Strengthening Primary Care in Missouri:  
Part 1: Physician Workforce

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By: Missouri HealthCare Workforce Coalition

This paper is intended to be a starting point, part one, for a series of publications that offer overviews of the various primary care disciplines and specialties such as: nursing, physician assistant, dental and oral health, and behavioral health.

Background:
When Missourians have access to primary healthcare services and resources, their health problems are detected and treated earlier. Extensive evidence documents that access to primary care results in better health outcomes, reduced health disparities, and lower healthcare expenditures.¹ Yet access to primary healthcare is a struggle in both rural and urban areas of Missouri and remains out of reach for many, even those who have insurance coverage and experience few financial limitations. Further research suggests rural areas in particular face far greater challenges that call for unique solutions. Although the purpose of this paper is to focus on approaches aimed at increasing the number and distribution of primary care physicians in Missouri’s rural and underserved areas, many of the strategies mentioned can be generalized to wider groups essential to the state’s healthcare workforce.

Primary Care Health Professional Shortages:
Of Missouri’s 115 counties, including the City of St. Louis, 109 (95%) are designated as Primary Care Health Professional Shortage Areas (HPSAs).² Eighty-eight percent (101) of counties are designated rural. Of the 101 rural counties, 98 (97%) are designated as Primary Care HPSAs.³ Additionally, of the more than 6 million Missouri residents, 2.23 million, (37%), are rural.⁴ The Missouri Office of Primary Care and Rural Health states ‘assessing access to healthcare services is complex and influenced by more than just the number of people and the number of providers in a particular area. Healthcare needs and service requirements can vary considerably depending on population characteristics, such as age, income, environmental factors, and behaviors. At the same time, physician availability is not uniform in rural or urban areas due to financial, racial, and cultural barriers.’⁵

Primary care physician shortages in Missouri, and across the nation, are a continuing problem. Missouri ranks 18th in the nation in population⁶, but is 29th in the ranking for active primary care physicians per 100,000 population. In addition, Missouri is 29th in the nation for active physicians who are age 60 or older.⁷ Demand for primary care services is projected to increase largely due to population aging and growth. Many workforce studies have concluded that demand for primary care physicians will grow more rapidly than the physician supply.⁸ Strengthening the primary care workforce in the state requires a multi-pronged approach. No single solution will be adequate to resolve the shortage.
Missouri’s Medical Schools:
Missouri is home to six (6) medical schools, including one 6 year program, which collectively admit approximately 963 students annually. Missouri is anticipating the addition of two new medical education sites; a clinical campus for the University of Missouri School of Medicine in Springfield (increasing class size by 32); and an additional campus for Kansas City University in Joplin (class size of 150). When fully operational, these two sites will support admission of approximately 180 more students annually. Currently ranked third in the nation for number of MD and DO student enrollment per 100,000 population, Missouri is likely to advance to first in the nation with the addition of the two new sites. (See Table 1 for current and anticipated enrollment).

Table 1: Current and Anticipated Medical School Enrollment of Missouri Medical Schools

<table>
<thead>
<tr>
<th>Medical School</th>
<th>Annual entering class size (Academic Year)</th>
<th>Allopathic (MD)</th>
<th>Osteopathic (DO)</th>
<th>Public/Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>KCU - Kansas City University</td>
<td>270 (2014/15)</td>
<td>DO</td>
<td></td>
<td>Private</td>
</tr>
<tr>
<td>SLU - Saint Louis University</td>
<td>181 (2015/16)</td>
<td>MD</td>
<td></td>
<td>Private</td>
</tr>
<tr>
<td>MU - University of Missouri - Columbia</td>
<td>104 (2015/16)</td>
<td>MD</td>
<td></td>
<td>Public</td>
</tr>
<tr>
<td>UMKC - University of Missouri - Kansas City</td>
<td>106 (2015/16)</td>
<td>MD</td>
<td></td>
<td>Public</td>
</tr>
<tr>
<td>Wash U - Washington University</td>
<td>123 (2015/16)</td>
<td>MD</td>
<td></td>
<td>Private</td>
</tr>
<tr>
<td>Total Current First Year Enrollment</td>
<td>963 students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MU - University of Missouri - Springfield</td>
<td>32 (2020)</td>
<td>MD</td>
<td></td>
<td>Public</td>
</tr>
<tr>
<td>KCU - Joplin</td>
<td>150 (2020)</td>
<td>DO</td>
<td></td>
<td>Private</td>
</tr>
<tr>
<td>Total Anticipated First Year Enrollment</td>
<td>182 students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Current and Anticipated First Year Enrollment</td>
<td>1145 students</td>
<td>546 MD</td>
<td>599 DO</td>
<td>242 Public</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>903 Private</td>
</tr>
</tbody>
</table>

