

Hospital Readmissions Under the Spotlight

Jillian J. Jweinat, Rush University, Master of Science in Health Systems Management Program

EXECUTIVE SUMMARY

Healthcare leaders see the future of their dynamic industry through the eyes of patients, families, providers, clinicians, employers, health insurers, and policymakers. As healthcare organizations face growing economic challenges and the nation engages in comprehensive healthcare reform, reducing preventable readmissions is considered part of the solution to achieving new system-wide efficiencies.

Healthcare leaders can adopt a fresh approach to reducing preventable readmissions that includes three basic components: (1) identify patients at risk for readmission based on sociodemographic factors, care-related factors, and measures of severity of illness; (2) anticipate reform that aligns reimbursements and payment incentives for readmission reductions; and (3) structure coordinated, patient-centered discharge planning. Three innovative programs can be used to coordinate care at discharge: the Society of Hospital Medicine's Better Outcomes for Older Adults Through Safe Transitions project; Boston University Medical Center's Reengineered Hospital Discharge project; and the Institute for Healthcare Improvement's State Action on Avoidable Rehospitalizations initiative.

This three-pronged approach will help organizations proactively create mechanisms that are aligned with the national agenda and that keep people healthy at home after hospital discharge.

For more information on the concepts in this essay, please contact Ms. Jweinat at Jillian_Jweinat@hotmail.com. Ms. Jweinat is the first-place winner of the graduate division of the 2010 ACHE Richard J. Stull Student Essay Competition in Healthcare Management. For more information on this competition, please contact Reed L. Morton, PhD, FACHE, at (312) 424-2800.

The rising cost of healthcare is one of the nation's most important long-term fiscal challenges. National health spending is expected to reach \$2.6 trillion in FY 2010, accounting for 17.7 percent of the gross domestic product (Office of the Actuary in the Centers for Medicare & Medicaid Services 2007). Organizing clinicians, administrators, hospitals, and health systems into integrated and accountable organizations to better manage the complexity of patient care is an important element of the Patient Protection and Affordable Care Act (PPACA) of 2010. One of the principal components of the PPACA is to alter payment for readmissions as a means to improve or eliminate high-cost areas that yield lower quality.

READMISSION IS COSTLY

Hospital readmissions have long been a concern for policymakers, providers, payers, patients, and their families due to increasing costs and an indication of poor quality and inefficiency in providing care (Anderson and Steinberg 1984; Corrigan and Martin 1992). Medicare currently pays for all readmissions, except when patients are readmitted within 24 hours after discharge for the same condition for which they had initially been hospitalized (Jencks, Williams, and Coleman 2009).

The cost to Medicare of unplanned rehospitalizations alone in 2004 was \$17.4 billion, out of \$102.6 billion in total hospital payments. Almost one-fifth (19.6%) of the 11,855,702 Medicare beneficiaries were readmitted to a hospital within 30 days of discharge (Jencks, Williams, and Coleman 2009).

Roughly 90 percent of rehospitalizations within 30 days after discharge appeared to be unplanned (Jencks, Williams, and Coleman 2009).

The Medicare Payment Advisory Commission (MedPAC) is an independent federal body whose role is to advise the U.S. Congress on issues affecting the administration of the Medicare program. Data analysis from MedPAC shows that 17.6 percent of all Medicare hospital admissions result in readmission within 30 days of discharge, which accounted for \$15 billion annually in expenditures, \$12 billion of which appeared to be preventable readmissions (MedPAC 2007).

GOVERNMENT POLICY RECOMMENDATIONS AND IMPLICATIONS

MedPAC

In its April 2009 statement to Congress, MedPAC made the following recommendations:

- The secretary should confidentially report to hospitals and physicians information about readmission rates and resource use related to hospitalization episodes for select conditions for two years. Beginning in the third year, providers' relative resource use should be publicly disclosed.
- Payments should be reduced to hospitals with relatively high readmission rates for select conditions where it is proven that standardized care can reduce readmissions (e.g., congestive heart failure).

- Concurrent with information dissemination and changes in payment for high rates of readmission, the Centers for Medicare & Medicaid Services (CMS) should conduct a voluntary pilot program to test bundled payment for all services around a hospitalization for select conditions.

