OVERVIEW

For the past decade, the focus of health care workforce shortages has been on the supply and demand for nurses and other skilled health professionals in acute care settings. The passage of the Patient Protection and Affordable Care Act in early 2010 shifted the focus to the supply and demand of primary care physicians and advanced practice nurses. The ACA is intended to increase access to health care services for previously uninsured Americans. Much of that care will be provided in primary care settings. However, the primary care system already is strained. Data from a 2008 Association of American Medical Colleges’ report was updated in 2010 to project the effect of the ACA on the current and projected physician shortage. Revised estimates increase the overall shortage of physicians in 2020 from 64,100 to 91,500. The report projects 45,400 of the needed physicians will be for primary care.¹

How will this affect health care access for the millions of newly insured and the large wave of baby boomers who are increasingly using the health care system?

KEY POINTS

- The overall shortage of physicians in 2020 was projected to increase to 91,500, according to the Association of American Medical Colleges, because of the implementation of the Affordable Care Act.
- The health care reform law is scheduled to add 32 million previously uninsured individuals to the ranks of the insured by 2019. In Missouri, it is estimated approximately 500,000 will become insured through Medicaid expansion and the implementation of health insurance exchanges, which would move Missouri’s uninsured population from 15.6 percent to approximately 5.8 percent.²³ In general, access to primary care for adult Medicaid beneficiaries is good. However, the expected surge of new enrollees is likely to create issues with access to care.²

- In rural Missouri, there is only one primary care physician for every 1,776 citizens, compared to one primary care physician for every 962 metropolitan Missourians.¹⁰
- In Missouri, 55 percent of all physicians are 50 and older. Yet, the percentage of rural physicians 50 and older jumps to 62 percent.¹⁰
- Individuals and families with lower socioeconomic status face greater challenges in prioritizing their basic needs. They already face difficult choices in providing food, shelter and transportation, which makes expenditures in preventive health activities difficult.
- Rural Missouri residents are older and poorer than metropolitan residents. On average:
  - they are three years older
  - 5 percent more live in poverty
  - 3 percent more are illiterate
  - 4 percent more are uninsured

- A study from America’s Health Rankings rated Missouri 39th among 50 states in overall health rankings in 2010.²⁰ Poor health translates into higher health care costs. Although high health spending is spreading to a larger segment of the population as more U.S. citizens are diagnosed and treated for chronic conditions, it still remains concentrated. Just 5 percent of the population is responsible for 50 percent of all health spending. In contrast, half of the population comprises just 3 percent of spending.²¹ Primary care physicians play a crucial role in the diagnosis and treatment of chronic disease — a role critical to reducing Missouri’s health care spending.

Continued
A survey conducted by the Association of American Medical Colleges found that teaching hospitals had projected a 30 percent increase in students would be necessary to cope with the 32 million new patients covered under the health care reform law. Although medical school enrollment is projected to increase 27.6 percent by 2015, not enough of these students intend to become primary care physicians, which may cause some schools to use incentives that encourage primary care.

According to the Missouri Foundation for Health, 80 percent of Missouri is in a health professional shortage area, leaving one in five Missourians without access to primary health care. However, as shown in the map from the U.S. Department of Health and Human Services, when all categories of a primary care HPSA is applied to Missouri, only five counties are not an HPSA. For purposes of this report, primary care physicians are identified as those practicing in family medicine, internal medicine and pediatrics.

RURAL MISSOURI

Although no two rural areas are alike, there are common characteristics that exacerbate the challenges of providing health care in rural communities. Researchers and social scientists use the Office of Management and Budget’s designation of “nonmetropolitan” and “metropolitan” counties. This classifies all nonmetropolitan counties as rural, and the data in this report are based on this definition.

