

**Kansas Home Visiting Program
Identification of High Risk Communities: Methodology and Findings**

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The first step in the needs assessment for the Kansas Home Visiting Program is to identify areas of the state with populations of pregnant women, infants and children with the highest risks for poor birth outcomes, child neglect, abuse and maltreatment, low school readiness, not graduating from high school, crime and domestic violence, unemployment and poor family economic self-sufficiency, and use of tobacco, alcohol, and other substances.

The methodology used to prioritize communities at highest risk involves ranking communities on indicators of (a) the overall health of each community (i.e., behavioral, social and environmental determinants of health and poor health outcomes); and (b) the health and well-being of pregnant women, infants, and children.

1. Data Sources

A. Indicators of High Risk for Poor Community Health

The *Kansas County Health Rankings* are used to prioritize communities at highest risk. In 2009, the Kansas Health Institute (KHI) ranked all 105 Kansas counties based on a summary measure of the health of their residents www.khi.org/news/2009/may/07/kansas-county-health-rankings-2009/. This health index was calculated by analyzing two sets of indicators — health determinants and health outcomes. The health determinant indicators include the multiple social, environmental, and behavioral factors that influence the health and well-being of a child, and those determinants of low birth weight and preterm birth. The logic model and weighting scheme are illustrated in Figure 1. The technical report for these indicators is available at http://media.khi.org/news/documents/2009/09/03/KansasCountyHealthRanking2009DataElements_.pdf.

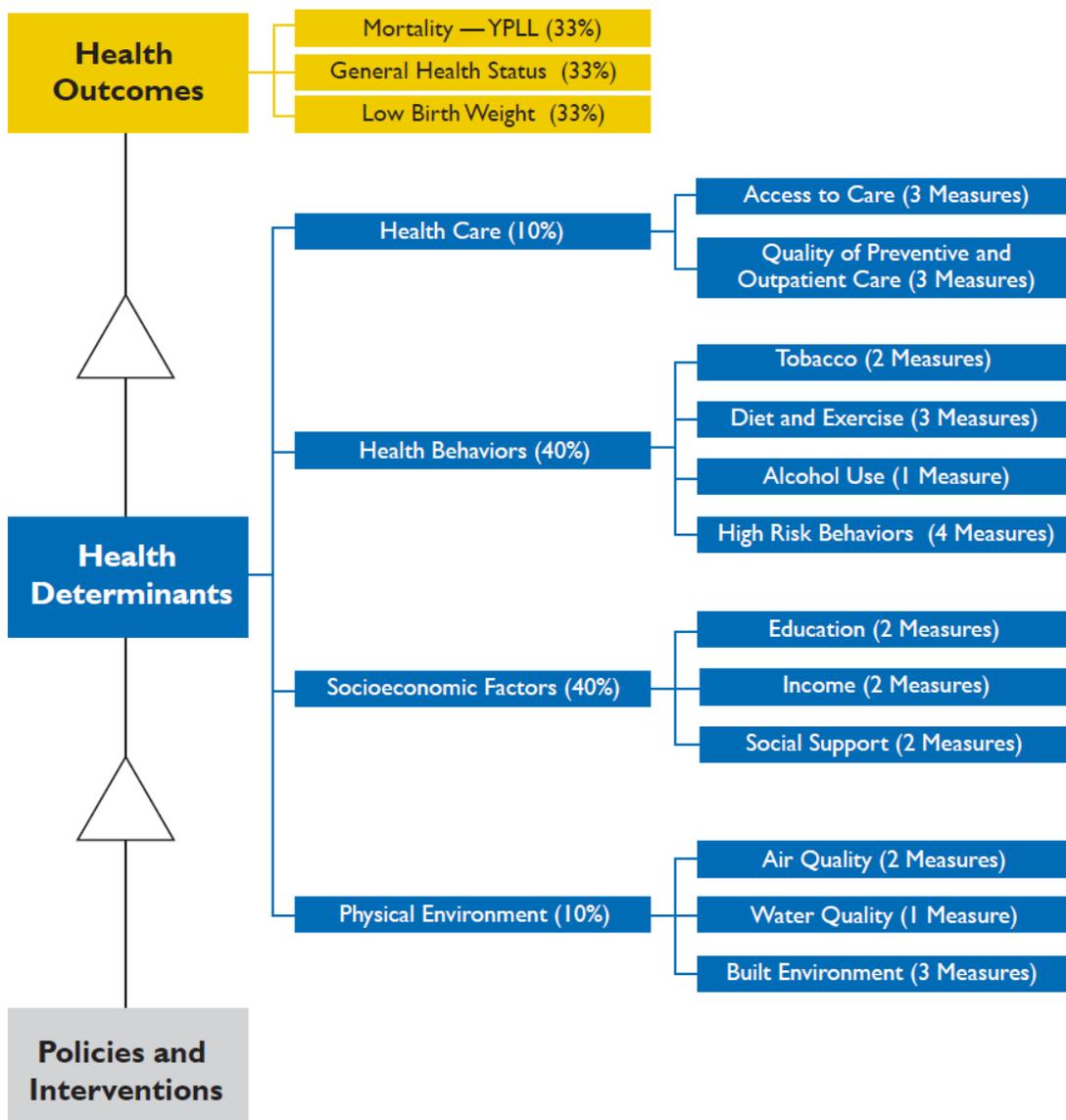
B. Indicators of High Health Risk for Pregnant Women and Children from Birth to Age 8 Years

