

Primary Care: The Foundation for a High Performance Rural Health Care System

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July 2018



Acknowledgements

This report was supported by the Leona M. and Harry B. Helmsley Charitable Trust, grant number 2017PG-RHC006.

The Health Panel would like to thank Susan Nardie for her assistance in editing this document.

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Introduction

Although primary care is fundamental and essential to the health of all people, the delivery of that care must account for the differences between rural and urban people and places.¹ The staff, organization, and financial structure of rural primary care are more varied and more fragile than in larger, urban-based practices, requiring different approaches to workforce development, resource utilization, integration, and infrastructure investment. Rural primary care is responsible for a broader range of services than are many urban practices, including emergency department coverage, obstetrics, inpatient care, nursing home rounds, after-hours call service, and other locally determined needs. The importance of these rural primary care roles cannot be overstated because a subspecialty workforce may not be efficiently or proximately available.

Rural residents' use of local primary care can reduce expensive urban subspecialty care, associated travel costs, and family burden. Comprehensive primary care may also reduce health disparities by providing more accessible, lower-cost care to more people. If office-based productivity serves as the exclusive measure of efficiency, other community benefits of primary care, such as inpatient and emergency department coverage, may be masked. In fact, the primary care workforce is essential to cost-effectively caring for rural residents beyond services provided in a primary care clinic.

This paper will review elements of a robust rural primary care system, including development and maintenance of a high performance rural primary care system and workforce as well as policy considerations and opportunities that address the sustainability of rural primary care.

The RUPRI Health Panel's conception of a high performance rural health system goes beyond providing a basic level of access to health care; however, the "ideal" high performance rural health system is designed to meet essential health and health-related needs of individuals and families, with primary care serving as the core of that integration.¹ A robust primary care system is the foundation for a high performance rural health system manifested by the pillars of affordability, accessibility, community health, high quality care, and patient-centeredness.¹

Background

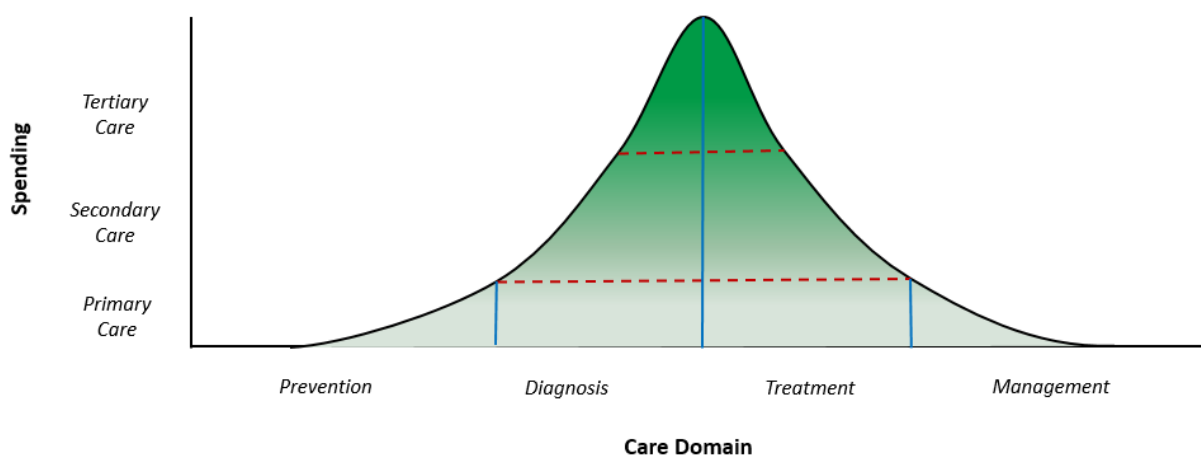
In 1961, Kerr White formalized the concept of *primary care* in his article “The Ecology of Medical Care.”² White recognized the growth of specialty-based care, and he used epidemiological methods to demonstrate that most health care problems were best addressed in a primary care setting.²

Since its introduction, the definition and role of primary care in the U.S. health care system has evolved.² The Institute of Medicine’s Committee on the Future of Primary Care adopted a new definition of primary care in 1996 (see text below).²

“Primary Care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.”

