Strategy. Capacity. Sustainability.

RHND Healthcare Landscape Analysis No.2:
Adapting to the New Order: Rural Health Networks' Stake in the Transition to Value-based Care

Date: August 2020

Presented to: Federal Office of Rural Health Policy

Adapting to the New Order: Rural Health Networks' Stake in the Transition to Value-based Care

For several decades, the Federal Office of Rural Health Policy (FORHP) has supported Rural Health Network Development (RHND) grantees to bring communities together to improve the health of their residents. The RHND Program gives structure to initiatives that might otherwise lose coherence over time, supporting dedicated personnel and boards with the resources and autonomy they need to find the right solutions for their communities.

The primary goals of the RHND Program are to:

- Improve access and quality of health care in rural areas through sustainable health care programs created as a result of network collaboration;
- Prepare rural health networks for the transition to value-based payment and population health management;
- Demonstrate improved health outcomes and community impact;
- Promote the sustainability of rural health networks through the creation of diverse products and services;
- Utilize and/or adapt an evidence-based or promising practice model(s) in the delivery of health care services.

The program has long encouraged its grantees to seek out and address the root causes of local challenges, with grantees addressing everything from the practicalities of accessing care in a remote setting, to the generalities of why residents need a disproportionate amount of care in the first place. With this history, RHND grantees are now learning to adapt to a growing interest in the payer and provider communities to address many of the same issues, due in large part to the growth of value-based care and payment arrangements, or other forms of capitation.

The reality for rural providers today is that most payment structures, whether via private or public payers, are still largely volume-based, but this is changing at a national level, and is beginning to have profound impacts on care finance and delivery in rural communities as well. The full attention of the health care industry is now being directed to social determinants of health. While this moment in health care presents challenges to the business models of many RHND grantees, it has opportunities for all grantees.

This paper explores the advent of social determinants of health and population health initiatives from the perspective of payers, providers, and the communities themselves, with the goal of framing the issues and concerns for RHND grantees to better understand the positions of new entrants, and to provide the language that grantees need to begin a fruitful dialog.

About Population Health in Rural Communities

The concept of population health was first formally defined almost two decades ago as, "the health outcomes of a group of individuals, including the distribution of such outcomes within the group." The authors of this definition argued that population health is distinct from public health in its focus on policies and interventions that address the linkage between health outcomes and broader health determinants.[i] It is in all the contributing factors of health outcomes, and the actions to address them, that population health concerns itself.

To better understand what population health means for rural communities, it is useful to look first at the specific demographic, physical, and behavioral challenges commonly faced by their residents. For example, the Centers for Disease Control and Prevention (CDC) finds that rural communities generally have higher rates of poverty, less access to health care, and lower rates of health insurance coverage. Many rural areas have inherent characteristics that put residents at higher risk of death, such as long travel distances to specialty and emergency care or exposures to specific environmental hazards. Behavior is a component as well. Rural residents tend to have higher rates of cigarette smoking and obesity, less leisure time physical activity and lower seatbelt use than their urban counterparts. Behavioral health conditions and substance use disorders are higher prevalence in rural areas, while services are harder to come by.[ii]

It in this space of policies and interventions intended to address these concerns that RHND grantees have long operated. A population health approach to health care means that many of the challenges that RHND grantees have traditionally addressed are now squarely in the spotlight for larger, more powerful entities such as hospital systems and insurance plans. Each of these entities face their own sets of challenges and incentives that brought them to this unique space that RHND grantees inhabit.

Payers

As community-based organizations, RHND grantees rarely have strong ties to the payers of health care, which are often headquartered elsewhere, and do not have a major presence in the community itself. But as paying for care increasingly requires more careful attention to attributes of the population receiving that care, payers' involvement is increasing. The extent to which RHND grantees can help payers address these newly important facets of health care may be a crucial determinant of their programmatic success and their financial sustainability.

