

REVIEW

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Optimizing transitions of care to reduce rehospitalizations

ABSTRACT

Transitions of care—when patients move from one health care facility to another or back home—that are poorly executed result in adverse effects for patients. Fortunately, programs can be implemented that enhance collaboration across care settings and improve outcomes, including reducing hospital readmission rates.

KEY POINTS

Traditional health care delivery models typically do not have mechanisms in place for coordinating care across settings, such as when a patient goes from the hospital to a skilled nursing facility or to home.

Transitions can fail, leading to hospital readmission, because of ineffective patient and caregiver education, discharge summaries that are incomplete or not communicated to the patient and the next care setting, lack of follow-up with primary care providers, and poor patient social support.

A number of programs are trying to improve transitions of care, with some showing reductions in hospital readmission rates and emergency department visits.

Successful programs use multiple interventions simultaneously, including improved communication among health care providers, better patient and caregiver education, and coordination of social and health care services.

YOU HAVE SPENT SEVERAL DAYS checking on a patient hospitalized for an acute exacerbation of heart failure. You have straightened out her medications and diet and discussed a plan for follow-up with the patient and a family member, and now she is being wheeled out the door. What happens to her next?

Too often, not your desired plan. If she is going home, maybe she understands what she needs to do, maybe not. Maybe she will get your prescriptions filled and take the medications as directed, maybe not. If she is going to a nursing home, maybe the physician covering the nursing home will get your plan, maybe not. There is a good chance she will be back in the emergency room soon, all because of a poor transition of care.

Transitions of care are changes in the level, location, or providers of care as patients move within the health care system. These can be critical junctures in patients' lives, and if poorly executed can result in many adverse effects—including rehospitalization.¹

Although high rehospitalization rates gained national attention in 2009 after an analysis of Medicare data,² health care providers have known about the lack of coordinated care transitions for more than 50 years.³ Despite some progress, improving care transitions remains a national challenge. As the health system evolves from a fee-for-service financial model to payment-for-value,⁴ it is especially important that health care providers improve care for patients by optimizing care transitions.

In this article, we summarize the factors contributing to poor care transitions, highlight programs that improve them, and discuss strategies for successful transitions.

*Dr. Williams has disclosed that he serves as principal investigator on Project BOOST for the Society of Hospital Medicine.

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■ TRANSITION PROBLEMS ARE COMMON

Transitions of care occur when patients move to short-term and long-term acute care hospitals, skilled nursing facilities, primary and specialty care offices, community health centers, rehabilitation facilities, home health agencies, hospice, and their own homes.⁵ Problems can arise at any of these transitions, but the risk is especially high when patients leave the hospital to receive care in another setting or at home.

In the past decade, one in five Medicare patients was rehospitalized within 30 days of discharge from the hospital,² and up to 25% were rehospitalized after being discharged to a skilled nursing facility.⁶ Some diagnoses (eg, sickle cell anemia, gangrene) and procedures (eg, kidney transplantation, ileostomy) are associated with readmission rates of nearly one in three.^{7,8}

The desire of policymakers to “bend the cost curve” of health care has led to efforts to enhance care coordination by improving transitions between care venues. Through the Patient Protection and Affordable Care Act, a number of federal initiatives are promoting strategies to improve care transitions and prevent readmissions after hospital discharge.

The Hospital Readmission Reduction Program⁹ drives much of this effort. In fiscal year 2013 (beginning October 1, 2012), more than 2,000 hospitals incurred financial penalties of up to 1% of total Medicare diagnosis-related group payments (about \$280 million the first year) for excess readmissions.¹⁰ The penalty’s maximum rose to 2% in fiscal year 2014 and could increase to 3% in 2015. The total penalty for 2014 is projected to be \$227 million, with 2,225 hospitals affected.¹¹

The Centers for Medicare and Medicaid Innovation has committed hundreds of millions of dollars to Community-based Care Transitions Programs¹² and more than \$200 million to Hospital Engagement Networks¹³ to carry out the goals of the Partnership for Patients,¹⁴ aiming to reduce rehospitalizations and other adverse events.

