Executive Summary

Addressing the challenge of reducing hospital readmissions using manual processes is not a viable long-term solution. With other IT mandates demanding time and attention, your readmissions initiatives may suffer. However, with the right health information technology (HIT) platform, you can sustain efforts to reduce readmission rates and make processes more efficient and effective. Enabling interoperability and access to real-time data is key. Organizations that integrate real-time data from disparate sources for analysis can proactively reduce readmissions and build competencies for accountable care.
Key Competencies for Reducing Readmissions: The CIO Perspective

Readmissions: The Tip of the Accountable Care Iceberg

The need to reduce hospital readmissions is a focal point in the healthcare debate because it exemplifies much of what is wrong with the current system. Volume-based reimbursement programs reward hospitals for providing more treatment, regardless of whether that treatment could have been prevented by providing better care in the first place. This is not a small problem. One in every five Medicare patients is readmitted within 30 days of discharge, with 76 percent of those readmissions potentially preventable, according to analysis by the Medicare Payment Advisory Commission.

The long-standing financial incentive to readmit patients has created a conundrum, given the negative impact of readmissions on patients, providers, and healthcare organizations. Patients who are readmitted are more prone to subsequent readmissions. Physicians often struggle to determine the patient’s previous care plan. Not only do healthcare providers face a more vulnerable patient, but they also need to repair lost trust. Finally, hospitals with high readmission rates face reputation damage as a result of quality and patient safety concerns.

In response, the Centers for Medicare and Medicaid Services (CMS) created the Readmissions Reduction Program, which penalizes institutions that have readmission rates that exceed certain targets for patients with heart failure, acute myocardial infarction, or pneumonia. At one large integrated delivery network, the incurred penalty is expected to top $2 million each year. CMS has also increased transparency by making hospital readmission rate data publically available on its Hospital Compare website. Commercial payers have joined the effort as well, with some offering incentives for rate reductions.

The Readmissions Reduction Program signals CMS’s transition away from a fee-for-service model to a payment system that rewards value. It is one of many new initiatives that will put hospitals at risk for not improving quality and lowering the cost of care. Forward-thinking CIOs are taking notice and engaging in the conversation, knowing that HIT will play a major role as healthcare organizations build competencies to support the path to improvement.
Using HIT to Sustain and Improve Performance

The good news is that we are starting to see a decline in readmission rates. Between 2007 and 2011, the 30-day readmission rate for Medicare patients averaged a steady 19 percent. It was therefore a welcome surprise when CMS announced that the 30-day readmission rate dropped to 18.4 percent in 2012. However, its analysis focused on the direction of the trend rather than on the cause of it, leaving open the question of whether its penalties led to the decrease.4

It is too soon to declare victory, as sustainability and the rate of improvement are still significant concerns. Many of the well-known models for improving readmission rates rely heavily on people to drive process improvements. But as clinicians and staff struggle to balance pressing initiatives like Meaningful Use, ICD-10, and accountable care, the risk increases that they will not have the resources and time needed for all projects. Further, if 76 percent of readmissions are potentially preventable, the 0.6 percent drop in the 30-day readmission rate leaves substantial room for improvement.

CIOs can support their organization’s readmissions efforts and help to engender physician buy-in by providing infrastructure that automates processes and offloads tasks from overburdened staff and clinicians where possible. They also can improve these initiatives by making the right data available at the right time and giving clinicians the tools they need to act on that data. Two key competencies that CIOs need to build to accomplish these goals are strategic interoperability and active analytics.

Interoperability is the critically important ability to make disparate systems work together, as it enables providers to access and share any and all critical data, regardless of where it is stored or in what format. Interoperability serves a strategic purpose when the focus is on making sure that the right people get the right data at the right time. A 2013 Health Affairs article laments that “the health IT systems that currently dominate the market are not designed to talk to each other.”5 As a result, hospitals often have to rely on a small subset of critical data, reducing the effectiveness of analytics technologies and therefore the ability to gain insights from that data. Active analytics places integrated, real-time data at providers’ fingertips, enabling them to take action based on that insight and make smarter decisions.
Core Competency #1: Strategic Interoperability

Strategic interoperability is critical to addressing readmissions because it fosters care coordination, not only within the hospital but also across the care continuum. The U.S. health system is fragmented and becoming increasingly more complex with an aging population. Research shows that three out of four patients above 65 years of age suffer from multiple chronic conditions, and many require care from multiple specialists.

Given that a number of organizations—including hospitals, health plans, and physician practices—typically have information on any one patient, the ability to consolidate such data is critical. For example, imagine a patient who has multiple encounters with a primary care physician, specialists, and the emergency department for treatment of a chronic disease. It is not only possible but likely that these encounters occur at various locations that use disparate HIT systems. Ensuring that all of the patient's information is aggregated in a single composite record is key if healthcare organizations truly hope to coordinate the care they provide.

Core Competency #2: Active Analytics

Integrated, real-time data has benefits at both the individual and population levels.

At a population level, real-time analytics capabilities give organizations a distinct strategic advantage. When reporting on measures for HEDIS, NQF, and PQRI, to name a few, most results hinge on retrospective data. If you can access real-time data to track your organization’s progress prior to the availability of retrospective measure data, you gain a greater opportunity to identify and address problems before there are ramifications—such as penalties for poor readmission rates. In the case of readmissions, monitoring key metrics like Hemoglobin A1c or hypertension across a patient population can also give insight into which populations are at risk and allow for preventative actions to reduce readmission rates.

