



# Report on the Health Care Safety Net in Missouri

Prepared by the  
Missouri  
Department of  
Health and Senior  
Services  
with support from  
the Missouri  
Foundation for  
Health

August 2005



## Glenda R. Miller

Director, Division of Community and Public Health

### Noaman A. Kayani, PhD

Research Analyst III  
Bureau of Health Informatics

### Sherri G. Homan, RN, PhD

Public Health Epidemiologist  
Office of Epidemiology

#### REPORT INFORMATION

**Title:** Report on the Health Care Safety Net in Missouri

**Published by:** Missouri Department of Health and Senior Services (DHSS) with support from the Missouri Foundation for Health

**Description:** In 2000, the Institute of Medicine (IOM), a watchdog in the health care industry, published a report on America's health care safety net. The health care safety net is often defined as "the providers that organize and deliver a significant level of health care and other health-related services to the uninsured, Medicaid, and other vulnerable patients." The IOM has sounded the alarm that the nation's health care safety net is "**intact but endangered**" and emphasized the need to monitor the health care safety net. Based on the IOM report and future implications of the endangered health care safety net in the United States, the Agency for Healthcare Research and Quality (AHRQ) and Health Resources and Services Administration (HRSA) initiated a project to monitor the health care safety net. DHSS undertook development of baseline assessment to monitor the health care safety net in Missouri. This report accomplishes the early stages of the process of monitoring the health care safety net in Missouri by updating the existing indicators and developing new indicators to capture its demand, support, structure, and environment. This report provides the baseline information to help devise an early warning system for the health care safety net to stay intact.

**Audience:** This report is intended for use by the general public as well as state and local policy makers for appropriate assessment of the health care safety net in Missouri and the allocation of resources towards the priority areas. Several research agendas can be developed based on this information.

Permission to copy, disseminate, or otherwise use information from this report is granted as long as appropriate acknowledgement is given. Missouri Department of Health and Senior Services does not provide printed copies. Please feel free to download this report from

<http://www.dhss.mo.gov/DataAndStatisticalReports/HealthCareSafetyNet.pdf>

**Suggested Citation:** Kayani, N.A. and Homan, S.G. (2005). *Report on the Health Care Safety Net in Missouri*. Jefferson City, MO: Missouri Department of Health and Senior Services, Division of Community and Public Health.

#### Contact Information:

Noaman Kayani, PhD  
Bureau of Health Informatics  
Ph: 573-526-1687 or Email: [noaman.kayani@dhss.mo.gov](mailto:noaman.kayani@dhss.mo.gov)  
Missouri Department of Health and Senior Services  
PO Box 570, Jefferson City, MO 65102  
Ph: 573-893-6954 or 1-800-316-0935  
TDD 800-669-8819



AN EQUAL OPPORTUNITY/  
AFFIRMATIVE ACTION EMPLOYER  
Services provided on a nondiscriminatory basis.

# **ACKNOWLEDGEMENTS**

## **Report on the Health Care Safety Net in Missouri**

### **Authors:**

Noaman A. Kayani, PhD, Research Analyst, Bureau of Health Informatics, DHSS  
Sherri G. Homan, RN, PhD, Public Health Epidemiologist, Office of Epidemiology,  
DHSS

### **Contributors:**

We wish to extend a special thank you to the Missouri Foundation for Health for supporting this project and to Connie Mihalevich, DHSS, for initiating the project. Comments and support from Paula Nickelson and Tricia Schlechte of DHSS, and Robin M. Weinick of the Agency for Healthcare Research are also recognized. We also acknowledge and thank John Hubbs for assistance in developing composite indexes for the health care safety net, for data support by Andrew Hunter, Mary Joe Mosley, Alice Kempker, of the Bureau of Health Informatics, DHSS, Yelena Friedberg of the Office of Surveillance, DHSS and Jeanne Robey of Missouri Department of Insurance.

We also wish to acknowledge and extend a sincere thank you to: Tracy Schloss and Debbie Briedwell, of Information Technology Services Division (DHSS), for assistance with the GIS mapping.

This study (or project) was supported in part by the Missouri Foundation for Health 03-0006-P and DHSS general revenue (GR) funds.