Payment Reforms

States are experimenting with new payment approaches to better support their rural health infrastructures by organizing all payers under one payment system. For example, the Pennsylvania Rural Health Model,[iii] sponsored by the CMS Center for Medicare and Medicaid Innovation (CMMI), is testing whether care delivery transformation combined with a hospital

global budget can increase rural access to high-quality care and improve their health outcomes, while also reducing the growth of hospital expenditures across payers, and improving the financial viability of rural Pennsylvania hospitals. Maryland has maintained a similar, farther reaching program for all hospitals since the 70s. Since 2017, Maryland has begun to incorporate other providers into their payment initiatives, with CMS offering additional resources to support an optional Care Redesign Program that can incorporate care coordination and population health as part of the package.[iv] Other states are taking note of the Pennsylvania and Maryland programs, with particular interest in their potential to stabilize the finances of rural hospitals.

Global payments represent one of many possible approaches to bringing population health-based care financing to rural areas, but they paint with the broadest brush by capitating all payment for a given facility. In this way, they are emblematic of the payer-driven incentives that rural hospitals encounter today, and they are indicative of the tradeoffs that rural providers may have to make to achieve reliable cashflow. In all cases, rural hospitals and other providers are well-advised to partner with local entities such as RHND grantees in order to make the most of their reliable, though ultimately limited, reimbursements.[v]

Medicaid Managed Care

A study of National Hospital Ambulatory Medical Care Survey data found that rural Emergency Department (ED) visit rates increased by more than 50%, from 36.5 to 64.5 per 100 persons between 2005 and 2016, eclipsing urban ED visit rates, which increased from 40.2 to 42.8 visits per 100 persons. Rural ED use increases were markedly higher for beneficiaries aged 18 to 64 years, non-Hispanic white patients, Medicaid beneficiaries, and patients without insurance.[vi]

As the expansions of Medicaid under the Affordable Care Act have continued to proceed on a state-by-state basis, new rural populations have more recently gained access to Medicaid in recent years. As noted in the study above, the pressures on Medicaid Managed Care organizations (MCOs) to offer a viable product while covering their costs have been quite substantial. Capitated payments on a per-patient-per-month basis mean that any excess ED visits come directly out of MCOs' bottom lines. For RHND grantees, the case is clear: programs that aim to reduce ED visits or otherwise lower the cost of care should be beneficial to MCOs.

States are also looking at the direct purchase of social goods such as housing, food, or transportation for their Medicaid and other vulnerable groups. In 2017, North Carolina launched a pilot program that creates a fee schedule for such services, as well as supports to integrate care, share relevant non-clinical patient information, and other interventions.[vii] The inclusion of a fee schedule makes the inputs of the pilot program readily adaptable to other payers and contexts. Other programs such as the Commonwealth Care Alliance of Massachusetts target the elderly and disabled with the express goal of increasing outpatient services and reducing hospitalizations. Program evaluations found that Commonwealth Care had a monthly savings per patient of $1,600.[viii] With the value proposition of such programs

becoming clear, there may be a growing set of opportunities for RHND grantees to adapt their programs to work within these models' parameters.

The Role of the Innovation Center

For several years, the Centers for Medicare and Medicaid Services' (CMS) Center for Medicare and Medicaid Innovation (CMMI) has operated a Rural Community Hospital Demonstration program that tests the value of cost-based reimbursement for rural hospitals that are too large to be CAHs.[ix] CMMI is also playing a large role in supporting ACOs that elect to operate in rural and underserved areas.[x] The ACO Investment Model specifically sets aside money and technical assistance for ACOs where 65% or more of their delivery sites are in rural areas. Over time, alternative payments through rural-specific and more general CMMI programs are likely to achieve ubiquity. CMMI's interest in bringing public and private payers together under a particular model portends the coming of a unified front of payers that are interested in population health. In short, there is no reason to believe that population health will diminish in importance to rural providers in the coming years.

Providers

Across health care, various capitated payment arrangements are becoming commonplace, with flat rates for treating patients over a time period, as opposed to a particular episode of care, and often with incentives to make improvements on quality and cost. These payment changes readily lend themselves to population health interventions. For rural hospitals, population health is fast becoming a matter of survival, and many are actively seeking new ways to engage with their communities. RHND grantees should be aware of why that is, and where their own business models intersect with the changing business of rural medicine.