A hospital cannot be defined as rural just because it is a sole community hospital or critical access hospital because that does not include all essential hospitals that are located in rural areas. Essential rural hospitals also include Medicare dependant small rural hospitals, rural referral centers and hospitals with no special designation. In addition, some urban-based hospitals are designated as sole community hospitals or CAHs. The vast majority of Missouri’s rural hospitals are sole community providers and/or CAHs. Based on this rural definition,
72.4 percent of the state’s land is in rural areas, and 27 percent of the state’s population resides in these areas.22

RURAL RESIDENTS ARE OLDER
The 2010 U.S. Census reports a 7 percent increase in Missouri’s population since 2000. The current population is 5,988,927. Like the national trend, the median age is increasing in Missouri. The first of the baby boomers turned 65 in January 2011. In 2010, there were 826,561 (14 percent) of Missourians age 65 and older. This will only continue to grow, as shown with the following estimates.

- 935,979 (15.6 percent) by 2015
- 1,079,491 (18 percent) by 2020
- 1,414,266 (23.6 percent) by 2030

The combination of increased longevity and more chronic disease will require increased access to health services and primary care physicians, especially those who accept Medicare.

RURAL RESIDENTS ARE POORER
Individuals and families with lower socioeconomic status face greater challenges in prioritizing their basic needs. They already face difficult choices in providing food, shelter and transportation, which makes expenditures in preventive health activities difficult. For example, food choices often are based on quantity per unit

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<tr>
<th>RURAL MISSOURI</th>
<th>METROPOLITAN MISSOURI</th>
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<tr>
<td>40.2 average age</td>
<td>37.2 average age</td>
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<tr>
<td>16.78% 65 and older</td>
<td>12.73% 65 and older</td>
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<tr>
<th>RURAL MISSOURI</th>
<th>METROPOLITAN MISSOURI</th>
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<tr>
<td>19.53% uninsured adults</td>
<td>15.6% uninsured adults</td>
</tr>
<tr>
<td>39.49% children eligible for free lunches</td>
<td>28.11% children eligible for free lunches</td>
</tr>
<tr>
<td>$35,749 median household income</td>
<td>$47,317 median household income</td>
</tr>
<tr>
<td>9.4% illiterate</td>
<td>6.78% illiterate</td>
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<tr>
<td>17% poverty</td>
<td>12% poverty</td>
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Source: U.S. Census, American Community Survey, 2010

continued
cost versus nutritional value. Further, lower literacy levels likely minimize understanding of the long-term consequences of poor health behaviors and preventive health choices. Over time, these choices contribute to poorer health outcomes.

HEALTH STATUS AND ACCESS TO HEALTH CARE IN RURAL MISSOURI

In rural areas, Missouri residents tend to be older and have higher rates of chronic diseases, such as heart disease and cancer. This is further complicated by a lack of access to primary care physicians. In rural Missouri, there is only one primary care physician for every 1,776 citizens, compared to one primary care physician to every 962 metropolitan Missourians.10

The evidence supports the negative effect of lower socio-economic status and decreased access to primary care health services. These factors may contribute to the increased hospitalization rates for diseases such as chronic obstructive pulmonary disease in rural versus metropolitan Missouri.

According to a new study by the Institute for Health Metrics and Evaluation at the University of Washington, “While people in Japan, Canada and other nations are enjoying significant gains in life expectancy every year, most counties within the United States are falling behind.” In that study, life expectancy among Missouri women declined from 1997 to 2007 in 34 counties, 27 of which are rural.11

A study from America’s Health Rankings rated Missouri 39th among 50 states in overall health rankings in 2010.20 Poor health translates into higher health care costs. Although high health spending is spreading to a larger segment of the population as more U.S. citizens are diagnosed and treated for chronic conditions, it still remains concentrated. Just 5 percent of the population is responsible for 50 percent of all spending. This is contrasted by half of the population that comprises just 3 percent of spending.21 Primary care physicians play a crucial role in the diagnosis and treatment of chronic disease — a role critical to reducing Missouri’s health care spending.

