

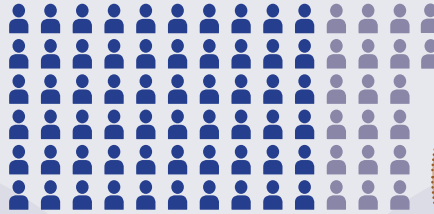
A VIEW OF TWO MISSOURIS

How Insurance Coverage Affects the Health
and Productivity of Its People



THE UNINSURED

According to the U.S. Census Bureau, more than **807,000 Missourians** were without health insurance coverage in 2010. Nearly **3 out of 4 were in a working family.**



1 icon = 10,000 MISSOURIANS

Providing health insurance coverage to the **75% of uninsured, non-elderly Missourians** in the labor force is a potential solution to increase productivity and the state's GDP.



Individuals without health insurance are most likely to be working-aged adults: **89 percent fall between the ages of 18 and 64**



A single working parent of two can **earn no more than \$9.59 per day** to qualify for Medicaid in Missouri.



The **average daily income** in Angola, Africa is **\$13.35**.



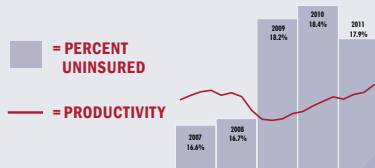
On average, an **uninsured Missourian** was treated in one of our state's hospital emergency departments every minute of every day during 2012.



BREAK THE CYCLE

Address the Problem of Missouri's Uninsured

During 2007-2009, Missouri's GDP for blue collar and service collar industries **fell by \$8.5 billion — an 18 percent decrease**, while the **uninsured rate grew by 10 percent.**



At 71.3 years, if Pemiscot County were a country it would have the **85th lowest life expectancy in the world** — just below El Salvador with an average life expectancy at birth of 71.4 years.



Missouri has been ranked exclusively below average in terms of factors and outcomes that determine its population health for the past 22 years. Last year, Missouri ranked the **eighth worst** in the nation among 50 states and the District of Columbia.



(and trending down)

POPULATION HEALTH

WORKER PRODUCTIVITY

CARING FOR THE UNINSURED

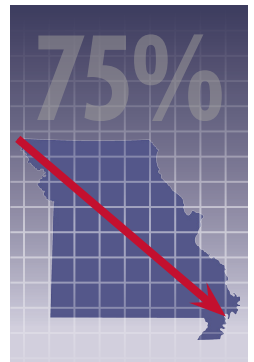
Introduction

How can Missouri increase the quality of health care while reducing the cost of that care? How can Missouri increase the productivity of its workforce? The data suggest that the answer to both questions could be one in the same by using the principles underlying the new paradigm in health care — the Triple Aim — managing the health of the population, providing quality patient care, increasing efficiency and containing costs.ⁱ The overarching goal of the Triple Aim is to improve the quality of health care which leads to enhanced health outcomes and the overall health of the population while reducing the average per capita cost.

This report examines the relationship between health insurance coverage, individual health status, population health and the indirect benefits of health improvements accrued through gains in the marginal productivity of labor and personal financial stability. Health insurance coverage and

access to appropriate medical care improves the health of the population and reduces the risk of personal bankruptcy and absenteeism which, in turn, increases personal income, gross domestic product and workforce productivity. The majority of the 807,000ⁱⁱ Missourians without health insurance coverage are low-income, working adults in blue collar and service collar industries.ⁱⁱⁱ

Better population health is a tenet of the Triple Aim, however national data sources suggest the path to improved population health in Missouri will be particularly arduous. Since 1991, Missouri has been ranked exclusively below average in terms of the factors and outcomes that determine its population health (figure 1).^{iv} Last year, Missouri ranked the eighth worst in the nation among 50 states and the District of Columbia. This was a 75 percent decrease in the state's health standing since 1990 when Missouri was ranked above average at 24th in the nation.