The following data sources are used to compute key indicators of (i) premature birth, low-birth weight infants, and infant mortality, including infant death due to neglect, or other indicators of at-risk prenatal, maternal, newborn, or child health; (ii) poverty; (iii) crime; (iv) domestic violence; (v) high rates of high-school dropouts; (vi) substance use disorder; (vii) unemployment; or (viii) child maltreatment, as described in section 511(b)(1) and in the first two paragraphs of the "Full Needs Assessment Guidance" section under Award Information, Summary of Funding (II.2.2).

- Kansas certificate of live birth
- Kansas certificate of death and linked birth/infant death data
- U.S. Census Bureau, Bridged-Race Population Estimates 2000-2008
- U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE)

- Kansas Bureau of Investigation, Adult and Juvenile Arrests by Agency Reports
- Kansas Bureau of Investigation, Report on Domestic Violence and Rape Statistics in Kansas As Reported By Law Enforcement Agencies
- Kansas Department of Social and Rehabilitation Services (SRS), Child and Family Services program data, Family and Child Tracking System (FACTS)
- Kansas State Department of Education, 5-year public school dropouts (2003-2004 through 2007-2008)
- Department of Social and Rehabilitation Services (SRS), Child and Family Services program data on substantiated child maltreatment victims, Family and Child Tracking System (FACTS)
- Department of Social and Rehabilitation Services (SRS), Addiction and Prevention Services program data
- Kansas Department of Labor, Annual Labor Force Statistics Report and Affirmative Action Report

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



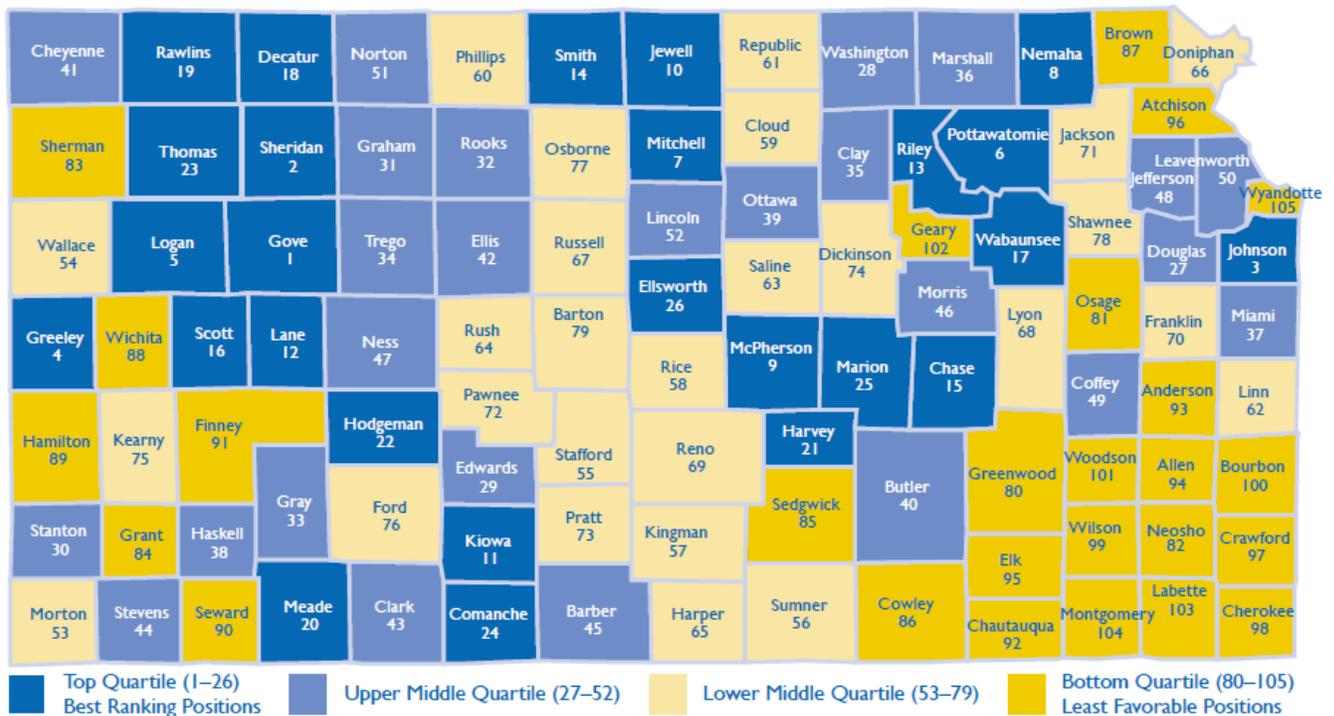
2. Method of Ranking and Identification of Highest Risk Communities