Hospital Compare

Hospital Compare—created through the efforts of CMS, the Department of Health and Human Services, and other members of the Hospital Quality Alliance—is a tool that publicly provides information from hospitals who submit quality information. As of July 2009, the Hospital Compare website (Hospital Quality Alliance 2009)

- publicly discloses how often a Medicare patient with one of the three conditions—heart attack, heart failure, and pneumonia—returns to the same hospital or different hospital within 30 days of discharge;
- places hospitals into three categories—“no different than the U.S. national rate,” “better than the U.S. national rate,” or “worse than the U.S. national rate”—based on their readmission rate as compared to the national readmission rate; and
- compares each hospital’s readmission rate to the state’s average readmission rate.

The release of this information offers an opportunity for hospitals to objectively assess their readmission performance to further improve the quality of care provided to their patients.

President Obama’s Fiscal Year 2010 Budget

The Obama Administration Budget Document encourages hospitals to reduce readmissions and restructures certain payments. The budget outlines two provisions estimated to save \$26.3 billion over ten years (U.S. House of Representatives Committee on the Budget 2009).

1. consolidates, or “bundles” payments for hospitalization and post-acute care into one payment and
2. pays less to hospitals with high rates of patients being readmitted within 30 days of discharge.

PPACA

Beginning FY 2012, the PPACA directs the CMS to track hospital readmission rates for certain high-cost conditions and implements a payment penalty for hospitals with the highest readmission rates (Democratic Policy Committee 2010).

A FRESH APPROACH TO READMISSIONS

These policy recommendations and implications clearly indicate that hospitals must proactively examine readmissions to identify opportunities to improve quality, develop patient-centered care, and avoid future reductions in reimbursement. Healthcare leaders can consider a fresh approach to reducing unnecessary readmissions, which includes three basic components: (1) identify patients at risk for readmission; (2) anticipate reform that rewards reductions in readmission with reimbursements and payment incentives;

and (3) structure coordinated, patient-centered discharge planning to reduce readmission rates.

Identify Patients at Risk of Readmission

Understanding why patients are readmitted is crucial, because identifying modifiable and nonmodifiable risk factors can help hospitals target resources more efficiently. A number of studies have identified patient and health system characteristics that increase the risk of readmission. These studies have identified sociodemographic and care-related factors and measures of severity of illness that are associated with an increased risk of readmission.

Sociodemographic Factors

Some sociodemographic factors have consistently been shown to predict readmission, while the results for others have been mixed. A number of studies (Corrigan and Martin 1992; Marcantonio et al. 1999; Billings et al. 2006; Silverstein et al. 2008; Donnan et al. 2008; Howell et al. 2009) have shown that age increases the risk of readmission, but one study did not find age to be a significant predictor of readmission (Arbaje et al. 2008). Two studies found that rehospitalization rates were weakly related to age (Friedman and Basu 2003; Jencks, Williams, and Coleman 2009). Anderson and Steinberg (1984) found that Medicare beneficiaries who were under 65 years old, who qualified for Medicare benefits because they were disabled, had a slightly higher probability of being readmitted compared to those who were over 65.

Results regarding race and gender have also been mixed. Some studies have found that race is a significant predictor of readmission (Billings et al. 2006; Jencks, Williams, and Coleman 2009), and others that it is not significant (Arbaje et al. 2008). Two studies found that African American men are the most likely to be readmitted (Silverstein et al. 2008; Jencks, Williams, and Coleman 2009). Corrigan and Martin (1992) found that the likelihood of readmission for African American and Hispanic patients is higher than that for Caucasians and other racial groups. Some research has found that men are more likely than women to be readmitted (Anderson and Steinberg 1984; Billings et al. 2006; Donnan et al. 2008), while others have found no substantial difference (Corrigan and Martin 1992; Arbaje et al. 2008).