Since the 1910 Flexner Report, health care training and practice in the U.S. has shifted from a guild-like collection of generally solo practitioners operating in isolation to professionals trained primarily in urban, subspecialty-focused academic centers.³ As a result, medicine has become more science-based, with mandated, rigorous, and specialized training and experience prior to licensure, and uses technologies available primarily in densely populated areas. Although the subspecialty-focused urban health system is laudable in many ways, it has led to significant spending on procedure-based medicine and relatively low spending on multidisciplinary primary care, community health, and social support systems. Consequently, specialized, high-tech, and profitable diagnostic and invasive treatment services, rather than primary and preventive care or patient management, are often the focus of public and private investments (see Figure 1). Furthermore, historic subspecialty physician compensation and medical education resource allocations have bolstered subspecialty physician practice at the expense of primary care specialties.

Figure 1. Traditional Perspective of Spending by Care Domain



The way in which care is delivered in the U.S. has been described as a “sick care” model in which a significant proportion of health care resources are spent on disease treatment rather than primary and preventive care (see Figure 2).⁴ To reduce health care costs and improve the nation’s health, the health care delivery system will need to be re-engineered to prioritize primary and preventive care and integrate social support systems. One study found that adults who identified a primary care physician rather than a subspecialist physician as their primary physician were 19 percent less likely to die prematurely and had a 33 percent lower cost of care.⁵

Figure 2. “Sick Care” Model



Research demonstrates the health-promoting influence of primary care.⁶ Greater societal support for primary care has been associated with lower costs of care, improved access to appropriate services, and reduced population health inequities.⁶ Several studies from the early 1990s found that a greater supply of primary care physicians was associated with lower all-cause mortality, even after controlling for sociodemographic and behavioral measures such as income, residence, education, and employment.⁶ People who live in communities with significant income inequality were 33 percent more likely to report fair or poor health conditions if primary care resources were limited.⁶ Furthermore, several studies have concluded that an adequate supply of primary care physicians lowered racial and socioeconomic disparities in health outcomes.⁶ In addition to its relationship to improved health outcomes and reduced socioeconomic disparities, a higher number of primary care physicians in a community was associated with lower total health care costs in part due to lower hospitalization rates and better preventive care.⁶

A High Performance Rural Primary Care System

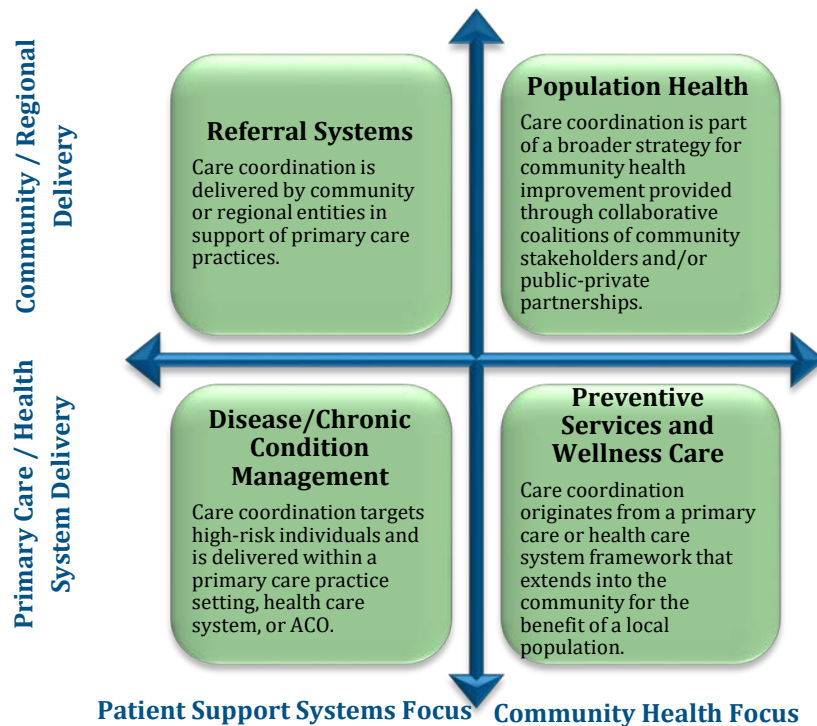
Primary care providers have evolved from solo general practitioners with minimal systemic support to residency-trained family physicians, internists, and pediatricians, often practicing in groups with large support staffs and clinical infrastructure. However, the model of practice—one patient and one office visit at a time—has not significantly changed. L. Gordon Moore, MD, is a noted expert who has commented on this phenomena in primary care settings.⁷

According to L. Gordon Moore, MD, the tyranny of the urgent, enabled by a fee-for-service payment system, has led to primary care that is episodic, uncoordinated, and inefficient.