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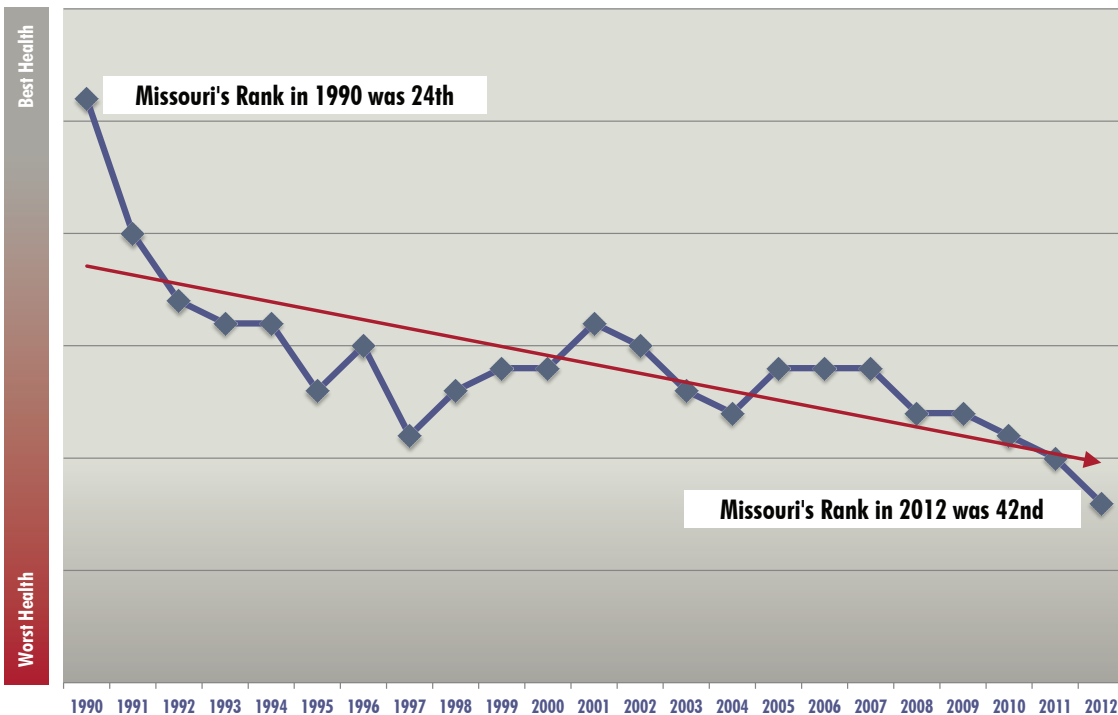


FIGURE 1. Missouri's National Health Rankings Since 1990

Source: United Health Foundation, 2012 America's Health Rankings

Without improvements in the overall health of Missouri's population, the state will not realize the gains of lower cost, better quality health care or increased worker productivity.

In 2012, Missouri was ranked in the bottom 10 among all states in 12 out of 42 measures documented by the United Health Foundation's American Health Rankings. This included the third highest incidence of heart attacks, the fourth lowest immunization rate and the eighth highest rate of smoking (figure 2). The high smoking rate in Missouri is directly related to our tax on cigarettes which is the lowest in the nation at just 17 cents per pack. Missouri's poor population health record places an enormous economic burden on the state's health care and fiscal systems.

Many of the health factors in which Missouri traditionally fairs poorly are heavily reliant on the public's access to affordable health care. Higher rates of health insurance coverage dramatically improve preventive health care factors such as immunizations, avoidable hospitalizations, dental visits and cholesterol checks.^v

Premature deaths and preventable chronic diseases such as heart disease, obesity, certain types of cancer, poor mental health, and diabetes can similarly be avoided through access to the preventive care and education provided by health insurance coverage.

Without improvements in the overall health of Missouri's population, the state will not realize the gains of lower cost, better quality health care or increased worker productivity. One avenue that will make immediate gains in the health of Missouri's population is through the reform and expansion of health insurance coverage for the working poor. Current health care policy changes make this a timely and viable option because of increased accessibility to the private health insurance marketplace and the option to expand Medicaid eligibility standards for the state's low-income residents, many of whom are from working families.

FIGURE 2.
Missouri's Health Ranking by Factor

Source: United Health Foundation, 2012 America's Health Rankings



Who are the Uninsured in Missouri?

According to the U.S. Census Bureau, more than 807,000 Missourians were without health insurance coverage in 2011.ⁱⁱ Because almost all older individuals are covered by the Medicare program, most uninsured Missourians are under age 65. The state's Medicaid program covers children in families up to 300 percent of the federal poverty level and pregnant women up to 185 percent of the FPL. Adults without children in Missouri are not eligible for Medicaid regardless of their income, and adults with children are eligible for Medicaid only if their annual household income is 18 percent of the FPL or less.^{vi} In 2013, the annual income for a three person family could not exceed \$3,500 to qualify the adult for Medicaid.^{vii} This precludes almost all working adults from Medicaid eligibility in Missouri. Put another way, a single working parent of two can earn no more than \$9.59 per day to qualify for Medicaid in Missouri. By contrast, the average daily income in Angola is \$13.35.^{viii} Because of these strict eligibility standards, a large number of Missouri's uninsured are low-income working adults in blue collar and service collar industries who cannot afford to purchase private health insurance.^{ix}

Adults with children must earn 18 percent of the FPL or less annually to be eligible for Medicaid.

