The Key to Breakthrough Healthcare:
Leveraging Interoperability to Address Hospital Readmissions

This report is based on a HIMSS Industry Solutions & Healthcare IT News webinar presented by InterSystems Corporation in January 2013.
As healthcare providers face increasing pressures to lower costs and reduce readmissions, they’re rapidly shifting towards accountable care organizations (ACOs) and other coordinated, quality-based reimbursement systems. However, most providers have historically organized their data and workflows in ways that best fit the fee-for-service payment model. Now that so many providers are sharing risks and rewards, they must also share and coordinate information by adopting more streamlined health information technology solutions.

Still, the complete replacement of existing systems isn’t an option for most organizations, especially those that operate within expanding provider networks. CIOs need to control costs by retaining their existing assets, and hospitals and clinicians must keep legacy systems running while they transition to new ones. Some of the larger health information systems feature dozens or even hundreds of applications, many of which cannot be eliminated or consolidated. Ultimately, most healthcare organizations will need a way to fill the informational “gaps” between existing software systems and what’s needed for success in accountable care and other quality-based reimbursement models.

New thinking on technology integration: Strategic interoperability

In a HIMSS Industry Solutions and Healthcare IT News webinar, Dominick Bizzarro, InterSystems’ HealthShare Global Business Manager, and Kim Humby, HealthShare Senior Product Manager, discuss the ways that strategic interoperability can make those existing systems more valuable in the evolving, ever-more interdependent healthcare environment. “Strategic interoperability focuses on connecting all the data, systems, and users inside and outside your enterprise,” said Bizzarro. “It becomes a bridge from your enterprise to the larger environment in which you operate.”

Strategic interoperability also enriches health information exchange between providers, patients, payers, government entities and other stakeholders. Instead of relying on limited, message-based transactions, providers gain the ability to coordinate community-wide engagements – a critical feature when members are using a variety of electronic medical records (EMRs), clinical viewers and patient portals. Bizzarro noted that because today’s healthcare communities are constantly growing and merging, strategic interoperability “is clearly the future.”

Finally, strategic interoperability is changing the concept and process of analytics. Static, month-old reports are no longer sufficient, and users expect to see population-level and individual-level information in real time. “To be successful in this evolving, value-driven, new model of care, we think it’s important that attention shift to the active dimension of analytics,” Bizzarro said. Providers should be able to quickly and effectively move from population-level data to treating individual patients, since “only actions drive results.”

Overall, the changing healthcare environment will require providers to evolve in three ways: from simple interfacing to strategic interoperability; from health information exchange to community-wide coordination; and from static to active analytics. Of course, these changes will have different implications for every group of stakeholders. To help CIOs and other administrators understand their next steps, Humby explained how the following three organizations leveraged interoperability to meet these needs.

Leveraging interoperability to meet different healthcare organizational needs

Spectrum Health, a nine-hospital integrated delivery network (IDN) with a 600,000-member statewide health plan, was planning a simple replacement for its interfacing solution before its management team opted for an InterSystems interoperability platform. They were able to migrate more than 200 messaging interfaces from eGate to the InterSystems platform in 13 months, and they created
a portal through which practitioners could view community-wide patient information from their inpatient and ambulatory facilities. To enable that portal, they used the InterSystems technology to aggregate and integrate information from Cerner, Epic and other existing systems.

MemorialCare Health System, a six-hospital network in northern California, has recently grown through a series of acquisitions. Its main goal in using the InterSystems HealthShare platform for strategic interoperability was to coordinate its disparate information systems, giving inpatient and outpatient providers greater access to patient data. This would ultimately lead to lowered readmission rates and increased in-network referrals.

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– Dominick Bizzarro

To accomplish these goals, MemorialCare used HealthShare to establish a two-way, record-sharing system. Now, outpatient doctors receive notifications and real-time summaries whenever their patients-to-be are discharged from the inpatient system. Inpatient providers likewise receive notifications when their former patients receive required outpatient care. By updating all of these contributing providers in real time, this system has significantly reduced readmission rates and aided practitioners in making necessary in-network referrals.

The Rhode Island Quality Institute (RIQI), a state-level health information exchange, is applying its Beacon grant to care for a population of diabetes patients. In addition to analyzing old data, they need to be able to observe real-time environmental trends and effect care based on new information. The goal is a reduction in readmissions, emergency visits and inpatient stays.

To achieve these reductions, RIQI has been using InterSystems HealthShare to monitor key diabetes metrics, view admission trends across different facilities and providers and notify caregivers of their patients’ hospital visits. To ensure progress, they constantly compare their Beacon group data to their control group: the broader Rhode Island diabetic population. As they collect data and realize results, they continually add new metrics to improve the efficiency and quality of care.

