

More data equals more possibilities, more challenge

With increased use of connected devices, healthcare organizations can leverage data to improve outcomes.

By:

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Photo: Ariel Skelley/Getty Images

Traci Reed's late husband was diagnosed with pancreatic cancer at the age of 39 and died one year later.

"That occurred 12 years ago," said Reed, now Director, Customer Value and Integration, Baxter. "I think about what his life would have been like in today's world, where a gene mutation could potentially be identified early before it progressed to Stage 4 inoperable cancer – and clinicians could intervene with effective treatment much earlier."

Like Reed, healthcare leaders now recognize the value of connected medical devices and patient monitoring technologies.

“Healthcare organizations are the recipients of all the new forms of data that are being collected as patients use devices remotely,” she said. “During COVID, we identified the possibilities associated with using mobile devices to manage and treat diseases outside of acute-care facilities. The data that’s collected prompts providers to intervene when a state of decline is identified and empowers patients and their caregivers to take control of their health.”

Indeed, with access to data, it’s possible to better understand disease processes and improve outcomes.

For example, as a former respiratory therapist, Reed appreciates how much real-time data access can help the growing population of chronic obstructive pulmonary disease (COPD) patients.

“COPD patients often are also heart failure patients – and that’s a very brittle disease state,” she said. “So changes can occur very rapidly and can potentially drive patients towards the need of emergency assistance. Physiologic monitoring via biometric devices and wearables can identify risk factors that can drive care intervention to decrease the risk of hospitalization and improve outcomes.”

Aggregated data is also propelling medicine forward. “Research and life sciences companies are leveraging genetic mapping to detect gene mutations of cancer, Parkinson’s and even autoimmune diseases such as multiple sclerosis earlier,” Reed pointed out.

Clearing hurdles

Relying upon data culled from remote devices, however, comes with challenges such as:

Connectivity. A dependable, low-latency network is required for various stakeholders to share data. “There are still populations in rural areas that don’t have the critical infrastructure to allow for remote monitoring,” she noted.

Storage. When dealing with massive amounts of data, storage is a pressing concern. While cloud storage is viable, leaders need to address HIPAA compliance and security issues with this option.

Normalization. The data funneled into analytics applications needs to be correct and consistent. Even a small amount of dirty data can create inaccurate conclusions, according to Reed.

Reporting. Healthcare organizations (HCOs) generate numerous claims, performance and quality reports annually. To do this successfully, HCOs need to structure and transform data into visual assets. Fortunately, numerous software products can support such efforts.

Interoperability. Data sharing among stakeholders is becoming increasingly important as the industry moves toward value-based care.

“The HL7 standards developing organization has been established for over three decades now, and it continues to ... create standards and frameworks for electronic health information exchange,” Reed said.

FHIR is advancing efforts even further as it improves data exchange by relying on software that uses application programming interfaces to simplify system integrations.

“FHIR moves us closer to that fluid state of exchange of very detailed information that benefits patients, payers, providers and device manufacturers,” she said. “The caveat is that FHIR comes with its fair share of challenges – and it can be a large, costly investment.”

In addition to addressing these challenges, HCOs have discovered the value of working with trusted partners that can help transform data into the intelligence that ultimately improves care and saves lives.

“Over the past year, many HCOs have created unique partnerships to cross-pollinate their data with healthcare device and data companies to extract meaningful insights surrounding disease, vaccine effectiveness and adverse events,” Reed concluded.

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