

Kansas City Regional Health Assessment Report

**Prepared for the
REACH Healthcare Foundation**

A report on health and social conditions of the
uninsured and other vulnerable populations in
the Kansas City metropolitan area

**Mid-America Regional Council
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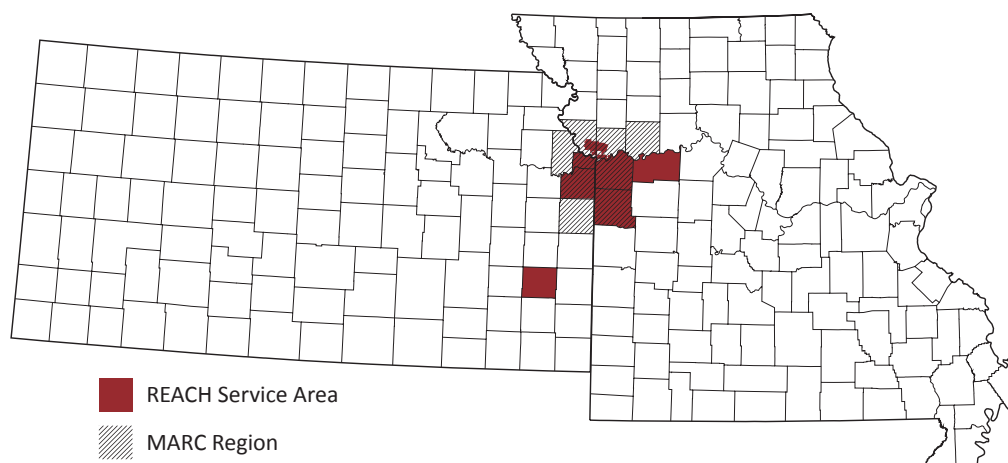
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I. Introduction

In October 2010, the Mid-America Regional Council prepared a Regional Health Assessment Report for the REACH Healthcare Foundation. This report analyzed the health and social conditions of uninsured and other vulnerable populations in the Kansas City metropolitan area and their access to health care services. In 2012, the foundation requested an updated analysis.

Like its 2010 predecessor, this 2013 report is intended as a starting point for further discussion and analysis concerning the nature of medically vulnerable populations in the region, their health characteristics and vulnerabilities, and their ability to access appropriate health care.

The report focuses on two overlapping geographical areas: The REACH Healthcare Foundation's geographic service area, which includes Johnson, Wyandotte and Allen counties in Kansas and Jackson, Cass and Lafayette counties in Missouri plus those portions of Clay and Platte counties that are within Kansas City; and the MARC region, which includes Johnson, Leavenworth, Miami and Wyandotte counties in Kansas and Cass, Clay, Jackson, Platte and Ray counties in Missouri.



This study primarily provides an integration and analysis of secondary data that pertains to the health and health care of the medically vulnerable. It focuses on the following areas:

- Demographic data on vulnerable populations within the report area.
- Health and disease data and trends most pertinent to vulnerable populations.
- Data on the insured and uninsured, both by county and by Public Use Microdata Areas from the American Community Survey provided by the U.S. Census Bureau.
- Access to care data and trends for those in vulnerable populations.
- Analysis of available data to help identify emerging issues or geographic areas of concern, including top issues for each county.

- Individual health profiles for each of the counties.

In addition to updating data and information contained in the 2010 report, this 2013 version provides improved data and analysis in the following areas:

- Short-term trend data that was not available in 2010.
- More extensive health data that has become available in the intervening years.
- Health data at smaller geographies. While more data is available than in 2010, there is still a dearth of information at geographies smaller than the county level. This update presents some of the data that is available and projects conditions from this information.
- In early 2010, the Affordable Care Act (ACA) was approaching passage. It is now the law, and a number of its provisions have been implemented or are approaching implementation. This report looks at the implications of the act in light of current demographic and health information.

The demographic and health care data in this report tell a story about the Kansas City region — one that can help health care professionals and others understand the challenges and barriers faced by those who are medically vulnerable.

The demographic and health care data in this report tell a story about the Kansas City region — one that can help health care professionals and others understand the challenges and barriers faced by those who are medically vulnerable and suggest ways the community can intervene to help reduce these barriers. The key components of this story include:

1. Social, economic, geographic and demographic circumstances can make a person vulnerable to health issues and make it more difficult to access treatment.
2. Access to health insurance overlays these circumstances and can increase or decrease an individual's vulnerability.
3. People in the report area are experiencing a number of serious health conditions, measured by data such as cause of death and disease incidence.
4. These health conditions may disproportionately impact certain demographic, social or economic groups, as well as those in certain health insurance categories. This may manifest itself in health disparities that are reflected geographically.
5. In addition, health trends indicate that certain conditions may be improving or getting worse for certain populations and geographies.
6. Access to health care may vary based on geography, health insurance status, or even cultural norms. This interacts with other circumstances and affects medical vulnerability.
7. Health disparities, health trends and access to health care are the areas with the greatest impact on the medically vulnerable and may offer the best opportunities for effective intervention.

The report area covers very diverse counties and cities:

- The mainly urban counties of Jackson County, Mo., and Wyandotte County, Kan.
- The rural counties of Lafayette and Ray, Mo., and Allen, Kan.
- The suburban counties of Johnson, Kan., and Clay and Platte, Mo.
- The suburbanizing counties of Cass in Missouri and Leavenworth and Miami in Kansas.

The table below gives a general demographic breakdown of the counties and the rate at which their populations are changing, based on U.S. Census Bureau data.

Population, Population Change and Population Density

	Cass	Clay	Jackson	Lafayette	Platte	Ray
1990 Population	63,808	153,411	633,234	31,107	57,867	21,971
2000 Population	82,092	184,006	654,880	32,960	73,781	23,354
2010 Population	99,478	221,939	674,158	33,381	89,322	23,494
2011 Population	100,052	225,161	676,360	33,209	90,903	23,230
% Change 1990–2011	+56.8%	+46.8%	+6.8%	+6.8%	+57.1%	+5.7%
Square Miles	703	409	616	639	427	574
Pop. per Square Mile	142.3	550.5	1,098.0	52.0	212.9	40.5

	Allen	Johnson	Leavenworth	Miami	Wyandotte	Total
1990 Population	14,638	355,021	64,371	23,466	162,026	1,580,920
2000 Population	14,385	451,086	68,691	28,351	157,882	1,771,468
2010 Population	13,371	544,179	76,227	32,787	157,505	1,965,841
2011 Population	13,331	552,991	77,176	32,715	158,224	1,983,352
% Change 1990–2011	-8.9%	+55.8%	+19.9%	+39.4%	-2.3%	+25.5%
Square Miles	505	480	468	590	156	5,567
Pop. per Square Mile	26.4	1,152.1	164.9	55.4	1,014.3	356.3

Source: U.S. Census 1990, 2000, 2010 and American Community Survey 2011

II. Vulnerable Populations

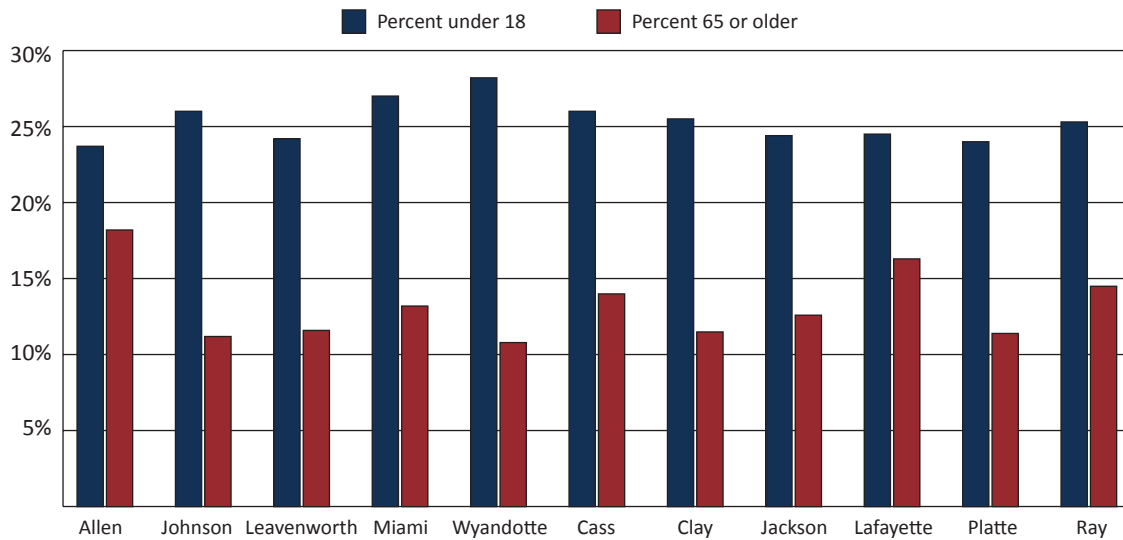
Of greatest interest are vulnerable populations that may be especially subject to health risks and may have trouble accessing health care. These populations include the elderly, young people, those with low incomes, minorities, those who are linguistically isolated, the homeless, the disabled, the undocumented and the unemployed. Each of these populations may have particular vulnerabilities and methods for dealing with these vulnerabilities.

Seniors and Children

Approximately 12 percent of people in the report area are aged 65 or older, a slight increase since the 2010 report. This age group varies across counties in the report area, with more rural counties showing significantly higher percentages of older adults.¹ Demographers estimate that the national population over 65 will double to more than 80 million in the next 30 years, increasing the over-65 age group to almost 20 percent of the total population.² Based on these figures we expect the older adult population in the metro area to grow from today's 225,000 to nearly 450,000 by 2040. These individuals are likely to experience increased health challenges as they age. They are also highly dependent on Medicare and may find accessing health care difficult.

The older adult population in the Kansas City metro is expected to grow from today's 225,000 to nearly 450,000 by 2040.

Older and Younger Age Groups as a Percent of Total Population, 2011



Almost half a million people in the report area, or 25 percent of the total population, are under age 18.³ This matches the national average, and there is not much disparity in this

1 U.S. Census Bureau American Community Survey
 2 Arthur C. Nelson, Metropolitan Research Center, University of Utah, "Kansas City Metro Market Trends, Preferences and Opportunities to 2040", 2012
 3 U.S. Census Bureau American Community Survey

percentage among counties in the report area. Young people often have specific health needs, including immunizations, and may be particularly vulnerable to health issues such as pregnancy, violence and sexually transmitted diseases. While the distribution of youth across the counties is fairly uniform, some of these health vulnerabilities are especially severe in particular communities, such as in the urban core.

Poverty

Poverty, as national and regional data show, is highly correlated with medical vulnerability. Therefore it is critical to look closely at how the numbers of those living in poverty are distributed across the region and how this population is changing.

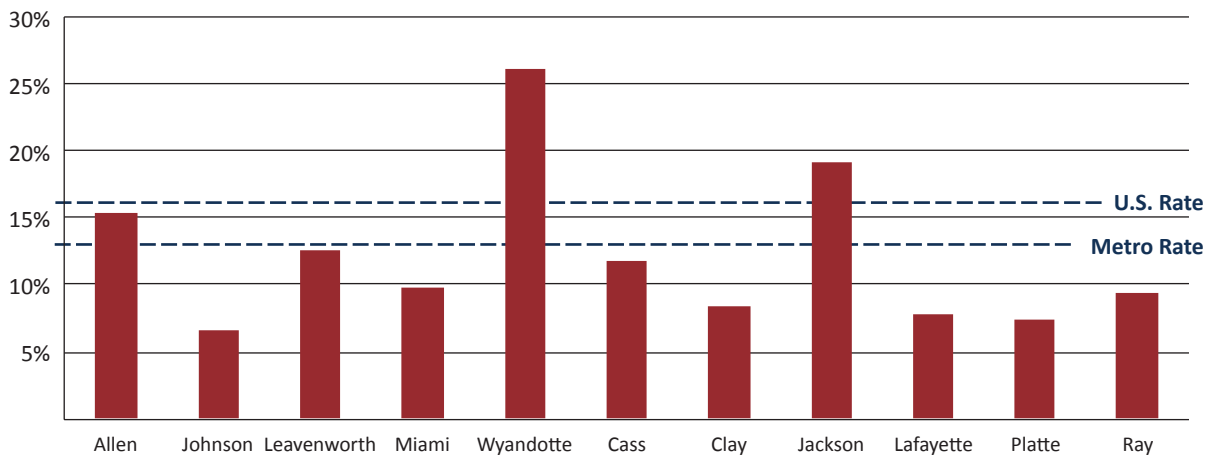
In 2011, almost 260,000 people in the report area were living below the federal poverty level (FPL).⁴ More than 587,000 were below 200 percent of FPL. (The 200 percent figure is significant because this is a common threshold for safety net health services.) Regional poverty rates are slightly lower than national rates.

While total population grew by 12 percent between 2000 and 2011, poverty grew by 75 percent.

People living below FPL have risen from 8.5 percent of the region’s population in 2000 to almost 13.5 percent in 2011. The rate for those under 200 percent FPL grew from 22.3 percent in 2000 to 30.2 percent in 2011.

As the chart below shows, poverty rates vary considerably, from a low of 6.6 percent FPL in Johnson County to a high of 26.2 percent in Wyandotte County. Three counties – Wyandotte, Jackson and Allen – exceed the regional average.⁵

2011 Poverty Rate by County



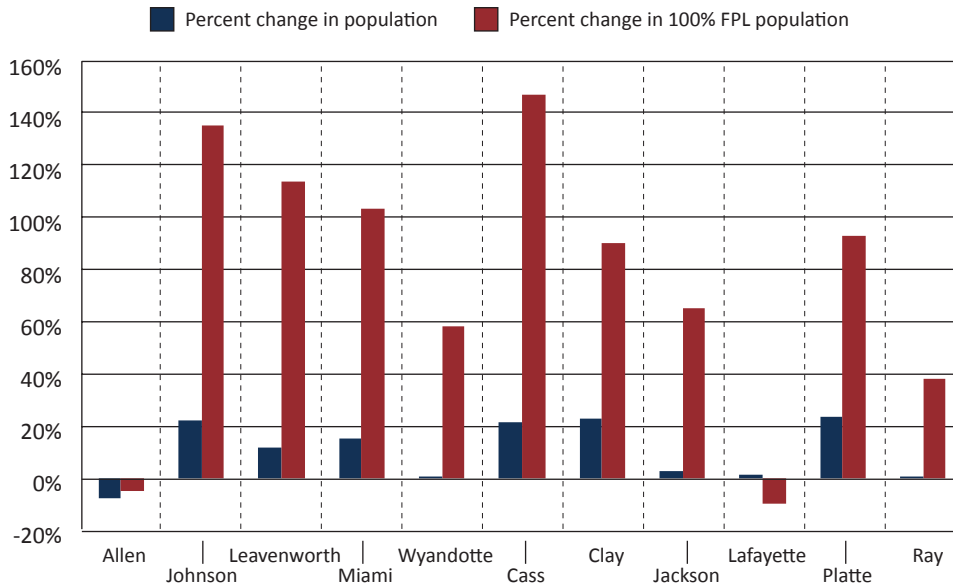
Poverty has grown considerably over the last decade. While the total population grew by 12 percent between 2000 and 2011, poverty grew by 75 percent for those below 100 percent FPL and by 52 percent for those below 200 percent FPL. The percentage of people with

⁴ The federal poverty level is based on income and family size. For a family of four with two related children in the Kansas City area it is \$23,050 per year.

⁵ U.S. Census Bureau American Community Survey

incomes below 100 percent FPL has grown in every county except Lafayette. The chart below compares the percent change in population with the percent change in those below 100 percent FPL by county.⁶

Percent Change in Population and Poverty, 2000–2011



Source: U.S. Census Bureau American Community Survey

While the chart covers a span of 11 years, a good deal of the change occurred after 2008, in conjunction with the Great Recession. Between 2008 and 2011, the population living below 100 percent of FPL grew by 35 percent in the REACH service area, from just below 180,000 to slightly more than 243,000.⁷

In percentage terms, poverty is growing more rapidly in suburban communities. For example, between 2000 and 2011 the population below 100 percent FPL grew by 146 percent in Cass County and 135 percent in Johnson County – the highest growth rates in the region.

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The smallest increases are in rural counties not experiencing substantial population growth, such as Lafayette and Allen counties, which saw slight declines in those below 100 percent FPL. Despite this suburbanization of poverty, there are still substantial increases in the number living in poverty in the urban counties, with an additional 50,000 individuals below 100 percent FPL in Jackson County and 15,000 in Wyandotte County between 2000 and 2011. During the same period, the five most suburban counties (Johnson, Leavenworth, Cass, Clay and Platte) saw a

combined increase of 44,405 people living below 100 percent FPL – 20,000 fewer than the urban counties of Wyandotte and Jackson combined.⁸

⁶ U.S. Census Bureau American Community Survey

⁷ U.S. Census Bureau American Community Survey

⁸ U.S. Census Bureau, decennial census data and American Community Survey

Linguistic Isolation

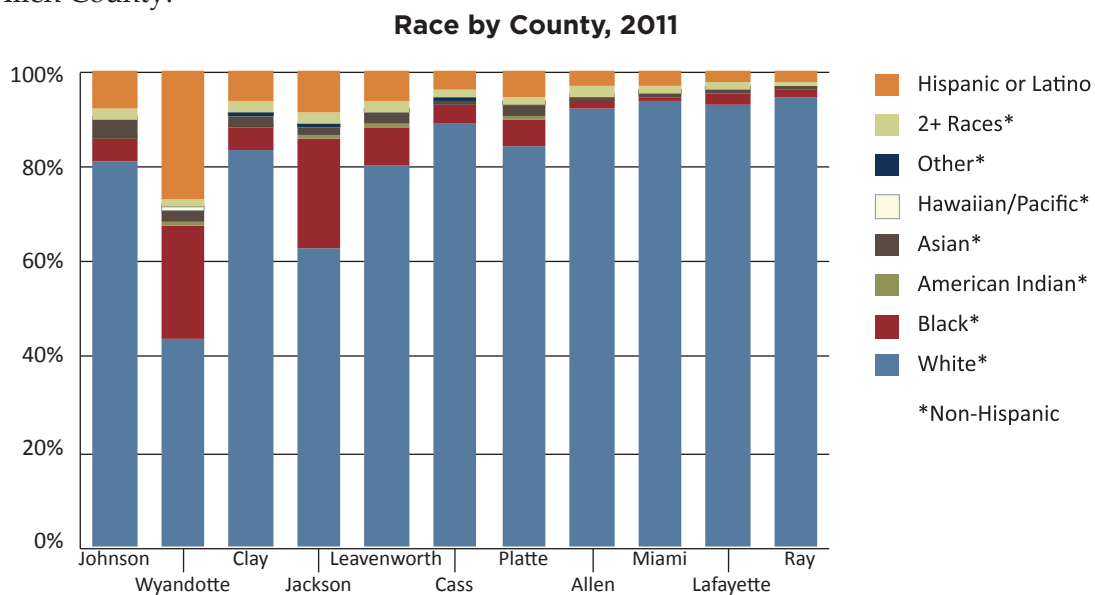
Individuals who cannot speak or understand English very well can be at a severe disadvantage when seeking health care. Among all Americans, 8.7 percent live in linguistically isolated households, meaning households where no one 14 years of age or older speaks English very well, as self-reported in the Census Bureau’s American Community Survey (ACS). In 2011, almost 4 percent of the report-area population five years of age or older – more than 70,000 people – are considered linguistically isolated. Wyandotte County, with 12.6 percent of its residents linguistically isolated, is the only county in the area to exceed the national average. In the full report area, the number of residents who speak English less than very well is three times greater than in the last health assessment.⁹

Race and Ethnicity

Many health conditions are known to have a strong racial or ethnic correlation. People of color may be at greater risk for certain health conditions or may have more difficulty accessing health care.

Overall, the report area population is less diverse by race or ethnicity than the nation, with a non-white population of 26.5 percent in the region, compared to 36.7 percent nationwide, in 2011. However, this still represents a large number of people – almost 524,000.

At 12.5 percent, black non-Hispanics make up the largest non-white portion of the population, followed by Hispanics at 8.5 percent. There is a wide variance in racial makeup among the counties in the report area. Wyandotte County has a majority-minority population, with 56.5 percent non-white. Jackson County is the second most diverse at 36.8 percent, or roughly the same percentage as the nation. The more rural counties have much smaller minority populations, ranging from 5 percent in Ray County to 8 percent in Allen County.¹⁰



9 U.S. Census Bureau American Community Survey

10 U.S. Census Bureau American Community Survey

Homelessness

Those who are homeless may be the most medically vulnerable population. Because of their very nature, there is little data available from conventional sources on the homeless population. However, a new focus on the homeless has made some data available. Recent surveys of school districts by the Kansas Department of Education and the Missouri Department of Elementary and Secondary Education indicate there were 7,470 homeless students in the metropolitan area (Cass, Clay, Jackson, Johnson, Leavenworth, Miami, Platte, and Wyandotte counties) during the 2011–2012 school year. This represents an almost 18 percent gain over the 2009–2010 school year.

Homeless adults are more difficult to count. The 2011 Homelessness Task Force report estimated a homeless population in the MARC region of 12,925 based on a nationally accepted estimating formula of 6.3 percent of the population at 100 percent FPL.

Disabilities

People with disabilities often face particular challenges in accessing health care. In 2011, slightly more than 217,000 residents of the report area had disabilities (hearing, vision, cognitive, ambulatory, self-care or independent living).¹¹ This represents 11 percent of the population. The percentage varies across counties, ranging from 8 percent in Johnson County to 14 percent in Wyandotte, Lafayette and Ray counties. (Allen County data was not available.)

Undocumented

People who are undocumented may have more difficulty accessing health care due to language barriers. They may not have any form of public or private insurance and are often reluctant to seek assistance because of their undocumented status. It is difficult to

MARC estimates that there are approximately 39,700 undocumented residents in the report area (20,500 on the Kansas side of the region and 19,200 on the Missouri side).

accurately determine the number of undocumented immigrants in the region. The Pew Hispanic Center provides an estimate for this population by state. In its 2010 study, the center estimated there were 55,000 unauthorized immigrants in Missouri and 65,000 in Kansas. MARC allocated each state's estimated totals to the counties based on their share of the households that are "linguistically isolated" – that is, that have no one in the household at least 14 years old who speaks English "very well" according to the 2011 American Community Survey.

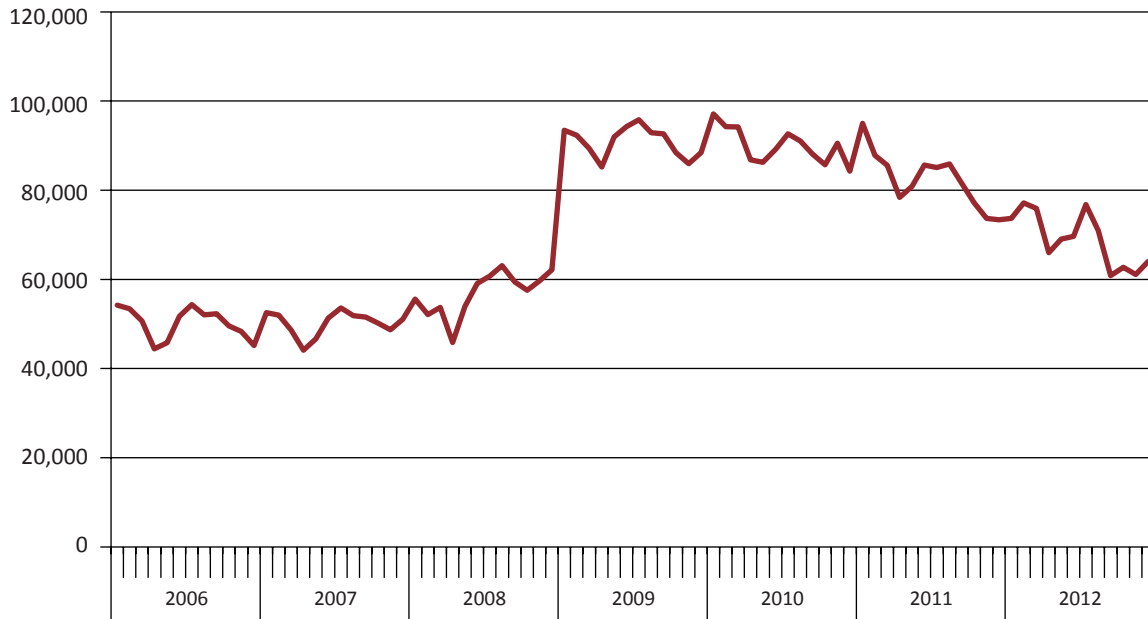
Based on this methodology, MARC estimates that there are approximately 39,700 undocumented residents in the report area (20,500 on the Kansas side of the region and 19,200 on the Missouri side). This is slightly lower than the number of undocumented immigrants estimated in the last assessment.

¹¹ U.S. Census Bureau American Community Survey

Unemployed

The loss of a job can quickly drop a family into the vulnerable population category. The loss of income is the first and most obvious problem, but a job loss can also mean the loss of health insurance. Between January 2008 and January 2009, the number of unemployed persons in the report area swelled by almost 38,000 to more than 93,000 total. Since 2011, the unemployment level has slowly declined and now sits at 64,000 – still well above pre-recession levels.

