Best Practice Strategies and Interventions to Reduce Hospital Readmission Rates

January 17, 2018
By Pat Stricker, Senior Vice President

This is the third article in a series that has explored the Hospital Readmissions Reduction Program (HRRP). The first article, Unplanned Readmissions: Are They Quality Measures or Utilization Measures?, provided an overview of the program and its goals, reviewed expected and achieved cost savings over the past 5 years, and discussed whether the expected readmission rates are really quality measures or utilization measures. The second article, Unplanned Readmissions: Has the Hospital Readmissions Reduction Program (HRRP) Been Successful?, looked at how successful the program has been since its inception, its advantages and disadvantages, and how it may evolve in the future.

As noted in the first two articles, healthcare leaders and organizations are questioning the effectiveness of the HRRP program. Many feel it is a punitive, financial program focused on penalties that have provided cost savings, though much less than expected. They also question whether the expected lower admission rates are really indicators of quality or are really measures to reduce utilization. There is a growing desire to restructure the program into a more positive, financially incentivized program with a focus on quality and improved clinical outcomes. While the program still needs to result in cost savings, those savings should not be the main driving force. They feel the current HRRP program should be looked at as a learning experience and “bridge” to get from the fee-for-service payments to value-based or bundled payment initiatives. Using effective, proven strategies and best practices, the program should be able to evolve into one focused on
quality and improved clinical outcomes that, in turn, will achieve desired cost savings.

So, how can this transition be accomplished? And, in the meantime, are there things that can be done now, within the current program, to provide better clinical outcomes, while still providing the same level of cost savings or better? Organizations who have performed well in the HRRP program have conducted program evaluations and many have shared their strategies and best practices. This article will focus on the strategies and best practices that have been most effective in reducing readmissions. It will also provide some helpful risk screening assessments and readmission reduction tools that can be used by organizations in building or revising their programs. It contains numerous referenced articles that will provide more in-depth information for specific programs you may be interested in developing.

Background on HRRP

The goal of the HRRP is to reduce unplanned/unnecessary hospital readmissions within 30 days of discharge. Of course some readmissions are necessary due to complications, bleeding, infection, or other non-foreseen event, but there are also a lot of unnecessary readmissions that could have been prevented if some simple precautions had been taken. In order to know how to reduce the unplanned/unnecessary readmissions, we need to know what causes them. Note: Throughout this article the term readmission will refer to an unplanned/unnecessary readmission.

Reasons for Unplanned or Unnecessary Readmissions

Two of the most common reasons for readmissions are misunderstanding and/or miscommunication regarding medications and the lack of follow-up with the physician after discharge. These seem simple to fix, but they continue to cause problems. Patients say they understand their medication instructions, but then are unsure about how to take the medications once they get home; or they do not have the financial resources to purchase the medications; or they are just non-compliant and stop taking their medications. Patients are also usually told at discharge to follow up with their physician within the first
7 days. If an appointment is not already arranged for that visit, the patient may forget to make the appointment, not have transportation, and just have a difficult time getting to the office, so they do no follow-up. Again, this can result in a readmission.

Other common reasons for readmissions include: increasing age and physical abilities; severity of illness and co-morbidities; physical or cognitive problems; lack of transportation and whether the patient lives in a rural environment (more difficult to get transportation into the office); lack of a caregiver or community support; lack of financial resources; issues with language or reading skills; lack of special dietary needs; and the need for assistance with mobility and activities of daily living.

Readmissions may also occur because of failures in processes, communication, and overall care coordination:

- The family member or caregiver may not be aware of the follow-up appointment
- The patient may not receive proper diet instructions before discharge
- Home health services may not have been provided

Patient-Centered Interventions

Once the causes are identified, the next step is to determine targeted, patient-centered interventions that can be put in place to eliminate the problem. This is followed by developing a patient-centered discharge plan that supports the patient, family and caregivers and is easy to understand and follow.

A discharge program should meet the needs of each patient. It should be started upon admission or soon afterwards, but definitely before the day of discharge, so the patient, family and caregivers have more time to learn and understand what needs to be done. It should consist of an easy-to-understand plan, as well as instructions and education about the disease/condition, treatment/care plan, symptoms, risks, warning signs, medication plan, importance of arranging a follow-up
appointment, and how/when to contact the physician. Family members and caregivers should also be included whenever possible, as they will be the patient's main support system. And it is important to make sure the patient, family and caregivers totally understand the educational content and plan. Remember, something as simple as misunderstanding and/or miscommunication was one identified as a main reasons for readmissions.