In addition to resource scarcity and changes in financial incentives, health information technology (HIT) is also making sweeping changes to how providers do business. New models of integrated telehealth present major opportunities for providers and RHND grantees alike. For example, the Telehealth EcoSystem™ model attempts to take on the challenges of systems interoperability while also bringing in concerns of socioeconomic revitalization and social determinants of health to better address health equity for rural underserved communities.[xi] Regardless of the particular model, as information systems become more connected, more providers will have a global view of patients' basic needs, and will be under greater pressure to find local partners that can help address those needs.

Rural Hospitals

The trend of closure and scaling-back of services among rural hospitals and other providers is well-documented, with 129 hospitals shuttering in the past decade alone.[xii] The Chartis Center

recently estimated that more than 453 facilities were at financial risk of closing, with around 50% of all rural hospitals operating with negative margins.[xiii]

While there are many causes behind this trend, a major component of closures is that the lucrative inpatient procedures that supported the traditional revenue model of many rural hospitals are becoming less common. The practice of medicine is changing, with a greater number of procedures now possible on an outpatient basis, and where an inpatient stay is required, rural residents may opt to make the trek to more sophisticated urban facilities. Fee-for-service medicine is still at the basis of many rural providers' revenue cycles, but for many, this arrangement is no longer sustainable.

First, in response to practice changes and cost pressures, many rural hospitals are seeking a greater percentage of their revenue on an outpatient basis, or otherwise diversifying their service lines. These changes result in fewer services rendered in-house, and more offered virtually or in the community itself. In both instances, RHND grantees are often logical partners for outreach, coordination, and direct service provision.

Second, in order to make ends meet, many rural hospitals are affiliating with larger health care delivery systems. New affiliations mean new ways of operating. These affiliations often bring new in-system referrals, and a greater array of services offered at the rural site itself.[xiv] Large health systems face considerable pressure from public and private payers to address population health. For rural hospitals, the population health tools and methods developed by a large health system will become available, along with new requirements to do so.

Third, with the passage of the Affordable Care Act, tax-exempt hospitals became required to conduct community health needs assessments (CHNAs) every three years, and to adopt strategies to meet community needs. Under the regulations for CHNAs, hospitals are encouraged to look at financial barriers to care, prevention, nutrition, and other social, behavioral, or environmental factors that influence health in the community. The regulations also stipulate that CHNAs must seek and take into account input received from a representative sample of community interests.[xv] Within these requirements are clear opportunities to become more closely involved with larger provider organizations operating in their service areas. At the same time, these organizations are actively seeking ways to improve the health of the population they serve, both in order to preserve market share, and to adapt to the shift away from inpatient hospital services. Telehealth in particular presents new opportunities for hospitals to demonstrate community benefit.[xvi] RHND grantees that can respond to this concern of hospitals will be well-positioned to take advantage.

If these trends continue to bear out, rural hospitals will have a longer reach to geographically distant regional resources, and a deeper reach into the communities they serve. For hospitals, this means offering a broader menu of services, and also adopting some of the population health practices that health systems are under mounting pressure to implement.

Case management, rehabilitation, and in-home services are not traditional services offered by hospitals, but changes to payment are creating strong incentives for them to get into the business.

Critical Access Hospitals (CAHs) and Medicare-dependent Hospitals

The smallest, most remote hospitals remain outside the attentions of large regional health systems, but are nevertheless coming around to population health thinking. For some time, CAHs, Medicare-dependent Hospitals, and other designated rural providers were insulated from major changes to their business models due to specialized prospective payment arrangements, and low-volume or rural exemptions from payment reforms such as those implemented under the Medicare Access and CHIP Reauthorization Act.[xvii] While these modifications to policy are intended to ease administrative burdens or subsidize care in rural areas, CAHs and others are seeking new ways to operate, regardless of whether there is direct remuneration for doing so. This is occurring because business as usual is not sustainable. While CAHs are generally exempt from the more general Medicare regulation aimed at population health, new rulemaking on discharge planning require that CAHs maintain "Policies and procedures that address the post-acute care needs of patients receiving CAH services." CAHs are required to have a discharge planning process that includes patients and caregivers, consistent with patient goals, and with the express purpose or limiting readmissions.[xviii] Many CAHs will struggle to implement a discharge plan without strong community partnerships that are often fostered by RHND grantees. For this reason, RHND grantees should be in direct communication with regional CAHs to determine whether their networks can help in enhancing the discharge planning and follow-up process.

