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Homeward Bound: Nine Patient-Centered Programs Cut Readmissions

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by

Susan Baird Kanaan

About the Author

Susan Baird Kanaan is a consultant and writer with a special interest in the uses of public policy to improve community health.

About the Foundation

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Contents

2 I. Introduction

Supportive Policy Directions

5 II. Collaboration and Patient Empowerment

Foundational Models

8 III. Nine Case Studies

Colorado Foundation for Medical Care and Partners
THREE NORTH DENVER PROVIDERS COLLABORATE ON PILOT

Visiting Nurse Service of New York
BUILDING SKILLS AND SUPPORT FOR TRANSITIONS

Boston Medical Center
RE-ENGINEERED DISCHARGE (RED) PROGRAM

St. Luke's Hospital
REDUCING HEART FAILURE READMISSIONS

Summa Health System
INTEGRATED PROGRAMS ACROSS SETTINGS

John Muir Health
A FOUR-PRONGED PROGRAM FOR COMPLEX CASES

HealthCare Partners Medical Group
ADVANCED RISK-STRATIFICATION AND INTERVENTIONS

Sharp Rees-Stealy Medical Group
INCENTIVE ALIGNMENT AND IN-HOME MANAGEMENT

Blue Shield of California
HEALTH PLAN PILOTS INTENSIVE PROTOCOL

24 IV. Lessons from the Case Examples

26 Appendix A: Summary of Nine Organizations' Initiatives to Reduce Readmissions

28 Appendix B: Interviewees

29 Endnotes

I. Introduction

HIGH HOSPITAL READMISSION RATES IN THE U.S. are a major concern for payers, purchasers, health care providers, and policymakers, as well as patients. Reducing the rates has become a national priority and a central part of health care reform. There is broad awareness that readmissions are a significant source of costs for public and private payers. A recent study published in the *New England Journal of Medicine* estimated that in 2004 alone, unplanned readmissions cost Medicare \$17.4 billion. Roughly one Medicare fee-for-service beneficiary in five was readmitted within 30 days, and 34 percent within 90 days. Half of the patients readmitted within 30 days had not seen a primary care physician (PCP) since they were discharged.¹

Besides driving up costs, readmissions are viewed as a critical quality issue because they point to serious gaps in care and can exacerbate patients' conditions. When discharged from the hospital, many people are confused about their prescriptions and instructions, unsure whom to call, unable to get a prompt appointment with their primary care provider, and unclear about how to aid their own recovery and manage their chronic conditions. It takes careful planning, coordination, and patient activation to prevent or remedy these problems. Too often, gaps in these activities set in motion a downward spiral that leads to a return to the hospital and greater exposure to adverse events and outcomes.

The reasons for readmissions are among the issues topping the health care reform agenda: fragmentation of the health care system, pressures on the primary care system, and lack of incentives for appropriate care. The fee-for-service payment system reinforces clinical silos — hospital, nursing

home, home health agency — and provides incentives for more institutional care rather than coordinated outpatient care and patient activation. Accountability for outcomes is dispersed among many provider organizations, and it is difficult for them to collaborate and help patients manage their health. The growing prevalence of chronic illness and an aging population mean that more and more Americans have chronic conditions that can require hospitalization and make them vulnerable to readmission.

There is encouraging evidence, however, that hospital readmissions can be significantly reduced using straightforward strategies that are inexpensive compared to hospital care. Research findings show that up to half of all readmissions could be prevented and that the rates vary widely among states.² These indications suggest that tremendous opportunities exist to improve the quality of health care, and at the same time reduce costs. The nine case studies in section III describe some of these strategies. Successful approaches include several activities:

1. Coordinating post-hospital care across settings;
2. Taking quick action to reconcile patient medications and schedule follow-up appointments with PCPs and specialists; and
3. Engaging patients and families to play active roles in managing their health needs.

Key participants include the patient, family, hospital, outpatient physician, home care provider or nursing home (if involved), and other support personnel, such as transition coaches and case managers. These participants collaborate in a series of

tasks and steps over a defined period before and after discharge. Getting responsible parties in disparate disciplines, institutions, and locations to work in concert on these tasks requires coordinated systems and processes, strong communication, teamwork, and leadership.

There are different ways to analyze readmissions, based on whether the focus is all causes of readmissions (the all-cause approach) or those for one or more defined population groups (e.g., the elderly) or diagnostic groups (e.g., heart failure).³ There is some debate as to which is the more useful methodology.⁴ Similarly, some intervention strategies target all readmissions, while others target members of a defined demographic or diagnostic group. Many programs also use risk-assessment tools to identify those at highest risk of readmission in order to target them for intensive interventions.

It is important to note that reducing readmissions uses many of the same approaches as minimizing admissions of any kind; and some health care organizations, especially integrated systems, view hospital readmissions through that wider lens. However, this report focuses on readmissions and thus on the discharge and post-acute period because it affords clear opportunities for improvement that have been shown to significantly save money and improve quality.

Supportive Policy Directions

Policymakers and many stakeholders now agree on the need for action to reduce avoidable hospital readmissions, and this has led to a number of initiatives in recent years related to quality guidelines and measures, payment policy, and practical demonstration programs. Some of the projects profiled in this report have been part of studies to test interventions and generate lessons and models for the field.

The local activities to address readmissions take place in the context of a groundswell of attention to this problem. National and state quality organizations have proposed measures that could be used to link readmission rates to payment. Federal policy is moving in new directions that may better align financial incentives with effective strategies to reduce readmissions. For example, payment may be bundled by episode of illness, or hospitals may be paid less for preventable readmissions that occur within the first 30 days after discharge.^{5,6} Meanwhile, foundations and organizations are supporting a variety of projects aimed at developing strategies to reduce readmissions. For example:

- The **Centers for Medicaid and Medicare Services (CMS)** is supporting care transitions projects for Medicare enrollees in 14 regions, coordinated by its Quality Improvement Organizations (QIOs).⁷ In addition, CMS now includes hospital readmission rates in the data posted on its Hospital Compare site.⁸
- The **Medicare Payment Advisory Commission (MedPAC)** has recommended Medicare policies to align incentives with reducing readmissions. The recommended policies include public disclosure of risk-adjusted 30-day readmission rates, adjusted payment based on performance, and bundling payment across hospitals and physicians based on episodes of care.⁹
- The **National Quality Forum (NQF)** has approved care coordination measures for hospitals¹⁰ and endorsed a set of safe practices for hospital discharge. NQF is also working on a way to measure quality over episodes of care.
- The **Integrated Healthcare Association**, a statewide leadership group promoting quality improvement and affordability in California, has

approved 30-day hospital readmissions as a pay-for-performance quality measure, to be collected in 2008 and 2009 and reported in 2010.¹¹

- The **Joint Commission**, which has identified medication reconciliation as a critical aspect of care transitions, has an initiative focused on the importance of discharge planning. The Commission has also developed the “Speak Up” initiative to support patient participation.^{12,13}
- The **Society of Hospital Medicine’s BOOST Project**—Better Outcomes for Older Adults through Safe Transitions—is mentoring 24 sites around the U.S. using a team approach to assess patients’ risk for readmission and improve the discharge process.¹⁴

Taken together, the influence and momentum of these initiatives suggest that the time is ripe for significant improvements in hospital and post-acute care.

II. Collaboration and Patient Empowerment

THIS SECTION LOOKS AT APPROACHES TO hospital discharge and post-acute care that have been shown to be effective.¹⁵ These programs address the following stages before and after discharge:

- **Preparation for discharge:** The transition process begins with hospital staff and/or a transition coach or outpatient provider preparing the patient for discharge. In some cases, transition coaches or outpatient providers also participate in discharge planning. Some experts recommend assessing patients and laying the groundwork for discharge soon after they are admitted, or even before admission.
- **“Hand-off” to the outpatient physician:** Effective hand-off ensures that the patient understands the discharge instructions and receives timely follow-up with a PCP or specialist in the community soon after discharge. Further, the PCP is provided a copy of the discharge summary, and the patient is prepared to ask questions and seek clarifications during the follow-up appointment.
- **Medication reconciliation:** Transition programs typically have a health professional or coach review with the patient all medications—including pre- and post-discharge medications—during the home visit or phone call. This is to check for potential duplications and interactions and to ensure that the patient understands the purpose of the medications and how to use them.
- **Home visit and/or phone call:** Transitional care programs often involve at least one visit and one

or more phone calls to the patient at home to check on his or her status, answer questions, and address outstanding issues.

A crucial finding of this research is that the success of these activities depends on the presence of two factors: cross-sector collaboration among providers, and empowerment of patients and families.

In terms of collaboration, significant attention must be paid to working across health care sites so all providers can understand the transition process, develop standardized protocols and information tools, and clarify responsibilities. This is handled in a wide variety of ways. Some programs focus on forming strong bilateral relationships (e.g., between hospitals and medical groups or nursing homes); others bring members of the entire continuum together for collaborative planning; still others station staff members in other institutions.

Patient empowerment and education are just as critical to reducing readmissions. Care transition programs prepare and coach the patient and family members so they can actively participate in managing post-hospital care. Key topics include managing chronic conditions, medications, caregiver contact information, the follow-up medical appointment, and warning signs that a condition is worsening and how to respond. Many programs have developed user-tested materials, such as a personal health record or calendar, to educate patients and help with record keeping.

