



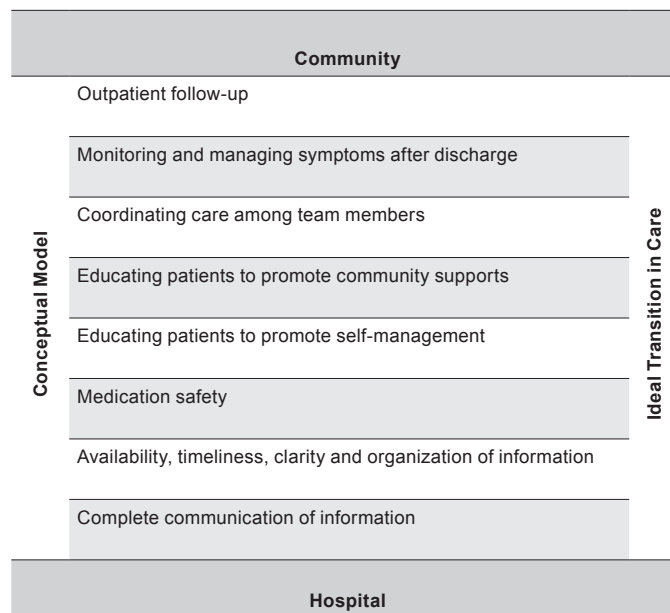
Hospital Readmissions: Challenges and Opportunities

Written by Maria Vinal

Hospital readmissions are frequent (~20% of patients admitted to the hospital are readmitted within 30 days of discharge) and expensive (~\$12 billion dollars/year). The Medicare Payment Advisory Committee has estimated that about 13.3% of these readmissions are preventable [Medicare Payment Advisory Commission. *Medicare Payment Policy* 2007]. The objective of the Hospital Readmissions Reduction Program (HRRP) is to reduce the rate of rehospitalization of Medicare patients for acute myocardial infarction (AMI), congestive heart failure (CHF), and pneumonia, and beginning in 2014, chronic obstructive pulmonary disease (COPD).

There does not appear to be any specific intervention or bundle of interventions that will reliably reduce rehospitalization [Hansen LO et al. *Ann Intern Med* 2011]. David H. Au, MD, MS, University of Washington, Seattle, Washington, USA, said that reduction in rehospitalization must account for hospital and individual components, and the delivery and quality of outpatient care. Advanced care planning, continuity of follow-up, and access must also be considered (Table 1). He suggested that reducing hospital readmissions is an outcome of good health, so the most appropriate approach is to focus on improving health as a social issue as well as a hospital goal. To accomplish this we need to redesign and coordinate how the stakeholders interact [Kangovi S et al. *JAMA* 2011].

Table 1. Conceptual Model



Jerry A. Krishnan, MD, PhD, University of Illinois Hospital and Health Sciences System, Chicago, Illinois, USA, discussed Project BOOST (Better Outcomes for Older Adults Through Safe Transitions) as an example of one initiative that is striving to improve the care of patients as they transition from hospital to home.

There are factors during the index hospitalization that can be addressed to reduce readmissions. Table 2 lists some of the concerns/evaluations that are addressed at each phase of the initial hospital stay as part of Project BOOST's General Assessment of Preparedness. The objective is to identify patients at risk for readmission, target interventions to avoid readmission, and improve the information flow between inpatient and outpatient providers.

Table 2. Safe Transition Planning

On Admission
<ul style="list-style-type: none"> Caregivers and social support circle for patient Functional status evaluation Cognitive status Abuse/neglect Substance abuse/dependence Plans for care—palliative or restorative?
Near Discharge
<ul style="list-style-type: none"> Functional status evaluation Cognitive status Ability to obtain medications Identify party responsible for ensuring medication adherence (if not patient) Home preparation for patient's arrival (eg, medical equipment, safety evaluation, food) Financial resources Transportation to home Access (eg, keys) to home Support circle for patient
At Discharge
<ul style="list-style-type: none"> Understanding of diagnosis, treatment, prognosis, follow-up, and postdischarge warning signs and symptoms (confirmed with teach back) Transportation to home (or skilled nursing facility) and initial follow-up Contact information for home caregivers to patient

Source: <http://www.hospitalmedicine.org/>

A successful transition program requires careful planning and implementation and a process for ongoing monitoring and adjustment (Table 3). Development of the program should include the healthcare workers who interact with patients at all stages of their hospitalization and the staff of the facilities to which patients will transition. The development team should also include nutrition and dietary specialists, medical records technicians, and hospital data specialists and should consider the needs of the individuals who will be supporting the patient postdischarge. Dr. Krishnan suggested that input from former patients might also help to enhance the process.

