The population and demographics of rural America are shifting once again. As our nation’s unprecedented health care reform unfolds, it is becoming clear that rural communities have unique strengths, and capitalizing on these strengths can position them well for this health care transformation. Equally important are the distinct challenges that—with careful planning, attention, and resources—can be transformed into opportunities to thrive in the new health care environment. The North Carolina Institute of Medicine’s Task Force on Rural Health recently published a report that highlights the strengths and challenges of rural communities [1].

In order to fully leverage these opportunities, we must continue to acknowledge the fundamental importance of access to basic health care, while also broadening our discussion to collectively tackle the additional components necessary to create healthy, thriving rural communities. As we reexamine the needs of rural communities, we should broaden our discussions to include an expansion of the types of access that are necessary for strengthening rural health. Collaboration, successful recruitment and retention, availability of specialty services, quality care, and cost effectiveness are some of the issues that must come into discussions about access to services. With this in mind, this issue of the NCMJ explores opportunities to strengthen the health of North Carolina’s rural communities.

North Carolina’s Office of Rural Health and Community Care (ORHCC) was created over 40 years ago to address critical physician shortages in rural communities. The work originated with fundraising to build rural health centers, policy change to train and license mid-level primary care providers, and the recruitment of primary care providers to work in these newly established rural health centers. At that time, ORHCC developed programs that supported expanded access for underserved populations (ie, Medicare and Medicaid recipients, underinsured individuals, and uninsured persons). In partnership with federal, state, and philanthropic financial support, ORHCC was able to support other safety-net providers such as community health centers, farmworker health programs, free clinics, local health departments, school-based health centers, and critical access hospitals. The ORHCC recruitment team now leverages loan repayment through federal and state resources for the safety-net system.

Access issues are not limited to primary care, so recruitment activities were expanded to include psychiatrists and dentists. Direct access to health care providers was supported with wrap-around services, such as help in securing access to medications for uninsured individuals or technical assistance to assist a practice with financial viability. Over time, ORHCC has been involved in physician recruitment and/or loan repayment for many of the providers practicing in North Carolina. This has made ORHCC the ideal party to bring providers together to create collaborative networks and to implement both state and federal demonstration projects. This spirit of evolution and innovation must be harnessed as we reexamine the question of what type of access is needed to improve the health of rural communities in the future.

Access to Coverage

North Carolina’s health care community has a long history of collaboration that extends well beyond the safety-net and rural communities. The commentary in this issue by Irons and Moore [2] describes infrastructure that was put in place to assist communities in providing access for uninsured individuals, and it discusses how this infrastructure was leveraged and expanded to help individuals gain access to health insurance through the federal marketplace established by the Patient Protection and Affordable Care Act of 2010 (ACA). Although not exclusively focused on rural areas, this collaborative work exhibits many of the strengths of rural communities.

ACA enrollment is an example of what is possible when independent entities are brought together in an inclusive community to effectively leverage limited resources. This process was organized in a transparent culture of continuous improvement that has shaped processes at a national level. The most notable achievement is that North Carolina
attained the 5th highest insurance enrollment in the nation [3]. Access to affordable insurance coverage and the inherent benefits associated with coverage are important components of improved health. In the second year of ACA enrollment, rural residents and providers will benefit if the state’s collaborative work better reaches these geographically dispersed residents of our state.

Access to the Right Workforce

Going forward, recruitment efforts will also consider the rate of retention. Literature shows that recruiting providers from rural communities and providing education and enhanced training (including General Medical Education) within the state increase the retention of local providers who return to work in rural communities [4]. We will need to refine our educational systems and also identify factors that contribute to retention, such as job satisfaction. In the commentary by Walker [5], he describes how the North Carolina Medical Society formed the Community Practitioner Program, which expanded the reach of recruitment beyond government and safety-net systems to encompass private practices that have a passion for serving underserved rural populations. The providers clearly benefit from learning collaboratives and in-depth technical assistance, both of which are relevant to job satisfaction in today’s changing health care environment. The commentary by Harris [6] provides details on what is possible when a mission-driven organization utilizes its team’s skill sets to selectively choose providers who align with the organization’s core values; this recruitment strategy has created a rural health site that can turn away 80% of its applicants.