Medical School Recruitment:
Each school of medicine (SOM) in Missouri operates its own unique recruitment initiatives to fill its first-year seats. In general, SOMs connect with undergraduate schools through pre-med and science advisors, early admission programs, and matriculation agreements with specific schools.

SOMs also invest in longer term recruitment strategies by partnering with local, regional and statewide health workforce development pipeline programs to assist in the recruitment and preparation of potential medical students. These partnerships help expose and prepare middle school, high school, and undergraduate students for entrance into medicine and other health professions through hands on activities, direct career preparation experiences, shadowing, and academic enrichment programs.

Pipeline workforce development programs can make a big difference in developing health career interest and preparation among Missourians from rural or urban underserved communities. For high school and undergraduate students, such programs range from those focused on academic enrichment to those addressing career awareness, exploration, and preparation and soft skills needed for successful progress toward health careers. By providing support for health professions schools requiring or allowing clinical training rotations in rural or underserved areas, pipeline programs can also provide valuable opportunities for health professional students, training programs, and communities. Medical school partnerships with local Science, Technology, Engineering, and Mathematics (STEM) programs and grow your own pipeline...
initiatives, such as Area Health Education Centers (AHEC), can provide a valuable community-academic linkage to address elements of Missouri’s primary care workforce shortage. Such linkages are especially important in preparing and recruiting students most likely to select rural primary care practice – those who come from rural backgrounds.13

**Medical School Training Environments:** Many factors influence SOM “training environments” including their location and type of accreditation (allopathic or osteopathic). Urban schools tend to focus training activities in their urban service areas creating Academic Health Centers encompassing all the health-related components of universities, including their health professions schools, patient care operations, and research. Thus, an academic health center consists of an allopathic or osteopathic medical school, one or more other health profession schools or programs (such as allied health, dentistry, graduate studies, nursing, pharmacy, public health, veterinary medicine), and one or more owned or affiliated teaching hospitals or health systems. Schools outside urban areas generally involve a combination of urban and rural training sites that are often separate from the SOM campus.14

The quantity and quality of student contacts with or experiences in rural areas and/or with underserved populations are important factors in their eventual choice of practice site.15 On campus or off, the attitudes of administration, faculty, and clinical preceptors about primary care practice and care of the underserved significantly influence maturing medical students and can encourage or discourage future professional choices.16

Most medical school curricula have students on the main campus completing largely didactic and basic science coursework during the first two years of their medical education. This is followed by two years of supervised patient care (clinical rotations) in hospital and outpatient settings. Several curriculum models are represented among Missouri’s six (6) medical schools including: patient-based, systems-based, and discipline-based. In addition, historically, allopathic schools have more centralized clinical training networks whereas osteopathic schools tend to have more decentralized clinical training networks.

Given the number of health professions training programs including SOMs in Missouri, there is significant overlap of students assigned to complete rotations in communities with hospitals and clinics. While there is little collaboration among schools to intentionally establish multi-school training sites, certain agencies and sites serve as hosts to medical and other students from more than one school. Several of the Missouri Area Health Education Centers (AHECs) serve as local coordinators of clinical rotations for various medical and other health professions schools. They schedule rotations with local preceptors, assure required documentation is completed, administer/proctor exams, arrange group lecture sessions, and manage student housing. Their work helps maximize utilization of provider teaching time and avoid preceptor burnout, and potentially fosters opportunities for interprofessional education and practice.

