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ARTIFICIAL INTELLIGENCE SAVES PAYERS TIME & MONEY

Artificial intelligence can help deal with everyday problems such as prior authorization and high utilization. But payers are also eyeing it for loftier purposes.

By **LARRY HANOVER**

The term "artificial intelligence," or "AI," conjures up different images for different people. Some think of older breakthroughs such as world chess champion Garry Kasparov losing in 1997 to IBM's Deep Blue supercomputer. For others, it is the Netflix or YouTube algorithm whirring along in the background and offering suggestions of what to watch based on what you've viewed.

It's difficult to grasp the pervasiveness and exponential growth capabilities of machine-learning algorithms. In the healthcare sector, programmers are working on advances that will improve patients' well-being and insurers' bottom line at the same time.

Some improvements may seem mundane, such as automating claims processing or using chatbots (virtual agents) to handle interactions with policyholders. Yet the financial opportunities for health insurers are far from humdrum. A 2018 Accenture analysis estimated insurers can save $7 billion in 18 months by using AI to automate core administrative functions — the equivalent of $1.5 million in operating income for every 100 full-time employees. And those figures don't even account for the ability to flag potential instances of fraud.

Then there are the future possibilities of AI, such as orchestrating a seamless patient experience — from selecting specialists within an insurer's network to prescribing of drugs upon discharge.

At Blue Health Intelligence (BHI), which provides clinical data expertise for Blues plans around the United States, programmers attacked the problem of high-cost claimants, defined as members having annual costs surpassing $250,000. This group comprises fewer than 2 in 1,000 of all claimants but it accounts for 9% of all healthcare costs.

Such patients tend to have rare and/or chronic diseases that involve frequent trips to the emergency department, expensive medications, and high-cost specialty care and testing. If an insurer can identify these patients

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early and intervene before their health worsens and healthcare costs spiral out of control, both patients and payers win, says Roxanna Cross, associate vice president for product management at BHI. "And it's a perfect problem to be solved with AI," Cross says.

How so? The calculations are so complex that human beings could never hope to tackle them through traditional methods, but computer programs analyzing massive data sets can. BHI used health insurance claims from 48 million patients, augmented it with U.S. census data, and identified 6,000 variables across clinical and demographic categories. It then applied machine learning to use the information to train models to identify high-cost claimants. The best model was so powerful that it succeeded even for patients with large gaps in their data history, including no prior information on high-cost claims, less than a full year of insurance enrollment and no data on pharmacy claims.

With such information, insurers can reach out to patients and physicians, collaborating to personalize care for those who might have obstacles such as gaps in care, limited mobility due to stroke, or not enough money for prescriptions, Cross says.

"When we have applied these models, we certainly have seen millions of dollars in potential cost savings for a relatively small cohort of patients because insurers have finite resources to manage the care for these high-risk, high-cost individuals, and we really want to guide them in a way that will improve the experience for both them and their families," Cross says.

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The BHI initiative is just one of many ways to use AI in healthcare. In April, digital-first healthcare company K Health, with investments from Blackstone Growth and Anthem, launched a joint venture called Hydrogen Health. Anthem already had invested tens of millions of dollars in K Health's AI technology to create an app that helped users understand how doctors diagnosed cases in patients with similar symptoms in the past.

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— ROXANNA CROSS, ASSOCIATE VICE PRESIDENT FOR PRODUCT MANAGEMENT AT BHI

With K Health, the symptom checker is free, but patients also can chat with a doctor for less than a typical copay after answering basic questions about their medical background that are relayed to the physician, says Allon Bloch, a co-founder of K Health who will be the joint venture's CEO.

"To give you a sense, a retail visit on K Health is $19," Bloch says. "If you went to a doctor, assuming you're insured, you'll pay a copay of $25 to $40; your insurer will pay another $100. People go to a doctor about four times a year. Additionally, a lot of people go to the (emergency room) because their doctor is not available. So what do you do on the weekend? What do you do at night? What do you do if your doctor can't see you in the next 24 hours? We all deserve a system where it should be 24/7, it should be intelligent, it should be proactive, it should be easy."