At first, despite these efforts, readmission rates did not appear to change substantially.¹⁵ However, the Centers for Medicare and Medicaid Services reported that hospital readmission rates for Medicare fee-for-service beneficiaries declined in 2012 to 18.4%,¹⁶ although

some believe that the reduction is related to an increase in the number of patients admitted for observation in recent years.¹⁷

■ TRANSITIONS ARE OFTEN POORLY COORDINATED

Although some readmissions are unavoidable—resulting from the inevitable progression of disease or worsening of chronic conditions¹⁸—they may also result from a fumbled transition between care settings. Our current system of care transition has serious deficiencies that endanger patients. Areas that need improvement include communication between providers, patient education about medications and treatments, monitoring of medication adherence and complications, follow-up of pending tests and procedures after discharge, and outpatient follow-up soon after discharge.^{19–21}

Traditional health care does not have dependable mechanisms for coordinating care across settings; we are all ensconced in “silos” that generally keep the focus within individual venues.²² Lack of coordination blurs the lines of responsibility for patients in the period between discharge from one location and admission to another, leaving them confused about whom to contact for care, especially if symptoms worsen.^{23,24}

Gaps in coordination are not surprising, given the complexity of the US health care system and the often remarkable number of physicians caring for an individual patient.⁵ Medicare beneficiaries see an average of two primary care physicians and five specialists during a 2-year period; patients with chronic conditions may see up to 16 physicians in 1 year.²⁵ Coordinating care between so many providers in different settings, combined with possible patient factors such as disadvantaged socioeconomic status, lack of caregiver support, and inadequate health literacy, provides many opportunities for failures.

Research has identified several root causes behind most failed care transitions:

Poor provider communication

Multiple studies associate adverse events after discharge with a lack of timely communication between hospital and outpatient providers.²⁶ One study estimated that 80% of serious medical errors involve miscommunication dur-

Transitions of care can be critical junctures in patients’ lives

ing the hand-off between medical providers.²⁷ Discharge summaries often lack important information such as test results, hospital course, discharge medications, patient counseling, and follow-up plans. Most adverse drug events after hospital discharge result directly from breakdown in communication between hospital staff and patients or primary care physicians.²⁸ Approximately 40% of patients have test results pending at the time of discharge and 10% of these require some action; yet outpatient physicians and patients are often unaware of them.²¹

Ineffective patient and caregiver education

The Institute of Medicine report, *Crossing the Quality Chasm: A New Health System for the 21st Century*,²⁹ noted that patients leaving one setting for another receive little information on how to care for themselves, when to resume activities, what medication side effects to watch out for, and how to get answers to questions. Of particular concern is that patients and caregivers are sometimes omitted from transition planning and often must suddenly assume new self-care responsibilities upon going home that hospital staff managed before discharge. Too often, patients are discharged with inadequate understanding of their medical condition, self-care plan,^{23,24} and who should manage their care.³⁰

Up to 36% of adults in the United States have inadequate health literacy (defined as the inability to understand basic health information needed to make appropriate decisions), hindering patient education efforts.^{31–33} Even if they understand, patients and their caregivers must be engaged or “activated” (ie, able and willing to manage one’s health) if we expect them to adhere to appropriate care and behaviors. A review found direct correlations between patient activation and healthy behavior, better health outcomes (eg, achieving normal hemoglobin A_{1c} and cholesterol levels), and better care experiences.³⁴ This review also noted that multiple studies have documented improved activation scores as a result of specific interventions.

No follow-up with primary care providers

The risk of hospital readmission is significantly lower for patients with chronic obstructive pulmonary disease or heart failure who receive

follow-up within 7 days of discharge.^{35–38} Of Medicare beneficiaries readmitted to the hospital within 30 days of discharge in 2003–2004, half had no contact with an outpatient physician in the interval between their discharge and their readmission,² and one in three adult patients discharged from a hospital to the community does not see a physician within 30 days of discharge.³⁹ The dearth of primary care providers in many communities can make follow-up care difficult to coordinate.

