

# Care Coordination in Rural Communities: Supporting the High Performance Rural Health System

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## Elements and Purpose of Care Coordination

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Care coordination has emerged as a key strategy under new health care payment and delivery system models that aspire to achieve Triple Aim objectives—better patient care, improved population health, and lower per capita cost.<sup>1</sup> Care coordination is also a key approach in support of creating a Culture of Health, articulated by the Robert Wood Johnson Foundation as a national movement that enables all in our diverse society to lead healthier lives.<sup>2</sup> To achieve these goals, a proliferation of care coordination and care or case management activities have been embraced by health providers, systems, payers, and communities. Care coordination definitions and models vary, but all include multidisciplinary teams and networks, person-centeredness, and timely access to and exchange of information. They contain an underlying promise that when care coordination is delivered appropriately and with intention, individual and community health improves.

Achieving the Triple Aim objectives and a Culture of Health requires conceptualizing and planning care delivery in a new way—not only coordinating medical care, but helping people get the care and the support services they need to address the “upstream” social determinants of health. Care coordination requires moving beyond a medical framework and toward a model that supports health services *and* social support systems, by integrating clinical *and* nonclinical providers. In terms of financing, care coordination requires a departure from fee-for-service, medical encounter-based payment to avoid the pitfalls of high volume/low outcome

### Care Coordination Definitions

“Care coordination involves **deliberately organizing patient care activities and sharing information** among all of the participants concerned with a patient’s care to achieve safer and more effective care.”

—Agency for Healthcare Research and Quality

“Care coordination is a **person-centered, assessment-based, interdisciplinary approach to integrating health care and social support services** in which a care coordinator manages and monitors an individual’s needs, goals, and preferences based on a comprehensive plan.”

—The National Coalition on Care Coordination

“The goal of care coordination is to make the primary care practice the hub of all relevant activity. **Care must be coordinated not only within the practice, but between it and community settings, labs, specialists and hospitals.** The responsibility of the PCMH is not just to be informed by community providers and resources, but to reach out and connect in meaningful ways with other services and link with them, so that information is communicated appropriately, consistently and without delay.”

—Safety Net Medical Home Initiative, The Commonwealth Fund

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<sup>1</sup> Triple Aim for populations. Institute for Healthcare Improvement. <http://www.ihl.org/Topics/TripleAim/Pages/default.aspx>.

<sup>2</sup> Lavizzo-Mourey R. Building a Culture of Health. Robert Wood Johnson Foundation. <http://www.rwjf.org/en/about-rwjf/annual-reports/presidents-message-2014.html>.

medicine and additional demand for primary medical care visits. Care coordination efforts currently underway by health care systems and providers reflect a growing recognition that the social determinants of health, such as income, education, environment, and behavior, together drive the health and health outcomes of people and populations more than do the medical diagnoses, testing, and clinical interventions provided in the traditional medical care delivery system.<sup>3</sup> Care coordination is an opportunity to supplement the diagnosis and treatment priorities of medicine with clinical and nonclinical prevention and management in a system that also supports the social aspects of patients' lives that contribute to health.

Rural populations could benefit from care coordination efforts. Rural communities, on average, have populations with lower educational attainment, lower socioeconomic status, and more prevalent health risk factors, such as smoking and obesity.<sup>4,5</sup> Rural places have fewer people, spread out over larger geographic areas, and higher percentages of older persons and residents living with multiple chronic conditions. Distances to providers are greater, and in many places, essential primary care providers are not locally available.<sup>6</sup> Historically, uninsured rates in rural counties have been substantially higher than in urban areas. Due to shortages in health care professionals, especially in subspecialty care, as well as to a dearth of social support services, rural communities have had to do more with less. Provisions of the Patient Protection and Affordable Care Act of 2010 (PPACA) create opportunities to enhance care coordination through payment incentives and by requiring health plans to include the services typifying care coordination. Those PPACA provisions include the following:

- Expanding health insurance coverage
- Requiring that qualified health plans cover wellness and preventive services
- Requiring that qualified health plans accept all applicants, regardless of preexisting and chronic conditions
- Promoting patient-centered medical home (PCMH) principles
- Shifting health care payments from fee-for-service to value-based or population-based purchasing

Implementing care coordination processes within and across clinical care settings, *as well as* within and across rural communities, has the potential to affect health outcomes in far more impactful ways given the attention to both medical and nonmedical factors affecting health. Notwithstanding the potential of care coordination, the unique environment of rural places must be considered when designing and implementing care coordination programs.

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<sup>3</sup> Goldman TR. Building healthy communities beyond the hospital walls. *Health Affairs*. 2014;33(11):1887-1889.

<sup>4</sup> Francisco V, Raveslout C. *State of Science Report: Overview of Rural Health*. Missoula, MT: University of Montana, Rural Training Center on Disability in Rural Communities; 2012.

<sup>5</sup> Griffin E, Coburn A. *Integrated Care Management in Rural Communities*. Portland, ME: University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center; 2014. Working Paper #54.

<sup>6</sup> What's different about rural health care? National Rural Health Association. <http://www.ruralhealthweb.org/go/left/about-rural-health>.

## Contribution of the RUPRI Health Panel

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In previous work, the Panel has described high performance rural health care systems in terms of five important pillars: affordability, accessibility, community focus, high quality, and patient-centeredness.<sup>7</sup> High performance rural health care systems are affordable for citizens and enable timely access to essential primary care services. They are responsive to local challenges and opportunities, yet recognize how regional approaches can be leveraged to meet local needs. High performance rural health care systems provide high quality and efficient patient-centered care, continually striving to improve quality and be responsive to value-driven payment. A high performance rural health care system is also responsive to the unique needs of each rural community and the residents of that community. Comprehensive care coordination is an essential element of a high performance system because it facilitates patient-centered care integration; effectively utilizes scarce rural resources; and improves clinical quality through timely information sharing among clinicians, patients, caregivers, and community-based support providers. Comprehensive care coordination builds on local rural resources and assets, and it is person-centered, using systems of support that help people engage in and drive their own health processes and improvement.

The purpose of this paper is to examine care coordination programs and processes that affect rural people and places to discover what is happening now in rural communities, how different programs and approaches are working, and who benefits. These approaches are characterized using a conceptual framework that places programs and efforts along dimensions of primary focus (patient-centric or community-centric) and delivery domain (primary care/health system or community/region). A discussion of key ingredients in terms of capacity and capability that help care coordination programs be successful in rural places follows, as does a development of approaches to the financing and delivery of care coordination that result in sustainable systems of services. We conclude the paper with policy recommendations that rural communities and state and federal policymakers should consider when designing, implementing, and crafting action for care coordination programs in rural places.