FORHP has supported state health departments and offices of rural health in maintaining Medicare Rural Hospital Flexibility (Flex) programs.[xix] Flex programs have several required and optional purposes, all aimed at shoring up the positions of CAHs. Many state Flex programs have adopted population health as a central part of their programming. For example, the Colorado Rural Health supports peer learning activities, coaching, and technical assistance on chronic care management. Other states, such as Michigan and Mississippi use their Flex programs to administer statewide population health assessments.[xx] RHND grantees should be aware of the activities that Flex programs are operating in their service areas, and be prepared to contribute to needs assessments, and to offer themselves as ready resources for addressing population health challenges in this context.

Primary Care

In the provider community, the move towards population health is perhaps greatest felt by primary care providers. Accountable Care Organizations (ACOs), which pay a group of providers a quality-adjusted sum to treat a population of patients, typically rely on primary care to coordinate services across (and beyond) their membership, and to find new ways to address quality-relevant factors such as patient adherence to medication protocols, or having the

means to arrive at all appointments. For some time, ACO were on the sidelines of rural health, but that is changing.[xxi] Primary care providers need to stay abreast of developments in their service areas, and be ready to make the changes necessary to be successful.

The Patient-Centered Medical Home (PCMH) has become the term of art for primary care's role in addressing population health, with several accrediting agencies enforcing standards that require the transformation of a practice. At its root, PCMH accreditation requires the incorporation of sophisticated expertise to coordinate care across a patient's universe of providers, and to help address the socioeconomic factors that are central to a population health approach.

In response to various demands from payers and government sponsors, many providers operating in rural, underserved areas have sought to reinvent their practices under PCMH principles, or achieve formal accreditation. Surveys of rural providers who have worked to achieve PCHM certification have found the principles to be difficult to apply to a local context, particularly around making the changes most relevant to the patient care experience.[xxii]

RHND grantees may offer a means for small primary care practices to stretch scarce resources devoted to care coordination, and to extend their network of community partners in order to make the most of the PCMH designation and achieve real-world improvements. RHND programs can also help broker the IT implementation and logistical changes necessary to share information across ACO partner organizations, many of which are both better resourced and more advanced in their transformation.

Rural Health Network Grantees

By design, RHND grantees operate in remote and often resource-poor areas of the country, often serving populations in suboptimal health, and combatting socio-behavioral problems at their root causes. Rural health networks make the best use of available resources by realizing economies of scale for purchasing, coordinating services across multiple stakeholders, or giving a platform for community-wide health education or other social interventions. The strategy that grantees employ to make use of resources depends greatly on whether the deficiencies they cite are framed as a lack of resources (supply-focused), or as a community problem in need of resources (demand-focused).

Supply- and Demand-focused Grantees' Approaches to Payers and Providers

Supply-focused solutions pursued by RHND grantees are typically geared towards addressing problems of resource scarcity. Grantees commonly cited lacks of broadband or IT infrastructure as distinct barriers to care, often compounded by shortages of local medical personnel. Supply-focused services focus on recruitment and retention of providers, telemedicine, or cost reduction. Demand-focused solutions take a closer look at community needs and then propose

a series of actions to address them. These grantees focus on case management, health education, and community engagement.

Aside from differences in the services themselves, this bifurcation between supply- and demand-focused grantees shows up in the groups with whom they affiliate. Supply-focused grantees tend to partner with other health care providers expressly to provide health services, while demand-focused grantees are more likely to be broad-based coalitions of schools, health departments, and civic organizations.

Both Supply- and Demand-focused grantees can provide value in these endeavors, but it is sensible to outline separate general approaches to engaging with payers and providers. The challenge for each of these groups is to connect with activities at the periphery of their focus areas. For example, a grantee that provides health services (Supply-focused) will be a more attractive partner to a payer or provider if they highlight or enhance their community linkages. Likewise, a grantee involved in health promotion and access to care (Demand-focused) is advised to improve their connections with local providers in order to prove their worth to new entrants in their region's population health activities.

Below is a listing of program types based on self-identified categories from the 2017-2020 RHND grantee cohort.[xxiii] The program types are sorted by primary focus area, and followed by suggestions on how these program types might proceed.