To realize the health-promotion and cost-saving potential of a primary care system, new care models are required that deliver and support preventive care, anticipatory and longitudinal care, and efficient use of human and other resources. New care models utilizing a *planned care* approach require a mature relationship between a prepared, proactive primary care team and an interactive, activated, and informed patient.⁷ Development and support of a high performance primary care system is particularly important in rural areas, where primary care is the predominant care model.

Fundamentally, the RUPRI Health Panel high performance primary care system supports a coordinated, person-centered, and team-based care approach that engages and integrates behavioral, social, and community services and is supported by a payment system that incentivizes comprehensive care (see Figure 3).

Figure 3. Community Health and Care Coordination Models by Primary Focus (x-axis) and Delivery Domain (y-axis)



Adapted from the Rural Policy Research Institute Health Panel's Care Coordination in Rural Communities: Supporting the High Performance Rural Health System⁸

The essential components of a high performance primary care system include a coordinated and person-centered approach, team-based care, behavioral health integration, social services and community health integration, and modern primary care payment. In describing each of these essential components of primary care, needs or challenges unique to the rural context will be highlighted.

Coordinated and Person-Centered Approach

The Patient Centered Medical Home (PCMH) is currently the most common example of a coordinated and person-centered approach to the high performance primary care system.

“The medical home is best described as a model or philosophy of primary care that is patient-centered, comprehensive, team-based, coordinated, accessible, and focused on quality and safety. It has become a widely accepted model for how primary care should be organized and delivered throughout the health care system and is a philosophy of health care delivery that encourages providers and care teams to meet patients where they are, from the simplest to the most complex conditions. It is a place where patients are treated with respect, dignity, and compassion, and enables strong and trusting relationships with providers and staff. Above all, the medical home is not a final destination. Instead, it is a model for achieving primary care excellence so that care is received in the right place, at the right time, and in the manner that best suits a patient's needs.”⁹

Empanelment is a key component of PCMH success. Empanelment is “the act of assigning individual patients to individual primary care providers and care teams with sensitivity to patient and family preference.”¹⁰ This formal process allows for more effective and efficient patient management, while supporting a proactive primary care model.¹⁰ Successful use of empanelment in rural areas is especially challenging, because the average patient panel size is estimated to be double the size of urban panels. Lack of effective and efficient empanelment is a symptom of an inadequate rural primary care system.

Implementing care coordination processes will help advance efficient and effective empanelment within and across clinical care settings and rural communities. This attention to both clinical and non-clinical health factors has the potential to achieve better health outcomes than the traditional “sick care” model of care delivered one patient and one office visit at a time. Additionally, the unique environment of rural places must be considered when designing and implementing care coordination programs.⁸ For example, rural areas may pose particular difficulties in obtaining needed resources, including adequate housing, transportation, and other social support systems. Although a marked improvement from episodic care, the PCMH model can be strengthened through active consideration of non-clinical and social needs, often provided by community-based organizations and professionals.

Team-Based Care

The National Academy of Medicine defines team-based care as “the provision of health services to individuals, families, and/or their communities by at least two health (care) providers who work collaboratively with patients and their caregivers—to the extent preferred by each patient—to accomplish shared goals within and across settings to achieve coordinated, high-quality care.”¹¹ Team-based care includes patient and provider shared decision making that leads to improved coordination, comprehensiveness, efficiency, effectiveness, and overall value of care.¹¹ Team-based care coordinates and integrates medical, dental, behavioral health, population health, and social support services. The tenets of team-based care also apply to care coordination among professionals who are not necessarily members of the primary care team, including professionals representing emergency medical services, non-emergent transportation, public health, and hospital-based primary care services.