A study conducted by 5 hospitals in Montana demonstrated that they have been able to reduce readmissions steadily each year by focusing on providing post-discharge phone calls within 48 hrs. of discharge, scheduling early physician follow-up visits after discharge, and improving medication instruction at the time of discharge. Access to care is also an issue for rural patients, so home health visits are often used. Other hospitals have used telehealth to provide access to care by scheduling follow-up visits by phone or video or by using online or in-home tele-monitoring devices to track patients' weight, blood glucose levels, etc.

In addition to tele-health and tele-monitoring, health information technology can enhance the patient communication experience by using text messaging and a patient portal to access information. Online symptom reporting programs are also used to alert nurses of potential problems. However, technology should not be used exclusively to communicate with patients. Face-to-face or verbal communication is essential to maintain the relationship and make sure things are going well.

An extensive review of medical literature by Truven Health Analytics provided the following 7 proven key interventions that can help prevent 30 day readmissions:

- Educate patients during the hospital stay, not only on the discharge day
- Assign a designated discharge advocate/patient navigator to monitor and manage the post-discharge care of the patient
- Ensure that high risk patients keep a follow-up appointment within seven days of discharge
- Expedite care transitions by using IT and clinical decision support to electronically distribute discharge summaries and operative notes to primary care physicians, nursing homes and all care team members to ensure the patient’s record, treatment plan, and updates are available to all team members
- Confirm the medication plan and reconcile all discharge medications
- Provide translators for patients who do not read or speak English
- Consider affiliating with a patient-centered medical home, if needed, to provide follow-up primary care for the sickest patients

**Hospitals and hospital systems** that have been successful in reducing readmissions have focused on ensuring processes, communication, and overall care coordination are a top priority:

- The multi-disciplinary, collaborative team works together to coordinate the process, arrange follow-up visits, educate the patient and caregivers, and answer their questions. Team meetings and calls are held on a regular basis and records are shared real-time with all team members. All team members are encouraged to communicate effectively in an open, relaxed manner.

- Information is tracked across all inpatient and outpatient settings and constantly communicated to the entire care team, as well as the patient and his/her caregivers.

- Real-time surveillance, monitoring, and alerts are promoted, as needed.

- The patient is supported throughout the entire care continuum (inpatient, outpatient, emergency department, and home).

Bundled interventions provide significantly better results. The most **common categories** of bundled interventions were patient
education, discharge planning, follow-up telephone call, patient-centered discharge instructions, and discharge coaches or nurses who interacted with the patient before and after discharge. The studies did not find evidence that any one intervention significantly reduced hospital readmissions. One small pilot study and three larger investigations included multi-component bundles of interventions that resulted in reductions in 30-day readmission of 3.6 – 28%. This table shows the descriptions of the three investigations, which are good examples of how health care systems can successfully reduce readmissions. These investigations differ significantly in their approach, but they all bridge hospital and post-discharge periods with transitional care, patient-centered discharge instructions, and telephone follow-up.

Key transitional care components have been combined into a single model – the Ideal Transition in Care, which suggests that multiple interventions across the continuum of care are needed to support the hospital to home discharge transition. The strength of the transition depends on how many intervention components are used. There are 10 key components to an Ideal Transition:

· Discharge planning

· Complete communication of information

· Availability, timeliness, clarity, & organization of information

· Medication safety

· Educating patients to promote

· Enlisting help of social and community support

· Advanced care planning

· Coordinating care among team members

· Monitoring and managing symptoms after discharge

· Outpatient follow up
These bundled interventions successfully reduced readmission rates: patient needs assessment, medication reconciliation, patient education, arranging timely outpatient appointments, and providing telephone follow-up. The number of interventions used has an effect on readmission rates and single-component interventions did not show any significance in reducing readmissions.