**Encouraging Students Towards Primary Care and Underserved Practice:**
Most medical students enter school with a high degree of compassion, generosity, altruism, and benevolence. They are interested in community service because of their charitable motivations and because these activities offer an opportunity to practice recently learned skills in the service of
those in need.\textsuperscript{17} SOMs encourage retention of students’ service mentality through various opportunities including:

a. Student run clinics: Many SOMs currently operate student run clinics to provide access to services for the community and also offer a way to acquaint students with serving underserved populations.

b. Community service opportunities: A wide range of community service activities are available to students ranging from organized elective courses to club service initiatives. Targets of the service activities include assessments and education of community residents of all ages, vulnerabilities, ethnicity, etc. Partnering with faculty and local agencies, students are a valuable resource for community health initiatives.

c. Summer preceptorships: Completing intensive educational experiences through immersion in rural or urban communities of need provides valuable learning and service experience.

d. Rotations/rotation sites in rural and underserved areas: Some SOMs offer no rural or no inner city urban rotations; some offer 2 years or more experience in these areas.

e. Speakers and/or workshops on practice in rural/underserved areas: Examples of this are National Primary Care Week, American Medical Student Association activities, and Student Interest Groups.

**Residency Training:** To be licensed to practice in the U.S., residency training is mandatory following medical school. Technically, at least one year of residency training (in some states up to 3 years) is the minimum requirement for obtaining a medical license in most states including Missouri. To obtain board certification, the entire residency program training has to be completed.

Currently, there are three major residency match programs: National Resident Matching Program (NRMP); National Matching Services (NMS); and the Military Graduate Medical Education Match. According to NRMP, the results of the 2016 Main Residency Match\textregistered ("the Match") point out “this was the largest on record, encompassing 42,370 registered applicants and 30,750 positions. The number of United States allopathic medical school senior students grew by 221 to 18,668, and the number of available first-year (PGY-1) positions rose to 27,860, 567 more than last year.”\textsuperscript{18} The results of the 2016 NMS match indicate a total of 3,229 positions were offered.\textsuperscript{19}

In 2014, Missouri passed legislation to create a new category of licensure, Assistant Physicians. An Assistant Physician, as defined by Missouri law, is an individual who is a resident and citizen of the United States or is a legal resident alien who has not completed an approved postgraduate residency, has successfully completed Steps 1 and 2 of the United States Medical Licensing Examination or the equivalent and is proficient in the English language.\textsuperscript{20} Missouri’s medical licensure board, the State Board of Registration for the Healing Arts, is developing administrative regulations governing the specific details of licensure and practice parameters for Assistant Physicians. These health professionals will practice under the licensure of a fully licensed physician, however; because the specifics of the administrative rules are not yet final, it is not possible for an Assistant Physician to practice at this time. For more information, visit http://pr.mo.gov/healingarts.asp.
Missouri Primary Care Residency Programs:
Missouri medical schools and hospitals provide a number of residency training programs in both primary care and other specialties. Reports of first year positions in current Missouri residency training programs shows a total of 725 MD and DO first year positions; including 381 first year primary care positions (family medicine, internal medicine, pediatrics, obstetrics and gynecology, internal medicine and pediatrics, and psychiatry). With 963 medical students graduating from MO medical schools annually (and more coming soon) and only 725 first year residency slots available, it is no surprise many Missouri students must leave the state for their graduate medical education.21 (See Tables 2 and 3 for Missouri primary care ACGME and AOA accredited residency programs and positions).

For several years, streamlining and combining national guidelines and structures governing residency training in the U.S. have been under discussion. At its May 4, 2015 meeting, the National Resident Matching Program Board of Directors adopted a statement describing the intent of MD and DO residency systems to be combined under the single accreditation system managed by the Accreditation Council for Graduate Medical Education (ACGME). The combined system provides pathways for American Osteopathic Association (AOA) approved programs to transition to ACGME accreditation rules and formalizes access to all ACGME-accredited programs by students and graduates of both allopathic and osteopathic medical schools.22
Table 2: Missouri Primary Care Allopathic Residencies:

