



# Case Management Programs for Hospital Readmission Prevention

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## ABSTRACT

**Purpose/Objectives:** This article examines the recent hospital emphasis on preventing hospital readmission. This article also identifies hospital programs that help prevent such readmissions by using a systematic approach to transitions of care.

**Primary Practice Setting(s):** Hospital case management departments.

**Findings/Conclusions:** A coordinated, patient-focused transition of care plan is a key element in preventing hospital readmissions.

**Implications for Case Management Practice:** Leaders in hospital case management will have new demands placed on them to prevent patients from returning to the hospital after discharge. Leaders may choose to model demonstration programs, or they may implement unique strategies that support readmission prevention efforts.

**Key words:** *hospital case management, readmission prevention*

Hospital readmissions are a major cause of increasing medical costs and often are associated with poor quality of care. Because the problem is so serious, hospitals are under increasing pressure to reduce readmissions. Fortunately, several demonstration programs are demonstrating that a holistic approach to discharge planning can reduce readmission rates. These programs use a coordinated and collaborative approach to connect members of the multidisciplinary team and to engage patients in self-care. Case managers who are skillful in this approach will be at the center of readmission prevention efforts.

## A SERIOUS PROBLEM

A major cause of hospital readmission is failure of the discharge plan. A study of 11,855,702 Medicare beneficiaries discharged from the hospital showed that 19.6% of patients were rehospitalized within 30 days. Of note is that 50.2% of patients rehospitalized with a medical condition had no bill for a provider appointment between hospitalization and readmission (Jencks, Williams, & Coleman, 2009). Because these patients did not receive follow-up care after discharge, they were more likely to be readmitted to the hospital. Other failures of the discharge plan include suboptimal drug treatment and failure to perform

needed clinical analysis (Cakir & Gammon, 2010; Colorado Foundation of Medical Care, 2007).

The consequences of hospital readmissions include the negative impact on patients' quality of life, decreased patient satisfaction with the hospital experience, and financial costs to the health care system. Readmissions comprise almost 10% of Medicare inpatient hospital expenditures (Medicare Payment Advisory Commission [MedPac], 2007). In 2004, MedPac reported that an estimated \$17.4 billion in costs could be attributed to unplanned rehospitalizations. An estimated \$12 billion of that amount was traced to preventable admissions. Costs to patient health were also high. Patients experienced complications and adverse events such as exacerbation of disease condition (Jencks et al., 2009; Sharma, Kuo, Freeman, Zhang, & Goodwin, 2010), adverse drug reactions (Ruiz, Garcia, Aguirre, & Aguirre, 2006), and gastrointestinal problems (Jencks et al., 2009).

Although these findings reveal a serious problem, change is underway. The 2010 Patient

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Protection and Affordable Care Act contains provisions that target hospital readmissions (Legislative Counsel, 2010).

Starting in FY 2013, Prospective Payment System hospitals with higher-than-expected readmissions rates will receive lower Medicare payments for Medicare discharges, or could be denied payment altogether. The Centers for Medicare and Medicaid Services will evaluate 30-day readmissions for target diagnoses of heart failure, acute myocardial infarction, and pneumonia, all of which are currently part of the Medicare “Pay-for-Reporting Program.” To determine if a hospital has a higher-than-expected readmission rate, a risk-standardized readmission rate (RSRR) will be used. The RSRR is determined by dividing the number of the hospital’s anticipated readmission rate (for patients with target conditions) by the national average. If the ratio is greater than 1, the hospital is considered to have a higher-than-expected readmission rate (Centers for Medicare & Medicaid Services, 2012; QualityNet, 2012). Hospital readmission rates will be reported on the Hospital Compare Internet Web site (Legislative Counsel, 2010). In FY 2015, this list of conditions may be expanded to include chronic obstructive pulmonary disease, coronary artery bypass graft, and other vascular procedures, as well as any other condition or procedure that the Secretary of Health and Human Services chooses (Legislative Counsel, 2010). In response to these potential financial penalties, hospitals are striving to reduce readmissions by providing better care transitions.