For patients discharged from post-acute care facilities (PACs, SNF, Rehab), the following interventions were found to be associated with increased risk of readmission:

· Older patients with increased severity of illness and comorbidities
· Increased medications
· Deficits in cognition and/or function
· Communication barriers between the hospital and PAC facility,
· Limited resources and training in PACs
· Quality of care, nurse retention, and level of physician engagement

Lessons learned include:

· Patients at high risk for discharge to PAC should have preventive steps started early in the acute inpatient stay: medication reconciliation, polypharmacy, and discontinuation of high-risk medications, if not indicated

· Information should be provided regarding short and long term prognosis, expectations about the PAC setting, and discussion of care goals to ensure that future healthcare decisions align with patient preferences

· In-dwelling devices, e.g. urinary catheters and PICC lines should be minimized because they are potential safety hazards and increase the risk of readmission

· Multi-component interventions are more likely to be successful
· Multi-component interventions and tools enhance communication, care pathways and training to reduce readmissions and ensure continuity of care following PAC discharge. Examples include:

· Interventions to Reduce Acute Care Transfers (INTERACT) is a quality improvement program that focuses on the management of acute change in patient conditions. It includes educational tools and strategies to use in long-term facilities. INTERACT has been studied in as many as 25 community skilled nursing facilities and after 6 months of bi-weekly training, facilities experienced a 17% reduction in self-reported admissions.

· Project RED (Project Re-Engineered Discharge) is a research group at Boston University Medical Center that develops and tests strategies to improve the hospital discharge process to promote patient safety and reduce readmission rates. The RED (re-engineered discharge) intervention includes 12 components and has been proven to reduce readmissions and yield high rates of patient satisfaction. The RED Toolkit contains 5 tools to help hospitals re-engineer their discharge processes.

Strategies for Readmission Reduction Programs

Numerous studies recommend that the following general strategies and goals be included in all readmission reduction programs in order to make them successful:

- Use data analytics and predictive modeling tools to identify high risk patients who are most likely to have an issue

- Perform a targeted assessment of preventable readmissions and develop goals and strategies to assure those potential readmissions are addressed

- Use risk screening assessments and tools upon admission to identify specific patient risk factors

- Match risk factors with needed resources and schedule them prior to discharge
• Use standard measurable processes that can be monitored and tracked across the care team

• Assure that all communications are understood by patients, caregivers, and the entire care team

A study conducted on heart failure patients who were readmitted, listed 30 strategies divided into 3 key conceptual domains:

• Discharge and follow-up procedures

• Medication management

• Quality improvement and performance monitoring

Specific strategies were associated with significant lower risk-standardized 30-day readmission rates. These should be consistent with other types of patients and should be considered as strategies to consider for all readmission reduction programs:

• Assure that physician follow-up visits are arranged before discharge

• Assign a nurse to be responsible for medication reconciliation

• Assign someone to be responsible for following-up on test results after the patient is discharged

• Send all patient discharge and summary documents electronically to the patient's primary care physician at the time of discharge

Findings from the National Survey on Hospital Strategies to Reduce Heart Failure Readmissions provided several strategies and best practices that are also appropriate for other general readmission programs:

• Standardized orders and evidence-based therapies should be used consistently

• Inpatient education needs to include information about medications and the need for medication adherence, recognition of signs and symptoms, and nutrition
• The educational content should consist of different media, e.g. videos, written materials, books, and/or computerized discharge instructions

• Patient follow-up visits within 7 days with the patient’s primary physician and/or specialist should be arranged prior to discharge

• Previous analysis showed that readmission rates were lower when education was given by a dedicated nurse educator rather than by regular bedside nurses

• If education is done by the entire team, a process needs to be in place to assure that all the educational content in presented and nothing falls through the cracks.

• If bedside nurses are to provide the education, they need to be given additional education so they are well prepared and they need to be provided with enough time to be able to provide the education appropriately

• Referrals to disease management programs and specialists should be made before discharge

• Disease management programs should include office visits, home care, tele-monitoring, structured telephone calls, or bundling of multiple services

• In several studies, the efficacy of disease management in reducing short-term readmissions was mixed. More data is needed to determine the effectiveness of different types of educational programs and bundled vs. individual program services.