Payer has also been shown to be a significant predictor of readmission (Anderson and Steinberg 1984; Corrigan and Martin 1992; Arbaje et al. 2008; Silverstein et al. 2008). Specifically, Medicare- (Corrigan and Martin 1992; Silverstein et al. 2008) and Medicaid-insured patients (Anderson and Steinberg 1984; Corrigan and Martin 1992; Arbaje et al. 2008) are more likely to be readmitted than patients with commercial insurance. Receipt of supplemental security income was also shown to be a significant predictor of readmission (Jencks, Williams, and Coleman 2009).

Care-Related Factors

Several studies have shown that care-related factors are important predictors of readmission. Number of

hospitalizations has consistently been shown to be positively associated with risk for readmission (Corrigan and Martin 1992; Billings et al. 2006; Billings and Mijanovich 2007; Donnan et al. 2008; Howell et al. 2009; Jencks, Williams, and Coleman 2009). Furthermore, discharge disposition (where the patient goes after discharge) is an important predictor of readmission. Holloway, Mendendorp, and Bromberg (1990) found no association between readmission and the use of nursing homes or other subacute institutional services subsequent to hospital discharge, but they did find that discharge from an intermediate care ward in a Department of Veterans Affairs medical center was highly predictive of early readmission. Another study found that patients discharged to a skilled nursing facility or a long-term care facility had a twofold risk of 30-day hospital readmission, corresponding to a 10 percent increase in the probability of 30-day readmission (Silverstein et al. 2008). Arbaje and colleagues (2008) found that persons staying between 7 and 14 days were 60 percent more likely to be readmitted than patients with shorter stays. Similarly, Jencks, Williams, and Coleman (2009) found that patients with a LOS that was at least twice as long as the average LOS for that diagnosis-related group (DRG) were 26.6 percent more likely to be readmitted.

Measures of Severity of Illness

Severity of illness has been measured using number and types of comorbidities. Clinical condition is a key factor in predicting subsequent admission (Billings et al. 2006; Silverstein et al.

2008; Jencks, Williams, and Coleman 2009). Silverstein and colleagues (2008) found that the presence of comorbidity increases the risk for readmission by 1.3 to 6.9 percent, compared with having no comorbidities. The specific comorbidities that significantly increase the risk of 30-day readmission include conditions affecting major organs and systemic conditions (Silverstein et al. 2008). End-stage renal disease was found to increase the risk of readmission in two other studies (Silverstein et al. 2008; Jencks, Williams, and Coleman 2009). Silverstein and colleagues (2008) found that hypertension with complications was the only condition associated with a decreased risk of 30-day readmission. The number of comorbidities has also been shown to be positively associated with the risk of readmission. Marcantonio and colleagues (1999) found that five or more comorbidities and a history of depression independently predict unplanned readmission within thirty days.

Limitations of Existing Studies

Medicare Beneficiaries

Extensive literature attributes rehospitalization to specific conditions such as heart failure (Ross et al. 2008), but research that addresses the risk across a multitude of diseases is limited. The majority of studies that have examined acute care populations have been limited to Medicare beneficiaries only (Anderson and Steinberg 1984; Marcantonio et al. 1999; Silverstein et al. 2008; Arbaje et al. 2008; Jencks, Williams, and Coleman 2009). Since patients under age 65 represent a

portion of 30-day readmissions, more work is needed to examine these acute care populations.

Readmission Follow-up Time

Readmission follow-up times vary according to the purpose of the study. Studies have measured readmission within 30 days (Marcantonio et al. 1999; Silverstein et al. 2008; Jencks, Williams, and Coleman 2009); 60 days (Anderson and Steinberg 1984; Arbaje et al. 2008); 6 months (Friedman and Basu 2003); and 12 months (Corrigan and Martin 1992; Billings et al. 2006; Billings and Mijanovich 2007; Howell et al. 2009).

Generally it is assumed that the more time that elapses between discharge and readmission, the less likely it is that medical care during the prior stay played a significant role in readmission (Ashton and Wray 1996). Shorter intervals (7 to 30 days) are more useful for evaluating the effectiveness of the discharge and post-acute period, whereas longer intervals (90 days or longer) reflect the effectiveness of community-based, chronic monitoring and maintenance systems (Bisognano and Boutwell 2009). The 30-day readmission rate is a standard interval of analysis (Bisognano and Boutwell 2009).

