TRENDS IN HEALTH CARE | TECHNOLOGY

DON KADAIR

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—DR. LOUIS JEANSONNE, assistant vice president of medical affairs, Ochsner Baton Rouge

ANALYZE THIS: Predictive analytics enter Baton Rouge hospitals

Developments in artificial intelligence are not only improving health care outcomes, but also the bottom line of hospitals. **BY CAITIE BURKES**

A DOCTOR GETS an alert on his phone: a patient's vital signs are slightly fluctuating, signaling a cardiac arrest is likely within hours. Rushing to the patient, the doctor adjusts the medication dosage and the crisis is averted—before it ever actually began.

Without this modern technology alert system, according to statistical models built using datasets of more than 125,000 hospitalized patients, it's almost certain the doctor wouldn't have known anything was wrong until the patient went into cardiac arrest some four hours later, requiring a high-pressure rush to the intensive care unit.

The scenario is one of the many health care realities made possible through artificial intelligence. And hospitals are investing heavily in the technology. Consulting firm Protiviti Inc. surveyed 300 health care firms, finding each, on average, spent $51 million on advanced AI last year—including

the kind of predictive analytics technology that prevented our hypothetical patient from going into cardiac arrest.

In the past few months, AI has also become increasingly visible in Baton Rouge. As competition intensifies among local hospitals, it's even more important for providers to manage patient health and well-being on the front-end.

Proactive care, say health professionals, not only reduces patient costs, but also the length of hospital stays as well as the likelihood of a patient returning with a worse diagnosis. Which helps explain why three of Baton Rouge's largest hospitals—Ochsner, Our Lady of the Lake, and Baton Rouge General—have each launched a new AI platform this year.

Could crises like respiratory arrests and diseases like sepsis be completely eradicated from Baton Rouge hospitals? While the predictive analytics technologies

are mostly in the pilot stage, they're already showing promise.

OCHSNER: DE-'CODING' PATIENT HEALTH

Doctors and nurses are trained to rush into action when a patient "codes," or suffers from a cardiac or respiratory arrest and needs immediate medical assistance. But Ochsner Health System has launched an AI tool that analyzes thousands of data points to predict if a patient's health will deteriorate in the near future, enabling preventive measures to stop the episode before it happens.

If the system predicts that a patient is likely to have an incident within the next four hours—based on subtle changes in their vital signs or blood work—an alert is sent to the doctor's phone. The doctor can then check on the patient and make any necessary changes, such as adjusting their medication dose or giving them

more IV fluids.

"If (AI technology) prevents a transfer to the ICU, that's going to simplify things for the patient, and it's going to shorten their hospital stay," says Dr. Louis Jeansonne, assistant vice president of medical affairs for Ochsner Baton Rouge. "And even if not, at least it's being recognized earlier, and earlier intervention leads to faster recovery."

During the system's 90-day pilot program last fall at the New Orleans campus, Ochsner saw a 44% decrease in cardiac arrests and other adverse events. While the Baton Rouge campus just began using the technology in January, officials estimate doctors are alerted by the machine learning platform, powered by health care software company Epic, one to three times a day.

BATON ROUGE GENERAL: STOPPING SEPSIS

About 270,000 Americans die

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each year from sepsis, a potentially life-threatening condition triggered by the body's response to an infection. Baton Rouge General wants to lower sepsis mortality and morbidity rates locally, with plans to screen all its patients for the disease by July 31 using a new AI tool from Wolters Kluwer Health.