The provisions of the Patient Protection and Affordable Care Act on excessive readmission can translate into loss of revenue for hospitals (Gold, 2011). To illustrate, let us look at General Hospital. General Hospital’s Medicare revenue (or “base operating diagnostic related group [DRG] payment amount”) in 2012 is \$75 million. First, a review of General Hospital’s data shows it has a higher-than-expected readmission rate for all three target diagnosis (see Table 1). Therefore, General Hospital will have a payment adjustment. Next, the amount of penalty will be calculated.

- The initial calculation will be for how much revenue General Hospital could lose for all Medicare DRG payments. In FY 2013, this is 1% of its Medicare base operating DRG payment amount (U.S. Government Printing Office, 2012). So, with a \$75 million Medicare revenue in FY 2012, it could lose 1% of that in FY 2013, which would equal \$750,000. By regulation, the maximum penalty is 1%.
- Then, General Hospital’s aggregation of excessive payments is calculated for the target diagnosis (e.g., heart failure, acute myocardial infarction, pneumonia). Excessive payments will be calculated as follows: [actual number of readmission payments for HF × (RSRR for HF – 1)] + [actual number of readmission payments for AMI × (RSRR for AMI – 1)] + [(actual number of readmission payments for pneumonia × (RSRR for pneumonia – 1)] (Centers for Medicare & Medicaid Services, 2012; U.S. Government Printing Office, 2012). For General Hospital, this calculates to be \$945,439 (see Table 2).

In the case of General Hospital, with a total Medicare payment of \$75 million, the total aggregate excessive payment would be 1.3% of total operating payments (\$945,439). Because this exceeds the maximum penalty of 1%, the hospital would only lose \$750,000 (1% of \$75 million).

If General Hospital’s total aggregate excessive payment was only 0.7%, its payment penalty would only be \$525,000 (0.7% of 75 million).

## A CHANGE ON THE HORIZON

Effective discharge planning is central to reducing hospital readmissions. As a first step, hospitals are identifying patients at risk for readmission to create discharge planning strategies tailored to this population (Jweinat, 2010). Factors that affect readmission rates include the following:

- Sociodemographic factors, such as age, living environment (e.g., living in poverty), and

**TABLE 1**

Example of Calculating the Risk-Standardized Readmission Rate (RSRR) for General Hospital

Diagnosis	Expected No. of Readmissions	Actual No. of Readmissions	Risk-Standardized Readmission Rate
HF	521	600	1.1516
AMI	455	500	1.0989
Pneumonia	455	500	1.0989

Note. AMI = acute myocardial infarction; HF = heart failure.

**TABLE 2****Example of Calculating Aggregate Payments for Excess Readmissions**

Diagnosis	Average Medicare Reimbursement per Patient	Actual No. of Readmissions	Actual No. of Readmission Payments	Risk-Standardized Readmission Rate	Excessive Payment
HF	\$5,500	600	\$3,300,000	1.1516	\$500,384
AMI	\$5,000	500	\$2,500,000	1.0989	\$247,253
Pneumonia	\$4,000	500	\$2,000,000	1.0989	\$197,802
Total Excess Payment					\$945,439

Note. AMI = acute myocardial infarction; HF = heart failure.

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educational level (e.g., not completing high school) (Arbaje et al., 2008).

- Patient adherence factors, such as patient refusing to participate in self-care activities and following the plan to improve health outcomes (Arbaje et al., 2008).
- Severity of illness factors, such as high prior utilization or a hospital length-of-stay twice as long as average (Jencks et al., 2009), or one that is 7–14 days' duration (Arbaje et al., 2008).
- Condition-specific factors, such as heart failure, pneumonia, or number of comorbidities, which increase the severity of illness scoring (Cakir & Gammon, 2010; Jencks et al., 2009).

Studies show that structured discharge planning that effectively identifies at-risk patients can reduce 30-day readmission rates by 10% to 38% (Cakir & Gammon, 2010; Jack et al., 2009; Jweinat, 2010; Koehler et al., 2009).