### **Cover and Graphic Design:**

Office of Community Health Information, DHSS

Missouri Department of Health and Senior Services  
Division of Community and Public Health  
Bureau of Health Informatics and the Office of Epidemiology  
PO Box 570  
Jefferson City, MO 65102-0570

## Table of Contents

---

<b>Executive Summary</b>	<b>1</b>
<b>Introduction</b>	<b>6</b>
<b>1 Demand for Safety Net</b>	<b>8</b>
Background Information, 8	
Percent of Uninsured, 8	
Percent Below Poverty, 14	
Percent With Disability, 16	
HIV and AIDS Cases per 100,000, 16	
Prioritizing Need Based on the Demand for Safety Net, 18	
<b>2 Financial Support for Safety Net Services</b>	<b>20</b>
Background Information, 20	
Medicaid Program, 20	
Growth in Medicaid, 22	
Disproportionate Share Hospital Funds (\$) per Person Below Poverty, 24	
Relationship Between DSH Payment and Safety Net Performance, 24	
Community Health Center in the Area, 24	
Uncompensated Care Pooling, 25	
Prioritizing Need Based on the Financial Support for Safety Net Services, 25	
<b>3 Safety Net Structure and Health System Context</b>	<b>26</b>
Background Information, 26	
<i>Safety Net Structure - Inpatient Care</i>	<b>27</b>
Admission by Hospital Ownership Type, 27	
Admission by Teaching Status, 28	
Number of Hospitals, 2002, 29	
<i>Safety Net Structure – Ambulatory Care</i>	<b>31</b>
Hospital Output Capacity: Out Patient per Admission, 31	
Community Access Program Grant, 34	
Relationship Safety Net Structure to Safety Net Performance and Population Outcomes, 34	
<i>Safety Net Structure – Concentration and Distribution of Inpatient Uncompensated Care and Medicaid Discharges</i>	<b>35</b>
Market Concentration, 35	
Cost Shifting Index, 35	
Gini Coefficient, 38	
Percent Discharges in High Burden Hospitals, 38	

	Relationship of the Safety Net Structure and the Concentration and Distribution of Inpatient Uncompensated Care and Medicaid Discharges on population Outcomes, 38	
	<i>Health Care Delivery System</i>	<b>39</b>
	Health Maintenance Organization Competition Index, 39	
	Health Maintenance Organization Penetration, 39	
	Medicare Managed Care Penetration, 43	
	Additional Data/Information Gathered, 43	
	GIS Mapping of Individual HMOs, 47	
	Physician Supply in Missouri, 48	
	Work Status of Physicians in Missouri, 52	
	Relationship of Physician Supply on Population Outcomes, 53	
	Emergency Room Visits, 54	
	Relationship of Emergency Room Visits and Population Outcomes, 54	
<b>4</b>	<b>Community Context</b>	<b>56</b>
	Background Information, 56	
	<i>Population</i>	<b>57</b>
	<i>Race and Ethnicity</i>	<b>60</b>
	Population by Race, 60	
	Percent Hispanic Population (Any Race), 61	
	<i>Indices of Racial and Economic Separation</i>	<b>61</b>
	Racial Dissimilarity Indices, 61	
	Economic Indices, 61	
	<i>Immigrant Population</i>	<b>63</b>
	Percent Population Foreign Born, 63	
	Foreign Born, 63	
	Place of Foreign Birth, 63	
	Percent Speak Non-English at Home, 63	
	Percent Speak English Less than Very Well, 64	
	<i>Economy</i>	<b>65</b>
	Percent Below Poverty, 65	
	Median Household Income (\$), 65	
	Percent Household Income Under \$15,000, 65	
	Percent Household Income Over \$75,000, 65	
	Percent Household Under \$15,000 on Public Assistance, 66	
	Mean Public Assistance Amount (\$), 66	
	Percent Ages 16+ Not in Labor Force, 67	
	Percent Ages 16+ Unemployed, 67	
	<i>Living Arrangements, Housing, Education, and Crime</i>	<b>67</b>
	Living Arrangements, 67	
	Housing, 67	
	Education, 68	
	Index Crime, 69	
	Relationship Between Community Context and Population Outcomes, 69	