Gaps Within Data Sources

Two studies use retrospective hospital admission data that was originally used for billing and reimbursement purposes (Silverstein et al. 2008; Jencks, Williams, and Coleman 2009). Inaccurate *International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)* coding may lead to a mistaken

representation of results. Secondary analysis of administrative databases does not usually include a variable indicating whether a hospitalization was planned or unplanned (Ashton and Wray 1996), nor does it differentiate regular patients from “revolving door” patients—those who do not have an end-stage condition but who nevertheless establish a pattern of repetitive hospital admissions (Ashton and Wray 1996). The inclusion of planned readmissions may cause studies using administrative data to overestimate the risk of readmission (Silverstein et al. 2008). On the other hand, if a patient perceives his or her care as substandard during the initial stay, he or she may not return to the same hospital for readmission, an outcome that would not be captured in an administrative database for non-Medicare patients. This may cause studies using administrative data to underestimate the risk of readmission.

AN OPPORTUNITY

Modest evidence exists for the best way to quantify the risk of readmission. Researchers in the United Kingdom (Billings et al. 2006; Bottle, Aylin, and Majeed 2006; Donnan et al. 2008), Australia (Howell et al. 2009), and the United States (Billings and Mijanovich 2007) have developed algorithms for patients at risk for readmission using administrative and patient data. Although risk scores for readmission have been based on UK and Australian patients, different variables may be important predictors of 30-day readmission for U.S. patients, and the costs/savings trade-offs will likely differ.

Billings and Mijanovich (2007) developed a risk score for readmission based on Medicaid fee-for-service claims records for adult disabled patients and Supplemental Security Income records for disabled patients in New York City. Although this risk for readmission score is based on U.S. patients, it is limited to those who are disabled and low-income.

Through the power of predictive modeling, individual hospitals could assess a patient's risk for readmission at discharge. Because there is no national rehospitalization database that includes adults of all ages, hospitals could use administrative data that are not limited to Medicare or Medicaid beneficiaries. This type of predictive modeling, or risk algorithm, could help providers identify patients who need more assistance with transitions between care settings upon discharge (i.e., between the hospital and home) and help hospital administrators allocate resources for care management and discharge planning. Ultimately, predictive algorithms can assist in the prevention and avoidance of inefficiencies related to unplanned readmissions, thus improving the quality of care provided to a patient.

**ANTICIPATE REFORM THAT
ALIGNS REIMBURSEMENTS
AND PAYMENT INCENTIVES
FOR READMISSION
REDUCTIONS**

As Steven Levitt and Stephen Dubner (2009) describe candidly in their highly praised book *Freakonomics*, incentives are the cornerstone of modern life—all humans respond to them. Understanding incentives is the key to solving any

puzzle because “an incentive is a bullet, a lever, a key: an often tiny object with astonishing power to change a situation” (16).

A fundamental flaw in American healthcare is that financial incentives are not tied to quality outcomes and efficiencies. Healthcare organizations receive a set payment per admission based on the patient's billing code for a procedure. Of the more than 10,000 billing codes, there are no codes for cures, outcomes, or care improvement (Kenney 2008). Medicare currently pays to put a patient in a hospital but does not pay to keep the patient out of the hospital. Healthcare organizations and clinicians focus more on volume, complexity, and intensity of procedures than preventive care. If hospitals are incentivized to promote the health of a population, the result will be healthier patients who avoid hospitalization and rehospitalization (Kenney 2008).

The current financing system needs to be fundamentally reformed so that providers are paid for the care of populations rather than for high occupancy rates, growth of use, and volume of procedures and hospitalizations. A change in readmissions payment policy in FY 2012 will be a critical step in creating an environment of joint accountability among providers.

As payment reform develops, healthcare organizations should anticipate new models of accountability for outcomes. Providers should prepare for reduced payment for early rehospitalizations and higher than expected overall rates; bundled payment for hospitalization plus follow-up services; and possibly global payments over

time and across settings. This PPACA readmissions reform is generally directed toward hospitals, but other providers and practitioners will be vital partners. Medicare will most likely be the major change agent, but other payers will consider joining. Therefore, it is essential that organizations anticipate and plan for this payment reform.