In addition, many health care providers (including six of the nine cases in this report) perform risk assessments to determine patients’

needs and capacities and match them to appropriate interventions. Risk assessment is often used to target intervention dollars where they are likely to have the greatest impact. The process typically sets in motion different strategies for different levels of need, with intensive interventions designated for persons at high risk of readmission. Many programs also have protocols for talking with patients near the end of life about their wishes and providing or referring them to appropriate care options.

Foundational Models

Two evidence-based models developed over years of research and demonstrations provide the foundation for the work on reducing readmissions.¹⁶ Interviewees for the case studies in this report acknowledge both models as having informed their approaches; some programs are explicit implementations of one of the models.

The **Care Transitions Intervention (CTI)** was developed by geriatrician Eric Coleman, M.D., M.P.H., and his University of Colorado Health Sciences Center colleagues. Recognizing that patients and family caregivers are vital members of an interdisciplinary team, the CTI provides them with tools and support that promote knowledge and self-management of their condition as they move from the hospital or skilled nursing facility (SNF) to home. Over a four-week period, a trained “transition coach” works with patients, conducting one in-person visit in the hospital, one at home, and three follow-up phone calls. Through skill transfer, self-efficacy development, and transition-specific self-care tools, the coaches empower patients while assessing their learning in the process. In the original trial, CTI used nurses as coaches. However, since then, demonstrations (including one funded by CHCF) have found that people with an array of backgrounds, including social workers, student nurses, and highly

trained community workers as well as volunteers, can be effective coaches.¹⁷

The intervention focuses on supporting patients in four key areas, called “pillars”:

- Managing medications, including medication reconciliation;
- Maintaining health records using a tool called a Personal Health Record, and sharing information with providers as needed;
- Scheduling and preparing for a follow-up appointment with the PCP and/or specialist; and,
- Knowing the “red flags” for their condition—indications that it is worsening—and how to respond.

Research by Dr. Coleman found that the CTI reduces the incidence of readmission for as long as 180 days after discharge and results in significant cost savings. In a CMS study, the CTI cut 60-day readmissions in half. To date, more than 130 major health care institutions across the U.S. have adopted the model, which is in the public domain.¹⁸

The **Transitional Care Model** was developed by Mary Naylor, Ph.D., R.N., and colleagues at the University of Pennsylvania. It involves care coordination by a Transitional Care Nurse (TCN) who is generally an advanced practice nurse (APN) from the hospital or home health program. Transitional care nurses, who are available to the patient across settings, follow an evidence-based protocol that focuses on long-term outcomes through the following steps, which last two months on average:

- Visit the patient in the hospital within 24 hours of enrollment into the care transitions program,
- Visit the patient daily during hospitalization.

- Visit the patient at home within 24 hours of discharge and then weekly for the first month, with at least weekly telephone outreach throughout the intervention.
- Implement a care plan, continually reassessing the patient's status and the plan with the patient, family caregiver, and primary care clinicians.
- Following the two-month intervention, initiate at least monthly telephone outreach to monitor progress.
- Patients at risk for poor outcomes receive an “augmented dose of TCM” for one year after the index enrollment.

Several randomized controlled trials have shown that the Transitional Care Model consistently decreased total all-cause readmissions; increased patient satisfaction, physical function and quality of life; and decreased total health care costs.¹⁹

III. Nine Case Studies

THIS SECTION DESCRIBES NINE PROGRAMS in five states that are successfully reducing hospital readmissions, using a wide range of approaches that respond to local conditions and the stakeholders’ unique priorities and resources. The prime movers in these programs include hospitals, integrated delivery systems, physician groups, a health plan, a home health agency, and a CMS Quality Improvement Organization. Using the assets and leverage points under their control, these organizations have formed creative partnerships and devised locally appropriate approaches to improving quality of care, reducing costs, and enhancing patients’ outcomes after leaving the hospital. Several have undertaken these efforts without benefit of financial incentives, or even despite disincentives. These examples provide a window into the kind of initiatives taking place in many communities—some independently, and some with support from government, foundations, or quality improvement organizations. Appendix A summarizes the nine programs.

Colorado Foundation for Medical Care and Partners

THREE NORTH DENVER PROVIDERS COLLABORATE ON PILOT

Summary of Organization’s Initiatives	
Lead organization and program	Colorado Foundation for Medical Care (CFMC), North Denver (community coalition) <i>Care Transitions Intervention (CTI), pilot project</i>
Target population	Senior clinic patients and Medicare beneficiaries who have been hospitalized
Services	Hospital visit, home visit, and follow-up calls by coach, focusing on the 4 CTI pillars
By whom	Transition coaches (nurses)
Where	Hospital and home
Partners	St. Anthony’s Hospital, St. Anthony’s Hospital Senior Clinic, Centura Home Health Agency
Financial model	Each partner funded its own participation; coaches funded by Centura and the management services company
Evidence of success	Reduced 30-day readmissions from 20% to 13% and 60-day readmissions by 50% compared to uncoached patients.

Colorado Foundation for Medical Care (CFMC) is the Medicare Quality Improvement Organization (QIO) for Colorado. It convened representatives from three North Denver providers—St. Anthony’s Central Hospital, clinicians from its Senior Clinic, and Centura Home Health agency—for a CMS demonstration project that ended in December 2008. The Senior Clinic, which is based at St. Anthony’s Hospital and cares for frail elderly people, is part of an IPA²⁰ managed by the medical services management company Physician Health Partners. The target population for the North Denver pilot was all of the Senior Clinic’s hospitalized patients

with Medicare coverage, both fee-for-service and managed care.

The roll-out and planning process for the pilot took about six months, and the care transitions intervention itself lasted another six months. CFMC recruited St. Anthony's Hospital as its closest partner, and together they recruited Centura Home Health Agency. CFMC provided the setting where the team could collaborate on planning and implementing the Coleman Care Transitions Intervention. The team included the head hospitalist, SNFists,²¹ geriatricians, discharge planners, IT support, and medical services management company representatives.

Dr. Jane Brock, chief medical officer for CFMC, said the Colorado QIO played a critical role in “structuring the implementation framework” and providing technical assistance. She believes that in a fragmented health care environment, someone—preferably a neutral entity—needs to play this role, to help disparate providers come together to build community and develop workable approaches to care transitions. The North Denver participants were enthusiastic about the chance to problem-solve together, she reported. “The most productive thing we [CFMC] did was to create a time and place for providers to come and talk to each other about what they know. We had the idea, provided a little bit of facilitation and coffee, and they really did the work.”

The team members met regularly to work on common processes for streamlining and standardizing communication, information-sharing, and transfer of medical responsibility. They focused initially on process mapping to improve and standardize the discharge process. To reinforce this collaboration, CFMC facilitated site-exchange visits between hospital emergency department nurses and nursing homes, and home visits for discharge planners.

In keeping with the Coleman Care Transitions Intervention (CTI), the North Denver partners collaborated to create and fund two nurse transition coach positions to carry out the intervention—a nurse case manager from the hospital, and a nurse from the home health agency (funded by the hospital system).

Preparing the patient for the post-hospital outpatient appointment is one of the four pillars of the CTI model. However, North Denver Geriatrician Dr. Thomas Cain noted that the critical PCP hand-off can be “lost in the CTI model” without a way for hospital providers to coordinate with the outpatient physician. To address this, the project brought providers together to develop reliable processes and communication strategies for safe transfer of medical responsibility, including prompt transfer of needed information. They agreed to use text messaging from the hospital to notify the PCP of a patient's discharge. Dr. Cain observed that texting is less disruptive than a telephone call but more visible than a fax or email. As of June 2009, a few hospitalists and outpatient physicians were testing the approach. To ensure that patients can see their physicians within a day or two of discharge, St. Anthony's Senior Clinic builds time for same-day appointments into its schedule.

Within six months, this pilot project made a measurable difference in readmission rates. Thirty days after discharge, 13 percent of coached patients had been readmitted, compared with 20 percent of uncoached patients. Even more striking, at 60 days, coached patients were half as likely to be readmitted as the uncoached ones.

Looking Ahead

The success of the North Denver project led CMS in August 2008 to launch a three-year “Care Transitions Theme,” across 14 QIOs, which are responsible for

bringing multiple local providers together to work on improving care transitions—much as CFMC did for the North Denver pilot. CMS selected CFMC as the QIO Support Contractor (QIOSC) for the 14 states. Thirteen, including North Denver, chose to use the Coleman Care Transitions Intervention model.

A second hospital has joined the North Denver project. Its steering committee includes providers from several settings, a large employer, an end-of-life facilitator, and a Medicaid representative.²²

The new project is open to all Medicare fee-for-service beneficiaries in specified zip codes who meet project criteria. The group hopes to prioritize patients with both a chronic disease requiring daily self-management (primarily heart failure, COPD, or diabetes) and a mental health diagnosis such as depression. Coordinators chose this target group because while local readmission rates for heart failure patients are lower than average due to effective post-hospital care, local data show that persons with both a mental health diagnosis and a serious chronic disease have significantly higher readmission rates. The expectation is that coaching will have a large impact for such patients, giving them needed support for the tasks involved in maintaining their health after discharge. The project is testing the training of social work interns and community leaders, most of them seniors, as transition coaches.

The expanded implementation will begin with targeting patients on telemetry units within each hospital. The group believes that localizing the intervention to a specific unit will help set a standard protocol for involving coaches in discharge planning that can be more easily expanded as participants become familiar and comfortable with the intervention.