In addition to identifying at-risk patients, other steps crucial to structured discharge planning include:

- Ensuring that patients have adequate social support (for example, caregiver involvement in discharge planning) and that there is post-hospital discharge follow-up support (Atlantic Information Services, Inc., 2008; Popejoy, 2011).
- Assembling a care transition team consisting of the patient's hospital physician, staff nurses, discharge planner, allied health providers (physical therapy, occupational therapy, speech language pathology), and other hospital providers directly involved in the patient's care.
- Implementing a structured discharge planning process, which should include:
  - Performing medication reconciliation across the care continuum using tools such as medication reconciliation forms and electronic medical records.

- Teaching patients about medications, allergies, health goals, treatments, and problem solving (complications and how to respond).
- Identifying patient barriers to adherence to discharge plan and medical regimen and providing methods to overcome these challenges.
- Coordinating follow-up care or short-term case management; this can be accomplished by making follow-up provider appointments before discharge, ensuring contact with patients within 48–72 hours to review the discharge plan, and talking with patients about their condition and any concerns they may have.

Hospitals need to assign sufficient human resources to manage these activities. Personnel need to champion efforts to improve transition of care, identify tool kits to train and educate staff, and track processes to identify improvement opportunities.

In addition to ensuring that sufficient resources are allocated, it is imperative that the roles of those participating in discharge planning are clearly defined. In many hospitals these roles are blurred. For example, in some hospitals the bedside nurse is responsible for patient education whereas the hospital social worker or case management department performs transition of care planning. This fragmentation in roles can result in gaps in responsibility. As in this example, the bedside nurse may assume that medication reconciliation is being handled by the case manager, whereas the case manager may assume that the bedside nurse is handling it. The result is that this critical task is not completed.

Comprehensive case management programs solve these issues by clarifying roles and responsibilities, enhancing communication between participants, and involving patients in their self-care plans so that they too can play a role in ensuring that critical care steps are taken. Such programs ensure that there are dedicated resources to complete the tasks critical to

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effective transition planning. This shift to a more holistic approach to discharge planning is reflected in a change in how people describe the process. Rather than “discharge planning,” hospitals have begun to use “transition of care.” “Discharge planning” implies finality, suggesting that the process ends when the patient leaves the care setting. In contrast, “transition of care” reflects the more coordinated and collaborative process required to transfer a patient efficiently from one care setting to another (Colorado Foundation of Medical Care, 2007).

### **DEMONSTRATION PROGRAMS BASED ON THE TRANSITION OF CARE MODEL**

Several Centers for Medicare and Medicaid Services demonstration programs have demonstrated that creating discharge plans focused on transition of care can reduce readmissions. Hospitals interested in lowering readmission rates can model the Better Outcomes for Older Adults through Safe Transitions (BOOST) program, the Reengineered Hospital Discharge (RED) program, or the State Action on Avoidable Rehospitalizations (STAAR) program, among others. These programs have achieved exciting results. For example, the BOOST program has achieved a decrease in readmissions at Piedmont Hospital in Atlanta, GA, from 25% to 8.5% (Society of Hospital Medicine, 2012). The RED program is showing that program participation can decrease hospital readmission by 30%, with an estimated savings of \$412 per patient (Jack & Bickmore, 2010/2011).

### **BETTER OUTCOMES FOR OLDER ADULTS THROUGH SAFE TRANSITIONS**

The Society of Hospital Medicine started the BOOST program in 2008. The program seeks to reduce length of stay, lower 30-day readmission rates, and improve patient satisfaction (Society of Hospital Medicine, n.d.). BOOST strives to identify

high-risk patients on admission. The program uses risk-specific interventions to improve patient satisfaction and Hospital Consumer Assessment of Healthcare Providers and Systems scores (<http://www.hcahpsonline.org/home.aspx>). It also aims to enhance information flow between inpatient and outpatient providers.

To improve the transition of care process, the BOOST program began using several new tools. A Discharge Patient Education Tool provides admission and discharge dates; names of physicians who provided care; patient diagnoses; test results; a summary of the most important treatment interventions received in the hospital; required follow-up appointments, tests, and other care; symptoms to watch for; and required medications. The form is written in layperson language to enhance patient understanding. In the demonstration program at Crawford Long Hospital, a nurse case manager completed the form, confirmed its accuracy with the patient’s physician, and reviewed it with the patient prior to discharge. The patient was given the Discharge Patient Education Tool to take home for reference.