The foundation of a high performance rural primary care system is ultimately built on relationships.¹¹ To develop high-functioning team-based care, practices will need internal and external working relationships with patients, providers, community members, and others to create and sustain effective team-based primary care.¹¹ These relationships are supported by technology, including interoperable electronic health records (EHRs), health information exchanges, and new communication processes and policies. Robust data systems and analysis, coupled with necessary information technology and a data analytic workforce, will enable the primary care team to design and deliver improved comprehensive services for rural populations. Rural providers have dramatically increased adoption of EHRs over the past decade. Yet without information technology and data analytics expertise, which is often scarce in rural communities, rural primary care teams are challenged to make full use of e-health technologies.

High performance rural primary care requires effective and efficient team-based care, which is arguably one of the most encouraging, and challenging, aspects of the transition to PCMH in primary care.¹¹ Although primary care team development offers many benefits, team development, operation, and maintenance may be difficult.¹² Immature teamwork in primary care practices likely results from what Paul Nutting refers to as the four ingrained characteristics of primary care: physician centrality; lack of a common vision, communication, and shared experience among physicians; authoritative leadership behavior leading to lack of psychological safety; and varied but unimaginative roles of midlevel clinicians.¹³ Nutting argues that these barriers can be overcome through payment reform and new mental models that change the orientation of health professionals.¹³ Health care reform should support new care models, provide teamwork training, and actively include non-physician professionals in the primary care team.¹³

Behavioral Health Integration

A historically overlooked aspect of primary care, particularly in rural areas, is behavioral health integration. By considering behavioral health as a chronic disease, care models can integrate behavioral health into primary care.¹⁴ Successful integration of behavioral health into primary care requires leadership at different delivery system levels and a payment system that supports comprehensive patient services.¹⁴ The Agency for Healthcare Research and Quality (AHRQ) and the Substance Abuse and Mental Health Services Administration support the integration of behavioral health into primary care.¹⁴ AHRQ outlines five strategies to integrate high-quality behavioral health treatment into primary care:

- “Normalize mental health in mainstream medical practice.
- Integrate reimbursement for the time and resources needed to provide mental health treatment in the PCMH.
- Create a roadmap for implementation and performance assessment.
- Determine the most effective and cost-effective implementation mechanisms for populations with complex medical/behavioral health problems.
- Create and/or disseminate the tools needed by PCPs to provide high-quality, patient-centered services.”¹⁴

The complex behavioral health provider training, certification, and licensure requirements differ from state to state and confound the behavioral health payment and delivery system.¹⁵ Although many have suggested tele-behavioral health as a solution to scarcity of rural behavioral health services, State-level licensure and reimbursement challenges restrict its use.¹⁵

Social Services and Community Health Integration

To maintain health, the high performing rural primary care system must address non-clinical and social concerns, including accessible transportation, adequate housing, affordable healthy foods, and social support. In rural areas, the absent or underdeveloped social services workforce undermines efforts to address non-clinical and social problems affecting patient outcomes. In some rural areas, rural hospital and primary care practices are using community health workers, community paramedics, social workers, public health

staff, and others to coordinate care with primary care teams to comprehensively address patient needs.

According to the RUPRI Rural Health Panel, “to achieve improved health outcomes for both individual patients and populations, the future rural health system will require that primary care providers and their patients connect to community health resources, services, and initiatives that can improve individual health (especially for those with chronic conditions) and ‘go upstream’ to address environmental, policy, and other factors that influence community and population health.”

The high performance rural primary care system will effectively use its EHR data, linked to additional data sources, to assess risk and plan local care. For example, EHR data may identify diabetic trends that can be improved with diet counseling, missed clinic appointment rates may indicate non-emergent transportation needs, or county-based health status data may identify excessive motor vehicle injury rates amenable to seat belt use campaigns.

In summary, a high performance rural primary care system includes adequate and complete information (e.g., medical, social), care goals (e.g., advanced care planning), mechanisms to address social issues, team-based huddles and communication prior to visits, a method to identify triggering events (especially those not driven by the physician or office visit), consistently complete and reliable communication among various team members, and high-functioning partnerships with community-based and other non-clinical support services.

