McKESSON

Case Study

Healthcare Analytics

Integrated Analytics Reduce Readmission Risk at Medical Center Health System

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Introduction

Medical Center Health System (Medical Center) serves a large 17-county area in west Texas and southeastern New Mexico. An area best known for oil and Friday Night Lights, it is also home to a large population of patients with persistent challenges. Many patients are indigent, some do not speak English, and many rely on Medicare. To better serve their local population and to contain costs, Medical Center initiated a program to reduce the rate of hospital readmissions within a 30-day period, emphasizing transitions from the hospital setting to care within the community.

This addressed several concerns. First, because of the limited availability of physicians and medical services in the area, many of the patients served by Medical Center relied on the hospital—especially the emergency department—as a medical home. To be successful, the readmission reduction program needed to ensure that patients had access to appropriate resources after they left the hospital. High readmission rates also drove higher costs, both in terms of longer stays and in Medicare penalties. Finally, readmissions decreased patient satisfaction and patients' confidence in their quality of care.

Medical Center leveraged McKesson Analytics Explorer™ to develop a readmission risk dashboard to provide access to key data at a glance. The solution helped to automate the process of finding patients at high risk for readmission, where the opportunity for improvement was greatest. Tracking these patients' experiences enabled Medical Center to analyze the effect of transitional care on readmission rates as well as patient satisfaction and overall costs.

mch | MEDICAL CENTER HEALTH SYSTEM

Medical Center Health Systems

Odessa, TX

- 402-bed facility with a Level 2 trauma center
- 52,000 emergency department visits yearly
- Received the top grade in patient safety from the Leapfrog Group

Critical Issues

- Identifying high-risk patients who would benefit most from intervention
- Accessing real-time information to allow for proactive care

Solution Spotlight

- McKesson Analytics Explorer™

Results

- Reduced 30-day readmission rate from 10.0 to 7.3 percent
- Increased patient satisfaction scores from 83 to 89 percent
- Enabled performance and cost reduction tracking and trend analysis
- Evolved and expanded transitional care programs, guided by analytics

Identifying High-Risk Patients

Medical Center developed a highly structured workflow to help guide high-risk patients from discharge planning to appropriate care within the community. The success of this program, however, relied on finding these patients at the point of admission.

When the program began, Medical Center used a modified version of the LACE tool, adapted to their specific admissions process and patient population. The LACE tool scores patients based on (L) length of stay, (A) acuity, (C) co-morbidities, and (E) frequency of visits to the emergency department. Scores can range from 1 to 19: a score of 4 or lower indicates a low risk of readmission within 30 days, while a score of 10 or more indicates a high risk.

Medical Center began the program by providing the assistance of transition nurses and community nurse navigators to patients scoring 10 or higher. Transition nurses ensure that patients have appropriate discharge education as well as follow-up physician appointments, home care services, or medication assistance as needed. Community nurse navigators provide further patient education and connection with community resources, and provide follow-up calls for up to 30 days post-discharge, if warranted.

For a program of this complexity, Medical Center needed data support throughout the process, from selecting the right patients to evaluating the impact of their interventions. Dashboards created in McKesson Analytics Explorer gave Medical Center access to this information in real time.

The consequences of preventable readmissions

Readmissions impose high costs on hospitals. Between January and November of 2011, hospitals spent $41.3 billion to treat patients who were readmitted within 30 days of discharge.[1] Those costs go even higher when Medicare penalties are included. In 2013, Medicare readmission penalties totaled $300 million across 2,217 hospitals. Penalties could be hundreds of thousands of dollars for a single hospital, though some of the highest penalties were in the millions.

In 2015 those costs continued to increase. For fiscal year 2015 Medicare expanded the number of conditions to be tracked for readmissions from three to five, and increased the maximum rate of penalty to 3 percent, up from 1 percent in fiscal year 2013. Under the new guidelines, 78 percent of hospitals received some level of penalty, totaling an estimated $428 million. CMS plans to add one more tracked condition in 2017.[2]

"When a patient leaves the hospital, that's no longer the end of our job. We need to look at how we are collaborating in the community to provide post-acute patient care."