Supply-focused

Alternative payment models: Grantees involved in alternative payments add value to payers and providers by serving as go-betweens for service providers, quality initiatives, and HIT infrastructure. While their work is naturally closer to large-scale population health initiatives initiated by payers and providers, their challenge is to maximize smaller community resources to achieve efficiencies in care delivery. CMS recently introduced the Community Health Access and Rural Transformation (CHART) payment model[xxiv] that allows for investments in population health tools, as well as capitated payments and regulatory flexibilities. This move indicates a growing interest in bringing the principles of accountable care to rural communities.

Behavioral health/mental health: A recent study of 21 million randomly selected individuals found that the 27% of that population identified as having a behavioral health condition were responsible for 56.5% of total annual health care costs.[xxv] With the rapid growth of telehealth, and a knowledge base indicating that many social determinants have roots in this area, grantees should be well-positioned for new partnerships provided that they have clinical work flows, interoperability, and the right management structures to help payers and providers increase service in their communities.

Clinical care integration and coordination: Much of the work around care integration is occurring through agreements between various providers to actively share patient information via electronic portals, with payers sometimes playing a supporting role. FORHP's Rural Health

Care Coordination Program took a close look at the evidence for these initiatives and found significant value.[xxvi] For rural underserved communities, a key remaining challenge to successful clinical integration is active partnership with social services agencies and dedicated case management staff to follow up and provide supports to difficult to reach populations. Demonstrating this competency will be attractive to providers and payers alike.

HIT infrastructure: RHND grantees with a stake in HIT infrastructure are often well-positioned to achieve sustainability, but they often add the most value by making the "last mile" of connectivity happen, even if doing so results in a net loss. This can mean providing the resources to enable broadband in remote communities, or to reach out to remote providers and service agencies to ensure they are part of the initiative. HIT infrastructure projects should seek out specialized technical assistance to find new ways to address population health in their communities.[xxvii]

Integration of patient health information: Similar to clinical care integration, more general integration of patient health information is already under way. What is too often missing are inputs from social services and other entities that may have a bigger-picture view of a patient's life and livelihood.[xxviii] Adding these variables to data integration efforts can provide significant additional benefit to providers working under capitated or other alternative payments.

Oral health: Telehealth is rapidly enabling hygienists and other non-dentist oral health professionals to work in concert with remote dentists or to perform routine procedures themselves. In addition, many payers are recognizing the importance that oral health plays in the overall health of their beneficiaries. Improving access to oral health may be seen as quite valuable to certain payers. Oral health-focused grantees should pay close attention to any incentives offered by Medicare Advantage, Medicaid Managed Care, and possibly commercial payers.[xxix]

Quality improvement and reporting: These are key functions for demonstrating value, and can be worthwhile for payers and providers to be willing to be a part of, especially as complexity grows with deeper integration and coordination across providers. The presence of an existing community network can help avoid redundancies and further complexity. RHND grantees that can help sort out the logistical challenges to quality improvement should make this known to any locally operating payers and providers.[xxx]

Recruitment and retention: These are essential activities for ensuring access to care. Networks can enhance member efforts by helping make connections to graduate medical education programs, supporting the practical needs of potential recruits, and using telehealth to help recruits extend their reach into the community and beyond, tapping into remote specialties, and adding to the diversity of their own caseloads.[xxxi]

Demand-focused

Chronic disease management: Many functions related to chronic disease management provide value in personalized ways that are especially challenging to achieve for large payers and providers. For that reason, an organization with a good understanding of the main drivers of chronic disease in their service area can be immensely useful to the missions and finances of larger partners.[xxxii] In addition, new state and federal regulatory flexibilities are enabling direct reimbursement to trained community health workers that can help RHND grantees involved in this work to achieve sustainable business practice.

Clinical-based care coordination: These functions are often positioned at the crossroads between disease management, HIT, and direct care delivery. They are essential for achieving Patient Centered Medical Home and similar certifications whose aim is to assess a provider's ability to address population health. In light of the ongoing shift in payment towards population health, networks that can help medical practices to reach meaningful benchmarks of care coordination activities should be positioned to offer revenue-generating services.[xxxiii]

Health care access: Access to care can mean many things, from reaching a site of care, to acquiring health insurance coverage. In both cases, RHND grantees that provide this service will perform essential duties for Medicaid Managed Care Organizations and other stakeholders with an interest in ensuring that patients receive the appropriate care they need, when they need it, and on terms they can afford. As population health efforts expand in scope and ambition, access will grow to mean linking patients to other services and supports beyond just health care, tailored to particular community needs.[xxxiv] Grantees involved in this work should think about access not just in clinical terms, but from a broader point of view as well.