A two-step process is used to rank and identify the highest risk communities: (a) identify counties and regions in Kansas in the lowest quartile of community health rankings based on the *2009 Kansas County Health Rankings*; and (b) rank all 105 counties by rates of poor child, infant, and maternal health in the specific categories (i) to (viii). Based on the findings, priority determination is made by selecting the 3 to 5 counties and/or regions with the poorest health rankings for child, infant and maternal health and in the lowest quartile of community health rankings based on the *2009 Kansas County Health Rankings*. The assessment and need and resource availability for home visiting will focus in these counties.

A. Overall Health Rankings

The *2009 Kansas County Health Rankings* are used to identify counties and regions in the bottom quartile for health and health determinants (see Figure 2 below).

Figure 2. Summary Health Index by Quartile



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

B. Rankings Based on High Health Risk for Pregnant Women and Children from Birth to Age 8 Years

The second step is to rank all 105 counties by rates of poor child, infant, and maternal health in the specific categories (i-viii). The method for this step is complex. First, available data sources and indicators for each of the eight federal risk categories are evaluated to identify the subset of ‘best’ indicators for each category (i–viii), taking into account face validity, data source, data availability for each county, and stability of estimate for rural and frontier counties. See Table 1 for a description of the indicators and their data sources.

Next, each county is ranked (1 to 105) on each federal indicator variable. To obtain county rankings *within* each of the eight federal categories (i-viii), median ranks of the indicators within each category are computed. Lastly, median ranks are computed *across* the federal categories for each county, yielding the “federal indicator overall rankings” reported in Table 2.

Table 1. Indicators of High Health Risk for Pregnant Women and Children

Indicator	Data Source
(i) Premature birth, low-birth weight infants, and infant mortality, including infant death due to neglect, or other indicators of at-risk prenatal, maternal, newborn, or child health	
Percent Preterm Birth, Defined as live births that occurred before the 37th week of pregnancy. (2005-2008)	Kansas Certificate of Live Birth Data. Kansas Department of Health and Environment, Bureau of Public Health Informatics

Indicator	Data Source
Percent Low Birth Weight Baby, Defined as infants born weighing less than 2,500 grams. (2005-2008)	Kansas Certificate of Live Birth Data. Kansas Department of Health and Environment, Bureau of Public Health Informatics
Infant Mortality Rate per 1,000 Live Births. (2005-2008)	Kansas Annual Summary of Vital Statistics. Kansas Department of Health and Environment, Bureau of Public Health Informatics
Percent Out-of-wedlock Birth, Defined as live births born to unmarried women. (2005-2008)	Kansas Certificate of Live Birth Data. Kansas Department of Health and Environment, Bureau of Public Health Informatics
Percent Mother with Less than High School Education (2005-2008)	Kansas Certificate of Live Birth Data. Kansas Department of Health and Environment, Bureau of Public Health Informatics
Percent Mother Smoking During Pregnancy (2005-2008)	Kansas Certificate of Live Birth Data. Kansas Department of Health and Environment, Bureau of Public Health Informatics
Teen Birth Rate per 1,000 Teenage Female Age 10 – 19 (2005-2008)	Kansas Certificate of Live Birth Data. Kansas Department of Health and Environment, Bureau of Public Health Informatics
Percent Uninsured Delivery. Defined as principal payment source was self-pay (2005-2008)	Kansas Certificate of Live Birth Data. Kansas Department of Health and Environment, Bureau of Public Health Informatics
Percent Delayed Pre-natal Care, Defined as mothers that did not begin prenatal care in the first trimester. (2005-2008)	Kansas Certificate of Live Birth Data. Kansas Department of Health and Environment, Bureau of Public Health Informatics
Percent First Time Mother (2005-2008)	Kansas Certificate of Live Birth Data. Kansas Department of Health and Environment, Bureau of Public Health Informatics
(ii) Poverty	
Percent Children in Poverty, children age 0 - 17 (2004-2008)	Small Area Income and Poverty Estimates. US Census Bureau
(iii) Crime	
Adult Total Crime Index, Arrests per 1,000 adult population age 18 - 64 (2004-2008)	Adult Arrests By Agency 2004-2008. Kansas Bureau of Investigation.
Juvenile Total Crime Index, Arrests per 1,000 children age 5 – 17 (2004-2008)	Juvenile Arrests By Agency 2004-2008. Kansas Bureau of investigation.
(iv) Domestic Violence	
Domestic Violence Incidence Rate per 1,000 population age 5 – 64 (2004-2008)	Domestic Violence And Rape Statistics, 2004-2008. Kansas Bureau of investigation.
(v) high rates of high-school dropouts	
High School (grades 9 – 12) Dropout Rate per 1,000 high school enrollees (School Year 2004/05 – 2008/09)	Kansas K-12 reports, Kansas State Department of Education.
(vi) substance use disorder	
Number of Methamphetamine Seizures (2004-2009)	Methamphetamine Seizures by County, 2004-2009. Kansas Bureau of Investigation.
Adult Total Drug Arrests Rate per 1,000 (2004-2008)	Adult Arrests By Agency 2004-2008. Kansas Bureau of Investigation.
Juvenile Total Drug Arrests Rate per 1,000 (2004-2008)	Juvenile Arrests By Agency 2004-2008. Kansas Bureau of investigation.
Substance Abuse Pregnant Women Rate per 1,000 women age 15 – 44 (SFY 2003-2009)	Substance Abuse Admission program data, 2003-2009. Department of Social and Rehabilitation Services. Prevention Treatment Services.
(vii) unemployment	
Percent Unemployed Labor Force (2004-2008)	Annual Unemployment by County, 2004-2008. Kansas Department of Labor
(viii) child maltreatment	
Child Maltreatment Incident Rate per 1,000 children population. (SFY 2003-2008)	Family and Child Tracking System (FACTS). Department of Social and Rehabilitation Services. Children and Family Services Data Unit

