



The Colorado Health Foundation™



BRIEF

Integrated Care: Putting the Pieces Together for Patient Care

July 2009

Integrated Care

The U.S. health care system delivers disjointed care with often mediocre results at a premium price. While America spends more on health care than any other country—\$5,711 per person in 2003¹, it's not getting much bang for its many bucks. According to World Health Organization statistics, the United States ranks only 30th in life expectancy.² With the prevalence of poor-quality care, acute conditions turn into chronic ones and mild conditions become severe, often requiring expensive emergency room treatment. And, because health care is not coordinated, patients can undergo unnecessary and duplicative testing that stresses the patient, slows treatment and increases costs.

Take Michael, who routinely goes for dialysis on Monday, Wednesday and Saturday afternoons. One day, during a routine foot check, his doctor discovered he had an ulcer on his left foot that would require daily dressings. Because Michael's vision and manual dexterity were limited, his doctor called to arrange for a home care nurse to change the dressing on his non-dialysis days. The home care nurse asked, "Where are you calling from again?" The doctor repeated that he was calling from the dialysis unit of the local hospital. There was a pause, then the nurse continued, "Well, that explains why Michael is never home on Monday and Wednesday afternoons for us to check his blood sugar. I didn't even know he was on dialysis! We've been seeing him for six months at the request of the diabetes clinic—do they know about his dialysis or foot ulcer?"

This scenario illustrates the problems that come with fragmented health care delivery. Had services been better integrated, the diabetes clinic, home care and dialysis unit could have worked together to monitor Michael's diabetes. And, at least two home care visits per week could have been eliminated since Michael's blood sugar was already being checked at each dialysis treatment. Duplicative testing and unnecessary appointments cost both Michael and the health care system time and money. This is one example of how the system drives costs up and quality down for everyone. Perhaps more importantly, Michael's story demonstrates the potential benefits of a comprehensive and integrated system.

A Bigger Problem on the Horizon

Poor-quality, expensive health care is particularly troubling considering the population of older adults is growing at a rapid rate. Between 2008 and 2020, the number of Coloradans aged 65 years and older is projected to increase by 88 percent.³ People in this age group typically have at least one chronic condition that could be better, and more cost-effectively, managed in an integrated system of health care.



What is Integrated Care?

There is no single definition of integrated care. It is a broad concept touching all aspects of our health care delivery system including providers, consumers, technology and communities. And, there is no single model of integration because the concept includes so many dimensions. The Institute of Medicine defines integrated care as health care that is comprehensive, continuous, coordinated, culturally-competent and consumer centered.⁴ Integrated care can also be described in terms of the approach used for coordinating activities between health care entities and the different forms and levels of integration.

While moving to a model of integrated health care in the United States is desirable, it is important to note that not everyone needs integrated care. For people who are generally healthy, the current system of fee-for-service health care is sufficient. But for many, a better solution is needed. As the health issues of an individual become more complex, such as multiple chronic conditions with potentially conflicting prescriptions, there is a greater need for coordinated and, ultimately, integrated care. Health care system research presents three nested levels of integrated care: clinical integration, organizational integration and system integration.

Clinical Integration

Clinical integration refers to the coordinated care and direct support provided to individuals by their providers in a clinic setting. An important component of clinical integration is the patient-centered medical home. It is not a place, but rather a health care model that provides patients with timely, well-organized care and enhanced access to providers. It enables the primary care provider and care manager to coordinate health care services and community resources. It also supports patients and their families with healthy choices to prevent or better manage chronic illness. Quality and safety are improved in medical home models through the use of health information technology (HIT), evidence-based and preventive medicine, and clinical decision-support tools, all of which help provide integrated services through a process that is seamless to the patient. The medical home is an anchor for the success of an integrated health care delivery system.

Co-located services is a mode of clinical integration in which dental, mental and physical providers are all housed in the same organization thereby reducing administrative duplication, increasing efficiency and improving the quality of a patient's experience. It is important to emphasize, however, that co-location only means integration if the health center creates processes allowing the different providers to collaborate, communicate and coordinate care.

In Michael's case, a clinically integrated system would offer a care manager who would coordinate his dialysis treatments, regular foot and vision exams, wound care, and blood sugar checks to ensure that he receives appropriate care on schedule and does not have to endure duplicative procedures. Such efficiencies would streamline treatment of Michael's chronic condition, improve his quality of life and reduce medical costs.

