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Big Data: The Right Prescription For Providers And Patients



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Big Data, aka the biggest challenge facing organizations everywhere, isn't going away anytime soon. According to [IBM](#), every day we create 2.5 quintillion bytes of data. To give you an idea of what that may look like, [one terabyte alone](#) is the equivalent of 4.5 million books — overwhelming to think about, especially for healthcare providers.

From medical charts and prescriptions to financial and insurance information, patients generate a lot of data throughout their lifetimes. Some of that data is structured. However, even within sophisticated healthcare organizations, most of it — paper documents, ad hoc emails, data created through monitoring devices, for example — is not. As healthcare moves toward more of an evidence based model, data will play more of an instrumental role. Now more than ever, it's important for healthcare providers to realize organizational success has less to do with how much data they gather and more to do with how data is utilized.

Planning Makes Perfect

To improve patient outcomes, healthcare providers must plan appropriately and develop a comprehensive strategy for gathering and utilizing data. For starters, everyone — including the care team and senior executives — should reflect on how they would respond to the following questions regarding data management:

- Who within the organization owns data management?
- Who else needs to be involved?
- How is data gathered?
- Where is the data going once it's gathered?
- What does the data actually mean?
- How is the data being used to enhance the patient experience?

Effectively managing data is just as much of a cultural change as an operational process change. Collaborating and discussing your responses to these questions as a team can help pinpoint your objectives and identify inconsistencies and gaps in data capture and utilization that are holding the team back.

Based on the discussion, the person or department who owns patient data management can map out a workflow to help architect a methodology that will serve up data that's accurate, usable and comparable across departments.

Collecting standardized, facility-specific and clinically objective data develops a consistent and reliable communication model to synchronize decision-making for a multi-disciplinary care team and foster organizational transparency. It also ensures safer and appropriate care and transitions for the patient.

Digging Deeper With KPIs

Facilitating information mapping to Key Performance Indicators (KPIs) for ongoing performance monitoring and evaluation is another key component to any solid data strategy. Without meaningful KPIs in place, an organization can't make data actionable. They're simply gathering information blindly without analysis on what's impacting things like quality, costs and patient satisfaction.

Consider how beneficial tracking avoidable days can be as a KPI, for example. Let's say when you first began looking at your organization's data red flags are raised as you realize that 30 percent of patient days could be considered avoidable. Obviously this means there are major quality issues within your organization and without analyzing the

data for that specific KPI you would have never known. Armed with that knowledge, you could begin the next step, which is identifying what barriers and delays are the root cause of the issue and rectifying them. Both predictive and prescriptive analytics can help, and should be utilized to encourage collaboration and partnerships amongst members of the care team. The use of cascading metrics-from the bedside to the boardroom is an important component of an organizations data dissemination strategy.

Prescribing And Predicting Your Way To Better Patient Care

Using data aggregated over time, you can predict what challenges your organization is currently facing or will be facing down the road. Prescriptive analytics, paired with more advanced technology, uses that information to provide guidance on what actions to take in order to improve performance.

These types of evidence based analytics can be particularly helpful when looking to reduce length of stay and readmissions as well. Predicting when a patient can be discharged based on past behavioral data and having the comfort level to do so because the analytics are supported by a prescriptive protocol derived from past successes is a game-changer for providers.

Although the perception may be that to a certain degree healthcare is largely unpredictable, -every patient regardless of their diagnosis is slightly different, providers can still benefit from relying on predictive and prescriptive analytics because they offer greater visibility and insight into the impact certain processes and practices may have on a patient's outcome. Prescriptive analytics can inject the needed rigor in patient management and assists in reducing variation in provider practices and system processes.

Healthcare providers using both types of analytics to troubleshoot and guide their decision making in areas related to operational and patient care issues are certainly a step ahead of the game. According to a recent [***study conducted by HIMSS and Jvion***](#), only 15 percent of healthcare providers use some form of predictive modeling.

Driving Change With Data

Big Data delivers endless opportunities to healthcare providers. With the right strategy for capturing, distributing and measuring information, providers can make more accurate and actionable decisions to improve patient care.

Although relying heavily on analytics may mean a cultural shift for your team, the benefits certainly outweigh the work of getting everyone on the same page. As a team you can use data to have meaningful conversations and collaborate about ways to enhance the patient experience.

About The Authors

Andre and Lori work for Medworxx, a leading provider of clinical patient flow, compliance and education solutions to more than 350 hospitals internationally, including Canada, France, the United States and the United Kingdom. The company was recently acquired by Aptean, a global provider of industry-focused mission critical enterprise software solutions.