<table>
<thead>
<tr>
<th>Primary Care Specialty</th>
<th>St. Louis Area (# of positions/program)</th>
<th>Kansas City Area (# of positions/program)</th>
<th>Other Area (# of positions/program)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family Medicine</strong></td>
<td>6 – Mercy Health</td>
<td>12 – Research Medical Center</td>
<td>8 – Cox Health System</td>
</tr>
<tr>
<td><strong>Total = 62</strong></td>
<td>6 - St. Louis University, Belleville</td>
<td>12 - University of Missouri, Kansas City</td>
<td>12 - University of Missouri, Columbia</td>
</tr>
<tr>
<td><strong>Internal Medicine</strong></td>
<td>8 – Mercy Health System</td>
<td>19 - University of Missouri, Kansas City</td>
<td>19 - University of Missouri, Columbia</td>
</tr>
<tr>
<td><strong>Total = 144</strong></td>
<td>2 – Barnes Jewish</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50 - Barnes Jewish</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25 - St. Louis University</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12 - St. Luke’s</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9 - St. Mary’s</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Internal Medicine &amp; Pediatrics</strong></td>
<td>6 - University of Missouri, Kansas City</td>
<td>3 - University of Missouri, Columbia</td>
<td></td>
</tr>
<tr>
<td><strong>Total = 9</strong></td>
<td>6 - University of Missouri, Kansas City</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Obstetrics &amp; Gynecology</strong></td>
<td>9 – Barnes Jewish</td>
<td>8 - University of Missouri, Kansas City</td>
<td>3 - University of Missouri, Columbia</td>
</tr>
<tr>
<td><strong>Total = 32</strong></td>
<td>6 – Mercy Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 - St. Louis University</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pediatric</strong></td>
<td>29 - Children’s Mercy</td>
<td>24 – Children’s Mercy, Kansas City</td>
<td>6 - University of Missouri, Columbia</td>
</tr>
<tr>
<td><strong>Total = 75</strong></td>
<td>16 - St. Louis University</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Psychiatry</strong></td>
<td>11 – Barnes Jewish</td>
<td>6 - University of Missouri, Kansas City / Western MO</td>
<td>8 - University of Missouri, Columbia</td>
</tr>
<tr>
<td><strong>Total = 33</strong></td>
<td>8 - St. Louis University</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*BResidency positions listed as preliminary were not included in this count*

### Table 3: Missouri Primary Care Osteopathic Residencies:

<table>
<thead>
<tr>
<th>Primary Care Specialty</th>
<th>St. Louis Area (no. of positions/program)</th>
<th>Kansas City Area (no. of positions/program)</th>
<th>Other Area (no. of positions/program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Medicine</td>
<td>4 - Des Peres</td>
<td>2 - University of Missouri, Kansas City</td>
<td>2 - Capital Region</td>
</tr>
<tr>
<td></td>
<td>Total = 13</td>
<td></td>
<td>5 - Northeast Regional Medical Center</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>3 - Des Peres</td>
<td></td>
<td>2 - Freeman Health System</td>
</tr>
<tr>
<td></td>
<td>Total = 10</td>
<td></td>
<td>5 - Northeast Regional Medical Center</td>
</tr>
<tr>
<td>Psychiatry</td>
<td></td>
<td></td>
<td>3 - Freeman Health System</td>
</tr>
<tr>
<td></td>
<td>Total = 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total 1st Year Primary Care Residency Positions</strong></td>
<td><strong>= 26</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Residency positions listed as preliminary were not included in this count*

*No Missouri Osteopathic Residencies listed for Internal Medicine & Pediatrics, Obstetrics & Gynecology, or Pediatrics.

Source: [www.osteopathic.org/inside-aoa/Education/students/match-program/Pages/match-results.aspx](http://www.osteopathic.org/inside-aoa/Education/students/match-program/Pages/match-results.aspx)

### Recruitment of Physicians into Rural and Underserved Areas:

There are several factors that play into why a physician practices where he/she does. Three factors have a strong association with eventual practice location: (1) where the physician lived during pre-adulthood; (2) where the physician attended medical school; and (3) where the physician completed residency. Support of/for the physician’s significant other also greatly influences practice location decisions. Successful recruitment means meeting the personal and professional needs of the physician and the significant other. In other words, the physician and the family, opportunity and community must be a good ‘match’ for one another.

“And although many physicians clearly enjoy rural practice, most physicians show little or no interest. Some proposed reasons for this lack of interest include admission of fewer medical students from rural backgrounds, less institutional or school commitment to meeting the needs of their state or locality, the negative effect of a medical school’s vision as a research institution that creates physician-scientists of subspecialties, and a perception that Family Medicine is a less “intellectual” pursuit. In addition, as students face higher debt loads, there is a belief that Family Medicine, especially in a rural practice will not be successful enough to resolve these debts in a reasonable time.”