The study suggested that Quality Improvement (QI) strategies should be included in all programs:

• QI processes and reviews should include chart review, committee meetings, core measure reporting, patient surveys, and provider/nursing feedback
A dedicated person needs to be assigned to distribute QI materials to all members of the team

Hospitals need to share QI feedback with specialists and ancillary team members

The hospitals reported several QI strategies that specifically helped reduce unplanned readmissions:

- Improved discharge planning and outpatient follow-up
- Improved inpatient education
- Focusing on patients known to be at high risk for readmission
  - Focus on quality initiatives and patient satisfaction

This study demonstrated a modest association between discharge and transitional care processes and lower 30-day readmission rates. However it did not show any statistically significant relationships between the use of individual processes of care and readmission rates. This indicates that more research is needed to determine: (1) if patient-focused interventions are more meaningful in reducing readmissions and (2) if a multi-focused approach is better than using individual components that contain more depth and breadth.

Targeting patients who lack medication adherence is a top priority for any readmission program, because these non-adherent patients are much more likely to be readmitted. Delivering medications to these high-risk patients before they are discharged, frequently referred to as “meds to beds” programs, is a simple, but extremely impactful, way to improve medication adherence and reduce readmission rates. The University of Tennessee Medical Center (UTMC), reported a reduction in readmission rates by 20% for patients who were identified as high risk for readmission by using their “meds to beds” program. Their technology platform identified at-risk patients by analyzing co-morbidities, encounter data, medical history, age, payer status, social determinates, the number of concurrent medications, gaps in medication fill patterns, and medications that are difficult for patients
to manage, such as blood thinners. This enabled their on-site pharmacy technicians to efficiently engage with those patients before discharge and provide them with the meds they needed. The program improved medication adherence, a key factor in reducing readmission, and impacted more than 60% of the hospital’s readmission risk by engaging with just 30% of the inpatient population. A data-driven “meds to beds” program is a simple, cost-effective and tangible strategy that should be considered since it reduces readmissions through improved medication adherence.

**Healthcare Information Technology (HIT) solutions** are being developed to reduce unnecessary, preventable 30-day readmissions by improving patient education, medication adherence, patient follow-up, and clinical outcomes. These are some of the efficient HIT strategies that are being used:

- Push notifications to remind patients and caregivers to remind patients about appointments, follow-up tasks, when to take their medications, and dosage and refill reminders
- Patient portals to access information and communicate with the care team
- Interactive checklists collect needed data and encourage patient engagement
- Shared access to documentation and the patient’s record to improve collaboration and transition of care activities
- Electronic tools to communicate with other members of the healthcare team in real-time

**Telehealth** is an area that is growing very quickly. It provides strategic solutions to address issues in post-acute care:

- Increasing access to care by providing telephonic and video visits that replace office visits for elderly, debilitated or chronic care patient who live in remote areas or have difficulty getting to office visits
- Remotely assessing, treating, and educating patients
· Managing care or treatment plans remotely and coordinating appointments

· Providing automatic alerts to healthcare team members regarding abnormal patient values

These solutions not only increase patient access to care, but they improve productivity, reduce costs, provide early identification and treatment, and increase patient satisfaction and engagement. All of these have an impact on reducing readmissions.

An article entitled Reducing Hospital Readmissions: Current Strategies and Future Directions provides a review of current strategies that help reduce hospital readmissions. Each of the following provides a review of this topic:

· Common issues that arise during transitions of care

· Interventions to reduce hospital readmission,

· Improved patient safety at hospital discharge

· Enhanced medication reconciliation

· Improved transitions from the hospital to the outpatient setting

· The role of ambulatory care practices in fostering more effective transitions in care

The article also focuses on hospital-induced bundled interventions that reduce readmissions:

· Pre-discharge interventions: patient education, discharge planning, medication reconciliation, scheduling a follow-up appointment before discharge

· Post-discharge interventions: timely follow-up, timely physician communication, follow-up telephone call, patient hotline, and home visits
Bridging interventions: transition coach, discharge instructions, and provider continuity

Risk stratification is a key strategy that needs to be used in readmission programs. Identifying these patients allows for targeted intervention. Studies that applied transitional interventions to high-risk patients reported reduction of 30-day readmissions by 11-28%.

Simple checklists of risk criteria were used to identify patients.

Criteria included increased age, presence of multiple medical comorbidities, prior hospitalizations, functional impairment, poor social support, and prior healthcare utilization.

Few include factors such as health literacy and language barriers.