Failure to address chronic conditions

Analyses of national data sets reveal that patients are commonly rehospitalized for conditions unrelated to their initial hospitalization. According to the Center for Studying Health System Change, more than a quarter of readmissions in the 30 days after discharge are for conditions unrelated to those identified in the index admission, the proportion rising to more than one-third at 1 year.³⁹ Among Medicare beneficiaries readmitted within 30 days of discharge, the proportion readmitted for the same condition was just 35% after hospitalization for heart failure, 10% after hospitalization for acute myocardial infarction, and 22% after hospitalization for pneumonia.⁴⁰

Lack of community support

Multiple social and environmental factors contribute to adverse postdischarge events.^{41–43} For socioeconomically disadvantaged patients, care-transition issues are compounded by insufficient access to outpatient care, lack of social support, and lack of transportation. Some studies indicate that between 40% to 50% of readmissions are linked to social problems and inadequate access to community resources.^{44–47} Psychosocial issues such as limited health literacy, poor self-management skills, inadequate social support, and living alone are associated with adverse outcomes, including readmission and death.^{48,49} Such factors may help explain high levels of “no-shows” to outpatient follow-up visits.

■ NATIONAL MODELS OF BEST PRACTICES

Efforts to reduce readmissions have traditionally focused on hospitals, but experts now recognize that multiple factors influence readmis-

One in five Medicare patients is rehospitalized within 30 days

sions and must be comprehensively addressed. Several evidence-based models seek to improve patient outcomes with interventions aimed at care transitions:

Project BOOST

Project BOOST (Better Outcomes by Optimizing Safe Transitions)⁵⁰ is a national initiative developed by the Society of Hospital Medicine to standardize and optimize the care of patients discharged from hospital to home. The program includes evidence-based clinical interventions that can easily be adopted by any hospital. Interventions are aimed at:

- Identifying patients at high risk on admission
- Targeting risk-specific situations
- Improving information flow between inpatient and outpatient providers
- Improving patient and caregiver education by using the teach-back method
- Achieving timely follow-up after discharge.

The program includes a year of technical support provided by a physician mentor.

Preliminary results from pilot sites showed a 14% reduction in 30-day readmission rates in units using BOOST compared with control units in the same hospital.⁵¹ Mentored implementation was recognized by the Joint Commission and the National Quality Forum with the 2011 John M. Eisenberg Award for Innovation in Patient Safety and Quality.⁵²

Project RED

Project RED (Re-Engineered Discharge)⁵³ evolved from efforts by Dr. Brian Jack and colleagues to re-engineer the hospital workflow process to improve patient safety and reduce rehospitalization rates at Boston Medical Center. The intervention has 12 mutually reinforcing components aimed at improving the discharge process.

In a randomized controlled trial, Project RED led to a 30% decrease in emergency department visits and readmissions within 30 days of discharge from a general medical service of an urban academic medical center.⁵⁴ This study excluded patients admitted from a skilled nursing facility or discharged to one, but a recent study demonstrated that Project RED also led to a lower rate of hospital admis-

sion within 30 days of discharge from a skilled nursing facility.⁵⁵

The STAAR initiative

The STAAR initiative (State Action on Avoidable Re-hospitalizations)⁵⁶ was launched in 2009 by the Institute for Healthcare Improvement with the goal of reducing avoidable readmissions in the states of Massachusetts, Michigan, and Washington. Hospital teams focus on improving:

- Assessment of needs after hospital discharge
- Teaching and learning
- Real-time hand-off communication
- Timely follow-up after hospital discharge.

As yet, no published studies other than case reports show a benefit from STAAR.⁵⁷

The Care Transitions Program

The Care Transitions Program,⁵⁸ under the leadership of Dr. Eric Coleman, aims to empower patients and caregivers, who meet with a “transition coach.” The program provides assistance with medication reconciliation and self-management, a patient-centered record owned and maintained by the patient to facilitate cross-site information transfer, timely outpatient follow-up with primary or specialty care, a list of red flags to indicate a worsening condition, and instructions on proper responses.