Visiting Nurse Service of New York

BUILDING SKILLS AND SUPPORT FOR TRANSITIONS

Summary of Organization’s Initiatives

Lead organization	Visiting Nurse Service of New York (VNSNY), (home nursing agency)
Target population	Home nursing patients post-hospitalization (multiple programs)
Services	Risk assessment with stratified interventions; self-management support, etc.
By whom	NPs; home nurses; home health aides
Where	Hospital (for some patients) and home
Partners	Mt. Sinai Hospital ED
Financial model	Self-funded
Evidence of success	Self-management support is reducing calls to 911; stationing NP in hospital and telehealth for heart failure patients successfully piloted

Serving the five boroughs of New York City and surrounding areas, the Visiting Nurse Service of New York (VNSNY), is the largest not-for-profit home care agency in the U.S. Its programs include post-acute transitional care, long-term care, and palliative and hospice care. Two-thirds of the patients in its post-acute care program are 65 or older and nearly half are over 75. Sixty-five percent come to VNSNY directly from the hospital.

The agency is working to reduce hospitalizations through a constellation of programs aimed at improving the quality of transitional and home care. Drawing on both the Naylor and Coleman models, its interventions use home visits by nurses and aides and frequent telephone calls to stay in touch with patients. Under the direction of VNSNY’s Center for Home Care Policy and Research, many initiatives are structured to test approaches and produce evidence-based practice improvements that can be widely implemented in the home nursing field and shared with policymakers.

Two strong themes for VNSNY at present are cross-sectoral collaboration and strengthening staff members' core competencies related to care transitions. The agency has formed an IHI-style Learning Collaborative to test ways to increase staff members' core competencies in medications management, the follow-up appointment, and self-management support for patients and families.

In its cross-sectoral work, VNSNY is exploring ways to “move upstream” in the transition process. For example, it is experimenting with deploying administrative staff to identify patients' outpatient physicians prior to discharge, noting in their records how the physician likes to communicate (fax, office phone, cell phone, etc.). In addition, it is working on a plan, already successfully piloted, to station a VNSNY nurse practitioner (NP) in the hospital. A cooperative agreement with Mt. Sinai Hospital's emergency department allows the NP to be present in the ED to help with patients who do not require hospitalization. In addition, for high-risk patients who are discharged from the ED and receive medical care from the hospital's outpatient clinic, Mt. Sinai has authorized the NP to serve as a “care integrator,” providing medical management until the loop can be closed with a PCP. This arrangement is aimed at providing care across the gap between when the hospitalist is in charge and when patients connect with an outpatient provider—a gap that is difficult for a home nurse to manage for the many patients who receive primary care from hospital-based outpatient clinics. The agency regards the arrangement with Mt. Sinai as a template for its work with other New York City hospitals and clinics.

VNSNY also operates several other programs to minimize hospital readmissions. It conducts a risk screening on all patients and uses the information to determine their risk for (re)hospitalization and to tailor care.²³ The patient's risk score and medication

information are loaded on the home nurse's tablet computer, triggering a thorough review at the first home visit. For persons identified as at higher risk, home care is “front-loaded” in the first 30 to 60 days with a more intensive intervention related to medications and follow-up appointments, and with more frequent visits and phone contacts. Persons near the end of life are offered palliative or hospice care.

Medication management and coordination with the outpatient physician are integral parts of home care. VNSNY has launched an initiative to strengthen the skills of home nurses and home health aides in this area and to improve their ability to communicate with patients about medications and intervene promptly if problems arise. Its Geriatric CHAMP (Collaborative for Homecare Advances in Management and Practice) Program, supported by Atlantic Philanthropies and the John A. Hartford Foundation, sponsors national e-learning courses in medication management, which have significantly increased communication about high-risk medications between home health nurses and patients' PCPs. (This program is being rolled out in California with grant support from CHCF.) In addition, polypharmacy has been significantly reduced for patients whose nurses participated in the program. The CHAMP initiative provides a central national location for evidence-based tools and best practices to help patients and families manage medications and pain.²⁴

Self-management support is a growing component of transitional and home care for VNSNY. Critical elements of its program are making sure that patients can identify their medical home and are ready for their follow-up appointment, and engaging them and their families around personal goals. Home nurses use an information tool called “My Action Plan” to educate patients and also to train home health aides to talk with patients about

symptoms, warning signs, and when to call the nurse. These strategies are reducing calls to 911. In addition, aides say they value being empowered to participate more fully in the care process.

Looking Ahead

After a telehealth remote monitoring pilot halved the readmission rate of a pilot group of patients with heart failure—compared to a similar group receiving routine care—VNSNY is refining the intervention and plans to introduce it more widely with chronically ill patients.

Boston Medical Center

RE-ENGINEERED DISCHARGE (RED) PROGRAM

Summary of Organization's Initiatives	
Lead organization and program	Boston Medical Center (public hospital) <i>Re-Engineered Discharge/RED</i>
Target population	All adult BMC patients
Services	Patient education; comprehensive discharge planning; AHCP; post-discharge phone call for medication reconciliation
By whom	Nurse Discharge Advocate, clinical pharmacist
Where	Hospital and home (phone only)
Financial model	Developed and tested in studies funded by AHRQ, NHLBI
Evidence of success	Decreased 30-day readmissions by 32%, and participants more likely to see their PCPs after discharge (randomized control trial).

Boston Medical Center (BMC) is a 547-bed safety-net hospital in an academic medical center. It serves a traditionally underserved urban population, 84 percent of whom are members of minority groups and 58 percent of whom have low health literacy. Its recent activity around reducing readmissions has had a research focus. A group led by Dr. Brian Jack

developed the components of its Re-Engineered Discharge (RED) intervention and then conducted a randomized trial of the program, which was reported in the *Annals of Internal Medicine* in early 2009.^{25,26}

The RED is a standardized discharge procedure that combines patient education, comprehensive discharge planning, and post-discharge telephone reinforcement. It is conducted by a nurse trained as a “discharge advocate” (DA) and a clinical pharmacist, both existing hospital staff members.

The in-hospital intervention is handled by the DA, who is responsible for coordinating the discharge plan with the hospital team, educating and preparing the patient for discharge, and arranging the follow-up appointment. The DA creates an After-Hospital Care Plan (AHCP), a personalized record suitable for patients with limited health literacy. The AHCP includes information on the patient’s condition and discharge diagnosis, outstanding tests and studies, how to use prescribed medications, what to do if a problem arises, contact telephone numbers, and information and notes for follow-up appointments. Also addressed are test results, needed lifestyle changes, post-discharge services, and social support issues. The DA assesses the patient’s understanding of the information in the AHCP using the teach-back methodology.²⁷

Medication reconciliation is handled by a BMC clinical pharmacist, who phones the patient two to four days after discharge to reinforce the discharge plan, review medications, and address any problems.

BMC is affiliated with a network of community health centers. In the RED program, follow-up appointments with the PCP are scheduled as part of the discharge process and the discharge summary is faxed to the clinic. Outpatient follow-up appointments were made for 94 percent of the intervention participants (although only 80 percent

could name their PCP upon admission), compared with about 30 percent for the control group.

In the clinical trial, the RED program improved readiness for discharge and patient understanding of self-care, and decreased 30-day hospital readmissions by 32 percent. In addition, participants were more likely to see their PCPs after discharge. The project collected data on “frequent flyers” — those with a prior admission within six months — and found that the intervention was especially successful with them. BMC has relatively fewer Medicare patients than many hospitals do; the average age of patients in the RED study was 50. However, its analysis by age showed that the results are as strong for seniors as for younger adults.

With support from the Agency for Healthcare Research and Quality (AHRQ), the research team is disseminating the RED model and assisting with implementation in response to strong interest from hospitals and organizations across the nation.²⁸ Dr. Jack observed that while RED was developed and tested as a hospital-based program, it could be structured in different ways and managed by different entities, including health plans.

Looking Ahead

Working with Northeastern University, the research team is looking at ways to use health IT to reduce the time required of hospital staff nurses. They are testing the use of an animated, interactive “virtual discharge advocate,” accessible on a mobile kiosk at the bedside, to educate patients on how to use the AHCP. With funding from AHRQ and the National Heart, Lung and Blood Institute, the researchers are comparing the interactive computerized program to standard interaction with a live nurse. Results are expected in early 2010.²⁹

St. Luke’s Hospital

REDUCING HEART FAILURE READMISSIONS

Summary of Organization’s Initiatives

Lead organization and program	St. Luke’s Hospital, Cedar Rapids, IA (nonprofit hospital) <i>Transitions Home for Patients with Heart Failure</i>
Target population	Heart failure patients in pilot
Services	Patient education using teach-back; home visit; post-discharge phone call; outpatient classes
By whom	Advanced practice nurse, staff nurses
Where	Hospital and home
Partners	Outpatient cardio clinics; SNF nurses; home care providers
Financial model	Self-funded
Evidence of success	Reduced 30-day readmissions from 14% to 4%, and produced high teach-back rates.

Heart failure is generally associated with high readmission rates, often resulting from complications that can be avoided through effective self-management. St. Luke’s, a 500-bed nonprofit hospital serving a seven-county area, developed its Transition Home for Patients with Heart Failure program starting in 2006. The initiative received technical assistance as part of the Transforming Care at the Bedside (TCAB) project sponsored by the Robert Wood Johnson Foundation and IHI.³⁰ St. Luke’s was the sole funding source.

In St. Luke’s care transitions intervention, nurses are the major actors. An advanced practice nurse (APN) on the hospital staff works with the patient prior to discharge, trains staff, and makes a follow-up phone call to the patient seven days after discharge. The project team, which places heavy emphasis on patient education and delivering consistent messages across the continuum, developed materials

appropriate for people with limited health literacy and tested them on patients and family members.