Modern Primary Care Payment

Health care payment can be considered along a continuum from fee-for-service to capitation.¹⁶ Each extreme of the payment continuum has both positive and negative consequences to the delivery of care.¹⁶ Fee-for-service rewards industriousness, but also overuse. Capitation rewards efficient resource allocation, but also underuse.

Fee-for-service payment is the predominant primary care payment system, resulting in office visit-centric and non-team-based care, rewarding episodic care that is too often brief and incomplete. Instead, primary care payment should incent value-based care, reward preventive health care, support comprehensive and integrated team-based care, and discourage care of lesser value.

New value-based payment models support coordinated, integrated primary care rewarding high quality, positive patient experience, and/or lower cost.

Examples of these new value-based models include inclusive payment models such as global or capitated payments for care coordination services.

Some have estimated that spending on primary care would need to double (reaching about 10-12 percent of total health spending) to improve outcomes and decrease health care expenditures overall.^{16,17} This upfront investment would result in long-term savings via

reductions in hospital admissions, emergency department visits, and mortality.¹⁷ For example, Oregon's Medicaid Coordinated Care Organization (CCO) waiver sought to decrease the per capita spending growth rate of the Medicaid program by 2 percentage points within 3 years. This was a significant departure from traditional Medicaid managed care arrangements, which have been based on negotiations or historical trends. After three years, the Oregon CCO demonstration project showed that total spending outperformed the target.¹⁸ These early results from the Oregon CCO experience provide potential evidence that this population may have received increased access to primary care services.¹⁸

Payment models that incent primary care investment and delivery to support health, wellness, and the whole person (e.g., not episode-based payment) are being methodologically developed and studied. Current examples include the following:

- **Accountable Care Organizations (ACOs):** ACOs take responsibility for a specific population of patients, and the model provides financial incentives related to cost, quality, and care coordination.¹⁹ Although built on a fee-for-service platform, the financial accountability component of the ACO model is an important departure from traditional mechanisms of reimbursement. An ACO may include a variety of subspecialists and other key providers in addition to primary care providers.¹⁹ However, primary care is the foundation upon which an ACO achieves its performance goals, especially in rural areas highly reliant on primary care.¹⁹ In fact, the care process, clinical quality, and patient experience measures used by the Medicare Shared Savings Program (also referred to as the Medicare ACO Program) are all performed in the primary care setting. Ultimately, success of an ACO is driven by high quality, efficient, and effective primary care, not subspecialty or hospital care.
- **Comprehensive Primary Care Plus (CPC+):** CPC+ is a tripartite primary care payment model administered by the Center for Medicare and Medicaid Innovation that includes fee-for-service, pay-for-performance, and a capitated care coordination payment.²⁰
- **Advanced Primary Care Alternative Payment Model:** The American Academy of Family Physicians has recommended a primary care payment model similar to CPC+ that includes four payments: a prospective, risk-adjusted, primary care global payment for direct patient care; fee-for-service payments limited to services not included in the primary care global fee; a prospective, risk-adjusted, population-based payment; and performance-based incentive payments that encourage the primary care system to address quality and costs.²¹
- **Capitated Community Health Worker Model:** Hidalgo Medical Services in Lordsburg, New Mexico, has had capitated contracts with the Medicaid managed care organizations participating in New Mexico's Centennial Care program to provide Community Health Worker-driven patient support services at a capitated rate. The rate is adjusted based on patient clinical risk. For every \$1 invested by the State of New Mexico, Hidalgo Medical Services has saved \$4 in Medicaid funds while simultaneously improving the health of its patients and community.²²

A High Performance Rural Primary Care Workforce

The building blocks of a high performance primary care system, necessary for a high-performing rural health system, require an adequate supply of primary care health professionals, new health care workers, and different health care worker roles. The independent general practitioner—unsupported by a team, unenlightened by data, and unaware of social determinants of health—cannot provide adequately for the multiple building blocks of primary care.^{23,24}