<b>5</b>	<b>Access-Related Outcome Measures</b>	<b>71</b>
	Preventable/Avoidable Discharges	<b>71</b>
	<i>Births</i>	<b>74</b>
	Number of Live Births, 74	
	Not Born in Hospital, 74	
	Inadequate Prenatal Care, 74	
	Teen Mothers, 76	
	Low Birth Weight (Less than 2500 g), 76	
	Mothers Smoked During Pregnancy, 76	
	Prenatal Care Utilization by Mothers on Medicaid, 76	
	Other Vital Statistics, 76	
	Relationship of Outcome Measures to Safety Net Performance, 77	
	Summary: Relationship of Outcome Measures to Demand, Support, Structure, and Context Measures, 78	
	Conclusion Drawn by AHRQ, 81	
<b>6</b>	<b>Consolidated Safety Net Ranking</b>	<b>83</b>
	<b>References</b>	<b>84</b>

## Tables, Figures, GIS Maps, and Appendices

### Tables

1.1	Percent Uninsured	9
1.2	Uninsurance Rate by Missouri Counties, 2004	13
1.3	Percent Below Poverty, 2000	14
1.4	Percent With a Disability, 2000	16
1.5	Living HIV and AIDS Diagnosed Persons	18
1.6	Ranking: Demand for Safety Net	19
2.1	Federal Poverty Guidelines by Program, SFY05	21
2.2	Federal Poverty Guidelines (FPL)	21
2.3	Medicaid Statistics for the State of Missouri	22
2.4	Medicaid Enrollment Growth in Missouri, 1998-2003	23
2.5	Safety Net Support – Federal Qualified Health Centers, 2004	25
3.1	Safety Net Structure – Inpatient Care in Missouri, 1999	28
3.2	Safety Net Structure – Inpatient Care Number of Hospitals by Type of Control	30
3.3	Outpatient Department Visits per Admission to the Area Hospitals in Missouri	33
3.4	Uncompensated and Medicaid Discharges, 1999	36
3.5	Concentration and Distribution of Inpatient Uncompensated and Medicaid Discharges, 1999	37
3.6	Health Care Delivery System, 2003	41
3.7	Health Maintenance Organizations in Missouri, 2002-03	45
3.8	HMO Ranking in Missouri by Enrollment, 2003	46
3.9	HMO Ranking in Missouri by Counties Served, 2003	47
3.10	Categories of Physician Supply	48
3.11	Physician Supply in Missouri by Regions, 2004	49
3.12	Physician Supply per 100,000 of Missouri Residents for the Bottom 20% Counties with Lowest Physician to Resident Ratio	52
3.13	Ranking: Health System and Safety Net Structure	53
3.14	Emergency Room Utilization by Pay Source, 2002	55
4.1	Community Context – Population, 2002	57
4.2	Community Context – Race/Ethnicity, 2000	60
4.3	Community Context – Indices of Racial and Economic Separation	62
4.4	Community Context – Immigrant Population, 2000	64
4.5	Community Context – Economy, 2000	66
4.6	Community Context – Living Arrangements, Housing, Education, and Crime, 2000	68
4.7	Ranking: Environment for Safety Net	70
5.1	Preventable Hospitalization Statistics in the State of Missouri, 2002	72
5.2	Birth Statistics for the State of Missouri, 2003	75
5.3	Ranking: Access Health Care Services	77
5.4	Multivariate Analysis ... – Preventable Hospitalization ...	79
5.5	Multivariate Analysis ... – Birth Outcomes in Cities ...	80
6.1	Safety Net Ranking of Missouri Counties	83

## Figures

1.1	Regional Comparison of Percent Uninsured	9
2.1	Medicaid Enrollment Growth in Missouri, 1998-2003 Regional Comparison	23
3.1(a)	Admission by Hospital Ownership Type Safety Net Structure – Inpatient Care	28
3.1(b)	Admission by Teaching Status of Hospital Safety Net Structure – Inpatient Care	29
3.2	Regional Comparison: Percent of Hospitals by Type of Control Safety Net Structure – Inpatient Care	30
3.3	Outpatient Visits per Admission in Missouri, 2002 Structure of Safety Net – Ambulatory Care	31