There is a clear movement toward integrated or whole-person care that must be considered as we develop tomorrow’s workforce [7]. The primary care environment is one step above core public health prevention; as such, it has the potential to touch a large percentage of the population. Primary care is typically comprised of brief interventions, after which patients are generally expected to follow through on a plan of care. According to the American Academy of Family Practice, “primary care includes health promotion, disease prevention, health maintenance, counseling, patient education, diagnosis and treatment of acute and chronic illnesses in a variety of health care settings” [8].

It is likely unrealistic to believe that we can train and recruit enough primary care providers to meet the needs of North Carolina’s 9.8 million residents [9]. However, access can be expanded through teams of highly qualified individuals all working at the top of their skill set. Federally funded community health centers are required to address both behavioral health and oral health needs of the populations they serve [10]. Freeman’s commentary [11] describes the comprehensive role that mental health professionals can play in providing evidence-based care within a primary care medical home and how these professionals can support both patients and providers. This article is balanced with continued reminders about the ongoing need for access to specialty services.

At the time of publication, the McCrory administration was working with the National Governors Association to examine future health care workforce development. It is appropriate that tomorrow’s workforce will look and practice differently. Across the nation, the roles of nurses, care managers, and hygienists are expanding. In addition, new roles, such as community health workers and dental therapists, are being defined [12-16]. If properly structured, this could offer new employment opportunities for rural residents. It will require new educational programs, standards of competency, and policy changes that have both economic and political implications.

Access to Specialist Services

If rural areas continue to experience persistent health professional shortages in the primary care work force, one can only imagine the impending shortage of specialty services. The sidebar by Saeed [17] explains how advances in telebehavioral health—along with thoughtful assessment for access to specialists—can provide value to patients, providers, and the community. It builds on Freeman’s article about the ongoing need for access to specialized mental health services, and it describes an additional resource that can be used to create virtual teams within the patient’s community. Technology is advancing rapidly, with new applications including eye exams, teledentistry, and telemonitoring from home [18]. The implementation challenges will likely not come from the technology but will evolve around policy, privacy, workflow, and payment implications for patients, providers, and payers.

Access to the Triple Aim

The changing health care environment will demand more than access to a provider. It will require access to high-quality care at a cost-effective price regardless of the practice type or the provider specialty. It is clear that the federal government is working to achieve this objective. Historically, Medicare has been the driver of health system changes, with Medicaid and commercial payers following suit; this is evident in our current fee-for-service system [19]. As Medicare begins to bundle payments, penalize readmissions, open new care management codes, and provide ongoing support for accountable care organizations (ACOs), we see other commercial payers also adopting these models. Medicare, Blue Cross and Blue Shield, Aetna, Humana, and several provider groups have all recently created ACOs in North Carolina [20].

Resources are being provided to enhance the meaningful use of electronic health records. Continued refinement of billing and coding through ICD-10, all-payer claims databases, and the health information exchange will further enhance our ability to use large data sets to monitor the health of assigned populations and to document outcomes.
Increasing the transparency of data will allow for greater choice of providers for both payers and patients. However, it is unclear how much choice rural residents will have with regards to payer or provider [21]. It will be important to support the technological infrastructure needs of rural providers so that both they and their patients can fully reap the benefits of data-driven health care.