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<sup>7</sup> Mueller K, Coburn A, Lundblad J, MacKinney AC, McBride T, Watson S. *The High Performance Rural Health Care System of the Future*. Iowa City, IA: RUPRI Center for Rural Health Policy Analysis; 2011.

## Care Coordination in Rural Places

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Care coordination involves more than simply employing a care coordinator; it is a deliberate and planned approach to meeting the diverse needs of patients and families, and when done well, it is built into policies, procedures, staffing, services, and communication systems. Care coordination occurs within and around a PCMH, for example, through the use of a nurse coordinator who makes follow-up calls to patients and other providers. Care coordination also occurs in a community by local health workers who facilitate access to behavioral (including mental) health services, as well as dental and primary medical care, or to community supports like transportation, housing, financial resources, health education, nutritional food sources, or exercise facilities. Care coordination services support high-risk/high-cost patients and newly diagnosed chronic disease patients. Furthermore, care coordination can work to improve overall community health. Despite lack of agreement on a single care coordination definition, or the absence of a standardized measure of care coordination impact, care coordination in many forms is taking place in rural communities all over the United States.

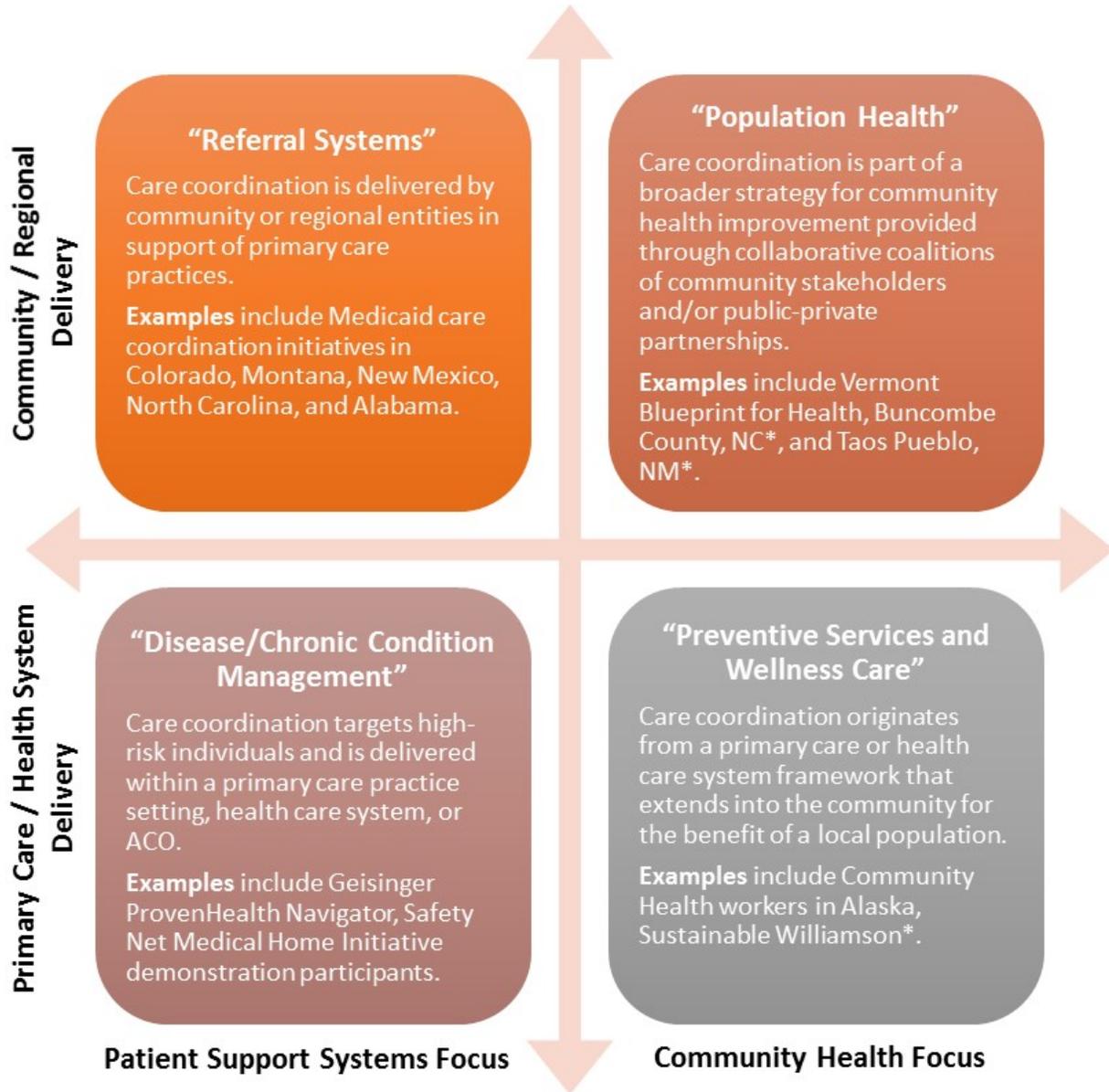
To provide an overview of the variety of care coordination programs and initiatives that are having an impact on rural communities today, we developed a conceptual schematic that illustrates programs along two dimensions (Figure 1): the **primary focus** of the program on the horizontal axis, and the **delivery domain** of the program on the vertical axis. The primary focus dimension is either patient-centric, defined as centering on *patient support systems* that coordinate care around the specific needs of patients, or community-centric, meaning that care coordination efforts have a broader *community health* focus. The delivery domain dimension captures the delivery point of the care coordination efforts, whether within a *primary care or health system* framework or from a *community/regional* collaboration with independent care coordination entities.

The lower left quadrant of Figure 1, “**Disease/Chronic Condition Management,**” contains examples of care coordination models that focus on disease or chronic care management for high-risk patients within a primary care setting or health care system delivery domain. The Safety Net Medical Home Initiative (SNMHI), a demonstration and five-year intervention,<sup>8</sup> is one example of how care coordination efforts are taking root in clinics converting to a PCMH model. The SNMHI helped 65 low-income and safety net community health centers (many in rural places) across five states transform into PCMHs. SNMHI efforts toward care coordination focused on linking patients with community resources to facilitate referrals and respond to social service needs, integrate behavioral health and specialty care into care delivery through co-location or referral agreements, track and support patients when services were obtained outside the practice, follow-up with patients within days of an emergency department (ED) visit or hospital discharge, and communicate test results and care plans to patients and their

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<sup>8</sup> The Commonwealth Fund. The Safety Net Medical Home Initiative. October 20, 2014. <http://www.commonwealthfund.org/publications/resources/2010/the-safety-net-medical-home-initiative>.

families.<sup>9</sup> A study by Derrett et al.<sup>10</sup> found two care integration strategies in rural safety net clinics were fundamental to improving care coordination in challenging rural environments— empanelment (the process of assigning individual patients to individual primary care providers and care teams), and a multidisciplinary team able to address rural issues.