Health promotion and disease prevention: Despite their established value, oftentimes, activities that work to encourage healthy behaviors among a population remain unsubsidized by the payers and providers that stand to benefit from any improved clinical outcomes they generate.[xxxv] The challenge for these initiatives is twofold. First, health promotion initiatives need to demonstrate real behavior change that result in clinically meaningful changes. Second, they need to make the case to any and all stakeholders that these changes improve their positions. For these reasons, health promotion and disease prevention programs should devote particular attention to program evaluation, and communications.

School-based care coordination: Schools are natural convening points not just for students, but also for families and communities as a whole. Schools can be venues for insurance enrollment, screenings, and referrals to health and social services providers.[xxxvi] Health promotion activities that change behaviors of young families can also pay long-run dividends in avoiding chronic illness. These are immensely valuable services for improving population health, often closely aligning with state interests in education and health coverage. For this reason, school-based initiatives should use their existing linkages to state government to gain a seat at the table when Medicaid contracts are under review, or when student performance measures are being evaluated.

Transitions of care: With an aging population, a greater number of rural residents are in continual motion between acute and long-term care providers, managing complex conditions in both at home and in the hospital. It is in the transitions between these settings that messages are sometimes lost, along with opportunities to improve the health and wellbeing of the patient.[xxxvii] These issues are not lost on Medicaid programs and others with financial stakes in the outcomes of chronically ill and/or institutionalized patients, nor are they lost on CAHs, who have specific requirements around discharge planning. Programs that can help receiving providers have a better understanding of the history and condition of a patient are growing in their usefulness. Regulatory changes play a part as well. Recent changes to HIT regulation require that hospital discharges be accompanied with specific instructions for the receiving provider. Changes to telehealth reimbursement are also changing to allow for a more meaningful exchange of information between discharging and receiving providers.

The Future of Social Determinants in Rural America

Despite mounting evidence in the inherent value of investment in social goods, too often economic incentives point away from their adequate provision. A recent study found that barriers to investment in social determinants of health are often the result of an economic "free rider" problem, wherein a privately subsidized public good benefits all comers regardless of whether they are a paying beneficiary or consumer, thus lowering their appeal for any one player to pay.[xxxviii] The study describes a "'trusted broker'—typically, but not necessarily, a nonprofit or philanthropy—that can convene local health system stakeholders such as health plans, hospital systems, employers, community health centers, community based organizations, and county health and social service departments."

The RHND program supports "trusted brokers" in some of our nation's most remote, underserved communities. The model of a convening third party for social goods is clearly gaining interest among the wider payer and provider community. For this reason, RHND grantees and program officials should keep a close eye on the evolution of this discussion. Addressing social determinants through population health adds value to all concerned, and RHND grantees can all come to the table with something to add. Grantees should be unafraid to think big, and be ready to show newly interested payers and providers what they can do.

[i] Kindig D, Stoddart G. What is population health?. Am J Public Health. 2003;93(3):380-383. https://ajph.aphapublications.org/doi/full/10.2105/ajph.93.3.380

[ii] CDC Rural Health Web Page. https://www.cdc.gov/ruralhealth/about.html

[iii] CMMI Pennsylvania Rural Health Model Web Page. https://innovation.cms.gov/innovation-models/pa-rural-health-model

[iv] CMMI Maryland All-Payer Model Web Page. https://innovation.cms.gov/innovation-models/maryland-all-payer-model

[v] Murphy KM, Hughes LS, Conway P. A Path to Sustain Rural Hospitals. JAMA. 2018;319(12):1193–1194. https://jamanetwork.com/journals/jama/article-abstract/2676120

[vi] Greenwood-Ericksen MB, Kocher K. Trends in Emergency Department Use by Rural and Urban Populations in the United States. JAMA Netw Open. 2019;2(4):e191919. https://jamanetwork.com/journals/jamanetworkopen/article-abstract/2730472

