



Case Study

INNOVATIONS IN CARE TRANSITIONS

November 2012

University of California, San Francisco Medical Center: Reducing Readmissions Through Heart Failure Care Management

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Commonwealth Fund pub. 1635
Vol. 7

ABSTRACT: In 2008, the University of California, San Francisco (UCSF) Medical Center embarked on a grant-funded program to reduce hospital readmissions for elderly patients with heart failure. With support from medical center leaders and a multidisciplinary team, program coordinators provide enhanced patient education and follow-up care connections to promote the patient's successful transition to home or to skilled nursing care. Over two years, rates of all-cause heart failure readmissions in the target population declined by 46 percent within 30 days of hospital discharge and by 35 percent within 90 days. With internal funding, the program is being sustained and expanded to younger patients. The medical center applies learning from the program to support the goal of reducing all readmissions as part of a performance incentive program for public hospitals. Program staff highlight collaboration and communication as key factors to the program's success.



THE PROGRAM AT A GLANCE

Organization: The University of California, San Francisco (UCSF) Medical Center is a leading academic medical center with several inpatient and outpatient facilities and primary care clinics in San Francisco, including a 559-bed main hospital at its Parnassus campus, the site of the intervention (Exhibit 1).

Objective: Reduce by 30 percent the rate of hospital readmissions for any cause within 30 and 90 days of a hospital discharge among the target population.

Target Population: Medicare patients age 65 and older (average age 80) hospitalized with a primary or secondary diagnosis of heart failure (representing approximately 700 admissions during the year the program began); more than half of

Exhibit 1. Profile of UCSF Medical Center’s Parnassus Campus (annual figures)

559	Licensed beds
29,000	Admissions
40,000	Emergency visits
770,000	Outpatient encounters
700	Medicare admissions for heart failure (primary or secondary diagnosis) at the start of the intervention
7,000	Employees

these patients identified with a racial/ethnic minority group and almost one-third spoke a language other than English.

Team: Two heart failure program nurse coordinators, supported by a multidisciplinary team comprising a cardiovascular service line director, hospitalists, cardiologists, clinical nurse specialists, case managers, social workers, pharmacists, dietitians, chaplains, educators, primary care physicians, skilled nursing facility staff, home care nurses, and outpatient nurse practitioners.

Approach: Create an ideal transition from hospital to home through the following interventions:

1. Form a multidisciplinary team to support learning and improvement.
2. Engage in extensive patient education using “teach-back” techniques.
3. Schedule a follow-up physician appointment to occur within seven days of discharge.
4. Make a follow-up telephone call to the patient within seven days of discharge.
5. Refer the patient to needed services and home care.
6. Collect and analyze readmission data to measure progress.
7. Communicate and collaborate with clinicians/providers across the continuum of care.

The heart failure management program also coordinates with skilled nursing facilities to support consistent education and successful transitions for patients needing institutional postacute care.

Timeline and Funding: UCSF initiated the program in late 2008 in collaboration with the Institute for Healthcare Improvement and with funding from the Gordon and Betty Moore Foundation. The program has since become self-sustaining and is being expanded to include all adult patients with heart failure.

Results in Brief: Within the target population, there was a 46 percent relative reduction in the 30-day all-cause heart failure readmission rate, from 24 percent in 2009 to 13 percent in 2011. Likewise, there was a 35 percent relative reduction in the 90-day all-cause heart failure readmission rate, from 40 percent in 2009 to 26 percent in 2011.

THE CHALLENGE

Heart failure—the inability of the heart to pump enough blood to meet the body’s needs—is a serious and costly condition affecting up to one of 10 older people. Nationally, almost one-quarter of Medicare patients hospitalized with heart failure are readmitted to the hospital within 30 days and one-half are readmitted within six months—a reflection of the difficulty patients and family caregivers face in successfully managing this chronic condition. Comprehensive discharge planning and disease management programs that offer sustained follow-up care have reduced

readmissions among heart failure patients in controlled trials but remain underused in practice, owing in part to misaligned financial incentives. The potential of less intensive approaches focused on improving patient education in the hospital and transitioning patients to postdischarge care has not been fully explored.

THE IMPETUS FOR CHANGE

In 2008, the UCSF Medical Center received a two-year grant from the Gordon and Betty Moore Foundation to optimize discharge planning and reduce hospital readmissions among frail elders with heart failure. The grant enabled UCSF to participate in the Institute for Healthcare Improvement's (IHI) Transforming Care at the Bedside collaborative, which provided improvement tools, institutional mentoring, and a framework for creating an ideal transition from the hospital to home (Exhibit 2).¹ This framework was subsequently adopted by IHI's State Action on Avoidable Rehospitalizations (STAAR), a Commonwealth Fund-sponsored initiative for which UCSF has served as a mentor.

Implementing and adapting this improvement framework to UCSF's circumstances required institutional and day-to-day leadership together with multidisciplinary teamwork. During the first year of the grant, the program's leaders focused on establishing a firm foundation for success on three units within the hospital where most heart failure patients are treated. In the second year, they invited outpatient and post-acute care providers to collaborate on improving transitional care and adopt a common approach to patient education. Since then, the leaders have been working

to sustain the program with internal funding and to expand its reach to include younger adults.

Leadership and Teamwork. Karen Rago, R.N., M.P.H., director of the medical center's cardiovascular service line, has provided executive leadership to establish the program and help overcome organizational barriers to its implementation, with the support of Maureen Buick, R.N., the medical center's director of nursing education and performance improvement. They recruited two former staff nurses on the heart and vascular unit, Eileen Brinker, R.N., M.S.N., and Maureen Carroll, R.N., C.H.F.N., to work together on a part-time basis (equivalent to 1.6 full-time staff) as program coordinators. The program coordinators' responsibilities include educating patients and family caregivers, ensuring appropriate consultations, coordinating discharge support, making postdischarge phone calls to patients, collecting and analyzing data, and collaborating with outpatient providers on transitions to postdischarge care.