**Figure 1. Care coordination models by primary focus (x-axis) and delivery domain (y-axis).**

\*Asterisked programs are recipients of the 2014 Robert Wood Johnson Foundation Culture of Health Prize.

<sup>9</sup> Care Coordination. Safety Net Medical Home Initiative. <http://www.safetynetmedicalhome.org/change-concepts/care-coordination>.

<sup>10</sup> Derrett S, Gunter K, Nocon R, Quinn M, Coleman K, Daniel D, et al. How 3 rural safety net clinics integrate care for patients. *Medical Care*. 2014;52(11 Suppl 4):S39-47.

Empanelment allowed providers and their teams to use panel data and registries to proactively contact and track patients by disease status and patient needs, and relied on additional providers (licensed practical nurses, behavioral health counselors, registered nurse care managers, and community health workers [CHWs]) to share in the planning and coordination of patient care. These additional providers were co-located with the primary care teams in the rural clinics. The multidisciplinary teams were designed to alleviate limitations associated with rural access to care by providing transportation assistance, establishing visiting clinic days from specialists, and using a multidisciplinary community resource team to improve communication and coordination with external providers, such as mental health providers.

The upper left quadrant, “**Referral Systems,**” contains models of care coordination that extend disease or chronic care management to high-risk patients via referral to community- or regional-based services for additional patient-centered supports that are usually shared across practices and patients. As an example, several state Medicaid programs leverage community-based or regional organizations to supplement and provide care coordination in places where it may be challenging to sustain reliance on individual care coordinators located in every rural primary care practice.<sup>11</sup> In Montana, care managers located in Federally Qualified Health Centers (FQHCs) coordinate care for high utilizer Medicaid beneficiaries in multi-county regions (these care managers also serve Medicaid beneficiaries referred by primary care providers outside the FQHC). Community-based networks of care managers that serve primary care providers and Medicaid beneficiaries are utilized in Community Care of North Carolina and in Patient Care Networks of Alabama. Colorado’s Accountable Care Collaborative for Medicaid beneficiaries leverages seven distinct regional care collaborative organizations across the state to coordinate care, assist with medical, nonmedical, and social supports, and connect Medicaid beneficiaries with specialists.

The upper right quadrant, “**Population Health,**” contains care coordination models that address broad, community-wide population health objectives through cooperative, multi-stakeholder coalitions. Similar to programs and efforts in the upper left quadrant, but extending beyond high-risk individuals only to entire populations within a community, these programs rely on care coordination strategies to achieve community-wide improvements in health. Vermont Blueprint for Health (Blueprint) is one example of a state-led, public-private initiative that aims to improve the health of all individuals and communities. Primary care practices and community health teams (CHTs) participating in Blueprint serve enrollees from all payers in the state, not only Medicaid or Medicare. Locally designed multidisciplinary CHTs provide care coordination services and support to Blueprint primary care practices and enrollees, extending beyond the medically complex patient population. CHTs connect Blueprint enrollees with needs to a variety of community-based resources (e.g., helping determine transportation options, assisting with

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<sup>11</sup> Stanek M, Hanlon C, Shiras T. Realizing rural care coordination: considerations and action steps for state policy-makers. [http://www.rwjf.org/content/dam/farm/reports/issue\\_briefs/2014/rwjf412058](http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2014/rwjf412058). Robert Wood Johnson Foundation. March 2014.

applications for affordable housing and insurance enrollment) as well as connect people to nonclinical specialists like dietitians and health coaches who help with weight loss or making dietary and lifestyle changes, and behavioral health specialists who provide assessment and intervention services.<sup>12,13</sup> Buncombe County, North Carolina, and Taos Pueblo, New Mexico, are additional examples of communities that have brought together multiple sectors in partnership to address local health challenges and affect population health outcomes through coordinated, community-wide programs that link health and social services.<sup>14</sup>

The lower right quadrant, “**Preventive Services and Wellness Care,**” contains care coordination models that illustrate a focus on community health (through preventive care and wellness services) and that are delivered from a primary care or health care system framework. An example illustrating an effort to improve community-wide health is another winner of the 2014 Robert Wood Johnson Foundation Culture of Health Prize, Sustainable Williamson.<sup>14</sup> This collaborative effort to tackle the health challenges (described as an epidemic of diabetes and obesity) of the community of Williamson, West Virginia, was initiated in part through leadership from the Williamson Health and Wellness Center with members of the Williamson Redevelopment Authority board. Another example, the deployment of locally based community health aides in Alaska, relies on trained CHWs to provide a range of preventive and clinical services in frontier communities. A focus on prevention, wellness, outreach, and education activities, combined with limited clinical care and more recently care coordination, leverages the community health aide to provide services and links to additional medical, social, developmental, educational, and financial supports when those services are needed to implement person-centered care plans.<sup>15</sup>

These examples illustrate care coordination programs that are positively affecting local health system processes and residents of rural places. Appendix A contains additional examples of care coordination activities in U.S. communities. The Care Coordination Resources for Rural Organization is an additional resource to help rural communities get started developing and implementing care coordination programs.

<http://cph.uiowa.edu/ruralhealthvalue/education/Improving/Care%20Coordination%20ICIC%20summary%20resource.pdf>

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<sup>12</sup> Bielaszka-DuVernay C. Vermont’s Blueprint for medical homes, community health teams, and better health at lower cost. *Health Affairs*. 2011;30(3): 383-386.

<sup>13</sup> Community Health Team. Brattleboro Memorial Hospital. <http://www.bmhvt.org/about/vermont-blueprint-for-health/community-health-team>.

<sup>14</sup> Meet the RWJF Culture of Health Prize Winners. Robert Wood Johnson Foundation. <http://www.rwjf.org/en/about-rwjf/newsroom/features-and-articles/culture-of-health-prize.html>.