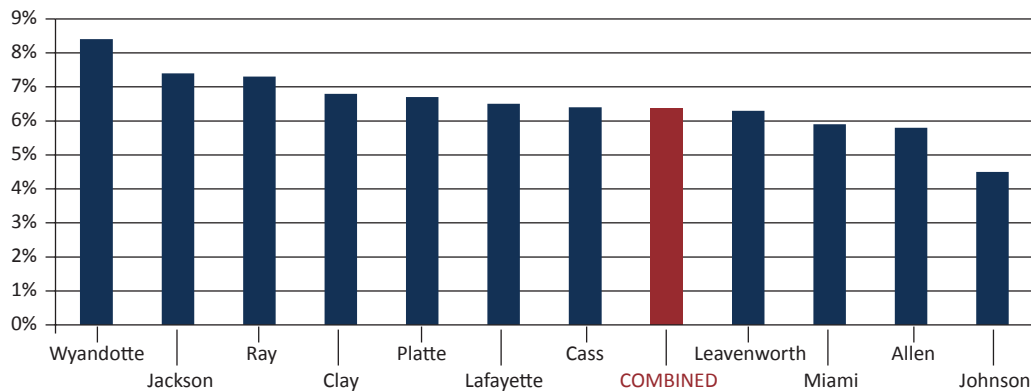
Unemployment in the Report Area, 2006–2012



Source: Bureau of Labor Statistics

The unemployment rate – the number of unemployed as a percent of the labor force (the total of both those who are employed and those unemployed who are available for and seeking work) – is highest in Wyandotte and Jackson counties, and lowest in Allen and Johnson counties.

Unemployment Rate, December 2012



Source: Bureau of Labor Statistics

Summary of Medical Vulnerability Analysis

People who are potentially vulnerable make up a substantial portion of the metropolitan area's population. Being categorized in one or more of these groups does not automatically mean that an individual is medically vulnerable, but, as we will see in subsequent sections, being in one or more of these groups does mean that an individual has a higher risk of being medically vulnerable than the population as a whole. If a person happens to be in more than one of these groups, his or her risk of suffering a health condition or having difficulty accessing health care increases.

Overall, as the data will illustrate, these populations experience a higher rate of medical conditions and have more difficulty accessing health care. A close examination of these populations helps provide a sense of the scope of medical vulnerability and its distribution across the region.

III. Health Insurance

Health insurance coverage is a significant factor in health status and health care access. Having quality health insurance impacts health status in two principle ways:

1. It encourages good health by making preventive services such as colonoscopies more accessible, and makes it easier for people to seek treatment for minor health conditions before they become major.
2. When people do face major health conditions, such as chronic disease, it allows them to more easily access treatment, improving their chance for a positive health outcome.

Having access to quality health insurance can help overcome barriers that might be present due to other circumstances, as indicated above. On the other hand, not having access to high quality health insurance can make staying healthy quite difficult, no matter one's status.

Defining the Medically Underserved

Each year, the Census Bureau conducts the American Community Survey (ACS). The ACS samples a small percentage of the population each year, and provides a large enough sample over a five-year period to replace the old "long-form" the bureau once used as part of the decennial census. Beginning in 2008, the ACS added a question about the availability and type of health insurance.

Respondents are asked to identify for each person in the household whether he or she is currently covered by any of the following types of health insurance plans:

- Through a current or former employer or union.
- Purchased directly from an insurance company.
- Medicare (for those who are over 65 or have certain disabilities).
- Medicaid or similar program (for those with low incomes or disabilities).
- Tricare (for military personnel and their families).
- Veterans Administration.
- Indian Health Services.
- Other. (If "other" is selected, respondents are to specify what kind of insurance they have. Based on that description, the Census Bureau reallocates the response to one of the first seven categories.)

Those who do not select any of the types above are considered to be uninsured. Because the insurance offered through Indian Health Services is not comprehensive, those who select only that insurance type are also counted by the Census Bureau as uninsured.

The ACS surveys 250,000 households per month nationwide, so it yields the largest sample available to assess health care coverage. The sample is large enough to produce reliable annual estimates for cities and counties with populations greater than 65,000 using standard

tabulations. All but four counties in the report area meet this population threshold. For Miami, Lafayette and Ray counties, the ACS uses a three-year estimate. Allen County totals will not be available from ACS until next year, so we rely on the Census Bureau’s Small Area Health Insurance Estimates (SAHIE) rather than ACS. These data sources yield the following estimates of the insured and uninsured by county:

	Allen**	Johnson	Leavenworth	Wyandotte	Cass	Clay	Jackson	Platte	Miami*	Lafayette*	Ray*	Total
Under 18												
With Health Insurance	2,873	136,897	17,710	37,567	24,392	53,575	152,666	21,156	7,891	7,727	5,482	467,936
Without Health Insurance	275	6,707	583	7,009	1,575	3,776	12,136	705	852	347	251	34,216
Total	3,148	143,604	18,293	44,576	25,967	57,351	164,802	21,861	8,743	8,074	5,733	502,152
Percent Uninsured	8.7%	4.7%	3.2%	15.7%	6.1%	6.6%	7.4%	3.2%	9.7%	4.3%	4.4%	6.8%
18–64												
With Health Insurance	6,313	303,324	35,425	62,664	49,095	119,299	323,497	51,154	16,085	16,124	12,211	995,191
Without Health Insurance	1,465	41,612	5,939	33,374	10,739	21,685	99,734	6,759	3,314	3,432	1,756	229,809
Total	7,778	344,936	41,364	96,038	59,834	140,984	423,231	57,913	19,399	19,556	13,967	1,225,000
Percent Uninsured	18.8%	12.1%	14.4%	34.8%	17.9%	15.4%	23.6%	11.7%	17.1%	17.5%	12.6%	18.8%
65+												
With Health Insurance	2,445	59,383	8,504	15,819	13,246	25,225	81,109	10,134	3,966	5,015	3,348	228,194
Without Health Insurance	0	360	0	638	0	0	849	114	15	0	0	1,976
Total	2,445	59,743	8,504	16,457	13,246	25,225	81,958	10,248	3,981	5,015	3,348	230,170
Percent Uninsured	0.0%	0.6%	0.0%	3.9%	0.0%	0.0%	1.0%	1.1%	0.4%	0.0%	0.0%	0.9%
All Ages												
With Health Insurance	11,694	499,604	61,639	116,050	86,733	198,099	557,272	82,444	27,942	28,866	21,041	1,691,384
Without Health Insurance	1,677	48,679	6,522	41,021	12,314	25,461	112,719	7,578	4,181	3,779	2,007	265,938
Total	13,371	548,283	68,161	157,071	99,047	223,560	669,991	90,022	32,123	32,645	23,048	1,957,322
Percent Uninsured	12.5%	8.9%	9.6%	26.1%	12.4%	11.4%	16.8%	8.4%	13.0%	11.6%	8.7%	13.6%

Sources: U.S. Census Bureau American Community Survey, 1 year; *3 year ACS; **2010 Census and Small Area Health Insurance Estimates

These data provide the most accurate calculation of the uninsurance rate for counties or metropolitan areas available. Uninsurance rates range widely across counties, from Johnson County’s 8.9 percent to Wyandotte County’s 26.1 percent – nearly three times higher. The table above indicates that children and older adults are more likely to be covered than working-age adults, as would be expected because of access to Medicaid (children) and Medicare (older adults).

The percent of the population without health insurance grew from 12.4 percent in 2008 to 13.6 percent in 2011.

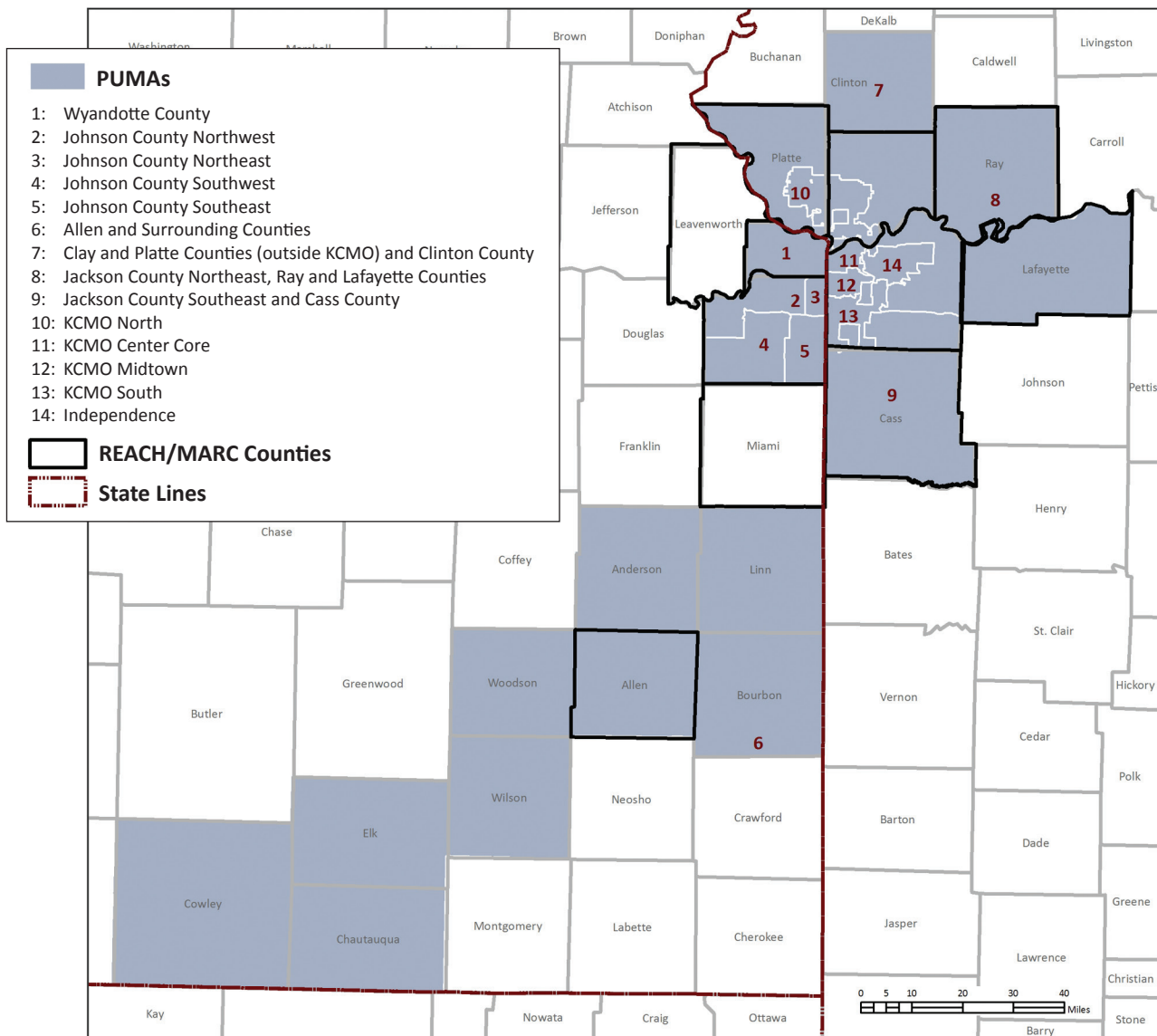
In 2008, 12.4 percent of the population in the REACH/MARC region was uninsured. As indicated in the table above, by 2011 this figure had increased to 13.6 percent, or 265,938 individuals.

The data raise many questions about why there are such disparities. Unfortunately, more detailed characteristics of the insured and uninsured are not available at sub-state levels in standard Census Bureau reports. In years past, analysts were simply left with questions and assumptions.

Today, however, in addition to the standard tabulations, the ACS makes available a sample of the actual individual survey records with the individual identifiers removed to preserve confidentiality. This is called the Public Use Microdata Sample (PUMS) data. The PUMS data is a 1 percent sample of the population, compared to a 2.5 percent sample for the full ACS. This sample of roughly 17,000 persons per year for the study area defined below provides the ability to dig below the surface of standard tabulations.

The PUMS data is released only for geographic areas called PUMAs – Public Use Microdata Areas – that must have populations of at least 100,000. As shown in the map below, PUMAs do not necessarily follow county boundaries.

Public Use Microsample Areas (PUMAs)



The PUMAs shown on the previous page are those that most closely approximate the REACH/MARC report area. We have included the PUMA with Allen County, even though Allen comprises less than 10 percent of its total population, because the counties added to meet the PUMA minimum population requirement are all of a similar rural nature, making it likely that statistics calculated would apply equally well to Allen County alone. By contrast, we did not include the PUMA with Leavenworth County because it combines Leavenworth with six much more rural counties in northeastern Kansas, making statistics calculated for that PUMA an unreliable estimate of Leavenworth's characteristics.

Because the PUMAs cover a larger geographic extent than the report area, they include about 7 percent more population. While not an insignificant discrepancy, statistics calculated for these PUMAs should still be broadly representative of the report area.

PUMA boundaries are redefined every 10 years in conjunction with the decennial census. The release of the 2011 PUMS data in late 2012 marks the last data set based on 2000 boundaries. This means that the 2008–2011 PUMS data was assigned a consistent geography and so provides a nice, though short, time series for analysis.

A majority of residents are covered through employer-based health insurance, but that majority has slipped from 58.6 percent in 2008 to 54.2 percent in 2011.

The question becomes, then, what to analyze and how? The flexibility of raw survey data requires designing custom tabulations to use it, and the possibilities for cross-tabulations with a data set as rich as the ACS are nearly endless. To make the analysis tractable, MARC was forced to make some simplifying assumptions.

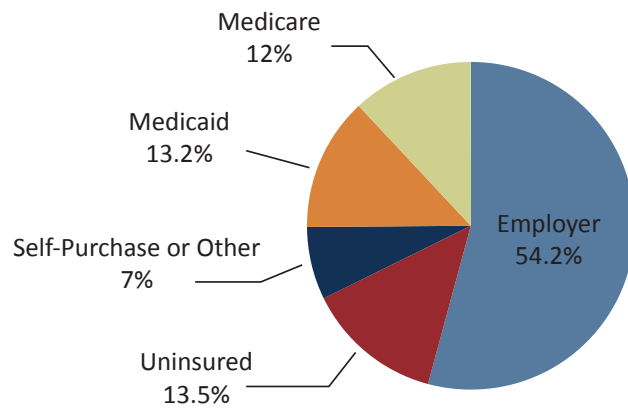
For example, respondents to the ACS are allowed to select all insurance types that apply for each person in the household.

When multiple responses are made, there is no indication which type is the primary insurance for that individual. This can result in tabulating the data by any and all combination of insurance types, which would be confusing. To simplify, MARC classified insurance holders as follows:

1. Those who selected Medicaid were assumed to use Medicaid as their primary insurance, even if they also selected other types, and so were classified as "Medicaid."
2. Those not classified as "Medicaid" who said they were covered by Medicare were assigned a primary health insurance category of "Medicare."
3. Those who were not classified as "Medicaid" or "Medicare" but who said they were covered by insurance from an employer or union were classified with a primary health insurance of "Employer."
4. Those not yet classified (per 1, 2 or 3, above) but who said they either purchased insurance directly from an insurance company or had any other comprehensive insurance were classified as "Self-purchase or other." Other includes both VA and Tricare insurance. This combination of groups was necessary due to the small numbers of people with VA and Tricare insurance in the report-area PUMAs. Given the relatively small sample size of the ACS PUMS, statistics calculated for the "other" insurance participants became statistically unreliable when estimated separately.
5. All others were classified as uninsured.

Based on these assumptions, MARC finds that for the report-area PUMAs a majority of residents are covered through employer-based health insurance, but that majority has slipped from 58.6 percent in 2008 to 54.2 percent in 2011. The remainder of the population is covered by Medicaid (13.2 percent), Medicare (12 percent) and those who either self-purchase insurance or have other insurance (7 percent). The remaining 13.5 percent of the population was uninsured in 2011.

Insurance Coverage in Area PUMAs, 2011



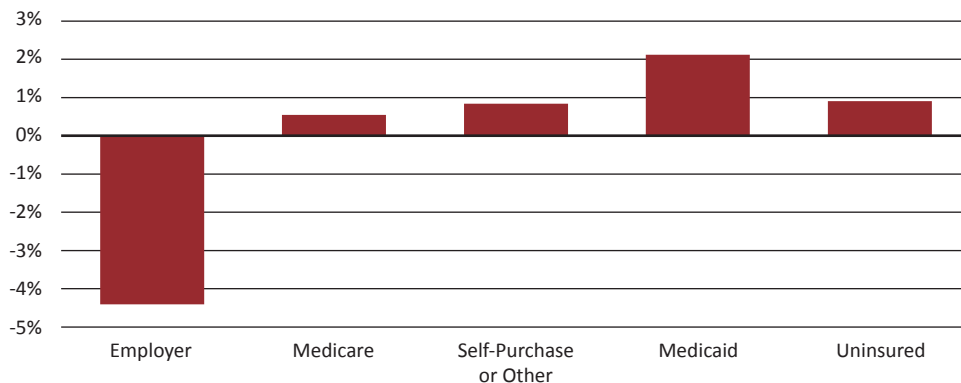
Source: Census Bureau, ACS PUMS, 1-year data, 2011

One measure of the medically vulnerable, the primary focus of this report, is the total of those who are uninsured or received Medicaid. This number has risen from 455,239, or 23.6 percent of the regional population in 2008, to 527,223, or 26.7 percent of the population in 2011. This provides a good base for considering the extent of medical vulnerability in the region. However, there are others who are also medically vulnerable who may not fall into these two categories, such as seniors on Medicare who have difficulty accessing health care.

Examining the 2008–2011 changes directly, the percentage of residents covered by employer-based health insurance declined by 4.4 percentage points during this period. The percent of residents covered by Medicaid increased by 2.1 percentage points, while the percent covered by self-purchased or other insurance increased by 0.8 percentage points. An additional 0.5 percent of residents were able to take advantage of Medicare during this period. However, these increases were insufficient to fully offset the decline in employer-based coverage, as the percentage of uninsured residents also increased, in this case by 0.9 percentage points.

The percent of the regional population who are uninsured or on Medicaid has risen from 23.6 percent in 2008 to 26.7 percent in 2011.

Change in Percent Covered by Primary Insurance Type, 2008–2011

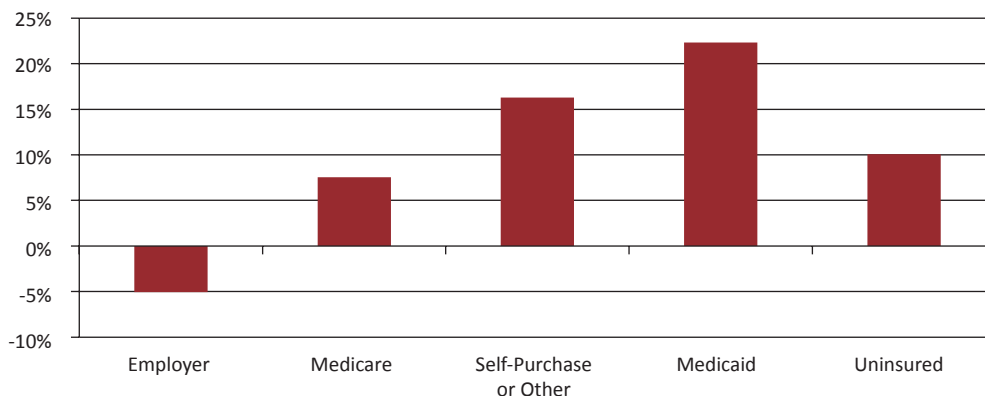


Source: Census Bureau, ACS PUMS, 1-year data, 2008–2011

While small, these changes are significant, in part because the decline in employer-based insurance occurred during a period when the population of the report-area PUMAs grew by 3 percent. Of course, the decline in employer coverage occurred in the context of the Great Recession, which reduced the number of people employed by 32,000 between 2008 and 2011.

This combination of rising population and declining employment increased the strain on the health care system. For example, the increase in the number of residents using Medicaid – roughly 2 percentage points, as shown in the previous chart – meant the system had to accommodate an additional 47,500 people, or a 22 percent increase in its number of participants, as shown below. Similarly, an increase of 0.8 percentage points in the total number of residents with self-purchase or other insurance translated to a 16 percent increase in covered participants. The number of people covered by Medicare grew by 8 percent. But even with these increases in insurance coverage, the uninsured population grew by 10 percent (adding 24,500 people) over the three-year period.

**Percent Change in Covered Population
by Primary Insurance Type, 2008–2011**



Source: Census Bureau, ACS PUMS, 1-year data, 2008–2011

The combination of 3 percent growth in population (51,000 people) plus a 5 percent decline in residents with employer-based coverage (57,000 people) meant an additional 108,000 individuals sought an alternative to employer-provided health insurance between 2008 and 2011. This increased burden was borne most heavily by Medicaid.

The combination of rising population and declining employment increased the strain on the health care system. The number of uninsured grew by 24,500 from 2008–2011, and those on Medicaid grew by 47,500.

While Medicaid currently serves only 13 percent of the population, it absorbed nearly half (44 percent) of the additional demand on the health insurance system. The remaining two legs of the health insurance stool – i.e., Medicare and self-purchase or other – bore much smaller shares of the net new demand for an alternative to employer-based health insurance. Medicare absorbed 15 percent of the growth, while individuals purchasing insurance on their own accounted for 18 percent. The remaining 23 percent were added to the ranks of the uninsured. Combined, Medicaid and the

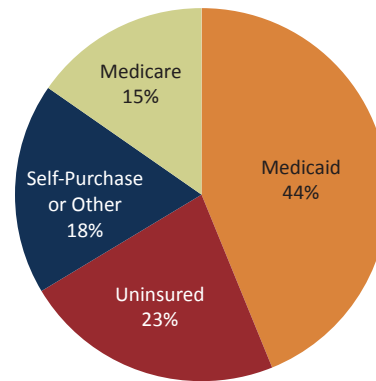
uninsured grew by 72,000 people during the 2008–2011 period, meaning the most medically vulnerable and underserved populations are bearing two-thirds (67 percent) of the extra burden imposed by employers’ inability to provide health insurance to employees, retirees and their families in the aftermath of the Great Recession.

One major value of the PUMS data is that it lets us explore the demographic characteristics of those participating in these increases in the medically underserved and vulnerable populations.

Labor Force

Given the effects of the Great Recession, we would expect the changes in insurance coverage to be related to employment status – i.e., whether an individual is employed, unemployed, no longer looking for work or simply too young to work.

Share of Increase in Demand for Non-Employer Based Insurance, 2008–2011



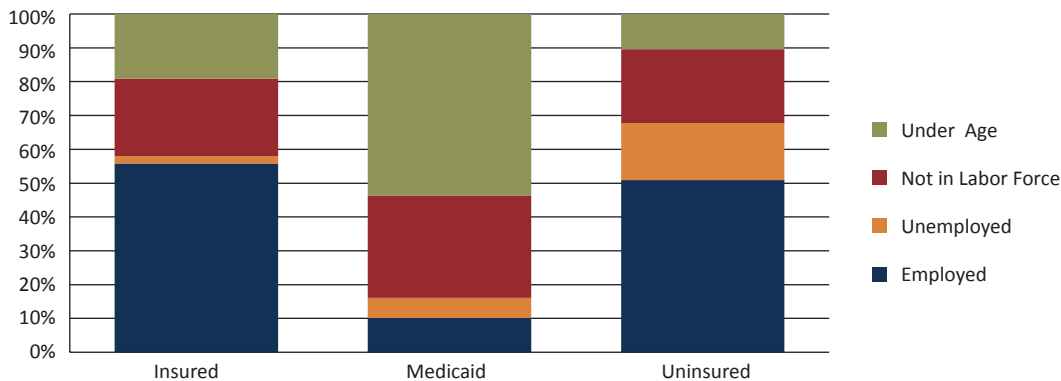
Source: Census Bureau, ACS PUMS, 1-year data, 2011

We find that the insured and uninsured have similar percentages of employed people – 56 and 51 percent, respectively.

If we compare the employment status of those who are on Medicaid or uninsured with those who have insurance (the latter created by combining employer-based, Medicare, and self-purchase or other into one category), we find that the insured and the uninsured have similar percentages of employed people – 56 percent and 51 percent, respectively. They also have nearly equal shares of people who are not looking for work and so are no longer in the labor force (between 22 and 23 percent).

Where they differ is in the share of people who are unemployed, with 17 percent of the uninsured being unemployed compared to only 2 percent of the insured. Similarly, the share of the uninsured who are too young to be a part of the labor force (defined by the Census Bureau as those below the age of 16) is half that of the insured, 10 percent vs. 20 percent.

Insured, Medicaid and Uninsured by Labor Force Status, 2011



Source: Census Bureau, ACS PUMS, 1-year data, 2011

Medicaid, on the other hand, has a completely different distribution of residents. Over half (54 percent) are under age 16, and 30 percent are of working age but not in the labor force. Only 10 percent of individuals with Medicaid are employed, while 6 percent are unemployed. As a result, even though the number of Medicaid enrollees who are unemployed increased 93 percent between 2008 and 2011, the unemployed only accounted for 16 percent of overall growth in Medicaid participation. Those under the age of 16 using Medicaid insurance grew 25 percent during the 2008–2011 period, but because of their

much larger numbers, they accounted for nearly 60 percent of the growth in Medicaid utilization. The 18-percent increase in residents on Medicaid who are not in the labor force generated the remaining 25 percent of the Medicaid’s growth during this period.