After receiving training in IHI's approach to improvement, Brinker and Carroll introduced themselves to more than 50 clinicians and staff to understand current care processes, identify opportunities for improvement, and build interest in the program. They analyzed the medical records of patients readmitted in the past to assess historical patterns of care and potential causes of readmissions—a practice they continue—and developed a tracking system to measure the program's progress toward its goals.

These activities led to a kickoff meeting with a multidisciplinary team, an event that generated common understanding and support for launching

Exhibit 2. The Institute for Healthcare Improvement's Framework for Creating an Ideal Transition from Hospital to Home²

1. Enhanced admission assessment for postdischarge needs
2. Enhanced teaching and learning
3. Patient and family-centered handoff communication
4. Postacute care follow-up

the program. The team continues to meet every other month to review progress toward goals, offer advice on plans, and share experience and learning about issues of common concern. The team’s membership has since expanded to include representatives of the entire care continuum: the heart failure program coordinators, hospitalists, cardiologists, clinical nurse specialists, case managers, a dietician, the medical center’s palliative care service and home care agency, educators and a statistician from the nursing school, nurse practitioners in the medical center’s heart failure outpatient clinic, the local district manager of a nursing home chain, and a geriatrician from a local skilled nursing facility.

THE STEPS OF CHANGE

Enhanced Assessment and Referral. Floor nurses assess heart failure patients after admission to the unit to identify referral needs, such as for rehabilitation therapy, home care, and consultations by dietitians, case managers, social workers, and spiritual or palliative care services. Brinker and Carroll review the assessments to ensure that all appropriate referrals and consultations are made for patients. The program set a goal for these assessments to be completed within 24 hours of a patient’s admission for at least 90 percent of patients, though that goal has proven challenging. The coordinators track selected risk factors—whether the patient has a primary care physician, is taking 10 or more medications, has support at home, has poor health literacy, or has been hospitalized in the past six months—in order to tailor interventions to patients’ individual needs. Further work to improve patient assessments is being undertaken as part of a broader program to reduce readmissions at the medical center (see “Next Steps,” below).

Enhanced Teaching and Learning. After a hospital visit, patients and family caregivers often do not fully recall self-care information or recognize a deterioration in their condition in time to get help before emergency care becomes necessary. Understanding this, Brinker and Carroll began revising patient education materials and developing tools to promote health literacy

(see [Appendix](#)). They drew on advice from patients recruited for an advisory group established to suggest ways to make the materials easier to comprehend. The materials were translated into four languages common to the patient population and organized into a binder, for easy reference.

In addition to offering group “Heart Healthy” classes on a hospital unit, Brinker and Carroll arranged their schedules so they would be available throughout the week to teach patients and family caregivers individually about heart failure and managing the condition at home. When possible, they attempt to build and reinforce learning during several short teaching sessions throughout the hospital stay, since teaching everything at once can be overwhelming to patients and caregivers. Heart failure patient education has four core topics derived from evidence-based guidelines for self-care:³

1. Routinely taking a diuretic medication (“water pill”).
2. Limiting salt intake by avoiding certain foods.
3. Monitoring and reporting weight gain to the doctor.
4. Calling the doctor when there is a change in health.

The care coordinators instituted a “teach-back” technique (already used by pharmacists on patient rounds at the medical center) to promote patient comprehension and retention of heart failure teaching (Exhibit 3). They also trained floor nurses on the core content of heart failure education as well as the teach-back technique, so that every patient encounter could serve as an opportunity to reinforce core messages. By systematically tracking patient responses to teach-back questions, the program team observed a temporal association between an increasing level of patient comprehension on the four heart failure teaching topics and a decreasing rate of readmissions over time. This finding validated their belief in the efficacy of teach-back.

Over time, the program team sought the support of nursing leaders to make teach-back a part of

the culture of teaching on the three pilot units. The team identified a nurse to “champion” teach-back on each unit and encouraged nursing staff to use the method routinely in all patient interactions, such as when explaining medications or giving instructions on use of the call button. In the second year, the care coordinators extended the program’s reach by inviting the participation of local skilled nursing facilities and home care agencies in following a consistent approach to patient education after discharge. The coordinators provide periodic inservice training to skilled nursing facility staff and host a meeting of home care agencies twice a year to review the intervention and promote consistent patient communication.

As Brinker and Carroll listened to patients’ stories, they found that patients with advanced heart failure, as well as their family members, often did not fully comprehend the seriousness of the condition, which can have a prognosis similar to late-stage cancers. In response, they accompanied the medical center’s palliative care service staff on patient

rounds—and later attended formal training—to learn techniques for engaging patients in conversations about setting goals for care.⁴ This attention led to a modest increase in palliative care consultations among heart failure patients. Moreover, by raising awareness of the issue, their efforts prompted the medical center to set a new clinical standard for offering palliative care consultations to all high-risk heart failure patients—those readmitted three or more times in a year. The medical center’s spiritual care services recently assigned a chaplain trained in psychology to work with the team.