A number of training and incentive factors also contribute to interest in, commitment to, and actual practice in rural and underserved areas. Factors cited by American Academy of Family Physicians in their position paper on rural practice (2002, reaffirmed 2014), noted several primary predictors for rural practice including: 1) training at a medical school with a mission to train rural physicians; 2) osteopathic training; 3) training that includes rural components; and 4) participation in the National Health Service Corps Scholarship Program.
According to a 2009 Josiah Macy report, “…Rural birth, interest in serving underserved or minority populations, exposure to Title VII in medical school, and rural or inner-city training experiences all significantly increased the likelihood of students choosing primary care, rural and underserved careers. Being married increased the likelihood of choosing family medicine. Attending a public medical school significantly increased the probability of choosing a primary care specialty and practicing in a rural, shortage or underserved area, compared with private medical schools. Title VII exposure in residency increased the likelihood of serving in the National Health Service Corps and physician shortage areas but not primary care or rural practice.”  

**Existing Resources to Ensure Access to Primary Care:**
Missouri is fortunate to have a variety of state, federal, and privately funded programs aimed at improving access to healthcare and supporting our primary care workforce.

- The Primary Care Resource Initiative for Missouri (PRIMO) Program is administered through the Missouri Department of Health and Senior Services (DHSS) and is a competitive state program that awards forgivable loans to students pursuing primary care training leading to Missouri licensure or registration. Loans range from $5,000 to $20,000 per year and can be repaid in two ways: earning forgiveness or repaying with cash. To earn forgiveness, students are required to provide primary healthcare services in a DHSS approved area of defined need upon completion of training. The forgiveness obligation is one year of qualified employment for each school year in which a student received a loan, with a minimum one-year obligation and a maximum five year commitment.

- The Missouri Health Professional Loan Repayment Program provides financial incentives, via repayment of outstanding educational loans, in exchange for providing primary healthcare services in areas of need in Missouri. A minimum two-year contract is required for an award up to $50,000. DHSS provides loan repayment to registered and advanced practice nurses, primary care physicians, and primary care dentists.

- The National Health Service Corps (NHSC) offers financial and other support to primary care providers and sites in underserved communities through 3 programs: (1) The NHSC Scholarship Program provides medical school tuition and a monthly stipend for students who pursue a career in primary care in exchange for two or four years of service in an underserved area; (2) The NHSC Loan Repayment Program offers tax-free loan repayment assistance to support qualified healthcare providers who choose to take their skills where they are most needed. Providers may earn up to $50,000 toward student loans in exchange for a two-year commitment at an NHSC-approved site; and (3) The NHSC Students to Service Loan Repayment Program (S2S LRP) provides up to $120,000 to medical students (MD and DO) in their final year of school in return for 3 years of service at an approved NHSC site.

- The Health Professions Scholarship Program offers prospective military physicians and other health professionals paid education in exchange for service as a commissioned officer. Programs are available in the United States Army, the United States Navy, and
the United States Air Force. For physicians, the Air Force and Army offers one to four-year scholarships; and the Navy offers three to four-year scholarships. While on scholarship, the financial expenses of tuition, fees, a monthly stipend, and mandatory books and equipment are paid by the student’s sponsoring service branch.30

• The Missouri National Guard Army Medical Department offers financial incentives such as loan repayment and bonuses for healthcare professionals who agree to a service commitment.31

• The Missouri Area Health Education Centers (MAHEC) Program enhances access to high quality, culturally competent healthcare through academic-community partnerships to ultimately improve the distribution, diversity, and supply of the primary care health professions workforce who serve in rural and underserved healthcare delivery sites. Using a pipeline/grow your own model, the AHEC programs and regional centers work with state and local partners to: recruit and prepare students from minority and disadvantaged backgrounds for entry into health careers; place health professions students in community-based clinical practice settings - with a focus on primary care; promote interprofessional education and collaborative teams to improve quality of care; and facilitate continuing education resources and programs for health professionals - particularly in rural and underserved areas. Currently, all of Missouri’s medical schools have linkages with the Missouri AHEC network.