As health care reform increases access for those currently uninsured, there will be significant challenges to meet their needs in an area already strained by limited resources and services.

RURAL PRIMARY CARE PHYSICIAN CHARACTERISTICS

Rural Physicians are Older
The problem is further compounded by the aging physician workforce, especially in rural areas. In Missouri, 55 percent of all physicians are 50 or older.

Yet, the percentage of rural physicians 50 and older jumps to 62 percent.10

Rural Physicians Work Longer Hours
According to a research study conducted by the Journal of Rural Health, rural primary care physician incomes are approximately 5 percent less than those in urban areas, and they work longer hours, see more patients and see more Medicaid patients. The study concluded that addressing those issues may improve the future ability of ensuring an adequate supply of primary care physicians in rural areas.12

FACTORS CONTRIBUTING TO PRIMARY CARE PHYSICIAN SHORTAGES

Fewer students entering medical school choose primary care versus other specialties for several reasons.

Income
- Medical students incur large amounts of debt upon graduation — ranging from an average of $145,000 to $180,000 — which must be repaid.
- Primary care physicians are at the bottom of the income scale, with a median salary of $183,999. Orthopedic surgeons and radiologists earn three times as much, $473,770 and $468,594, respectively.13
Physician Background
• Students most likely to enter rural practice are those who come from rural backgrounds. Compared to their urban counterparts, many rural students come from educational systems that give them inadequate preparation to enter medical training.¹⁴

Increasing Number of Female Physicians
• There has been a huge transformation in the practice of medicine by the entry of large numbers of women. This has been problematic for rural health care because women are less likely than men to choose rural practice due to issues such as longer hours, inflexible work arrangements and their spouses’ career concerns. Only one-third of all rural physicians are women.¹⁴

International Medical Graduates
• Nearly one quarter of all U.S. primary care physicians went to medical schools in other countries. Many of these physicians enter the country through visas that require them to work in medically underserved areas, many of which are rural. As these physicians repay their obligations, they tend to move away from the rural areas that recruited them.¹⁴

Disincentives for Primary Care Practice
• Major factors influencing the choices that medical students make include potential income, future lifestyle and social standing. Family medicine and primary care are less attractive in these areas than other medical specialties.¹⁴

WHAT IS THE EFFECT ON RURAL COMMUNITIES?

Access to Health Care
As health care reform increases access for the currently uninsured, rural Missouri will be further challenged to provide care to a population already in critical need of additional primary care services.

Models of care included as pilot programs in the reform law that have previously been shown to increase quality and reduce costs are those that rely on primary care playing a large role in the management of chronic disease. Without access to primary care physicians or services, rural Missourians will continue to lag behind in health status and outcomes.

Economic Impact
Physicians are important for both the delivery of health care services in rural communities and the area’s economic vitality. The National Center for Rural Health Works has researched the link between health care and economic viability. It found that one primary care

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Source: U.S. Census, American Community Survey, 20 Sources: Missouri Department of Health and Senior Services, Missouri Information for Community Assessment; Missouri Department of Health and Senior Services, Missouri licensed physician aggregate data set.

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A SNAPSHOT OF MISSOURI’S LICENSED PRIMARY CARE PHYSICIANS

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<th>RURAL MISSOURI</th>
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<tr>
<td>Number of ALL licensed physicians</td>
<td>1,646</td>
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<tr>
<td>Number of licensed primary care physicians in Missouri (PCP)</td>
<td>859</td>
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<tr>
<td>Percent of physicians who are primary care (PCP)</td>
<td>52%</td>
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<tr>
<td>Average age of ALL physicians</td>
<td>53 years</td>
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<tr>
<td>Percent of ALL physicians age 50 and older</td>
<td>62%</td>
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MISSOURI TOTAL