Arranging for Postacute Follow-Up Care. The coordinators emphasize the importance of follow-up care during teaching and work with the medical center’s clerks to schedule follow-up physician visits before patients are discharged. The goal is to secure an appointment within the critical seven-day period following the discharge date. When they found this goal difficult to achieve for all patients, Brinker and Carroll opened a dialogue with primary care physicians who

Exhibit 3. Patient Education Using Teach-Back

Teach-back is a patient education technique that:

- Asks people to explain in their own words what they need to know or do
- Offers a way to check for understanding and, if needed, to restate or clarify the information
- Promotes health literacy and places responsibility for success on the teacher

Principles for effective application:

- Identify and teach to the primary learner (patient or responsible family caregiver)
- Use plain language; avoid jargon
- Maintain a shame-free environment (teach-back is not a test)
- Keep teaching sessions short and frequent, if possible
- Limit information to what is needed
- Use open-ended questions; avoid yes/no questions, such as “Do you understand?”
- Listen before teaching; try to ascertain the learner’s baseline knowledge and situation, for example, by asking, “Tell me what you know about your heart?”

Sample teach-back questions:

- “I want to be sure that I did a good job of teaching you today about how to stay safe and well after you go home. Could you please tell me in your own words the reasons you should call the doctor?”
- “Would you explain to me how you will weigh yourself (at home) so that I can make sure that I have explained it correctly?”

Teaching goal in UCSF’s heart failure program:

The patient or family caregiver will take appropriate action when there is a change in the patient’s health.

refer patients to the medical center's cardiologists. This strengthened follow-up relationships and, as a result, the seven-day goal was achieved for 76 percent of program patients in 2011, up from 68 percent in 2010.

During the program's second year, in August 2010, UCSF expanded follow-up options for a limited number of high-risk patients who require close monitoring or medication management. These patients are able to make appointments in the medical center's outpatient heart failure clinic with a cardiologist, primary care physician, or nurse practitioner. Visits with the nurse practitioner last one hour and include a thorough review of medications, a knowledge assessment, further patient and family education using the teach-back method, and referrals to specialists. The nurse practitioners are available for follow-up calls and may continue to see the patient biweekly or as needed, for medication titration and education, during the critical interim period before the patient has stabilized and is ready to transition to routine primary care.

Also in 2010, UCSF created a Geriatric Transitions, Consultation, and Comprehensive Care (GeriTraCCC) program that offers certain high-risk heart failure patients the opportunity to receive "house calls" by a UCSF physician trained in geriatric medicine. The physician collaborates with home health nurses and the patient's primary care physician and cardiologists to promote a smooth transition home, discuss goals of care, provide palliative care, and address issues that may impede optimal recovery at home. The service, funded by the medical center, is offered each month to an average of five frail elderly patients who have end-stage heart disease and concerns such as multiple admissions, missed appointments, medication nonadherence, impaired cognition, or inadequate caregiver support. Initial GeriTraCCC visits are made in the hospital prior to discharge or within 48 hours of returning home from the hospital or a nursing facility. Visits continue as long as needed until risk factors are reduced or the patient is stabilized or expires; on average, patients receive three to four visits.

For heart failure patients who are discharged to home (about 80% of patients), Brinker or Carroll

call the patient or family caregiver within seven days of discharge, and again at two weeks, whenever possible, to check on the patient's progress and reinforce the four core teaching topics using the teach-back method. Through persistent call-back efforts, they reach approximately 95 percent of these patients. This follow-up contact offers the opportunity to build on the relationship and knowledge of the patient's situation established during the hospital stay. Patients can call the coordinators during the day or leave a message for nonurgent questions. The coordinators may ask the medical center's pharmacist or dietician to call the patient to answer questions about medication or diet. The coordinators educate and coach patients to call their physician if they are not feeling well, or to call 911 if they are having an acute episode.

The coordinators also seek to obtain home care for patients within 48 hours of hospital discharge, when possible. Given the physical and cognitive challenges faced by this patient population, the medical center recently began offering home care referrals to all heart failure patients on the assumption that most will qualify for services and that it is best to assess their situation in the home environment. (About half of the heart failure patients select UCSF's home health care provider, which pays for the home assessment in rare cases when the patient's insurance does not cover the visit.)

Patient-Centered Handoff Communication. During the second year of the grant, Brinker and Carroll built close working relationships with nurse practitioners in the medical center's outpatient heart failure clinic, as well as with home care nurses and the home-visiting geriatric physician, to institute a formal patient "hand-off" procedure. As part of the discharge plan, the handoff identifies follow-up concerns for each patient, including patient education topics in need of reinforcement based on responses to teach-back questions. To enhance communication with postacute providers, two skilled nursing facilities recently added a clinical liaison staff person and, likewise, UCSF asks each home care agency to identify a primary clinical contact person.

Two related interventions were aimed at improving communication and coordination during patient transitions in care. The first involved strengthening the process of “medication reconciliation” by increasing pharmacist consultations before hospital discharge and developing a patient-friendly tool so that patients would leave the hospital with an accurate and easy-to-understand list of medications to be continued after discharge. Second, the medical center’s medicine team set a goal to improve the timeliness of discharge summaries so that they would be ready for postacute care providers when the patient is discharged from the hospital (or shortly thereafter).

In another key innovation, Brinker and Carroll began using the medical center’s secure e-mail system

to enhance communication among care providers, who often see patients on different days and times. By sending out an e-mail alert when a heart failure patient was admitted to the program (Exhibit 4), they created the opportunity for electronic communication among a virtual multidisciplinary care team, including the patient’s attending and resident physicians, case manager, pharmacist, and dietician in the hospital, as well as post-acute care providers such as the skilled nursing facility or home care nurse. (About two-thirds of heart failure patients are seen by physicians affiliated with UCSF; the coordinators may call the patient’s primary care physician if she or he is not part of the UCSF system and does not have access to secure e-mail.)

Exhibit 4. Secure E-Mail to Virtual Care Team

Dear Team,

We wanted to let you know that we are following patient X in the Heart Failure Program.