• The Conrad 30 State J-1 Visa Waiver Program was established to allow foreign medical graduates to stay in the United States following their advanced training by waiving the two-year home residency requirement of the J-1 Visa. In return, the foreign medical graduate must agree to provide full-time medical care in a federally designated HPSA for three (3) years. Under the Conrad Visa Waiver Program, each state is allowed a maximum of 30 J-1 visa waivers each fiscal year.32

• The National Interest Waiver Program (NIW) allows professionals of exceptional ability to request a waiver of the U.S. Immigration Labor Certification requirements, based on a letter of recommendation from the Missouri DHSS. The letter states the work of the professional is in the public interest. Physicians applying for a NIW are required to work full-time for five years in a HPSA. NIWs are an effective way for foreign physicians to attain permanent residency status in the U.S.33

• The Missouri Community Health Foundation (MCHF) is a private non-profit corporation that provides loan forgiveness, loan repayment, and other forms of support for the education of primary care health professionals in the state who commit to providing services at a MO Federally Qualified Health Center (FQHC). The Loan Forgiveness Program pays for medical school tuition while the Loan Repayment program offers up to $30,000 a year while in residency training.34

• The Public Service Loan Forgiveness (PSLF) Program, forgives the remaining balance of Direct Loans after 120 qualifying monthly payments have been paid while working full-time for a qualifying employer.35
While all of the above programs assist with sustaining and strengthening our state’s primary care workforce, significant gaps and needs remain. Physicians who train in underserved communities are more likely to practice in such communities. Similarly ‘grow-your-own’ approaches to workforce development have proven to be effective because they offer incentives and support to individuals that come from underserved areas and express an interest in serving the underserved. Each program faces a distinctive set of funding and capacity challenges that limit its ability to further help meet the workforce needs of Missouri.

Policy Issues:
Increasing the size of the available workforce provides the most direct solution to address primary care shortages in Missouri. However, in doing this, we must consider needed policy changes to promote strategies that encourage our healthcare workforce to serve the underserved.

Paying for education can be a challenge for many individuals interested in pursuing a career in healthcare and, for some, it can be the biggest barrier preventing entry into the healthcare field. According to the Association of American Medical Colleges, “81 percent of the 2015 graduating class reported leaving medical school with student loan debt. Nationally, the median level of debt for the class of 2014 was $183,000 (based on public and private M.D.-granting medical schools, including undergraduate debt).” Missouri must assure this barrier is decreased through efficient and effective incentive programs.

Missouri does not have enough residency positions for the medical students being trained. The state is the second largest exporter of medical students in the country, behind Tennessee. Physicians who go to medical school and do their residency in a single state tend to stay. Sixty-eight percent (68%) of doctors who complete all their training in one state end up practicing there, according to the Association of American Medical Colleges (AAMC). Without an increase in federally and/or state funded residency training positions, there is a significant chance in the years to come that new medical school graduates will continue to leave Missouri to gain residency training or may not be able to complete their training and become practicing physicians at all.

The Affordable Care Act created the National Healthcare Workforce Commission to annually recommend to Congress and the administration national healthcare workforce priorities, goals and policies, but Congress has not allocated funding to the commission. Without a comprehensive and coordinated approach to workforce planning, one cannot fully identify the gaps between existing programs and national needs, identify actions needed to address these gaps, or determine whether additional legislative proposals are needed to ensure its programs fully meet workforce needs. The same can be said at the state level.

‘Appropriate planning for and assessment of health professional needs are dependent upon the availability of accurate, timely, and reliable data. Currently, Missouri has no reliable information about the practice characteristics of health professionals in the state such as a healthcare workforce database. The absence of such information threatens to thwart policy efforts seeking to expand the numbers of health professionals. While other states with reliable systems are using their information to guide policy, Missouri is unable to do so. Consequently, without such information, Missouri risks seriously misallocating expensive resources,
confounding opportunities to improve health access and health quality, and jeopardizing economic development initiatives that are highly valued in quality health systems.38 A proposed Missouri Healthcare Workforce (Data) System will provide annual state and county-level analysis of the types of healthcare professionals available as well as population health and demographic characteristics if current legislation (HB1850) is passed this session.

The lack of dedicated funding and persistent threats of losing current funding for programs aimed at addressing the primary care physician shortage further hinders Missouri’s ability to produce the number of workforce needed to meet our needs and decrease geographic and population disparities in access to primary care. Federal, state, and private partners are needed to address the current and changing needs of our physician workforce and assure our citizens have adequate access to healthcare.

Although a comprehensive review of these particular issues is beyond the intent of this paper, it should be noted changes in Medicare and Medicaid payment guidelines resulting in more equitable payments to providers and/or organizations in rural and underserved areas would likely have a positive effect on recruitment and retention of primary care physicians.