In the hospital, an APN educates the patient and family, using the teach-back method to test comprehension. St. Luke's staff nurses are trained to do patient education, which is part of their competency evaluation. The hospital has worked to limit the information it conveys to patients, to keep them from being overwhelmed. Four questions are the focus: the name of the "water pill," what foods to avoid, signs and symptoms to report to the physician, and weight gain to report. Patients are sent home with educational materials and tools, including a refrigerator magnet with warning signs and symptoms and a heart failure calendar for tracking their weight. The calendar, which also has educational tips and suggestions for adhering to their regimen, has proved to be a popular and effective tool. The outpatient physician visit is scheduled prior to discharge.

Medication reconciliation begins in the hospital and is continued following discharge. St. Luke's offers all its patients a home visit within 48 hours of discharge, paid for either by Medicare (if eligible) or the hospital.³¹ Its APN coordinates home care, setting it up for patients who qualify for Medicare coverage and arranging a complimentary visit by St. Luke's home care agency for others. The home visit covers medication reconciliation, diet, a home-safety check, and a physical assessment.

The APN telephones all discharged heart failure patients after seven days. In addition, patients and families can attend a bimonthly outpatient heart failure class where they learn more about diet, exercise, and medications.

The hospital also has a strong palliative care program, and staff members routinely talk with patients near the end of life and their families about treatment wishes.

Regarding its cross-sector work, project leader Peg Bradke, R.N., M.A., said her team worked hard to "get beyond a hospital-centric mentality" and learn the perspectives of other providers in order to better coordinate with them. The hospital developed collaborative relationships and common procedures with SNF nurses and outpatient cardiology clinic nurses. For the TCAB project, they added a range of care transitions partners to what was originally an exclusively hospital-based team. The project team included a family member and representatives of long-term care, home care, and a cardiology clinic along with hospital staff. After assessing the knowledge level of SNF staff regarding heart failure, it supplied SNFs and long-term care facilities with St. Luke's patient education materials. Home care providers and cardiology clinics also use the same materials.

St. Luke's has several ways of involving family members in its operations. All hospital materials, including the admission packet, are tested on patients and families. (The members of the heart failure class were the original test group for the Transition Home program's patient education materials.) St. Luke's patient-family advisory council has made valuable suggestions, such as ways to make the whiteboards in patients' rooms useful to family members.

The Transition Home program reduced 30-day hospital readmission rates for heart failure patients from 14 percent to 4 percent.³² St. Luke's is equally proud of the fact that its patients' teach-back rates now average 90 percent correct answers.

Looking Ahead

St. Luke's has adapted the heart failure Transition Home prototype intervention for its stroke and total joint replacement patients. It plans to adapt it for other diagnostic groups such as myocardial infarction and pneumonia. Patients with a secondary heart

failure diagnosis also receive components of the intervention.

Summa Health System

INTEGRATED PROGRAMS ACROSS SETTINGS

Summary of Organization's Initiatives*	
Lead organization	Summa Health System, Akron, OH (integrated delivery system)
Target population	Low-income frail elders with chronic illnesses in community-based long-term care
Services	Risk appraisal; integrated medical and psychosocial care based on Naylor and Coleman models
By whom	Interdisciplinary teams, including RN Care Manager, APN, AAA staff
Where	Hospital, home, PCP office visits
Partners	Area Agency on Aging (AAA), Created Care Coordination Network (CCN) with 26 SNFs to standardize transfers
Financial model	Self-funded
Evidence of success	SAGE: better health outcomes; high satisfaction; cost savings CCN: lower readmissions and lengths of stay; fewer surgery and test cancellations

*First four rows describe SAGE and Care Management Project; others include Care Coordination Network.

Summa is an integrated delivery system that includes three not-for-profit teaching hospitals, two other hospitals, outpatient centers, a physician-hospital organization, and a for-profit health plan. Half of its 68,000 annual hospital discharges are over age 65. Summa has worked for a decade to redesign its care transitions processes and embed effective practices into its discharge planning. Summa's Geriatrics Division has several programs that integrate clinical and support services for older adults. It implemented its Acute Care for Elders (ACE) model in the early 1990s. Integrated geriatric care practices include physician house calls, geriatric rehabilitation units in

skilled nursing facilities, and community partnerships with Area Agency on Aging (AAA) for community-based long-term care clients.

Summa plays an active role in collaborations to improve the continuity and quality of care in its community. It engages providers in other health care sectors and community partners to develop better working relationships and standardize procedures, information tools, and support. Dr. Kyle Allen is the medical director of post-acute and senior services and chief of the Division of Geriatric Medicine. He said the most important success factors in avoiding hospital-centricity are partnership, leadership, persistence, and humility on the part of the hospital. Two ongoing relationships are described here: the Care Coordination Network, created in 2003 to improve hospital-nursing home collaboration, and joint projects with the Area Agency on Aging (AAA).

Summa formed the **Care Coordination Network (CCN)** in 2003 with 26 local skilled nursing facilities, to meet the needs of patients being discharged and to help the hospital manage its capacity more efficiently. Hospital capacity limitations were causing the diversion of Summa patients to other hospitals; the goal was to free up hospital beds through shorter stays and fewer readmissions.³³ The CCN program focused on streamlining transitions in and out of the hospital, speeding up the referral process, and reducing readmissions from nursing homes. A major activity was improving communication processes and standardizing information transfer between hospitals and nursing homes.

Summa began by issuing a proposal and convening interested nursing homes that could meet a set of quality criteria. Nursing home participants were motivated in part by an interest in referrals from Summa. A CCN task force was created, with representatives from multiple disciplines and nursing

home facilities. Summa used its meetings partly to learn what nursing homes needed to know about discharged patients. The partners then created a standardized referral form for the hospital-nursing home transfer, educated their staffs about how to use it, and tracked its impact. The universal transfer form was adopted by the regional hospital association and is used in 19 Akron-area hospitals and elsewhere in the U.S. In addition to the standardized form, Summa uses an electronic Web-based referral and communication system, the Extended Care Information Network or ECIN, with CCN facilities to make early referrals, find bed availability, and identify special needs for discharges.

The program also looked at what information Summa needed from nursing homes when admitting nursing home residents to the hospital or providing outpatient care. This led to the Change in Condition Form, which travels with the patient from the nursing home. Summa also sent its hospital social workers to nursing homes to see first-hand how they operate.

This project uses various measures, including readmission rates, a nursing home report card, mortality related to readmissions, and average hospital length of stay for patients discharged to a nursing home. Summa provides the nursing homes with performance data. The CCN program reduced hospital readmission rates, lengths of stay, and cancellations of tests and surgeries for SNF patients. Dr. Allen reported that while the initiative has had a lower impact to date than hoped for, Summa is satisfied that the partners have improved the intervention and are using data to drive process change.

The **SAGE and Care Management Project**, an initiative for low-income elderly inpatients with chronic illnesses, is one of Summa Health System's collaborations with the local AAA and Summa's

provider-sponsored health plan, SummaCare Inc. SummaCare has 20,000 Medicare Advantage enrollees. The program, piloted in 2000–2003, uses a risk-appraisal tool to identify high users of the hospital and emergency department, and it then integrates medical and psychosocial care using elements of the Coleman and Naylor care transitions models. Through home visits and other interactions, the AAA and Care Management personnel work with chronic care patients on proper medication use, chronic disease self-management, and forming supportive relationships with physicians. The care manager involves the patient's PCP in care planning, participates in PCP office visits as a "translator," and has ongoing contact with the patient for education and support, making home visits as needed.

Seventy percent of participants in the pilot reported health improvements, and 93 percent rated their experiences as good or excellent. PCPs also praised the program, which reduced hospital admissions by 10 to 20 percent and saved Summa \$600 to \$1,000 per participant per month.

Looking Ahead

Using the lessons learned from the SAGE and Care Management Project, Summa investigators designed the AD-LIFE program (After-Discharge Management of Low Income Frail Elderly). This is the subject of an AHRQ-funded randomized control trial to measure program outcomes. It will end in 2009.³⁴

The SAGE project partnership has been used to integrate AAA case managers into Summa Health System's geriatric inpatient, outpatient, skilled care, and long-term care. It plans to use the standardized discharge planning process and the ECIN program to notify AAA of discharges to skilled nursing and long-term care facilities.

Summa is using the lessons learned about information transfer in the CCN to improve communication in other areas, such as ensuring that patients' advance directives are transferred between sites of care.

John Muir Health

A FOUR-PRONGED PROGRAM FOR COMPLEX CASES

Summary of Organization's Initiatives	
Lead organization and program	John Muir Physician Network, Contra Costa County, CA (medical group affiliated with integrated system) <i>Transforming Chronic Care (TCC) Program</i>
Target population	Eligible frail patients—most have heart failure, COPD, or diabetes
Services	CTI; complex case management; disease management
By whom	Transition coaches, case managers, both with multiple backgrounds
Where	Hospital and home
Financial model	Funded from capitated fees for managed care patients and community benefit payments for FFS Medicare patients.
Evidence of success	After one year, TCC participants had half the readmissions of a comparison group of John Muir patients.

John Muir Health is an integrated delivery system that includes three hospitals and is affiliated with the John Muir Physician Network. For its special care coordination and case management programs, it targets frail patients, most of whom have heart failure, COPD, and/or diabetes. Because of the costs, John Muir is only able to offer these interventions to its eligible managed care patients, employees, and Medicare patients. The programs are financed by managed care capitated fees or (for all eligible Medicare enrollees) by community benefit dollars.