— Sherrill Rhodes, RN, MSN, HCAP, divisional director, Quality and Service Excellence, Medical Center Hospital

Integrating Data

In the beginning, Medical Center used a paper-based LACE tool for scoring patients at admission, faxing the individual sheets to the transition group so that patients could be assigned to individual nurses. To streamline this process, the LACE tool was integrated into the EMR, and from the EMR into McKesson Analytics Explorer.

The initial benefit was increased compliance, as admitting nurses found it easier to capture information. Much of the manual labor associated with intake was eliminated, as the electronic version of the LACE tool also permitted automation of some input. For example, new admits were automatically assigned a standard length of stay of three days. Because the LACE score became part of the electronic record, accessible to multiple users, transition nurses could follow up after three days and adjust the score if the length of stay changed, allowing them to identify more high-risk patients after the initial assessment. With the LACE tool integrated into clinician dashboards, nurses or doctors working with a patient could tell at a glance whether a patient had been identified as high risk and assigned to a transition nurse.

But ease of use was only the beginning. Having all this information in McKesson Analytics Explorer made it possible for Medical Center to revisit patient records after discharge and assess how well they were identifying and scoring patients at admissions, comparing their intake LACE score to their status at discharge. Medical Center drew in data from ICD-9-CM coding guidelines to find links between diagnoses and the LACE scores, focusing on heart failure, acute myocardial infarction, chronic obstructive pulmonary disease (COPD) and pneumonia. Combining previously separate sources of information into easy-to-read visual representations led to finding areas of greatest opportunity and determining the most effective course of action.

> *"We wanted a solution that would be much more nimble in terms of being able to crunch large amounts of information quickly and present it in a very intuitive graphic style. McKesson Analytics Explorer does this very well."*
>
> — Arun Mathews, M.D., Interim CMO/CMIO, Medical Center Hospital

Analyzing Opportunities for Impact

Fine-tuning patient scoring

About three months after piloting the readmissions reduction initiative, Medical Center decided to expand their care transition program. Instead of intervening with patients scoring 10 or higher on the LACE tool, they began to implement the transition program with patients scoring 8 or higher. Eventually, analytics revealed that the increased patient volume did not correlate with a stronger effect on readmissions, and they adjusted again. They returned to focusing on patients with a score of 10 or higher, observing after several months that impact was highest with patients in the 13-16 range.

Capturing lost revenue

Medical Center's business office uses McKesson Analytics Explorer to identify unpaid patient accounts and determine reasons for their past-due status. The tool indicates which clinicians are submitting charges for services on time and which patient files are incomplete.

"McKesson Analytics Explorer gives us the ability to dig down and analyze the data more than we ever could with other systems. The number one thing that I wanted to do is provide an executive dashboard, but there's never been a product out there, until now, that would provide the snapshot that they're looking for."

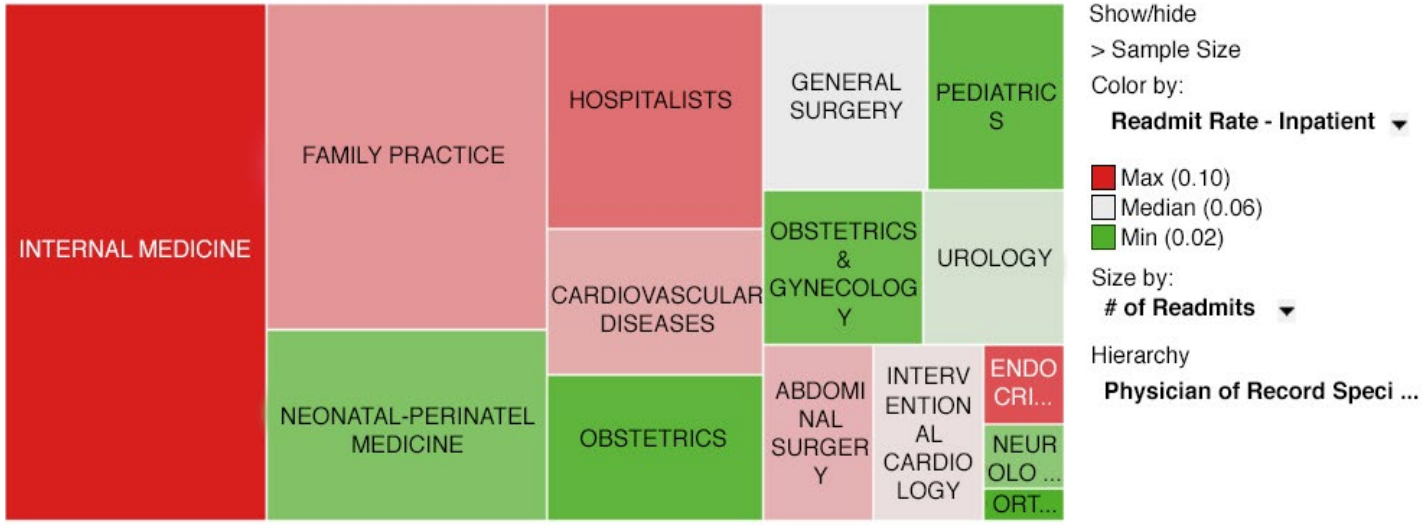
— Gary Barnes, CIO and senior vice president, Medical Center Hospital

