



Using AI to Address the Burden of Documentation

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By Matt Phillion

The past few years have seen countless waves of COVID-19, leaving hospital infrastructure in crisis and leadership teams grappling with staffing shortages and burnout.

To preserve the well-being of clinicians who are fighting their way through these struggles, organizations are looking to innovative technology. Recently, the [University of Michigan Health-West](#) piloted an [ambient clinical intelligence solution](#) from Nuance, Dragon Ambient eXperience (DAX), that reduced the time physicians spent working on notes and decreased patient wait times. In fact, DAX worked so well that the technology is being deployed to the entire department of primary care providers, including family care, internal medicine, pediatrics, and behavioral health.

Josh Wilda, MPH, CHCIO, chief digital and information officer and executive vice president at the University of Michigan Health-West, says provider burnout began long before the pandemic as they were saddled with more and more documentation burden.

“We say providers are the industry’s highest-paid data processors,” says Wilda. “The problem really started when we implemented an EMR and put a computer between the patient and the provider. Providers started taking on more of the cognitive burden of documentation.”

The provider has just a few minutes to come up with a plan for a patient during the visit, and the patient is generally saying a lot of things that must be included in a regulatory document. “So they ask: How can I do that and still have a meaningful dialogue with the patient?” says Wilda. For a lot of healthcare providers, the answer has been caring for their patients during the day and doing their documentation at night.

“Time spent in notes was up, and that’s less time with the patient, less time with the care team or even with other providers’ patients” for consults or other interactions, says Wilda. “Between answering calls, filling prescriptions, all the things providers do every day, we knew we had a

problem. How do we offload some of that, and how do we make sure the technology isn't getting in the way of the intimacy the provider needs with their patient?"

Technology in the background

University of Michigan Health-West had been a strategic partner of Nuance for some time and was particularly interested in Nuance's ambient speech technology, which would enable the provider to have a dialogue with the patient without needing to go back and dictate it all into the record.

"What if the patient and provider are just having a dialogue and everything is happening in the background?" says Wilda.

Always open to pushing the envelope with their technology, the health system decided to pilot the tech in a very specific way. "Many pilots will focus on specialties," says Wilda. "But specialties do a lot of repeated things, and AI can do repeatable things. What about primary care, where every patient is different?"

If the AI could respond to the ever-changing tasks of a primary care provider, who might deal with a runny nose, heart failure, and pregnancy all in the same hour, it could handle other specialties, Wilda explains.

Happily, the pilot demonstrated immediate potential. "My counterpart, Lance Owens [DO, chief medical information officer with University of Michigan Health-West] said he's had colleagues in the initial pilot hug him and say, 'You've saved my life,'" says Wilda. "They told him if it weren't for this technology, they probably wouldn't practice anymore."

The pilot was so well received by the providers involved that support from organizational leadership came quickly. "We saw the benefits right away. They were different benefits than people usually tout," says Wilda. "Usually the question is, 'How do we pay for something like this?' But it goes back to the burden on the providers. We've had providers go from 60 minutes in notes in a day to 10 minutes, with providers able to get down to under a minute per patient."

It's easy to jump to the conclusion that less time in notes means providers can see more patients and thereby pay for the technology, but that's not the right perspective, says Wilda. "We're not saying, 'Here's a tool that will make you more efficient, but you'll have to work harder to pay for it,'" he says. "We touted the benefits of the patient-provider relationship, the lessening of the cognitive burden, and the increased focus on the patient."

A true backup

Beyond time savings, the technology also allows for a more accurate accounting of each patient visit.

“Often, you’ll have a situation where the patient has an appointment for one thing but wants to talk about their headache, back pain, and mental health—and the provider only has time for one because of all the administrative burden just to get the patient in front of the provider,” says Wilda. “Now they can address those ‘oh, by the way’ issues.”

On the flip side, Wilda says, providers can now keep better track of the additive issues that they do address—which, out of a desire to avoid documentation burden, they may not have documented in the past. In essence, the technology allows providers to stop giving away care.

“That’s the beauty of this,” says Wilda. “In the past, we’d have the conversation and the provider would document it into a medically relevant note. The technology takes the conversation, integrates the voice of the patient into it, and still transitions it into a medically viable note.”

DAX preserves the clarity of the patient’s voice better than similar processes like transcription or speech to text. “One patient told the physician he’d ‘jacked up his knee,’ and when the patient was able to see the documentation, he told us how cool it was to see his own words being used,” says Wilda.

In a highly competitive market, there’s a lot of choice, and while touting the latest technology isn’t always the best way to attract patients, framing the technology as helping to provide a better, more interactive experience can catch their attention.

“Our mission statement is: Innovation changes care, and our care changes lives,” says Wilda. “How are we using innovation to change lives?”

Improved interactivity and efficiency

No longer do patients unilaterally view physicians as an authority and listen to them without question. “It’s not just, ‘You have a white coat, I believe you,’ ” says Wilda. Instead, nurturing the physician-patient relationship and promoting dialogue is important, and that’s what the technology helps accomplish, he says. “It’s not just the perception of a relationship. Patients feel more engaged with their care.”

During the pilot study, patients were polled about their relationship with the provider and whether they felt they were getting better service. The study found that “4.9 out of five said they have a better relationship and better service from the same provider,” says Wilda. “That says something.”

The providers benefited, too, with a palpable impact on burnout. “What’s fascinating is that we’ve seen pajama time—time spent working after 7 p.m.—go up with our providers. We thought, ‘That’s not good,’ but we surveyed our providers and they told us it’s actually better because they’re not documenting, they’re reviewing quickly,” says Wilda. “So while pajama time has gone up, the amount of time they’re spending is 10 minutes instead of two or three hours.”

Quantifying the patient-provider relationship is an ongoing process, but the time spent working on documentation is less so. With other technologies like speech to text, a physician or nurse still has the burden of entering discrete data. AI, however, offers the capacity for analysis of discrete data. "The AI lifts the cognitive burden so that you can spend more time with complex tasks and practice at the top of your license," says Wilda.

Adoption varies depending on each physician's comfort level and desire for control over their documentation. "Not all of them use it 100% of the time," explains Wilda. "Some are still figuring out how they want to implement it in their practice, and some want more control over their notes. The tool isn't forced onto them."

They have, however, seen a 40% increase in first-time referral placement for prior authorization because the notes were clearer, as well as other boosts to efficiency. "Physicians are reacting to patient messages or lab results quicker," says Wilda. "Before implementation, Dr. Owens said he had a 10-minute time frame from check-in to seeing a provider, and now he's down to 2.2 minutes of waiting time."

A lot of the improvements are hard to point out in a graph, but Epic offers excellent modeling and analytics to show drops in time for notes, time to see patients, and other metrics.

"I've been doing this for 15 years, and this is the first time I've found a technology that touches on all four points of quality of notes, quality of information, patient experience, and provider experience," says Wilda. "One provider told us they thought it would be viable, but not this good already."

From here, Wilda would like to see the technology used in inpatient settings given how conducive it's been in ambulatory. He'd also like to see how it could be leveraged for departments that typically receive less focus on the provider and patient experiences.

"Everything we do ties back to the patient, and how that technology serves the patient," says Wilda.