John Muir Health was a California HealthCare Foundation grantee in its Improving Care Transitions

Initiative from May 2007 to September 2008.³⁵ The initiative involved forging partnerships between hospitals and community-based organizations, and together implementing the Coleman Care Transitions Initiative.

John Muir's efforts to reduce readmissions are embedded in its Transforming Chronic Care (TCC) program. The program has four prongs: the Coleman Care Transition Intervention (CTI); case management of complex cases; and two disease management programs—electronic Tel-Assurance Cardiac Monitoring Program for heart failure and COPD patients, and Team Up for Health, a collaboration with community-based organizations to support self-management for people with diabetes. A patient of John Muir Health may participate in two or three of the four prongs of its TCC program.

Eligible patients receive the Coleman Care Transition intervention for four weeks surrounding their hospital discharge, with standard coaching on how to manage their conditions and partner with their primary care physicians. In addition to nurses and student nurses, John Muir trains social workers, medical assistants, and promotoras (Hispanic community health workers) to be transition coaches. At the end of the four weeks, patients are assessed to determine whether they need long-term case management.

For complex cases, John Muir's five case managers provide daily outreach and coordination. Every patient has a care plan based on his or her diagnoses, problems, and personal goals. The case manager provides support to keep the patient's conditions stable, coordinates medical visits, and provides clinical information to John Muir's practices and hospitals.

Persons with COPD, heart failure, or diabetes (who are usually identified in the hospital) may have access to a disease management intervention.

Tel-Assurance provides daily electronic monitoring for those with COPD and heart failure. Diabetes patients can learn to manage their disease as part of CHCF's new Team Up for Health program.³⁶

John Muir Health benchmarks its data on TCC participants against the experience of its other patients. After a year of this program, which began in 2007, the TCC group had only half the hospital readmissions of the comparison group.

Looking Ahead

John Muir Health plans to build and implement a patient portal linked to electronic health records. Outside his organization, Dr. Mike Kern, senior vice president and medical director for the John Muir Physician Network, is involved in national policy development as a member of NQF's Care Coordination Task Force and Medical Home Workgroup. This gives him a strategic perspective on evolving federal quality measurement and reimbursement policies. He hopes new policies will enable John Muir Health to extend its care coordination programs to all its Medicare patients and expand the role of case managers in working closely with patients in a medical home model.

HealthCare Partners Medical Group

ADVANCED RISK-STRATIFICATION AND INTERVENTIONS

Summary of Organization's Initiatives

Lead organization	HealthCare Partners Medical Group, Southern California (medical group affiliated with integrated system)
Target population	Uses risk assessment to stratify patients and match to four levels of programs; special programs for frail patients
Services	Self-management and health education; complex case management; high-risk clinics; home care management; disease management
By whom	Multiple inter-disciplinary staff members
Where	Hospital, home, SNFs
Financial model	Self-funded (capitated system)
Evidence of success	Comprehensive care and complex care programs reduced hospitalizations and the total cost of care. The Home Care program reduced admissions of high-risk patients by 18%.

HealthCare Partners (HCP) Medical Group is composed of about 500 primary care and specialty physicians in Southern California, in a combined IPA and group staff model. HCP also has medical groups in Las Vegas and Florida. As a capitated system, it is fully at risk for the care of 650,000 patients, including more than 140,000 Medicare Advantage patients. It also cares for some 8,000 Medicare fee-for-service patients.

HCP approaches hospital readmissions in the context of a broad effort to prevent institutional admissions of any kind and to redirect savings to more cost-effective care.³⁷ Its model of coordinated and integrated care uses a risk-stratification tool to identify patients' needs and group them into risk categories and disease registries.³⁸ Prior hospitalization is one element in the risk-analysis. On the basis of risk, patients are matched to the appropriate evidence-based intervention. Several

approaches are combined: behavioral medicine is used to change patients' behaviors and prevent exacerbations; intensive programs are used for those needing more care; and incentives and education (both financial and infrastructure support) are used to change physicians' practices and improve the quality of care. The interdisciplinary staff includes a complex care manager, hospitalists, SNFists, case managers, and others in addition to PCPs and specialists. A hospitalist/SNFist inpatient program is designed to assure better hand-offs between practitioners and seamless care for patients and families. HCP arranges with affiliated hospitals to station its hospitalists and SNFists in hospital inpatient wards and emergency departments to help prepare high-risk patients for discharge.

High-risk and/or frail individuals represent about 20 percent of HCP's patient population. Programs for these patients include a home care program, a comprehensive care and post-hospital clinic, an end-stage renal disease (ESRD) medical home, and complex care and disease management programs. High-risk patients have access to their PCPs seven days a week, with same-day access when needed. The interventions of all HCP high-risk programs combine elements of the Coleman Care Transitions model with other evidence-based practices.³⁹

The Home Care Program targets the 5 percent of patients who are unable to access outpatient care. It uses an interdisciplinary team of physicians, nurse practitioners, and social workers who collaborate with the patient and family. This collaboration includes continuous access to their home care physician and home care team, extensive patient and family education, home and community services, and work on psychosocial challenges as well as attention to chronic geriatric diseases such as dementia and chronic pain. The Palliative Care Program is a major component. In its first year (2009), the Home Care

Program reduced inpatient acute admissions for the highest risk patients by 18 percent.

The Comprehensive Care Clinic targets patients coming from the Post-hospital Discharge and Stabilization clinic or the Geriatric Assessment Clinic, as well as chronically frail patients who either do not qualify for or do not choose home care.

All ESRD and pre-ESRD patients are cared for onsite, in the dialysis center, by a team that includes a nurse practitioner, a nephrologist, and a care coordinator. The team provides both primary and preventive care during dialysis.

Patients with comorbid heart failure and COPD in the complex case management program receive care from a nurse practitioner and specialist team. The program has resulted in significant reduction in hospitalization, total cost of care, and improved quality of care and life for the patients enrolled. HCP also offers at least six specialized disease management programs to patients with a single chronic disease.

HCP physicians and nurses are encouraged to engage patients near the end of life in advance care planning and offer them palliative care and hospice options. To ensure that enough time is set aside to do this properly, HCP pays its IPA physicians for office visits dedicated to conversations with families and patients about end-of-life planning.

Looking Ahead

Looking forward, HCP aims to improve the patient care experience for all seniors and at-risk patients by refining the way it stratifies patients by risk and matches them with appropriate interventions. It also plans greater emphasis on preventive care and health education/patient empowerment. It is working to extend EHR connectivity to all its physicians, with tools such as quality-of-care prompts and disease registries; and it plans to add a patient portal.

Sharp Rees-Stealy Medical Group

INCENTIVE ALIGNMENT AND IN-HOME MANAGEMENT

Summary of Organization's Initiatives	
Lead organization	Sharp Rees-Stealy Medical Group, San Diego, CA (integrated delivery system)
Target population	High-risk patients, including all discharged from hospital or ED
Services	Continuity of Care Unit (CCU); Telescale for HF patients; Transitions program for those near end-of-life
By whom	CCU: nurse case manager; Transitions: nurse
Where	Hospital and home
Financial model	Self-funded (capitated system)
Evidence of success	Telescale reduced hospitalization rates and produced an 8:1 return on investment. Transitions is preventing admissions and readmissions.

Sharp Rees-Stealy Medical Group is a multispecialty group with about 400 physicians located in the San Diego area. It is part of Sharp HealthCare, a not-for-profit integrated delivery system that includes four acute care hospitals, two medical groups, a health plan, and other services including pharmacy and home health.

With 70 percent of its revenue in capitated contracts,⁴⁰ the medical group's incentives align with strategies to facilitate teamwork, maximize quality, and prevent unnecessary costs. Like other networks with aligned incentives, Sharp approaches readmissions as part of a broader effort to prevent unnecessary admissions. Every Sharp patient has a PCP and medical home, responsible for coordinating care. Having outpatient and inpatient care in the same integrated system enables a high level of coordination, supported by interoperable electronic health records that provide information across the continuum.

Sharp has several programs for people at high risk for hospital admission or readmission. The Medical Group positions its own hospitalists, discharge planners, and case managers at Sharp hospitals and stations case managers at high-volume out-of-network hospitals.⁴¹ All patients who have been in the ED or hospital are part of the Continuity of Care (COC) Unit, a relatively new program that uses an intensive telephonic intervention. A nurse or medical assistant calls the patient within 48 hours of discharge to review the discharge summary, clarify medication use and check on adherence, make sure the patient has a follow-up appointment with the PCP, and address any special issues. The COC staff can communicate via the EHR with physicians to clarify follow-up issues, and with office staff to make sure follow-up appointments are made. Complex cases are referred to a case manager for more intensive follow-up.

A "telescale" intervention, Cardiocom, targets people with stage 3 and 4 heart failure.⁴² Most patients are identified and recruited to participate during an ED visit or as inpatients. The telescale is a home disease management tool that asks patients daily questions about their health, both audibly and on a screen. It is also a scale that transmits the patient's weight. For those at high risk, the answers and daily weight trigger a phone contact from a nurse. Sharp has found through conversations with patients that the key to the program's success is not the early warning system but the behavioral changes in diet and exercise that the telescale prompts. Dr. Jerry Penso, associate medical director of the medical group's quality program, reports that patients are motivated to make the necessary changes to avoid getting "the phone call from the nurse." Prior to the introduction of telescale, heart failure was the primary reason for admissions and readmissions; the intervention has dramatically reduced hospitalization

rates and produced an eight-to-one return on investment. Sharp also has a special care coordination program for people with severe diabetes, in which specialized diabetes nurse care managers in outpatient and inpatient settings coordinate clinical care and transitions.