Data aggregation and analytics also offer a golden opportunity to identify individual patients at risk. For example, a physician's office may document that a patient has mildly elevated blood pressure, while an outside lab report shows that the same patient has an abnormal lipid panel. Concurrently, the patient is not in compliance with the recommended medication regimen as evidenced by the patient’s failure to routinely refill prescriptions. In isolation, these data points might not be cause for alarm. However, if viewed in aggregate, a clinician would see that the patient is at higher risk for morbidity and even mortality and can take action and intervene.

While this example reveals how aggregated data can identify at-risk patients, the ability to pinpoint a lack of data is equally important. This concept is called “tracking the delta” as it refers to the idea of identifying a lapse in an expected patient care action.
For example, it’s not uncommon for a hospitalist to refer a patient to see a specialist within a week of discharge. Because the expected action—the specialist visit—takes place after the patient leaves the hospital, many organizations lack a sustainable model for monitoring follow-up care. In a hospital that drives readmissions efforts manually, a clinician might have the task of following up with a predetermined group of high-risk patients. However, a report leveraging data from ADT feeds at neighboring practices could easily give hospital staff the information they need to determine whether a much wider group of patients secured follow-up visits. They could then specifically target their outreach to those patients who did not secure a visit. The likely result is a further reduction in readmissions without additional effort.

**Case Study: Rhode Island Quality Institute**

Rhode Island Quality Institute (RIQI) is one example of an organization using both strategic interoperability and analytics to reduce readmissions.

RIQI is a nonprofit organization and ONC Beacon Community that focuses on improving the delivery of healthcare through collaborative innovation. It uses InterSystems’ HealthShare—a strategic informatics platform—as the basis for its health information exchange efforts.

Recently, RIQI launched an initiative to reduce readmissions and avoidable emergency department use. Using HealthShare, RIQI created a tool called Hospital Alerts, which uses ADT data from hospitals across the state to alert clinicians when their patients have been admitted to an emergency department or hospital. The alerts fire in real time and are typically triaged by staff at the physician’s practice so that the physician can respond accordingly to the most critical alerts. The real-time nature of the alerts gives the clinician the opportunity to act in a timely manner if intervention is needed.

Since launching in March 2012, CurrentCare, Rhode Island’s health information exchange, has sent more than 19,000 alerts to providers to let them know when one of their patients has been admitted to a hospital. Practices enrolled to receive alerts have seen benefit. The real-time notification provided by Hospital Alerts allows practices to support effective care transition both at admission, when necessary, and especially at discharge, when follow-up care is essential. This process improvement has created efficiencies in care transition management and resulted in improvements in patient outcomes, including reduced readmissions. Subsequently, this has improved patient and provider satisfaction.
Recommendation

The Readmissions Reduction Program is just one of many initiatives through which CMS is exploring how changes to the way it pays for services affects cost and quality of care. As such, healthcare organizations should view measures to reduce readmissions not as a one-time initiative but as an opportunity to build expertise in leveraging an informatics platform to inform workflow changes. HIT will be a crucial part of such efforts. Organizations must develop strategic interoperability in order to take advantage of data from disparate sources not only within their enterprise, but also from external sources within the larger healthcare ecosystem. Further, active analytics, using real-time data, is critical for monitoring at-risk populations and patients and intervening to improve outcomes. These capabilities not only reduce readmissions, but drive quality improvements and cost reductions for all initiatives.

Healthshare: A Strategic Informatics Platform

Healthshare, InterSystems’ strategic informatics platform, helps organizations achieve interoperability via its unique data normalization process. Its interface engine accepts data from all sources and formats. HealthShare maintains an internal clinical model, called summary document architecture (SDA), which breaks this data down into discrete components and normalizes it. Once normalized, the data can be used in aggregate. Further, the platform scales to support expansion for future initiatives.

HealthShare also supports real-time analytics, which is bolstered by the robust data set created through the platform’s integration and normalization process described above. In a standard analytics model, data is prepared via extract, transform, and load (ETL) batch processing. The drawback of an ETL process is that you get only the data you query and the process is done in batches, not in real-time. In contrast, HealthShare accepts any and all data, normalizes it, and makes it available for real-time analysis. The single-step process (as opposed to separate integration and analytics processes) is more streamlined and, as such, less resource intensive. In addition, because all data is available in real time, it is more actionable.

Patient Satisfaction

“For patients, the real benefit... is having their trusted primary care team in the know about what’s happening to them when they are frightened and scared and sick. It has been amazing to hear people express their gratitude.”

Physician User
About Intersystems

Intersystems is a global leader in software for connected care, with headquarters in Cambridge, Massachusetts, and offices in 25 countries. Intersystems HealthShare® is a strategic platform for healthcare informatics, enabling information exchange and active analytics across a hospital network, community, region or nation. Intersystems Cache® is the world’s most widely used database system in healthcare applications. Intersystems Ensemble® is a platform for rapid integration and the development of connectable applications. Intersystems’ products are used by thousands of hospitals and laboratories worldwide, including all of the top sixteen hospitals on the Honor Roll of America’s Best Hospitals, as rated by U.S. News and World Report.

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