The Heart Failure Program is for patients 50 and older who are admitted to the hospital with a primary or secondary diagnosis of heart failure. Our program includes thorough patient education on heart failure, follow-up phone calls after discharge, and assistance with other discharge planning needs.

We encourage all physicians to order RN Home Care visits for CHF patients (see patient’s case manager and write CHF protocol on PDP). Please schedule a follow-up appointment with patient’s PCP, NP, or Cardiologist within 7 days of discharge for those patients with primary or active heart failure. The standard of care for the Heart Failure Program is to request a consult from the Palliative Care team for a goals-of-care discussion (the PC team has agreed to this) if the patient has been admitted three times within 12 months.

If we can help with any of these planning needs or answer any questions, please feel free to call us at X.

Our goal is to reduce readmissions and improve patient care.

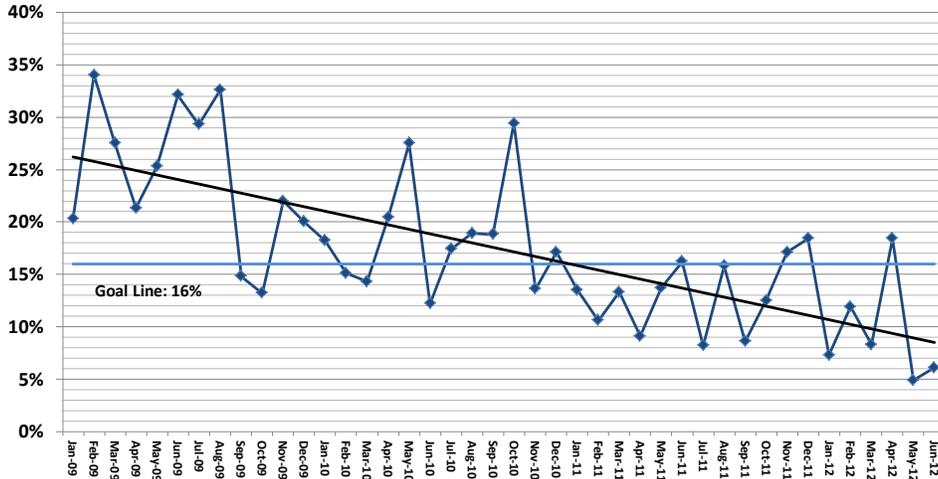
CMS Core Measure Reminders for Physicians:

- Document results of LVS function assessment
- Prescribe ACEI or ARB for LVSD at discharge (or document reason not prescribed for ACEI and ARB)
- Document follow-up appointment on patient’s discharge paperwork
- Discharge medications listed on discharge summary MUST match patient discharge prescription and medication list

Thank you,
Maureen Carroll, RN, CHFN
Heart Failure Program Coordinator
UCSF Medical Center

Exhibit 5. Trend in 30-Day Readmissions for Heart Failure Patients on Target Nursing Units at UCSF Medical Center

Percent of patients age 65 and older with any diagnosis of heart failure readmitted for any cause within 30 days at UCSF Medical Center



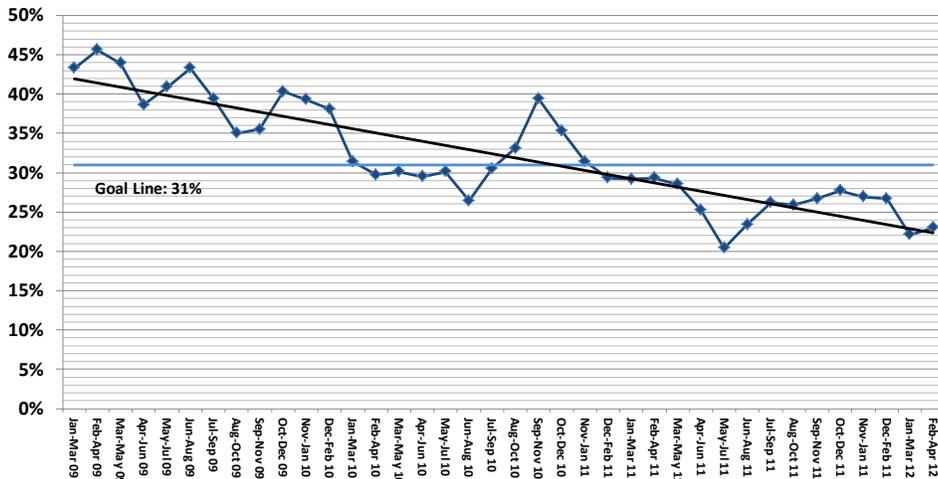
Source: University of California-San Francisco Medical Center.

Although the care coordinators found that managing this e-mail stream was time-consuming, they observed its clear benefits in facilitating shared understanding of patient needs so that providers could better

anticipate and deliver appropriate care throughout and following a patient’s hospital stay. Brinker and Carroll note that e-mail’s immediacy prompts attention to concerns and facilitates electronic conversations; hence, it

Exhibit 6. Trend in 90-Day Readmissions for Heart Failure Patients on Target Nursing Units at UCSF Medical Center

Percent of patients age 65 and older with any diagnosis of heart failure readmitted for any cause within 90 days at UCSF Medical Center



Source: University of California-San Francisco Medical Center.

serves as an adjunct rather than a replacement to documentation in the electronic health record. Anecdotal evidence suggests that such communication has helped to avert some readmissions.