3. Findings

Table 2 reports the rankings of each county within and across each of the eight federal risk categories. Counties in the poorest health quartile of the *County Health Rankings* are listed; however, rankings are among all 105 counties. The red highlight denotes the five counties with the poorest County Health Rankings and the five counties with the highest median rankings across the federal risk categories.

Table 2. Kansas Home Visitation Priority Communities

County	County Health Ranking	Federal Indicator Overall Ranking	(i) birth (high risk)	(ii) poverty	(iii) crime	(iv) domestic violence	(v) high school dropouts	(vi) substance abuse	(vii) unemployment	(viii) child maltreatment	Federal Indicator Median Rank for (i)-(viii)
Wyandotte	105	100	86	105	91	81	103	80.5	105	83	88.5
Montgomery	104	103.5	85.5	33	93	77	89	92	96	98	90.5
Labette	103	87	77	81	66	101	66	74	99	96	79
Gearry	102	96	71.5	28	99	104	86	82.5	91	76	84.25
Woodson	101	67	53.5	88	37.5	45	70	36	103	101	61.75
Bourbon	100	97	82	78	69.5	90	102	92	77	95	86
Wilson	99	94	81.5	87	62.5	60	84	91	73	94	82.75
Cherokee	98	99	81.5	95	47	76	91	79	98	99	86.25
Crawford	97	103.5	75.5	91	90	92	61	76.5	93	102	90.5
Atchison	96	97	62.5	90	103	78	100	83	86	86	86
Elk	95	50	76	69	34.5	54	21	40.5	94	39	47.25
Allen	94	89	81.5	38	77.5	95	78	82	78	100	79.75
Anderson	93	73	50	101	62	67	79	62.5	92	42	64.75
Chautauqua	92	77	75	55	59	70	64	58	84	90	67
Finney	91	92	86	25	96.5	91	93	78	50	21	82
Seward	90	80	81.5	48	103	97	104	61.5	33	29	71.5
Hamilton	89	3	77	99	11	7	4	1	25	1	9
Wichita	88	72	88.5	28	70.5	57	75	12.5	19	73	63.75
Brown	87	87	59.5	102	88	79	95	78.5	71	79	79
Cowley	86	91	75.5	23	87.5	102	81	91.5	80	82	81.5
Sedgwick	85	101	72	15	101	103	97	98.5	83	51	90
Grant	84	70	77	32	73	89	98	53.5	15	17	63.25
Sherman	83	83	75	63	86	75	90	61.5	13	71	73
Neosho	82	80	68	11	44.5	69	88	82.5	74	105	71.5
Osage	81	66	59.5	28	39	59	63	71	102	81	61.25
Greenwood	80	56	62	59	27.5	43	46	30.5	90	65	52.5
Barton	79	95	86.5	63	80.5	99	62	90.5	49	91	83.5
Shawnee	78	105	72.5	69	100	98	96	90.5	88	93	91.75