<sup>15</sup> Wilger S. *Community Health Worker Model for Care Coordination: A Promising Practice for Frontier Communities*. A report by the National Center for Frontier Communities prepared in consultation with the Frontier and Rural Expert Panel. Silver City, NM: National Center for Frontier Communities; 2012.

## Capacity and Capability: Key Ingredients of Care Coordination in Rural Places

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Several fundamental building blocks must be a part of any successful care coordination effort regardless of its geographic location, delivery framework, or collaborating participants. However, because the rural context is unique (e.g., lower patient volumes, more geographically diffuse populations, stronger reliance on primary care, more easily identified patient care patterns, and fewer human and financial resources to leverage), some models are more pragmatic than others for driving the development of comprehensive care systems. Understanding the infrastructure needed to deliver comprehensive rural care coordination, and how that infrastructure aligns with (and builds upon) existing rural resources, is imperative. While care coordination requires an up-front investment in staff, training, and information technology infrastructure, the required investment should be viewed in the context of return through higher quality of care, better health outcomes, and lower expenditures for expensive medical interventions and technologies, such as fewer surgeries for diabetic patients or less use of imaging technologies or unnecessary ED use. Delivering appropriate care at the right time in the most cost-effective setting, and bridging gaps in that care through care coordination, will change how current resources are deployed, yet the shift has the potential to increase primary care volume, improve care quality, and lower long-term health care costs.

The literature on care coordination consistently highlights the importance of timely and effective information exchange, a trained care coordination workforce that helps people and communities optimize health and social processes and outcomes through relevant linkages and strong relationships, and the capability to continuously evaluate and improve care coordination programs. Each of these key ingredients is discussed in detail below, and summarized in Table 1.

**Effective Information Exchange** means that all participants involved in patient care or a person-centered care plan are involved in timely and appropriate sharing of relevant information. Ideally, care coordination is supported by a robust health information technology system that allows real-time access and tracking of comprehensive patient plans, preferences, and service use. Care coordinators who are part of PCMH teams or who participate in more formalized state Medicaid programs benefit from shared or integrated information technology platforms (e.g., electronic health records [EHRs], health information exchanges [HIEs] that include centralized data repositories to collect and share information, claims data showing all uses and costs of care) that help to identify high-risk patients, enable proactive care planning and follow-up with patients or their families or other providers, and provide the link to additional services and supports. A set of standardized criteria that identify persons who would benefit from care coordination, such as those with particular disease conditions or high-service utilizers/cost outliers, should be developed from the databases to focus care coordination efforts and to track care coordination experiences. HIEs among a network of clinical and nonclinical providers also enable tracking care of coordination activities outside of a clinical setting, and assessment of their effect on patient experience and service use outcomes. The key to effective HIEs, however, is that patient records are up-to-date, accessible, and comprehensive, and reflect patient preferences in care plans.

**Table 1. Key Ingredients of Care Coordination**

<b>Ingredient</b>	<b>Characteristics</b>	<b>Indicators of Presence and Effectiveness</b>
<b>Effective Information Exchange</b>	<ul style="list-style-type: none"> <li>• Timely and appropriate sharing of relevant information</li> <li>• Accessible and interoperable among all care participants</li> <li>• Strong relationships across care continua providers</li> </ul>	<ul style="list-style-type: none"> <li>• Capability to link, share information among clinical and nonclinical care participants</li> <li>• Real-time access to updated patient records and care plans</li> <li>• Comprehensive patient records include all relevant service use, clinical and nonclinical, and patient preferences for care</li> <li>• Social indicators and interventions reflected in health record as part of health risk assessment</li> </ul>
<b>Trained, Available Workforce</b>	<ul style="list-style-type: none"> <li>• Trained in appropriate care coordination role (e.g., nurse coordinator, community health worker, health navigator/coach)</li> <li>• Role clearly defined and understood among all care participants (patients, families, clinical and social/human service providers)</li> <li>• Function as the link between disparate elements of person-centered care plans</li> <li>• Facilitate appropriate delivery of health and social services</li> <li>• Engage patients in fulfilling their part of overall health plans</li> <li>• Integrate patient activities with care plans being implemented by other members of team</li> </ul>	<ul style="list-style-type: none"> <li>• Locally based, either in community or region</li> <li>• Strong working relationships with clinical providers and social/human services networks</li> <li>• Patient satisfaction with care coordination providers and services</li> <li>• Compliance with care plans, self-management programs</li> </ul>
<b>Evaluation and Improvement of Care Coordination Programs</b>	<ul style="list-style-type: none"> <li>• Knowledge of key care coordination activities that impact achieving patient-centered plans and experience</li> <li>• Ability to track and monitor patient-specific and community-wide measures</li> <li>• Awareness of challenges and issues in care coordination and having a process to address them (e.g., team member roles, contact with patients and families)</li> <li>• Identifying and prioritizing key improvement areas over time</li> </ul>	<ul style="list-style-type: none"> <li>• Patient health and experience (e.g., improved perception of smooth care transitions, improved satisfaction with getting care when needed)</li> <li>• Community and population health measures (e.g., better rates of control of chronic conditions, reduced rates of obesity, higher rates of screening)</li> <li>• Quality of care improvement (e.g., better compliance with care plans, less unnecessary service use and lower costs, less duplication)</li> </ul>

Even in rural places where there are high levels of EHR adoption and use in primary and acute care, there are often gaps in EHR implementation and interoperability across the rest of the continuum of care, including skilled nursing facilities, behavioral health, public health, and home health. In Minnesota, \$3.8 million in e-health grants (under the State Innovation Model (SIM) initiative) has provided funding to several rural regional collaboratives to develop or implement HIEs that help care team members from clinical, community, and social service settings better coordinate care across settings.<sup>16</sup>

Despite underdevelopment of HIE capability in some rural places, it is nonetheless critical to establish effective working relationships among all participants, or potential participants, in a person's care plan (starting with the patients and their primary care teams and extending to hospitals, nursing homes, and social and community services providers that include behavioral health providers). Care coordinators on primary care teams who receive timely notification of patient service use, for example patients' ED visits, may be able to intervene before hospitalization occurs.<sup>17</sup> Rural communities have an advantage in strength of local knowledge and relationships that can facilitate effective HIE. For additional resources on health information technology implementation considerations for care coordination in rural places, see <http://www.raconline.org/communityhealth/care-coordination/3/health-information-technology-model-implementation-considerations>.