According to the American Medical Association, 47 percent of physicians had an ownership stake in their practice in 2016, as compared to 53 percent in 2012.²⁵ In rural places, primary care physicians are most likely to practice in small groups rather than solo arrangements, with rural providers accounting for 20 percent of all small group practices.²⁶ Overall, rural primary care practices encompass nearly 17 percent of all primary care practices nationally.²⁶

Primary Care Workforce Supply

The Congressional Budget Office estimates that the demand for primary care services will increase by 18 percent from 2013 to 2023, driven by the projected increase in public and private insurance coverage and growth in the aging population.²⁷ Additionally, the Robert Graham Center estimates that the U.S. will require almost 52,000 more primary care physicians to meet the nation's needs by 2025.²⁸ Due to a rural reliance on primary care, projected primary care professional shortages will disproportionately impact rural America. Non-metropolitan residents (those living outside central urbanized areas greater than 50,000 in population) are one of the largest medically underserved groups in the U. S.²⁹ Twenty percent of the U.S. population lives in non-metropolitan areas, yet only 9 percent of primary care providers are practicing in such areas.²⁹

Primary Care Workforce Training

The traditional approach to medical school admission favors student proficiency in math and sciences, and the ability to test well, and has thus helped create the preference for subspecialty care. Factors such as communication, empathy, critical thinking, and teamwork, which are core to delivering coordinated and person-centered team-based care, have not been valued as highly in the admissions process as technical knowledge. In contrast to the national need for primary care providers, training clinicians at subspecialty-focused medical schools tends to direct students to subspecialty careers. However, several states have sought to increase rural primary care interest by designing special programs that focus on rural and underserved student recruitment into health professions. Consequently, a growing number of medical schools offer rural-specific training, which results in greater opportunities for students to choose rural career tracks. The University of New Mexico's Center for Rural and Community Behavioral Health, the University of Minnesota's Rural Physician Associate Program, the University of Kentucky's Rural Physician Leadership Program, the State University of New York Upstate Medical University's Rural Medical Scholars Program, and the Jefferson Medical College's Physician Shortage Area Program all have specific training programs to care for underserved communities.³⁰ Although rural training experiences or tracks are influential in some providers' decision regarding rural practice location, the effectiveness of such experiences

needs to be better understood.³¹ Overall, growing up in a rural area is the strongest predictor of choosing to practice in a rural location.³¹

As of September 2016, there were 9 family medicine or general practice residency or fellowship positions to every 100 subspecialty residency and fellowship positions.³² Physicians in family medicine or general practice training programs are most likely to go on to practice primary care. The Council on Graduate Medical Education (COGME) has recommended that primary care providers represent at least 40 percent of the nation's physician workforce.³³ COGME further explains that this metric should be assessed once the physician is practicing, not at the start of their post-graduate training (e.g., residency slots).³³ Rural areas should be involved in resident training to help achieve COGME's recommended primary care-to-specialty physician ratio.

Medicare payments to urban-based hospitals are the primary source of financing for the nation's physician-training system. Academic medical centers, urban teaching hospitals directly associated with a medical school, and free-standing hospitals with accredited GME programs are the traditional settings for physician post-graduate training.³⁴ Some rural hospitals have developed independent GME programs; however, such programs are relatively rare, perhaps because current Medicare policy can disqualify rural hospitals from participating for a number of technical reasons, exacerbating the paucity of rural training sites.

Consequences of Policy Design: An Example

If an urban GME program sends a resident to a rural hospital for a rotation at no cost to the rural facility, Medicare will set a resident payment for that rural facility of \$0 in perpetuity, eliminating the opportunity to receive payment for providing resident education. Non-Prospective Payment System (non-PPS) hospitals such as Sole Community Hospitals with a hospital-specific rate for reimbursement under Medicare are also not eligible for certain GME payments that their urban hospital counterparts are guaranteed, which places them at a further disadvantage when attempting to address local physician supply deficits. Furthermore, caps on physician residencies established in the Balanced Budget Act of 1997 have further limited the ability to add training slots to existing programs. Rural Training Track (RTT) programs have been successful in moving physician training from urban settings to rural communities. However, those programs are also limited by caps in the number of RTTs an urban hospital can add under one program, and such programs generally require the urban hospital to sponsor the program.