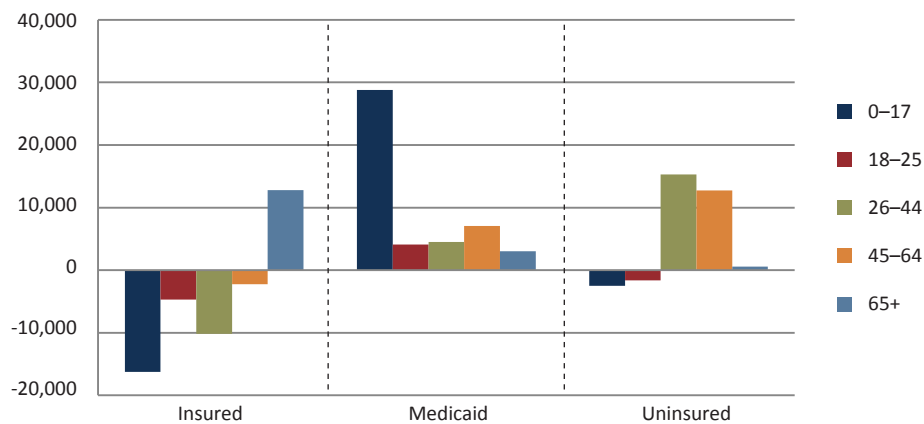
Those under the age of 16 accounted for nearly 60 percent of the growth in Medicaid utilization.

Conversely, it was the unemployed who drove the growth in the uninsured. In this category, the number who were employed or below working age actually declined over the three-year study period, by 2 percent and 8 percent respectively. Among the uninsured, those who were unemployed grew by 76 percent while those who were not in the labor force increased by 21 percent. If we focus only on the two sectors that grew and calculate their respective shares of that growth, we find that the unemployed contributed two-thirds of the growth of the uninsured population, while those people no longer looking for work contributed one-third.

Age structure

If we combine people with employer-based insurance, Medicare, and self-purchased or other insurances into an aggregate “insured” category (shown in the left section of the chart below), we find that only one age group in this category gained in number between 2008 and 2011 – the elderly, with an increase of 13,000. The decline was greatest among children aged 0–17, at 16,000, and young adults aged 26–44, at 10,000. When combined with smaller declines in the college-age (18–25) and mature adult (45–64) population segments, the number of people with adequate insurance declined by 21,000 people over the period, a 1 percent drop.

Change in Health Insurance by Age Group, 2008–2011



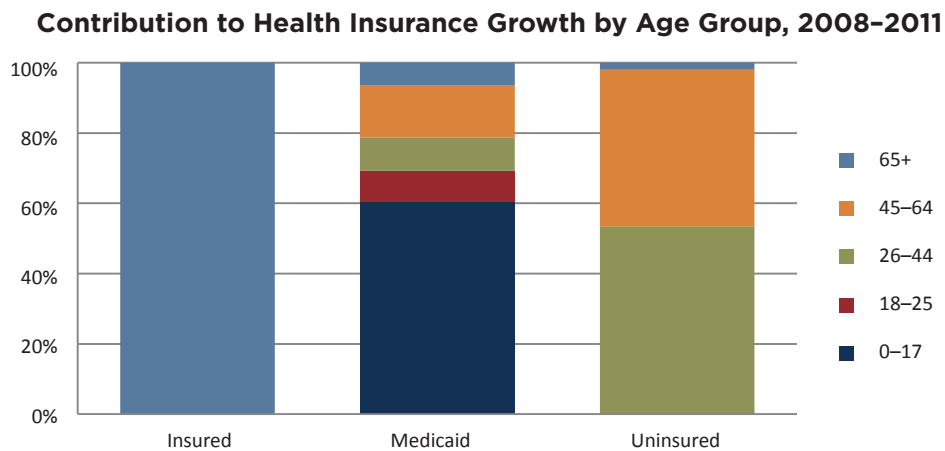
Source: Census Bureau, ACS PUMS, 1-year data, 2008–2011

Medicaid, on the other hand, saw its greatest increase — 29,000, or a 24 percent gain — among children. Medicaid growth in other age groups was spread more evenly, with college-age (18–25) contributing 9 percent of the growth in Medicaid enrollees; young adults aged 26 to 44 contributing 10 percent; mature adults aged 45 to 64 contributing 15 percent; and 6 percent growth among those aged 65 and above. (See the middle section of the chart on page 22.)

The distribution of age groups responsible for the growth in the uninsured population was markedly different, as shown in the right column of the chart on page 22. Not only did the number of children who were uninsured decline, but so did the number of college-age adults — albeit a modest 3 percent. Virtually all (98 percent) of the growth in the uninsured was contributed by those in the prime working ages of 26 to 64.

Virtually all (98 percent) of the growth in the uninsured was contributed by those in the prime working ages of 26 to 64.

The chart below displays the same data in a different way, showing only those age groups that experienced growth as a share of the total growth in each category (insured, Medicaid and uninsured).

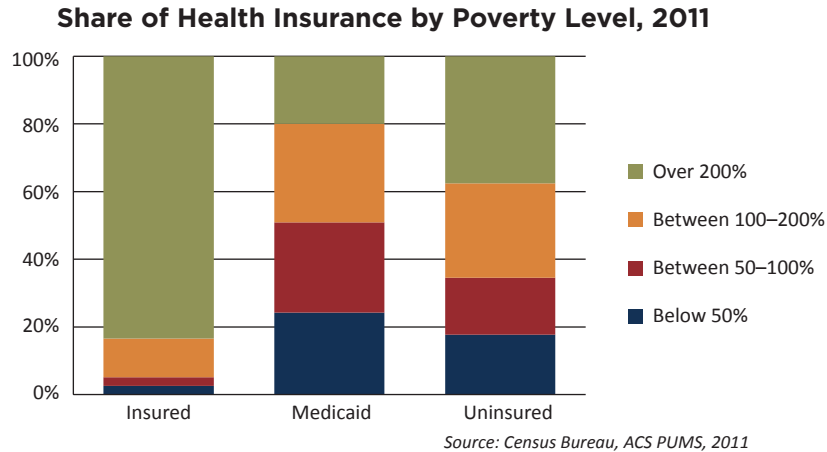


Source: Census Bureau, ACS PUMS, 1-year data, 2008–2011
 Note: Since only the 65-and-over population grew among the insured, it accounts for 100 percent of the growth in this calculation.

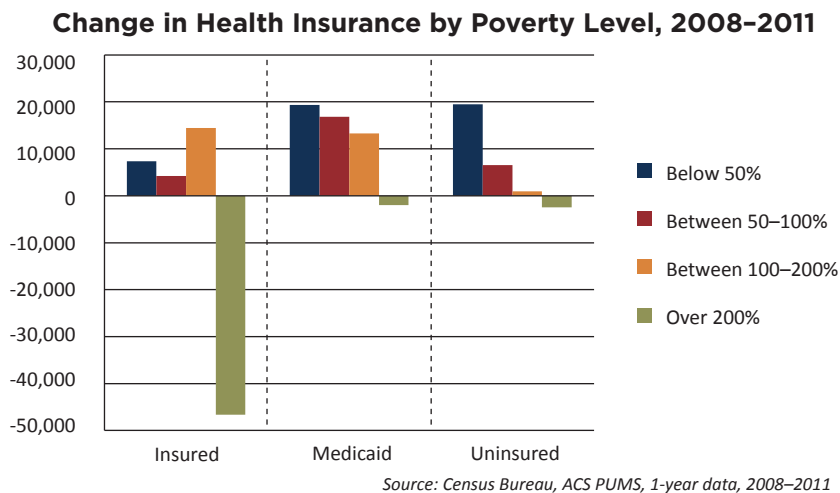
The reduction in the number of uninsured people between the ages of 18 and 25 could be explained by a provision of the Affordable Care Act that allows these college-aged adults to remain on their parents’ insurance. The data are equivocal whether this policy is, as yet, having the desired impact. While the number of uninsured 18–25 year olds has declined, there has not been a similar increase in the number of people in this age group who are insured. Rather, what seems to have happened is that many college-aged adults became unemployed during this period. About half of those who had health insurance were able to maintain it, and perhaps the ACA contributed to this. But the other half was shifted onto the Medicaid rolls.

Poverty Level

Not surprisingly, incomes are significantly different among the insured, those on Medicaid and the uninsured. In 2011, only 6 percent of insured residents lived in households below the federal poverty level (FPL), as compared to 51 percent of residents on Medicaid and 35 percent of uninsured residents. Conversely, 83 percent of insured residents live in households with incomes above 200 percent FPL, while only 20 percent of Medicaid participants and 38 percent of the uninsured do.



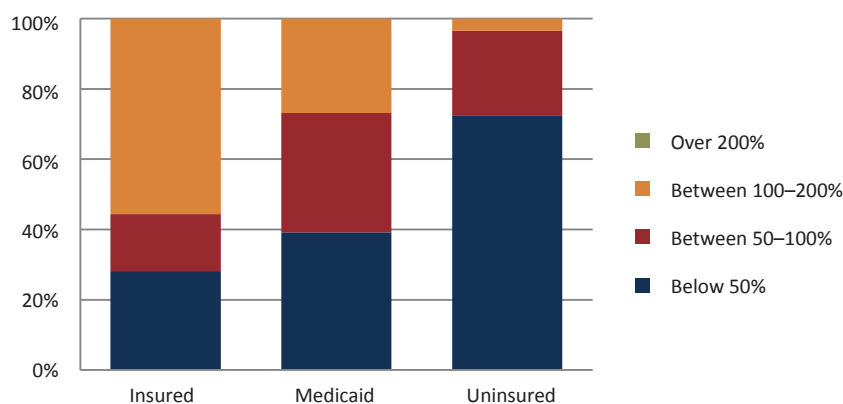
The number of residents with incomes above 200 percent FPL declined by 3.6 percent overall, or by 51,000 individuals. As the chart below shows, the insured represent the bulk (46,700 residents) of this loss.



Focusing on growth of the insured population from 2008–2011, we find that more than half (56 percent) of that growth came from those who lived in households with incomes between 100 and 200 percent FPL. Residents with household incomes below 100 percent FPL accounted for 44 percent of the growth of insured residents. Within that group, those with incomes less than half the poverty level contributed 28 percent.

Nearly three-quarters (73 percent) of the growth in Medicaid participation came from residents in households with incomes below FPL. These were split roughly evenly between those with incomes above and below 50 percent of the FPL.

Contribution to Health Insurance Growth by Poverty Level, 2008–2011



Source: Census Bureau, ACS PUMS, 2011

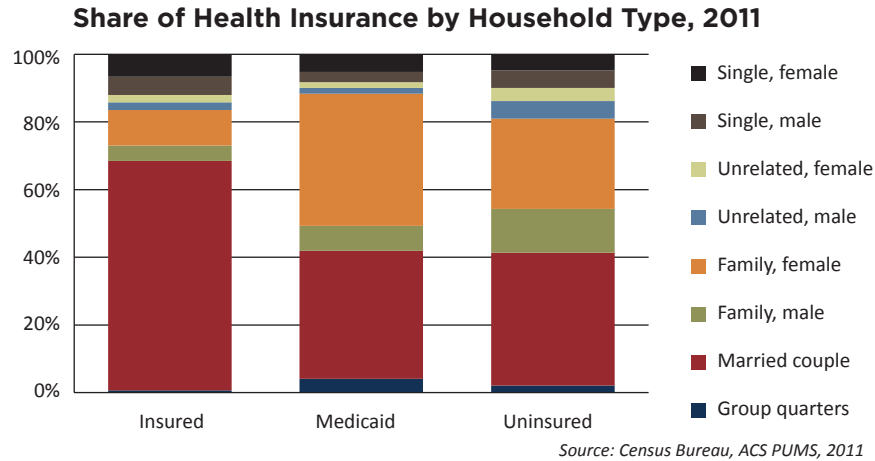
What is perhaps more surprising is that the poorest of the poor — those below living below FPL — contributed more to the growth in uninsured than to the growth in Medicaid. Fully 97 percent of the growth in the uninsured came from residents with incomes below the poverty line. Very poor residents, those with incomes less than 50 percent FPL, accounted for 72 percent of the growth of the uninsured.

Viewed by totals rather than percents, the number of these poorest residents who joined the ranks of the uninsured (19,400) was equal to the number absorbed by Medicaid, the program designed to help them. It appears that the Great Recession simply overwhelmed the Medicaid system, perhaps raising questions as to how well it will be able to accommodate an additional influx of participants as Medicaid is expanded under the Affordable Care Act.

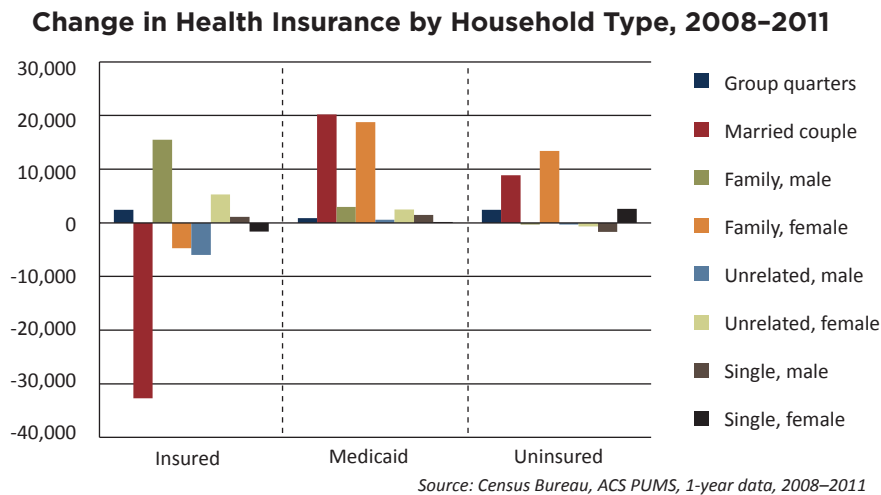
Fully 97 percent of the growth in the uninsured was caused by an increase in residents with incomes below the poverty line. The poorest residents alone, those with incomes less than half the poverty level, accounted for 72 percent of the growth of the uninsured.

Household/Family Type

Among those who are adequately insured, 68 percent lived in married-couple households in 2011, while only about 40 percent of those on Medicaid or uninsured lived in married-couple households. Of those on Medicaid, the proportions of those living in female-headed and married-couple households were roughly equal, while smaller proportions of insured and uninsured – 10 percent and 27 percent, respectively – lived in families with a female head of household. Among the three insurance groups, the uninsured had the highest proportion of residents living in male-headed families, at 13 percent, followed by Medicaid with 7 percent, and the insured with 5 percent.

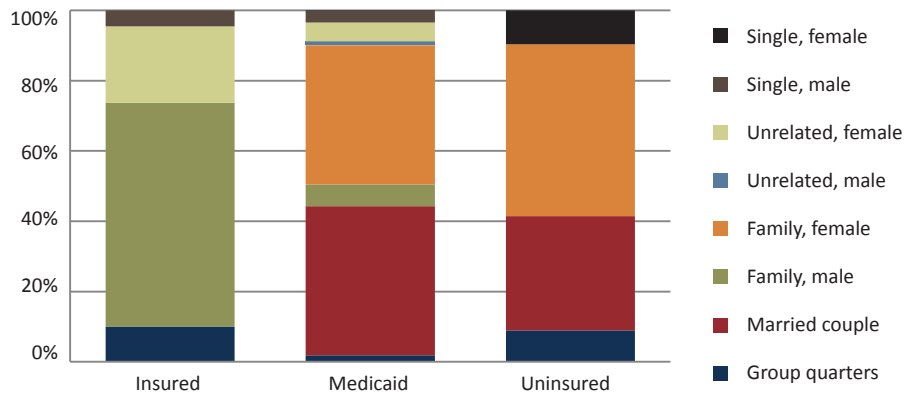


Although married couples constitute the largest group among the insured, their numbers declined by 33,000 between 2008 and 2011, a three percent loss. Many of these shifted to Medicaid, which saw a gain of 20,000 married-couple residents, and the uninsured, which saw a gain of 9,000. Residents living in female-headed families increased significantly for those on Medicaid and among the insured, increasing by 19,000 and 13,000 respectively.



As a result, residents living in married-couple and female-headed families together accounted for more than 80 percent of the growth in both the Medicaid and uninsured populations during the 2008–2011 period. While each of these household types contributed roughly 40 percent of the growth in Medicaid, female-headed households predominated among the uninsured, contributing nearly half (49 percent) of the growth in this population. Notably, male-headed families dominated among the household types that grew in the insured population, accounting for 64 percent of the increase during the three-year period.

Contribution to Health Insurance Growth by Household Type, 2008–2011

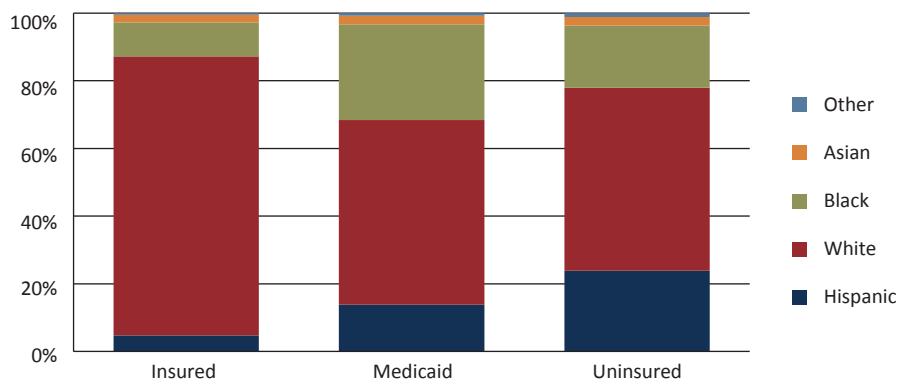


Source: Census Bureau, ACS PUMS, 1-year data, 2008–2011

Race and Ethnicity

Non-Hispanic whites constituted the majority within each insurance class, though the size of the majority varied widely, from 83 percent of the insured to 53 percent with Medicaid and 54 percent uninsured. For both the insured and those on Medicaid, blacks were the second largest racial group, accounting for 10 percent and 28 percent, respectively. Hispanics were the second largest group among the uninsured, with nearly a quarter of the uninsured population. In both Medicaid and the uninsured, the growth among whites was greater than black and Hispanic combined.

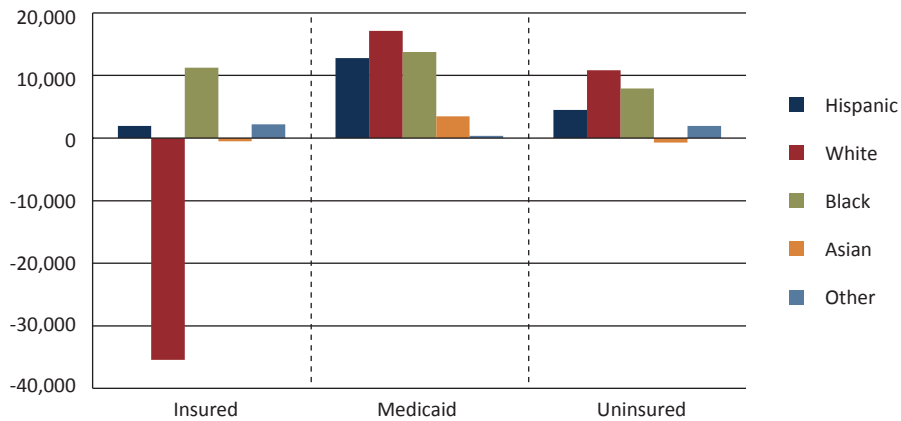
Share of Health Insurance by Race/Ethnicity, 2011



Source: Census Bureau, ACS PUMS, 2011

Though non-Hispanic whites comprised the largest racial group among the insured, their numbers declined significantly during the 2008–2011 period, by 35,400 or 3 percent. Whites also showed the most growth among the Medicaid and uninsured populations, by 17,000 and 11,000, respectively.

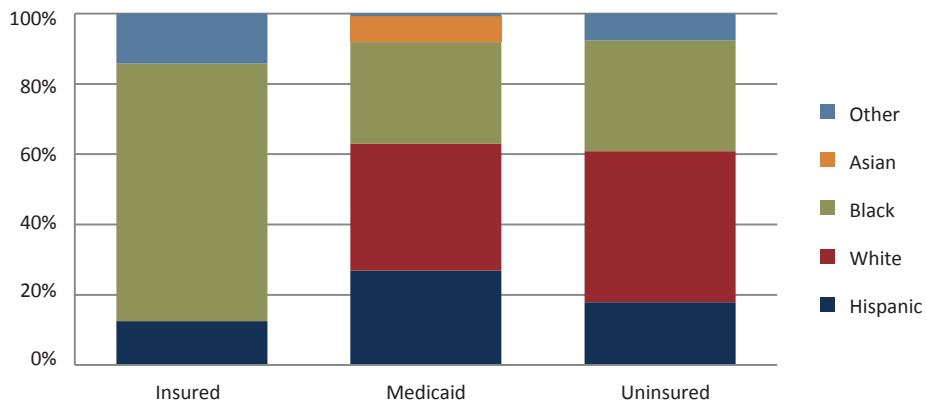
Change in Health Insurance by Race/Ethnicity, 2008–2011



Source: Census Bureau, ACS PUMS, 1-year data, 2008–2011

Interestingly, because the white population with adequate insurance declined, blacks contributed most of the growth of the insured sector, 73 percent, during the three-year period. Changes among those on Medicaid and the uninsured were more evenly divided among racial and ethnic categories. For those on Medicaid, whites contributed 36 percent of growth, blacks 29 percent and Hispanics 27 percent between 2008 and 2011. For the uninsured, whites accounted for 43 percent of growth and Hispanics 18 percent. Blacks’ contribution of 32 percent to the growth of the uninsured was roughly equal that of blacks on Medicaid.

Contribution to Health Insurance Growth by Race/Ethnicity, 2008–2011



Source: Census Bureau, ACS PUMS, 1-year data, 2008–2011

Health Insurance by PUMA

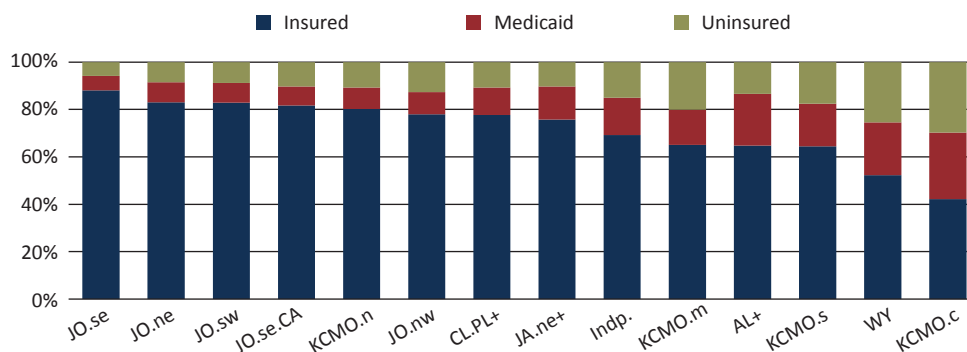
The ACS Public Use Microsample data can be tabulated by PUMA (Public Use Microsample Area) to provide some sense of the geography of the medically underserved. The table below provides abbreviations used for the 14 PUMAs that approximate the REACH/MARC area in subsequent tables and charts:

PUMA Abbreviations and Descriptions

PUMA ID	ABBREVIATION	DESCRIPTION
KANSAS		
500	WY	Wyandotte County, Kan.
601	JO.nw	Northwest Johnson County, Kan. (west of Antioch, north of I-435/K-10)
602	JO.ne	Northeast Johnson County, Kan. (east of Antioch, north of I-435)
603	JO.sw	Southwest Johnson County, Kan. (Olathe, Gardner, Edgerton, Spring Hill areas)
604	JO.se	Southeast Johnson County (Blue Valley School District area)
1500	AL+	Allen County, Kan., plus Anderson, Bourbon, Elk, Linn, Wilson and Woodson counties
MISSOURI		
800	CL.PL+	Northland, excluding the city of Kansas City, Mo. (i.e., Platte and Clay counties outside the city limits of Kansas City, plus Clinton County)
901	JA.ne+	Northeast Jackson County and Lafayette County, Mo. (including Raytown, Blue Springs, Oak Grove, Grain Valley areas)
902	JA.se.CA	Southeast Jackson County and Cass County, Mo. (including Grandview, Lee's Summit, Greenwood, Lake Lotowana areas)
1001	KCMO.n	City of Kansas City, Mo., north of the Missouri River
1002	KCMO.c	City of Kansas City, Mo., urban core (from the Missouri River to about 39th St.)
1003	KCMO.m	City of Kansas City, Mo., midtown (39th St. to about 83rd St.)
1004	KCMO.s	City of Kansas City, Mo., south (83rd St. to Jackson County line)
1100	Indp	City of Independence

The REACH/MARC area PUMAs exhibited a considerable range in the percent insured, from a high of 88 percent insured in southeast Johnson County (JO.se) to 42 percent in the urban core of Kansas City, Mo. (KCMO.c).