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<tr>
<td>Average age of primary care physicians (PCP)</td>
<td>49 years</td>
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<tr>
<td>Number of primary care physicians (PCP) age 50 and older</td>
<td>2,617</td>
</tr>
<tr>
<td>Percent of primary care physicians (PCP) age 50 and older</td>
<td>48%</td>
</tr>
<tr>
<td>Number of primary care physicians (PCP) age 40 and younger</td>
<td>1,402</td>
</tr>
<tr>
<td>Percent of primary care physicians (PCP) age 40 and younger</td>
<td>26%</td>
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Source: Missouri Department of Health and Senior Services, physician demographic data set.

physician working in a rural area generates $1.2 million in annual revenue and creates 23 jobs. Conversely, the loss of one half-time doctor translates into a community loss of more than a half-million dollars and 14 jobs.¹⁵

Researchers also have found a direct link between the availability of health care services and economic development. When companies are looking to locate their businesses in a community, a major consideration is access to quality health care of which primary care physicians are essential. Policies that increase their retention and recruitment will contribute to improved health care services, as well as have a significant impact on local economies.

NURSE PRACTITIONERS AND PHYSICIAN ASSISTANTS

Any discussion of the strained supply of primary care physicians also must include consideration of the role of nurse practitioners and physician assistants. To address the health status and access to care issues faced by rural Missourians as outlined in this report, health care services most likely will be increasingly supplemented by the use of nurse practitioners.

One strategy in the reform law to build primary care capacity is greater reliance on nonphysician primary care providers.¹⁶ Nurse practitioners are the
fastest growing segment of the primary care professional workforce. Their numbers grew an average of more than 9 percent annually compared to 4 percent for physician assistants and 1 percent for primary care physicians. They are a key source of primary care in community health centers and nurse managed health clinics.\(^\text{17}\)

The Missouri State Board of Nursing reports that in 2010, there were 4,309 advanced practice registered nurses in Missouri. Only 775 were practicing in rural counties. Like physicians, their average age is nearly 50 years old.\(^\text{16}\)

Nurse practitioners also tend to make up a greater share of the primary care workforce in less densely populated, less urban and lower income areas, and health professional shortage areas. They also are more likely to practice in underserved areas and to care for large numbers of minority patients, Medicaid beneficiaries and uninsured patients.\(^\text{17}\)

Nurse practitioner practice is regulated by individual states, which determine licensure requirements, the physician collaboration or supervision requirements, the range of services that can be provided and the extent of their authority to prescribe medication and terms of payment under state Medicaid programs.\(^\text{17}\)

The scope of practice for nurse practitioners varies greatly among the 50 states. Missouri, along with 26 other states, is among the most restrictive because written documentation of physician involvement is required for nurse practitioners to diagnose, treat and prescribe. In the Institute of Medicine’s recent report, “The Future of Nursing: Leading Change, Advancing Health,” the first recommendation is to “remove scope-of-practice barriers.”\(^\text{16}\)

The IOM calls on Congress and agencies to take various steps to allow nurse practitioners to practice to the full extent of their education and training. It further calls on state legislatures to adopt the model for advanced practice registered nurse regulations developed by the Advanced Practice Nursing Consensus Work Group and the National Council of State Boards of Nursing and to require third-party payers in fee-for-service to provide direct

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Key findings from an April 2011 Kaiser Family Foundation issue paper, “Physician Willingness and Resources to Serve more Medicaid Patients: Perspectives from Primary Care Physicians,” points to access issues that new Medicaid enrollees may encounter.\(^\text{2}\)