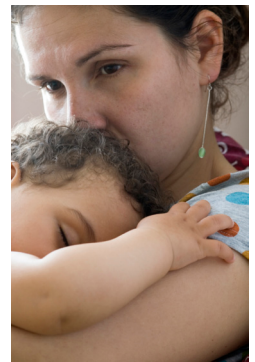
Between 2010 and 2011 nearly three out of four uninsured Missourians were in a working family — 54.3 percent had at least one full-time working member and 18.3 percent had part-time workers.ⁱⁱⁱ According to the U.S. Census Bureau, in 2011 75.2 percent of uninsured Missouri adults were in the labor force — 57 percent were employed and 18 percent were looking for work. In addition, 30 percent of uninsured Missouri adults had worked full-time during the previous year and 43 percent worked part-time.ⁱⁱ Uninsured individuals are disproportionately represented by low-income families:

- 38 percent earn below the FPL
- 90 percent earn below 400 percent of the FPL — the income limit for subsidized coverage in the forthcoming health insurance exchanges^x

Individuals without health insurance are also most likely to be working-aged adults:

- 89 percent fall between the ages of 18 and 64
- 9 percent are under age 18
- 2 percent are 65 or older^{xi}

An estimated 337,879 uninsured, non-elderly Missourians earn below 138 percent of the FPL and are therefore eligible for insurance coverage through the option to expand Medicaid.^{xii}



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ANNUAL INCOME RATES PERCENT OF 2013 FEDERAL POVERTY GUIDELINE							
UNIT SIZE	18%	85%	100%	138%	185%	300%	400%
1	\$2,068	\$9,767	\$11,490	\$15,856	\$21,257	\$34,470	\$45,960
2	\$2,792	\$13,184	\$15,510	\$21,404	\$28,694	\$46,530	\$62,040
3	\$3,515	\$16,601	\$19,530	\$26,951	\$36,131	\$58,590	\$78,120
4	\$4,239	\$20,018	\$23,550	\$32,499	\$43,568	\$70,650	\$94,200
5	\$4,963	\$23,435	\$27,570	\$38,047	\$51,005	\$82,710	\$110,280

Source: Department of Social Services January 2013



Health Insurance Status and Population Health Outcomes

On average, an uninsured Missourian was treated in one of our state's hospital emergency departments every minute of every day during 2012.

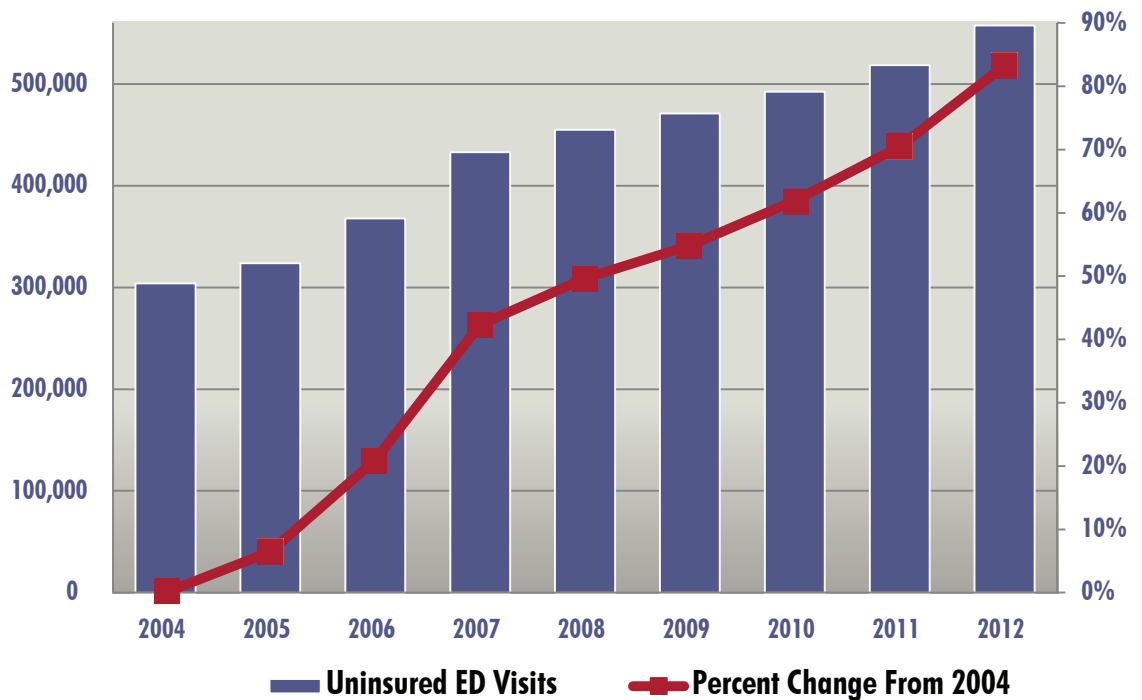
Individuals with health insurance are more likely to have a usual source of care and to seek preventive health care services, which leads to better health outcomes and fewer avoidable hospitalizations. More than half of the uninsured report that they have no usual source of care. This often results in them receiving no routine care or postponed care, which results in no preventive care, leading to higher rates of costly avoidable hospitalizations and ultimately, higher mortality rates.^x Being without health coverage also results in higher emergency department utilization. Because many uninsured have no primary medical home, their health conditions often reach emergency status. Emergency rooms are required to treat all patients regardless of their ability to pay, resulting in the uninsured being disproportionately represented in hospital emergency departments. Emergency department utilization by the uninsured in Missouri has nearly doubled since 2004 (Figure 3). Throughout the last eight years, emergency

department visits by the uninsured have increased 83 percent in Missouri, from just over 300,000 in 2004 to nearly 560,000 in 2012.^{xiii} This means that on average, an uninsured Missourian was treated in one of our state's hospital emergency departments every minute of every day during 2012.