Health Insurance Coverage, Percent Insured by PUMA, 2011

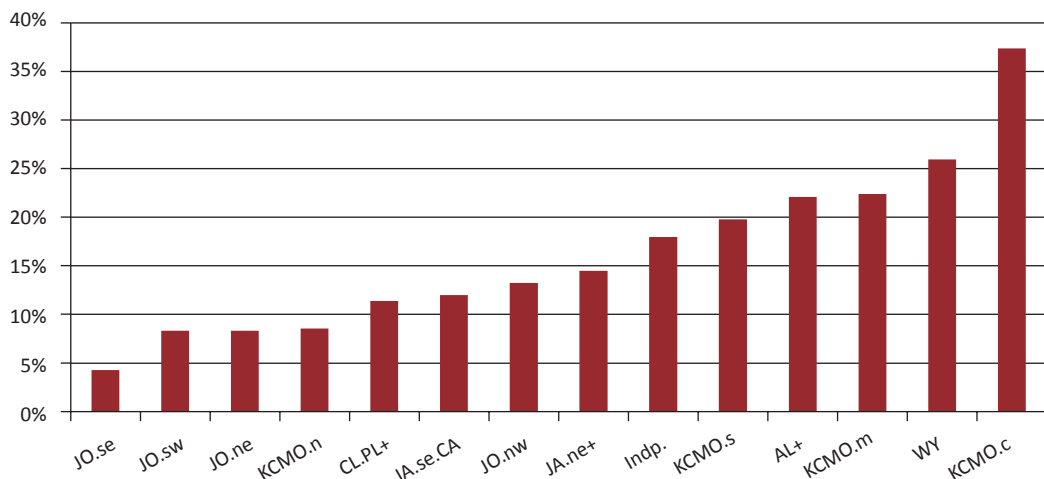


Source: U.S. Census Bureau, ACS PUMs, 1-year data

As the percentage of insured residents declines, the percentage on Medicaid or uninsured must necessarily increase. However, the two do not always proceed in lock step. In particular, the Allen County area PUMA (AL+) contains a somewhat higher percentage of individuals on Medicaid and the Kansas City, Mo., Midtown PUMA (KCMO.m) contains a higher percentage of the uninsured than other PUMAs with similar percentages of residents with adequate health insurance.

Unfortunately, the degree to which individuals have adequate health insurance is significantly impacted by the economic factors affecting each PUMA, such as its poverty rate. The rank ordering of PUMAs by percent insured from highest to lowest is nearly identical to the rank ordering of PUMAs by poverty rate from lowest to highest.

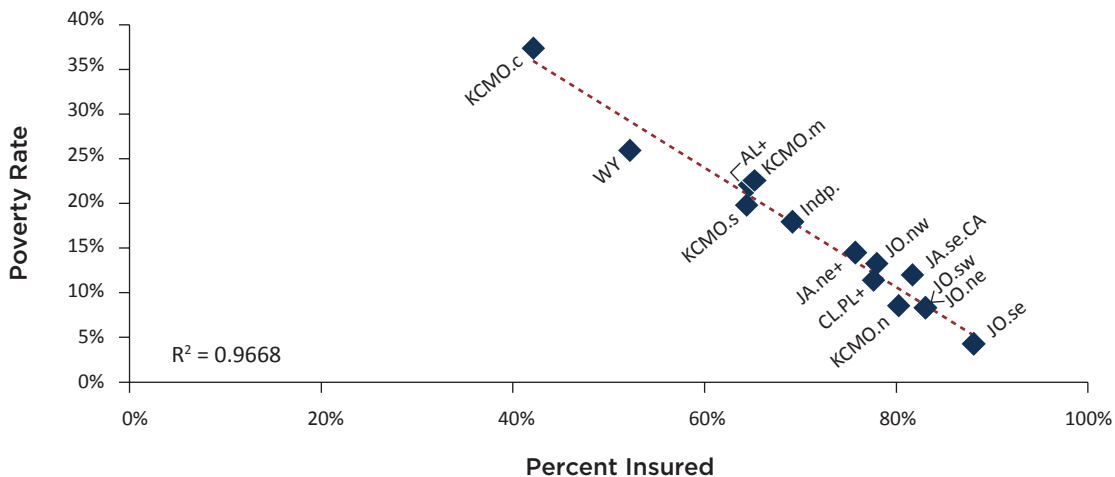
Poverty Rate by PUMA, 2011



Source: U.S. Census Bureau, ACS PUMs, 1-year data

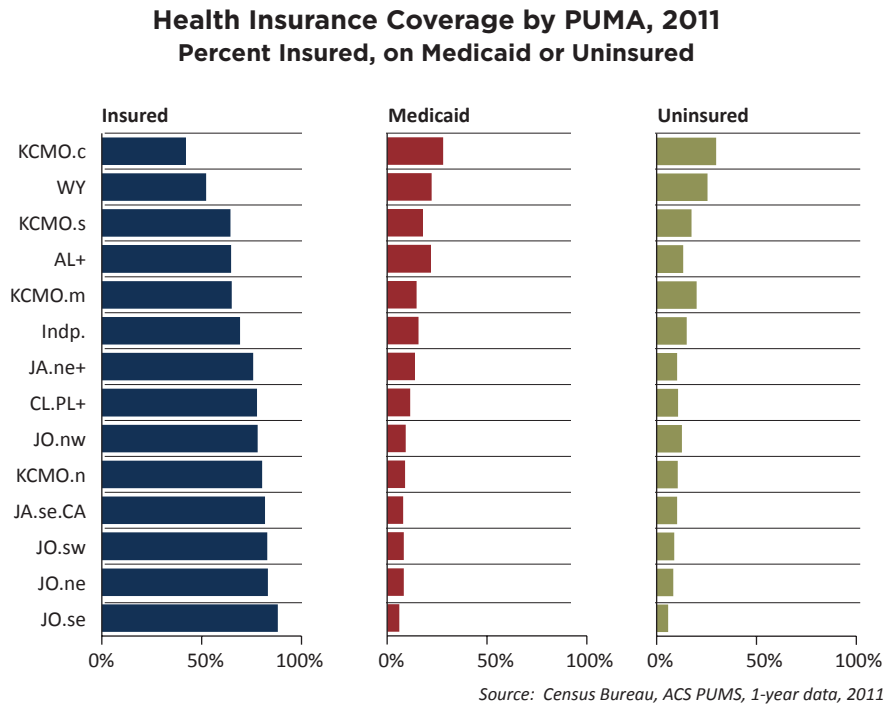
The extent of the correlation between poverty and percentage insured can be seen even more dramatically when they are plotted against each other. Simply put, the PUMA poverty rates alone explain about 97 percent of the variation in PUMA percent insured.

Percent Insured vs. Poverty Rate, 2011



Change in PUMA Health Insurance Coverage

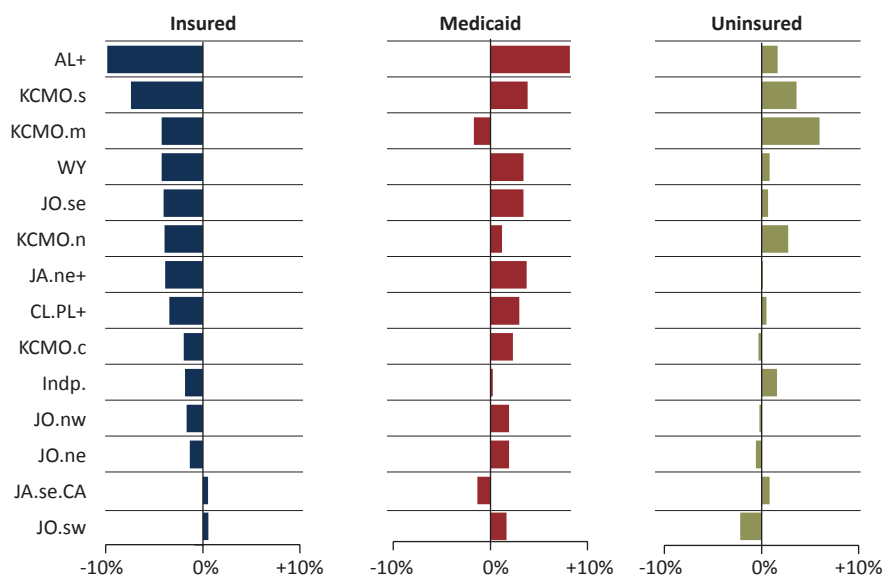
In order to understand how health insurance coverage changed in the PUMAs between 2008 and 2011, we first have to split the data into separate graphs. To provide a frame of reference, the following chart displays the same 2011 PUMA health coverage data shown at the bottom of page 29:



While virtually all PUMAs saw a drop in their percent of insured during the 2008–2011 period as a result of the Great Recession, the level of coverage in 2011 is not always predictive of how much it changed. For example, one might expect that those PUMAs with the lowest percentages of population with adequate insurance would have been most affected by the Great Recession. That indeed seems to be the case for the Allen County area (AL+), where the percent insured dropped 10 percentage points during this time period, the largest decline of any PUMA in the REACH service area. (See chart on page 32.)

On the other hand, the center core area of Kansas City, Mo. (KCMO.c), which has the lowest percentage of residents who are insured, weathered the recessionary storm relatively well, seeing only a 2 percentage point drop in its insured rate during the 2008–2011 period, on par with Independence (Indp.), northwest Johnson County (JO.nw) and northeast Johnson County (JA.ne). Conversely, southeast Johnson County (JO.se), which has the highest percentage of residents who are adequately insured among all the REACH Area PUMAs, saw a 4 percentage point drop between 2008 and 2011, or double the loss experienced in the Kansas City central core area (KCMO.c).

Change in Percent Covered by Health Insurance by PUMA, 2008–2011



Source: Census Bureau, ACS PUMS, 1-year data, 2011

In most PUMAs, the decline in the percent insured was primarily explained by an increase in those on Medicaid; all PUMAs but midtown Kansas City, Mo. (KCMO.m) and southeastern Jackson County/Cass County (JA.se.CA) saw an increase in the percentage of residents on Medicaid. Not surprisingly, the Allen County area PUMA (AL+) saw the largest spike in Medicaid participation, with a jump of 8 percentage points. South Kansas City, Mo. (KCMO.s) and northeastern Jackson County (JA.ne+) both saw 4 percentage point increases in their Medicaid populations, followed by Wyandotte (WY), southeastern Johnson County (JO.se) and the Clay and Platte area outside of Kansas City, Mo. (CL.PL+), with 3 percentage point increases.

Significant increases in the percent uninsured were not as geographically widespread. They tended to be concentrated in the north, south and midtown PUMAs of Kansas City, Mo. (KCMO.n, KCMO.s and KCMO.m), and to a lesser extent in the Allen County area (AL+) and Independence (Indp.) PUMAs. The midtown area experienced the largest increase in the percent of uninsured, rising 6 percentage points between 2008 and 2011, while the southern and northern portions of Kansas City, Mo., saw increases of 4 and 3 percentage points, respectively. Interestingly, the center core of area of Kansas City, Mo., which had the largest percentage of uninsured residents in 2011, saw no change in this percentage between 2008 and 2011.

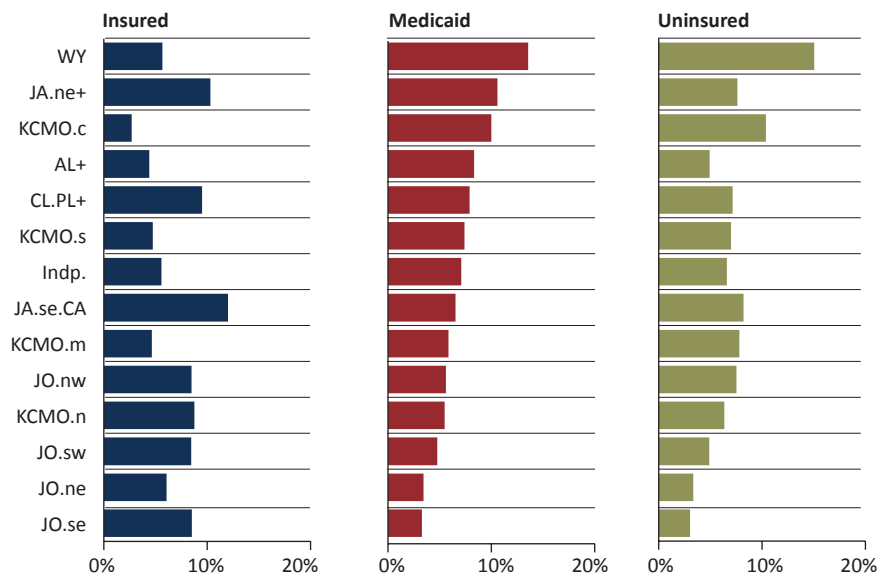
PUMA Share of Area Change in Health Insurance Coverage

Whereas the previous section examined each PUMA's trends in the percents of insured, Medicaid or uninsured, this section seeks to understand each PUMA's contribution to health insurance trends occurring in the REACH area as a whole. We begin by considering each PUMA's share of the REACH area's insured, Medicaid and uninsured populations in 2011. This analysis is somewhat complicated by the fact that PUMAs are not all the same population. Everything else equal, one might expect larger PUMAs to be home to larger

shares of the each population sub-group as well. This theory holds true for the insured category. The largest PUMA, with 11 percent of the REACH area population, is the one covering southeast Jackson County and Cass County. It also contains the largest share of the insured, at 12 percent. Conversely, the smallest PUMA is the one for the Kansas City, Mo., center core. It accounts for just under 5 percent of the REACH area population and 3 percent of the insured, which is also the smallest share of any PUMA.

This supposition breaks down, however, when considering the PUMA shares of the Medicaid and uninsured populations. When 2011 shares are sorted high to low on Medicaid, as in the chart below, they no longer match up with the ordering for the insured. Each PUMA’s share of the Medicaid population remains highly correlated with its share of the uninsured.

**PUMA Share of Insurance in the REACH Area, 2011
Sorted on Percent of Area Medicaid Population**

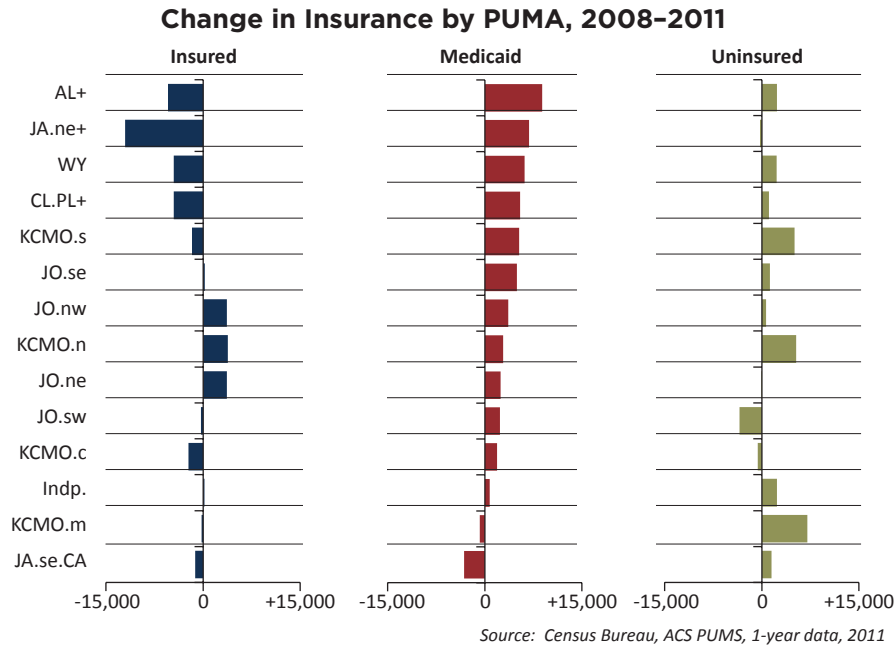


Source: Census Bureau, ACS PUMS, 1-year data, 2011

Only two PUMAs have a significantly higher share of both the Medicaid and uninsured populations than of the insured population in 2011 – Wyandotte County and the Kansas City, Mo., central core. Whereas Wyandotte County has only 6 percent of the area’s insured population, it has more than double that percentage of Medicaid and the uninsured – 14 percent and 15 percent respectively. Similarly, while only 3 percent of the area’s insured population resides in the Kansas City, Mo., central core PUMA, it constitutes 10 percent of the area’s Medicaid and uninsured populations. The Allen County area PUMA contains twice the share of the Medicaid population as it does the uninsured, at 8 percent and 4 percent, respectively. Meanwhile, the midtown Kansas City, Mo., PUMA contains a disproportionate share of the uninsured population, with 8 percent, compared to 5 percent of the insured.

PUMA shares of 2011 health insurance coverage are at least somewhat predictive of how much they changed between 2008 and 2011. For example, the PUMAs of Wyandotte County, northeastern Jackson County, Allen County, Clay/Platte and south Kansas City, Mo., are five of the top six PUMAs with respect to share of the Medicaid population. They are also

the top five PUMAs with respect to growth of the Medicaid population, though the order among them differs. The Allen County PUMA experienced the greatest increase in its Medicaid population, adding 8,900 participants, followed by northeast Jackson County, which grew by 6,800 residents. Wyandotte County was right behind, adding 6,100 Medicaid participants. The Clay/Platte and south Kansas City, Mo., PUMAs added 5,400 and 5,300 residents to the Medicaid rolls, respectively, over the 3-year period.



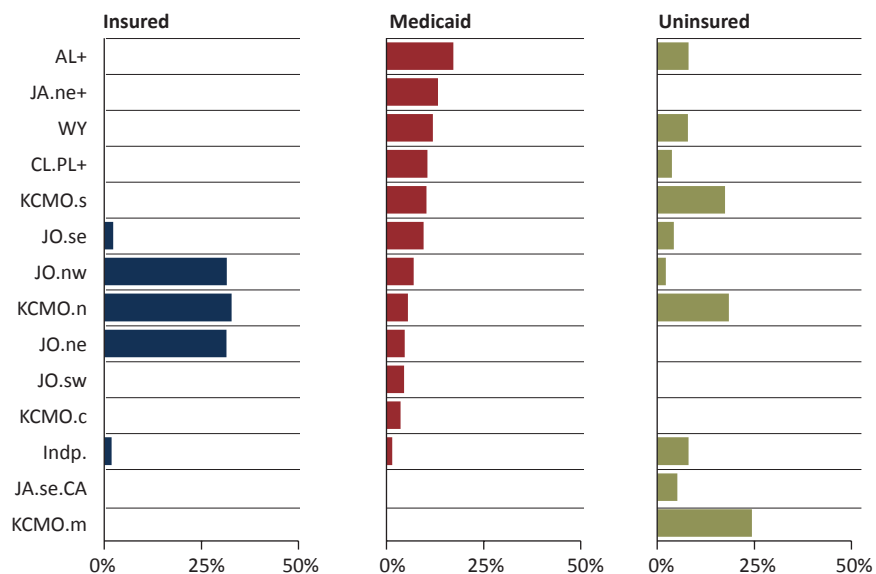
Still, there are some surprises. For example, the Kansas City, Mo., center core PUMA had the third largest share of area Medicaid population in 2011, but it experienced only a 1,900 increase in Medicaid users between 2008 and 2011. Conversely, southeast Johnson County was home to the smallest share of those on Medicaid in 2011, but experienced the sixth largest increase at 4,900 over the three years.

The biggest change among any PUMAs was the loss of 12,000 insured residents from the northeast Jackson County PUMA. In fact, only three PUMAs saw a significant increase in insured population during the 2008-2011 period – Kansas City, Mo., north of the Missouri River, with a gain of 3,800, and both northwest and northeast Johnson County, each of which added about 3,700 insured residents. Only one PUMA saw a significant decline in the number people on Medicaid – the southeast Jackson/Cass County PUMA, which dropped by 3,200 enrollees. Similarly, only one PUMA experienced a significant loss in uninsured population between 2008 and 2011; in the southwest Johnson County PUMA the number of uninsured declined by 3,400.

Most of the other PUMAs gained additional uninsured residents, with the most significant increases in the Kansas City, Mo., midtown, north and south PUMAs. The midtown PUMA added 7,000 to the ranks of the uninsured, with the north and south PUMAs adding 5,300 and 5,000 respectively.

If we focus only on those PUMAs that grew in each of the three insurance categories, then we can calculate their contribution to the growth of that category. The growth of the insured is the most concentrated geographically, with only the three PUMAs mentioned above contributing significantly. As each grew about the same amount, they each contribute roughly one-third to the growth of the insured. All together, these top three PUMAs account for 96 percent of the growth in the insured population in the REACH area among all the PUMAs that saw an increase over the 2008–2011 period.

Contribution to Growth in Insurance by PUMA, 2008–2011



Source: Census Bureau, ACS PUMS, 1-year data, 2011

The growth in the uninsured is the next most concentrated geographically. The midtown Kansas City, Mo., PUMA alone accounts for nearly 25 percent of the growth in the uninsured. This PUMA is followed by two others in Kansas City, Mo. – the PUMA north of the Missouri River, which captured 18 percent of the growth in the uninsured, and the south PUMA that captured 17 percent. All together these top three contributors accounted for 60 percent of the overall growth in the uninsured population in the REACH area.

The growth in the REACH area Medicaid population is the most geographically dispersed. Nearly every PUMA saw an increase in their Medicaid populations. Allen County, northeastern Jackson County and Wyandotte County captured the largest shares of the growth in Medicaid population in the REACH area, accounting for 17 percent, 13 percent and 12 percent respectively. These top three contributors captured 42 percent of growth in Medicaid participants, a substantially smaller fraction than the top three contributor in the other insurance categories.

Summary of PUMA Analysis

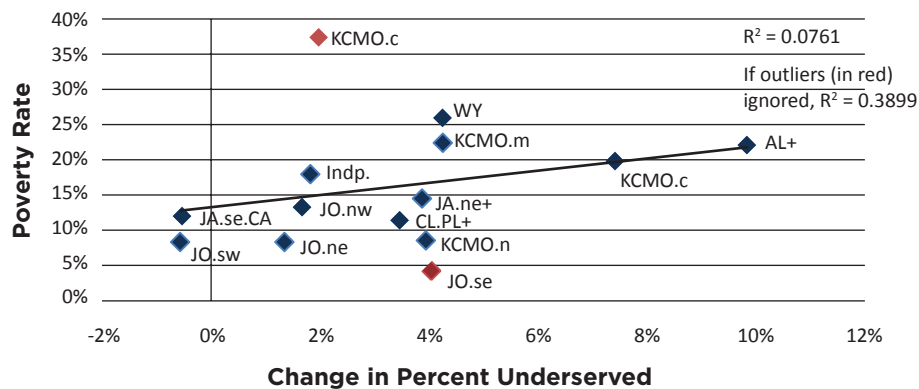
The Great Recession caused a decline in those with adequate health insurance, especially among those whose insurance was employer-based. This, along with improvements to the coverage of children, had the result of pushing many people onto Medicaid. Unfortunately, a significant number of people were also left uninsured. Combining those on Medicaid

and the uninsured into a single group representing the medically underserved, it is readily apparent this increased burden resulting from the growth of this group was not evenly distributed geographically.

Overall, areas with higher percentages of insured populations and higher incomes tended to experience somewhat smaller increases in the medically underserved, though this was not universally true. The most glaring exceptions were the REACH area's poorest and wealthiest PUMAs, the central core of Kansas City, Mo., and the southeast portion of Johnson County respectively. For example, despite a poverty rate of 37 percent, the Kansas City central core PUMA saw only a 2 percentage point increase in the share of its population that was medically underserved, while the southeast Johnson County PUMA saw double that increase while maintaining a poverty rate of only 4 percent.

Even if we ignore these two outliers, the relationship between income and the change in the medically underserved showed much more variability than the relationship between income and the level of medical underservice. While PUMA poverty rates explain 97 percent of the variation in the percentage of PUMA population that is medically underserved, they only explain 39 percent of the change in that proportion. Uncovering additional significant explanatory factors presents an active area for additional research.

Change in Percent Underserved vs. Poverty Rate



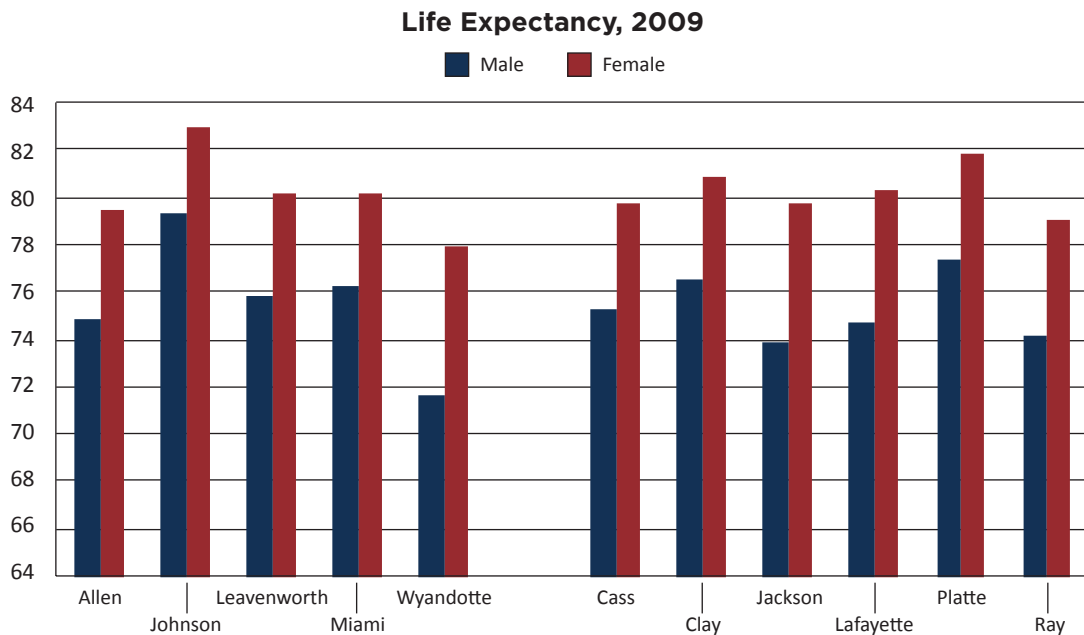
IV. Health Status, Disparities and Trends

In this section, we identify some of the leading health issues facing the people in the region, particularly our vulnerable populations, using customary health metrics reported by public and private agencies. The data for each metric includes current health status; an assessment of disparities by income, race and/or geography; and trends over time.