**Potential Collaboration, Partnerships, and Solutions:**
Missouri needs more physicians to serve our rural and underserved citizens. Meeting this need requires strengthening the primary care workforce through collective planning, partnerships, and approaches. Effective strategies and programs are needed to:

1. Increase exposure of health careers to individuals at an early age and improve the quality of programs offered throughout a student’s educational experience.
   a. Increase access of K-12 students to Science, Technology, Engineering, and Mathematics (STEM) programs that will enhance their knowledge and skills in critical base courses and to role models in such careers with special emphasis on students from rural and urban underserved areas.
   b. Increase K – 12 student exposure to careers in healthcare, educational pathways and programs, peers seeking such careers, and regional/statewide resources for healthcare exploration and preparation.
   c. Link students seeking health careers to health professions schools/programs; provide information to disadvantaged students and parents about resources for funding such education programs.

2. Focus medical school admissions towards a larger proportion of individuals who are more likely to remain in Missouri after training and select primary care practice in a rural or underserved area.
   a. Provide information and opportunities for interaction between aspiring medical students and medical school pre-admission/early admission program staff.
   b. Improve the capability of admissions processes to identify individuals likely to pursue primary care careers and practice with underserved populations.
   c. Increase availability of programs to better prepare students from rural and disadvantaged backgrounds for success in application/admission to medical school.

3. Foster medical student interest in primary care and service to the underserved in both rural and urban areas.
a. Increase the number of campus-based primary care faculty by incentivizing individuals to become faculty. Pay disparities can prohibit individuals interested in becoming faculty from pursuing their passion.

b. Increase the number of community-based health professionals who are willing to teach students by offering incentives for their service.

c. Increase the quality of orientation programs for campus-based faculty, community-based faculty and newly hired health professionals.

d. Increase training and learning experiences in community-based settings in rural and underserved areas with organizations such as Federally Qualified Health Centers, Rural Health Clinics, etc., with particular focus on interprofessional research, education projects, and simulations.

4. Identify funding and resources to increase the capacity and support of state and private-based financial incentive programs targeted toward service to the underserved. Programs such as PRIMO, SLRP, MAHEC, and MCHF are all aimed at increasing access to health services in rural and underserved areas.
   a. Increase the capacity of PRIMO, SLRP, and MCHF Programs to make more awards and provide additional support to recipients that express interest in working in Missouri’s underserved communities.
   b. Increase the capacity of MAHEC to provide support to medical students that express an interest in rural and underserved practice.
   c. Increase the capacity of MHPPS to work with more communities, organizations, and healthcare professionals.

5. Identify strategies for collective support of a Missouri Healthcare Workforce (Data) System to aid in planning and projecting for coordinated Primary Care Workforce development.

6. Coordinate efforts to increase the number of positions for Missouri-based primary care residencies by creating new programs, adding slots to existing programs and giving thoughtful consideration to expanding training based in rural and underserved areas.

7. Encourage the creation of additional White Papers in this series, ‘Strengthening the Primary Care Workforce in Missouri,’ focusing on the various primary care disciplines and specialties such as: nursing, physician assistant, dental and oral health, and behavioral health.

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About Missouri HealthCare Workforce Coalition:
The Missouri HealthCare Workforce Coalition is formed by representative of the following organizations: Missouri Area Health Education Centers; Missouri Department of Health and Senior Services; Missouri Hospital Association; and the Missouri Primary Care Association. For additional information please contact Joni Adamson at 573.636.4222 or jadamson@mo-pca.org.

2 Missouri Department of Health and Senior Services, Office of Primary Care and Rural Health. *Missouri Primary Care Needs Assessment*. 2015.


4 U.S. Census Bureau, State & County QuickFacts.

5 Missouri Department of Health and Senior Services, Office of Primary Care and Rural Health. *Missouri Primary Care Needs Assessment*. 2015.

6 U.S. Census Bureau, Population Division. 2014.

7 July 1, 2014, population estimates from U.S. Census Bureau (Release date: December 2014). Physician data are from 2015 AMA Physician Masterfile (December 31, 2014).

8 Health Resources and Service Administration, Bureau of Health Professions. *Projecting the Supply and Demand for Primary Care Practitioners Through 2020*. (November 2013).


27 Missouri Department of Health and Senior Services, Office of Primary Care and Rural Health. 2013 PRIMO Annual Report.


38 Quinn, Kathleen. (2007). “Proposal to Establish the Missouri Health Professions Workforce Data System” (White Paper). University of Missouri, Columbia, MO: School of Medicine.