- In 2008, the primary care physicians who served Medicaid beneficiaries most actively also were the most willing to accept new Medicaid patients, and they had substantial resources and capacity to serve low-income adults. However, they also face capacity constraints to serve more of this population.
- The primary care physicians most willing to see new Medicaid patients work in lower-income areas and are more likely to practice in hospital-based settings and community health centers, which are key sites of care for low-income populations. They also are more likely to work in practices owned in part by a hospital.
- The majority of primary care physicians most willing to accept new Medicaid patients use health information technology for core patient care purposes. About three-quarters of high- and moderate-share Medicaid primary care physicians report using all electronic medical records and having IT available for up-to-date decision support in their main practice. About 60 percent use IT to access patient notes, medications and problem lists.
- The primary care physicians most willing to accept new Medicaid patients often have important patient supports available at their practices. Nearly 70 percent of high-share Medicaid physicians provide interpreter services at their main practice, compared with 45 percent of high-share Medicare primary care physicians. They also are significantly more likely to use nonphysician staff to provide patient education for people with at least one of four major chronic conditions.
- Inadequate access to specialists and time for patient care constrain the capacity of the primary care physicians most willing to accept new Medicaid patients.
A small critical access hospital in a northwest Missouri county has five primary care physicians. Three are 55 and older, and the other two are under 40. 

This southwestern Missouri critical access hospital receives referrals from six primary care physicians. Five are 55 and older, and one is under 40. 

In this eastern Missouri county, seven primary care physicians refer patients to a critical access hospital. Of the seven, five are 55 and older, one is between the ages of 40 and 55 and one is under 40. 

The policy implications raised by the nurse practitioners’ scope of practice are many and will be debated during the next several years as the primary care physician supply continues to deteriorate.

**CONCLUSION**

Clearly, rural America has a looming crisis on its hands when it comes to the ability to provide primary care services to all, but especially to those who suffer from poverty and chronic disease. In Missouri, we must begin to develop policy options that will improve access to primary care, including incentives for medical students to choose primary care and locate in rural communities.

Research suggests that state government incentives for medical schools to place physicians in rural areas are among the strategies that are most promising. Through the MHA Center for Education Scholarship Fund, Missouri’s hospitals have contributed $9.2 million throughout the past 16 years to PRIMO — the Primary Care Resource Initiative for Missouri. This program provides loan forgiveness for primary care physicians and other practitioners who agree to serve in one of Missouri’s health professional shortage areas. The state’s share of funding for this program is inconsistent and is dependent on its fiscal health.

Studies have shown that the medical students most likely to practice in rural areas originally come from rural areas. Some states have designed programs to increase the number of medical students from rural areas. One program, the Rural Health Initiative, is a joint program of Indiana University and Indiana State University that targets selected rural high school students who plan to go to medical school and return to rural areas to practice medicine. These students receive full tuition and are guaranteed a spot in medical school, depending on grades and test score requirements. In addition, the students have the opportunity to work alongside rural physicians, participate in summer internships at rural clinics, take part in rural health seminars and gain patient experience during third and fourth-year internships with rural hospitals or clinics.

In some states, medical schools are being built closer to rural areas. In El Paso, Texas, the Paul L. Foster School of Medicine serves underserved southwest Texas. Students pursue an emphasis in rural outreach, and faculty and staff emphasize the importance of staying in nearby rural areas...
after graduation. Another example in Utah, is a rural medical residence training program funded by the state that assists medical institutions to start and maintain rural residency programs, with the intent that some students will choose to practice in rural areas upon graduation. The appropriated funds allow first-year medical residents to rotate through rural hospitals to learn about rural medicine. Residents who express an interest in family practice spend their second and third years of residency living in rural areas. In Salina, Kansas, a new medical school campus of the University of Kansas opened with its first class of eight students. All of the students will receive their training in Salina and will receive free tuition and monthly stipends in exchange for starting their careers in rural areas. The hope is that the students will become ingrained in rural life and medicine.

One other area that is worthy of serious consideration is to raise the cap on the number of paid residency slots for medical school programs that successfully train physicians to practice in rural areas. The number of Medicare-paid residency slots is capped at 1997 levels. Teaching hospitals can create more positions, but they will not be reimbursed for them. Options that provide increased use of the expertise of advanced practice registered nurses also must be considered. The future economic stability and health status of rural Missourians depends on it.

REFERENCES


SUGGESTED CITATION