The health of a population is commonly measured and assessed by health factors and health outcomes.^{xiv} Health factors depict the health behaviors, access to care, environmental factors and socioeconomic factors that influence population health and generally result in different health outcomes experienced by different groups of people. Health outcomes are measured by morbidity (the quality of life influenced by health) and mortality (the length of life influenced by health).

Examples of health behaviors include smoking status and sedentary lifestyles, which lead to poorer quality of life through

FIGURE 3.
Emergency Department Utilization by Uninsured Missourians



Source: Hospital Industry Data Institute

increased rates of heart disease and obesity, and higher incidence of premature mortality. Examples of access to care include the number of available physicians and health insurance coverage, both which influence morbidity and mortality by limiting access to preventive care, delayed routine care and limited health education. Examples of environmental health factors include air quality, access to healthy foods, and availability of attributes conducive to exercise such as biking and jogging trails. Socioeconomic status (SES) is highly correlated with health outcomes. A large body of research points to stark health disparities for members of lower SES groups.^{xv}

In addition to health outcomes, a growing body of evidence is emerging on the relationship between health insurance coverage and personal financial stability. In 2008, a unique opportunity arose in Oregon for researchers to study the effect of health insurance coverage on previously uninsured individuals using a large scale randomized controlled setting

— the gold standard of scientific experimental designs.^{xvi}

The study found that gaining health insurance had significant effects on individuals’ mental well-being, health-related quality of life, use of preventive care and financial stability. Clinical diagnoses for depression decreased by over 30 percent and health-related quality of life improved by nearly 10 percent for the newly-insured study participants. Access to a primary medical home and use of preventive care also increased substantially in the study’s treatment group. Among the newly insured, 70 percent reported having a usual place of care compared to only 46 percent in the control group, a 52 percent increase. Screening for high cholesterol increased 54 percent and the rate of mammographies more than doubled. Out-of-pocket medical spending was nearly cut in half for individuals who gained insurance and catastrophic medical expenditures were practically eliminated (from 5.5 percent to 1 percent).^{xvii}

	OREGON FINDINGS ON ADULTS AGES 19-64			MISSOURI SIMULATION ON 245,947 ELIGIBLE ADULTS AGES 19-64*		
	Control Group (%)	Treatment Group (%)	Relative Percent Change	Without Coverage	With Coverage	Difference
Diagnosed Depression	30.0	20.9	-31%	73,784	51,280	-22,504
Usual Place of Care	46.1	69.9	52%	113,381	171,794	58,412
Cholesterol Screen	27.2	41.8	54%	66,898	102,732	35,834
Mammography	28.9	58.6	103%	71,079	144,051	72,972
Catastrophic Medical Spending	5.5	1.0	-539%	13,527	2,509	-11,018
Borrowed to Pay Bills or Skipped Payments	24.4	10.2	-58%	60,011	25,037	-34,974

*Assumes 9% of 337,879 uninsured Missourians < 138% FPL are younger than 19 and applies an 80% participation rate

TABLE 1. Simulation of the Oregon Health Insurance Experiment’s Key Findings on Uninsured Missourians <138% FPL Ages 19-64



For Missouri counties on average, life expectancy increases as the rate of the population who are uninsured and less than 138% FPL decreases.

Simulating the Oregon findings for Missouri suggests that making health insurance available to Missourians below 138 percent of the FPL could reduce diagnoses for depression by 22,500 residents and increase the number of Missourians with medical homes by 58,400. It could underwrite 108,800 more cholesterol screens and mammographies among other preventive health screening procedures. Expanded coverage also carries the potential to prevent catastrophic medical spending and bankruptcy for 11,000 families, and reduce the number of Missourians who are forced to borrow to pay bills or skip payments to cover medical expenses by 35,000 (Table 1).

There is wide-ranging variation in premature mortality among different population groups in Missouri. At the county-level, average life expectancy at birth ranges from 71 years in Pemiscot County to more than 80 years in St. Charles, Platte and Mercer Counties — a difference of 9.3 years or 13%. Average life expectancy is negatively correlated* with the rate of the uninsured population living below 138% of the FPL. This relationship supports

* (Pearson's $r = -0.39$)