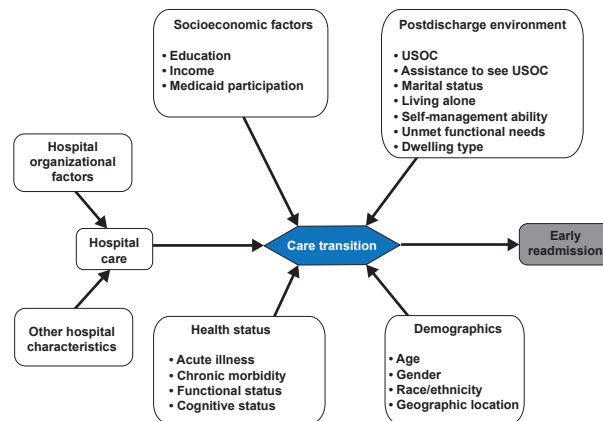
Table 3. Project Timeline

Planning (Months 1 to 3)
<ul style="list-style-type: none"> Secure institutional support Assemble multidisciplinary team specific to this project Develop specific goals and timelines, metrics—focus on what is achievable Analyze baseline processes among all stakeholder groups Understand baseline/current performance
Implementation (Months 4 to 6)
<ul style="list-style-type: none"> Redesign care processes Engage in staff education/outreach Develop policies, procedures, forms, tools, order sets to support redesign Identify metrics and evaluation strategy
Intervention (Months 6 to 9)
<ul style="list-style-type: none"> Monitor functioning of each core element of redesign Reassess your evaluation plan: verify data collection/capture reliability and validity Keep stakeholders apprised of progress
Surveillance & Management (Months 10 to 12 and beyond)
<ul style="list-style-type: none"> Assess project performance Update/adjust interventions with input of frontline staff and data Report data to key stakeholders Continue to monitor, improve, and report on your activities

Source: <http://www.hospitalmedicine.org/>

Although the HRRP assumes a relationship between adherence to the recommended hospital care processes and readmission rates, the results from several studies indicate a more complex problem. John Daryl Thornton, MD, MPH, Case Western Reserve University, Cleveland, Ohio, USA, examined predictors of readmission, specifically in respiratory patients. In one study, hospitals with greater adherence to recommended care processes did not achieve meaningfully better 30-day hospital readmission rates compared with those who had lower levels of performance [Stefan MS et al. *J Gen Intern Med* 2013]. Another study suggested minimizing preventable inpatient safety events and improving coordination of care between and across settings might decrease the likelihood of readmission [Rosen MK et al. *Med Care* 2013]. In a third study, length of stay (LoS; OR, 1.03; 95% CI, 1.01 to 1.05) and disease severity (OR, 1.67; 95% CI, 1.5 to 1.86) predicted readmission but not improved communication between inpatient and outpatient care teams (OR, 1.08; 95% CI, 0.92 to 1.26) [Oduyebo I et al. *JAMA Intern Med* 2013]. Finally, another recent study suggests that solely addressing the factors associated with the disease responsible for the index admission may not reduce readmissions. This is due to the fact that many of the patients were re-admitted for alternative diagnoses [Dharmarajan K et al. *JAMA* 2013]. Therefore, it is likely that multiple key components are working concomitantly to provoke readmissions including patient socioeconomic factors, demographics, and health status as well as the environment into which they are discharged (Figure 1) [Arbaje AI et al. *Gerontologist* 2008].

Figure 1. Factors That Influence Hospital Readmission



Source: Arbaje AI et al. *Gerontologist* 2008

Independent risk factors associated with an increased risk of rehospitalization for COPD include increasing age, male gender, any prior hospitalization, and comorbid asthma or pulmonary hypertension [McGhan R et al. *Chest* 2007]. There is also a relationship between malnutrition or weight loss during hospitalization and readmission for COPD [Zapatero A et al. *J Hum Nutr Diet* 2013; Pouw EM et al. *Clin Nutr* 2000]. A better understanding of the factors occurring outside of the hospital is needed to make a meaningful impact—a system level approach is key.

