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Innovation in Rural Health Care: Contemporary Efforts to Transform into High Performance Systems

Results of Roundtable Discussions with Rural and Frontier Innovators September 2013 and July 2015

INTRODUCTION

High performance health care systems are distinguished by their ability to provide high quality and efficient care that is accessible and affordable to all. Such systems promote the Triple Aim[©] by enhancing individual and community health to help people live longer, healthier, more productive lives.[1]

The ability to deliver high quality and efficient care that is affordable and accessible is determined by a community's capacity to provide the right services, at the right time, and in the right setting. To enhance effectiveness, care should be provided in a coordinated and integrated way—within the medical model, and more broadly upstream, within a community. While conceptually straightforward, transforming our current fragmented and costly health care system to a high performing one requires in-depth understanding of community health needs; the health and social services capacities that are available to meet those needs; and an integrated, collaborative, and culturally sensitive response to those needs across settings, disease conditions, and the human lifespan. In rural areas, investments in tools to facilitate care coordination and integration, such as Health Information Technology (HIT), or core service capacity, such as primary care or emergency medical services, are fundamental to transformation and have been supported by new policies over the last several years. Yet these investments alone are not sufficient to evolve and sustain high performance health care delivery, particularly in rural areas that face challenges beyond HIT and primary care shortages, such as poverty, poor population health, an insufficient or undertrained workforce, or an inadequate health-promotion infrastructure (e.g., physical

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space in a community, ability to do outreach, or payment systems that do not reward quality or cost containment efforts). Creating and sustaining high performance health care systems in rural areas requires innovative leaders and approaches that do more with less—strategically finding and leveraging partnerships both locally and remotely, within and across communities and organizations—and reward high-value care.[2]

Those involved in the day-to-day programs and provision of community-based health and social services in rural communities are in a special position to lead the way in transforming rural health care with community-appropriate solutions that deliver on the promise of a high-performance health system. This report discusses real-time activities undertaken by rural and frontier health innovators to develop sustainable programs that promote a high-performance health care system in rural settings. The Rural Health Value project team, supported by the Federal Office of Rural Health Policy (FORHP), convened a meeting of eight rural innovators in September 2013 and co-convened with the National Center for Frontier Communities a meeting of eight frontier innovators in July 2015. During these two meetings, the team learned about specific rural and frontier programs designed to transform the community health system. We learned what is unique about rural and frontier health care innovation from participants implementing programs, and learned how these programs may be adapted to fit different settings. We offer lessons learned from these innovators to build a body of knowledge that can help spread rural health care innovation.

We organized this report into four sections:
- Themes gleaned from community activities and programs reported by the participating innovators.
- Strategies for developing innovations in rural settings, with attention to specific challenges in remote frontier communities.
- A summary of participant perspectives for overcoming challenges.
- A summary of the innovations discussed at the two meetings.

THEMES

1. Community-derived solutions have the most impact.

The variety of programs and interventions presented by the innovators illustrate a community-specific determination of problems, unmet needs, and opportunities that were important to address from a local perspective. Innovators leveraged past experience, expertise, and relationships to engage those most affected in the community to support their work, including expanding existing programs (e.g., PACE, the Program of All-Inclusive Care for the Elderly) or applying new resources to fill identified gaps in community capacity (e.g., care transition services, care coordination, behavioral health integration, and outreach). For example, innovators spoke of identifying community-dwelling adults at risk of institutional care or adults at risk of hospital readmission. Once identified, these populations were the focus of new programs expanding community capacity, including coordination activities and establishing patient-centered collaborative relationships across health care settings (health systems, primary care providers, behavioral health providers, and home health agencies). Identifying the gap in capacity and its impact on a person's quality of life—such as hospital readmission, poor adherence because of missed follow-up appointments, or avoidable nursing home placement—can help identify solutions that are responsive to, and focused on, community needs and preferences. In frontier communities, transportation, and the distance between patients and available services, was a particular focus, and creative opportunities to address access challenges were incorporated into nearly all of those communities' strategies.