Next, the BOOST team used the Discharge Knowledge Assessment Tool to record the patient’s responses to questions related to information presented in the Discharge Patient Education Tool to determine the accuracy of patient understanding and recall. At Emory University Hospital, a research assistant visited with study participants and used the Discharge Knowledge Assessment Tool to assess patient understanding of discharge instructions; patients were permitted to refer to the Discharge Patient Education Tool during this teach-back process.

A Medication Reconciliation form that is completed upon patient admission lists all medications used before admission (including pills, patches, inhalers, eye drops, over-the-counter medications, and supplements). A Discharge Medication form lists the prescription and nonprescription medications to be taken after discharge, along with prescribed doses and reasons for taking the medications. Initially, a pharmacist completed both of these forms and reviewed the Discharge Medication form with patients before discharge. However, although pharmacists were trained to interpret medication side effects and interactions, they were not trained to provide bedside education. Ultimately, this role was assumed by the nurse case manager, who was better trained to help patients with medication adherence.

### **REENGINEERED HOSPITAL DISCHARGE PROGRAM**

The RED program has transformed the hospital discharge process by using a nurse discharge advocate

who follows 11 discrete, mutually reinforcing action steps. The creators of the program found that patients who demonstrate a clear understanding of their after-hospital care instructions, including how to take their medications and when to make follow-up appointments with their physician, are less likely to experience a hospital readmission (Jack & Bickmore, 2010/2011; Project RED, 2007–2012).

The nurse discharge advocate completes the following specific tasks:

1. Educate the patient about his or her diagnosis throughout the hospital stay.
2. Organize postdischarge services. This includes ensuring that the patient understands the need for the services and the details of how to receive each service.
3. Discuss with the patient any tests or studies that have been completed in the hospital, and who will be responsible for following up the results.
4. Make appointments for the patient to see providers for follow-up and for postdischarge testing, confirming that the appointments are at times acceptable to the patient. The nurse discharge advocate also makes sure that the patient knows where to go for the appointment and has a plan for how to get there.
5. Confirm the medication plan.
6. Reconcile the discharge medication regimen with medications taken before the hospitalization. This includes evaluating the patient's ability to obtain medications, explaining which medications to take, reviewing the purpose of each medication, providing instructions on how to take medications correctly, and educating the patient about important side effects.
7. Review the appropriate steps for what to do if a problem arises. This includes creating a specific plan for how to contact the primary care physician (or covering provider) by providing contact numbers for evenings and weekends. It also includes defining what constitutes an emergency and what to do in case of emergency.
8. Expedite transmission of a detailed discharge summary to all post-acute discharge team members who are responsible for the patient's care after discharge (all physicians and those delivering other services, such as the visiting nurses).
9. Assess the patient's and caregiver's degree of understanding of the discharge plan by asking them to explain the details of the plan in their own words.
10. Provide a written discharge plan to the patient and caregiver at the time of discharge. This plan should include reason for hospitalization,

discharge medication instructions, signs and symptoms to monitor for deterioration or complications, and follow-up appointments.

11. Provide telephone reinforcement of the discharge plan and problem solving 2–3 days after discharge.

## **STATE ACTION ON AVOIDABLE REHOSPITALIZATIONS PROGRAM**

The STAAR program is an initiative of the Institute of Healthcare Improvement (Boutwell, Jencks, Nielse, & Rutherford, 2009). The program aims to reduce rehospitalizations, deliver high-quality health care, and provide improved coordination between providers and care settings (with documented outcomes). To accomplish these goals, the program started working across organizational boundaries in four states (Massachusetts, Michigan, Ohio, and Washington), and engaging payors, government stakeholders, patients, and caregivers at multiple care sites and clinical interfaces.