A challenge for rural providers is their reliance on government insurance and the high percentage of rural individuals who lack insurance coverage [22]. In his commentary, Holmes [23] describes how these realities contribute to the national trend of hospital closures. Spade’s sidebar [24] describes the challenges of shifting an entire business model from provision of acute care to provision of outpatient care, while continuing to operate in a fee-for-service, high-volume environment. Clearly, this is well beyond the grasp of independent hospitals, which have historically been operating at a loss. This is a contributing factor in the consolidation of health care providers and the emergence of large systems [25]. Spade provides examples of how large health care systems are redesigning services in rural North Carolina communities. In addition, the National Rural Health Association reports that rural health clinics are increasing, in part due to cost-based reimbursement [26].

We now have evidence of payers working to strengthen the primary care infrastructure through per-member/per-month payments, enhanced payments, and new primary care case management codes. This infrastructure is important as mental health reform highlighted the fact that, if we move too quickly and do not succeed, it can take almost a decade to repair the system. It is important that the provider community be supported in creating access to preventative, high-quality outpatient services.

### Access to Social and Economic Supports

Funded by the Kate B. Reynolds Charitable Trust, the North Carolina Institute of Medicine in 2014 released the state’s latest rural health plan; this was the first rural health plan to contain significant participation and feedback from traditional and nontraditional partners in rural communities [1]. In addition to providing information about health insurance and the integration of behavioral health into primary care, this plan highlights the fact that a healthy rural community must have access to resources outside of the health care sector. Jackson’s commentary [27] describes how the obesity crisis can be addressed through creative programs that connect children with local food sources, thus improving nutrition and strengthening the profitability of local farms. Integrating these activities into college curricula builds a workforce in which tomorrow’s teachers can assist in the development of healthy children.

In developing the rural health action plan, rural communities clearly stated that comprehensive early educational services and supports were critical to the health of future generations. Zalkind’s commentary [28] describes what is possible when a comprehensive, long-term approach is applied to the mission of ensuring that children enter school healthy and ready to succeed. The work described in this commentary has succeeded by engaging multiple partners across distinct sectors to change a community’s perspective about the value of a healthy lifestyle.

Finally, Collier’s commentary [29] highlights the relationship between economic development and health. To be competitive, industry requires a healthy workforce; in order to be healthy, communities also need access to the resources that come with industry. This commentary acknowledges the economic importance of the health care sector. It also describes how the Department of Commerce, together with other key partners, can provide targeted investments that support local and regional economic growth. Our workforce development should examine how rural communities can identify their future providers, teachers, and business leaders.

### Conclusion

Rural communities seek the opportunity to improve their quality of life through economic mobility, strong educational support, resources for healthy lifestyles, and accessible health care. In this dynamic health care environment, rural communities are vulnerable; however, they also offer us the greatest opportunity to achieve the objectives of health care reform.

With strong support for the primary care and safety-net systems, practicing rural providers have several unique strengths. First, rural providers are accustomed to working with limited resources while providing high-quality care for patients with complex chronic conditions. Second, rural providers have personal relationships with their patients and their families that encompass an understanding of their spiritual and social determinants of health. Third, rural providers are highly dependent on Medicare and Medicaid; if these 2 payers move away from a volume-based payment in a complementary fashion, then rural providers could be well positioned to shift their practice structure. Lastly, rural providers can assume powerful leadership roles within their community. These roles can reach well beyond the walls of their practice, as is powerfully illustrated in Tayloe’s [30] sidebar. His practice is more than just a medical home for his patients; it is also a community medical home working to improve the health of future populations.

Throughout the development of the rural health plan, we heard of strengths that should be leveraged as our health care system shifts away from a crisis model to a prevention model. First, having limited resources—a circumstance that is new to rural agencies—has provided strong incentives to align objectives so that individual missions can be accomplished. Second, many rural communities are closely knit, which fosters a spirit of collaboration. Third, rural communities have a strength that comes from independence, innovation, and self-reliance.
The combined strengths of communities and providers in rural North Carolina create an environment of health care prevention and efficiency. If rural providers achieve health care cost savings through efficiencies, ideally these savings are reinvested into community activities such as quality child care, transportation, and job growth. Increased efficiencies equal more health care cost savings, which can then be reinvested in the community’s infrastructure to further enhance economic development, health care prevention and wellness, and social and educational supports that will continue the cycle—thus creating a healthy rural community. NCMJ