2. Trust is essential in rural innovation efforts.

Trust between organizations, their patients and clients, and the community at large is absolutely essential to rural innovation efforts. Proactively working across organizations to define resources available to improve patient care is crucial for developing trusting relationships that support innovation. For example, one innovator described a program in which a community-based organization used lay community health workers to connect people to health and social services, and cited trust as the major issue in helping clients understand that it was okay to use local health care resources. Another innovator described how a program based historically on informal relationships became dysfunctional when the relationships were formalized with legal contracts. The contracts introduced an element of distrust among the parties involved that had not been present when they relied on traditional handshake agreements. Participants subsequently dropped out of the intervention. Regular communication, including clear and ongoing clarification of roles, was cited by several programs as a key aspect of successful implementation.

3. *Workforce training must reflect the cultural dynamic of the community being served and the context of the program services.*

Several innovators reported that some interventions required not only specific skillsets to fulfill the programmatic objective, but also a workforce reflective of the community being served. In an intervention targeting hospital readmissions for persons with heart-related conditions, the program workforce required a combination of registered nurses (RNs) and pharmacists (because of the clinical processes involved) and an on-site location within the community hospitals. While a link between these primary care resource providers and patients was made during a hospital stay, the service providers in this program continued their work post-discharge within the community, communicating with primary care providers and with patients in their homes. Using Health Information Exchange, one program expanded support for care transition by engaging community pharmacists as a key part of the care team post-hospital discharge. In another example, community health worker training was designed to be culturally and linguistically competent within the community. Program success was predicated on the ability of the community health workers to make meaningful connections with the elderly and disabled among the 15 regional counties being served. Another program worked with a local community college to implement a community health worker certificate program to train health navigators who work with high-risk patients to increase access to preventive care and chronic disease management, and to address social needs such as transportation, housing, and access to healthy foods.

4. *There is a need for metrics, especially those related to costs, that better serve the evaluation and assessment of rural innovations.*

Several of the innovators reported that conventional health care performance metrics do not adequately measure efforts to improve population-level outcomes, clinical quality, and community-level cost savings. In addition to addressing the issue of small volumes, which has been a longstanding measurement and evaluation challenge in rural areas, new metrics are needed that reflect the community integration underlying much of the transformation in rural areas. One innovator described efforts to transition away from a cost-reporting methodology to one using indicators of performance based on the Triple Aim© by implementing Lean methods with a network of rural hospitals. To measure progress, health systems should monitor best practice and evidence-based medicine measures, but should also recognize joint community efforts to reduce population health hazards like obesity rates and behavioral health issues. Assessing population health outcomes requires community level co-integration of health delivery systems' information technology along with public health information systems to increase the health care data analytics capacity. One health plan administrator described the unique capacity of their data system, which includes county-level health and human services records integrated with clinical provider records

and reflects real-time information such as Medicare and Medicaid enrollment and cost of care variation across different provider mixes. The innovators also noted that measuring rural performance requires understanding differences between rural and urban providers and rural and community-level health measures; performance benchmarks that take into account volume differences or that are granular at the rural community level are not readily available from existing data sources.

Lack of access to data, limited local expertise to support data analyses, and small numbers for evaluation purposes, were all challenges highlighted, particularly by the frontier innovators. The relatively low numbers of patients in any one payment category (i.e., Medicare fee-for-service, Medicaid, Medicare Advantage) make it challenging to link claims data and payment to outcome metrics. For example, one program indicated that evaluators for their project funded by the Center for Medicare & Medicaid Innovation (CMMI) identified their efforts as "un-evaluable" due to small numbers, even though they served over 600 clients during the three-year period of the grant.

STRATEGIES TO DEVELOP INNOVATION IN RURAL SETTINGS

Innovation in health care delivery is a challenging proposition, and among rural communities the hurdles are even higher. Participants at both meetings shared several strategies to motivate change and establish a culture of innovation.

- *Reflect a climate of necessity.*
  Articulate the urgency of today's changing environment to rural providers, health care organizations, community stakeholders, and the populace. Educate the governance of health systems (boards of directors, executive management) and community leaders that there is a need to "look and behave differently" in order to take advantage of new financing opportunities and improve community health. Leverage peer influence to make the case that change is necessary. Understand local-level implications and unintended consequences of reimbursement changes, penalties (e.g., hospital readmission penalties from Medicare), and other policy implementations affecting delivery of and payment for care.