RESULTS

At UCSF Medical Center, patient understanding of self-care instructions increased over time with experience in the use of teach-back methods. In July 2009, 75 percent of core teaching topics were recalled correctly by hospitalized heart failure patients or family members taught by the program; that proportion grew to consistently greater than 90 percent of recalled topics for those patients hospitalized from November 2009 to May 2010. In a one-year cohort study, recall remained relatively durable at seven-day follow-up calls, with 77 percent of patients or family members answering at least three of four questions correctly at follow-up as compared with 84 percent of patients or family members questioned during the hospital stay. Patients who received more teaching were more likely to answer teach-back questions correctly; however, patients who correctly answered teach-back questions did not have a lower readmission rate.⁵

From 2009 through 2011, scheduling of follow-up appointments at discharge increased from 77 percent to 96 percent of the target heart failure patients, while those scheduled to occur within seven days rose from 53 percent to 76 percent of the patients. Home-care referrals increased from 51 percent to 74 percent of patients. The intervention was associated

with downward trends in the medical center’s 30-day and 90-day all-cause heart failure readmission rates in the target population (Exhibits 5 and 6). On an annual basis, there was a 46 percent relative reduction in the 30-day all-cause heart failure readmission rate in the target population, from a rate of 24 percent in 2009 to 13 percent in 2011, as well as a 35 percent relative reduction in the 90-day all-cause heart failure readmission rate, from a rate of 40 percent in 2009 to 26 percent in 2011 (Exhibit 7).

According to a financial analysis conducted by Karen Rago, UCSF’s cardiovascular service line director, achieving the program’s goal of a 30 percent reduction in the medical center’s readmission rate for the target population equated to a \$1 million savings to Medicare, based on a cost per readmission of \$25,000. The average length-of-stay for heart failure patients admitted or readmitted to the medical center declined by one-half day, from 6.2 days before the intervention to 5.7 days in the second year of the intervention, freeing 326 bed days on an annual basis. The median length of stay remained constant, however, suggesting that the intervention reduced more costly readmissions during this time. As a result, the medical center experienced an improved net profit margin (reduction in net loss per case) from the program during its second year, not counting the cost of the intervention.

During the third year of the intervention, Rago’s analysis found that the medical center experienced a reversal in this cost trend because of an increase in disease severity and, consequently, in the

Exhibit 7. Key Metrics of UCSF Medical Center’s Heart Failure Program

	Baseline 2006	Goals	2009	2010	2011
30-day readmission rate for all-cause heart failure†	23%	16%	24%	19%	13%
90-day readmission rate for all-cause heart failure†	45%	31%	40%	31%	26%
Home-care referrals	n/a	90%	51%	63%	74%
Scheduled follow-up appointments	n/a	90%	77%	91%	96%

† Readmissions for any cause at UCSF Medical Center among patients age 65 and older admitted at UCSF with a primary or secondary diagnosis of heart failure.

average length of stay among patients admitted with heart failure, even as the rate of readmissions continued to decline. This increase in average patient severity was accompanied by a higher mortality risk. The reasons for these dynamics are complex and show that reducing readmissions may influence other outcomes in ways that may be difficult to predict and may vary over time. UCSF remains committed to the goal of reducing readmissions and is expanding the initiative incrementally to encompass all adult patients with heart failure as well as patients with other medical conditions.

Limitations. Results are based on readmissions to UCSF Medical Center only and may therefore understate or overstate the overall reduction in rehospitalizations, depending on whether there was a change over time in the proportion of patients readmitted to other hospitals. This limitation points up the need for all-payer databases so that hospitals and others can assess the impact of efforts to reduce readmissions on a systemwide basis.

While it is not possible to tease apart the contribution made by each component of the intervention instituted at UCSF, time-series data suggest that their effects were additive as the intervention's scope expanded over time. Patient-reported outcomes were not formally assessed. The assumptions underlying the financial analysis reflect local factors that may differ at other institutions depending on their particular circumstances.

NEXT STEPS

UCSF Medical Center is participating in a Better Effectiveness After Transitions-Heart Failure (BEAT-HF) study led by the University of California, Los Angeles, and funded by the federal Agency for Healthcare Research and Quality. The study is testing the relative effectiveness of regular telephone monitoring or remote telemonitoring on transitions among patients age 50 and older with a primary diagnosis of heart failure. A third part-time nurse care coordinator joined the UCSF team to support this additional

workload, bringing total staffing to almost two full-time-equivalent positions for the duration of the study.

UCSF created a multidisciplinary readmissions task force led by its associate chief medical officer and its executive director of patient safety and quality. The task force is drawing on lessons from the heart failure program to identify and plan systemic changes to improve transitions in care and reduce readmissions of all types throughout the hospital. This effort is driven in part to qualify for substantial performance incentives available to public hospitals participating in a Delivery System Reform Incentive Pool (DSRIP) under California's "Bridge to Reform" Medicaid Demonstration Waiver program.⁶ The task force conducted a survey of discharge practices across the medical center that revealed gaps in communication with primary care providers. In response, the medical center created financial incentives for medical resident physicians to communicate with patients' primary care physicians during hospitalization and is implementing best practices in care transitions on new medical services.

The medical center's Division of Hospital Medicine, for example, has convened a multidisciplinary team of physicians, nurses, pharmacists, case managers, and social workers that is adapting tools from the Society of Hospital Medicine's BOOST (Better Outcomes for Older adults through Safe Transitions) initiative to improve the discharge process.⁷ These efforts include some components in common with the heart failure program:

1. Implementing teach-back on medicine floors.
2. Creating patient-centered discharge documentation.
3. Setting physician expectations for multidisciplinary rounds.
4. Implementing an electronic discharge summary to be completed on the day of discharge.
5. Creating a postdischarge hotline for patients and their families to call.

6. Implementing a 72-hour follow-up phone call program to troubleshoot postdischarge issues such as questions about follow-up appointments or medications.