A randomized controlled trial of the program demonstrated a reduction in hospital readmissions at 30, 90, and 180 days, and lower hospital costs at 90 and 180 days.⁵⁹ This approach also proved effective in a real-world setting.⁶⁰

The Transitional Care Model

Developed by Dr. Mary Naylor and colleagues, the Transitional Care Model⁶¹ also aims at patient and family empowerment, focusing on patients’ stated goals and priorities and ensuring patient engagement. In the program, a transitional care nurse has the job of enhancing patient and caregiver understanding, facilitating patient self-management, and overseeing medication management and transitional care.

A randomized controlled trial demonstrated improved outcomes after hospital discharge for elderly patients with complex medical illnesses, with overall reductions in medical

Our current system has serious deficiencies that endanger patients

costs through preventing or delaying rehospitalization.⁶² A subsequent real-world study validated this approach.⁶³

The Bridge Model

The Illinois Transitional Care Consortium's Bridge Model⁶⁴ is for older patients discharged home after hospitalization. It is led by social workers ("bridge care coordinators") who address barriers to implementing the discharge plan, coordinate resources, and intervene at three points: before discharge, 2 days after discharge, and 30 days after discharge.

An initial study showed no impact on the 30-day rehospitalization rate,⁶⁵ but larger studies are under way with a modified version.

Guided Care

Developed at the Johns Hopkins Bloomberg School of Public Health, Guided Care⁶⁶ involves nurses who work in partnership with physicians and others in primary care to provide patient-centered, cost-effective care to patients with multiple chronic conditions. Nurses conduct in-home assessments, facilitate care planning, promote patient self-management, monitor conditions, coordinate the efforts of all care professionals, and facilitate access to community resources.

A cluster-randomized controlled trial found that this program had mixed results, reducing the use of home health care but having little effect on the use of other health services in the short run. However, in the subgroup of patients covered by Kaiser-Permanente, those who were randomized to the program accrued, on average, 52% fewer skilled nursing facility days, 47% fewer skilled nursing facility admissions, 49% fewer hospital readmissions, and 17% fewer emergency department visits.⁶⁷

The GRACE model

The GRACE model (Geriatric Resources for Assessment and Care of Elders)⁶⁸ was developed to improve the quality of geriatric care, reduce excess health care use, and prevent long-term nursing home placement. Each patient is assigned a support team consisting of a nurse practitioner and a social worker who make home visits, coordinate health care and community services, and develop an individualized care plan.

In one study,⁶⁹ GRACE reduced hospital admission rates for participants at high risk of hospitalization by 12% in the first year of the program and 44% in the second year. GRACE participants also reported higher quality of life compared with the control group.⁶⁹

INTERACT tools

Led by Dr. Joseph Ouslander, INTERACT (Interventions to Reduce Acute Care Transfers)⁷⁰ is a quality-improvement initiative for skilled nursing facilities, designed to facilitate the early identification, evaluation, documentation, and communication of changes in the status of residents. Visitors to its website can download a set of tools and strategies to help them manage conditions before they become serious enough to require a hospital transfer. The tools assist in promoting important communication among providers and enhancing advance-care planning.

A 6-month study in 25 nursing homes showed a 17% reduction in self-reported hospital admissions with this program compared with the same period the previous year.⁷¹

Additional home-based care interventions

Additional innovations are under way in home-based care.

The Home Health Quality Improvement National Campaign is a patient-centered movement to improve the quality of care received by patients residing at home.⁷² Through its Best Practices Intervention Packages, it offers evidence-based educational tools, resources, and interventions for reducing avoidable hospitalizations, improving medication management, and coordinating transitional care.

The Center for Medicare and Medicaid Innovation Independence at Home Demonstration⁷³ is testing whether home-based comprehensive primary care can improve care and reduce hospitalizations for Medicare beneficiaries with multiple chronic conditions.