## GIS Maps

1.1	Uninsurance Rates for All Missourians by Missouri Counties, 2003	11
1.2	Uninsurance Rates for Age Group 18-64 by Missouri Counties, 2003	12
1.3	Percent of Missourians Below Poverty Level by Missouri Counties, 2000	15
1.4	Living HIV and AIDS Diagnosed Persons (Rate per 100,000) by Missouri Counties, 2003	17
3.1	Outpatient Department Visits per Admission ... to Area Hospital by Missouri Counties, 2002	32
3.2	HMO Competition Index by Missouri Counties, 2003	40
3.3	Percent of HMO Penetration by Missouri Counties, 2003	42
3.4	Percent of Medicare Managed Care Penetration by Missouri Counties, 2003	44
3.5	Number of General Primary Care Physicians by Missouri Counties, 2004	50
3.6	General Primary Care Physicians: Rate per 100,000 by Missouri Counties, 2004	51
4.1	Population by Missouri Counties, 2003	58
4.2	Population Change 1997-2003 by Missouri Counties	59
5.1	Preventable Hospitalization: Rate per 100,000, 2002	73

## Appendices

- 1 Health Care Safety Net Measures, Their Definition, and Data Sources Suggested By AHRQ
  - 1(a) Institute of Medicine Recommendations
  - 1 (b) GIS Maps: Percent of Missourians Below Poverty (Different Age Groups) by Missouri Counties
  - 1 (c) GIS Maps: Percent of Missourians With Disability (Different Age Groups) by Missouri Counties
  - 1 (d) GIS Maps: Living HIV and AIDS Diagnosed Persons by Missouri Counties (Number and Rate per 100,000)
  - 1(e) Demand for Safety Net (Ranking of Missouri Counties)
- 2(a) Growth in Medicaid Enrollments by Missouri Counties, 1997 - 2000
- 2(b) Disproportionate Share Hospital Funds (DSH) Received by Missouri Hospitals in 2001
- 2(c) GIS Maps: Vulnerable Population and its Density by Missouri Counties
- 3(a) GIS Maps: The Numbers of HMOs and their Enrollments by Missouri Counties
- 3(b) GIS Maps: Presence of Individual HMOs by Missouri Counties
- 3(c) GIS Maps: Physicians' Categories by Missouri Counties Numbers and Rate per 100,000
- 3(d) GIS Maps: Physicians by Work Status by Missouri Counties
- 3(e) Health System and Safety Net Structure (Ranking of Missouri Counties)
- 3(f) GIS Maps: Emergency Room Visits (Different Pay Sources) by Missouri Counties Three perspectives: Numbers, Proportion, and Rate per 1,000
- 4(a) GIS Maps: Population Growth Patterns and Distribution (Different Age Groups) by Missouri Counties
- 4(b) GIS Maps: Population of Missouri (by Major Races) by Missouri Counties
- 4(c) GIS Maps: Foreign Born Population and the Use of English Language by Missouri Counties
- 4(d) GIS Maps: Economy of Missouri Counties
- 4(e) GIS Maps: Living Arrangement and Housing in Missouri by Missouri Counties
- 4(f) Environment for Safety Net (Ranking of Missouri Counties)
- 5(a) GIS Maps: Birth Statistics (Important Indicators) by Missouri Counties
- 5(b) Access to Health Care (Ranking of Missouri Counties)
- 6(a) Safety Net Ranking of Counties By Demand, Environment, Access, System and Structure, Overall
- 6(b) GIS Maps: Safety Net Ranking of Counties By Demand, Environment, Access, System and Structure, Overall

## Executive Summary

---

Based on the Institute of Medicine (IOM) report and future implications of the endangered health care safety net in the United States, the Agency for Healthcare Research and Quality (AHRQ) and Health Resources and Services Administration (HRSA) initiated a project to monitor the health care safety net. The monitoring process, by developing data-driven capabilities, will help policy makers to derive interventions and strategies for assessing the stability of the safety net.<sup>1</sup>

In order to assess the health care needs of individuals using the safety net and the stability of the safety net, states were provided 118 indicators enabling them to monitor the health care safety net. The Missouri Department of Health and Senior Services (DHSS) undertook the responsibility to monitor the health care safety net in Missouri. This report accomplishes the early stages of the process of monitoring the health care safety net in Missouri by updating the existing indicators and developing new indicators to capture its demand, support, structure, and environment. This report provides the baseline information to help devise an early warning system for the safety net to stay intact. Several research agendas can be developed based on this information.