**A Trained Care Coordination Workforce in a Rural Setting** must be available to provide a broad range of care coordination and patient support services on a primary care team, within a health system model, or as part of a regional or community approach. Care coordinators must be formally recognized within their team as the expert on community capacity for social services and available resources and conditions affecting health disparities in under-resourced communities. They must also have a clear scope of practice, and as with all valued members of the health team, receive the proper training to carry out their role and responsibilities. A role of the care coordinator is to link the many disparate elements of a person-centered care plan and facilitate the appropriate delivery of health and social services so that a person's health and social needs are met.<sup>18</sup> Coordinators also integrate patient activities with care plans implemented by other members of the team and engage patients to fulfill their part of chronic condition treatment and health status maintenance. Various configurations of patient care teams, including elements of the formal PCMH model, include one or more of the following professionals trained as care coordinators: nurses, care managers, social workers, behavioral health consultants, medical assistants, referral coordinators, health coaches, patient navigators,

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<sup>16</sup> Minnesota community collaboratives selected for \$3.8 million in e-health awards. Minnesota Department of Health. <http://www.health.state.mn.us/news/pressrel/2014/sim071714.html>. July 17, 2014.

<sup>17</sup> Hong C, Siegel A, Ferris T. *Caring for High-Need, High-Cost Patients: What Makes for a Successful Care Management Program?* Washington, DC: The Commonwealth Fund; 2014. Pub.1764, Vol. 19. [http://www.commonwealthfund.org/~media/files/publications/issue-brief/2014/aug/1764\\_hong\\_caring\\_for\\_high\\_need\\_high\\_cost\\_patients\\_ccm\\_ib.pdf](http://www.commonwealthfund.org/~media/files/publications/issue-brief/2014/aug/1764_hong_caring_for_high_need_high_cost_patients_ccm_ib.pdf).

<sup>18</sup> Perspectives on Care Coordination. Rural Assistance Center. <http://www.raconline.org/communityhealth/care-coordination/1/perspectives-on-care-coordination>.

and CHWs. In models where the care coordination function is regionalized and shared across communities (e.g., ACC in Colorado, Health Improvement Program in Montana, Vermont Blueprint for Health), care coordinator roles are clearly defined and include supporting primary care practices and enrollees (whether Medicaid or Blueprint enrollees) with assistance to medical, nonmedical, and social support resources. New Mexico's Medicaid managed care program ("Centennial Care") requires contracted Managed Care Organizations (MCOs) to provide care coordination services to meet the needs of enrollees, including utilization of core service agencies (local behavioral health entities with care coordination responsibilities) and access to telehealth services in support of care coordinators (for example, CHW training).<sup>19</sup> Developing models of integrated care delivery (such as PCMHs, Accountable Care Organizations [ACOs], and Medicaid MCOs) that focus on community health highlights the importance of the social infrastructure and its relationship to medical outcomes and presents a natural opportunity to expand the role of CHWs to care coordination.<sup>20</sup> The *Community Health Workers Evidence-Based Models Toolbox* provides several strategies and evidence-based models to show rural providers and communities how to incorporate CHWs into programs that aim to improve rural population health.<sup>21</sup>

**The Capability to Evaluate Care Coordination Effectiveness** is necessary to gauge its impact on improving patient health and experience, community and population health, and quality of care—the pillars of a high performing rural health care system affected most by care coordination activities. Evaluation is important to continually improve at the local level, and to understand the effectiveness of care coordination at a more global level. **Costs** related to health care service use are also likely to be affected by effective care coordination through reduced acute care and ED service utilization and better prescription management. **Patient experience** measures (e.g., satisfaction with care quality, trust in providers/care coordinators, strength of relationship with care providers, patient understanding of follow-up care and actions, and alignment with care plan and preferences) and **patient-reported outcomes** (better self-rated health, changes in ability to self-manage, improved knowledge of health processes or social supports available to them) are important to assess whether care coordination is affecting the patient-centeredness dimension of a high performing system. **Process measures** (e.g., reduction in duplicated services or encounters, number of referrals to other supports) and

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<sup>19</sup> Stanek M, Hanlon C, Shiras T. Realizing rural care coordination: considerations and action steps for state policy-makers. Robert Wood Johnson Foundation; March 2014. [http://www.rwjf.org/content/dam/farm/reports/issue\\_briefs/2014/rwjf412058](http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2014/rwjf412058).

<sup>20</sup> The American Public Health Association defines Community Health Workers as "a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the community health worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. A community health worker also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy."

<sup>21</sup> Community Health Workers Evidence-Based Models Toolbox. HRSA Office of Rural Health Policy. U.S. Department of Health and Human Services. Health Resources and Services Administration. <http://www.hrsa.gov/ruralhealth/pdf/chwtoolkit.pdf>. August 2011.

**health outcome measures** (e.g., changes in weight or body mass index, changes to healthy behaviors, compliance with follow-up visits or medication) reflect **quality** of care coordination. **Community and population health measures** include lower rates of obesity and smoking, better control of chronic condition symptoms, and lower health services use of expensive care settings. Other **nonclinical measures** to include are indicators of living conditions that affect health and wellness, for example transportation need, ability to access healthy food, housing conditions that are safe and free of environmental hazards, or the ability to pay utilities among people who need to keep medication cool. Additional resources on evaluation frameworks for care coordination interventions, data sources, evaluation objectives, and measures can be found at <http://www.raconline.org/communityhealth/care-coordination/5/evaluation>.

## How to Invest In and Finance Care Coordination

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Rural care coordination is currently delivered through a variety of funding (e.g., grants) and financing (e.g., payment policy) mechanisms. The following bullet points summarize several financing strategies that support care coordination and describe new financing mechanisms through Medicare:

