

Successful disease management requires technology that can measure progress, show gaps

The days of health insurance payers relying on fee-for-service models to pay for healthcare services are rapidly fading.

As payers push healthcare providers toward agreements that tie payment to the provision of quality services, healthcare systems are seeking process improvement in healthcare delivery.

Public and private payers, as well as healthcare systems, are demanding metric-driven solutions to be able to assess the quality of care that is provided and identify ways to drive improvements where gaps exist.

Electronic health record (EHR) systems manage patient records, but can also be a partner in delivering better patient care with real-time recommendations specific to each patient. Systems that are able to take structured data, analyze it against clinical and patient care metrics and deliver performance feedback, set individual providers and healthcare organizations up for success.

Healthcare organizations must be able to determine if providers and care teams are successfully treating patients. The ability to receive timely, relevant feedback is critical for organizations to assess the quality of care, as well as meet the demanding reporting schedules of government and private payers. With automated reporting within the EHR, the healthcare system can identify gaps in care and develop ways to improve care based on defined metrics.

The system also needs to have the flexibility to support different initiatives and adapt to evolving demands of payers, revisions to quality metrics and evolving goals of the healthcare system.



The Solution

Marshfield Clinic sought ways to identify how its providers and care teams were performing. Marshfield Clinic partnered with its vendor, MCIS, to effectively assess the disease states and areas for improvement using evidence-based guidelines.

The solution needed to be scalable and easily accommodate additional disease states without further programming. That means when additional conditions were identified as needing to be monitored, the disease could be quickly added. Metrics already in the system could be mapped to new disease states when applicable, and new metrics could be added when necessary.

Patient population algorithms were built in to allow the Marshfield Clinic to accurately identify the correct patients for a given provider. Patients were attributed to providers in two ways. First, self-reported data that was collected at the point of care. For patients without self-reported data, an algorithm assigned the patient to the provider who furnished the plurality of care. At the Marshfield Clinic, this resulted in 95 percent of the patient population using their self-reported personal provider, with the remainder being assigned a personal provider.



How It Worked

Once patients were identified within certain disease states, the results were stored in a data warehouse for reporting and analysis.

Marshfield Clinic used dashboards to gain visibility of performance at the system, division, department and provider levels. Users had the ability to view trends, compare data and drill down to see patients at goal and not at goal for a given disease state.

In addition summary data and trends within the disease state were able to be seen, allowing for comparative analysis of individual providers and the overall clinic performance.

The Quality Improvement and Care Management (QICM) team at Marshfield Clinic used the results generated by the reporting system to assess the performance of the clinical teams successfully managing disease states and those with gaps.

This automated reporting allowed the QICM team to work with clinical teams to develop standardized interventions to improve overall compliance.

Appropriate interventions were communicated throughout the organization. QICM also relied on the system to detect potential inconsistencies in care.

“By bringing information as close to the point of care as possible, we’re able to perform interventions that are very appropriate to each patient,” stated by Marshfield Clinic’s, Kori Krueger, MD.

Patient-centric interventions were used to create standing orders that facilitated better care. For example, if a cholesterol lab test such as an LDL was overdue, clinical staff saw that when reviewing the patient’s needs prior to the appointment. As a result, the lab test was ordered so that the results were available at the time of the encounter, saving the clinical staff time, reducing costs, and improving overall



Disease Management

Marshfield Clinic wanted to reduce the number of its patients who suffered heart attacks and strokes by improving its performance on hypertension management using evidence-based guidelines.

The Marshfield Clinic set a clinical quality measure for blood pressure control. Its automated system was able to sift through patient records for 55,000 patients with hypertension being treated by the Marshfield Clinic across 45 sites.

Patient blood pressure measurements were tracked at the system and individual provider level. Dashboards let system managers know how each provider was faring in keeping his or her patient blood pressure readings at goal.

In addition to the patient's blood pressure readings, the system collected risk data on items such as family history, co-morbid conditions that could lead to hypertension, or the patient's overall vital statistics.

Patient interventions were designed based on these results. The patients with the highest risk were scheduled for additional clinical visits and identified for interventions such as medication therapy, or automated reminders from the clinical staff about how to better manage blood pressure.



Financial Savings

The results were striking. Prior to receiving key feedback on key clinical measures such as blood pressure control, only 49% of the hypertension population was at its goal. Through the feedback, identification of risk and development of new initiatives, the Marshfield Clinic increased blood pressure control to 72% within three years.

This improvement in blood pressure control yielded health and financial benefits. An estimated 674 heart attacks and 169 strokes were avoided, and \$87 million was saved, based on the Centers for Disease Control & Prevention's Chronic Disease Cost Calculator for the State of Wisconsin¹.

Additionally, Marshfield Clinic was able to identify savings of \$850,000 through automated reporting, rather than using manual data collection. The program performed review of millions of diagnostic tests, procedures, vitals, medications, laboratories and provider and patient

demographics in under an hour each night. In comparison, a manual review of 418 patient records and five quality metrics took 46 hours. It would not be cost effective to manually perform the level of data analysis done by the application, and it would be impossible to do so with the resources of any health system.

The benefit of the automated collection and usage of data was evident in improved outcomes and better disease management. The ability to harness the data available in the EHR, pair it with evidence-based guidance and deliver it to users through the application, allows care teams to perform appropriate interventions and move practices into a strong position as they perform value-based healthcare delivery.

¹ <http://www.cdc.gov/chronicdisease/calculator/download.html>

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