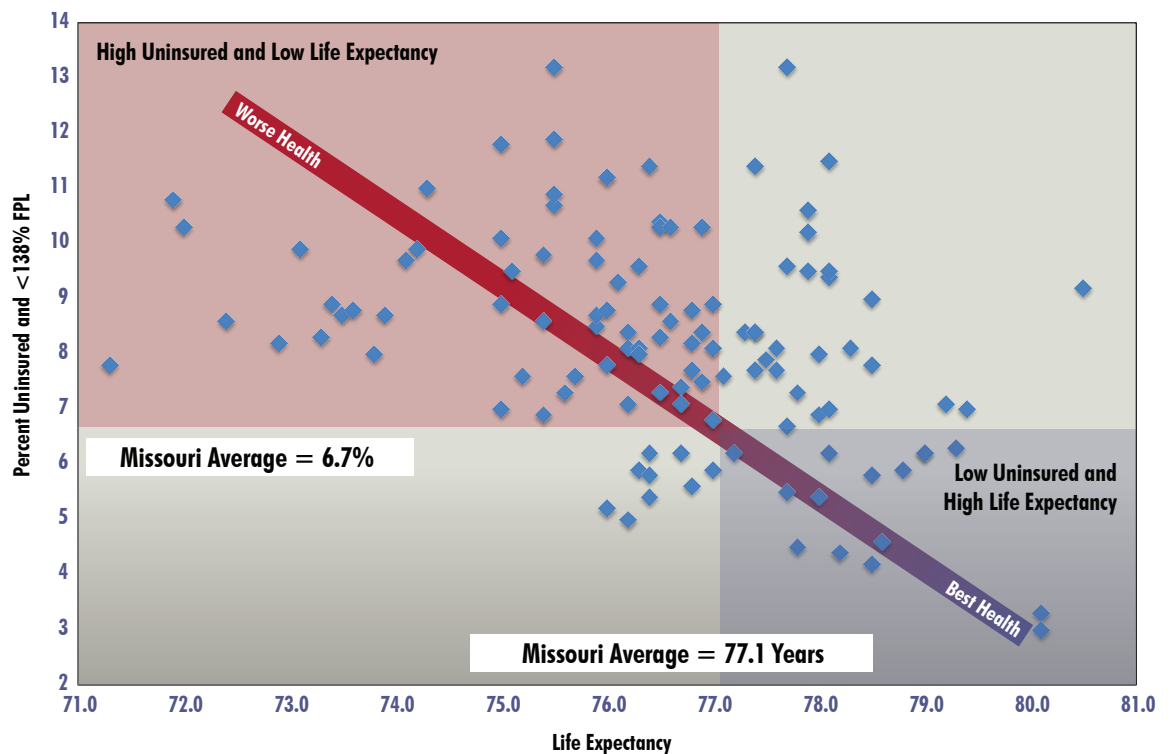
the notion that population groups with health coverage tend to live longer on average because of the benefits of access to care, preventive health, routine health maintenance, and health education. For Missouri counties on average, life expectancy increases as the rate of the population who are uninsured and less than 138% FPL decreases (figure 4).

Inequalities in average life expectancy are more drastic between ZIP codes. The St. Louis Place neighborhood in St. Louis city is a prime example. The average life expectancy at birth for children born in 63106 is only 69 years.^{xviii} This is eight years less than the average lifespan for the state. Last year a local television station produced a feature story comparing life in 63106 with the Third world.^{xix} By contrast, being born short distances from the center of 63106 would result in greatly lengthened average life expectancy:

- 6 miles southwest in the St. Louis Hills Neighborhood increases 13.2 years
- 6 miles due west to St. Louis County increases 9.4 years
- 18 miles northwest to St. Charles County increases 10.9 years

FIGURE 4. Life Expectancy and the Percent of the Population Who Are Uninsured and <138% FPL for Missouri Counties

Source: MO Dept. of Health and Senior Services and the U.S. Census Bureau



Compared to counties with average and above average life expectancy, counties with an average life expectancy less than age 74 have significantly higher populations who are uninsured and with incomes less than 138 percent of the FPL. Missouri counties with short life expectancy also have significantly higher rates of unemployment and much lower household income. In counties with life expectancy less than 74 years, nearly one in 10 residents are uninsured and live below 138 percent of poverty, and one in 10 residents are unemployed. Their median household income is 25 percent lower than the statewide average and 59 percent lower than their counterparts living in Missouri counties with an average life expectancy of 80 or more (Table 2).

Eleven counties in the southeast quadrant of the state and the city of St. Louis have average life expectancies less than 74 years.^{xx} By comparison, Missourians living in these areas can expect to live two years less than the residents of Vietnam and Venezuela and one year less than Hondurans and Lebanese. On average, they will enjoy the same life span as the population of Iran. At 71.3 years, if Pemiscot County were a country it would have the 85th lowest life expectancy in the world — just below El Salvador with an average life expectancy at birth of 71.4 years.^{xxi}