- **Per Member per Month (PMPM) fee structure** is used in states that are reorganizing care delivery for Medicaid beneficiaries. This financing method uses a single payment per beneficiary per month paid either directly to the organization that is providing the care coordination service (for example, the FQHCs in Montana’s Health Improvement Program that hire the care coordinator), or through Medicaid MCO contracts that pay a set fee to the entities delivering the care coordination services (e.g., New Mexico’s MCOs paying community-based core service agencies and primary care providers). This approach can result in a sustainable rural financing model for care coordination if the PMPM payment is sized to the population being served (e.g., the top 5% of chronically ill Medicaid patients in a FQHC service area in Montana, or the local population being served by the community organization in New Mexico).
- **Multi-Payer Payment for Shared Capacity** is the financing mechanism employed by Vermont’s Blueprint for Health. All insurers (commercial and public) share the cost of the PCMH + CHT model. There are two payment reform components to Blueprint financed through enhanced payment, one for PCMH Transformation (average \$2.00 PMPM by commercial insurers and Medicaid) and one for CHT Capacity (average \$1.50 PMPM by commercial insurers and Medicaid). Funding available to support a local CHT is sized to the population served by the PCMHs in each Hospital Service Area, and was set in 2013 at the level of \$350,000 per year for a general population of 20,000 served by the practices (or \$17,500 per year for every 1,000 patients).<sup>22</sup> The capacity payment is meant to establish the community-based care support infrastructure available to primary care practices and the general populations they serve.
- **Population-Based Payments** made under global budgets, capitation, or bundled payment methods, shift the risk of poor care quality and care coordination costs to the entity providing the care. In return, there is an expectation for lower medical utilization costs. Integrated delivery systems and ACOs are expanding care coordinator roles to improve quality of care, smooth transitions across settings, and identify nonmedical/social barriers to adherence and compliance (e.g., getting to follow-up appointments, achieving healthy changes in diet or lifestyle behaviors). The goal is to achieve patient-centered health objectives while reducing health care utilization (costs) that may be wasteful or inappropriately costly to the delivery organization.

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<sup>22</sup> Vermont Blueprint for Health: 2013 Annual Report. Department of Vermont Health Access. January 30, 2014. <http://hcr.vermont.gov/sites/hcr/files/pdfs/VTBlueprintforHealthAnnualReport2013.pdf>.

- **Grant funding** in Montana finances CHWs who function as care coordinators for Medicare beneficiaries and residents of frontier communities via the Montana Care Coordination Network. Funding is provided through the Frontier Community Health Care Coordination Demonstration Grant.<sup>23</sup> This grant supports care coordinators under the direction of a care transitions coordinator. Oregon’s CHWs working in care coordination capacities are also currently grant funded.
- **Medicare Care Coordination Current Procedural Terminology (CPT<sup>24</sup>) codes** allow practices to bill for transitional care management (TCM) activities as patients move from one setting to another (for example, hospital to home or skilled nursing to home). Chronic care management (CCM) CPTs are available for practices that perform care coordination for Medicare beneficiaries with two or more chronic conditions.<sup>25</sup> CCM services do not have to be provided face-to-face after an initial medical assessment, and may be provided by other members of the patient care team. Practices may use the CCM CPT codes once per qualified beneficiary per month and must have a 2013-certified EHR system to bill Medicare for the CCM code, which may limit its use among rural practices without EHR systems in place.

While care coordination activity is increasing, a number of funding, workforce, and HIT policy considerations and implications exist that may facilitate or obstruct optimizing care coordination in rural places. These are considered in the following section.

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<sup>23</sup> Wilger S. *Community Health Worker Model for Care Coordination: A Promising Practice for Frontier Communities*. A report by the National Center for Frontier Communities prepared in consultation with the Frontier and Rural Expert Panel. Silver City, NM: National Center for Frontier Communities; 2012.

<sup>24</sup> CPT<sup>®</sup> is registered trademark of the American Medical Association.

<sup>25</sup> Fact sheets: Policy and payment changes to the Medicare Physician Fee Schedule for 2015. <http://www.cms.gov/newsroom/mediareleasedatabase/fact-sheets/2014-Fact-sheets-items/2014-10-31-7.html>. October 13, 2014.

## Policy Recommendations

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Care coordination protocols and programs play an important role in developing sustainable high performance health systems in rural places. As illustrated in Figure 1 earlier in this document, care coordination should be built on two pillars of a high performance system—patient-centeredness and community focus. Successful programs will also contribute to the other three pillars of the high performance system—affordability, access, and quality.

**Recommendation 1:** Care coordination program effectiveness should be assessed using metrics related to the five pillars of a high performance *rural* health care system: (1) patient engagement as it relates to the pillar of “patient-centeredness”; (2) the development and use of local community-based resources, including formal and informal linkages with social service providers, as a reflection of “community focus”; (3) reducing total cost of care, as absorbed by patients, payers, and/or taxpayers in support of “affordability”; (4) improved access to services facilitating health maintenance and wellness reflecting the pillar of “accessibility”; and (5) improved overall quality of care that promotes the pillar of “high quality”. This recommendation should be implemented through requirements for receiving grants, payments, and other support to develop care coordination programs.

Encourage development and implementation of rural care coordination programs using current policy levers.

**Recommendation 2:** New Medicare payment for chronic care management services provides incentives to include care coordination services in primary care practices. When commenting on the proposed rule for this payment, the Panel recommended flexibility regarding access to care management services requirements, especially in remote, frontier regions. We also recommended, and continue to recommend, that the Centers for Medicare and Medicaid Services (CMS) develop a methodology that would make this new payment available to Rural Health Clinics and FQHCs.

**Recommendation 3:** The new CMS supported Health Care Payment Learning and Action Network (announcement updated March 25, 2015) should, as one of its foci, provide a platform to learn more about refining payment systems to reward care coordination programs that contribute to all five pillars of the rural high performance system.

Develop, implement, and evaluate care coordination programs using existing grant, loan, and demonstration programs.

**Recommendation 4:** Grant programs focused on rural health should be designed to serve as catalysts for community-based health systems and organizations to collaborate in new care coordination programs, specifically incorporating requirements to measure achievements across all five pillars.

**Recommendation 5:** Support for new technology, including telehealth and new information systems, should facilitate care coordination through capabilities to extend services into homes and share information across providers and organizations. Funding

available through public grants and private foundations could be used as investment capital.

**Recommendation 6:** Training the new workforce needed in care coordination (e.g., care coordinators, health coaches, and patient navigators) should be incorporated into special grant programs such as the SIM implementation grants. Similarly, public grant funds or private sources should be used to create recruitment incentives, such as loan forgiveness, to attract the workforce needed into rural communities.

Finally, consideration should be given to new policy directions.

**Recommendation 7:** As payment systems evolve toward population-based payment, special consideration should be given (as a transition strategy) to financing the infrastructure needed for care coordination program development. Population-based payment systems would then sustain care coordination services.

**Recommendation 8:** Support should be provided for research to determine the relative effectiveness of different care coordination approaches in rural settings. Research results should be widely available, and a platform should be created to exchange best practices.

## Conclusion

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Care coordination capacity helps patients and families to receive care locally (when appropriate), reducing time, travel, and stress, while assuring high quality care and positive patient experiences. It reduces the burden of patient support within the medical delivery model by creating patient interaction opportunities outside of the exam room or clinic setting in lower cost facilities and patient homes provided by community-based organizations trusted by patients and their families. It has the potential to reduce overall health care costs by reducing duplicate services, increasing health care delivery efficiency, and promoting the best use of clinical and nonclinical services that help people achieve their health goals.