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References
1. North Carolina Institute of Medicine (NCIOM). North Carolina Rural Health Action Plan: A Report of the NCIOM Task Force on Rural Health. Morrisville, NC: NCIOM; 2014. http://www.ncbiom.org/wp-content/uploads/2014/08/RuralHealth2014_web_revised-Copy.pdf. Accessed December 10, 2014.
2. Irons TG, Moore KS. The importance of health insurance and the safety net in rural communities. N C Med J; 2015;76(1):50-53 (in this issue).
3. North Carolina Hospital Association (NCHA). Federal insurance marketplace. NCHA website. https://www.ncha.org/healthcare-topics/federal-insurance-marketplace. Accessed December 10, 2014.
4. National AHEC Organization. Leveraging Graduate Medical Education to Increase Primary Care and Rural Physician Capacity in South Carolina: A report by the South Carolina GME Advisory Group in Response to Proviso 33.34 (E). 2014. http://www.nationalahec.org/pdfs/GME_Advisory_Group_Report.pdf. Accessed December 10, 2014.
5. Walker F. Twenty-five years of serving the health care needs of rural North Carolina. N C Med J; 2015;76(1):34-36 (in this issue).
6. Harris BO. Finding and keeping health care providers in rural communities: culture change in recruitment at Rural Health Group. N C Med J; 2015;76(1):29-33 (in this issue).
7. Snow J. National Approaches to Whole-Person Care in the Safety Net. 2014. http://www.blueshieldcafoundation.org/sites/default/files/publications/Whole-Person%20Care%20in%20the%20Safety%20Net%20Final%2020140325.pdf. Accessed December 10, 2014.
8. American Academy of Family Practice (AAFP). Primary care. AAFP website. http://www.aafp.org/about/policies/all/primary-care.html. Accessed December 10, 2014.
9. United States Census Bureau. State and County QuickFacts: North Carolina. United States Census Bureau website. http://quickfacts.census.gov/qfd/states/37000.html. Accessed December 10, 2014.
10. Rural Assistance Center (RAC). Federally qualified health center (FQHC). RAC website. http://www.raconline.org/topics/federally-qualified-health-centers#staffing. Last reviewed September 17, 2013. Accessed December 10, 2014.
11. Freeman JS. Providing whole-person care: integrating behavioral health into primary care. N C Med J; 2015;76(1):24-28 (in this issue).
12. Health Resources and Services Administration (HRSA). NCHWA's Nursing Workforce Research Activities and Findings. http://bhrp.hrsa.gov/healthworkforce/supplydemand/nursingworkforce.pdf. Accessed December 15, 2014.
13. American Hospital Association. Workforce Roles in a Redesigned Primary Care Model. http://www.aha.org/content/13/13-0110-wp-primary-care.pdf. Accessed December 12, 2014.
14. US Department of Labor, Bureau of Labor Statistics (BLS). Occupational Outlook Handbook: Dental Hygienists. BLS website. http://www.bls.gov/ooh/healthcare/dental-hygienists.htm#tab-6. Accessed December 12, 2014.
15. US Department of Labor, Bureau of Labor Statistics (BLS). Occupational Employment and Wages, May 2013: 21-1094 Community Health Workers. BLS website. http://www.bls.gov/oes/current/oes 211094.htm#ind. Accessed December 12, 2014.
16. US Department of Health & Human Services, Health Resources and Services Administration (HRSA). 2010 State Oral Health Workforce. HRSA website. http://bhrp.hrsa.gov/grants/dentistry/abstracts/2010oralhealth.html. Accessed December 12, 2014.
17. Saeed SA. Telebehavioral health: clinical applications, benefits, technology needs, and setup. N C Med J; 2015;76(1):25-26 (in this issue).
18. Turisco F, Metzger J. Rural Health Care Delivery: Connecting Communities Through Technology. December 2002. http://www.chcf.org/-/media/MEDIA%20LIBRARY%20Files/PDF/R/PDF%20Federally%20Qualified%20HealthCareDelivery.pdf. Accessed December 15, 2014.