- *Identify resources and funds to test and initiate change.*
  Find grant, demonstration, or pilot projects that can serve as change initiators. Reallocate or recommit funds to a pilot project, such as care coordination, and demonstrate the value that it provides to the health system and the community. Start small, and scale up as the evidence of benefit grows. Know not only the sources of funding that are available, but also how to be successful accessing those funds (e.g., through grant writing, mentoring, partnering).

- *Find and use the innovators in your community—the people who make it happen.*
  Engage the community—lay people and community leaders—to get conversations started about innovation opportunities, and encourage thinking of and funding for "outside the box" projects. Use outside, non-health care influence and support for attention and focus. Address misunderstandings of rural health in general, including the role and value of Critical Access Hospitals (CAHs) to the community. Find motivated students or community members interested in preparing for health professions and engage them as health coaches and navigators—get them involved. Creatively partner with academic institutions, private enterprises, and foundations.

- *Encourage creativity, with a focus on meeting individual patient needs.*
  Give creative license to individuals and teams to test and implement ideas and processes that align with patient needs and capabilities. Innovators from one program reported that their health navigators were given free rein to use whatever means were available to help individuals access routine health care and manage chronic disease. Another program used motivational interviewing to assess readiness for change and encompasses caregiver capacities to develop patient-centered goals and care plans. Yet another example is a frontier health system that shifted from volume-based reimbursement to salary-based physician compensation, and engaged providers in leadership by "allowing them to act on the dreams that sent them to medical school."

OVERCOMING CHALLENGES

Many of the challenges the innovators identified involved cultural and mindset roadblocks to change. Prevailing reimbursement practices and the medical system culture may create resistance to adopting broader, community-integrated approaches among physicians and medical staff. Tools and resources to educate and align physician interests with the goals of a high-performance system are necessary, including an evolved medical school training curriculum and a mindset change to patient-centered rather than provider-centric care.

Inadequate knowledge regarding community health strengths, gaps, and needs was also mentioned as a challenge to transformative efforts. Knowing which health outcomes to measure and track, both at the individual and the population level, requires valuing data and using it to educate how changes affect the community in real and personal ways. Involving the entire community through workshops and learning opportunities fosters the collaborative problem-solving environments needed to gain support around change efforts.

Regarding funding, innovators noted that even when it was made available, there were limits and restrictions to how money could be used. Many times funds were insufficient to do everything the program or intervention needed, such as marketing, outreach, or transporting patients to appointments. Using local economic development agencies and resources may be helpful. Finally, the innovators felt that little guidance regarding program evaluation, including specific measures to use, was offered by federal agencies, demonstrations, or grant programs. Understanding how to link transformation efforts to the Triple Aim©, or high-performance health care, is not yet well defined or rewarded.

OF PARTICULAR NOTE FOR FRONTIER COMMUNITIES

The project team found that the themes, challenges, and strategies identified by both the rural innovators and frontier innovators had many similarities. However, frontier challenges were magnified—particularly issues related to distance and transportation. Evaluation challenges were magnified as well—frontier communities have smaller populations and greater challenges accessing data and analytic expertise to efficiently and effectively use information. On the positive side, the frontier innovators highlighted natural advantages in small rural communities, including capability to recognize interconnectedness and develop partnerships that provide value to patients and the organizations they serve, familiarity with patients and families that allows innovators to more readily provide support and connections to services, and recognition that small size and remote location offer a unique capacity to be a "petri dish" for experimentation and innovation. Some of the frontier programs also highlighted the value of working at a regional level not only to coordinate efforts and share resources, but also to amplify their voice in highlighting issues and concerns, which can help get the attention of elected officials, funders, and decision makers.

CONCLUSION

Incredibly innovative projects are underway in rural communities. They are moving the delivery of services toward high-performance models that incorporate clinical services and much more. While the specific innovations may be quite different (as they were among the participants in these discussions), each has the potential to improve the health of rural populations and utilize resources more effectively. The discussions among rural and frontier innovators suggested that transformation success will likely be a function of local efforts among stakeholders with high levels of mutual trust. Greater successes could be achieved if innovators were to refine the themes presented in this report and identify specific steps to overcome existing inhibitors, such as current workforce classifications and inadequate evaluation metrics. The innovators universally agreed that an opportunity for structured networking and dialogue accelerates innovation.

