determinants, #7 for outcomes and #3 for the summary health index).

Aside from this trend, the outcomes and determinants ranking positions in each county appeared to be related more to the unique characteristics of that county than to its population density. A clear example is provided by a comparison of Wyandotte and Johnson counties, which occupy the two extreme positions in the rank (Wyandotte being towards the bottom and Johnson towards the top). This tells us that the socioeconomic characteristics and local policies of each county/community are more important than population density in determining ranking.

Figure 3. Average Distance of Rankings for Outcomes and Determinants by County Type



Note: A positive number indicates that the ranking for health determinants is better than the ranking for health outcomes.

About the Data

Table 5. List of Data Elements and Sources⁴

KANSAS INDICATORS		DATA SOURCE
Health Determinants — Health Care: Six Indicators		
1	No Health Insurance	Small Area Health Insurance Estimates (SAHIE), U.S. Census Bureau
2	Did Not Receive Needed Health Care	BRFSS, Office of Health Promotion, KDHE
3	No Dentist Visit in Past Year	BRFSS, Office of Health Promotion, KDHE
4	No Influenza Vaccine Shots In Past Year	BRFSS, Office of Health Promotion, KDHE
5	No Adequate Prenatal Care	Vital Statistics, Office of Health Assessment, KDHE
6	Breast Cancer Deaths	Vital Statistics, Office of Health Assessment, KDHE
Health Determinants — Health Behaviors: Ten Indicators		
1	Cigarette Smoking	BRFSS, Office of Health Promotion, KDHE
2	Smoking During Pregnancy	Vital Statistics, Office of Health Assessment, KDHE
3	Physical Inactivity	BRFSS, Office of Health Promotion, KDHE
4	Overweight and Obesity	BRFSS, Office of Health Promotion, KDHE
5	Low Fruit and Vegetable Consumption	BRFSS, Office of Health Promotion, KDHE
6	Binge Drinking	BRFSS, Office of Health Promotion, KDHE
7	Not Always Wearing Seatbelt	BRFSS, Office of Health Promotion, KDHE
8	Teen Birth	Vital Statistics, Office of Health Assessment, KDHE
9	Sexually Transmitted Disease	Bureau of Disease Control and Prevention, KDHE
10	Violent Crime	Kansas Bureau of Investigation

About the Data

Table 5 (continued). List of Data Elements and Sources⁴

KANSAS INDICATORS		DATA SOURCE
Health Determinants — Socioeconomic Factors: Six Indicators		
1	High School Non-Graduation	Kansas State Department of Education
2	No High School Diploma	U.S. Census Bureau
3	Unemployment Rate	U.S. Bureau of Labor Statistics
4	Children in Poverty	Small Area Income and Poverty Estimates (SAIPE), U.S. Census Bureau
5	Divorce Rate	Vital Statistics, Office of Health Assessment, KDHE
6	Single Parent Households	U.S. Census Bureau
Health Determinants — Physical Environment: Six Indicators		
1	Respiratory Hazard Index	1999 National Air Toxics Assessment, U.S. Environmental Protection Agency
2	Secondhand Smoking	BRFSS, Office of Health Promotion, KDHE
3	Nitrate and Coliform Levels in Water	Bureau of Water, KDHE
4	Housing With Increased Lead Risk	U.S. Census Bureau
5	Lead Poisoned Children	Bureau of Consumer Health, KDHE
6	Commuting to Work by Driving Alone	U.S. Census Bureau
Health Outcomes: Three Indicators		
1	Years of Potential Life Lost Prior to Age 75 (YPLL-75)	Vital Statistics, Office of Health Assessment, KDHE
2	General Health Status: Fair or Poor	BRFSS, Office of Health Promotion, KDHE
3	Low Birth Weight	Vital Statistics, Office of Health Assessment, KDHE

About the Data

Data Limitations

The “*Kansas County Health Rankings 2009*” is based on information available from multiple sources that was selected to describe the health of each community and the factors that can affect it.

For some indicators, the number of events or the sample size in some counties is small. This may be due to the way that the information was originally collected (for example, a statewide survey aimed at measuring an indicator at the state level, rather than in individual counties) or to the fact that some events occur rarely in a small community (for example, a death from breast cancer). Regardless of the reasons, the fact that in some counties we only have a small number of observations or events makes those indicators more susceptible to random changes that may not be related to policy interventions or other determinants used in

this project. For this reason, one should be cautious and not put much emphasis on one single value for any of the measures included in the report. Each measure should be interpreted in the context of other measures in the same group of indicators. The use of multiple measures in the calculation of the indexes in this report minimizes the risk that a single indicator with an unusual value in a county (because of local factors or simply by chance) would skew the ranking of that county.

To minimize the limitations created by a small number of observations, information from multiple years was combined and the larger pool of observations was used to calculate the value of the indicators. The advantage of this technique is that the effect of yearly variations that may be related to rare events or small sample size is counterbalanced by the events from other years. The disadvantage is that by

pooling multiple years together, we may not be able to detect temporal trends until we can compare several sets of years to each other.

Another obstacle that limits the usefulness of the county health rankings is the fact that in some instances, even when the number of events or the sample size is large, the most recent set of data available for analysis may be several years old. This is the case for some measures used for this report that were based on census data or vital statistics.

There is no doubt that the value of the county health rankings could be increased if some critical data sources, such as the Behavioral Risk Factor Surveillance Survey (BRFSS) and the state vital statistics system, would include a sample size sufficient to avoid the need for pooling multiple years of observations and were updated in a more timely fashion.

About the Data

Endnotes

- ¹ *Kansas County Health Rankings 2009 — Technical Document* is available at www.khi.org.
- ² The percentage numbers in the logic model represent the weight of individual measures on the overall indexes.
- ³ The five counties in Kansas classified as urban are Douglas, Johnson, Sedgwick, Shawnee and Wyandotte.
- ⁴ A more detailed description of the indicators is contained in the document “*Kansas County Health Rankings 2009 — Indicators*,” which is available at www.khi.org.

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