Some states are attempting to overcome Medicare GME payment limitations with Medicaid financing of residencies. This approach may help meet state needs, since CMS places few restrictions on Medicaid-financed residencies. The Teaching Health Center Graduate Medical Education (THCGME) Program is a successful example of a community-based primary care training program.³⁵ THCGME programs support increased primary care residency training for rural and underserved areas and are predominantly located in

Federally Qualified Health Centers, Rural Health Clinics, and Tribal health centers.³⁵ The model is grant-funded through the Health Resources and Services Administration and is exempt from Medicare hospital payment requirements.³⁵ Although the THCGME program has successfully trained more than 630 new professionals since 2011, model funding is discretionary, must be reauthorized periodically, and is subject to congressional budgeting.³⁵ Ultimately, unless Congress increases Medicare support for GME, the number of primary care physicians per capita will decrease over time.

Physicians are not the only category of health professionals impacted by an urban training bias. Advanced practice providers (including nurse practitioners [NPs] and physician assistants [PAs]) are also impacted, as many primary care training programs for these providers take place in urban areas. Although estimates vary, only about 43-50 percent of all PAs and 52-60 percent of NPs are choosing to practice in primary care.³⁶ Fewer of these professionals, once considered a panacea for rural primary care access, are now choosing to practice in rural areas than originally anticipated. Growth in rural-based university graduate nursing and PA programs may improve projected primary care clinician shortages.

Primary Care Workforce Distribution

To more effectively distribute the primary care workforce, programs, including the National Health Service Corps, the J-1 visa program, and rural training pipeline programs, have been implemented to attract and incentivize primary care providers to practice in rural or underserved areas. The J-1 visa program allows international medical graduates (IMGs) to complete their GME program in the U.S. (typically a residency or fellowship position).^{37,38} After completion, IMGs are required to return to their home country for two years.³⁷ However, under the Fulbright-Hays Act of 1961, IMGs may apply to waive the two-year home residence requirement.^{38,39} Additionally, each state can request waivers for the J-1 visa program for up to 30 IMGs annually under the Conrad State 30 Program.^{37,40} These J-1 physicians must provide safety-net services and work in Health Professional Shortage Areas or Medically Underserved Areas for a minimum of three years.³⁷ States may create their own requirements for eligibility purposes but must maintain the baseline rules outlined by the U.S. Citizenship and Immigration Services Office.³⁷ As a result of the Conrad 30 Program, each state's Primary Care Office can help a community determine eligibility and navigate the process of recruiting a J-1 physician for their area.³⁷ Additionally, the National Rural Recruitment and Retention Network is a group of state-level organizations that help with recruitment efforts for IMGs to practice in rural communities.³⁷

Primary Care Support Professionals

High performance rural primary care system professionals do not work in isolation. Qualified administrative and ancillary support staff are required to sustain an effective rural health system. Comprehensive training reform for multiple professions is necessary to supply the rural primary care system workforce.

The majority of clinical support staff and non-clinical service provider training is delivered in urban areas. Thus, the issues of recruitment and retention also apply to many other staff that complete the primary care system team. For example, imaging staff, laboratory staff,

nurses, and therapists may be in short supply. Decentralizing training promotes development of a rural supply for a wide variety of supportive personnel.

Most primary care services center around the interaction between a licensed health professional and a patient in an exam room. However, other components of a high performance rural primary care system support lower costs and better outcomes. EHRs not only document clinical care and manage coding and billing, they also create referral systems, integrate multiple provider information sources, and even manage social intervention strategies. Staff with relevant expertise are needed to manage data processes and interpret complex patient information at both the individual patient level and the community or population level. Well-trained medical assistants and front office staff extend the reach of providers in internal and external clinical and social service referral and access processes. Community Health Workers assess and help address social issues impacting the health of individuals, families, and communities. They also collect data that supports community interventions such as affordable housing or utility assistance. A high performance rural primary care system supports community health improvement by extending the exam room-based clinical team into other health and social systems to meet a wide range of patient, family, and community needs.