Organizational Integration

Organizational integration can be built upon successful clinical integration. It involves the coordination and management of two or more organizations that address acute care, rehabilitation needs, community care and primary care. These partnerships might include information sharing using HIT and coordinating care for shared patients.

For Michael, organizational integration would offer more thorough care and management of another potential chronic disease. During routine check-ups, medical assistants at Michael's clinic, who are trained to complete a depression screening during every diabetic patient visit, would monitor Michael for depression which is commonly seen in diabetics. If Michael needs behavioral health services, they would be made available to him on-site at the clinic because in the organizational integration model, the clinic likely partners with a local community mental health center. In addition, Michael's caregivers can better coordinate his care by referring to and updating a common electronic health record with their treatment plans and test results. Finally, to guarantee that everyone is on the same page, the mental health center staff and clinic staff would meet weekly to discuss his progress.

Overall, organizational integration would improve the quality of Michael's care in several ways. By monitoring Michael regularly for conditions that are often associated with diabetes patients, providers can identify and treat these conditions before they become acute and difficult to manage. By using an electronic health record, each of his providers make decisions based on the same medical history, decreasing the possibility of medical errors and duplicative testing, including lab results, medications, allergies, diagnosis and other reports. Having Michael's electronic health record would allow each of his doctors to treat him more efficiently and effectively, saving time and money.

System Integration

To achieve the best measurable results in health care including cost savings, improved patient outcomes and increased safety, the ultimate objective is system integration. Health care system integration involves coordinated strategic activities such as planning, financing and purchasing; program eligibility; and service coverage within a geographic area. Building upon the success of local clinical integration and organizational integration, a state/region moves toward system integration when it makes progress in determining its health priorities, and mobilizing its community resources and health care system to address those priorities. To pursue system integration, the community forms a coalition to create processes for improving accountability of the health care system; strengthens connections among providers and community resources; and supports care coordination across the health care system and community. The coalition's goal of system-wide integration is to improve the health of all residents while reducing health care costs. It also refocuses the health care system from reactive, episodic health care to proactive care that is actively preventing chronic illness or acute care and managing health.

In Michael's community, he could be treated for diabetes within the region's comprehensive integrated health care system. As a region, the Public Health Department convened employers, payers, local government, consumers, providers and community service providers to create common communication strategies, financial resources and technical systems to ensure the community is preventing and managing diabetes—an identified health concern of the community. Local providers and communities pool appropriate resources to better serve the breadth of residents with diabetes and related disorders.



Michael could have been diagnosed earlier with diabetes at a community health fair's free screening offered through the Public Health Department. And, his endocrinologist, home health agency, dialysis center, primary care clinic, family caregivers and Michael would have jointly developed a care plan that accounts for all of his needs, including his psychosocial needs and any other chronic conditions. The care plan is coordinated by a single care manager and based on a single electronic health record. The community's health information exchange (HIE) network facilitates care coordination between and among Michael's various providers, his family and himself, to ensure the duplication of health care procedures and medication mismanagement is avoided.

In Michael's community, his primary care provider and care manager know about the exercise programs for seniors with chronic illness at the local recreation center and about the nutrition education and the chronic disease self-management programs at the local senior center. Both the Area Agency on Aging and the Public Health Department secured funding for these programs to help Michael's community reduce the burden of diabetes on its health care system. Michael's care manager would connect Michael to these programs at the senior center and the recreation center. She would also arrange for transportation to these programs and his dialysis appointments, minimizing potential barriers to accessing these resources for Michael.

Integrated Care and the Colorado Health Foundation

Integrated care is key to achieving the Colorado Health Foundation's **Health Care** outcome: All Coloradans receive quality, coordinated health care because those who do are healthier. Integrated care also directly affects four of the Foundation's measurable results:

- Increase the number of underserved Coloradans who receive integrated care
- Increase the number of underserved Coloradans who regularly receive primary, mental health or dental health care
- Increase the number of patients who receive evidence-based care
- Increase the number of Coloradans who are educated on chronic disease management

To date, the Foundation has awarded \$25.7 million in integrated care grants for 43 different projects (Table 1). An example in the area of clinical integration is the three-year, \$750,000 grant to the Metro Community Provider Network, which supports the transformation of the Potomac Street Health Center in Aurora into a medical home for people with disabilities and for frail older adults. The Foundation's \$150,000 grant to the Mental Health Center Serving Boulder and Broomfield Counties is an example of organizational integration as it helps provide access to integrated health services to more than 30,000 low-income residents of Boulder County each year. To assist the Quality Health Network with system integration, the Foundation awarded the organization approximately \$3.9 million to expand its existing HIE network to several Western Slope communities over the next three years, electronically integrating 354 additional physicians, 10 more hospitals, and ensuring that providers have access to secure, comprehensive health data for more than 200,000 individuals.