### ***Demand for Safety Net***

The level of uninsurance is one of the determinants of the demand for a health care safety net. Different national and state surveys revealed an uninsurance rate of 8.4% to 11% for all age groups and 12.3% to 13% for the adults aged 18 and older in Missouri.<sup>2</sup> County level uninsurance rates were available only through the state surveys and their comparison to the state level revealed that all the counties in the northeastern and southwestern regions had uninsurance rates greater than the state level.<sup>3</sup>

Other measures of demand for a health care safety net are the percent of individuals below poverty, percent disabled, and the AIDS cases per 100,000 people. In Missouri 12% of the residents lived below poverty in 2000.<sup>4</sup> This rate was highest for the age group 0-17 and lowest for the age group 65 and older. Eight percent of Missourians aged 5-20 were living with some form of disability and 43% percent of the senior citizens in Missouri were disabled. During 2003, 9,413 persons in Missouri were living with HIV or AIDS (rate of 168 per 100,000 Missourians). Based on data for 33 states of the United States, this rate was 212 per 100,000 people.

### ***Support for Safety Net***

Based on the 1999-2001 Current Population Survey (CPS), about one half of the state's population, with incomes less than 200% Federal Poverty Level (FPL), was enrolled in Medicaid. Sixty-seven percent growth in the Medicaid enrollment was observed in Missouri between 1998 and 2003. The highest growth was noticed in the southwestern region where it

---

<sup>1</sup> Safety net is considered to consist of the providers that are currently engaged in taking care of the health care needs of the individuals who cannot afford it.

<sup>2</sup> Current Population Survey (CPS, 2002-03), Behavioral Risk Factor Surveillance System (BRFSS, 1991-2001, 2003), Missouri County Level Study (2003), and Health Insurance Coverage and Access Survey (HICAS, 2004).

<sup>3</sup> This report has used the BRFSS classification of the regions for Missouri.

<sup>4</sup> United State Census (2000).

almost doubled (increase of 96%). According to the data provided by AHRQ, for every person in Missouri below 100% of the federal poverty guideline, about \$89 was received as a Disproportionate Share Fund (DSH) payment by Missouri in 2001.

Data suggested that the two metro regions of Missouri had a high density of the vulnerable population (uninsured and Medicaid enrollees). Missouri does not have an uncompensated care pool.

## ***Structure of Safety Net***

### ***Inpatient Care***

In 1999, 75% of the inpatient care to all Missourians was provided by hospitals owned by not-for-profit organizations in Missouri and about 60% of the inpatient care was provided at non-teaching hospitals.

### ***Concentration and Distribution***

AHRQ data suggested that Missouri ranked 9<sup>th</sup> among 31 states for which the data on safety net was provided, with the market share of uncompensated and Medicaid patient population concentrated in a small number of hospitals. Missouri ranked 24<sup>th</sup> with a Cost Shifting Index for uncompensated and Medicaid discharges of 0.16, which implied that the area hospitals would have to raise the charges to commercial patients by 16% in order to make up for the revenues lost by providing uncompensated care. Cost Shifting Index is the percent on average that an area hospital must raise charges to commercial patients to make up for the revenue lost through the provision of uncompensated care (percent on average that area hospitals must raise commercial charges to “cost shift” uncompensated care)

The Gini Coefficient for uncompensated and Medicaid discharges for Missouri suggested that 26% of area patients in the state of Missouri would have to change hospitals to equalize uncompensated care and Medicaid discharges across all area hospitals. The Gini Coefficient is the percent of area patients who would have to change hospitals to equalize uncompensated care and Medicaid discharges across all area hospitals. Missouri ranked 23<sup>rd</sup> in the nation for the percent of uncompensated and Medicaid discharges in high-burden hospitals. In the southern region counties of Jasper, Lawrence, Butler, and Howell all Medicaid and uncompensated care patients went to high burden hospitals (hospitals that would need to raise commercial charges 25% or greater to make up for the lost revenue from uncompensated care).