STRUCTURE COORDINATED, PATIENT-CENTERED DISCHARGE PLANNING TO REDUCE READMISSION RATES

Many rehospitalizations result from systemic failures in transition from the hospital to the next source of care. Hospital discharges are not always standardized, and many patients are not prepared for their transition into the community upon completion of their index episode. These barriers allow—and at times cause—clinical deterioration that leads to rehospitalization.

The healthcare field is saturated with evidence-based innovations, but disseminating or diffusing these innovations across the industry is very challenging (Berwick 2003). To avoid post-discharge adverse events and unnecessary rehospitalization, healthcare organizations can take advantage of three innovative programs aimed at reducing high hospital readmission rates: (1) Project Better Outcomes for Older Adults Through Safe Transitions (BOOST), (2) Project Reengineered Hospital Discharge Program (RED), and (3) the State Action on Avoidable Rehospitalizations (STAAR) initiative. Although these three programs share similar goals, they differ in their follow-up mechanisms.

BOOST

In improving discharge processes, the BOOST project aims to (Society of Hospital Medicine 2008):

- reduce 30-day readmission rates for general medicine patients, particularly with a focus on older adults;
- improve patient satisfaction and H-CAHPS scores related to discharge;
- improve the flow of information between hospital and outpatient physicians;
- identify patients at high risk of readmission and offer interventions to mitigate their risk; and
- improve patient and family education practices to encourage use of the teach-back process around risk-specific issues.

The BOOST program takes a three-component approach for targeting patient transitions. The first component is to create a national consensus for best practices, which includes an advisory board made up of representatives from the Agency for Healthcare Research and Quality, The Joint Commission, Centers for Medicare & Medicaid Services, and the Blue Cross Blue Shield Association, as well as pharmacists, nurses, geriatricians, patient advocates, and other healthcare providers. The second component aims to create resources to implement these best practices, which include a clinical toolkit, data collection tools, project management tools, educational tools, reviews of key literature, exchange of information, and sharing of success stories. The final component of

BOOST involves offering several technical support options, such as a fee-based day long training session and a free year-long coaching and mentoring program. As of March 2009, two cohorts of 30 hospitals are participating in the Project BOOST Mentoring Program (Society of Hospital Medicine 2008).

Each hospital's BOOST team uses a standard transition procedure when releasing a patient from the hospital. Key elements of this procedure include patient education on related conditions, medication education, follow-up procedures, patient education on symptom management, and family and primary-care physician education on proper post-hospitalization care.

BOOST recommendations for patients at increased risk for readmission include:

- direct communication with the provider before discharge;
- telephone contact within 72 hours post-discharge to assess condition, discharge plan comprehension, and adherence and reinforce follow-up;
- follow-up appointment with provider within 7 days; and
- that direct contact information for hospital personnel familiar with the patient's course be provided to the patient or his or her caregiver to raise questions and concerns if the principal care provider cannot be reached prior to the first follow-up.

Communication and coordination between a multidisciplinary care team and the patient lays the foundation of this program.

Project RED

Adopted as a "Safe Practice" by the National Quality Forum in 2006, Project RED interventions are founded on 11 discrete, mutually reinforcing components. Each phase of Project RED aims to improve patient safety by recreating the process by which patients leave the hospital. The 11 components include the following (Boston University Medical Center 2010):

1. Educate the patient
2. Schedule follow-up appointments
3. Discuss outstanding tests
4. Organize post-discharge services
5. Confirm medication plan
6. Reconcile discharge plan with national guidelines and critical pathways
7. Review appropriate steps for what to do if a problem arises
8. Ensure timely transmission of discharge summary to caregivers responsible for patient's care upon discharge
9. Assess patient's understanding
10. Provide a written discharge plan for the patient
11. Provide post-discharge telephone reinforcement

In addition, the following three tools were developed to facilitate Project RED interventions within healthcare organizations (Boston University Medical Center 2010):

1. **After hospital care plan (AHCP):**
Designed to clearly present the information the patient needs and

prepare him or her for the days between discharge and the first visit with their ambulatory care physician

2. **Training manual:** Workbook for health professionals detailing how to deliver a safe and effective hospital discharge
3. **Computerized workstation to print the AHCP:** Document that provides instruction for a discharge advocate to enter information into a database on a dedicated computer workstation. Upon review from other care givers, the ACHP can be finalized and printed.