APPENDIX: THE BENEFITS OF INNOVATION—CASES SHOWING SUCCESS

The Rural Health Value project team, with support from the FORHP, convened a meeting of eight rural innovators in September 2013, and co-convened with the National Organization for Frontier Communities a meeting of eight frontier innovators in July 2015. Below is a brief synopsis of the organizations and innovators, and a description of their programs and interventions.

Northland Health Care Alliance for the Northland PACE/Care Coordination Program, North Dakota
Representative: Becky Wall (2013 Rural Innovators Meeting), Tim Cox (2015 Frontier Innovators Meeting)
Using a modified Program of All-Inclusive Care for the Elderly (PACE) model with a focus on alternatives to long-term care, this program has 10 care coordinators at 7 locations serving patients in 18 rural North Dakota counties. The care coordination program has served over 800 patients since it was launched in early 2013. The primary care provider is the core provider through which care is delivered, and services focus on transitional care immediately after a hospitalization, as well as coordination and care management with a focus on enhancing self-management skills. The program does not require patients to be dual eligible, but they must have a chronic disease and a history of falls or hospitalizations. Patients are not charged for services; support has initially been covered through a grant from CMMI. The program reports high patient satisfaction, and outcome measures are showing positive trending, but access to data for analysis and monitoring effectiveness has been a challenge.

Illinois Department of Public Health
Representative: Leticia Nash
A five-year Community Transformation Grant from the Centers for Disease Control and Prevention included partial funding from the Prevention and Public Health Fund. The project's 60-county service area is 45-50 percent rural. A variety of interventions are being implemented, such as a coordinated, school model, evidence-based approach to improve student wellness in schools and a plan to improve community health through increased physical activity. Regional collaborations have been developed in pursuit of these efforts (i.e., the Healthy Southern Illinois Delta Network of 16 counties). Project leaders have also started working with hospitals. For example, project leaders in Rock Island in DeKalb County are working with a health system on a birthing project with funding of $10,000 from the grant. Representatives from the Women, Infants, and Children program are also working with a hospital and using the technical expertise from the public health department.

[Appalachian Community Transitions Program, Virginia](#)
Representative: Regina Sayers

This community-based care transitions program is located in Cedar Bluff, southwest of Roanoke, Virginia, and includes partnerships with four community hospitals. The program is currently working with one CAH, however other CAHs were not participating due to concerns related to the Health Insurance Portability and Accountability Act and local control. To facilitate care transitions for patients/clients between settings, the program allows electronic information sharing between hospitals and "peer places," and includes services such as transportation to and from doctor's appointments to help clients actively manage their conditions. Information technology staff built their own program so that dashboard data is being kept on hospital readmissions. An additional grant has established a statewide care transitions project with the Quality Improvement Organization and the hospital association. Other services that have been established include Generations Intergenerational Day Care for children and adults.

[Tri-County Rural Health Network, Inc., Arkansas](#)
Representative: Naomi Cotton

Tri-County Rural Health Network, Inc., is a small, nonprofit, community-based organization located in southeast Arkansas. Priorities in this region have typically focused on ensuring access to food, clothing, and shelter, but have recently shifted to health care. The project develops lay community health workers—"community connectors"—who link residents to health resources in the community. The community health workers are paid salaries and must complete a training curriculum. The focus now is on facilitating access to home and community-based services for the elderly and those with disabilities. In launching the project, the network sought collaborators such as the county health unit and the University of Arkansas Health Science Center. Asset mapping was completed through Mid-Delta (funded by the Health Resources & Services Administration [HRSA]), and training and needs assessment completed with Mid-South Foundation funding. A medical school evaluation found Medicaid savings of $3 for every $1 invested. The pilot has since expanded from 3 to 15 counties. Tri-County receives support from the Kettering Foundation.