The division already has achieved its goal of scheduling follow-up appointments for at least 80 percent of primary care patients within two weeks for those discharged to home or within one month for those discharged to a skilled nursing facility. Patients with access problems can schedule a follow-up appointment in the medical center's outpatient urgent care clinic. The team studied factors associated with readmissions and discovered that patients experiencing multiple readmissions differ from those readmitted only once. In response, the division is planning to develop a high-intensity, multidisciplinary intervention for this complex, high-use population.⁸

LESSONS LEARNED

Teach-back enables continuous improvement in the content and technique of patient education so as to increase patient comprehension and retention of important self-care knowledge. Effectively preparing heart failure patients for discharge requires substantial time for teaching on disease management—based on UCSF's experience, more than 60 minutes during the hospital stay. Rago, the cardiovascular service line executive, believes this level of preparation is not possible without dedicated care coordinator positions, which also offer continuity of approach across patient care teams. On the other hand, it does not take much time for busy floor nurses to add teach-back to their normal routine to reinforce and supplement teaching, according to Brinker and Carroll. In fact, patient comprehension is enhanced if information is given in small "doses" throughout the hospital stay rather than waiting until shortly before discharge when the patient is often distracted.

Brinker and Carroll found that the key to successful patient education is listening carefully to patients' stories before beginning to teach. This allows teaching to be tailored to a particular patient's circumstances, while also providing insights on common

problems that many patients face. For example, they learned that patients often did not know whom to call for help, or that they faced barriers getting through the phone system to speak to the right person. In response, they developed systemic solutions: educating patients to give them a sense of permission to call for help, and developing a form that lists the person to call in order of priority (see [Appendix](#)).

The program's effectiveness was enhanced by extending its focus beyond hospital discharge planning to encompass disease management and follow-up care transitions for an inclusively defined heart failure population. Many elderly patients with heart failure suffer from multiple chronic conditions. Hence, the inclusion of patients with a secondary diagnosis of heart failure in the target population offered a logical opportunity to broaden the scope of the intervention by providing heart healthy education at multiple points of contact and vulnerability to help prevent future readmissions for heart failure. (Patients with secondary diagnoses made up more than two-thirds of the target population.) While the content of the patient education is generally the same for both subpopulations, Brinker and Carroll reported that it is sometimes challenging to teach about heart failure to patients hospitalized for another primary condition—which is naturally the focus of their immediate attention. Nevertheless, this opportunity can provide reinforcement or enable the identification of problems for correction, such as in the case of a patient whose diuretic medication was discontinued and needed to be restarted.

Starting the intervention during the hospital stay leverages the opportunity to establish trusting relationships with patients and families and to plant seeds of education that can be cultivated during follow-up care. Patients with a complex medical condition such as heart failure need more than just education; they also require ongoing support to achieve good outcomes. Extending its approach into the ambulatory care setting, the UCSF program established new ambulatory care follow-up options and strong linkages between the hospital and postacute home care and skilled nursing

providers. While not offering the scope or intensity of transitional care interventions that have been studied in controlled research studies, the program achieved comparable reduction in 30-day readmissions.⁹ This experience suggests that transitional care approaches may benefit from including the hospital in a continuum of interventions that are effectively tailored to local circumstances.

Communication is the “thread” and trust is the “loom” for weaving a “fabric” of collaborative relationships across the complexity of clinical disciplines, care teams, and care settings. The program coordinators found that it was challenging to break down established silos between hospital services. They did so by building rapport through face-to-face meetings with everyone involved in the care process, and by inviting key stakeholders to join the team to offer their input and share in the program’s learning. They discovered that clinicians are often eager to work on fixing gaps in the care process—such as communication with outpatient providers when a patient is admitted or discharged—once they had the opportunity to view them from a systems perspective.

The team also found that postacute care providers were eager to work with the medical center: 1) to build good working relationships so as to assure a source of referrals, and 2) in recognition that they could benefit from sharpening their competencies to serve patients and improve their performance on metrics such as home care hospitalizations reported by the federal government. The value of this relationship was realized in practical and mutually beneficial ways, such as by providing better information about patients to help postacute providers meet their medical needs after discharge, and by impressing a skilled nursing facility to offer low-sodium meal choices consistent with the goals of heart failure patient education. The medical center also valued having a known contact person to call to resolve patient issues.

Achieving results with a complex change requires data to measure results, passion to champion patient

interests, and persistence and support of leaders to overcome barriers. The heart failure program was fortunate to have an executive leader with clinical experience to understand the program’s operation and advocate with higher levels of administration for effective resources, for example, in maintaining funding for the nurse coordinator roles once the initial grant concluded. Leaders also provided autonomy and flexibility for the nurse coordinators to define and prove their role and to innovate in testing changes on a day-to-day basis. For their part, the nurse coordinators were undaunted by challenges—whether a lack of office space that led them to convert and occupy an unused closet as their program office at the medical center, or the opportunity to learn new skills by rounding with the palliative care service so that they could fill a perceived gap in patient education. In short, they viewed the program as an opportunity to create and prove a best practice for the health system.

Palliative care offers an important opportunity for helping patients clarify their goals for care, but its uptake requires overcoming misperceptions among both physicians and patients. Brinker and Carroll found that physicians often failed to refer patients to palliative care because physicians misperceived it to mean hospice care for the end of life. In reality, palliative care offers a means to engage patients and their family members in conversations so that they have a better understanding about what to expect during the natural progression of their condition, while also helping them to clarify their wishes so that they can plan prudently and with hope. The team identified an opportunity to incorporate this philosophy into their teaching and to share this perspective with postacute care providers as a key component of the program’s approach. More broadly, the medical center is seeking to change current practice by making palliative care referrals the norm for all high-risk patients.

