



## Artificial Intelligence Gets Personal

**The health care industry is starting to get serious about AI. But will patients be willing to share vast amounts of personal data for the promise of improved outcomes?**

The central task before the U.S. health care industry is daunting: improve and expand care while simultaneously controlling costs. A business-as-usual approach isn't likely to get the job done. Could artificial intelligence (AI) drive improvements in everything from patient diagnostics to operational efficiency to understanding the myriad factors that influence patient outcomes? Industry leaders and experts alike increasingly believe the answer is yes.

"The industry understanding [of AI's potential] has evolved over a very short period of time," says Greg

Tennant, chief strategy and marketing officer at Tampa, Florida-based Inspirata, which develops technology-based solutions to fight cancer.

Accenture projects that the use of AI in health care could yield \$150 billion in annual savings to the U.S. economy by 2026. And 94% of respondents to a 2018 OptumIQ survey cited AI as the most reliable path toward making health care more equitable, accessible and affordable. The survey indicates that while just a third of health care organizations are currently using AI, 42% have an AI strategy

in development.

“Now it’s about how organizations can take that to the next level,” Tennant says, “from getting the insights to taking real action.”

AI has already been successful at improving health care operations, such as the 2017 partnership between GE Healthcare and Oregon Health & Science University (OHSU). The partners used AI to analyze capacity across OHSU’s hospital system, recommending certain patients transfer to partner facilities so that the university’s primary research hospital could focus on patients in need of advanced care.

Industry leaders hope the next generation of AI applications will leverage a broad range of data to uncover health risks and opportunities that, up until now, have largely been invisible to most caregivers. The success of those efforts hinges not only on smart engineering but also on the delicate navigation of privacy issues.

## POTENTIAL—AND PRIVACY PITFALLS

AI is well-suited to pooling and analyzing massive amounts of disparate data to identify patterns. That’s just what is needed to support the health care industry’s evolving understanding of the social determinants of health (SDOH). A broad array of circumstances like literacy, employment, cultural background and access to care can have a large impact on health outcomes. Yet providers can struggle to take all of these

factors into account when considering an individual patient’s health. The newest wave of AI solutions aims to use data to help better inform providers.

Northwell Health, the largest health system in New York state, is working with multiple med tech startups in hopes of building out a suite of AI-powered tools designed to tackle this issue starting with a social vulnerability index—a personalized SDOH score that can identify specific actionable issues for each patient.

Another Northwell collaboration, with Chicago-based software developer NowPow, relies on diagnostic codes in health records to identify patients’ most urgent needs and uses matching logic and evidence-based algorithms to recommend community-based organizations that can help. For example, a patient who is experiencing car troubles might be connected with

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a transportation service, making it easier for them to attend necessary follow-up appointments. The software will then track the patient outcomes resulting from those referrals in order to build a set of best practices for dealing with various SDOH issues in the community.

But Northwell’s twin solutions steer clear of one of the key challenges in this arena: privacy concerns. Though information such as credit scores and court-related data could be particularly valuable to an AI-enabled SDOH index, Northwell does not collect such personal information, believing that doing so could also deter patients.

“We’re conservative with our approach because we don’t want patients looking at us as Big Brother,” says Stephanie Kubow, assistant vice president for community health and education at Northwell. “We’re going to be very sensitive and make

sure this is a positive interaction for our patients and our communities.”

Kubow expects that some of Northwell’s interventions may be imperceptible to patients and the communities where they live. For example, if a group of patients is identified as living in a food desert, instead of simply providing food at a point of crisis, the health system could work with a farmer’s market or a grocery store in that area to address the issue upstream.

Inspirata’s tech platform promises to be even more personal but also transparent. This is because participants will opt into the system by signing up for the company’s “patient empowerment platform,” knowing that Inspirata will make recommendations based on insights provided by the patient or through integrations with popular fitness apps such as MyFitnessPal. The platform includes a social layer that allows patients to communicate and cheer one another on as they share information that is also useful to caregivers.

“You can glean a lot of information just from the comments,” Tennant says.

It all adds up to an environment in which AI tech solutions are making steady progress yet remain a long way from reaching their full potential.

“These are still fairly early times,” Tennant says. “What’s heartening is that there’s traction. As more organizations get access to the data and take advantage of it, you’ll see it really take off.” ■