Life Expectancy

Life expectancy is a common measure of a population’s general health. In 2009, life expectancy for males in the Kansas City metro area ranged from 71.6 to 79.3 years, compared to the U.S. average of 76.2. For females, life expectancy ranged from 77.9 years to 82.9, with the U.S. average at 81.3.¹² The following chart illustrates the distribution of life expectancy for males and females across counties in the report area.

In Wyandotte and Jackson counties, life expectancies for blacks were three to six years lower than for whites.



Separate data for the black population was only available for Wyandotte and Jackson counties. It showed that life expectancies for blacks was from three to six years lower than that of whites in these counties. Also, life expectancy for blacks in these two counties was one to four years lower than the national average for blacks.¹³

Change in life expectancy from 1999 to 2009 ranged from a gain of two years for males in Wyandotte, Jackson and Clay counties to a loss of two-tenths of a year for females in Cass and Ray counties. In general, males gained more in life expectancy than women during this period. Across the board, regional gains were less than national gains. Also, rural counties did not gain as much in life expectancy as more urban counties.¹⁴

¹² Institute for Health Metrics and Evaluation

¹³ Institute for Health Metrics and Evaluation

¹⁴ Institute for Health Metrics and Evaluation

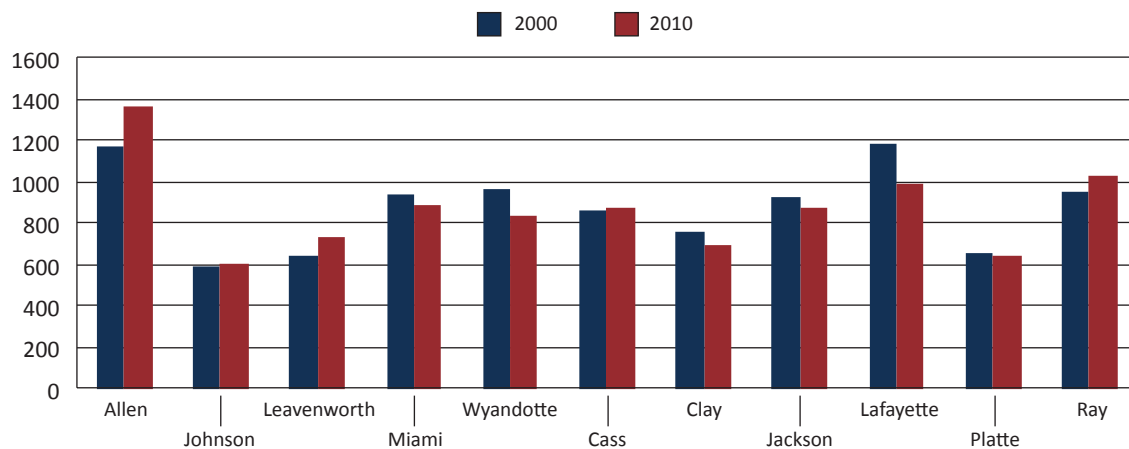
Death Rates

Another means of looking at health issues is to look at death rates. The 2010 death rate for the Missouri side of the region was 803 deaths per 100,000 population; on the Kansas side, it was 684. These figures compare favorably to statewide numbers of 816 in Missouri and 875 in Kansas. The major causes of death in 2010 were heart disease (23.5 percent of the region's deaths); cancer (23 percent); stroke (5.9 percent) and lower respiratory disease (5.8 percent).¹⁵

Allen County had the highest death rate, 1,361 deaths per 100,000, a 16 percent increase from 2000–2010. There is no clear trend among rural counties, however. Lafayette's rate declined by 18 percent.

Annual death rates vary across counties, from a particularly high rate of 1,361 deaths per 100,000 in Allen County to a low of 606 in Johnson County.

Death Rate (All Causes) per 100,000 Population



Source: Kansas Department of Health and Environment and Missouri Department of Health and Senior Services

The death rate for heart disease declined by 30 percent, from 224 deaths per 100,000 in 2000 to 187 in 2010. Cancer death rates declined by 2 percent.

As with life expectancy, a separate death rate for blacks is only reported for Jackson and Wyandotte counties. For both counties, the death rate for blacks has declined; in Wyandotte County, the death rate for blacks is lower than the county's overall death rate, while in Jackson County it is higher.

The death rate for the region overall declined by 5 percent between 2000 and 2010. Death rates for the top two causes of death — heart disease and cancer — also declined. The death rate for heart disease declined by 30 percent, from 224 per 100,000 to 187, while the death rate for cancer declined by 2 percent, from 185 to 180. The rates of decline or increase vary considerably across the counties.¹⁶ For example, the change in the cancer death rate ranges from a 35 percent decline in Allen County to a 39 percent increase in Ray County.

Years of Potential Life Lost

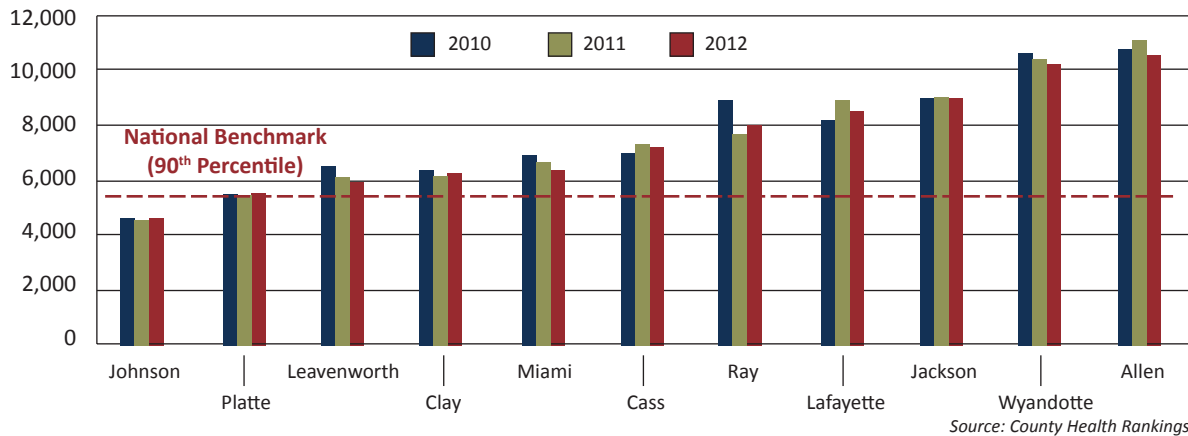
Another important measure of health is Years of Potential Life Lost (YPLL), which is a measure of the rates of premature death. It calculates the number of years of life prior to age

¹⁵ Kansas Department of Health and Environment and the Missouri Department of Health and Senior Services

¹⁶ Kansas Department of Health and Environment and the Missouri Department of Health and Senior Services

75 lost within a geographic area due to premature death and is expressed as the number of years lost per 100,000 population. The most recent YPLL rates in the report area ranged from a high of 10,514 YPLL per 100,000 population to 4,671 YPLL per 100,000 population. Statewide, Kansas' YPLL is 7,012, while Missouri's is 7,981. The disparity across counties in YPLL values is illustrated in the chart below.

Years of Potential Life Lost, 2010-2012



The national benchmark for YPLL, set by the Robert Wood Johnson Foundation's County Health Rankings at 5,466 per 100,000 population, represents the 90th percentile, meaning that 90 percent of counties rank lower than 5,466. In the metro area, only Johnson County has achieved this desired mark.¹⁷

The County Health Rankings provide three years of data on YPLL. In this relatively short time frame, 2010-2012, YPLL has declined in eight of the 11 counties in the report area.

Infant Mortality

Infant mortality varies across the region, from a high of 9.3 deaths per 1,000 live births in Allen County to a low of 5.0 in Leavenworth County.¹⁸ Nationally, the infant mortality rate for 2009 was 6.39 deaths per 1,000 live births.¹⁹

Infant mortality rates are considerably higher for non-Hispanic blacks and Hispanics. In Kansas, infant mortality rates are 5.3 per 1,000 live births for non-Hispanic whites; 12.9 for non-Hispanic blacks; and 6.7 for Hispanics.²⁰ For Missouri counties, race is only reported for Jackson County, where the infant mortality rate for 2009 was 6.9 per 1,000 live births for whites and 13.8 for blacks.²¹

17 County Health Rankings, 2012, www.countyhealthrankings.org

18 1999-2009 data from the Missouri Department of Health and Human Services and 2006-2010 data from the Kansas Department of Health and Environment

19 National Vital Statistics System, Mortality Data, www.cdc.gov/nchs/deaths.htm

20 Kansas Department of Health and Environment, Selected Special Statistics, Stillbirths and Infant Deaths, Kansas, 2011

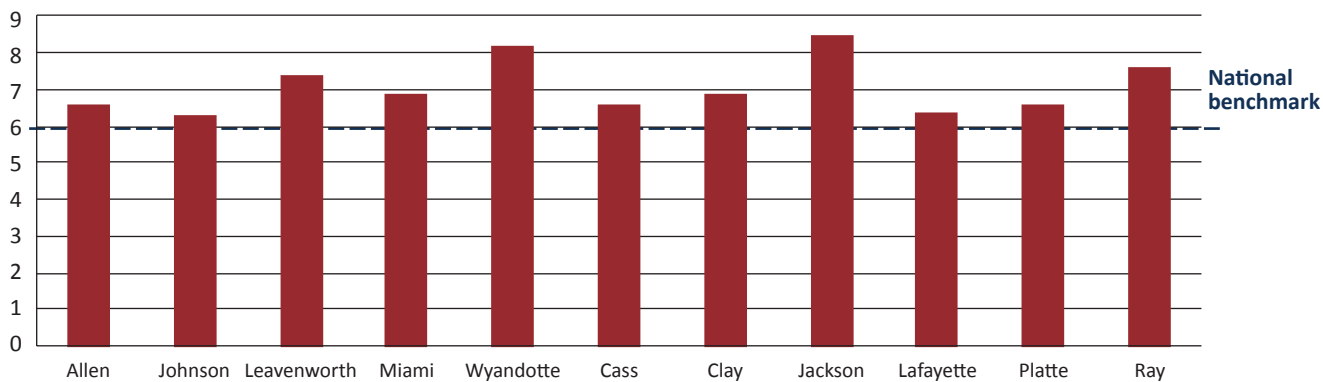
21 Missouri Department of Health and Human Services, Missouri Vital Statistics, 2009

Births

Another measure of community health is related to pregnancy and births – specifically, how many babies are born at low birth weights, and how many are born to teen mothers.

For the report area, the incidence of low-birth-weight babies ranges from 6.3 percent in Johnson County to 8.5 percent in Jackson County. The national benchmark, set by the County Health Rankings at the 90th percentile, is 6 percent.⁵

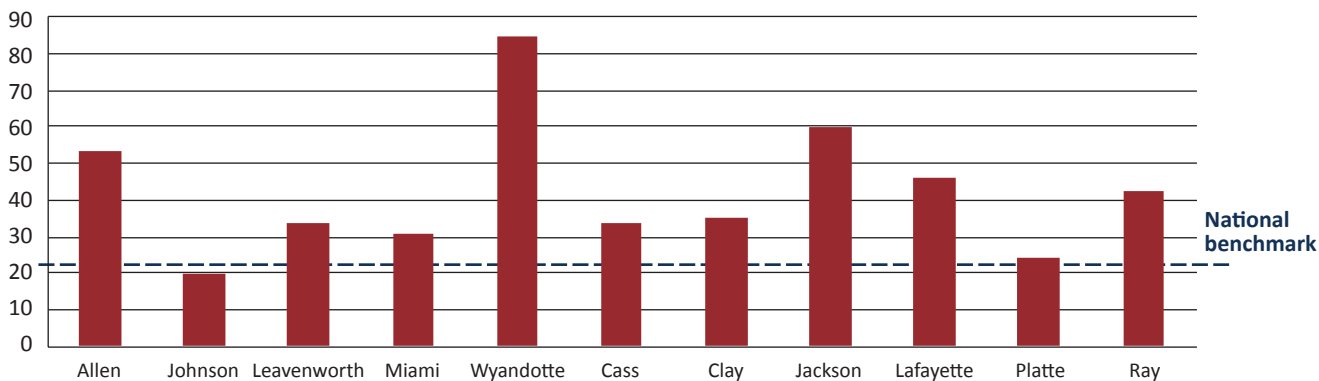
Low Birth Weight Babies per 1,000 Live Births



Source: County Health Rankings

The teen pregnancy rate for 2009 varies from a low of 19.8 teen births per 1,000 female teens (ages 15–19) to a high of 84.6 teen births in Wyandotte County. The national benchmark set by County Health Rankings is 22.²²

Teen Births per 1,000 Female Teens



Source: County Health Rankings

The variance in teen birth rates across the region is substantial, as shown in the chart above. Both urban and rural areas seem to have higher rates than suburban counties. Although the differences are not as pronounced for low-birth-weight babies (top chart), the pattern is very similar, with urban and rural counties showing more elevated rates. While births to teens dropped between 2007 and 2009 in all counties except Leavenworth, low-birth-weight babies increased in all but three of the counties (Allen, Miami and Clay).²³

²² County Health Rankings, 2012, www.countyhealthrankings.org

²³ County Health Rankings, 2012, www.countyhealthrankings.org

Disease Incidence

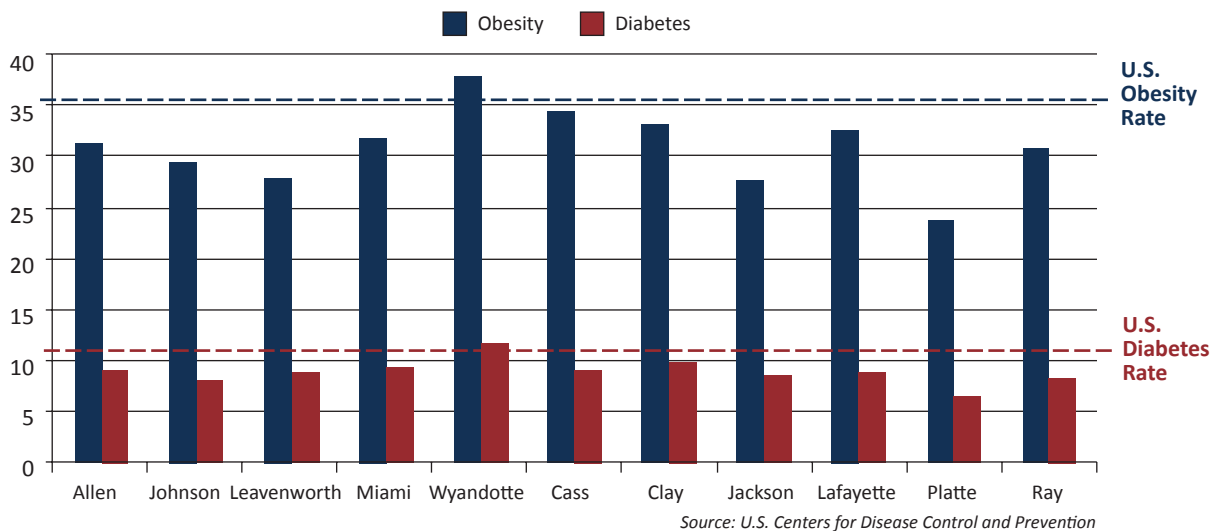
Data for several serious diseases prevalent in the region – obesity and diabetes, respiratory disease, heart disease and cancer – is quantified below.

Obesity and Diabetes

Detailed information is available for obesity and diabetes – two closely related conditions – because the U.S. Centers for Disease Control and Prevention have operated a surveillance program for these conditions for a number of years.²⁴ Using CDC estimates for 2009, all but one of the counties in the report area had age-adjusted obesity rates (for adults over 20) greater than 25 percent. Johnson County’s rate was 23.6 percent. Seven of the eleven counties in the region had age-adjusted obesity prevalence rates greater than 30 percent, including Wyandotte County at 37.9 percent. CDC data for 2009–2010 indicates that nationally, the adult obesity rate is 35.7 percent and childhood obesity rate is 16.9 percent.²⁵

The CDC database also provides similar information for rates of diabetes. In 2009, age-adjusted diabetes rates in the region ranged from a low of 6.4 percent of the total population in Platte County to a high of 11.7 percent in Wyandotte County. Most of the counties are clustered between 8 and 10 percent. The national rate in 2009 was 11.3 percent for adults over 20.²⁶ The chart below illustrates the range of obesity and diabetes rates for adults over 20 across all 11 counties.

Prevalence of Adult Diabetes and Obesity by County, 2009



According to a recent study in the *Journal of the American Medical Association*, non-Hispanic blacks have the highest age-adjusted rates of obesity (49.5 percent), compared with Mexican-Americans (40.4 percent), all Hispanics (39.1 percent) and non-Hispanic whites (34.3 percent).²⁷ However, obesity rates vary among men and women at different income

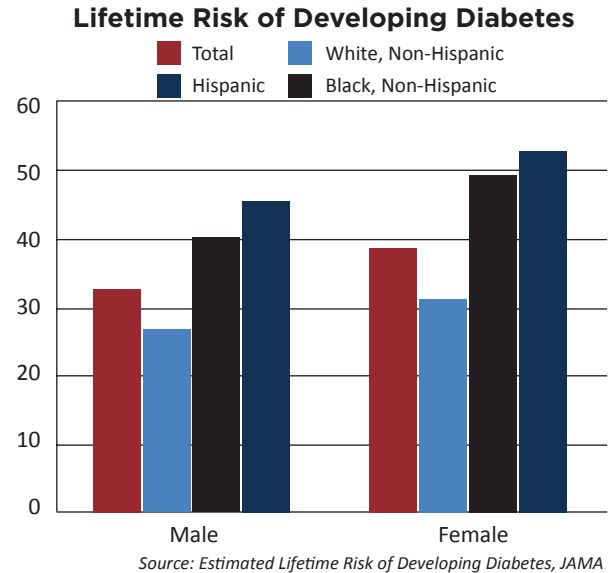
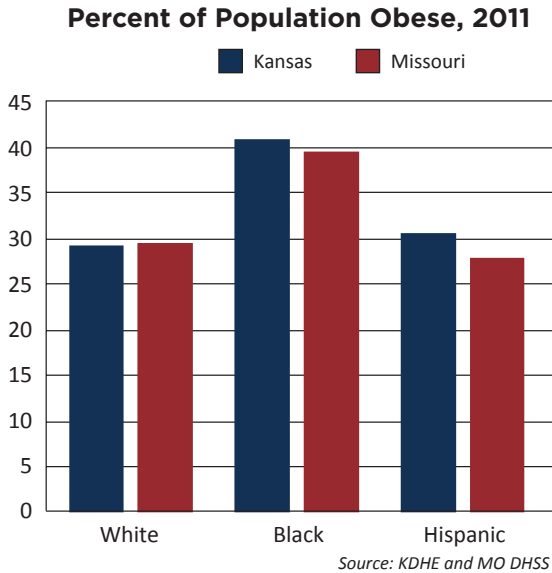
24 Centers for Disease Control and Prevention, Diabetes Public Health Resource, www.cdc.gov/diabetes/surveillance

25 NCHS Data Brief, No. 82, January 2012, www.cdc.gov/nchs/data/databriefs/db82.pdf

26 National Diabetes Fact Sheet, 2011, www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf

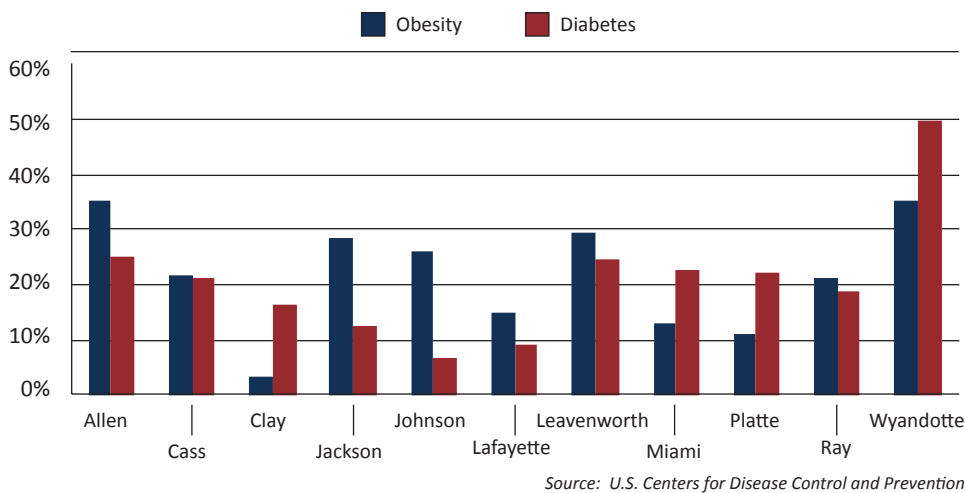
27 *JAMA*. 2012;307(5):491-497. doi:10.1001/jama.2012.39

levels. For black and Hispanic men, higher income is associated with higher obesity rates, while white men have obesity rates that are similar for all income levels. For women, the opposite is true, with lower-income women having higher obesity rates for all races and ethnicities.²⁸ Data by race for obesity show that blacks have significantly higher rates of obesity than whites and Hispanics in both Missouri and Kansas.



These higher rates of obesity lead to higher rates of diabetes in blacks, as well.²⁹ An earlier study illustrated above, right, indicates that both blacks and Hispanics have a higher lifetime risk of developing diabetes.³⁰ The CDC’s obesity and diabetes data indicates that between 2004 and 2009 every county in the report area experienced an increase in obesity rates. Clay County saw only a modest increase, 3.4 percent, while Wyandotte County’s obesity rate increased by 35.4 percent. Diabetes rates also increased in every county, with Johnson County growing the slowest, 6.7 percent, and Wyandotte the fastest, 50 percent.³¹

Percent Change in Diabetes and Obesity Incidence Rate, 2004–2009



28 NCHS Data Brief, No.50, December 2010, www.cdc.gov/nchs/data/databriefs/db50.pdf

29 Center for Disease Control and Prevention, Behavioral Risk Factor Surveillance System (BRFSS), www.cdc.gov/brfss

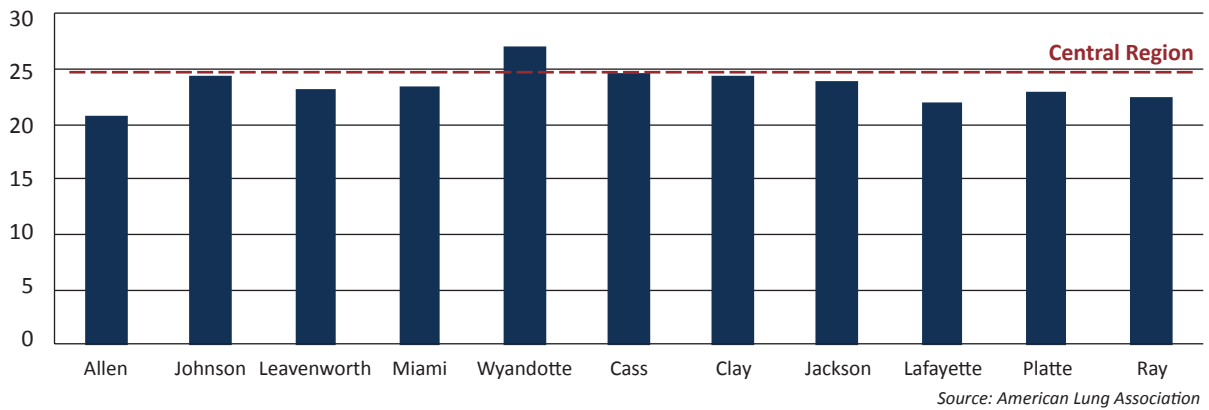
30 Narayan et al, Estimated Lifetime Risk of Developing Diabetes for Individuals Born in the U.S. in 2000, JAMA, 2003

31 Centers for Disease Control and Prevention, Diabetes Public Health Resource, www.cdc.gov/diabetes/surveillance

Respiratory Disease

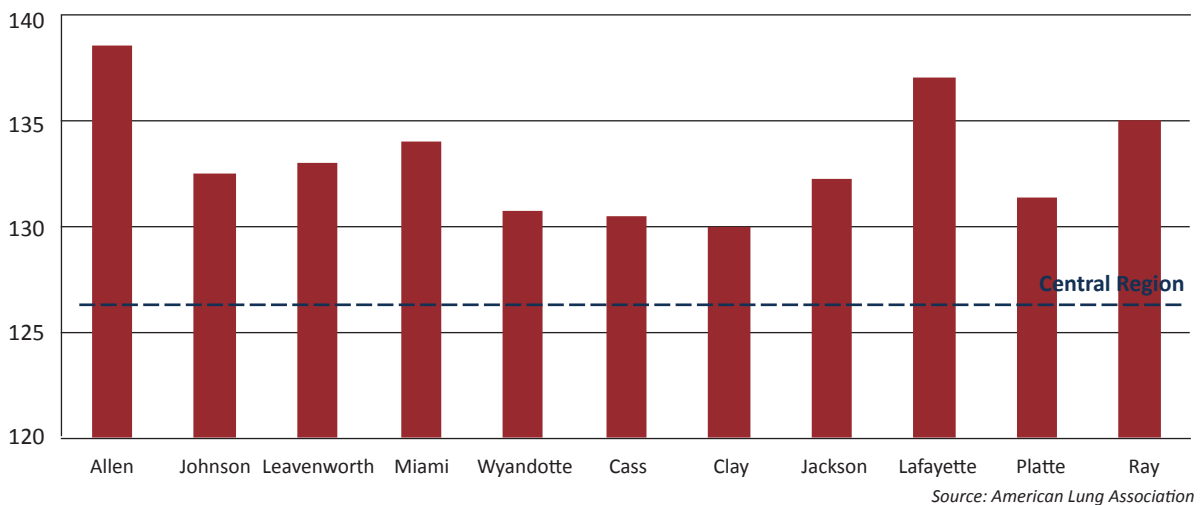
Respiratory disease is another major health issue in the region. Just over 13 percent of the region’s population had a respiratory disease (asthma, chronic bronchitis, emphysema or lung cancer) in 2010.³² The report area has a slightly higher incidence of respiratory disease than the American Lung Association’s Central Region, which comprises Arkansas, Kansas, Missouri, Nebraska, Oklahoma and Texas. The incidence in the metro area is 133 per 1,000, compared to 126 per 1,000 for the Central Region. For pediatric asthma, rates for the metro area and Central Region are almost identical, at 24 per 1,000 population.

