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Cognos BI software at crossroads of technology, hospital readmissions

Dr. James L. Holly, M.D., has a dream to one day be regarded as a living Marcus Welby, a TV doctor from the 1970s known for thinking outside the box when it came to patient care. Although he will never win an Emmy for his real-life role as a gerontologist and a primary care physician, Holly has recently been cast in the spotlight for his forward-thinking philosophy on [utilizing business intelligence \(BI\)](#) to improve his medical practice.

Holly, the CEO for the primary care group [Southeast Texas Medical Associates LLP](#) (SETMA), is on the forefront of successfully curbing unnecessary hospital readmissions. With the help of IBM's Cognos BI software, the medical practice, which includes more than 30 professionals ranging in specialties from family medicine to cardiology, began comparing statistics on patients readmitted to the hospital against those who weren't.

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“Most of the decreases in the quality of care comes at points where the patient transitions from one point of care to another,” Holly said. “The baton gets garbled or gets lost and is not communicated.”

Based on data collected and analyzed, SETMA, located in Beaumont, Texas, has worked to implement a more comprehensive post-hospital care plan. And the results speak for themselves. In the first six months of research, SETMA, which conducts about 160,000 patient visits a year, has reduced unnecessary hospital readmissions by 22%.

At the intersection of [health care and BI](#)

But trimming fat like hospital readmissions can be challenging. Holly said that's where BI comes into play. Software such as Cognos allows the medical practice to mine even more specific patient data as SETMA searches to identify causes for readmissions. That data can include age, ethnicity, gender and types of treatments received while allowing side-by-side comparisons to look for readmission patterns.

“If I gave you today 2,300 charts, it would take you months to go through and find patterns,” Holly said, adding that electronic analysis enables SETMA to now perform research at a fraction of the time.

Holly and SETMA also gather data by asking questions such as, What kind of social support structure does the patient have? Did the patient receive a follow-up call within 24 hours after leaving the hospital? If not, why did the patient fall through the cracks? Was the patient given a post-care plan when leaving the hospital?

Based on the data patterns, SETMA is able to change or manipulate its post-hospital care plan to address a concern, for example, if a patient who lives alone and may need immediate support at home.

“Practices are taking a hard look at the topic of how to reduce hospital readmissions,” said Sue Noack, IBM worldwide industry executive for health care business analytics. “It doesn’t mean patients have poor care in hospitals, but it may mean that hospitals don’t have a hand-off for support and care after the patient has been [treated].”

A national initiative

[Hospital readmissions](#) may seem like small potatoes when discussing the medical field, but in 2009 the *New England Journal of Medicine* released a report that revealed of the 11,855,702 Medicare beneficiaries discharged from the hospital in 2003-04, almost [20% were readmitted within 30 days](#), and half of those did not have evidence that a follow-up visit with a doctor between admissions occurred. The report estimates that unplanned readmissions cost Medicare about \$17.4 billion in 2004 alone.

But the topic hasn’t simply caught the eye of the medical community; the federal government is also jumping on the bandwagon.

The Medicare Payment Advisory Commission (MedPAC), an independent group that advises Congress, produced a report in 2007 that estimated of the \$15 billion charged to [Medicare for hospital readmissions](#) within 30 days of discharge in 2005, \$12 billion could have been avoided.

Although health care reform is still a sticky and complicated topic these days, part of the transformation includes penalizing hospitals with higher-than-expected readmission rates for pneumonia, heart failure and heart attacks by reducing Medicare payments. Those readmission rates will be assessed this year, with hospitals noticing the impact of penalties beginning in 2012.

Hospitals are the current target in Medicare’s penalization plan, but Holly believes it’s a cost that physicians could eventually be asked to pick up.

“Penalizing hospitals for readmissions may not be the way to approach this,” Holly said. “Physicians have control over when a patient leaves and is readmitted, so [the government] may have to make physicians accountable.”

Beyond hospital readmissions

For Holly, incorporating BI into the workplace didn’t happen overnight. SETMA, which Holly helped found nearly 16 years ago, took its first dip into the digital world by partnering with NextGen Healthcare Information Systems Inc. and rolling out [electronic medical records](#) in the mid-1990s.

“We immediately understood after we launched that this was too expensive and too hard if all we’re doing is electronic medical records,” he said. “If you use the power of electronics, which led us to business intelligence and Cognos, then you gain leverage in providing an excellence of care.”

The electronic medical records combined with Cognos BI software, which allows SETMA to access the data and provides the reporting and analytics against that data, has enabled his practice to take [patient care](#) to the next level, Holly said. Rather than producing what he refers to as a silhouette, BI has allowed SETMA to produce more exact impressions of its patients.

“It’s increasing the granularity of the patient,” he said.

This has impacted everything from the way SETMA examines a patient’s history, records a patient’s daily progress and even discharges a patient. The electronic file follows a patient from the examining room to an operating table, from a family doctor to a specialist.

While BI has helped to restructure the basic foundation for how SETMA operates, it’s also pushed the medical practice to ask new questions.

Holly said another major initiative for SETMA is to take a close look at analyzing any disparities in care among ethnic minorities.

“Unless you do a very detailed analysis, you can’t know if you have disparities of care,” he said, adding that BI has allowed SETMA to not only ask those questions, but also to begin addressing how to answer them as well.

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