Listening to patient stories provides valuable insights not only to meet immediate needs for a patient but also to diagnose and fix systemic problems. Based on

IHI's training in the science of improvement, Brinker and Carroll determined that they would view and act on the lessons they learned from patient stories in a systemic way. For example, during a follow-up call with a family caregiver, they discovered that a patient had not been properly weighed during the hospital stay and consequently had gained weight, a setback that was upsetting to all concerned. After the team shared this story with nursing staff, nursing leaders made a commitment to create a new procedure that specified roles and responsibilities for weighing all patients on the unit daily, rather than selectively based on physicians' orders. They also changed the whiteboards in patient rooms to include patients' weight (both the current and previous measurement), which made the measure visible for accountability and prompted conversation with patients to increase awareness of weight as a key teaching topic.

POLICY IMPLICATIONS

UCSF Medical Center was motivated to focus on reducing readmissions for both intrinsic and extrinsic reasons, including a commitment to improving patient care consistent with its academic reputation and the opportunity to prepare for health reform. The immediate promise of financial incentives that can be earned under California's "Bridge to Reform" Medicaid Demonstration Waiver program appears to be motivating action to reduce readmissions across the hospital. The federal government's Hospital Readmission Reduction program, mandated by the Affordable Care Act, offers further motivation to reduce the risk of financial penalties that Medicare began imposing October 1, 2012, on those hospitals with higher than average rates of risk-adjusted 30-day readmissions for heart attack, heart failure, and pneumonia.¹⁰

UCSF Medical Center recently joined with a nonprofit hospital system and a network of independent physicians to form an accountable care organization (ACO) serving employees and retirees of San Francisco's consolidated City and County government insured by Blue Shield of California.¹¹ This kind of arrangement also creates financial incentives for participants to reduce preventable readmissions and other unnecessary use of services among a defined population; a similar ACO arrangement in Sacramento recently reported a 17 percent reduction in readmissions among retirees in its pilot population.¹² An important question is how the growth of ACOs nationally will promote the spread of discharge planning and disease management programs at other hospitals.

Medicare could realize substantial savings through bundled payment arrangements that provide an incentive for hospitals to undertake care management programs such as this one. For example, a meta-analysis of 18 intervention studies found a pooled average reduction of 25 percent in the risk of readmissions among heart failure patients who received comprehensive discharge planning and postdischarge support; this would translate into annual savings of \$424 million, assuming 84,000 fewer readmissions at a conservative cost of \$7,000 per readmission and accounting for the cost of the intervention.¹³

In its operation, UCSF Medical Center's heart failure program had similar objectives and components to those of comprehensive disease management programs, though focused more narrowly on an inpatient population. Future research should describe how disease management programs based in the inpatient setting can be combined with those in ambulatory care settings to achieve more integrated, population-based care and improved patient outcomes.

The other case studies in our *Innovations in Care Transitions* series examine the Cincinnati Children's Hospital Medical Center's asthma care collaborative and the Visiting Nurse Service of New York's managed care plan for lower-income, vulnerable patients. To read them, along with a synthesis of findings from all three case studies, visit our website at <http://www.commonwealthfund.org/Publications/Case-Studies/2013/Jan/Care-Transitions-Synthesis.aspx>.

NOTES

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- ⁵ M. White, R. Garbez, M. Carroll et al., “Is ‘Teach-Back’ Associated with Knowledge Retention and Hospital Readmission in Hospitalized Heart Failure Patients?” *Journal of Cardiovascular Nursing*, e-published ahead of print May 10, 2012.
- ⁶ UCSF Medical Center qualified for a payment of \$37.7 million in the first year of the five-year DSRIP program, of which almost \$6.2 million was tied to implementing and expanding a care transitions program, according to the California Department of Health Care Services (see <http://ww2.dhcs.ca.gov/provgovpart/Pages/DSRIP1.aspx>). For background, see Kaiser Commission on Medicaid and the Uninsured, *California’s “Bridge to Reform” Medicaid Demonstration Waiver* (Menlo Park, Calif.: Henry J. Kaiser Family Foundation, Oct. 2011), available at <http://www.kff.org/medicaid/upload/8197-R.pdf>; and California Association of Public Hospitals and Health Systems, *Policy Brief: The Delivery System Reform Incentive Program: Transforming Care Across Public Hospital Systems*, June 2011, available at <http://www.caph.org/content/upload/AssetMgmt/PDFs/Incentive Program Policy Brief June 2011.pdf>.
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- ⁸ UCSF Medical Center Division of Hospital Medicine, *The Quality Post*, Issue 13, Jan. 2012, available at <http://hospitalmedicine.ucsf.edu/dhmfac/improve/newsletter/index.html>.
- ⁹ M. D. Naylor, D. A. Broton, R. L. Campbell et al., “Transitional Care of Older Adults Hospitalized with Heart Failure: A Randomized, Controlled Trial,” *Journal of the American Geriatrics Society*, May 2004 52(5):675–84.