Care coordination is an innovative health care strategy that can facilitate the integration of medical services, human services, wellness focus, and person-centeredness. Investment in integrative strategies such as care coordination also may result in significant rural community benefit—local economic development, population health maintenance and improvement, workforce productivity, meaningful local employment, and jobs for less skilled health system staff—thereby reducing the need for people to leave their community for gainful employment or advanced degree attainment elsewhere.

Rural communities and providers should actively explore and implement care coordination and other integrative health care services that support rural community health and vitality, researchers should study current and emerging rural care coordination models, and policymakers should be attentive to the benefits and implications of policies that facilitate or inhibit effective care coordination in rural areas.

## Appendix A

### Alaska Community Health Aide Program

Rural  Urban

**Characteristics:** Local, indigenous people are employed as primary care nonphysician providers in remote, frontier communities to address the difficulties associated with health worker shortages.

**Setting:** Clinics in Alaskan rural villages.

**Target Population:** Rural populations with specialized focus on Native American populations.

**Resources:** 550 community health aides/practitioners in more than 170 rural Alaska villages. Resources associated with certification include four training sessions that each last three to four weeks.

**Funding:** Indian Health Services, Denali Commission (federal), federal Community Health Center.

**Services:** Basic patient care such as physical exams, assisting in administering medication, and rudimentary labs for blood glucose, pregnancy, strep, etc.

**Outcomes:** Positively perceived by communities, neonatal mortality rate -27%, decreased hospitalization rates and length of stay, improved life expectancy.

**Links:** <http://www.akchap.org/html/about-chap.html>; <http://www.uaa.alaska.edu/acrh-ahec/projects/archives/upload/2004chap-lit-rev.pdf>

### Geriatric Resources for Assessment and Care of Elders (GRACE)

Rural  Urban

**Characteristics:** Nurse practitioner and social worker assess patients in their home and generate individualized reports for patients' primary care physicians that provide feedback. Nurse practitioners then review a plan with patients to ensure consistency with patient preference before implementation.

**Setting:** Community-based primary care health centers.

**Target Population:** Low-income seniors (less than 200% federal poverty line).

**Resources:** Central information technology system, primary care physician (PCP), social worker, nurse practitioners, interdisciplinary teams spanning pharmacists, social workers, physical therapists, and geriatricians.

**Funding:** Implementing health care system.

**Services:** Develop care plans through consideration of dementia, depression, ambulation, nutrition, pain, vision, hearing, health maintenance, advance care planning, and caregiver burden.

**Outcomes:** High-risk groups showed input costs associated with preventive and chronic care offset by reduction in acute care costs. Cost neutral from health care delivery system perspective. Clinical evidence of reduced emergency department (ED) visits, improved general health, vitality, social functioning, and mental health.

**Links:** <http://www.ncbi.nlm.nih.gov/pubmed/16866688%20>;  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3874584/>

### Program of All-Inclusive Care for the Elderly (PACE)

Rural  Urban

**Characteristics:** The intent is to keep elderly individuals in community-based living arrangements as opposed to nursing home care. This is achieved through the coordination of health care professionals and family caregivers, if applicable.

**Setting:** PACE programs exist in urban and rural locations. Characteristics are reflective of the setting.

**Target Population:** 55+ in need of nursing home level of care. Provider grants exist for rural areas.

**Resources:** The program utilizes primarily PACE-certified physicians under a medical director.

**Funding:** Medicare and Medicaid pay for PACE, and prescriptions are funded through Part D Medicare. If an individual is enrolled in neither program, the opportunity exists to privately finance enrollment.

**Services:** Overall focus on preventive care, with additional services provided for prescription drugs, physician visits, transportation, home care checkups, physical therapy, nutritional counseling, adult day care, and nursing home stays when necessary.

**Outcomes:** Varying program demographics have resulted in a variation in outcomes. Overall, the programs' maturity was positively associated with functional and self-assessed health outcomes.

**Links:** <http://www.medicare.gov/Pubs/pdf/11341.pdf>;  
<http://www.ncbi.nlm.nih.gov/pubmed/17718666>

### Guided Care

Rural  Urban

**Characteristics:** Guided Care is a structured format through which primary care is enhanced by incorporating chronic care innovations and operative principles of disease management.

**Setting:** Hospitals, patient-centered medical homes (PCMHs), and primary care physician practices.

**Target Population:** Patients with multiple chronic diseases.

**Resources:** Licensing entails in-depth training for physicians and nurses on appropriate practices in handling complex patients. Emphasis is placed on "best practices."

**Funding:** To adopt the Guided Care model, practices must obtain a license through Johns Hopkins University (original developers of Guided Care).

**Services:** A guided care nurse and primary care physician work collaboratively to develop treatment plans with the patient and caregivers. Regular monitoring and coaching, transitional care, care coordination, and access to community resources are facilitated.

**Outcomes:** Preliminary pilot studies demonstrate a reduction in health care utilization and total insurance expenditures for high-risk older adults.

**Links:** <http://www.guidedcare.org/>; <http://www.ncbi.nlm.nih.gov/pubmed/18279112>

### Community Connections – Hidalgo Medical Services

Rural  Urban

**Characteristics:** The goal of the Community Connections care coordination program is to increase access to primary care and social support services for uninsured adults in Grant and Hidalgo counties.

**Setting:** Federally Qualified Health Center (FQHC) (Hidalgo Medical Services).

**Target Population:** Uninsured and underserved adult populations in Grant and Hidalgo counties.

**Resources:** All care and care coordination is administered through the FQHC.

**Funding:** Historically the program was funded by the New Mexico Department of Health. Funding has transitioned to the Hidalgo Medical Services, a community health center.

**Services:** Care coordinators work to coordinate needs including housing, medication assistance, cash assistance, public-funded health insurance, and transportation.

**Outcomes:** General trends demonstrate improved patient health outcomes and lowered health care costs.

**Links:** <http://www.hms-nm.org/>

### CareOregon – Care Coordination Organization (CCOs)

Rural  Urban

**Characteristics:** The intent is to connect high ED utilizers with patient-centered medical homes (PCMHs). Oregon's entire Medicaid population has been transitioned to regional CCOs with medical homes.

**Setting:** EDs, hospitals, and PCMHs.

**Target Populations:** Medicaid recipients that are high utilizers with dozens of ED visits and multiple hospitalizations every year.