[vii] Buying Health For North Carolinians: Addressing Nonmedical Drivers Of Health At Scale. Health Affairs. 2020;39(2). Published online April 6, 2020 at: https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2019.01583

[viii] A New Care Paradigm Slashes Hospital Use And Nursing Home Stays For The Elderly And The Physically And Mentally Disabled. Health Affairs. 2011;30(3). Published online March 1, 2011 at: https://www.healthaffairs.org/doi/10.1377/hlthaff.2011.0113

[ix] CMS Rural Community Hospital Demonstration. https://innovation.cms.gov/innovation-models/rural-community-hospital

[x] CMS ACO Investment Model. https://innovation.cms.gov/innovation-models/aco-investment-model

[xi] Leath BA, Dunn LW, Alsobrook A, Darden ML. Enhancing Rural Population Health Care Access and Outcomes Through the Telehealth EcoSystem™ Model. Online J Public Health Inform. 2018;10(2):e218. Published 2018 Sep 21. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6194096/

[xii] UNC Sheps Center for Health Services Research rural hospital closures tracking tool. Accessed August 2, 2020 at: https://www.shepscenter.unc.edu/programs-projects/rural-health/rural-hospital-closures/

[xiii] The Chartis Center for Rural Health. The Rural Health Safety Net Under Pressure: Rural Hospital Vulnerability. February, 2020. https://www.ivantageindex.com/wp-content/uploads/2020/02/CCRH_Vulnerability-Research_FiNAL-02.14.20.pdf

[xiv] Ibid.

[xv] Community Health Needs Assessment for Charitable Hospital Organizations - Section 501(r)(3). Internal Revenue Service Web Page. https://www.irs.gov/charities-non-profits/community-health-needs-assessment-for-charitable-hospital-organizations-section-501r3

[xvi] LeRouge C, Wilson KD, Sterling R, Trocchio J. Viewing Telehealth Through the Lens of a Community Benefit Mission. Telemed J E Health. 2017;23(8):662-673. https://www.liebertpub.com/doi/abs/10.1089/tmj.2016.0147

[xvii] CY 2020 Revisions to Payment Policies Under the Physician Fee Schedule and Other Changes to Part B Payment Policies Final Rule. https://www.federalregister.gov/documents/2019/11/15/2019-24086/medicare-program-cy-2020-revisions-to-payment-policies-under-the-physician-fee-schedule-and-other

[xviii] Medicare and Medicaid Programs; Revisions to Requirements for Discharge Planning for Hospitals, Critical Access Hospitals, and Home Health Agencies, and Hospital and Critical Access Hospital Changes to Promote Innovation, Flexibility, and Improvement in Patient Care. Final Rule, published September 30, 2019. https://www.federalregister.gov/documents/2019/09/30/2019-20732/medicare-and-medicaid-programs-revisions-to-requirements-for-discharge-planning-for-hospitals

[xix] Flex program: https://www.hrsa.gov/rural-health/rural-hospitals/index.html. For a list of state Flex programs, go to: https://www.ruralcenter.org/tasc/flexprofile

[xx] https://www.ruralcenter.org/tasc/flexprofile/colorado

[xxi] Bagwell MT, Bushy A, Ortiz J. Accountable Care Organization Implementation Experiences and Rural Participation: Considerations for Nurses. J Nurs Adm. 2017;47(1):30-34. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5144923/

[xxii] Westfall JM, Zittleman L, Ringel M, et al. How do rural patients benefit from the patient-centred medical home? A card study in the High Plains Research Network. London J Prim Care (Abingdon). 2014;6(6):136-148. doi:10.1080/17571472.2014.11494365. https://www.tandfonline.com/doi/abs/10.1080/17571472.2014.11494365

[xxiii] Rural Health Network Development Program. 2020 Cohort Summary Report of the Business Model and Funding Plan. Categories are collapsed for the purposes of this paper.

[xxiv] Community Health Access and Rural Transformation (CHART) Fact Sheet. https://www.cms.gov/newsroom/fact-sheets/community-health-access-and-rural-transformation-chart-model-fact-sheet.