Mercy Health Network, Iowa
Representative: Jim Fitzpatrick

There are 29 rural hospitals in the Mercy Health System network. Mercy has implemented Lean process improvement in eight rural hospitals around Mason City. The system does not use finance as the lead indicator, but instead uses performance indicators of the Triple Aim©. Post-Lean implementation, the hospitals experienced a 51 percent reduction in patient falls, a 37 percent reduction in medical errors, and a 20 percent readmission reduction (with a target of 50 percent in 2013). The hospitals have established strong relationships with Iowa public health departments. The system has a common assessment tool across 29 communities, and all public health units are involved. The network's top three assessment issues are obesity, transportation, and behavioral health. They have also emphasized leadership education as a priority and feel that focusing on a limited number of items at a time has allowed the system to reach its goals.

PrimeWest Health, Minnesota
Representative: Jim Przybilla

PrimeWest Health is a managed care payer that administers a county-based purchasing plan owned by 13 rural Minnesota counties, offering five plans to enrollees. Since they are county-owned, PrimeWest integrates county social services and public health within the medical model. As a result, they can provide case management, health coaching, care coordination (RNs), and public health/population health services. About 11-12 percent of the total service area population is Medicare/Medicaid and covered through PrimeWest Health. The percentage is high enough for providers to employ care management strategies, and PrimeWest has supported a health homes infrastructure in the counties. Health care data analytics is supported by a grant to providers. Care coordination is supported by per-member-per-month capitated payment. Through these efforts, PrimeWest found that core competencies for care coordination should include RNs who are specialized in a particular disease and supported by others, such as master's prepared social workers. PrimeWest also offers a shared savings model for providers that includes prospective patient attribution, which they view as the training wheels to capitation. The surplus from the savings is reinvested into the health system.

Pittsburgh Regional Health Initiative, Pennsylvania
Representative: Kathy Brown

The Primary Care Resource Center project is funded through a $10 million Health Care Innovation Award from a CMMI grant to the Pittsburgh Regional Health Alliance. The Primary Care Resource Center project works with six community hospitals to lower 30-day cardiovascular disease readmissions. Funding supports care managers (RNs) and a pharmacist in each hospital to review medications during hospitalization and post-discharge, and to work with primary care offices outside the hospitals. Care managers and pharmacists coordinate and link with primary care in each community using education, home visits, care coordination, and nutrition counseling. The program uses patient electronic health records, not registries. The grant provides each hospital support that includes five FTEs (three care coordinators, one pharmacist, one administrative assistant), training, and stipends. Patients are enrolled based on disease process, but program performance is measured on readmissions. The program strives to be additive, not duplicative. The multipayer mix has created sustainability; for example, Blue Cross shares savings from prevented readmissions.

Premier, Inc., National Healthcare Alliance
Representative: Danielle Lloyd

Premier is a national health care alliance and a group-purchasing organization owned by 850 hospitals and operating 90,000 nonhospital alternative sites. Premier maintains the largest private health care database in the United States, working with a hospital engagement network contractor and the Centers for Medicare & Medicaid Services to benchmark data on readmissions and hospital-acquired conditions. Premier-sponsored collaboratives bring groups of providers together to measure, report, share, and execute processes that focus on shared goals, metrics, benchmarks, and peer learning. The Quest collaborative is similar to an accountable care organization collaborative and includes four CAHs and additional rural prospective payment system hospitals. Quest measures cost of care, mortality, patient experience, readmissions, harm, and evidence-based care. The alliance has avoided 950,000 acute care deaths and has saved $93 million. Community health measures have been difficult to measure. QUEST 3.0 will include cross-continuum and community-based measures, patient-reported outcomes, admissions and emergency department use, leadership, and culture. Retrieving granular-level data such as disparities can be challenging.

Frontier Medicine Better Health Partnership, Montana

Representative: Monica Bourgeau

This three-year CMMI grant project was led by Mineral Regional Health Center in Superior, Montana, and assisted 25 CAHs across the state. Grant funding supported better health improvement specialists at each CAH to support system change and implementation of initiatives focused on interprofessional workforce development, community engagement, data-driven best practices, value-based purchasing readiness, and integrated electronic health record systems. Specific efforts focused on widespread training and implementation of Lean methods to streamline and standardize processes, as well as on data reporting and improvement.