### ***Ambulatory Care***

With the exception of the two metro regions, the rest of the regions in Missouri had outpatient visits per admission higher than the state level of 19%. Two Community Access Program (CAP) grants were awarded to Missouri in 2001 to: Kansas City Care Network Metropolitan Community Health Services (\$864,475) and Kirksville College of Osteopathic Medicine (\$968,959).

## ***Environment of Safety Net***

### ***Health Care Delivery System***

#### ***Role of Health Maintenance Organizations (HMOs)***

The 2003 HMO data suggested that in Missouri, with the exception of the Kansas City Metropolitan Statistical Area (MSA), and Johnson and Gasconade counties, the remaining counties have non-competitive HMO markets. In 2003, about 22% of Missouri's total population was enrolled with HMOs and less than 1% were enrolled with HMOs in 22 counties. These counties were located in the northeastern and southeastern regions. Higher enrollment rates of 15.0% to 38.3% were observed along Interstate-70 and parts of the southwestern region.

Only 11% of Medicare beneficiaries in Missouri were using Medicare Managed Care during 2003. It appeared that almost all the HMOs operating in Missouri were working in selected portions of the state and only 19 HMOs were operating in Missouri during 2003.

#### ***Physicians Supply***

For this report, the data on Physician Supply per 100,000 population was provided by the following seven physician categories: Primary Pediatricians, Obstetricians/Gynecologists (OB/GYN), General Internists, General Primary Care, Pediatric Specialty, Medical Specialty, and Surgical Specialty. The Geographic Information System (GIS) maps present the availability of these physicians in different counties of Missouri with specialty physicians available only in a few counties of Missouri.

#### ***Utilization***

Data on Emergency Room (ER) visits by pay source suggested that approximately 33% of Missourians visited the ER during 2002. Contrary to the common belief that the uninsured crowd the ER, the visits by persons listed as self-pay/no charge reflected only 13% of the total, while 85% percent of the ER visits were by publicly or privately insured Missourians.

#### ***Community Context***

##### ***Population***

The population estimates by the Census Bureau indicated a population growth of 3.5% between 1997-2002. According to 2002 data, all regions have shown positive population growth except for the northeastern region. Statewide, the highest growth was observed in the population group ages 18-64, and a decline of 2% was observed in the younger population (ages 0-17). With the exception of Kansas City Metro and the southwestern region, the rest of the regions were attributed with negative population growth for those under age 18.

##### ***Race and Ethnicity***

The statistics based on the 2000 U.S. Population Census suggested that White/Caucasian was the largest race representing 85% of the population, followed by the Black/African American race at 11%, and Hispanic and Asian races at 1.4% and 1.1%, respectively. The highest concentration of Blacks was in St. Louis City, where Blacks were the majority (51%) followed by Whites (44%),

and Hispanics (2%). Other counties with a high concentration of African American population (13% to 26%) were Jackson, St. Louis, Pemiscot, New Madrid, and Mississippi counties. Though Hispanics were only 2% of Missouri's total population, their highest concentration of 9% was located in McDonald and Sullivan counties followed by Pulaski, Jackson, Barry, and Saline counties where they were 4% to 6% of the population. The largest ethnic group was of Mexican origin, representing 67% of all the Hispanic population in Missouri.

### ***Immigrant Population***

The 2000 U.S. Census data showed that 2.7% of Missouri's population was foreign born. The highest concentration of foreign born residing in Missouri (5% to 6%) was in the counties of Sullivan, Jackson, Boone, Pulaski, McDonald, and St. Louis. Most of these counties had a greater concentration of Hispanic population.

Sullivan, McDonald, and Daviess stand out as the counties with the highest concentration (5% to 6%) of population who do not speak English at home. Sullivan and McDonald were the counties with the highest concentration of Hispanics. Interestingly, Daviess was one of the few counties with 99% Whites.