Incidence per 1,000 of Pediatric Asthma, 2010



While a higher incidence of pediatric asthma was concentrated in the more urban parts of the region (above), overall respiratory disease incidence (below) seems to be higher in the more rural parts of the region. This may be due to the larger numbers of older adults in these counties.³³

Incidence per 1,000 for All Respiratory Diseases, 2010

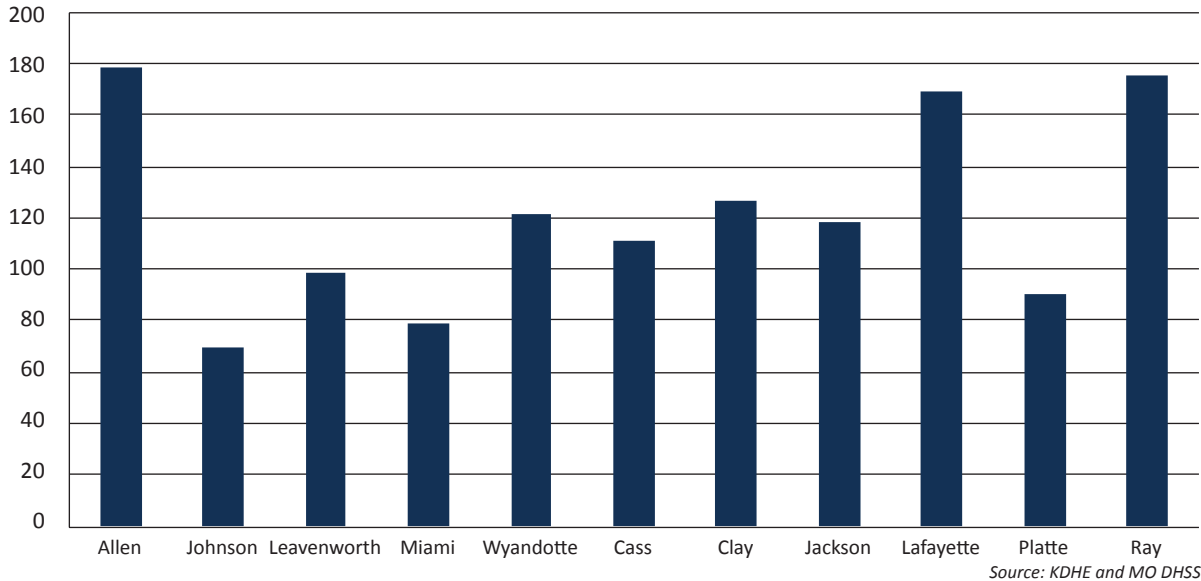


32 Estimated Prevalence and Incidence of Lung Disease, American Lung Association, 2010, <http://mylungcare.org/docs/RegionalHealthData.pdf>

33 Estimated Prevalence and Incidence of Lung Disease, American Lung Association, 2010, <http://mylungcare.org/docs/RegionalHealthData.pdf>

Another disease measure is hospital discharge rates. For 2010, the chart below shows a similar distribution, with rural counties showing the greatest rate of hospital discharges related to respiratory disease.

Hospital Discharge Rates per 10,000 for Respiratory Disease, 2010

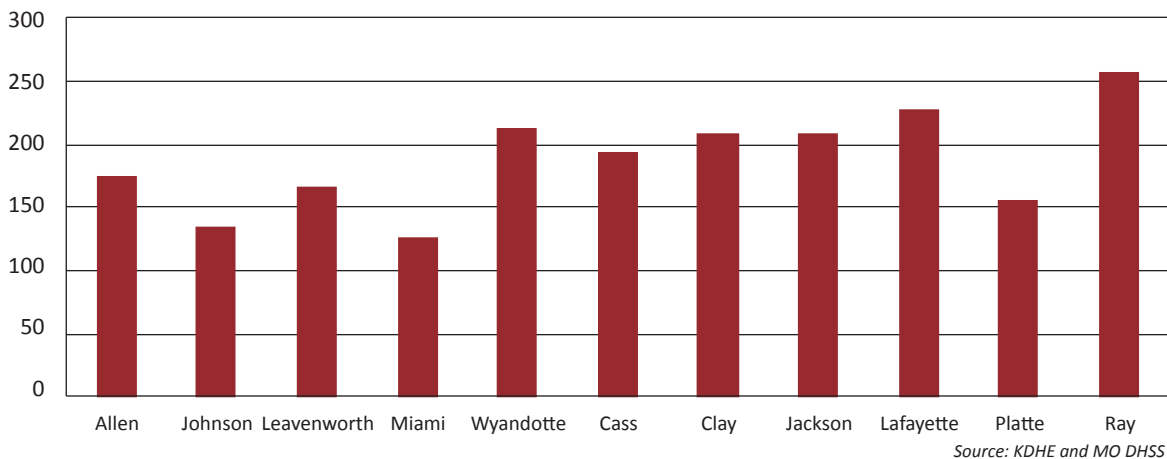


Hospital discharge data indicate that the regional rate of discharges for respiratory disease increased by about 5 percent between 2000 and 2010. Although the variations across counties do not show a clear pattern, as shown in the chart above, the variations do indicate the counties where further investigation might be warranted.

Heart Disease

Using hospital discharge data, the regional annual rate of discharge for all circulatory diseases, including heart disease, was 183 per 10,000 population.³⁴ Hospital discharge rates for heart and circulatory disease vary across the region and don't seem to follow the more typical urban/rural vs. suburban pattern. The chart below compares 2010 totals by county.

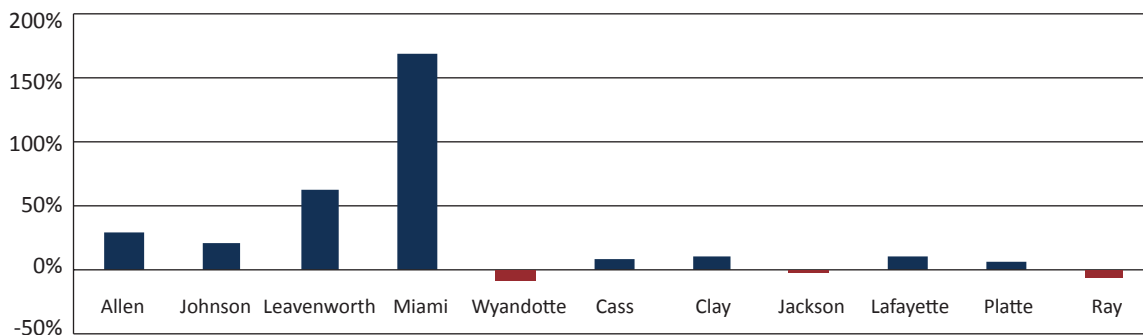
Hospital Discharge Rate per 10,000 for Heart and Circulatory Disease, 2010



34 Kansas Department of Health and Environment and the Missouri Department of Health and Senior Services

The regional rate for hospital discharges for heart and circulatory disease decreased by 6.5 percent between 2000 and 2010. There is no clear pattern in which counties rates rose or declined, but Miami County shows a very high increase in hospital discharge rates.³⁵

Percent Change in Hospital Discharge Rate, Respiratory Disease 2000–2010



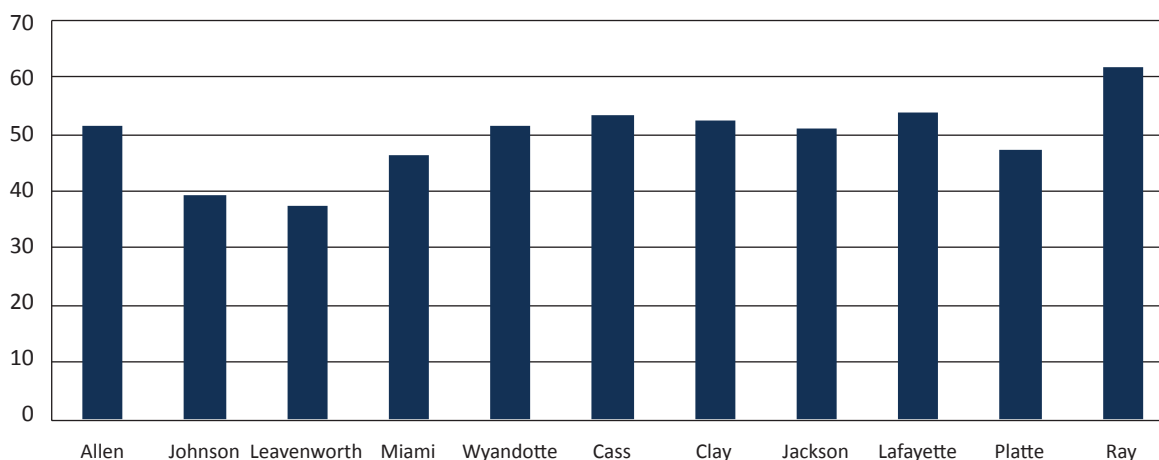
Source: KDHE and MO DHSS

Cancer

Using hospital discharge data, the regional annual rate of discharge for neoplasms, which include cancer, was 183 per 10,000 population.³⁶ About one-third to one-fourth of neoplasms are non-cancerous. Kansas data does not distinguish between cancerous and non-cancerous neoplasms, so data for all neoplasms is presented.

Neoplasm discharges vary across the region in a manner similar to the distributions seen for heart disease discharges and respiratory discharges.

Hospital Discharge Rate per 10,000 for Neoplasms (including Cancer), 2010



Source: KDHE and MO DHSS

Hospital discharges for neoplasms showed a significant decline – 16 percent – between 2000 and 2010.³⁷ All counties except and Cass and Miami showed a decline; Miami again showed a substantial increase.

35 Kansas Department of Health and Environment and the Missouri Department of Health and Senior Services

36 Kansas Department of Health and Environment and the Missouri Department of Health and Senior Services

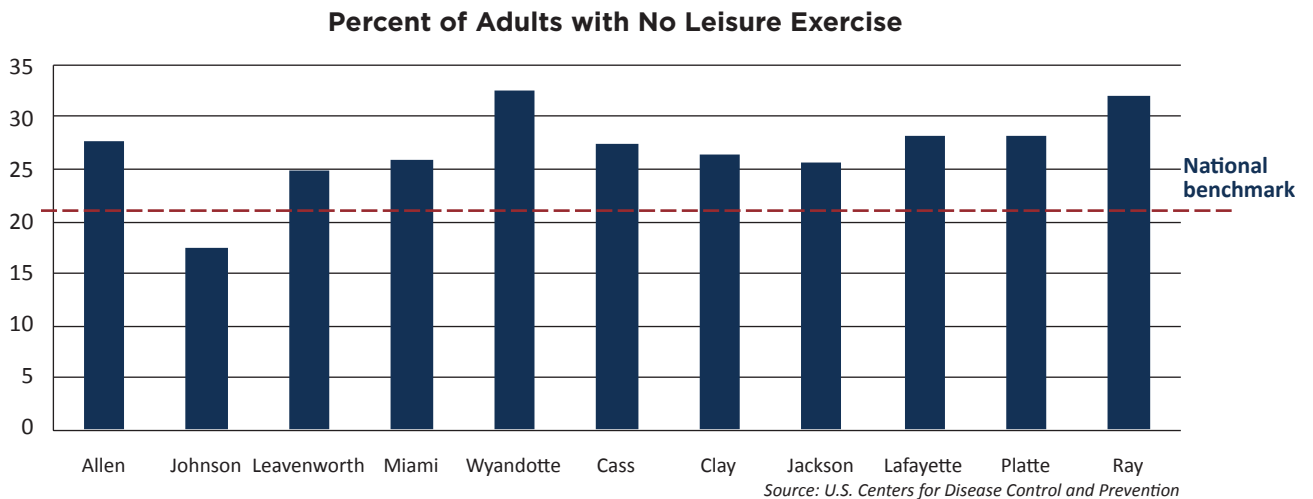
37 Kansas Department of Health and Environment and the Missouri Department of Health and Senior Services

Health Behaviors

Obesity provides a clear example of the bridge between health outcomes, as outlined above, and health inputs. Health inputs include both environmental factors and individual behaviors. It should be noted that not infrequently, these are related. For example, eating unhealthy food is an individual behavior, but it might be exacerbated by a lack of access to healthy foods.

In addition to obesity, lack of exercise and smoking are behaviors that have a clear impact on health outcomes. The percent of persons reporting that they do not exercise varies in the region, ranging from 17.4 percent in Johnson County to 32.6 percent in Wyandotte County.³⁸ The County Health Rankings set the national benchmark at 21 percent, the 90th percentile.¹³ Smoking rates for 2009 (page 47) vary from a low of 13.7 percent to a high of 31.3 percent. The national benchmark is 14 percent.³⁹

Health behavior, like many other factors affecting health, varies across geography, income, race and ethnicity. The following chart illustrates the differences, by county, in the percent of adults who indicate they do not participate in any leisure-time exercise.⁴⁰



Only two counties have seen a decline in the rate of physical inactivity since 2004: Cass and Wyandotte. Most counties have held fairly steady, with Platte and Miami counties seeing increases in excess of 10 percent.⁴¹

The percent of adults who smoke also varies widely by county. Smoking rates have decreased over the last three years in all but two counties, Lafayette and Clay.⁴²

³⁸ Centers for Disease Control and Prevention, Diabetes Public Health Resource, www.cdc.gov/diabetes/surveillance

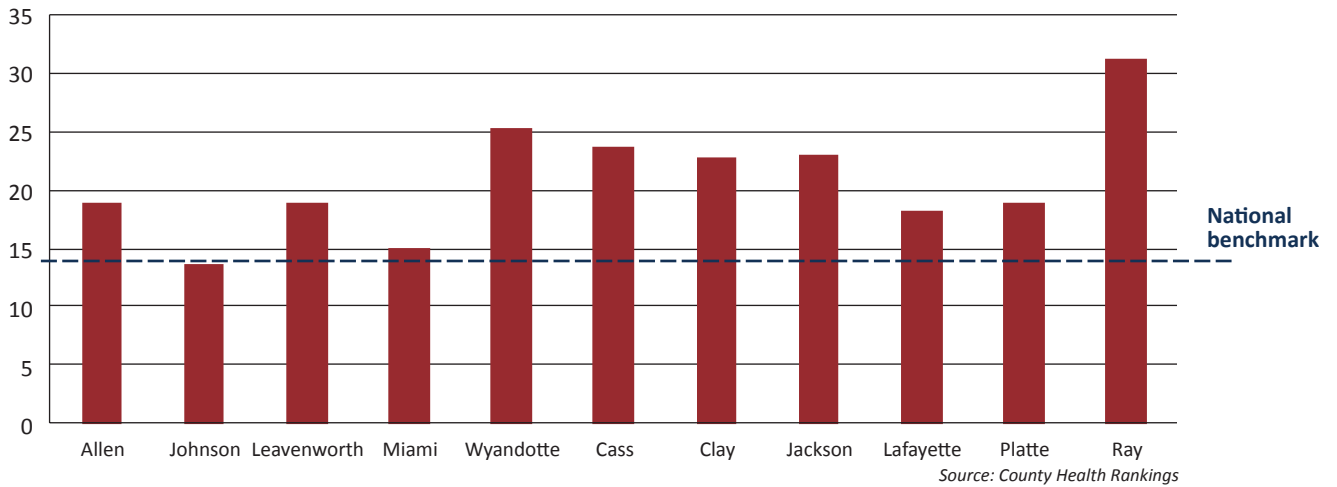
³⁹ County Health Rankings, 2012, www.countyhealthrankings.org

⁴⁰ Centers for Disease Control and Prevention, Diabetes Public Health Resource, www.cdc.gov/diabetes/surveillance

⁴¹ Centers for Diseases Control and Prevention, Diabetes Public Health Resource, www.cdc.gov/diabetes/surveillance

⁴² County Health Rankings, 2012, www.countyhealthrankings.org

Percent of Adults Who Smoke, 2009

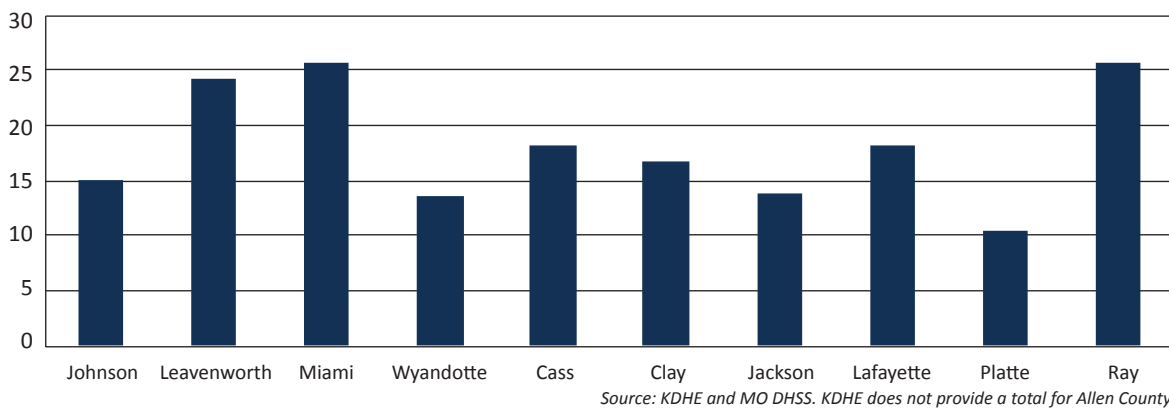


Mental Health

Data on mental health is not as readily accessible as data on physical health. However, there are some measures that begin to provide a picture of mental health in the region. The CDC Behavioral Risk Factor Surveillance System (BRFSS) provides information on how many days in the last 30 days a person judged his or her mental health to be poor. Reporting of poor mental health days does not reveal a discernible pattern across the 11 counties in the region. The totals range from a low of 2.3 days to a high of 5.1 days.⁴³

Suicide is another marker for mental health. In 2010, the suicide rate for the report area was 15.4 per 100,000 population, and most counties clustered around this figure.⁴⁴ Platte County had the area’s lowest suicide rate, at 10 per 100,000 population. Johnson, Leavenworth and Ray counties had substantially higher than average suicide rates of about 25 per 100,000 population. Given the varying character of these counties, it is apparent that suicide does not follow the urban/rural vs. suburban pattern more typical for physical health issues.

Suicide Rates per 100,000 Population, 2010



43 County Health Rankings, 2012, www.countyhealthrankings.org

44 Kansas Department of Health and Environment and the Missouri Department of Health and Senior Services

Between 2007 and 2009, poor mental health days reported increased in every county except Allen.⁴⁵ Between 2000 and 2010, the number of suicides in the region increased by almost 50 percent, from 199 to 295.⁴⁶

Between 2000 and 2010, the number of suicides in the region increased by almost 50 percent, from 199 to 295.

Oral Health

There is not a wealth of oral health data available at the county level. The only national source is the CDC's Behavioral Risk Factor Surveillance System (BRFSS), which is based on surveys of adults. In 2010, 72 percent of the region's population reported that they had visited a dentist. During the same period, 40 percent of those surveyed in the region reported that they had had a tooth removed.⁴⁷

The BRFSS data only reports county-level data for the three largest counties in the region: Jackson, Johnson and Wyandotte. There is considerable variation across the three counties. In Johnson County, 84 percent of the adult population reported visiting the dentist, followed

by 66 percent in Jackson County and 60 percent in Wyandotte County. The same data source reports that 47 percent of the adult population in Wyandotte and Jackson County had at least one permanent tooth extracted in 2010, compared to 27 percent in Johnson County.⁴⁸

While 11 percent of non-Hispanic white children between the ages of three and five had untreated dental caries, this number rose to 19 percent for non-Hispanic blacks and Hispanics; and to 25 percent for those below the federal poverty level.

A recent National Center for Health Statistics Brief provided data showing the adverse effect of race, ethnicity and poverty on children's oral health. While 11 percent of non-Hispanic white children between the ages of three and five had untreated dental caries, this number rose to 19 percent for non-Hispanic blacks and Hispanics; and to 25 percent for those below the federal poverty level.⁴⁹

Oral health disparities were also evident in adults. For non-Hispanic white adults between the ages of 45 and 64, 35 percent retained all of their adult teeth, compared to 11 percent among non-Hispanic blacks and 19 percent among Hispanics. For those below the federal poverty level, only 15 percent had retained a complete set of teeth.⁵⁰

45 County Health Rankings, 2012, www.countyhealthrankings.org

46 Kansas Department of Health and Environment and the Missouri Department of Health and Senior Services

47 Center for Disease Control and Prevention, Behavioral Risk Factor Surveillance System (BRFSS), www.cdc.gov/brfss

48 Center for Disease Control and Prevention, Behavioral Risk Factor Surveillance System (BRFSS), www.cdc.gov/brfss

49 NCHS Data Brief, Number 104, August 2012, www.cdc.gov/nchs/data/databriefs/db104.htm

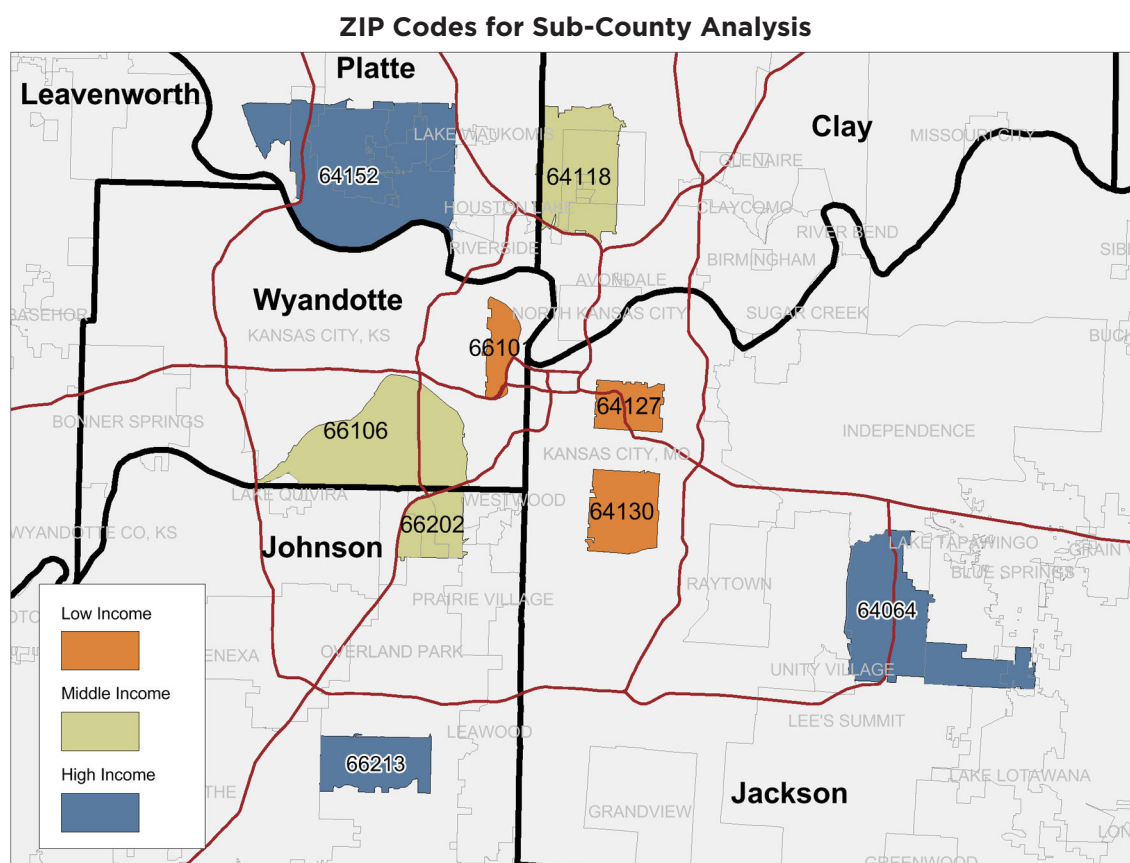
50 NCHS Data Brief, Number 104, August 2012, www.cdc.gov/nchs/data/databriefs/db104.htm

V. Health Data for Smaller Areas

Most accessible health data is available at the county level. However, there is considerable variation within counties and health professionals have indicated it would be very helpful to get health indicators at a sub-county level. This year's regional health assessment begins to look at sub-county (ZIP-code level) data for a few health indicators collected by the states. The scope of this report did not allow for a full-scale analysis of all ZIP codes; instead, we sampled a few ZIP codes based on income differences to evaluate the differences in health outcomes based on address.