Pharm2Pharm, University of Hawaii at Hilo

Representative: Karen Pellegrin

With support from the College of Pharmacy at the University of Hawaii at Hilo, the program helped integrate community pharmacists into hospital and ambulatory care teams to support care transitions and decision making, and to enhance communication. Using health information exchange support, the community pharmacists play a consulting role, tracking medications across prescribers and health care settings to help make sure patients are on the right medications and are taking them properly. The pharmacists meet with patients regularly during the high-risk transition periods between hospitalization and home. The program has been implemented in three rural counties in Hawaii where physician shortages are particularly acute. The program partners are exploring opportunities to expand the training and support statewide.

Critical Access Hospital Network of Eastern Washington

Representative: Sue Dietz

The Critical Access Hospital Network (CAHN) of Eastern Washington is a network of 13 public hospital districts in rural Washington with a focus on advocating for rural health care delivery, supporting members by securing resources, and developing systems to improve local and regional care delivery and health. Through a series of projects funded by HRSA FORHP, CAHN has developed a robust patient registry and chronic disease management system and is now in the process of developing county-based coalitions to identify and address local health improvement needs.

Southwest Center for Health Innovation, New Mexico
Representative: Charlie Alfero

Located in Silver City, New Mexico, the Southwest Center for Health Innovation, in conjunction with the University of New Mexico and Federally Qualified Health Centers, is launching a Medicaid-supported community health worker program that also addresses community health issues. Under contract with the New Mexico Medicaid program, the pilot launched July 1, 2015, in five primary care settings. The program includes a three-tiered model of service delivery with a risk–adjusted, per-member-per-month payment system aligned with the intensity of patient needs. Those with the greatest health needs have one-on-one support from a community health worker, and the next lower tier has access to care coordination and chronic disease management support, either one-on-one or in a group from a community health worker. The lowest tier includes a population health focus that is financed to address broad population health needs and social determinants in the communities served.

Eastern Oregon Coordinated Care Organization, Harney County Health District
Representative: Jim Bishop

Harney County Health District, located in Burns, Oregon, includes a 25-bed CAH and a rural health clinic, as well as ambulance and emergency services, post-acute and rehabilitation care, and a wide range of therapy services. Harney County Health District is part of the Eastern Oregon Coordinated Care Organization (EOCCO). EOCCO was formed in response to the Oregon state innovation model implementation and changes in the structure of payment and delivery of services for Medicaid patients in Oregon. EOCCO has a strategy of coordinating care, implementing primary care medical homes, and focusing chronic illness management on high-utilizers to ensure the right health care is given in the right setting.

Southeast Health Group, Colorado
Representative: Nancy Harris King

One of 17 community mental health centers in Colorado, Southeast Health Group (SHG) provides behavioral health care in six southeast Colorado counties. In response to community needs, SHG started offering primary care in one location in 2013. Through a CMMI innovation grant, they implemented the TIPPING Point Project (Total Integration, Patient Navigation and Provider Training project) starting in late 2012. The project focused on using health navigators to increase access, improve quality, and reduce the cost of health care delivery for the highest users of Medicaid and Medicare. SHG partnered with a local community college, Otero Junior College, to implement a community health worker certificate program to support

training for the health navigators, and to provide potential for adoption of a statewide community health worker curriculum through the 13 colleges in the Colorado Community College System. Health navigators were given free rein to use whatever means available to support individuals in accessing health care and managing chronic disease, and provided a wide variety of services, including providing nearly 1 million miles of transportation over the life of the grant to help patients access specialty care.

NOTES

[1] The Commonwealth Fund Commission on a High Performance Health System. *Framework for a High Performance Health System for the United States.* New York: The Commonwealth Fund; 2006.

[2] Mueller KJ, Coburn AF, Lundblad JP, MacKinney AC, McBride TD, Watson SD. *The High Performance Rural Health System of the Future.* Columbia, MO: Rural Policy Research Institute; 2011. http://www.rupri.org/wp-content/uploads/2014/09/The-High-Performance-Rural-Health-Care-System-of-the-Future.pdf

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