About 2% of all Missourians speak English less than very well. Their highest concentration (6.6% to 10.2%) was in the counties of McDonald, Sullivan, Pulaski, Scotland, Daviess, Jackson, Boone, Moniteau, and Morgan.

### ***Economy***

According to the 2002 estimates from the U.S. Census Bureau, Missouri ranked 23<sup>rd</sup> in the nation with 11.3% of its residents in poverty. Nineteen percent of Missouri's children under the age of 5 were in poverty and Missouri ranked 22<sup>nd</sup> in the nation for this age group. For the age group 5-17 years, 14% were in poverty ranking Missouri 21<sup>st</sup> in the nation.

Median household income in Missouri was \$37,934 in 2000 and increased in 2002 to \$40,309. Missouri ranked 32<sup>nd</sup> in the nation relating to the highest median household income in 2002. At the state level, the percent of households with income under \$15,000 was 17.1%. The lowest percent (12.1%) of people with household income less than \$15,000 was in the Kansas City Metro region, while the highest number was in the southeastern region at 28%. Eleven out of 12 counties in Missouri with the highest concentration (30% - 37%) were located in the southeastern region. Adair stands out as the only county outside this region with 31% of Missourians with income less than \$15,000. Only 17.6% of all households in Missouri have incomes greater than \$75,000.

The percent of young adults ages 16 and older not in the labor force, for the state of Missouri, was 35% in 2000. The highest percent of individuals, ages 16 and older who were not in the labor force was in the southeastern region (43.5%) and the lowest in the Kansas City Metro region (31.6%).

The unemployment rate for Missouri was 5.3% in the year 2000. The unemployment rate was highest in the southeastern region at 6.7% and the lowest in the Kansas City Metro region at 4%. When the county rates were compared to the state level, the southeastern region stood out with 21 out of 25 counties with an unemployment percent higher than the state level. Overall, 45 of 115 counties in Missouri had a percent of unemployment higher than the state level.

### ***Living Arrangements***

In Missouri, 11% of all individuals lived alone. The highest concentration (17%) of individuals 65 years and older was living in St. Louis City. The 2000 U.S. Census data also showed that 30% of all senior citizens lived alone in the state of Missouri and about 30% of all individuals in Missouri lived with a single parent or a non-married couple.

In Missouri, 70.3% of the houses were occupied by the owners in 2000 and the vacancy rate for Missouri was 7.4%. Half of Missouri's population had high school or less education in 2000.

### ***Access Related Outcome Measures***

DHSS maintains the vital statistics for Missouri. The 2003 data suggested that the highest number of non-hospital births (92) was in Webster county followed by Jackson county (62). In Missouri, less than 1% did not have any prenatal care. Another measure that describes health care access is *Inadequate Prenatal Care*. It is defined as, "fewer than five prenatal visits for pregnancies less than 37 weeks or fewer than eight visits for pregnancies 37 weeks or longer, alternatively care beginning after the first four months of pregnancy." In Missouri, about 10% of pregnant women had inadequate prenatal care in 2003. Data suggested that the highest number of pregnant women who received inadequate prenatal care were in the two metro regions (St Louis County, St Louis City, and Jackson County). The counties with the highest rate of inadequate prenatal care per 100 live births were Scotland (36.5), Pemiscot (28.9), Morgan (29), Knox (28.9), and Reynolds (25.9). Three counties in Missouri - Pemiscot (513), Ripley (390), and Dunklin (373) - located in the southeastern region, have the highest Preventable Hospitalization rate per 10,000. Fifty-three of the 115 counties in Missouri have a rate greater than the state level.

## Introduction

---

National and state governments have been making attempts to take care of the health care needs of the most vulnerable population groups – the uninsured. Meanwhile, selected health care providers continue to meet the needs of the uninsured. These providers serve as the health care safety net for this impoverished and disadvantaged population.

In 2000, the Institute of Medicine (IOM), a watchdog in the health care industry, published a report on America's health care safety net.<sup>5</sup> The health care safety net is often defined as “the providers that organize and deliver a significant level of health care and other health related services to the uninsured, Medicaid, and other vulnerable patients.”<sup>6</sup> The IOM has sounded the alarm that the nation's health care safety net is “**intact but endangered**” and emphasized the need to monitor the health care safety net.