Analyzing Opportunities for Impact

Highlighting points of intervention

At the executive level, Medical Center's Chief Medical Information Officer (CMIO) can view and compare readmission trends throughout the hospital, comparing by units, staff, or individual physicians. Tree maps created by McKesson Analytic Explorer provide a clear and understandable view of where the readmission rates are highest and the opportunities are greatest, whether it is a particular department or a physician outlier. Discovering root causes down to the individual stratum leads to solutions that are environment-specific. High-level views also help the business office and Chief Financial Officer monitor efficiency, cost reduction and cost-per-beneficiary for CMS. Both value-based purchasing and the high cost of readmission penalties necessitate tracking overall hospital performance trends in those areas.

Readmission Rates by Physician of Record Specialty Initial



This figure is a sample only and does not represent Medical Center's data.

Outcomes and Program Evolution

By several measures Medical Center's readmission reduction program has been a success.

- 3,000 patients navigated through the pilot program
- 64 percent of patient population served by a transition nurse at the peak of the program
- Readmission rate reduced from 10.0 percent to 7.3 percent during a 90-day pilot
- Patient satisfaction score improved from 83 to 89 percent, as measured by the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey

Medical Center has also seen an increase in physician and nursing satisfaction and a significant impact on community education. Partnerships with other care providers in the community are stronger, and emergency room visits have declined. They set an ambitious goal to receive no readmission penalties by 2017, and they plan to expand the program to all acute care and critical care units, assigning care coordinators to each. Using the insights from McKesson Analytics Explorer, Medical Center has also begun developing a new program for indigent care.

Now that the pilot is complete, Medical Center has shifted away from using the LACE tool. Analysis of data gathered during the program's first several months suggested that targeting specific diagnoses was a more effective method of reducing readmission risk. "We didn't know which diagnoses to target until we really combed through the collected data," said Mathews. Rhodes agreed, "McKesson Analytics Explorer continues to help us slice and dice and find where our biggest opportunities are. That then allows the coordinated care team to adjust their program to meet those needs."

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> — Sherrill Rhodes, RN, MSN, HCAP, divisional director, Quality and Service Excellence, Medical Center Hospital

Endnotes

1 Hines, Anika L. et al. “Conditions with the Largest Number of Adult Hospital by Payer. 2011.” HCUP Statistical Brief #172. April 2014. Agency for Healthcare Research and Quality. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb172-Conditions-Readmissions-Payer.pdf.

2 *Boccuti, Cristina, and Giselle Casillas. “Aiming for Fewer Hospital U-turns: The Medicare Hospital Readmission Reduction Program.” Kaiser Family Foundation. 29 January 2015. http://kff.org/medicare/issue-brief/aiming-for-fewer-hospital-u-turns-the-medicare-hospital-readmission-reduction-program/*

Contact Us

To learn more about how McKesson Healthcare Analytics can give your organization insight into the metrics that impact cost and quality of care, contact your account executive or visit www.mckesson.com/healthcare-analytics.

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