Income is a key factor in health status. Low-income individuals may find it more difficult to access the health care they need, and studies have shown that lower-income groups may have higher incidences of smoking, diabetes and obesity. Health disparities are evident when looking at major causes of death among income levels.

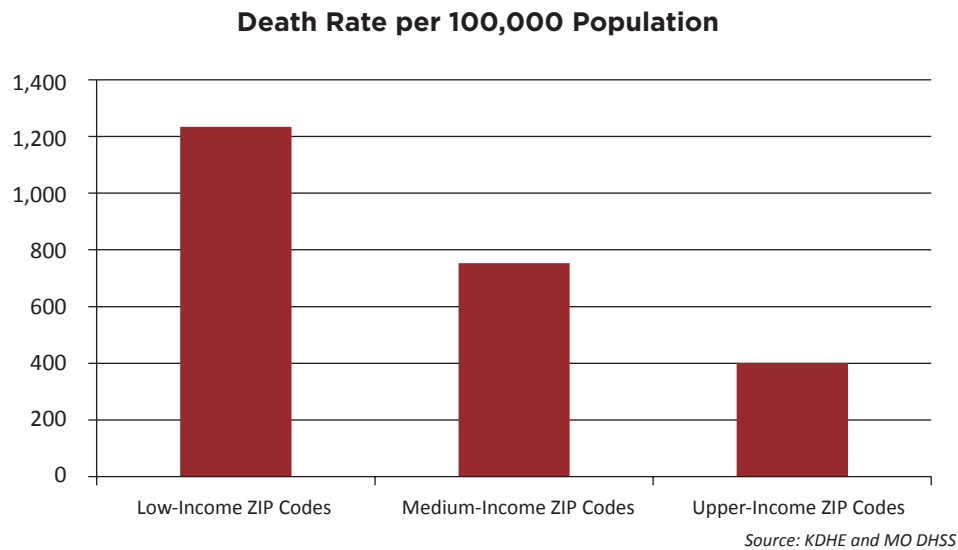
For this analysis, we identified low-income, middle-income and upper-income ZIP codes (based on median household income). Only ZIP codes with populations of at least 10,000 were considered. We also considered the median age of each ZIP code, to account for age differences. The youngest ZIP code analyzed, 66101, has a median age of 28.5. The oldest was 64064, with a median age of 39.1.



- The three lower-income ZIP codes – 64127 and 64130 in the Kansas City, Mo., urban core and 66101 in the Kansas City, Kan., urban core – had median annual household incomes between \$22,248 and \$26,624.
- The medium-income ZIP codes include tracts in Wyandotte County (66106), Clay County (64118), and northern Johnson County (66202); these had median household incomes ranging from \$44,824 to \$53,038.
- The three higher-income ZIP codes are located in southern Johnson County (66213), southern Platte County (64152), and suburban Jackson County (64064); each had median annual household incomes ranging from \$79,291 to \$86,669.

We evaluated the relationship between income and death rates and causes of death in these areas using state-collected data (2000 to 2009) on deaths and hospitalizations. Significant variations across the three groups were found.

Death rates per 100,000 for the three groups are shown in the following chart.



Heart disease and cancer are far and away the leading causes of death in the U.S. This is the case in our income analysis as well. In each of our income groups, cancer and heart disease were ranked as the first and second leading causes of death. Overall, cancer and heart disease accounted for 48 percent of all deaths in the selected ZIP codes between 2000 and 2009.

There is a significant correlation between income and death rates in the compared ZIP codes.

In lower-income ZIP codes, however, heart disease and cancer accounted for only 44 percent of deaths. This implies that other causes of death are more prevalent in these ZIP codes. Homicide, for example, accounts for 4.1 percent of all deaths in the low-income ZIP codes (the fourth highest cause of death), but less than 1 percent in the middle-income or upper-income ZIP codes (not even in the top 10). Death by diabetes and kidney disease are also more prevalent in the lower-income ZIP codes.

Top 10 Causes of Death by Income Level, 2000–2009

Rank	Low Income		Middle Income		Upper Income	
1	Heart disease	22.5%	Cancer	25.5%	Cancer	32.7%
2	Cancer	21.4%	Heart disease	21.8%	Heart disease	26.0%
3	Cerebrovascular disease (Stroke)	5.4%	Chronic lower respiratory diseases	6.7%	Cerebrovascular disease (Stroke)	6.7%
4	Homicide	4.1%	Cerebrovascular disease (Stroke)	4.8%	Chronic lower respiratory diseases	6.4%
5	Diabetes	3.9%	All other accidents and adverse effects	2.5%	Alzheimer's disease	4.7%
6	Chronic lower respiratory diseases	3.6%	Diabetes	2.3%	All other accidents and adverse effects	3.7%
7	Kidney disease	2.8%	Atherosclerosis	2.3%	Diabetes	2.8%
8	All other accidents and adverse effects	2.8%	Kidney disease	1.7%	Motor vehicle accidents	2.5%
9	Other digestive diseases	2.3%	Alzheimer's disease	1.6%	Pneumonia and influenza	2.5%
10	Septicemia	1.5%	Other digestive diseases	1.6%	Suicide	2.3%

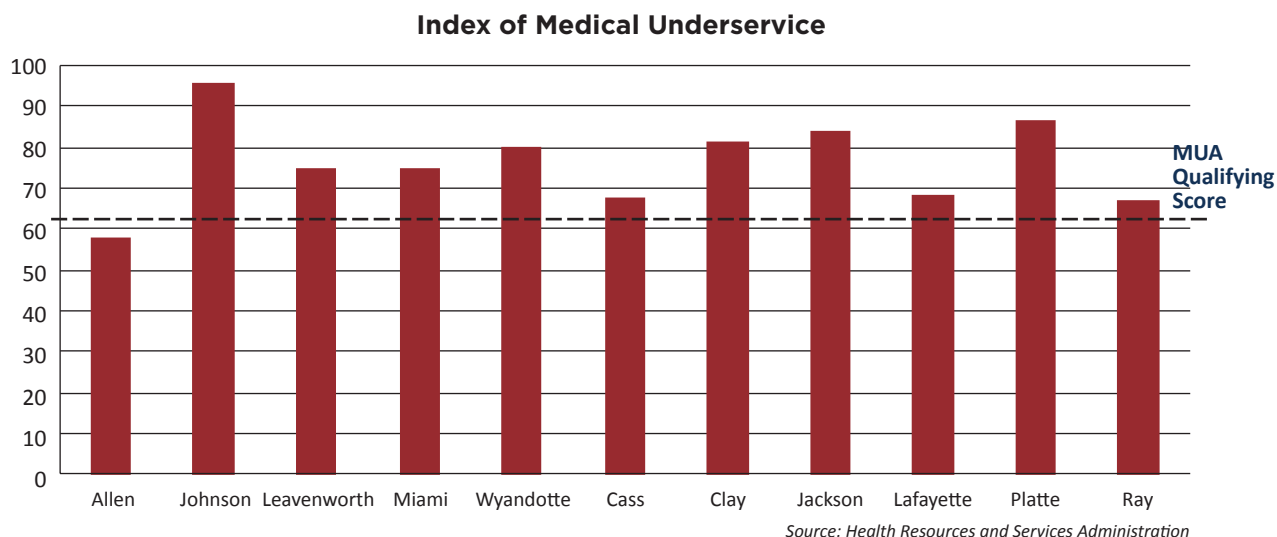
Source: KDHE and MO DHSS

VI. Access to Health Care

Consistent and timely data about access to health care is difficult to obtain, especially for medically vulnerable populations. There is not a consistent, reliable source of data on safety net patients and visits across providers, and it is very difficult to quantify services available for individuals and families eligible for Medicaid. In addition, access varies for primary care and specialty care; it is even more difficult to measure the availability of specialty care for vulnerable populations. Finally, access to care comprises a number of dimensions, including ability to pay, location and hours.

Availability of Physicians and Other Health Care Providers

The U.S. Department of Health and Human Services (HHS) uses the Index of Medical Underservice (IMU) to calculate scores that designate Medically Underserved Areas and Populations (MUA/Ps). HHS uses weighted scores for four factors: percent living in poverty, percent of population over age 65, infant mortality rates, and the ratio of physicians per 1,000 population.⁵¹ For the report area, all counties except Johnson and Leavenworth in Kansas, and Cass, Clay and Platte in Missouri have either geographic MUAs or specific MUPs (usually those in poverty) within their counties. Only Allen County is ranked as an MUA in its entirety.

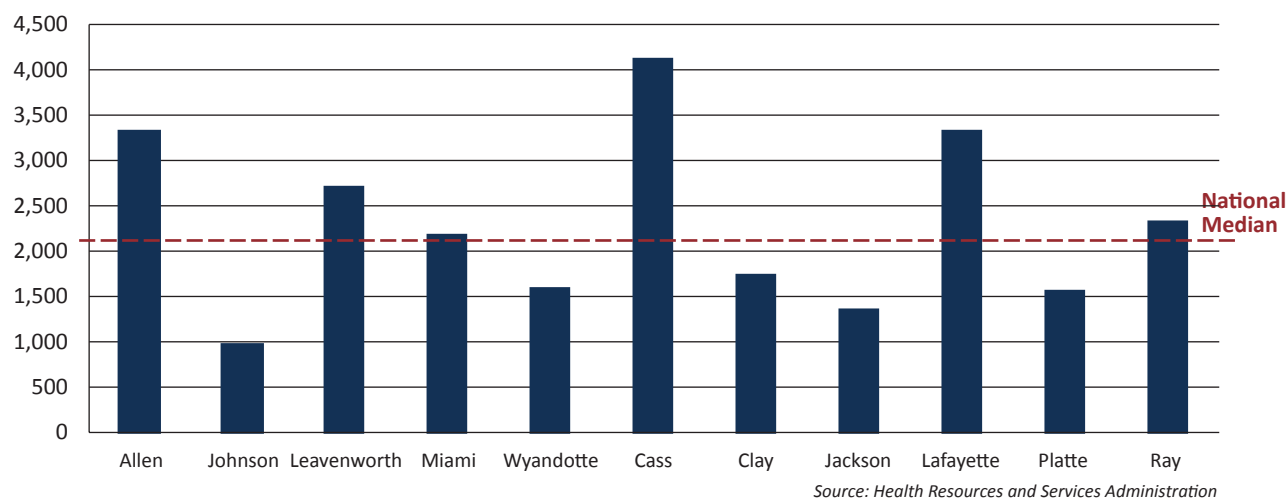


The IMU score is a good general measure of health care access. However, it can also be helpful to evaluate access to specific types of care by looking at the relationship between health care providers and population. The following charts show data from the Health Resources and Services Administration (HRSA) Area Resource File.⁵² In these charts, a lower bar indicates better access. The first chart (page 53) shows the distribution of primary care physicians across the counties. Physician access varies from fewer than 1,000 persons per physician to more than 4,000 persons per physician, with a strong rural/urban distinction.

51 Health Resources and Services Administration, Medically Underserved Areas and Populations, <http://bhpr.hrsa.gov/shortage/muaps>

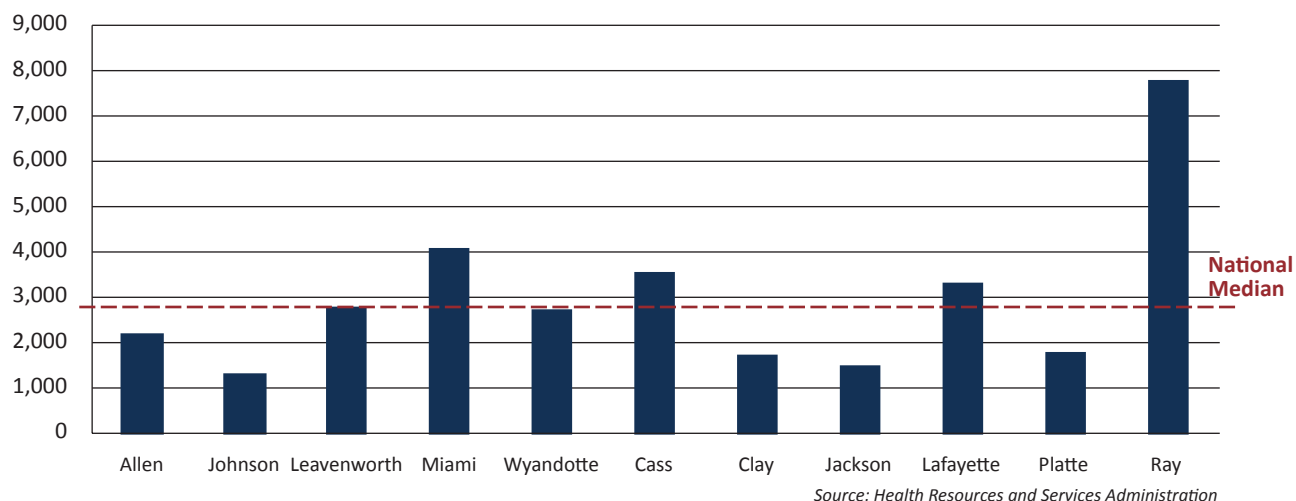
52 Health Resources and Services Administration, Area Resource File, <http://arf.hrsa.gov>

Persons per Primary Care Physician



Other health care professionals, such as psychiatrists and specialists are similarly distributed. The distribution of dentists varies more widely.

Persons per Dentist



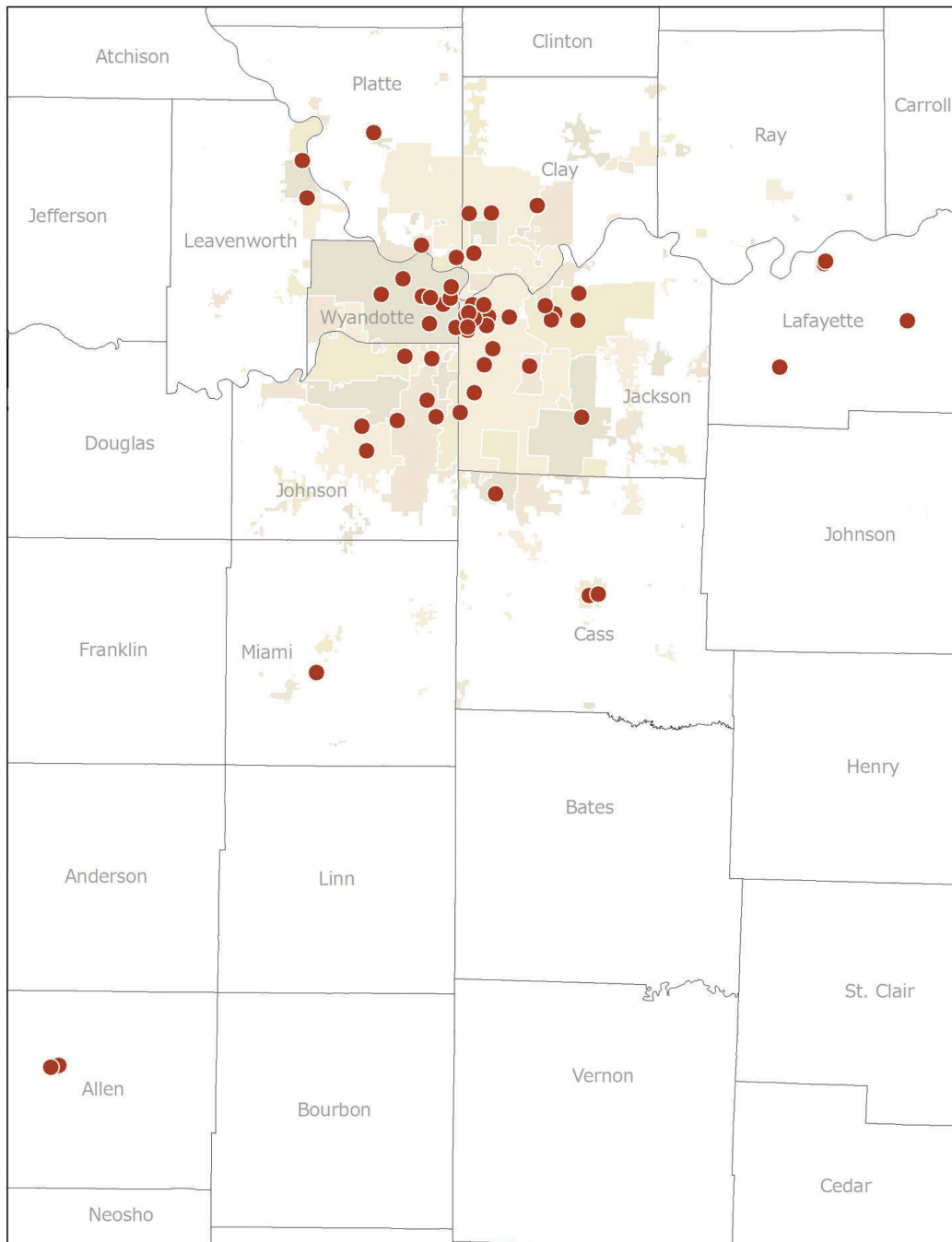
Safety Net Access

MARC conducted a survey of various data sources on safety net clinic patients and visits. Sources included the Kansas Association for the Medically Underserved (covering all Kansas clinics); the Missouri Primary Care Association (covering Federally Qualified Health Centers in Missouri), and individual free clinics in Missouri (Kansas City CARE Clinic, Jackson County Free Clinic and HOPE clinic). In 2011, the total reported number of patients for clinics within the metro area was 93,415. This is slightly less than the figure reported in 2010 (2007 data), when the total was 101,592.

Almost 80,000 of the patients were reported by clinics based in Jackson and Wyandotte counties. Not all of these organizations reported visits, but generally the figure for visits runs between two and four times the number of patients. These figures represent a slight decrease from the numbers reported in 2010.

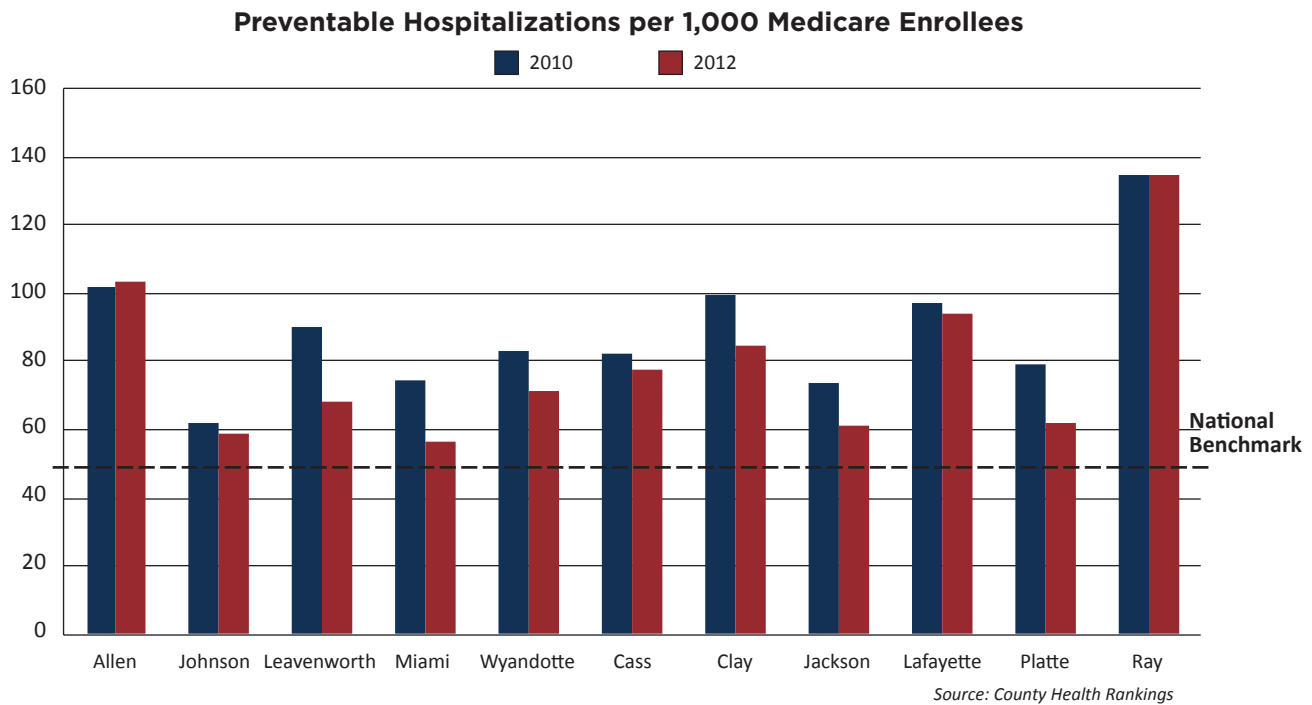
Based on safety net clinic data collected by the KCHHealthResource.org website, sponsored by the Greater Kansas City Cover the Uninsured Coalition and maintained by MARC, there are 65 clinics providing safety net services in the 11-county area. These are principally nonprofit clinics, many with multiple locations. Some provide very specialized services, such as dental care, while others provide a full range of services. Some services are provided through local public health departments. In a few instances, safety net services are provided by or supported by a hospital.

Safety Net Clinics in the MARC/REACH Region



Preventable Hospitalizations

An important measure of the effectiveness of the health care system in a community is the number preventable hospitalizations. How effective is the health care system in keeping patients out of the hospital or from returning to the hospital? The Robert Wood Johnson Foundation’s County Health Rankings have charted this measurement for the last three years. The chart below shows that there is substantial variation across the counties, and that there has been improvement in this indicator for most counties between 2010 and 2012.

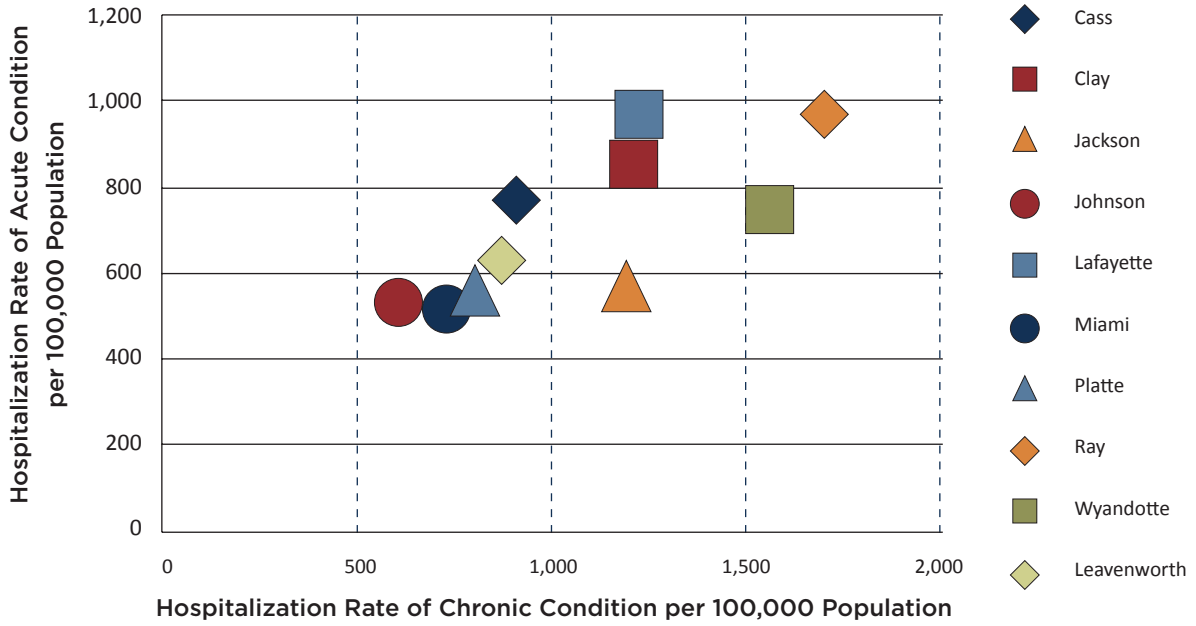


In 2010, the Missouri Hospital Association (MHA) issued a county-level report on preventable hospitalizations, including all Kansas counties within the report area except Allen. This report has a wealth of county-level data on preventable hospitalizations for the period from 2002 to 2009. In general, the information shows a continuing improvement in the number of preventable hospitalizations, but there is substantial variation across the metro area’s counties.⁵³

The following chart shows the preventable hospitalization rates per 100,000 population for both acute and chronic diseases for the 10 counties included in this data set.