Innovative to this model is that a virtual discharge advocate technology is available as a stand-alone application and can be built into other existing discharge planning programs that a hospital has. The success of Project RED depends on the constant commitment of healthcare providers, specifically nurse discharge advocates and clinical pharmacists, to communicate with one another and the patient through its 11-step discharge planning methodology.

STAAR Initiative

Launched by the Institute for Healthcare Improvement (IHI), the STAAR is a Commonwealth Fund-supported initiative to reduce avoidable readmissions, taking states as the unit of intervention. Initial participants include the states of Massachusetts, Michigan, and Washington. The aims of the STAAR initiative are to reduce statewide 30-day readmission rates by 30 percent and increase patient and family satisfaction with optimal

transitions and coordination of care (Boutwell 2009).

The STAAR initiative focuses on two components: (1) a multistate learning community to improve transitions of care and (2) targeted technical assistance to address systemic barriers to reducing avoidable readmissions (Boutwell 2009). The IHI supports participating organizations in their work over the course of the STAAR initiative and beyond by providing targeted technical assistance in the following areas (Boutwell and Rutherford 2009):

- *Population and provider-based measurement*, aiming for a uniform measurement strategy for readmissions;
- *Policy and payment frameworks* to make it easier to deliver optimal care and to resolve barriers to improvement;
- *Financial analysis* to provide a better understanding of the impact of reduced readmissions; and
- *Community and cross-boundary coordination* among providers and settings of care.

Considered a more inclusive approach than Project BOOST and Project RED, healthcare organization participants learn about specific interventions that can be applied to their organization around enhanced assessment of post-discharge needs, enhanced teaching and learning, enhanced communication at discharge, and timely post-acute follow up.

All three programs—Project BOOST, Project RED, and the STAAR Initiative—are promising interventions to reduce

readmission rates and improve patient care. Boutwell and colleagues (2009) have also compiled a list of 15 interventions to reduce preventable readmissions organized by level of supporting evidence.

HIGH-LEVERAGE OPPORTUNITIES FOR ACTION

Healthcare organizations must make it an institutional priority to take a critical look at avoidable and costly readmissions. Opportunities include:

- using the FY 2012 changes as a “burning platform” to make the business case for reducing readmissions;
- identifying factors that predict preventable readmission within 30 days for all patients;
- developing a uniform measurement strategy for readmissions, such as a predictive algorithm to identify patients at high risk for preventable readmission;
- prospectively identifying and implementing a mechanism such as BOOST, Project Red, or Creating an Ideal Transition Home Project to improve poorly executed transitions in care and coordination of care for all patients;
- continually making efforts to eliminate failures in communication across the continuum of care by engaging patients and caregivers; and
- collaborating with community, state, and federal partners to develop strategies to reduce preventable readmissions.

CONCLUSION

Throughout the U.S. healthcare industry, a sense of urgency is setting in. As the PPACA reforms advance, readmissions are under the spotlight. Although healthcare organizations work diligently every day to provide a seamless experience for patients and their families, there is still room to improve the quality of care provided, reduce process inefficiencies, avoid unnecessary costs, and offer a smoother and safer transition from the hospital to the patient’s next point of care. Indeed, focusing attention and efforts around readmissions could establish a precedent for fixing other broken parts of a complex healthcare system.

In *The Wisdom of Crowds*, James Surowiecki (2004) argues that under the right circumstances, groups are remarkably intelligent and often even smarter than the smartest of their members. This argument points to the spirit of collaboration that is necessary when tackling an issue as complex as hospital readmissions. The teamwork needed to care for a single patient who is readmitted is remarkable. But if patients, families, providers, clinicians, employers, health insurers, and policymakers collectively participate in tackling this national readmissions challenge, leading innovations, reinventions, and explorations are bound to result.

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