Table 1. *The Colorado Health Foundation's Integrated Care Grants*

Organization	Project	Grant	Details
Projects that Foster Clinical Integration			
Asian Pacific Development Center of Colorado	Integrated Health/ Behavioral Health Project	\$142,858	Support the assessment, planning and implementation of a community clinic in Denver that will provide culturally competent services to Asian Americans, Native Hawaiians and Pacific Islanders.
Centura Health – Porter Hospice	The Butterfly Program for Terminally Ill Children	\$25,000	Make end-of-life services available to children with terminal illness and to their families while the children continue to receive aggressive treatment.
Colorado Access	Promoting Resources for Integrated Care and Recovery (PRICARe)	\$750,684	Support an integrated care pilot program to place a physical health care provider in a community mental health center that serves 1,500 individuals with severe and persistent mental illness.
Colorado Clinical Guidelines Collaborative (CCGC)	Family Medicine Residency Practice and Curriculum Improvement Project	\$2,261,992	Help Colorado's family medicine residency programs become certified Patient-Centered Medical Homes in a collaborative effort among CCGC, the Department of Family Medicine at the University of Colorado and the Colorado Institute of Family Medicine.
Colorado Coalition for the Homeless	Ambulatory Medical and Behavioral Health with Case Management EMR	\$10,000	Develop a plan for implementing health information technology to provide patients with better integrated, higher quality care.
Colorado Community Health Network	Transforming Safety Net Clinics into Medical Homes Initiative	\$500,000	Serve as the regional coordinating center for the initiative.
Colorado Department of Health Care Policy and Financing	Colorado Integrated Care Collaborative (ICC)	\$877,202	Develop, implement and evaluate innovative models of care for high-cost adult Medicaid beneficiaries with multiple chronic conditions, using tailored intensive case/care management programs that integrate services.

Table 1 (continued). *The Colorado Health Foundation's Integrated Care Grants*

Organization	Project	Grant	Details
Projects that Foster Clinical Integration (continued)			
The Colorado Health Foundation	School-Based Health Center Initiative – Phase II	\$192,925	Strengthen school-based health centers throughout Colorado to ensure that more students have access to primary and mental health care; are enrolled in Medicaid and Child Health Plan <i>Plus</i> ; and are educated on how to eat better and exercise more, thus improving their performance in school and in life.
The Colorado Health Foundation	<i>Healthy Connections</i> Phase II	\$4,417,312	Broaden the use of HIT in safety-net clinics, thus improving the quality of care; reducing errors and costs; and streamlining administration.
The Colorado Health Foundation	Strengthening the Safety Net	\$19,482,914	Fund high-performing community health centers to ensure that low-income, uninsured and underinsured Coloradans are able to access high-quality, coordinated health care services, and to leverage federal American Recovery and Reinvestment Act (ARRA) dollars
The Denver Hospice	Pathways Palliative Care Program	\$377,000	Manage the pain and symptoms of 500 patients with life-limiting illness and the needs of their families, regardless of ability to pay.
Denver Indian Health and Family Services Inc.	General Operating Support	\$100,000	Provide comprehensive integrated services, including physical, mental and oral health care to low-income and under/uninsured metro Denver American Indian and Alaska Natives.
Greeley Center for Independence	Development of Primary Care Clinic for People with Severe Physical Disabilities	\$102,000	Establish a clinic to provide primary care services to people with severe physical disabilities due to spinal cord injuries, degenerative neurologic disease and traumatic brain injury.