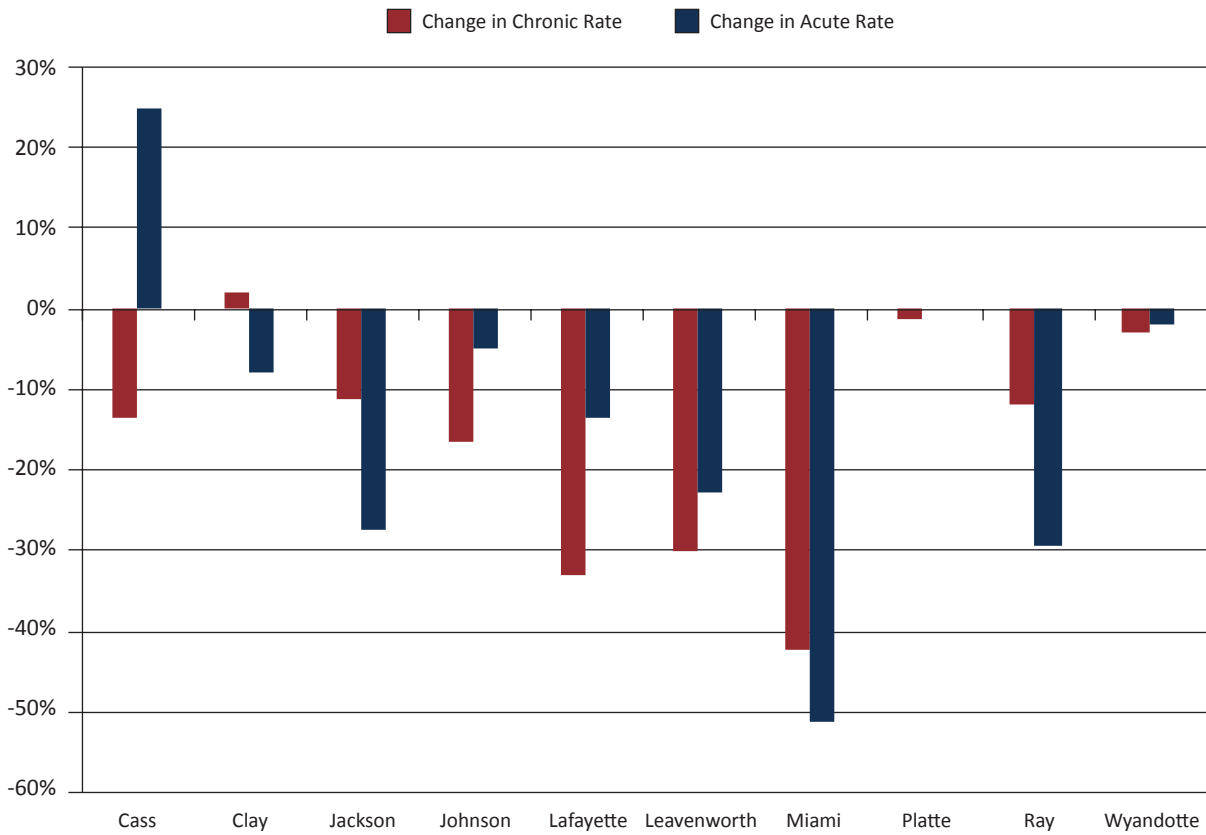
⁵³ Assessing the Health of Our Communities, AHRQ Preventable Hospitalizations, Missouri Hospital Association, 2010, www.mhanet.com/mhaimages/AHRQ/Web_AHRQ%20Prev%20Hosp%20KC.pdf

Preventable Hospitalizations



Source: Missouri Hospital Association. Data includes Kansas counties in the immediate metro, but does not include Allen County.

Percent Change in Preventable Hospitalizations, 2002-2009



Source: Missouri Hospital Association

The MHA study also evaluated the percent change in preventable hospitalizations from 2002 to 2009. Almost all counties made substantial progress in lowering hospitalization rates for both acute and chronic preventable hospitalizations.

The MHA report also notes a significant difference based on race. Blacks are more than twice as likely to have a preventable hospitalization for a chronic disease; and over the period from 2002 to 2009 this gap has widened.⁵⁴

Blacks are more than twice as likely to have a preventable hospitalization for a chronic disease; and over the period from 2002 to 2009 this gap has widened.

Health Assessment and the Affordable Care Act

It goes without saying that we are in a time of great transformation in our health care system, particularly as it affects the medically vulnerable. On the one hand, there is the hope that the Affordable Care Act will provide health care coverage to millions of people who are not currently covered, and that this will lead to improved access to care. On the other hand, there are tremendous questions about how provisions of the act will be implemented by federal and state governments and a host of health care providers, from hospitals to clinics to safety net providers and individual physicians.

One health care innovation that is emerging from the adoption of the Affordable Care Act is the formation of Accountable Care Organizations (ACOs). These organizations are coalitions of health care providers (hospital, clinics and other providers) that will work together to keep patients healthy and out of the hospital. Through several different programs, HHS is in the process of certifying these organizations. As of the end of 2012, there were only three certified ACOs serving all or parts of the region (BJC HealthCare in St. Louis, serving Illinois and Missouri; Iowa Health Accountable Care in Des Moines, serving Iowa, Illinois and Missouri; and Heartland Regional Medical Center in St. Joseph, serving Kansas and Missouri).

54 Assessing the Health of Our Communities, AHRQ Preventable Hospitalizations, Missouri Hospital Association, 2010, www.mhanet.com/mhaimages/AHRQ/Web_AHRQ%20Prev%20Hosp%20KC.pdf

VII. Conclusion and Recommendations

In our introduction, we suggested that there is a story to be told about health care in the Kansas City region. With the data provided in this report, that story has taken shape and we can make some clear assertions about the magnitude of the issues facing the region, how these issues vary across geographies and populations, and trends that may indicate emerging issues.

Social, economic, geographic and demographic circumstances can make a person vulnerable to health issues and make it more difficult to access treatment.

This report confirms that certain populations are especially vulnerable to health issues and may lack access to quality health care to treat these issues. If we aggregate residents who are in at least one of the populations we defined in this report as potentially

vulnerable – i.e, those living in households with incomes less than 200 percent of poverty; racial/ethnic minorities; single parents; the elderly (age 65 and over); those 16 years of age and over who are unemployed or not in the labor force; those living in linguistically isolated households; those with any disability; and those on Medicaid or uninsured – then fully two-thirds (67 percent) of the region’s residents are members of at least one of these groups in 2011, up from 63 percent in 2008.

Fully two-thirds (67 percent) of the region’s residents are members of at least one vulnerable population category, up from 63 percent in 2008.

Vulnerable Population	Number of Unique Individuals Who Are Members of at Least One Vulnerable Population			
	2008	2009	2010	2011
Start: Incomes below 200% of FPL	512,376	567,737	604,314	614,762
Add: Race other than white, non-Hispanic	739,742	800,476	845,596	848,523
Add: Population aged 65+	881,669	944,983	998,602	1,000,536
Add: Unemployed or not in labor force	1,021,177	1,106,993	1,139,359	1,144,705
Add: Linguistic isolation	1,022,468	1,107,779	1,140,138	1,146,111
Add: Any disability	1,062,622	1,145,144	1,174,978	1,180,683
Add: Single parents	1,168,229	1,250,064	1,253,738	1,280,425
Add: On Medicaid or uninsured	1,216,446	1,288,631	1,296,038	1,323,477
Total number of individuals in vulnerable populations	1,216,446	1,288,631	1,296,038	1,323,477
Total Population (REACH area PUMAs)	1,926,813	1,995,241	1,970,979	1,978,209
Percent vulnerable	63%	65%	66%	67%

Source: Census Bureau, ACS PUMS, 1-year data, 2008–2011

These populations are especially vulnerable for a variety of reasons:

- They may lack the financial resources to obtain quality health care or afford a lifestyle that promotes good health, including nutritious foods.
- They may live in conditions that do not promote health, such as exposure to environmental threats – either at a neighborhood level or in the home – or a lack of access to healthy alternatives, such as safe sidewalks or healthy foods.
- They may have transportation issues which make it more difficult to access quality health care.
- There may be cultural or language barriers to accessing health care, including a lack of documentation.
- Specific populations, such as the disabled or elderly, face additional health challenges.

Often the conditions experienced by these populations overlay each other, intensifying their vulnerability; for example a person may have a language barrier, have a low income, and live in a community with poor access to food. Often these barriers exacerbate health conditions and cause routine conditions to become more severe, affecting individuals and families and greatly increasing the cost of care. In the Kansas City metro area these populations are generally somewhat less prevalent than national averages. However, they are still significant in portions of our community.

- More than 30 percent of the region’s population is below 200 percent of the federal poverty level.
- More than 25 percent of the region’s residents are people of color.
- More than 25 percent of the population is young; another 11 percent are seniors age 65 and older.
- There are significant numbers of people who are disabled, linguistically challenged, undocumented or homeless.

In addition, these populations are increasing in both numbers and percent of the population.

- The elderly population is forecast to double in the next 30 years and increase from 11 percent of the population to 19 percent.
- Over the last decade the percent of the metro population below the federal poverty level has increased from 8.5 percent to 13.3 percent of the population.

Access to health insurance coverage decreases an individual’s vulnerability.

A major corollary of health vulnerability is access to health insurance. The vulnerable populations cited above are more likely to not have health insurance or to rely on Medicaid for health care coverage. Not having access to health insurance or ready access to health care professionals often leads to poorer health because a lack of preventive services allows conditions to progress into serious problems.

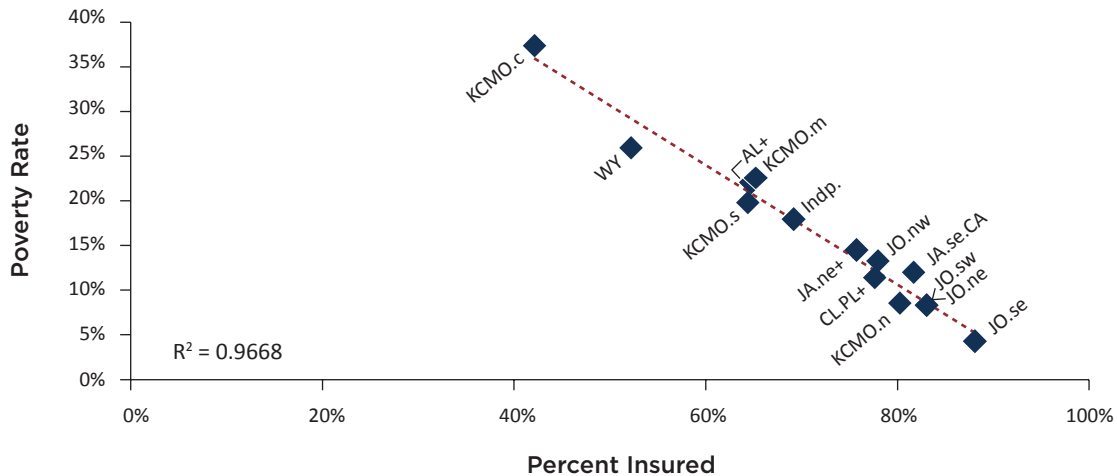
- Nearly 14 percent of the region’s population – almost 265,000 persons – are without health insurance.
- An additional 13.1 percent – 262,000 persons – rely on Medicaid.
- In 2011, the total number of people who were uninsured or on Medicaid was more than 527,000, or 26.7 percent of the population.

These individuals are the baseline for medically vulnerable persons in the region.

Since 2008, the number of medically vulnerable persons has been increasing, from 23.6 percent of the population to 26.7 percent, an increase of almost 72,000 individuals. This increase has come almost entirely from a decrease in those covered by employer health insurance. Almost all of the increase in the uninsured has come from working age adults between 26 and 64 years old. Sixty percent of the increase in Medicaid recipients has been in children ages 0-17.

We have contended throughout this report that a significant factor in regional health outcomes is the extent which these outcomes are correlated with vulnerable populations. The following graph shows the relationship between the poverty rate in a PUMA and the percent of insured.

Percent Insured vs. Poverty Rate, 2011



This graph shows a very high correlation between poverty and those who are uninsured ($R^2 = 0.96$). This correlation holds for health outcomes as well, meaning that those in poverty not only face particular health issues, but are less likely to have the resources to access care to deal with those issues.

People in the report area are experiencing a number of serious health conditions, measured by data such as cause of death and disease incidence.

Heart disease and cancer remain the leading causes of death in the region, each accounting for just under a quarter of all deaths. The remaining causes of death range

across a wide variety of conditions. For most diseases, the region ranks at about national norms; and in the case of obesity and diabetes, slightly below national norms.

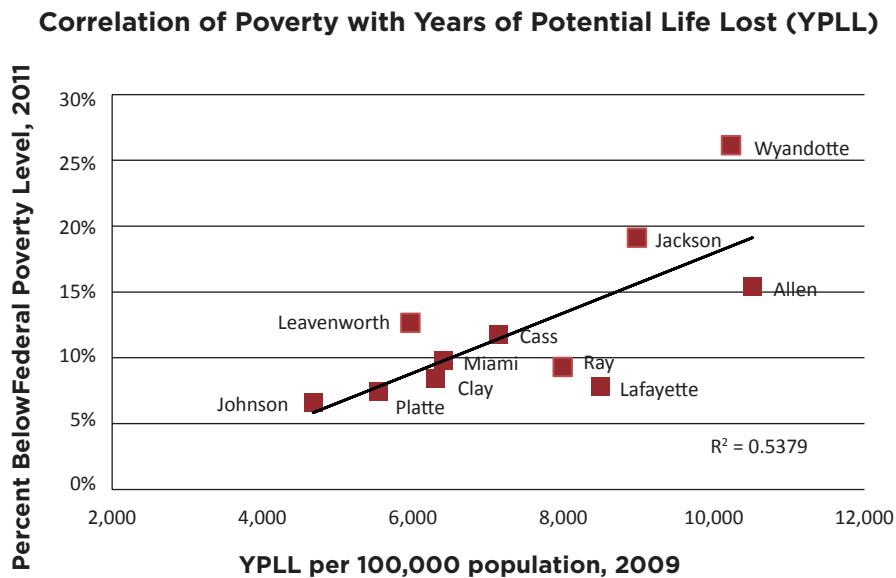
These health conditions may disproportionately impact certain demographic, social or economic groups, as well as those in certain health insurance categories. This may manifest itself in health disparities that are reflected geographically.

In general terms, the urban counties (Wyandotte and Jackson) and the rural counties (Allen, Lafayette, and Ray) have health outcomes that are worse than the regional average and national norms. Suburbanizing counties (Miami, Leavenworth, and Cass) generally have outcomes that mirror regional and national norms and suburbanized counties (Johnson, Clay and Platte) have outcomes that exceed regional and national norms.

Populations in urban and rural areas, though significantly different on a number of measures, share one thing in common – relatively poor health outcomes. For example, in 2009, the average YPLL per 100,000 population for the report area’s urban and rural counties combined was 9,241 years. This was 53 percent higher than the YPLL for the report area’s suburban and surburbanizing counties, which averaged 6,003 years.

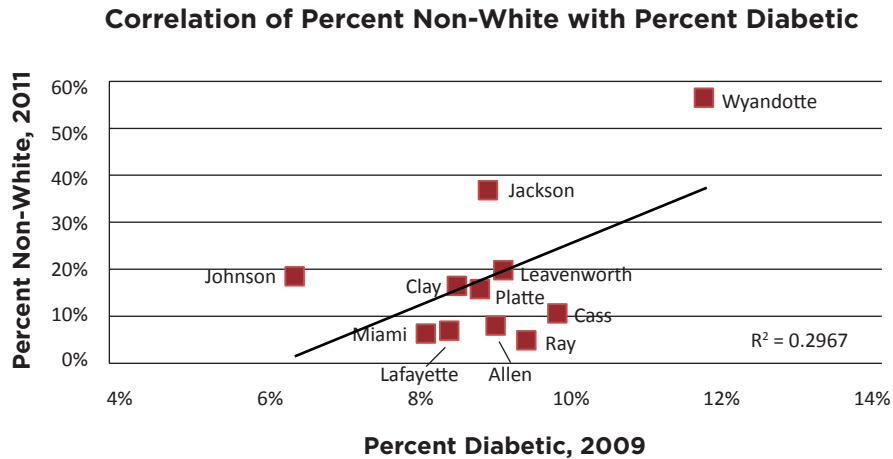
The question is not whether there are significant numbers of vulnerable residents residing in the REACH area, but to what extent do these vulnerabilities correlate with health conditions and challenge their access to health care? The data in this report shows a high correlation between vulnerable populations and adverse health outcomes and ability to access health care.

For example when we compare YPLL with a county’s percent of population below 100 percent of federal poverty level we get the following graph.



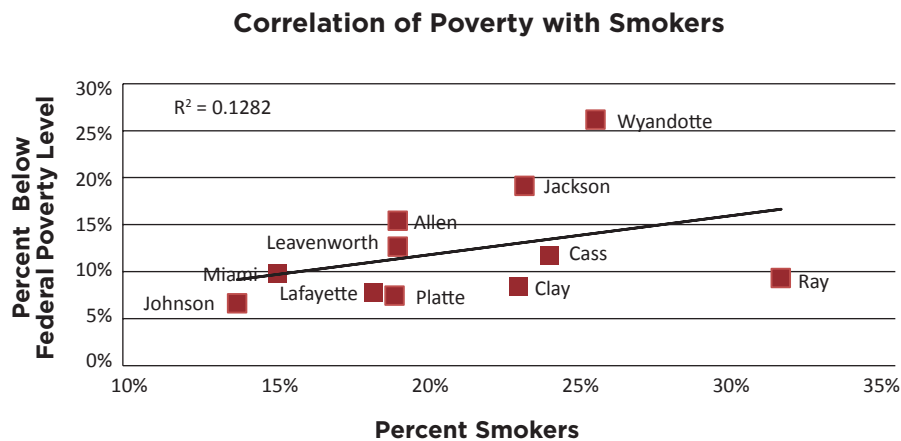
This shows a high correlation between poverty and YPLL, with county poverty rates alone explaining 54 percent of the variation by county.

Additional correlations are evident when looking at vulnerable populations and comparing them to health status. For example we can look at percent of a counties population that is diabetic and compare that with the percent of the population that is non-white. The following graph shows the correlation of non-white with diabetes.



Although the correlation is not quite as strong as that between poverty and YPLL it is still significant, with county percentages of non-white population explaining 30 percent of the variation in county percentages of population with diabetes.

We can also investigate the correlation between behavior and vulnerable populations. Do vulnerable populations partake in behaviors that adversely affect their health status and which are then compounded by issues with access to health care? The following chart shows the correlation between the percent of a county’s population that is below 100 percent of the federal poverty level and the percent of the population that smokes.



In this case, it appears that poverty is only one of many influences on the percentage of smokers, as by itself it explains only 13 percent of the variation in county smoking rates. There is a similar correlation when looking at exercise.

Counties are fairly large geographies that contain diverse populations within their boundaries. This is especially true for Jackson County, which has both urban core neighborhoods and suburban communities. A preliminary look at how some health

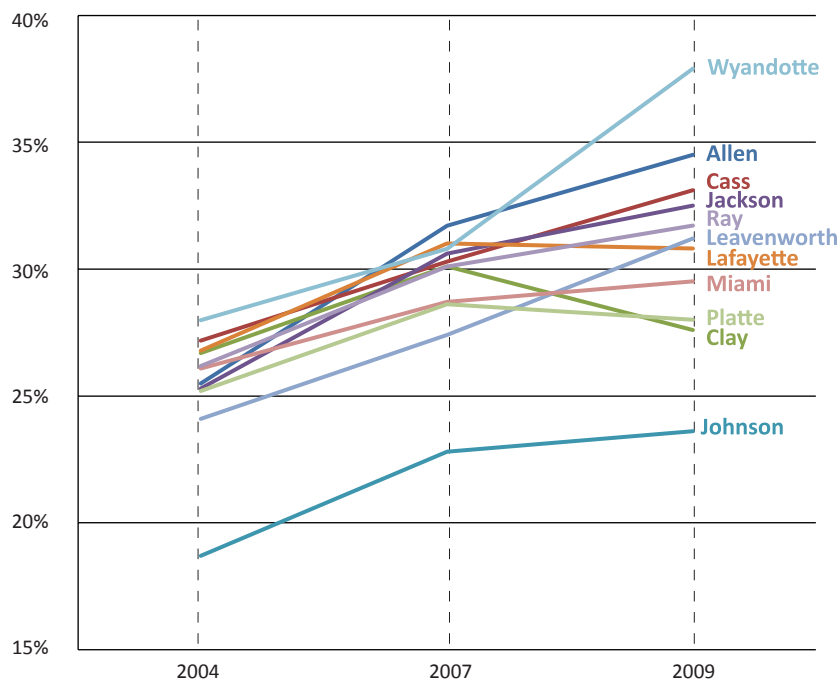
measures varied across ZIP codes indicated a pronounced disparity based on income, with poorer ZIP codes having much higher death rates than wealthier ZIP codes. The data also shows some differences between the ZIP codes in terms of cause of death, with homicides, for instance, being more prominent in lower-income ZIP codes.

Regional health trends indicate that certain conditions may be improving or getting worse for certain populations and geographies.

Health-related trends appear to be a mixed bag. While the percent of people in poverty in the region is below the national average, this population is growing rapidly, especially in the suburbs. Much of this growth has occurred during the most recent recession, but a significant portion occurred in the early 2000s as well. There has been a significant growth in the numbers of people who are uninsured or on Medicaid, mirroring a decline in those covered by employer health insurance. This has been particularly impactful on the working-age adult population.

While vulnerable populations and those who were uninsured and on Medicaid experienced an increase, a number of health outcomes improved across the region. Death rates declined moderately over the last 10 years and deaths from the leading causes declined; for example, heart disease by 30 percent and cancer by 2 percent. Hospital discharges for heart disease and cancer also declined, although they rose for respiratory disease. One troubling increase in health trends is obesity and diabetes rates, which increased in every county between 2004 and 2009.

Obesity Trend by County, 2004–2009



It appears that health behaviors have stabilized or improved in most counties, but mental health days and suicides are increasing.

Access to quality health care affects medical vulnerability.

As we have shown, the number of people in the region who are without health insurance or dependent on Medicaid is growing. While the region has an extensive safety net clinic system, it can only serve about 100,000 patients, and more than 500,000 people are currently uninsured or on Medicaid. Some obtain care from private providers, especially those that accept Medicaid; some use hospital clinics or emergency rooms; and some do not have access to health care.

People living in rural areas also face challenges in accessing quality health care. A shortage of doctors and other health care providers means long waits or long drives to obtain care.

Access to specialty care is particularly difficult for both the uninsured and those living in rural areas.

Data suggests that hospitals and others in the health care system are doing a better job in reducing preventable hospitalizations. Both federal data and data from the Missouri Hospital Association show preventable hospitalizations declining in most of the region's counties.

The Affordable Care Act potentially will have a profound impact on access to health care. However, it is difficult to discern exactly what this impact will be. Most immediately, there have been increased resources made available to Federally Qualified Health Centers, and young adults have been able to stay on their parents' insurance longer. Adding additional persons to the Medicaid program could improve access, but it is unclear if either state will approve such an increase.

Summary Recommendations and Considerations

Given the findings and trends identified in this report, what are key considerations and opportunities for addressing health and health care in the region? The authors of the report propose the following:

- *More than one quarter of the region's population are uninsured or on Medicaid.* This statistic reinforces the critical importance of an effective, high-quality safety net system. Even with passage of the Affordable Care Act, there remains a need for education about the implications and opportunities within the provisions of the law. Regional discussions about the role of the safety net system in this changing health care delivery environment are key.
- *Uninsurance is growing among working adults;* furthermore, ACS data show declines in employer-sponsored health coverage in the region. What public policies and strategies should be explored that would address access to health care coverage for working age adults?
- Data presented in the report highlight *the growth in the number and proportion of the senior population,* particularly in rural areas. Increases in this population will continue to have a major impact on health care access and health outcomes. Health and human service organizations and government agencies should give attention to how health services can be structured and delivered to meet the need.

- *Heart disease and cancer are the leading causes of death in our region, even though deaths from those causes have shown declines with the region. Obesity and diabetes have increased in all counties in the region. How can communities address the complex factors that contribute to these health conditions and what kinds of efforts offer the highest potential for slowing this growth?*
- *The data presented in the report indicate that hospitals and the health care system are doing better at reducing preventable hospitalizations, with decreases in most of region's counties. Hospitals and health care providers should work closely with safety net providers to ensure these improvements extend to medically vulnerable populations.*

While the report highlights the rapid “suburbanization” of poverty in the region, there are still large concentrations of very low-income and vulnerable populations in the urban core. Data on health disparities and trends for these populations suggests that new strategies must be developed to more effectively address the health issues facing these populations.

The increase in vulnerable populations in suburban areas presents a different set of challenges because these populations are more dispersed and less visible than those living in urban core areas. Methods should be developed to analyze the particular health care and service issues in the more suburban counties to determine how health services can be delivered more effectively.

Rural communities are grappling with similar health concerns but with different challenges related to location of services, access to health providers and other issues. The charts presented in this report provide a picture of health disparities and their range across geographies. This information offers a starting point for additional analysis and discussion that can inform new strategies and initiatives that will benefit people in our region.