The POC (Point of Care) Advisor platform delivers real-time sepsis alerts and advice to clinicians. It aggregates and normalizes patient data from BRG's electronic medical record, automatically analyzing the information by using hundreds of rules that account for possible abnormalities. Since implementing the pilot program in February, BRG officials say they have already prevented sepsis in 22 patients, with three to seven of those cases determined to be "severe."
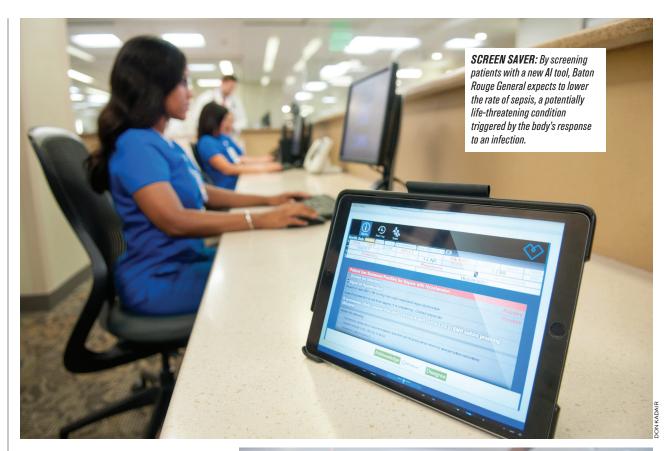
What's unique about the platform: Physicians document information using a voice recognition product called Dragon Speak, which, like Siri, can "speak" using a plugged-in narrative and can learn and understand specific human vocal patterns.

"Most doctor-patient interactions are short, because doctors have to take time to review charts to get a fuller clinical picture. In that same period of time, our sepsis algorithm has already figured it out," says Bennett Cheramie, the hospital's vice president of information technology. "This saves doctors minutes, if not hours, on the back-end, and lets them have more face-to-face interaction with the patient."

Cheramie says BRG plans to roll out the platform to the rest of the hospital over the next couple months. In addition to sepsis prediction, the hospital is in discussions with Wolters Kluwer about using AI to evaluate 25 other health conditions, including diabetes.

OUR LADY OF THE LAKE: PRIORITIZING POPULATIONS

Joining the predictive analytics bandwagon is OLOL, whose chief medical information officer, Stephen Hosea, says the hospital is leveraging AI opportunities with its electronic medical record partner, Epic—the same company that services Ochsner.

SCREEN SAVER: *By screening patients with a new AI tool, Baton Rouge General expects to lower the rate of sepsis, a potentially life-threatening condition triggered by the body's response to an infection.*
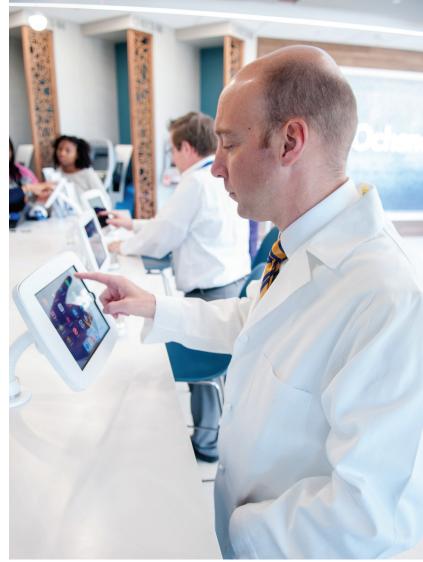
They've deployed several predictive analytics modules thus far: one, like BRG, is an in-patient alert tool that predicts sepsis; the others, meanwhile, determine which patients are at high risk of admission or readmission for heart failure, using data that comes through angulatory patient populations in a clinical setting.

Hosea says the bulk of OLOL's AI investment was made five years ago, when the hospital standardized its EMR platform. Epic regularly comes out with new products, but, if they aren't included in the contract, OLOL must prioritize them based on population health and quality of care experience.

"The charge within health care right now is to provide a better quality at a lower cost so there is an overall better value," he says. "We're focused on identifying high-risk patient populations and intervening more efficiently to prevent costly care."

Moving forward, hospital officials are keeping a close eye on ambient listening technology, which, once fully baked, could transcribe entire doctor-patient conversations, indexing keywords and phrases to create diagnoses and prescriptions. ◼

THE FUTURE IS NOW: *Ochsner began using a new predictive AI tool in Baton Rouge in January.*