- ¹⁰ Based on performance from July 2008 through June 2011, UCSF Medical Center will be subject to a 0.09 percent reduction in Medicare payment owing to a higher than average rate of readmissions for heart attack; its rates of readmissions for heart failure and pneumonia were lower than the national averages. The maximum penalty applied to any hospital in the first year of the Readmissions Reduction Program was 1 percent. See: J. Rau, “Medicare to Penalize 2,211 Hospitals for Excess Readmissions,” *Kaiser Health News*, Aug. 13, 2012, <http://www.kaiserhealthnews.org/Stories/2012/August/13/medicare-hospitals-readmissions-penalties.aspx>; Centers for Medicare and Medicaid Services, *Readmission Reduction Program*, <http://cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html>.
- ¹¹ “An ACO Takes Root in San Francisco” (press release), March 2, 2011, available at http://www.chwhhealth.org/stellent/groups/public/@xinternet_con_sys/documents/webcontent/213659.pdf.
- ¹² California Public Employees Retirement System, *Integrated Health Care Pilot Exceeds Expectations*, April 12, 2011, available at <http://www.calpers.ca.gov/index.jsp?bc=/about/press/pr-2011/april/integrated-health.xml>.
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Appendix. Teaching Tools

UCSF Medical Center 

Who do I call if I am not feeling well?

****Don't wait to call if you notice any change in your health****

- Home Care RN: _____
**Call any time (day, night or weekends)
- Primary Care Doctor: _____
- Cardiologist: _____
- Other Provider: _____

UCSF Screening and Acute Care Clinic
400 Parnassus Ave., 1st Floor
Walk-in, Same day appointments.
8 am – 8 PM (Mon – Fri) 8 am – 4 PM (Sat)
415-353-2602

In an
emergency,
call 911

Given to me by UCSF Heart Failure Program: Eileen Brinker, RN & Maureen Carroll, RN 415-353-1897

UCSF Medical Center 

Which Heart Failure Zone are you in today?

EVERY DAY	<p>EVERY DAY:</p> <ul style="list-style-type: none"> ◆ Weigh yourself in the morning after you urinate and before you eat or drink anything. Use the same scale and wear the same amount of clothing. Write down your weight daily in a calendar. ◆ Take your medicine as prescribed. ◆ Check for swelling in your feet, ankles, legs and stomach. ◆ Eat food low in salt. ◆ Balance activity and rest periods.
GREEN ZONE	<p>ALL CLEAR – This zone is your goal! Your symptoms are under control. You have:</p> <ul style="list-style-type: none"> ◆ No increase in shortness of breath. ◆ No weight gain more than 3 pounds in a day or 5 pounds in a week. ◆ No swelling of your feet, ankles, legs or stomach. ◆ No chest pain.
YELLOW ZONE	<p>YELLOW ZONE – CALL DOCTOR _____ at # _____ IF:</p> <ul style="list-style-type: none"> ◆ You gained more than 3 pounds today. ◆ You gained more than 5 pounds this week. ◆ You are more short of breath than usual. ◆ You have increased swelling of your feet, ankles, legs or stomach. ◆ You are feeling more tired or have less energy. ◆ You have a dry hacky cough. ◆ You feel uneasy; you know something is not right. ◆ You need to sleep sitting in a chair or it is harder for you to breathe when lying down.
RED ZONE	<p>EMERGENCY: Go to the emergency room or call 911 IF:</p> <ul style="list-style-type: none"> ◆ You are struggling to breathe or have unrelieved shortness of breath while sitting still. ◆ You have chest pain. ◆ You are confused or having trouble thinking clearly. ◆ You feel persistent palpitations. ◆ You are feeling lightheaded. ◆ You have passed out.




Salt: Is Your Food Full of It?

Campbell's® Chicken Noodle Soup
condensed soup, canned

Serving Size: 1 cup (prepared) • 1/2 cup (condensed) • 2/5 can	
Amount Per Serving	
Calories 60	Calories from Fat 20
	% DV
Total Fat 2g	3%
Saturated Fat 0.5g	2%
Trans Fat 0g	0%
Cholesterol 25mg	5%
Sodium 890mg	37%
Total Carbohydrate 3g	3%
Dietary Fiber <1g	0%
Sugars 1g	
Protein 3g	6%
Vitamin A 4%	Vitamin C 0%
Calcium 0%	Iron 2%

Unofficial Pts: 1 ©DietFacts.com
diet-facts.com ©2000-2007

Percent of Calories from:
Fat-33.3% Carb-53.3% Protein-20%
(Total may not equal 100% due to rounding.)

The Nutrition Facts on a food label lists the amount of sodium in one serving of the food in the package:

- It is good to select foods with no more than **150 mg** sodium per serving.
- Foods with more than **300 mg** sodium per serving may not fit into a low-sodium meal plan.
- Remember to check serving sizes on the label. If you eat more than one serving, you will get more sodium than the amount listed.
- Always try to choose low-to moderate-sodium foods




Daily Weight Record

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date							
Weight							
Date							
Weight							
Date							
Weight							
Date							
Weight							

- > Weigh yourself every morning after you urinate and before you eat or drink anything.
- > Use the same scale and wear the same amount of clothing.
- > Write down your weight daily in this calendar.
- > **Call your doctor if you have a weight gain of 3 pounds in one day or 5 pounds in one week.**
- > Bring this chart with you to your next doctor's appointment.

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ACKNOWLEDGMENTS

This case study was conducted under a grant to the Institute for Healthcare Improvement from The Commonwealth Fund. Pat Rutherford, R.N., M.S., vice president at the Institute for Healthcare Improvement, arranged the site visit, participated in the interviews, and offered advice on the project. The author is grateful to staff at UCSF Medical Center who graciously shared their time, experience, and insights for the case study, in particular Karen Rago, R.N., M.P.H., who recently retired from her position as director of the medical center's cardiovascular service line, and Eileen Brinker, R.N., M.S.N., and Maureen Carroll, R.N., C.H.F.N., the heart failure program coordinators.

Editorial support was provided by Paul Frame.

These case studies were based on publicly available information and self-reported data provided by the case study institutions. The Commonwealth Fund is not an accreditor of health care organizations or systems, and the inclusion of an institution in the Fund's case study series is not an endorsement by the Fund for receipt of health care from the institution.



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