Sharp developed its Transitions program in response to a pattern, not uncommon, of patients signing up for hospice within 30 days of their death and thus missing out on many of the benefits of palliative care. The program was designed for people with heart failure, COPD, and Alzheimer’s, and is being expanded for other conditions. Called a “stepping-stone toward hospice” that is intended to avoid the stigma some associate with hospice, Transitions gives patients “aggressive, in-home medical management” as an alternative to what can otherwise be a cycle of emergency trips to the hospital and poor quality of life in the final months. Patients are stabilized at home by a team of caregivers and then have ongoing home nursing and monitoring, with emergency home visits by a nurse available at any time, as needed. The program is successfully preventing hospital admissions and readmissions, and patients like it. In fact, some participants have better health outcomes in the Transitions program than would likely be the case with more standard treatments.

Looking Ahead

The Sharp Rees-Stealy Medical Group is hiring a pharmacist to pilot work on medication reconciliation and adherence in the Continuity of Care Unit. It also is building a registry to track quality measures for ischemic vascular disease and is reviewing analytic models for risk stratification.

Blue Shield of California

HEALTH PLAN PILOTS INTENSIVE PROTOCOL

Summary of Organization’s Initiatives

Lead organization and program	Blue Shield of California (health plan) <i>Patient-Centered Management (PCM)</i>
Target population	Complex patients with advanced illness; piloted with CalPERS enrollees in Northern California
Services	Patient education, care coordination, end-of-life management in seven care domains
By whom	ParadigmHealth team, including case manager and team manager, both nurses, and an MD consultant
Where	Home
Partners	ParadigmHealth (now Alere) contractor
Financial model	Self-funded
Evidence of success	PCM showed 38% fewer hospitalizations, 36% fewer hospital days, and 30% fewer ED visits than persons receiving usual case management; reduced costs by 26%.

Blue Shield of California is a health plan. Earlier in this decade, it partnered with ParadigmHealth (now Alere), a care and disease management service provider, to test a formal, intensive Patient Centered Management (PCM) protocol. The participants were Blue Shield’s CalPERS enrollees in Northern California who had advanced illness and were nearing the end of life. The majority had late-stage cancers; a few had degenerative neurologic or other conditions. The 18-month Blue Shield study, which ended in 2003, also included a group that received “usual case management” only, with traditional coordination of services and approval processes.⁴³ In the study, nearly all Blue Shield patients receiving PCM had recently been hospitalized.

Patient-centered management combines patient education, care coordination, and end-of-life management, delivered by ParadigmHealth staff

members. Its objectives are to help participants understand their conditions and treatment options and make the best personal decisions. PCM addresses both medical and psychosocial issues in seven care domains: disease knowledge; treatment plan; terminal care planning; benefit plan management; family and living environment; pain and symptom management; and provider support.

The PCM Complex Care Team is composed of a care manager, a team manager who coordinates care and liaisons with the health plan, and a consulting physician. The managers are experienced RNs, usually with hospice experience. They have low caseloads (typically 20 to 30 open cases) to enable intensive interaction with their patients. ParadigmHealth staff physicians advise the RNs on medical care at weekly team meetings, and are available to contact patients' treating physicians as needed. For the fourth to a third of the cases opened in the hospital (or cycling through the hospital in the course of the intervention), the PCM service provider used the patient's discharge plan along with other information.

The protocol calls for the nurse to communicate with the inpatient medical team as well as with the patient and family to ensure that the transition to home is smooth. The patient's physician is notified by fax that the patient has consented to the PCM program; other telephone communication between the patient's physician and the nurse or case management physician occur as needed.

The care manager visits the patient at home for an initial evaluation and to help the patient establish goals. During the visit, the care manager makes sure that the patient understands his or her condition, treatment options, and prognosis, and is using medications appropriately. A team member then phones the patient twice a week, on average, to check on health status, answer questions, and address any

special needs. This frequent and prolonged telephone interaction often enables the PCM team to avert patient problems before they become acute—for example, confusion, running out of a medication, or an adverse reaction to treatment.

The case is closed when all the care domains, issues, and goals have been addressed with the patient. During the study period, team members spent an average of ten hours per patient and made an average of ten calls per patient per month; patients received an average of 5.5 months of PCM.

Dr. Andrew Halpert, medical director of Blue Shield of California and co-author of the study, stressed the importance of creating conditions for PCM that are intensive and comprehensive enough—for example, with low enough caseloads. He added that from the standpoint of cost-effectiveness, such an expensive end-of-life intervention is only appropriate for “outlier patients.” To select participants, Blue Shield's algorithm is designed to identify the one patient in a thousand who needs and wants an intervention of such intensity. Often, in addition to having serious medical conditions, such individuals are confused about their illness and have little family or social support.

According to Dr. Halpert, patients' personal physicians were receptive to having their patients receive this additional service. The program was not burdensome for them because ParadigmHealth's staff limited their contacts to exchanging essential information and consulting as needed.

The PCM intervention resulted in fewer treatment complications, produced high satisfaction rates among 92 percent of participating patients, and reduced costs by more than \$18,000 per patient (26 percent). The savings were realized largely by shifting care to less costly home care and hospice settings. Participants had 38 percent fewer hospitalizations, 36 percent fewer hospital days, and

30 percent fewer ED visits. Patients also chose less costly treatments (for example, less chemotherapy and radiation, which statistically made no difference to their survival). Significantly, the average lifespans were the same for the study group and the group receiving usual case management.

Based on the study's successful results, Blue Shield rolled out PCM to all eligible patients on its rolls, including those in its Medicare HMO business. While the study participants had an average age of 51 and primarily had late-stage cancer, older patients with complex conditions are more likely to have other conditions such as heart failure.

For enrollees at a lower (intermediate) level of risk, Blue Shield offers a similar but less intensive intervention that also uses telephone contacts addressing the same care domains. After implementing this intervention as a pilot and finding similar positive outcomes, Blue Shield has made it available to all enrollees in the intermediate risk group. It also has disease management programs for people with chronic conditions such as diabetes.

Looking Ahead

Blue Shield of California has leveraged the initial screening nurse call to offer a “cancer coaching” program to members who have an oncologic diagnosis but are not ill enough to qualify for the more intensive case management programs. These members receive teaching and education about signs and symptoms of chemotherapy, pain control, and other issues in a series of three nurse calls over a six-month period. They also have access to an online “care center” that is a tailored resource tool for the issues faced by this population. The program is being piloted to a large employer group, and will be evaluated in 2010.

IV. Lessons from the Case Examples

THESE NINE PROGRAMS SHOWCASE THE diversity of approaches health care providers and other stakeholders can use to improve care transitions in their communities. Yet for all their variety, the programs share many common features.

The patient is at the center. Activating patients and families as partners is at the very center of this work, and the cases show many creative approaches to doing so. The approaches include visits and telephone calls, tailored and tested information materials and record-keeping tools, and post-discharge classes that combine support and instruction. The corollary is that providers need to know their patients' levels of activation in order to care for and partner with them appropriately. Further, the programs that emphasize risk assessment demonstrate a related point—the need to identify patients who have lower capacities or greater needs to ensure that they, too, receive patient-centered interventions.

The answers are local. Local conditions are a major reason for the variety among the cases. Jane Brock, M.D., of the Colorado Foundation for Medical Care, commented on this factor in her interview: “All health care is local. There are a set of practices that should be used everywhere; but it’s important to look at local conditions to figure out how to carry them out. You have to identify leverage points, champions, who’s in it, who’s passionate, what people are already doing, and how your program fits. The answers are all local. And it takes shoe leather to find them.”

All the interviewees stressed the need for ongoing cooperation, partnership, and information-sharing. Leadership, they indicated, is a key factor in bringing this about—the type of leadership that

values listening, open-mindedness, and inclusivity. For example, two hospital leaders described their efforts to get beyond “hospital-centrism”; and several program representatives talked about how they structured collaboration with other health care sectors. The approaches include placing an outpatient provider within the hospital, standardizing the tools and processes of information exchange, and organizing visits to different provider settings.

Coordination and change are challenging for everyone. The demands on clinicians and the resistance of some to making practice changes can be major challenges for the change agents. Dr. Robert Rosati of VNSNY’s research center, for example, reported that his agency has had some difficulty getting home nurses and aides to focus on high-risk patients—a top priority for them. Similarly, Dr. Mike Kern, senior vice president and medical director for John Muir Physician Network, said John Muir Health has struggled to engage its contracted physicians in interventions to improve care transitions. “Everything we propose is a change for someone; if it doesn’t work into their workflows and their culture and expectations, they don’t want to do it. And if they’re not supportive, then the patients are not supportive, either.” It is John Muir’s case managers, says Dr. Kern, who play the key roles as skilled practitioners and champions of care transitions interventions. In his view, a growing new profession and stratum of “disease management coordinators” is emerging.

Several interviewees described the communication challenges they have confronted, even in integrated systems, and their efforts to standardize forms and information exchange. Every interaction in the

complex web of relationships—patient, family, hospital, outpatient physician, home care provider or nursing home, coaches, case managers, and others—represents a potential communication challenge. A study published in the February 17, 2009 *Annals of Internal Medicine* illuminates one of these dimensions: It reported that “a typical primary care physician who wants to coordinate care for his or her Medicare patients must interact with 229 other physicians working in 117 different practices.”

Regulatory barriers can make changes even more difficult to accomplish. In California, for example, hospitals, corporations, insurance companies, and others have limited ability to influence physicians because state law does not permit physicians to be directly employed by non-physicians.