Table 1 (continued). *The Colorado Health Foundation's Integrated Care Grants*

Organization	Project	Grant	Details
Projects that Foster Clinical Integration (continued)			
Hospice and Palliative Care of Northern Colorado, Inc.	Palliative Care	\$300,000	Establish a palliative care program in Weld and Larimer counties in partnership with North Colorado Medical Center, Hospice and Palliative Care of Northern Colorado, Inc., and Centennial Health Care Center.
Hospice and Palliative Care of the Gunnison Valley	The Gunnison Valley Palliative Care Program	\$105,000	Develop provider teams, educate the community, and evaluate and refine the Gunnison Valley Palliative Care Program to help people with terminal illness manage their pain and symptoms.
Inner City Health Center	Dental Programs	\$950,000	Build capacity to support increased access to comprehensive oral health care for uninsured and low-income communities, provide quality affordable care and promote disease prevention and education.
Marillac Clinic, Inc.	General Operating Support	\$780,400	Provide quality, comprehensive and integrated care to approximately 8,000 uninsured residents of Mesa County.
Metro Community Provider Network	A Medical Home Model for Potomac Street Health Center	\$750,000	Support the transformation of the Potomac Street Health Center into a medical home for people with disabilities and frail older adults to allow coordination of specialty care, acute care, mental health care and long-term care, as well as social services.
Metro Community Provider Network	Oral Health Expansion Project – Jefferson County	\$500,000	Expand the oral health services available at the Metro Community Provider Network's Arvada clinic.
Salud Family Health Centers	Improve Access to Mental Health Services	\$300,000	Screen for and treat mental health problems in the primary care setting to provide patients with more integrated health care services.

Table 1 (continued). *The Colorado Health Foundation's Integrated Care Grants*

Organization	Project	Grant	Details
Projects that Foster Clinical Integration (continued)			
Salud Family Health Centers	Oral Health Services for the Medically Underserved	\$450,000	Provide support for personnel and equipment to successfully operate the dental clinic and provide services to ensure individuals and families have access to oral health care.
Salud Family Health Centers	Dental Program at the Brighton Salud Family Health Center	\$500,000	Expand dental services for at-risk, low-income, uninsured individuals in Northeast Colorado.
Savio House	Multidimensional Treatment Foster Care	\$450,000	Recruit foster families and deliver an intensive, evidence-based mental health treatment program to adolescents aged 12 to 18 with chronic antisocial behavior, emotional disturbance and delinquency problems.
University of Colorado Foundation	Addiction Research and Treatment Services (ARTS) – Synergy	\$300,226	Provide comprehensive mental health services and coordinate access to additional health and community support services for adolescents.
University of Colorado Foundation	Clinicians in the Community – University of Colorado Aging Center	\$466,764	Help the CU Aging Center refine programs that address systems barriers; strengthen its long-term sustainability programs with partnering organizations; and create a model program for other Colorado communities with limited financial and health care resources.
Valley-Wide Health Systems Inc	Dental Case Management Expansion	\$38,310	Institute dental case management to reduce obstacles to timely, routine, affordable, high-quality and comprehensive oral health care for residents of San Luis Valley.

Table 1 (continued). *The Colorado Health Foundation's Integrated Care Grants*

Organization	Project	Grant	Details
Projects that Foster Organization Integration			
Colorado Access	Collaborative Intensive Care Management Pilot	\$1,836,651	Run a pilot program that delivers intensive, multidisciplinary case management services to at least 2,500 high-cost Medicaid beneficiaries with multiple chronic conditions.
Colorado Alliance for Health and Independence	Managed Care Pilot Program for People with Disabilities	\$208,741	Develop a Medicaid managed care plan for persons with disabilities; evaluate the feasibility of providing them with a medical home; and pilot a managed care program that integrates health care services for people with disabilities.
Marillac Clinic, Inc.	Mesa County – No Wrong Door Partnership	\$130,000	Expand the use of technology and information sharing among health care providers, thus improving the health status of low-income, uninsured and underinsured residents of Mesa County.
Mental Health Center Serving Boulder and Broomfield Counties	Integrated Services Program	\$150,000	Help the Mental Health Center Serving Boulder and Broomfield Counties increase the number of underserved individuals who receive integrated care.
North Colorado Health Alliance	Integrated Health Care	\$600,000	Increase access to integrated primary care and behavioral health services for underserved patients in Weld County.
Rocky Mountain Health Care Services	PACE: Program of All Inclusive Care for the Elderly	\$300,000	Provide comprehensive medical and social services to the expanding frail elderly population of El Paso County, which will allow many of them to remain in their homes and enjoy better quality of life.