[xxv] Davenport S, Gray TJ, and Melek SP. How do individuals with behavioral health conditions contribute to physical and total healthcare spending? Milliman report, issued August 13, 2020. https://www.milliman.com/en/insight/How-do-individuals-with-behavioral-health-conditions-contribute-to-physical

[xxvi] FORHP Rural Health Care Coordination Program funding announcement page. https://www.hrsa.gov/grants/find-funding/hrsa-20-030. See Notice of Funding Opportunity for a literature review on the subject.

[xxvii] Office of the National Coordinator for Health Information Technology. Health IT Playbook, section 9.2. https://www.healthit.gov/playbook/care-settings/#section-9-2

[xxviii] See April 16 issue of Health Affairs, Integrating Social Services and Health. https://www.healthaffairs.org/do/10.1377/he20200406.961388/full/

[xxix] See National Conference of State Legislatures legislative brief, Oral Health Care in Rural America. https://www.ncsl.org/research/health/oral-health-care-in-rural-america.aspx. Also see Addressing Rural Seniors' Unmet Needs For Oral Health Care, " Health Affairs Blog, May 6, 2019. https://www.healthaffairs.org/do/10.1377/hblog20190501.797365/full/

[xxx] National Quality Forum. MAP 2019 Recommendations from the Rural Health Technical Expert Panel Final Report. https://www.qualityforum.org/Publications/2019/04/MAP_2019_Recommendations_from_the_Rural_Health_Technical_Expert_Panel_Final_Report.aspx

[xxxi] For a discussion on broader needs related to rural recruiting, see Heather L. Paladine, Carol Hustedde, Andrea Wendling, Orlando Sola, Rupa Prasad, Sarah Bjorkman & Julie Phillips (2020) The role of rural communities in the recruitment and retention of women physicians, Women & Health, 60:1, 113-122, DOI: 10.1080/03630242.2019.1607801. https://www.tandfonline.com/doi/abs/10.1080/03630242.2019.1607801

[xxxii] Crespo R, Christiansen M, Tieman K, Wittberg R. An Emerging Model for Community Health Worker-Based Chronic Care Management for Patients With High Health Care Costs in Rural Appalachia. Prev Chronic Dis. 2020;17:E13. Published 2020 Feb 13. doi:10.5888/pcd17.190316. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7021460/

[xxxiii] Conway P, Favet H, Hall L, et al. Rural Health Networks and Care Coordination: Health Care Innovation in Frontier Communities to Improve Patient Outcomes and Reduce Health Care Costs. J Health Care Poor Underserved. 2016;27(4A):91-115. doi:10.1353/hpu.2016.0181. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5734091/

[xxxiv] Sangaramoorthy, T., Guevara, E.M. Immigrant Health in Rural Maryland: A Qualitative Study of Major Barriers to Health Care Access. J Immigrant Minority Health 19, 939–946 (2017). https://link.springer.com/article/10.1007/s10903-016-0417-z

[xxxv] See McLendon, SF, Wood, FG, Stanley, N. Enhancing diabetes care through care coordination, telemedicine, and education: Evaluation of a rural pilot program. Public Health Nurs. 2019; 36: 310– 320. https://onlinelibrary.wiley.com/doi/abs/10.1111/phn.12601

[xxxvi] Baker, D., Anderson, L., & Johnson, J. (2017). Building Student and Family-Centered Care Coordination Through Ongoing Delivery System Design: How School Nurses Can Implement Care Coordination. NASN School Nurse, 32(1), 42–49. https://journals.sagepub.com/doi/abs/10.1177/1942602X16654171

[xxxvii] Weil, J., Milbrath, G., Sharp, T., McNeill, J., Gilbert, E., Dunemn, K., Patterson, M. and Snyder, A. (2018), "Interdisciplinary partnerships for rural older adults' transitions of care", Quality in Ageing and Older Adults, Vol. 19 No. 4, pp. 232-241. https://www.emerald.com/insight/content/doi/10.1108/QAOA-12-2017-0050/full/html

[xxxviii] "Collaborative Approach To Public Goods Investments (CAPGI): Lessons Learned From A Feasibility Study, " Health Affairs Blog, August 13, 2020. https://www.healthaffairs.org/do/10.1377/hblog20200811.667525/full/