How Voice Can Change the Healthcare Experience

Command and listening abilities can also reduce clinician burden.

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—John Brownstein, PhD
Chief Innovation Officer
Boston Children’s Hospital

Healthcare organizations today are constantly seeking innovative solutions that reduce clinician burden, increase efficiency and enhance overall patient experience. Voice technology in particular may be uniquely positioned to achieve all three. Through a combination of command and control and ambient listening capabilities, voice can enhance clinical work and patient care in several ways.

A Better Patient Experience
One of the most promising benefits of voice technology is it enables caregivers to more directly—and naturally—connect, speak and spend additional quality time with patients, as caregivers are untethered from their computers or tablets.

“Instead of having to look back and forth at the patient and the computer to do mouse and keyboard entry, the doctor or nurse can be completely focused on the patient,” says Jacob Geers, lead product manager, Cerner, Kansas City, Mo. “The technology captures all the data automatically, and the patient has a much better care experience.”

In addition to helping providers spend more time with their patients, voice technology also allows hospitals and health systems to use tools consumers are already familiar with at home, such as Amazon’s Alexa or Apple’s Siri.

“If patients are spending their time interacting with voice as part of their consumer lives, we should make sure that as we’re taking advantage of the incredible advancement in tech that’s happening, we’re also meeting people where they already are,” says John Brownstein, PhD, chief innovation officer, Boston Children’s Hospital.

The hospital has been an early adopter of voice technologies. In collaboration with Cerner, it is implementing Aiva, a voice-powered care assistant, in patient rooms so patients can better connect with clinical staff.

“This product essentially replaces the nurse call button with a voice-assisted tool that can be used to triage patient requests and direct whatever the patient’s intent is to the right clinical person,” Brownstein says. Patients are instantly notified when a caregiver receives their request on their mobile device, providing better customer service while reducing nursing staff burnout, as misdirected calls and requests are greatly reduced.

The organization is also exploring ways for patients to use voice tools at home to monitor their health information. “We’re looking at ways patients can access more information going forward in whatever modality they prefer, including voice,” Brownstein says.

Reducing Clinician Burnout
Providers are hoping technologies like voice can also lessen clinician burnout. Even before the COVID-19 crisis hit, clinician stress and burnout were at an all-time high. Several studies in recent years, including one conducted in
2019 by KLAS’ Arch Collaborative, have shown that frustration with using EHRs and excessive time spent on administrative tasks are leading causes of burnout. And these tasks continue to take up a growing portion of clinicians’ workdays: A 2016 study in the *Annals of Internal Medicine* found physicians in ambulatory practice spent nearly 50% of their time on EHR-related and other desk work.

Voice technology being developed by Cerner, such as Virtual Scribe, helps clinicians by listening and capturing data and structuring it so clinicians can focus their time on patients. The product has the potential to eliminate the need for clinicians to write notes, as it accurately records what clinicians say.

“Voice Assist, another voice product, disencumbers clinicians from their computers,” Geers says. “It allows clinicians to find relevant information just by asking, reducing clicks in the EHR and solving some of the most frustrating tasks for clinicians when using EHRs.”

Virtual Scribe’s speech to text is powered by Amazon Web Services, a partnership that allows Cerner to incorporate cloud-based solutions and other artificial intelligence features into users’ workflows, according to Geers.

Boston Children’s Hospital was one of the first hospitals to implement Amazon’s Alexa virtual assistant as a tool to support its physicians, according to Brownstein. In the ICU, clinicians use the technology to review bed capacity, pull up medication dosing instructions or assist with care protocol checklists. The hospital also uses voice technology to conduct its organ donation transplant checklist, part of the verification process that staff use to ensure the right organs are matched to the right patients.

Decreasing the amount of time physicians spend logging information in the EHR also has the potential to reduce data entry mistakes and any resulting medical errors that can occur, Brownstein adds.

**An Investment for the Future**

As organizations work to improve patient experience and reduce clinician burnout—at a critical time when overburdened caregivers need even more support—emerging technologies will be vital to improving outcomes and delivery while creating systemwide efficiencies.

Says Brownstein, “Voice is one of the tools in a broad set of opportunities in how tech can bring efficiencies and ultimately reduce costs. The investment you put in today will clearly pay off in the long run.”

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