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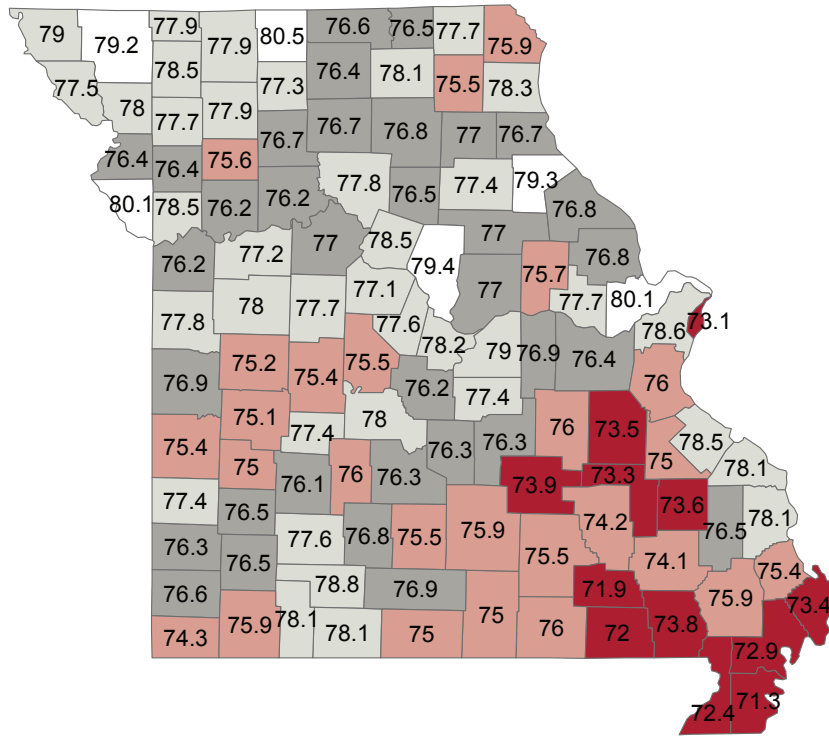
Life Expectancy	Population*	Population* Uninsured and <138% FPL	Percent Uninsured and <138% FPL	Unemployment Rate	Median Household Income
Less than 74 years	447,049	41,913	9.4%	10.0%	\$31,295
74 to 76 years	599,704	46,427	7.7%	9.4%	\$34,506
76 to 77 years	1,430,464	110,857	7.7%	8.7%	\$39,866
77 to 79 years	1,969,517	114,706	5.8%	8.2%	\$42,949
More than 79 years	561,213	23,976	4.3%	6.8%	\$49,687
Missouri (77.1 avg)	5,007,947	337,879	6.7%	8.7%	\$39,264

*Based on the non-elderly population ages 0-64

TABLE 2.
Characteristics of Missouri Counties by Average Life Expectancy at Birth

Sources: MO Dept. of Health and Senior Services, the U.S. Census Bureau 2010 SAHIE Program and 2013 RWJ County Health Rankings.

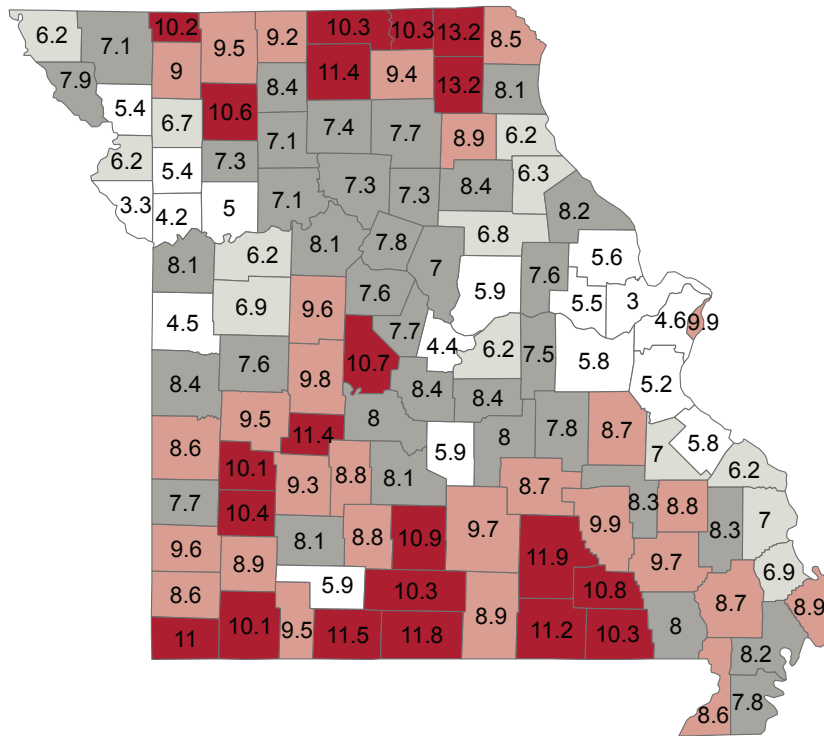
FIGURE 5.
Life Expectancy
at Birth



Source: MO Dept. of Health and Senior Services

Younger than 74
 74 - 76
 76 - 77
 77 - 79
 Older than 79

Percent of the Population Under Age 65 Who Are Uninsured and <138% FPL



Source: U.S. Census Bureau 2010 SAHIE Program

6% or less
 6.1% - 7%
 7.1% - 8.5%
 8.6% - 10%
 More than 10%

Health Insurance Status and Workforce Productivity

While the long-term effects of increased access to care and preventive screening are being uncovered in Oregon, the short term impacts of improved mental health status and reduced out-of-pocket medical spending hold significant implications for the productivity of employed workers with new health insurance coverage.