**Resources:** PCMHs, primary care physicians, and care coordinators.

**Funding:** Medicaid acts as a primary financier and operates under a capitated budget.

**Services:** Previously developed treatment plans are faxed to the ED at the time of the patient visit. Treatment plans include reminders to call the PCMH program outreach workers to direct the patient back to a primary care physician. PCMHs provide preventive and chronic care.

**Outcomes:** Primary care utilization +18%, ED utilization -9%. Hospitalization for congestive heart failure -29%, chronic obstructive pulmonary disease -28%, and adult asthma -14%.

**Links:** <http://managedhealthcareexecutive.modernmedicine.com/managed-healthcare-executive/content/tags/accountable-care/oregon-coordinated-care-organizations-pro?page=full>

### Community Health Workers (New Mexico)

Rural  Urban

**Characteristics:** The primary purpose of the community health workers (CHWs) is to serve as a bridge between hospitals/clinics and communities.

**Setting:** Clinical settings and alternative care settings (i.e., urgent care centers).

**Target Populations:** High consumers of health services in Medicaid managed care systems.

**Resources:** Care coordinators. CHWs can be community health representatives, peer health promoters, lay health advocates, peer health educators, etc.

**Funding:** W. K. Kellogg Foundation funding was used for initial start-up funding until Medicaid contract revenues began to support the programs. Some CHWs are volunteers and some are supported by grant funding.

**Services:** CHWs provide interpretation and translation services, culturally appropriate information, informal counseling, and minimal direct assistance (blood pressure screening and first aid).

**Outcomes:** Reduction in number of claims and payments, with a 4:1 return on investment costs. Initial input was \$521,343 and savings were \$2,044,465.

**Links:** <http://www.nmchwa.org/>; <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3343233/>

### Community Care of North Carolina

Rural  Urban

**Characteristics:** Community Care of North Carolina is a statewide, community-based, physician-led program that is focused on establishing access to PCMHs and coordinating care for vulnerable populations.

**Setting:** Local hospitals and PCMHs.

**Target Population:** Socioeconomically disadvantaged populations (Medicaid population emphasis).

**Resources:** 14 regional networks with 1,500 participating primary care practices.

**Funding:** Medicaid-supported program funded through a capitated system.

**Services:** Transitional care model. Core activities include comprehensive medication management, face-to-face self-management education for patients and families, and timely outpatient follow-up with PCMHs.

**Outcomes:** CCNC saved nearly \$1.5 billion in health costs between 2007 through 2009 while recording lower inpatient and ED utilization with higher primary care visits and pharmaceutical prescriptions.

**Links:** <http://www.communitycarenc.com/>;

<https://www.communitycarenc.org/media/files/transitional-care-cut-hospital-readmissions-north-carolina-medicaid-patients.pdf>

### Missoula Aging Services

Rural  Urban

**Characteristics:** Missoula Aging Services strives to make complex medical services more easily accessible and understandable through education, referrals, and personal individualized services.

**Setting:** The Missoula Aging Services' Resource Center, a nonprofit organization.

**Target Population:** Seniors and people with disabilities, their caregivers, and other interest parties.

**Resources:** The institution has access to over 400 referrals and resource specialists, and provides Medicare and Medicaid classes, nutrition programs, and additional case management programs.

**Funding:** Historically funded by the Missoula County Commissioners, with a partial transition to fundraising from the private sector and fee-for-service funding approaches as public funding has decreased.

**Services:** Providing Meals on Wheels for homebound adults, teaching New to Medicare classes, caregiver support, case management, referrals, and person-centered services.

**Outcomes:** In 2012, 15,925 individuals took part in one or more services provided by the program. The nutrition program alone delivered 90,452 Meals on Wheels to 600 homebound people.

**Links:** <https://missoulaagingservices.org/>

### Wyoming Rural Care Transition Program

Rural  Urban

**Characteristics:** The program is a statewide patient-centered program designed to help patients with complex conditions transition between care settings, while building knowledge and skills for managing their conditions.

**Setting:** Hospital, medical neighborhoods, alternative care settings (i.e., nursing homes, PCMHs).

**Target Populations:** Patients aged 65 years or older who have chronic, complex conditions.

**Resources:** Care transition nurse coach (CTNC)

**Funding:** Grant-based: Centers for Medicare and Medicaid Services Health Care Innovation Award.

**Services:** A CTNC assists a patient in creating a personal health record at the time of discharge from a hospital with a review of medication management. Coordination of care during a transition to other settings is facilitated with information sharing between providers, and follow-up visits are scheduled.

**Outcomes:** Preliminary studies demonstrate increased self-management behavior, increased quality of life, decreased illness exacerbation, and decreased costs.

**Links:** <http://cheyenneregional.org/sites/wyoming-institute-of-population-health/healthcareinnovationaward/wyoming-rural-care-transition-program/>

### High Plains Community Health Center Care Teams

Rural  Urban

**Characteristics:** The focus is on supporting the providers in regions with a limited number of physicians and where recruiting additional providers is unrealistic. By supporting providers, patient care is improved as a direct result.

**Setting:** High Plains Health Center.

**Target Populations:** Underserved patients within the geographical region.

**Resources:** Health coaches, medical assistants, and existing physician population.

**Funding:** Funding through the Health Resources and Services Administration Patient Visit Redesign grant and supplemental operating budget.

**Services:** Implementation of care teams of three medical assistants to support each provider, with additional patient support through health coaches. Patient facilitators handle clinical support tasks, answer phones, and process medical records. Culturally and linguistically competent health coaches to assist Hispanic patients.

**Outcomes:** The area has seen approximately \$500,000 per year in savings, and improved health outcomes in patients with chronic diseases like cardiovascular disease and diabetes.

**Links:** <http://futurehealth.ucsf.edu/Content/11660/2010->

[11\\_High\\_Plains\\_Community\\_Health\\_Center\\_Redesign\\_Expands\\_Medical\\_Assistant\\_Roles.pdf](#)

## About the Authors

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## About the Rural Policy Research Institute

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The Rural Policy Research Institute (RUPRI) provides unbiased analysis and information on the challenges, needs, and opportunities facing rural America. RUPRI's aim is to spur public dialogue and help policymakers understand the rural impacts of public policies and programs. RUPRI is housed within the College of Public Health at the University of Iowa. RUPRI's reach is national and international and is one of the world's preeminent sources of expertise and perspective on policies impacting rural places and people. Read more at [www.rupri.org](http://www.rupri.org).