Reducing readmissions with strategic interoperability

As the healthcare industry progresses through the fiscal year 2013, these kinds of interoperability solutions will be instrumental in responding to downward pressures on readmissions. Currently more than 20 percent of Medicare patients are readmitted, costing payers roughly $17 billion per year. The Center for Medicare and Medicaid Services (CMS) has also enacted its Hospital Readmissions Reduction Program – commonly known as the “readmission penalty” – which focuses on patients suffering from acute myocardial infarction, heart failure and pneumonia. Providers who fail to meet their reduction requirements face a one percent Medicare revenue penalty in 2013, a two percent penalty in 2014 and a three percent penalty in 2015.

Fortunately, ACO “pioneers” have already begun developing methods for limiting unnecessary readmissions. Bizzarro and Humby highlighted best practices for the three main stages of care:

- At hospitalization, providers should identify and prioritize high-risk patients, coordinate care teams and send inpatient notifications to all relevant clinicians.
- At discharge, they should send further notifications, create medication management plans and enable tracking for pending lab results and appointments.
- Finally, patients should be monitored for medication compliance and follow-up attendance during a post-discharge period. Providers can increase compliance through a variety of measures, including home visits, monitoring devices and patient-centric health records.

Interoperability among EMRs can help healthcare organizations implement these measures quickly and effectively. Real-time, system-wide updates allow users to easily create cohorts of high-risk patients. Primary care physicians, specialists and other relevant caregivers can then monitor these cohorts through shared EHR access or secure messages. The following three healthcare organizations deployed HealthShare to reduce their readmission rates through similar means.
Leveraging InterSystems interoperability platforms to reduce readmissions

Hunterdon Healthcare System, a New Jersey-based IDN, has been using InterSystems HealthShare for several years. They’re now shifting their focus towards real-time analytics to reduce readmissions and improve several other quality-of-care-metrics. Instead of filing monthly reports, Hunterdon users are monitoring readmission rates by year, quarter, facility and provider specialty. With a dashboard developed in part by InterSystems implementation partner J2 Interactive, they can observe trends, highlight problem areas and steadily improve the quality of care in all of their locations.

An East Coast IDN with more than one million patients in hospitals, clinics, skilled nursing facilities and home care programs is now concentrating on readmission alerts. After implementing InterSystems’ interoperability platform, they combined information from more than 500 EMRs, financial systems and other applications into a single repository of clinical data. Now, whenever one of their 11 acute-care facilities admits a patient, that patient’s PCP receives an instant notification.

Maimonides Medical Center, a leading member of the Brooklyn Health Information Exchange, is working with hospitals, psychiatric centers, outpatient clinics, home care providers and social services to create a mental health home for patients with depression, bipolar disorder and schizophrenia. With interoperability enabled by HealthShare, Maimonides created a Coordinated Care Plan (CCP), which spans its 13 partner organizations. Through streamlined information sharing, this CCP has helped Brooklyn mental health professionals reduce emergency department visits, shorten stays and decrease duplicate procedures.

Beyond messaging: a strategic platform approach

By helping these clients harness the data in their existing systems, InterSystems has learned that strategic interoperability is the most efficient and cost-effective path to readmission reduction. “What our customers are telling us is that they want to be enabled by the technology,” said Bizzarro. In today’s increasingly cooperative healthcare environment, “there’s no playbook that you can take off the shelf,” and providers need to make the most of their current solutions as they grow and evolve. “Using technology to address preventable readmissions brings about some new challenges,” Bizzarro pointed out, but that it also encourages healthcare organizations to “take advantage of new capabilities to improve their performance for the good of their organizations, and certainly for the good of the patients we all serve.”

About InterSystems

InterSystems Corporation is a global leader in software for connected care, with headquarters in Cambridge, Massachusetts, and offices in 25 countries. InterSystems CACHÉ® is the world’s most widely used database system in clinical applications. InterSystems Ensemble® is a platform for rapid integration and the development of connectable applications. InterSystems HealthShare™ is a strategic healthcare informatics platform for information exchange and analytics within a hospital network, and across a community, region or nation. HealthShare leverages InterSystems iKnow and DeepSee technologies to unlock all patient information, including unstructured data, and to enable real-time analysis.

InterSystems’ products are used by thousands of hospitals and laboratories worldwide, including all of the top ten hospitals on the Honor Roll of America’s Best Hospitals as rated by U.S. News and World Report.

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