The drive to use AI is moving ahead at breakneck speed. A 2018 Accenture survey of global healthcare executives found 72% of health leaders were piloting or planning AI adoption, 93% said AI projects were on their agenda, only 7% said they were minimally or not at all focused on it.

Claims management improvements are ramping up but not without difficulty, according to a McKinsey & Company report from 2017. If original claims coming from hospitals

aren't digitized, there is no way to extract the data. Additionally, structured procedures need to be in place for reviewing claims and deciding when human intervention is required. Also necessary is a structured digitization of results and interventions, ideally including more than two years' worth of data. Insurers falling short of those requirements are not ready for the leap.

AI can simplify many manual and paper-based processes in the offices of both physicians and insurance companies by utilizing natural language processing, allowing healthcare professionals to input information just by talking, says Mahi Rayasam, Ph.D., partner and leader of healthcare analytics at McKinsey. Such improvement can result in significant cost savings, but it can bring other changes, too. "Essentially, how can physicians be more patient facing and not paper facing?" Rayasam says. "Most of the processes that happen in the insurance industry or in the physicians' offices in large hospitals — there's still a lot of paper."

Using AI to detect and prevent fraud is another way health insurers, as well as the federal government, can save money. In 2016, CMS built the Fraud Prevention System, using advanced analytics to identify, prevent and stop payments that match suspicious patterns. The system helped CMS prevent $527 million in losses to fraud in fiscal year 2016, according to a McKinsey report. In 2020, 56% of insurers surveyed by the Coalition Against Insurance Fraud indicated their company was using AI for fraud detection.

AI also can deliver improved interconnectivity among insurance companies, providers and members. Rayasam says AI could speed up the cumbersome process of patients obtaining prior authorizations, and physicians and patients could get updates on an authorization request through an app instead of a series of phone calls.

"What if there was an app that knows the situation I'm in and then recommends four or five locations close to me that are either physician's offices or urgent care centers, or emergency departments with no wait time?"

—MAHI RAYASAM, PH.D., PARTNER AND LEADER OF HEALTHCARE ANALYTICS AT MCKINSEY

Rayasam foresees AI-supported scenarios that will improve the patient experience from start to finish. He gave as a hypothetical example his 1-year-old son having a medical emergency late on a Saturday night.

"What if there was an app that knows the situation I'm in and then recommends four or five locations close to me that are either physicians' offices or urgent care centers, or emergency departments with no wait time?" Rayasam asks. "And it combines that information with the insurance plan that I have and then tells me if I go to location X, not only will I be able to be seen immediately but it will also cost me less from an out-of-pocket standpoint. And then it links to the doctor, who prescribes a medication. Perhaps the app then would be able to connect me to the pharmacy, and the drug is delivered automatically. Then the claim is adjudicated and the payment is made from my cash account.

"That's kind of like end-to-end flow, where the technology is enabling a member to take care of their needs right from when they start thinking about it and to close the circle in terms of payments and claims. Today you have to do it in 10 separate transactions. Could you do it through one seamless way? That's where things are moving."

AI might also be a way to address healthcare equity issues. For example, two patients of the same age with heart disease and diabetes might both be identified as high-end utilizers of medical care, BHI's Cross notes. However, claims data might identify someone from a low-income community with a history of lower claims costs. Reasons for those lower costs might include not seeing a doctor due to lack of funds, barriers to transportation or child care issues. In such cases, adjustments can be built into the algorithm to equalize their data.

Telehealth also will figure into cost estimates, Cross says. "I think AI can really help inform individuals who would benefit most from certain interventions, telehealth being one of those, particularly when we're talking about behavioral health," Cross observes. "The whole goal of AI is to help pair the right care at the right time at the right place with these high-risk, high-need individuals or the total population. And to intervene earlier."

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