Table 1 (continued). The Colorado Health Foundation's Integrated Care Grants

Organization	Project	Grant	Details
Projects that Foster Organization Integration (continued)			
Senior CommUnity Care	Senior CommUnity Care Expansion to Alternate Site	\$152,000	A 12-month capital grant to help Senior CommUnity Care develop an alternative care site for their Programs of All Inclusive Care for the Elderly (PACE).
Total Longterm Care	Expansion of PACE Services to Pueblo, Colo.	\$2,000,000	This 24-month capital and program grant will support Total Longterm Care to implement a Program of All Inclusive Care for the Elderly (PACE) in Pueblo, Colo.
Projects that Foster System (Regional) Integration			
Colorado Regional Health Information Organization	Colorado Identity Management and Federated Authentication (CIMFA)	\$1,395,000	Promote HIE among Colorado health care organizations, including safety net facilities, to ensure that patient information is both accurate and protected from unauthorized use.
Colorado Regional Health Information Organization	The Colorado Connections Project	\$16,623,086	Develop health information exchange services for health care organizations and providers in four Colorado communities over the next two years, while coordinating a strategy for statewide HIE, and building its own staff and organizational resources.
Quality Health Network	Clinical Integration of Providers: Improving Quality for Western Colorado Patients	\$3,894,000	Expand QHN's existing health information exchange to several additional Western Slope communities over the next three years, electronically integrating 354 additional physicians, 10 more hospitals and ensuring that providers have access to secure, comprehensive health data for 208,506 individuals.

Table 2. *Federal and State Government Projects*

Funder	Actors	Project
U.S. Department of Health and Human Services	Centers for Medicaid & Medicare Services (CMS)	Program of All-Inclusive Care for the Elderly (PACE): Comprehensive care for people aged 55 years and older who require long-term care, often allowing them to continue living at home rather than being institutionalized.
Centers for Medicare & Medicaid Services (CMS)	Community Care of North Carolina	Primary care physicians work with other community providers to develop tools, information and support needed to coordinate prevention, treatment, referral and institutional services for Medicaid beneficiaries.
Medicaid, Medicare, others	Geisinger Health System	Patient-Centered Medical Home Initiative: Includes an electronic health record system, chronic disease care optimization and provider incentives.
Oregon Department of Human Services	Acumentra Health	Integrates medical and behavioral health care improvement projects for Medicaid beneficiaries.

Table 3. *Other Foundations' Projects*

Funder	Actors	Project
The Commonwealth Fund	Family medicine residencies	TransforMED: A new model of patient-center care implemented in 26 family medicine practices across the country.
The Commonwealth Fund	Center for Health Care Strategies	Integrate care for state residents who are dually eligible for Medicare and Medicaid.
Ethel & James Flinn Foundation	Primary care providers	Integrated Care Initiative: Grants of up to \$175,000 to advance integrated care in primary care settings in Michigan.
Hogg Foundation for Mental Health	Texas primary care and pediatrics clinics	Integrated Health Care Initiative: Awarded \$2.6 million over three years to promote the identification and treatment of mental health problems in primary care settings.
The John D. and Catherine T. MacArthur Foundation	Primary Care Practices	Initiative on Depression and Primary Care: Improve the recognition and treatment of depression in the primary care setting.
Robert Wood Johnson Foundation, others	Center for Health Care Strategies	Integrated Care Program: Coordinate care for state residents who are dually eligible for Medicare and Medicaid.
Robert Wood Johnson	Aligning Forces for Quality	System integration: focus on cost, quality and outcomes. Colorado was not selected
Commonwealth Fund	Transforming Safety Net Clinics into Medical Homes Initiative	Colorado selected to transform safety net clinics across the state into medical homes. The Colorado Health Foundation provided matching funds for this project.

References

1. The World Health Report 2006, Annex Table 3: Per Capita Expenditures on Health, 1999–2003, pp. 186–189, World Health Organization, 2006
2. The World Health Report 2006, Annex Table 1: Basic indicators for all Member States, pp.168–176, World Health Organization, 2006
3. Colorado State Demography Office, 2009
4. Institute of Medicine. Crossing the Quality Chasm: A New Health System for the 21st Century; 2001.

WRITERS:

Christina Beck, *Freelance Writer*

Laura Griffin, *Communication Manager—Writer and Editor, The Colorado Health Foundation*

Caren Henderson, *Director of Communications—Creative Services, The Colorado Health Foundation*

EDITOR:

Tim Cortez, *Program Officer—Health Care, The Colorado Health Foundation*

Submitted by the Colorado Health Foundation

501 South Cherry Street, Suite 1100 • Denver, Colorado 80246-1325

TEL: 303.953.3600 • TOLL-FREE: 877.225.0839

www.ColoradoHealth.org