Incentives matter. The importance of incentives—present or absent—is a strong theme for these programs, as it is for the field as a whole. The prime movers in the featured cases come from different sectors in the health care system; their financial incentives vary considerably, with implications for how they structure their projects. For example, integrated delivery systems can rely largely on coordination and influence within their organizations, while the other initiatives have to work extra hard to build collaborative relationships among unrelated health care providers and community-based organizations.

Broadly speaking, the national conversation about hospital readmissions makes it clear that a reformed payment system with aligned incentives is a necessity if the nation is to achieve improvements on the scale needed. The creative and successful programs described above will remain a patchwork, until payment is reformed so that programs like them can be developed and sustained across wide systems.

Joan Marren, R.N., of VNSNY put it this way: “A lot of people of good will are interested in making these improvements because it’s the right thing to do and it’s good for patients. But that hasn’t been enough. We need the resources and incentives to create the structures and processes to address this complex issue. There has to be a fundamental change in the incentives in the system.”

Ultimately, building a supportive environment is about building community. Dr. Jane Brock, whose Colorado QIO is the lead agency for the 14-state CMS care transitions theme, stressed that whatever the chosen intervention(s) for trying to lower hospital readmissions, “you have to create the environment in which disparate providers will work together.” Someone—preferably, in her view, a neutral entity such as a QIO—needs to serve as a catalyst or “technical assistance field staff, facilitating, cheerleading, helping with communication and scheduling, brokering relationships, and more.”

This means, she added, that the work of improving care transitions actually has two layers—one directed at the patient, and the other directed at building and sustaining collaboration among providers and others. While she agreed with her fellow interviewees that payment reform is essential, she asserted that “the most fundamental problem is the lack of a common platform for a group of disparate providers to come together, set their priorities, and figure out how to work together. Payment reform is important for sustaining the gains made by a group of unaffiliated providers; but by itself it won’t be sufficient. Creating a community is where the work is for care coordination.”

Appendix A: Summary of Nine Organizations' Initiatives to Reduce Readmissions

LEAD ORGANIZATION AND PROGRAM	TARGET POPULATION	SERVICES	BY WHOM	WHERE	PARTNERS	FINANCIAL MODEL	EVIDENCE OF SUCCESS	OTHER KEY CHARACTERISTICS
Colorado Foundation for Medical Care (CFMC), North Denver (community coalition) <i>Care Transitions Intervention (CTI)</i> , pilot project	Senior clinic patients, Medicare beneficiaries who have been hospitalized	Hospital visit, home visit, and follow-up calls by coach, focusing on the four CTI pillars	Transition coaches (nurses)	Hospital and home	St. Anthony's Hospital, St. Anthony's Hospital Senior Clinic, Centura Home Health Agency	Each partner funded its own participation; coaches funded by Centura and the management services company	Reduced 30-day readmissions from 20% to 13% and 60-day readmissions by 50% compared to uncoached patients.	<ul style="list-style-type: none"> Created a standing meeting at which physicians from different settings could work toward standardizing processes. Pilot led to an expanded, 3-year care transitions project as part of a 14-community CMS initiative.
Visiting Nurse Service of New York (VNSNY) (home nursing agency)	Home nursing patients post-hospitalization (multiple programs)	Risk assessment with stratified interventions; self-management support, etc.	NPs; home nurses; home health aides	Hospital (for some patients) and home	Mt. Sinai Hospital ED	Self-funded	Self-management support is reducing calls to 911; stationing NP in hospital and telehealth for heart failure patients successfully piloted.	<ul style="list-style-type: none"> Has a research arm, the Center for Home Care Policy & Research. Stresses cross-sectoral work; piloting having an NP in hospital ED. Staff development in self-management support and care transitions.
Boston Medical Center (public hospital) <i>Re-Engineered Discharge/RED</i>	All adult BMC patients	Patient education; comprehensive discharge planning; AHCP; post-discharge phone call for medication reconciliation	Nurse Discharge Advocate, clinical pharmacist	Hospital and home (phone only)		Developed and tested in studies funded by AHRQ, NHLBI	Decreased 30-day readmissions by 32%, and participants more likely to see their PCPs after discharge (randomized control trial).	<ul style="list-style-type: none"> RED produced lower-than-average readmission rates for the hospital's "frequent flyers." RED developers are helping disseminate it with support from AHRQ.
St. Luke's Hospital, Cedar Rapids, IA (nonprofit hospital) <i>Transitions Home for Patients with Heart Failure</i>	Heart failure patients in pilot	Patient education using teach-back; home visit; post-discharge phone call; outpatient classes	Advanced practice nurse, staff nurses	Hospital and home	Outpatient cardio clinics; SNF nurses; home care providers	Self-funded	Reduced 30-day readmissions from 14% to 4%, and produced high teach-back rates.	<ul style="list-style-type: none"> Developed health-literate materials with extensive user testing. Ongoing efforts to involve families. Piloted model has been adapted for other diagnoses.
Summa Health System, Akron, OH (integrated delivery system)*	Low-income frail elders with chronic illnesses in community-based long-term care	Risk appraisal; integrated medical and psychosocial care based on Naylor and Coleman models	Interdisciplinary teams, including RN Care Manager, APN, AAA staff.	Hospital, home, PCP office visits	Area Agency on Aging (AAA). Created Care Coordination Network (CCN) with 26 SNFs to standardize transfers	Self-funded	SAGE: better health outcomes; high satisfaction; cost savings CCN: lower readmissions and lengths of stay; fewer surgery and test cancellations	<ul style="list-style-type: none"> The AD-LIFE program, which was developed using lessons from SAGE and the Care Management project, is part of an AHRQ RCT that ends in 2009.

*First four columns describe SAGE and Care Management Project; others include Care Coordination Network

Appendix A: Summary of Nine Organizations' Initiatives to Reduce Readmissions, *continued*

LEAD ORGANIZATION AND PROGRAM	TARGET POPULATION	SERVICES	BY WHOM	WHERE	PARTNERS	FINANCIAL MODEL	EVIDENCE OF SUCCESS	OTHER KEY CHARACTERISTICS
John Muir Physician Network, Contra Costa County, CA (medical group affiliated with integrated system) <i>Transforming Chronic Care (TCC) Program</i>	Eligible frail patients—most have heart failure, COPD, or diabetes	CTI; complex case management; disease management	Transition coaches, case managers, both with multiple backgrounds	Hospital and home		Funded from capitated fees for managed care patients and community benefit payments for FFS Medicare patients	After one year, TCC participants had half the readmissions of a comparison group of John Muir patients.	<ul style="list-style-type: none"> John Muir was a grantee in CHCF's Improving Care Transitions Initiative, May 2007–September 2008. It trains people with a variety of backgrounds as Transition Coaches, including student nurses, case managers, and <i>promotoras</i>.
HealthCare Partners Medical Group, Southern California (medical group affiliated with integrated system)	Uses risk assessment to stratify patients and match to four levels of programs; special programs for frail patients	Self-management and health education; complex case management; high-risk clinics; home care management; disease management	Multiple inter-disciplinary staff members	Hospital, home, SNFs		Self-funded (capitated system)	Comprehensive care and complex care programs reduced hospitalizations and the total cost of care. The Home Care program reduced admissions of high-risk patients by 18%.	<ul style="list-style-type: none"> HealthCare Partners (HCP) is a capitated, integrated delivery system; its incentives align with a comprehensive approach to minimizing all admissions. HCP stations its hospitalists and SNFists in affiliated hospitals.
Sharp Rees-Stealy Medical Group, San Diego, CA (integrated delivery system)	High-risk patients, including all discharged from hospital or ED	Continuity of Care Unit (CCU); Telescale for HF patients; Transitions program for those near end-of-life	CCU: nurse case manager; Transitions: nurse	Hospital and home		Self-funded (capitated system)	Telescale reduced hospitalization rates and produced an 8:1 return on investment. Transitions is preventing admissions and readmissions.	<ul style="list-style-type: none"> Sharp Rees-Stealy Medical Group is part of a capitated, integrated delivery system; its incentives align with a comprehensive approach to minimizing all admissions. The Medical Group stations its hospitalists and SNFists in affiliated hospitals.
Blue Shield of California (health plan) <i>Patient-Centered Management (PCM)</i>	Complex patients with advanced illness. Piloted with CalPERS enrollees in Northern California	Patient education; care coordination; end-of-life management in seven care domains	ParadigmHealth team, including case manager and team manager, both nurses, and an MD consultant	Home	ParadigmHealth (now Alere) contractor	Self-funded	PCM showed 38% fewer hospitalizations, 36% fewer hospital days, and 30% fewer ED visits than persons receiving usual case management; reduced costs by 26%.	<ul style="list-style-type: none"> There was no difference in the life spans of the two groups of patients. For enrollees at lower levels of risk, Blue Shield of California has less intensive interventions using telephone contacts to address the same care domains.