Medicare's switch to a diagnosis-related group system was a powerful incentive for hospitals to support strategies to reduce LoS and decrease hospital costs. It also contributed to the growth of "hospitalists"—specialists in inpatient medicine. Gulshan Sharma, MD, MPH, FCCP, University of Texas Medical Branch, Galveston, Texas, USA, discussed the hospitalist movement and its impact on the process of care and postdischarge outcomes.

In 2006, there were ~10,000 hospitalists; in 2012 that number was ~30,000. Results from a large retrospective study of >76,000 patients indicate that for common inpatient diagnoses (eg, pneumonia, congestive heart failure, chest pain, COPD), the hospitalist model is associated with a small reduction in LoS (0.4 days) and cost but no difference in in-hospital mortality or 14-day readmission rate [Lindenauer PK et al. *N Engl J Med* 2007]. More recently, hospitalist care was shown to be associated with decreased LoS (–0.64 days) and lower hospital costs (–\$282) but higher 30-day post discharge cost (+\$332; p<0.001 for both). These results were primarily associated with the fact that patients treated by hospitalists were less likely to be discharged to home (OR, 0.82; 95% CI, 0.78 to 0.86) and more likely to have emergency department visits (OR, 1.18; 95% CI, 1.12 to 1.24) and readmissions (OR, 1.08 95% CI, 1.02 to 1.14) [Kuo YF, Goodwin JS. *Ann Intern Med* 2011].



■ FEATURE

As for quality, one study indicated that the use of hospitalists was associated with modest improvement in process measures for acute myocardial infarction, CHF, or pneumonia [Vasilevskis EE et al. *J Hosp Med* 2010]. However, care by a hospitalist physician was not associated with better outcomes for these conditions [Goodrich K et al. *J Hosp Med* 2012]. It is likely that system level factors are more important than the hospitalist per se in improving quality and patient safety [Goodwin JS et al. *J Gen Intern Med* 2013].

David J Weidig, MD, Aurora Health Care, Milwaukee, Wisconsin, USA, discussed how key pre- and postdischarge planning initiatives successfully decrease hospital readmissions based on his experience as a hospitalist in a large healthcare system that used Project BOOST (Better Outcomes by Optimizing Safe Transitions).

Dr. Weidig reviewed the BOOST tools for addressing risk, including the “8P” risk stratification process (Table 4), the at-admission and pre-discharge General Assessment of Preparedness (GAP), and the BOOST Universal Discharge Checklist, which addresses the readiness of patients for transition out of the hospital. A final, but essential component is the 48-hour post-discharge call by physicians.

Table 4. Boost 8Ps Assessment

Problem medications (anticoagulants, insulin, oral hypoglycemic agents, aspirin and clopidogrel dual therapy, digoxin, narcotics)
Psychological (depression screen positive or history of depression diagnosis)
Principal diagnosis (cancer, stroke, diabetes, COPD, heart failure)
Polypharmacy (>5 more routine meds)
Poor health literacy (inability to do Teach Back)
Patient support (absence of caregiver to assist with discharge and home care)
Prior nonelective hospitalization in the last 6 months
Palliative care (eg, Would you be surprised if this patient died in the next year? Does this patient have an advanced or progressive serious illness?)

Areas of potential integration and benefit include intensive care unit admission, and electronic medical records integration, patient satisfaction training for physicians, palliative care, skilled nursing facilities, visiting nurses, and the emergency department. A final, but essential component is the 48-hour postdischarge call by physicians.

Dr. Weidig noted, “It may take up to 18 months to start seeing results once an intervention is started. Interventions are interdependent so you may be doing well in one area and not see results because of weakness in another. Involvement from everyone on the healthcare delivery team is needed, BUT it must be a built-in part of the work day and culture.”

The editors would like to thank the many members of the American Thoracic Society presenting faculty who generously gave their time to ensure the accuracy and quality of the articles in this publication.



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