Recognizing that poor coordination of care can result in avoidable rehospitalizations, the STAAR program aims to improve care in the gaps between settings of care. It accomplishes this goal by systematically improving the following:

- Assessment of postdischarge needs.
- Patient teaching and learning.
- Cross-provider communication at discharge.
- Timely post-acute follow-up care.

Despite the lack of information on the effectiveness of the STAAR initiative to date, there has been a widespread adoption of the program. An analysis of the program's effectiveness expected to be completed by 2013 (Boutwell et al., 2011).

## **OTHER STRATEGIES TO REDUCE READMISSIONS**

### **Nursing Led Units**

The Nursing Led Units project aims to meet four objectives: care safety and reliability; teamwork and staff vitality; waste reduction; and increased patient focus. This program allows nurses to be more efficient and spend more time with patients, leading to fewer patient falls, reduced nurse turnover, and an accelerated patient discharge process. Both staff and patients have given positive feedback about the program, and though the patients in the program tended to have a longer length of stay, the program demonstrated a lower readmission rate (Griffiths, Edwards, Forbes, Harris, & Ritchie, 2007).

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An important step toward meeting the Nursing Led Units project objectives is to implement patient discharge and transition of care improvements. To attain these improvements, nurses ask physicians during their rounds about the expected date of discharge and the clinical criteria that must be met before the patient can leave the hospital. This information allows nurses to provide care with a view toward timely discharge, complete all administrative tasks related to discharge—including patient education—ahead of time, and give patients and families the predicted discharge date in advance (thus allowing them to plan as well).

### **Advice Lines**

Advice lines are run by hospital staff members who have direct access to patient medical records. Patients are provided with an emergency call number, which they can use to contact a clinician about their recent hospital care (Atlantic Information Services, Inc., 2008). Through access to the patient's records, the clinician can provide appropriate education, support, and guidance. Giving discharged patients the opportunity to talk about concerns with a health care professional over the phone can help resolve issues that could otherwise lead to readmission.

### **Health Coaches**

Health coach nurses manage the discharge transition. Usually, they work in the case management department, but hospitals may also hire third-party vendors to perform these services. In some models, a health coach will visit the patient at least once while he or she is hospitalized, and once again in the patient's home within 48 hours of discharge. The patient also will receive three follow-up phone calls, the first one occurring within 4 days of discharge. During these calls, medications are checked and additional

planning services may be arranged (Atlantic Information Services, Inc., 2008). Managing the discharge transition in this way can reduce unnecessary readmissions.

### **Transition of Care Tools**

The National Transition of Care Coalition provides evidence-based, easy-to-use discharge planning tools, such as My Medication List and Transitions of Care Checklist. The National Transition of Care Coalition also offers a guide on implementing and evaluating a transition of care program (found at [www.ntocc.org](http://www.ntocc.org)).

### **Personal Health Records**

Personal health records offer another way to improve transition planning and manage ongoing patient care. These records can be accessed by a patient and shared according to the patient's preference. To address patient concerns related to the confidentiality of these records, patients designate who may access their record. Patients may permit all, or just some, of their health care team members to access the information. Information in the record usually includes history and current medications, which can facilitate communication and improve care. Drawbacks include that patients must have access to a computer, they must know how to update their information, and they must feel confident that they retain control of who may access their information.

Use of advice lines, health coaches, transition of care tools, and personal health records are part of many programs to prevent avoidable hospital readmissions. At this time, these strategies individually lack sufficient evidence that demonstrate that they are effective in providing readmission prevention outcomes.

### **CASE MANAGERS WILL PLAY A KEY ROLE**

Hospitals will be weighing these diverse strategies as they work to reduce hospital readmissions. The stakes are high: Readmissions reflect poor patient care and contribute to ballooning health care costs. With the 2010 passage of the Patient Protection and Affordable Care Act, hospitals that do not address this problem may soon face decreased Medicare reimbursements. Fortunately, exciting changes are on the horizon. Demonstration programs are showing that costly readmissions can be reduced by ensuring safe and efficient transition of care. Case managers

will play a central role in these efforts. As experts in care coordination, medication reconciliation, and patient education, case managers will be vital to the success of readmission prevention strategies (Stueffer et al., 2011).

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