Policy Considerations and Opportunities

A High Performance Rural Primary Care System

Transitioning to a high performance rural primary care system is essential and requires new strategies and targeted investments. Primary care system transformation will require an extended, but finite, payment transition to ease the fiscal impact of learning and changing from fee-for-service to value-based payment, otherwise uptake and change will be slow. Technical assistance will be required for team building (both within the practice and with external providers), new clinic processes (e.g., virtual visits, group visits, and patient assignment to the most appropriate provider), preventive health protocol development, care coordination strategies, rural-based training, and more. Finally, high performance rural primary care systems require new payment models that reward coordinated, person-centered, team-based, and integrated rural primary care services. The following elements, with policy support, are critical to support the high performance rural primary care system:

- EHRs that comprehensively support clinical decision making and health status documentation to facilitate care that is timely, accurate, efficient, and comprehensive;
- Information technology and analytic expert support accessible to rural primary care practices to take advantage of existing and emerging e-health tools;¹⁴
- Technical assistance for primary care practices interested in changing practice culture (including management processes and provider expectations) from maximizing office visits and optimizing discrete service coding to anticipating patient and community health needs and then meeting those needs most efficiently;
- Gradual, but consistent, transitions away from rural fee-for-service, with well-defined and predictable timelines for change so as to not undermine practice viability;
- A sophisticated yet understandable risk-adjustment strategy, including variation for social and economic circumstances to support utilization of population-based and care-coordination payment systems;
- Appropriate performance measures for rural primary care practices to measure and report, which use statistically valid and reliable methods that consider small sample sizes, such as those recommended by the National Quality Forum's MAP Rural Health Workgroup;⁴¹
- The tenets of a PCMH (care that is comprehensive, patient-centered, coordinated, accessible, and focused on quality and safety) supported through evolving reimbursement systems;
- Technical assistance, including financing and administrative expertise to manage changing payment models provided to rural primary care systems, which have less capacity to manage payment transitions and accompanying infrastructure changes; and

- Value-based payment demonstrations to test models involving rural primary care practices.

A High Performance Rural Primary Care Workforce

Financing mechanisms for health professional education and training ought to be aligned with the health needs of Americans. COGME and others have recommended policies that raise the percentage of primary care physicians to at least 40 percent.^{6,33} The following opportunities for improving the rural primary care workforce can be supported by health care policy:

- Expand states' authority to support a high performance rural primary care system through Medicaid GME residency financing policies, funding rural-focused pipeline programs in higher education, and encouraging improvements to Medicare financing of training programs and expansion of related grants programs;
- Enhance health career recruitment programs that focus on rural students and others who reflect the communities with the greatest need;
- Grow rural-focused grant funding of non-urban training of PAs and NPs to increase the number of PAs and NPs choosing primary care specialties and rural practice sites;
- Decentralize training in rural communities through statutory and regulatory changes to support accredited residency programs that encourage primary care development outside of tertiary hospital settings;
- Utilize grants and payments for rural residency development to allow more rural hospital and non-hospital-based residency programs to grow via the THCGME model and create more effective ways to fund community-based programs through Medicare and Medicaid;
- Train an adequate number of medical students who will pursue primary care and psychiatric residency positions to achieve the 50 percent primary care-to-subspecialty ratio, as recommended by COGME;⁴²
- Continue support of federal programs, such as the Area Health Education Center and Health Careers Opportunity Program, that help students in underserved and rural areas enter health careers;
- Support Federal Medicare legislation to allow rural non-PPS hospitals to receive Indirect Medical Education payments; and
- Permit inclusion of training programs in specialties such as pediatrics and internal medicine within the definition of primary care only if they demonstrate a track record of 50 percent or more of graduates practicing at least 5 years of primary care or generalist practice.

Conclusion

The high performance rural primary care system is fundamental and essential to the health of rural people and places. Rural primary care is different from primary care provided in urban locations. Different approaches are needed to build and sustain a high performance rural health care system. The high performance rural primary care system uses a coordinated, person-centered, and team-based approach that integrates behavioral, social, and community services, including inpatient services when indicated, and is supported by value-based payments and care coordination. To build and sustain a high performance rural primary care system, an adequate supply of primary care health professionals that serve distinctive, multifaceted roles is needed. To achieve this high performance system, unique policy considerations and opportunities must be considered that support the transition to a high performance rural primary care system and workforce.

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