■ NO SINGLE INTERVENTION: MULTIPLE STRATEGIES NEEDED

A 2011 review found no single intervention that regularly reduced the 30-day risk of rehospitalization.⁷⁴ However, other studies have

Patients with chronic conditions may see up to 16 physicians in 1 year

TABLE 1

Key strategies to reduce hospital readmissions

Engage a team of key stakeholders—the patient, caregivers, hospital and skilled nursing staff, primary care doctors, home health workers
Assess risk and develop a comprehensive transition plan throughout hospitalization
Enhance medication management
Institute daily interdisciplinary communication by the health care team focused on a coordinated transition
Standardize transition plans, procedures, and forms
Send discharge summaries directly to the primary care physician or next care setting at discharge
Provide easily understood discharge plans to patients and caregivers, and ensure patient understanding through teach-back
Ensure timely follow-up and coordination of support after a patient leaves the care setting

shown that multifaceted interventions can reduce 30-day readmission rates. Randomized controlled trials in short-stay, acute care hospitals indicate that improvement in the following areas can directly reduce hospital readmission rates:

- Comprehensive planning and risk assessment throughout hospitalization
- Quality of care during the initial admission
- Communication with patients, their caregivers, and their clinicians
- Patient education
- Predischarge assessment
- Coordination of care after discharge.

In randomized trials, successful programs reduced the 30-day readmission rates by 20% to 40%,^{54,62,75–79} and a 2011 meta-analysis of randomized clinical trials found evidence that interventions associated with discharge planning helped to reduce readmission rates.⁸⁰

Methods developed by the national care transition models described above can help hospitals optimize patient transitions (TABLE 1). Although every model has its unique attributes, they have several strategies in common:

Engage a team of key stakeholders that may include patients and caregivers, hospital staff (physicians, nurses, case managers, social workers, and pharmacists), community physicians (primary care, medical homes, and specialists), advance practice providers (physician assistants and nurse practitioners), and postacute care facilities and services (skilled nursing facilities, home health agencies, as-

sisted living residences, hospice, and rehabilitation facilities).

Develop a comprehensive transition plan throughout hospitalization that includes attention to factors that may affect self-care, such as health literacy, chronic conditions, medications, and social support.

Enhance medication reconciliation and management. Obtain the best possible medication history on admission, and ensure that patients understand changes in their medications, how to take each medicine correctly, and important side effects.

Institute daily interdisciplinary communication and care coordination by everyone on the health care team with an emphasis on the care plan, discharge planning, and safety issues.⁸¹

Standardize transition plans, procedures and forms. All discharging physicians should use a standard discharge summary template that includes pertinent diagnoses, active issues, a reconciled medication list with changes highlighted, results from important tests and consultations, pending test results, planned follow-up and required services, warning signs of a worsening condition, and actions needed if a problem arises.

Always send discharge summaries directly to the patient's primary care physician or next care setting at the time of discharge.

Give the patient a discharge plan that is easy to understand. Enhance patient and family education using health literacy standards⁸²

Problems occur especially when patients leave a hospital for another setting

and interactive methods such as teach-back,⁸³ in which patients demonstrate comprehension and skills required for self-care immediately after being taught. Such tools actively teach patients and caregivers to follow a care plan, including managing medications.

Follow up and coordinate support in a timely manner after a patient leaves the care setting. Follow-up visits should be arranged before discharge. Within 1 to 3 days after discharge, the patient should be called or visited by a case manager, social worker, nurse, or other health care provider.

■ CHALLENGES TO IMPROVING TRANSITIONS

Although several models demonstrated significant reductions of hospital readmissions in trials, challenges remain. Studies do not identify which features of the models are necessary

or sufficient, or how applicable they are to different hospital and patient characteristics. A 2012 analysis⁸⁴ of a program designed to reduce readmissions in three states identified key obstacles to successfully improving care transitions:

Collaborative relationships across settings are critical, but very difficult to achieve. It takes time to develop the relationships and trust among providers, and little incentive exists for skilled nursing facilities and physicians outside the hospital to engage in the process.

Infrastructure is lacking, as is experience to implement quality improvements.

We lack proof that models work on a large scale. Confusion exists about which readmissions are preventable and which are not. More evidence is needed to help guide hospitals' efforts to improve transitions of care and reduce readmissions. ■

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