For readmission risk scores to be clinically useful, it should be used early in the hospitalization to allow time for interventions to occur. They are not as practical for real-time predictions.

Prediction models perform better when they are tailored to a specific patient population.

Reduced readmission rates are affected by discharge destination (home vs. PAC facility), primary diagnosis, and socioeconomic conditions.

Most models cannot accurately predict the probability of readmission for a specific patient, but they are useful in stratifying a patient into low and high risk groups.

Further strategy and intervention investigation is warranted for the following areas:

Home-based services: identify the type of intensity of services, e.g. home visits, that may be needed to reduce unplanned readmissions.

Tele-monitoring and other information technology: a fast growing area of healthcare, especially in care transition interventions for
disease management. New, innovative monitoring devices are being developed but they need to be clinically effective and cost-effective.

· Mental health care: Efficient and effective strategies are needed to treat patients with co-morbid psychiatric disease, substance abuse, depression, anxiety, and schizophrenia. Incorporating behavioral therapy in all care setting may be beneficial.

· Caregiver engagement and support: Patient, family and caregiver engagement and support are essential. Successful interventions include caregivers, especially in education, medication counseling, and planning outpatient follow-up. The support of caregivers themselves also needs to be studied, looking at strategies for self-care, empowerment, advocacy, and respite care.

Readmission Reduction Tools

These tools are helpful in developing new programs or revising programs to become more effective.

1. Hospital Guide to Reducing Medicaid Readmissions Toolbox

A collection of tools based on best practice approaches to reduce Medicaid hospital readmissions; the concepts are applicable to all patient populations.

2. The HOSPITAL score and LACE index as predictors of 30 day readmission in a retrospective study at a university-affiliated community hospital

A paper that reviews and compares the HOSPITAL score and LACE index validated risk assessments tools developed to identify patients at high risk for hospital readmissions within 30 days. It describes and validates each tool, and makes recommendations for use.

3. What Works for Preventing Hospital Readmissions? A review of the current evidence and best practices A 2012 detailed presentation by Steven Riddle, Clinical Affiliate Professor, UW School of Pharmacy that describes specific interventions and successful programs to reduce hospital readmissions. It is good, overall information on program
development, not specifically related to Pharmacy. It explains how to build an effective program based on successful clinically and fiscally best practices; describes services, interventions, and available tools; and presents case studies from large institutions. It has a great section on Tools and Information Sources.

4. **The Kaiser Permanente All-Cause Readmission Diagnostic Tool**

A copyrighted tool that includes a process of chart review, a patient/caregiver interview, and a patient provider interview. While this tool was developed by Kaiser for use in its organization, the tool gives a good in-depth overview of the types of things that should be included in assessing patients at risk for readmission.

Reducing readmission rates has become a mandate for hospitals. Fortunately, there is evidence that highlights interventions that have an effect on reducing readmissions. Multi-component interventions have been shown to significantly reduce readmission rates, while individual interventions are unlikely to do so. The number of components in a care transition intervention significantly relates to its effectiveness. Effective interventions have components that span inpatient and outpatient settings and are best delivered by dedicated transitional care personnel.

Multifaceted interventions require substantial resources for planning, implementation, and monitoring. This may be more than some organizations can take on, so they may want to focus more on providing more efficient care processes, improving their transition interventions, improving patient satisfaction rates, ensuring better teamwork, and improving quality and safety initiatives.

Hospitals should focus on patients at higher risk of readmission who can be identified using predictive models or based on advanced age, polypharmacy, decreased functional status, etc. These patients can then be given structured needs assessments and targeted interventions early in their hospital stay. Discharges to post-acute care facilities have reduced readmissions through enhanced communication, medication safety, and advanced care planning.
Future investigation and determination of best practice strategies should be focused on better defining the role of home-based services, information technology, mental health care, caregiver support, community partnerships, and the roles of new transitional care personnel.

It is critical to rigorously assess the effectiveness and sustainability of readmission strategies and interventions. Reducing avoidable readmissions presents a potentially large opportunity to reduce cost, improve quality, and improve the patient experience simultaneously.

By focusing on improving the strategies, best practices, and interventions these readmission reduction programs will continue to evolve the HRRP program into a positive program focused on quality and improved clinical outcomes that, in turn, will achieve desired cost savings.