The Good, the Bad and the Ugly

Examination reveals costly variation in clinic functions

by Pierce Story

I was recently hired by a 19-physician clinic to improve ongoing financial losses, clinic capacity, and patient throughput and satisfaction. The clinic consistently lost money, and its 2014 earnings statement showed a loss of $650,000 despite efforts to reduce costs and market the clinic. Competitive pressure from “doc-in-a-box” facilities (small, free-standing clinics located in malls or stores that treat minor health issues) also led to reduced patient volume, which was exacerbated by the clinic’s reputation for long wait times and lack of walk-in appointments.

The goals of my project were:

• Reverse the ongoing financial losses.

• Improve patient flow, satisfaction, same-day appointment availability and excessive wait times.

• Identify patient throughput improvement and volume-expansion opportunities.

Though the clinic initially asked for a lean project, it quickly became clear that lean methods would not yield effective and financially substantial results. Instead, the clinic opted for a more strategic, data-driven approach to optimizing performance, which yielded significant financial and patient-satisfaction benefits.
Discovering the issues

The staff and I began with a deep dive into its electronic medical records (EMR) data and a simultaneous assessment of patient-visit flow from arrival to exit. The high-level flow through the clinic was typical: arrival, registration, triage, visit with physician or physician assistant (PA), testing and exit. There was considerable variation at sub-process levels, such as the manner in which physicians and their assigned PAs worked together to see patients.

Although standardization is a common goal for most process improvement approaches, it was determined that many of the improvements meant little in the grander scheme of things because they were not root causes of the clinic’s larger issues, and they would be extremely difficult to eliminate or would not impact desired outcomes. It was, therefore, decided that only those processes, variations and operational models that would yield tangible results would be addressed, leaving common lean solutions—such as 5S and process standardization—on the table.

Before the data analysis, clinic managers had trusted the accuracy of the EMR’s reports and never tried to correlate its analytical reporting outputs with the processes captured within the data. To examine the EMR’s data validity, the clinic used a data-to-process correlation analysis, which vetted EMR outputs against the actual occurrence of events.

This revealed that EMR data were not always well-correlated to patient flow, contained significant errors and did not contain important patient flow timestamps. Many data points
were automatically produced by the EMR as it was being used. These, however, did not accurately reflect the actual patient interaction process.

For example, after looking at the data, there was no way to precisely ascertain when a patient arrived at the clinic because wait times prior to check-in skewed the system’s timestamp. The start time of the patient-physician interaction in the room also was skewed if the physician or PA opened the patient’s record prior to entering the room, which was common. This caused many important timestamps to be suspect.

Even worse, physicians who weren’t adept in using the EMR often failed to properly input orders; delayed order entry until after the patient had exited (resulting in missing labs and revenue); or simply didn’t order routine tests, wellness visits and future exams due to data entry time requirements. Because of these factors, relevant data such as historical length of stay, wait times and physician in-room time could not be confidently used.

This was an important and painful eye-opener for the clinic management team, and they realized that many of the metrics they’d reported on for years were largely inaccurate. Fortunately, the lab, radiology and visit-volume data were accurate and highly effective in creating a case for change.

Ultimately, our investigation revealed most of the major patient flow constraints were related to a physician’s ability or willingness to see enough patients in a timely fashion. Thus, the result of the process and data analysis was a shift to a physician-centric improvement effort.
Accountability

The findings led to improvements focused on significant variations in several important physician-related metrics:

- Numbers of labs and radiology exams ordered.
- Number of patient visits per physician per day.
- Earnings before interest, taxes, depreciation and amortization per physician.
- Coding for similar patient types or diagnoses.

Affecting these metrics would significantly impact clinic finances and help promote accountability for patient satisfaction, wait times and clinic access. The 19 physicians in the practice weren’t aware of the clinic’s financials, the details of their own practice and order patterns. They’d never been held accountable for their patient volumes, wait times or satisfaction. They also were allowed to see as many or as few patients as they wanted, regardless of whether that daily volume was appropriate, or similar to their peers or Medical Group Management Association (MGMA) standards. After the physicians saw the data, however, they were universally on board with the recommended changes.

For each major metric, the clinic noted the performance outliers, which were a small number of physicians whose metrics skewed those of the entire practice. For example, it was discovered that five physicians saw 35% fewer patients per day than their peers. A similar trend was found with high and low outliers found in billed lab and radiology orders. Oddities were also noted in coding between physicians seeing similar patient types.
Order patterns

Deep test-order analysis revealed that physicians were actually writing similar numbers of orders (our goal wasn’t to change physician clinical practice). Many orders, however, were lost in the system and never completed or billed due to input errors, mistakes and missing information at checkout, and patients bypassing checkout.

The clinic staff and I also found a little-used function in the EMR, which could create a checklist for each patient by automatically collecting and displaying necessary tests based on quality standards (such as annual foot exams for diabetics), upcoming appointments, and clinic-recommended tests (annual Medicare wellness exams, for example).

The new EMR checklist led to alterations in the checkout process that allowed PAs to review the clinical checklist and check each patient out, ensuring all orders and future visits were explained to the patient and appropriately scheduled. It also encouraged a closer interaction between the physician assistant via the review of specific details of the patient’s care and wellness plan, which amplified that physician’s clinical quality goals. A review of the EMR checklist was done weekly to ensure patients were receiving and scheduling the necessary tests. Capturing these lost orders resulted in nearly $135,000 additional revenue per year.

Physician metrics

Physicians are now held accountable to specific metrics for volume, wait times and patient satisfaction. To obtain better monitoring data, the check-in process was altered to more
accurately capture arrival times, an important step in managing physician expectations for wait times and patient satisfaction.

Each physician was required to keep two slots open per day for new patient or walk-in appointments. A weekly report also was created from the EMR’s data, showing each physician’s metrics compared to all physicians in other area clinics to promote healthy competition. If physicians are brought to MGMA averages, it will lead to almost $485,000 in additional annual revenue. Furthermore, more consistent and clinically accurate coding is expected to annually yield more than $110,000.

Data analysis revealed the clinic’s good, bad and ugly practices. Without taking a deep look into the data, it would not have discovered the practice variation that led to its financial struggles. But data alone were not sufficient, since much of the data were flawed and unusable for process control and change.

By focusing on high-impact improvements and avoiding the traps of typical process improvement methods, the clinic obtained necessary information, solved key financial and patient-access constraints, created a path to dramatic improvement, and offered new metrics for tracking success and monitoring ongoing performance. Both data and strategic operational analyses were critical to the effort, and due to these changes, the clinic is anticipating an additional $725,000 in revenue in the next fiscal year.

About the author
PIERCE STORY is a director and co-founder of Capacity Strategies Inc., in Knoxville, TN. He earned a master's degree in public health and management from the Muskie School of Public Health at the University of Southern Maine in Portland, ME. An ASQ member, Story is an ASQ-certified Six Sigma Green Belt and author three books, including *Dynamic Capacity Management for Healthcare* (Productivity Press, 2010).