In response to the IOM's report on America's Health Care Safety Net, the Agency for Healthcare Research and Quality (AHRQ) and Health Resources and Services Administration (HRSA) initiated a project, “Monitoring the Health Care Safety Net” with the following four main goals:

1. Provide baseline information and assessment of policymakers' information needs for the safety net system and its environment.
2. Establish an early warning system to alert policymakers to changes in safety net capacity and stability.
3. Provide information to policymakers about the status of safety net providers and the populations they serve that can help in designing interventions and strategies to achieve policy objectives.
4. Develop and implement a research agenda on the safety net and access-related issues for low-income populations.

The project emphasized that in order to accomplish these goals there was a need to understand the safety net and how to measure it. Without appropriate measures to assess the safety net and the baseline conditions, evaluating the impact of policy changes will be difficult. With this in mind, the two agencies identified 118 specific measures available from existing data sources that could be helpful to track the effect of any actions on the safety net. Appendix 1 contains the list of these measures, their definitions, and data sources. These cover the different aspects of a safety net: Demand, Structure, Environment, and Support. The data for the 118 measures was based on 1999 data at the local level like city, county, and metropolitan areas as well as at the state. Examples of measures regarding the safety net include emergency room visits and cost of care per insured patient. In some cases proxy measures were necessary to use, if a more direct, closely related measure was not available. For example, access to primary care can be measured by the volume and increase in emergency room visits for non-emergent care, including preventable hospitalizations.

---

<sup>5</sup> Institute of Medicine (2000).

<sup>6</sup> Urgent Matters Safety Net Assessment Team (2004), defined safety net as, “ - A term that has come to refer broadly to public hospitals, community health centers, public health departments, faith based clinics, and others who, either by mission or mandate, provide significant amounts of health care to people who are uninsured or underinsured and who cannot cover the costs of care from their own resources.”

This information was then provided to the states in the form of three books and made available through the Internet, with the objective that with access to this data, states would be in a better position to understand the provisions of safety net services at the smallest geographic level.

In *Monitoring the Health Care Safety Net*, Book III, Chapter 1, understanding the data sources for the states was discussed (Blewett and Beebe, 2003). In the *Public Health Report, 2004* the authors described two of the four components of the safety net - Structure and Demand (the other two components were Environment and Support), and discussed the pros and cons of different types of data that states could use to measure the safety net (Blewett and Beebe, 2004). These data sources are administrative data, regulatory data, budget information, state initiated surveys and national surveys.

The IOM report further stated that the nation's health care safety net lacks integration and is not a comprehensive system.<sup>7</sup> Rather, it is a patchwork of health care institutions, financing mechanisms, and programs. The health care safety net varies dramatically not only across the country, but between states, and within states and at the localized level. The report also emphasized that there is a threat to the core safety net providers primarily due to the fact that the number of uninsured people are growing, direct and indirect subsidies that have helped finance uncompensated care are eroding, and the rapid growth of Medicaid managed care is having many adverse effects. The recommendations from the Committee on the Changing Market, Managed Care, and Future Viability of Safety Net Providers, are provided in Appendix 1(a).

On the part of Missouri, the first step was to identify good sources of data in the state. The Missouri Department of Health and Senior Services (DHSS) updated the existing indicators used to measure the health care safety net and where possible, enriched the data by identifying new measures, and gathered data from different departments of state. Data are presented in this report using tables, figures, Geographical Information System (GIS) maps.

The data used and described in this report, based on the 118 indicators from AHRQ, will not be regularly updated at the federal level. Therefore, the state will need to establish a mechanism and process to update this data set on a regular basis as there is no central repository for all of the indicators described in this report; some of the indicators require data to be obtained from different sources; and some of the data is updated at different times of the year. Maintaining a comprehensive data set on the status of the health care safety net would ensure the availability of current data to the state and local policy makers so that the safety net is appropriately assessed and resources are continually directed towards the priority areas. The work completed thus far in this regard is contained in this report.

---

<sup>7</sup> IOM refers to the study by Baxter and Mecanic, 1997.