Labor productivity is defined by the U.S. Bureau of Labor Statistics as the amount of output produced by labor per the unit cost of that labor. Leading up to the economic recession in 2008, total productivity in the U.S. diverged sharply from total employment costs. Between the fourth quarter of 2007 and the second quarter of 2009, productivity in the U.S. fell more than 6 percent while employment costs increased by 3 percent. This nine point gap has persisted throughout more recent quarters (Figure 6).

During the same period in Missouri, the state's gross domestic product for blue collar and service collar industries fell by \$8.5 billion — an 18 percent decrease between 2007 and 2009. At the same time, the uninsured rate grew by 10 percent in Missouri. The state's GDP for these industries in 2012 was still \$6.1 billion lower than the pre-recession high in 2004 (Figure 7). Because of the disproportionate representation of low-income, working adults in the uninsured population, a potential solution to increase productivity and the state's GDP in blue collar and service collar industries is through expanded health insurance coverage.

Often referred to as “health human capital,” the relationship between health status, health insurance coverage and labor productivity is well-established.^{xxii} Health insurance coverage and the resulting gains in access to care are associated with not only short-term, but also long-term gains in productivity. For example, access to preventive care such as

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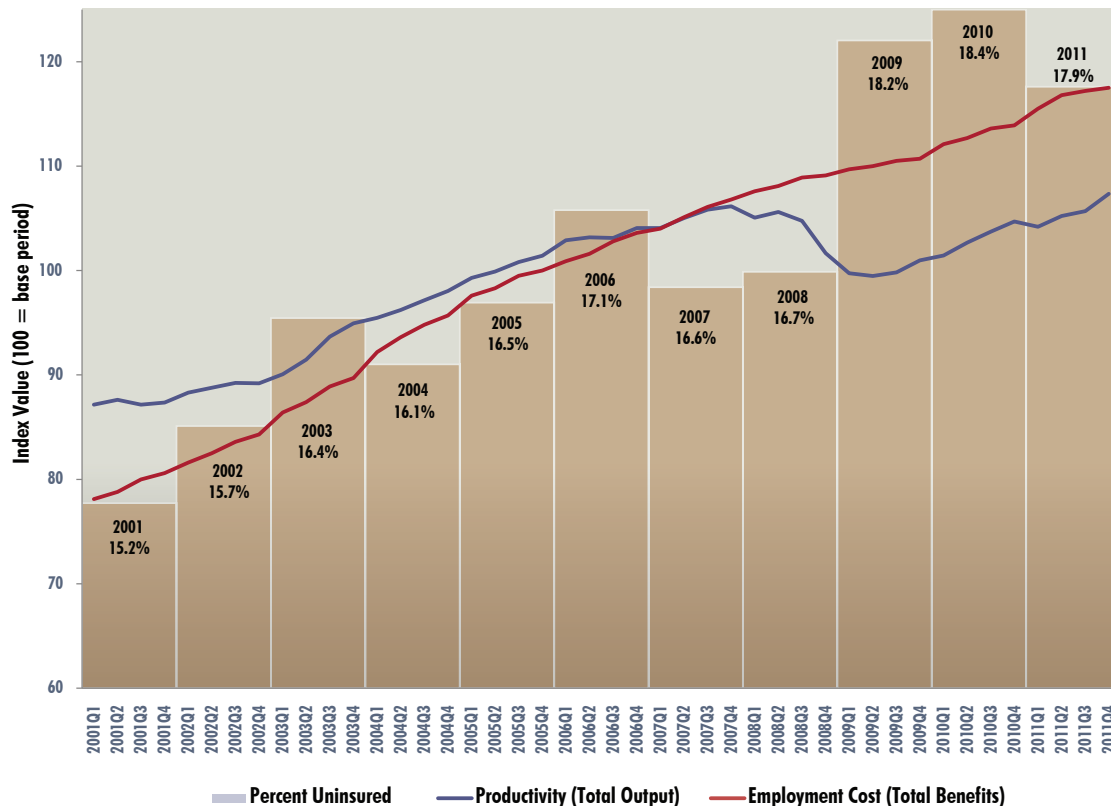