19. Centers for Medicare & Medicaid Services. Fee-for-service. Medicaid.gov website. http://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/fee-for-service.html. Accessed December 12, 2014.
20. Toward Accountable Care Consortium (TAC). NC ACOs: list of North Carolina accountable care organizations. TAC website. http://www.tac-consortium.org/nc-acos/. Accessed December 12, 2014.
21. National Rural Health Association. The Future of Rural Health. http://www.ruralhealthweb.org/index.cfm?objectid=EAB2AE78-3048-651A-FE4CBF66C083F34F. Accessed December 12, 2014.
22. Rural Health Research & Policy Centers. Challenges for Improving Health Care Access in Rural America: A Compendium of Research and Policy Analysis Studies of Rural Health Research and Policy Analysis Centers: 2009-2010. http://www.raconline.org/pdf/research_compendium.pdf. Accessed December 12, 2014.
23. Holmes M. Financially fragile rural hospitals: mergers and closures. N C Med J; 2015;76(1):37-40 (in this issue).
24. Spade JS, Strickland SC. Rural hospitals face many challenges in transitioning to value-based care. N C Med J; 2015;76(1):38-39 (in this issue).
25. Holahan J, Blumberg LJ, Morrow S, Zuckererman S, Waidmann T, Stockley K; Urban Institute Health Policy Center. Containing the Growth of Spending in the U.S. Health System. October 2011. http://www.urban.org/UploadedPDF/412419-Containing-the-Growth-of-Spending-in-the-US-Health-System.pdf. Accessed December 12, 2014.
26. National Rural Health Association (NRHA). Rural Health Clinics. NRHA Policy Brief. April 2014. http://www.ruralhealthweb.org/index.cfm?objectid=D64EF917-3048-651A-FFE9BAC415FD5BE7. Accessed December 12, 2014.
27. Jackson E. Connecting people to the source of their food to improve health. N C Med J; 2015;76(1):46-49 (in this issue).
28. Zalkind H, Wilson J. Down East Partnership for Children is committed to improving the way we think about food to improve health. N C Med J. 2015;76(1):54-56 (in this issue).
29. Collier O, Mitchell P. Building capacity to improve economic health. N C Med J. 2015;76(1):50-53 (in this issue).
30. Tayloe DT Jr. Physicians providing leadership for rural communities: culture change in recruitment at Rural Health Group. N C Med J; 2015:76(1):34-36 (in this issue).
31. Centers for Medicare & Medicaid Services. Fee-for-service. Medicaid.gov website. http://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/fee-for-service.html. Accessed December 12, 2014.
32. Centers for Medicare & Medicaid Services. Fee-for-service. Medicaid.gov website. http://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/fee-for-service.html. Accessed December 12, 2014.
33. Centers for Medicare & Medicaid Services. Fee-for-service. Medicaid.gov website. http://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/fee-for-service.html. Accessed December 12, 2014.
34. Centers for Medicare & Medicaid Services. Fee-for-service. Medicaid.gov website. http://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/fee-for-service.html. Accessed December 12, 2014.
35. Centers for Medicare & Medicaid Services. Fee-for-service. Medicaid.gov website. http://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/fee-for-service.html. Accessed December 12, 2014.
36. Centers for Medicare & Medicaid Services. Fee-for-service. Medicaid.gov website. http://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/fee-for-service.html. Accessed December 12, 2014.
37. Centers for Medicare & Medicaid Services. Fee-for-service. Medicaid.gov website. http://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/fee-for-service.html. Accessed December 12, 2014.