Appendix B: Interviewees

BlueShield California

Andrew Halpert, M.D., Senior Medical Director, Network Medical Management (6/4/09)

Boston Medical Center

Brian Jack, M.D., Associate Prof. and Vice Chair, Department of Family Medicine, Boston University School of Medicine; Michael Paasche-Orlow, M.D., Associate Professor of Family Medicine, Boston University School of Medicine (5/18/09)

HealthCare Partners, Torrance, CA

Stuart Levine, M.D., Corporate Medical Director (5/18/09)

John Muir Health, Walnut Creek, CA

Mike Kern, M.D., Senior Vice President and Medical Director, John Muir Physician Network (5/11/09)

North Denver project

Jane Brock, M.D., Director, Colorado Foundation for Medical Care (5/14/09); Thomas Cain, M.D., Physician Health Partners Geriatric Medicine Practice (6/8/09)

Sharp Rees-Stealy Medical Group, San Diego, CA

Jerry Penso, M.D., M.B.A., Associate Medical Director, Quality Program (5/19/09)

Summa Health System, Akron, OH

Kyle Allen, D.O., Medical Director, Post-Acute and Senior Services and Chief, Division of Geriatric Medicine; Carolyn Holder, M.S.N., APRN, BC, Geriatrics Coordinator, Senior Services and Post Acute Care (5/13/09)

St. Luke's Hospital, Cedar Rapids, IA

Peg Bradke, R.N., M.A., Director of Heart Care Services, St. Luke's Hospital (5/21/09)

Visiting Nurse Service of New York

Penny Hollander Feldman, Ph.D., Vice President, Research and Evaluation, Director, Center for Home Care Policy and Research (6/3/09); Joan Marren, R.N., M.A., Chief Operating Officer, VNSNY (5/29/09); Robert Rosati, Ph.D., Director of Research, Evaluation and Informatics, Center for Home Care Policy and Research (5/22/09)

Endnotes

1. Jencks S.F., M.V. Williams, and E.A. Coleman, "Rehospitalizations among patients in the Medicare fee-for-service program," *New England Journal of Medicine* 360:14, April 2, 2009.
2. Ibid.
3. For example, 3M has developed the 3M Potentially Preventable Readmissions (PPR) methodology.
4. See, for example, "Discussion grows over hospital readmissions" in the *AAMC Reporter*, June 2009, www.aamc.org/newsroom/reporter/june09/readmits.htm.
5. This is also called a global fee. See the Commonwealth Fund report, "Ensuring accountability: How a global fee could improve hospital care and generate savings," by K. Davis and K. Stremikis. *Frontiers*, April 29, 2009, www.commonwealthfund.org/Content/From-the-President/2009/Ensuring-Accountability.aspx.
6. A recent *New England Journal of Medicine (NEJM)* article reports on the new Prometheus episode-based payment model, developed by the Robert Wood Johnson Foundation, which is now being piloted in several U.S. communities. See "Building a Bridge from Fragmentation to Accountability—The Prometheus Payment Model," by François de Brantes, M.S., M.B.A., Meredith B. Rosenthal, Ph.D., and Michael Painter, J.D., M.D. *NEJM*, August 19th, 2009.
7. The program uses an internet-based, standardized instrument called the Continuity Assessment Record & Evaluation (CARE), www.cfmc.org/caretransitions.
8. "Double failure" at USA's hospitals," by Steve Sternberg and Jack Gillum, *USA TODAY*, July 9, 2009.
9. Medicare Payment Advisory Commission Report to Congress: Reforming the Delivery System, June 2008
10. National Quality Forum, Care Coordination Practices & Measures, www.qualityforum.org/projects/care_coordination.aspx.
11. Integrated Healthcare Association, www.iha.org/index.html.
12. Commonwealth Fund, "The Importance of Discharge Planning," www.commonwealthfund.org/~media/Files/Resources/2009/Reducing%20Readmissions/Schyve_commonwealth.pdf.
13. The Joint Commission, Facts about Speak Up™ Initiative, www.jointcommission.org/GeneralPublic/Speak+Up/about_speakup.htm.
14. Society of Hospital Medicine, BOOSTing Care Transitions Resource Room, www.hospitalmedicine.org/BOOST.
15. The Institute for Healthcare Improvement (IHI) recently studied care transitions programs and the evidence supporting them and in a recent Compendium identified four components as "high-leverage opportunities for improvement" in reducing rehospitalization: Improve existing processes of transition out of the hospital; improve the "reception" of the patient into the new setting of care; enhance services at times of transition for patients at high risk of recurrent rehospitalizations; and engage patients/families as active participants in their care and facilitate patient self-management and/or remote monitoring. Boutwell, A. Griffin, F. Hwu, S. Shannon, D. Effective interventions to reduce rehospitalizations: A compendium of promising interventions." Cambridge, MA. Institute for Healthcare Improvement; 2009.
16. California HealthCare Foundation, "Navigating Care Transitions in California: Two Models for Change," September 2008, www.chcf.org/topics/view.cfm?itemID=133766.
17. The original model targeted nurses and nurse practitioners as transition coaches. However, programs have successfully trained social workers, student nurses, *promotoras* and other community workers, medical assistants and volunteers to play this role.
18. Coleman, E.A., C. Parry, S. Chalmers, S.-J. Min. "The Care Transitions Intervention: Results of a Randomized Controlled Trial." *Archives of Internal Medicine* 2006;166: 1822–1828, www.caretransitions.org.

19. Naylor, M.D., “Transitional care for older adults hospitalized with heart failure: A randomized, controlled trial,” *Journal of the American Geriatrics Society*, 2004; 52:675–684. A PowerPoint document, “The Transitional Care Model: Translating Research into Practice,” is available for download at www.queri.research.va.gov/chf/docs/HF_Program_Naylor.ppt.
20. The name of the IPA is Physician Practice Partners.
21. SNFists serve a role in a skilled nursing facility comparable to that of hospitalists in a hospital.
22. Colorado Foundation for Medical Care, Care Transitions – NW Denver Community, www.cfmcc.org/providers/providers_pcc.htm.
23. Rosati, R. and L. Huang, Development and testing of an analytic model to identify home health care patients at risk for a hospitalization within the first 60 days of care, published simultaneously in *Home Health Care Services Quarterly* (The Haworth Press, Inc.) Vol. 26, No. 4, 2007, pp. 21–36; and “Charting a Course for High Quality Care Transitions” (ed: Eric A. Coleman), pp. 21–36, The Haworth Press, Inc., 2007.
24. CHAMP, www.champ-program.org.
25. Jack B et al, “A reengineered hospital discharge program to decrease rehospitalization,” *Annals of Internal Medicine* 2009; 150:178–187.
26. The 11 “mutually reinforcing components” of the RED have been adopted by the National Quality Forum (NQF) as NQF “Safe Practices” (SP-11).
27. In teach-back, a professional asks the patient (or surrogate) to repeat in his or her own words information received from a provider—e.g., on the condition, medications, or self-care regimen. The National Quality Forum has identified teach-back as one of 50 essential safe practices to improve health care.
28. A Spring 2009 Webinar on the RED had 2,200 participants. The work on dissemination and implementation has funding from the Agency for Healthcare Research and Quality (AHRQ).
29. Bickmore, T., L. Pfeifer, and B. Jack, “Taking the time to care: Empowering low health literacy hospital patients with virtual nurse agents,” pp. 1–10. CHI 2009, April 3–9, Boston, MA.
30. For a more detailed description of the St. Luke’s program, see the AHRQ Innovations Exchange February 2009 write-up, www.innovations.ahrq.gov/content.aspx?id=2206. See also “Transforming Care at the Bedside How-to Guide: Creating an Ideal Transition Home for Patients with Heart Failure,” IHI/RWJF October 2007, www.ihio.org/IHI/TOPICS/MedicalSurgicalCare/MedicalSurgicalCareGeneral/Tools/TCABHowToGuideTransitionHomeforHF.htm.
31. For St. Luke’s heart failure patients, about one-third of the home visits are reimbursed by Medicare; the rest are covered by the hospital. A small and declining percentage of patients refuse the home visit option.
32. The lower 4 percent, reported in the May 2009 interview for this report, updates the figure quoted in the earlier AHRQ write-up.
33. Commonwealth Fund profile, August 2007, www.commonwealthfund.org/Content/Innovations/Case-Studies/2007/Aug/Summa-Health-Systems-Care-Coordination-Network.aspx. AHRQ Innovations Exchange profile, October 2008, www.innovations.ahrq.gov/content.aspx?id=2162.
34. AHRQ Innovations Exchange profile, April 2008, www.innovations.ahrq.gov/content.aspx?id=1746.
35. California HealthCare Foundation, “Coleman Care Transitions Intervention,” March 2009, www.chcf.org/topics/view.cfm?itemID=128306.
36. Team Up for Health is a three-year CHCF initiative to support the advancement of self-care among chronic disease patients in California. Grants were made to community clinics and medical groups.
37. See Levine S, “Integrated, coordinated care for frail older adults at its pinnacle,” scheduled for publication in the June/July 2009 newsletter of the California Association of Physician Groups.

38. The risk stratification model was developed collaboratively with SCAN Health Plan.
39. Dorr Care Management Plus, Reuben/Wenger ACOVE, Hoffing HomeCare, Levine Complex Care Management, among others.
40. The others are in PPO fee-for-service Medicare.
41. Dr. Penso reports that introduction of the hospitalist program in the Sharp system was “a cultural challenge” for PCPs accustomed to caring for their patients in all settings; however, this change was deemed necessary for efficiency, and has indeed helped reduce costs.
42. New York Heart Association.
43. The PCM study and results are described in “Patient-centered management of complex patients can reduce costs without shortening life,” by Latanya Sweeney, Ph.D; Andrew Halpert, M.D., and Joan Waranoff, M.B.A. in the February 2007 issue of the *American Journal of Managed Care*.



**CALIFORNIA
HEALTHCARE
FOUNDATION**

1438 Webster Street, Suite 400
Oakland, CA 94612
tel: 510.238.1040
fax: 510.238.1388
www.chcf.org