



A New Measuring Stick

How big data improves the healthcare revenue cycle.

By Brady Dolan

Big data is driving change in all sectors of the economy, but healthcare systems may have the greatest potential for transformation when it comes to improving the revenue cycle.

Many health organizations are already analyzing multiple metrics and comparing them with other providers, but the industry as a whole has a lot of remaining challenges that need to be addressed. Private payers and the Centers for Medicare and Medicaid Services are currently doing everything they can to maximize efficiency and reduce costs, and it's imperative that providers do the same to compete.

While big data affects all aspects of healthcare, the revenue cycle in particular benefits because it's made up of quantifiable pieces on existing networks, making the collection, tracking and analysis of relevant information straightforward.

"Data gives hospitals the ability to look at processes over time and identify breakdowns, including systemic issues that affect specific revenue cycle processes," said Margaret Schuler, OhioHealth's vice president of revenue cycle, in a Healthcare Financial Management Association report.



80%

OF HEALTHCARE DATA WILL BE IN THE CLOUD AT SOME POINT DURING ITS LIFECYCLE BY 2020.

Source: IDC

Using this information, healthcare providers can:

Automate processes that don't need human intervention so staff is freed up for activities that need it.

Target coding problems related to changes from the Affordable Care Act and ICD-10.

Make proactive decisions to reduce non-value-added rework.

Reduce administrative costs related to revenue cycle.

For some health organizations, learning how to use big data can be confusing. Fortunately, nearly every phase of care delivery can be analyzed to find improvements, including pre-service, point of care, pre-billing, billing, claim denials and self-pay collections. Providers can use their own reporting system or third-party software to track this data.

Aggregating all this information, especially when more than one format is being used, can be difficult, so it's crucial to make sure that data is normalized to one standard.

IMPROVING THE PATIENT EXPERIENCE

Health providers often take a behind-the-scenes approach to the revenue cycle, but the patient experience has a big impact on revenue. Big data can be used to find areas where staff can assist patients with insurance coverage and financing options, improving the bottom line on the back end weeks or months later.

Providers are encouraged to use several different strategies, including:

Verifying insurance coverage and patient contribution. Patients shopping for services can get cost estimates based on aggregate analysis of payer contract pricing, deductibles and other conditions.

Increasing patient collections. Big data can be used to discover aging accounts that can use the help of friendly staff, who can personally connect with patients.

Guiding patients toward charity or government coverage. Many patients don't know what they qualify for, but nationwide patient analytics can easily show who is

and isn't eligible for programs like Medicaid, Medicare and Affordable Care Act coverage.

Improving patient satisfaction. Big data can improve outcomes at lower costs, meaning patients will be more willing to pay their fair share of the bill.

By implementing consistent processes with information gleaned from big data analysis, healthcare organizations can ensure a positive patient experience. A big part of this effort should be focused on standardizing communications so that patients get the help they need at every point of the process.

DEALING WITH CLAIM DENIALS

According to a report by *Modern Healthcare*, hospitals lose \$262 billion annually due to denied private insurance and CMS claims. This is a huge cost both in terms of lost revenue and the extensive labor needed to deal with appeals.

Analysis of the causes of claim denials using big data, however, can prevent these issues and assist staff in finding effective ways to fight appeals. Even if a particular provider isn't facing problems with certain claims, information about trends provided by nationwide networks can alert hospitals to oncoming issues. Ongoing monitoring should be used to deal with everything from coding issues to improper documentation.

In addition to denials, revenue can be lost from claims due to non-traditional leaks. Revenue cycle technology that can analyze all aspects of claims will be able to pinpoint revenue losses in areas that would be hidden from human view. Software can model contracts between payers and providers and compare the data with real-life claims information to see where any leaks may be occurring.

INCREASING STAFF PRODUCTIVITY

Staff is a big expense at any healthcare provider. Inefficiencies, non-value labor and unproductive workflows can all eat significantly into revenue cycles. Identifying these problems, however, can be difficult.

Coding errors on claims would be a clear indication of staff needing additional

\$300 BILLION

ANNUAL VALUE CREATED IF U.S. HEALTHCARE PROVIDERS USED BIG DATA TO DRIVE EFFICIENCY AND QUALITY.

Source: McKinsey Global Institute

training in ICD-10, but problems related to patient satisfaction might not be so apparent. Integrating scorecards, which measure things like the number of delinquent and successful accounts, into a network and analyzing the data can help find new training and learning opportunities.

CURRENT TRENDS

Big data has been transforming healthcare for more than 20 years now. Only within the past few years, however, have providers made a major shift toward comprehensive data collection and analysis. According to an industry expert at MapR, there are five big data trends that will affect the revenue cycle for providers in 2017:

Value-based care. Not all services and treatments are equal, and analysis of outcome data across providers helps determine which actions provide the most value to patients.

Connected devices and monitors. Smart devices in the home can send health information directly to providers without needing to use a bed or the time of a physician.

Reducing waste. Analyzing large amounts of data leads to the discovery of anomalies in care that may point to waste or fraud in the system.

Improving outcomes through predictive analysis. Increasing use of electronic health records gives providers information about similar cases to find results-oriented treatments.

Real-time patient monitoring. By sending patient vital signs to a central

location, staff members have the flexibility to go where they're needed when they're needed, improving productivity and efficiency.

GETTING STARTED

Improving the revenue cycle with big data starts by getting a big-picture outlook. The current state of each healthcare organization needs to be evaluated to fix existing issues and new goals need to be set in order to set up the gathering and collection of new metrics. While comparing metrics and key performance indicators (KPIs) with other healthcare providers is useful, organizations need to establish their own unique goals in order to stay competitive.

Collecting and analyzing data is absolutely crucial to optimizing the revenue cycle in any modern healthcare provider. When deciding what KPIs and other information to gather, organizations should focus on actionable data that provides insights into claims, staff productivity, patient satisfaction and other areas that have measurable effects on revenue. Otherwise, big data efforts can actually be counterproductive. Finding the right balance of metrics may be a trial and error process. ■

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KEYNOTES

1 Providers can use their own reporting system or third-party software to track pre-service, point of care, pre-billing, billing, claim denials and self-pay collections.

2 Nationwide patient analytics can show who is and isn't eligible for programs like Medicaid, Medicare and Affordable Care Act coverage.

3 Integrating scorecards, which measure things like the number of delinquent and successful accounts, into a network and analyzing the data can help you find new training and learning opportunities.