FIGURE 6.
U.S. Employment Costs, Productivity and the Uninsured Rate Since 2001

Source: U.S. Census Bureau and the U.S. Bureau of Labor Statistics



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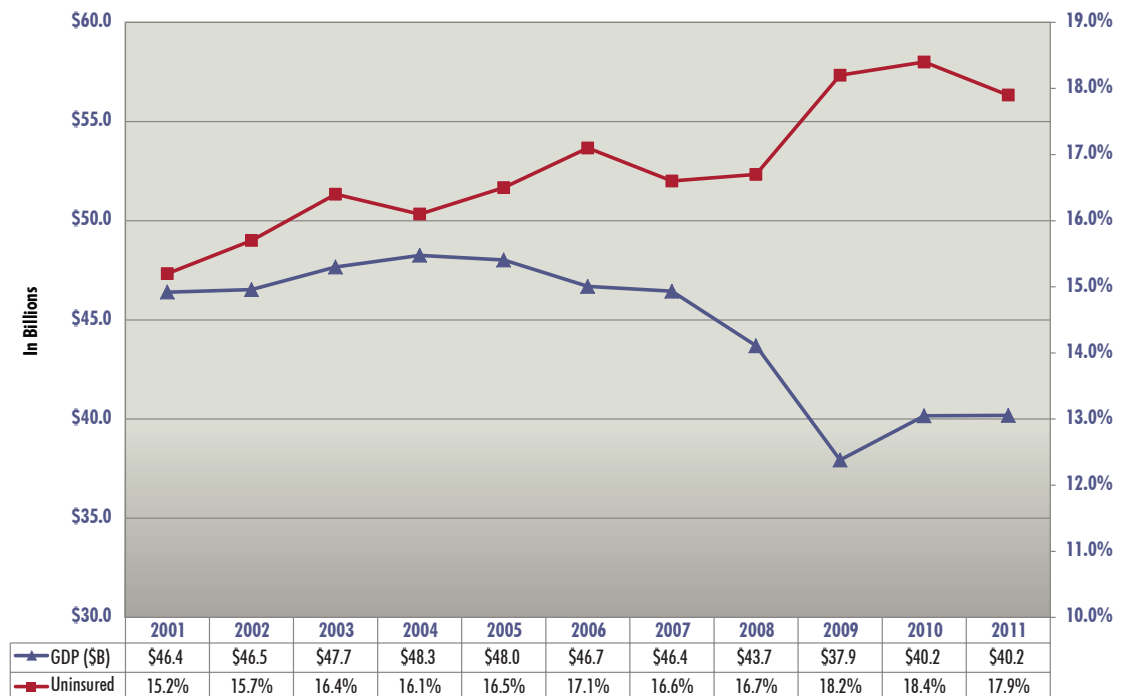
immunizations among workers increases the “herd immunity” of the entire labor pool, particularly in concentrated spaces such as offices and factory floors. This aspect leads to fewer workdays lost due to illness and increased overall labor productivity. Other preventive health procedures such as annual health exams result in early detection of illness that may lead to increased productivity and decreased mortality in the long run.^{ix}

In competitive labor markets, employer-sponsored health insurance is often the most important source of non-pecuniary benefit for workers. The costs of employer-sponsored insurance (although typically passed on to workers indirectly through lower wages) allows them to receive a benefit that would cost them more individually than what their employer can provide because of economies of scale and group purchasing power. The associated productivity gains for the employer are offset by the cost

of the plan and the associated cost for the employee is offset by higher lifetime earnings resulting from fewer days lost to illness and compensatory gains resulting from improved productivity.^{ix}

Productivity gains associated with expanded public health care coverage will result in pure returns for Missouri employers. In the case of expanded Medicaid coverage for low-income working families, the costs of expansion are capped at 10 percent for states which greatly increases the likelihood of a positive return on the investment. This opportunity is magnified during the first three years of the program during which the expansion is covered in full by the federal government. This window would allow many previously uninsured Missourians to exhaust pent up demand and seek postponed routine and preventive care before the state match is mandated.

FIGURE 7.
Missouri's Uninsured Rate and Real State Gross Domestic Product for the Construction, Manufacturing, Accommodation, and Food Services Industries Since 2001



Sources: U.S. Census Bureau and the U.S. Bureau of Economic Analysis

These are important considerations for policymakers when evaluating options to facilitate expanded health insurance coverage for gainfully-employed workers and for potentially-employed individuals. Evidence suggests that the direct costs of expansion will be offset to an extent by gains in labor productivity and personal disposable income. This relationship has a short-term multiplicative effect in terms of reduced absenteeism by reductions in the spread of communicable diseases such as influenza, and a longer term multiplicative effect through early detection and management of chronic diseases through preventive health care and health education. In combination, these indirect attributes of a population with enhanced access to health care greatly dampen the public and private economic burden attributable to the health status of the uninsured. As a result, there is a strong public and private incentive to expand health insurance coverage in Missouri.

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Suggested Citation

Reidhead, M., (2013). A View of Two Missouris: How Insurance Coverage Affects the Health and Productivity of Its People. Missouri Hospital Association. Available at www.mhanet.com

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ACKNOWLEDGEMENT

Data and analytic support provided by the Hospital Industry Data Institute,
the data company of the Missouri Hospital Association.



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