

Delivering better care to the frail by analyzing the risks

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Patient Pattern, a Buffalo-based company, allows clinicians to tap into records to determine how best to treat hospitalized elderly and post-acute care patients.

Credit: University at Buffalo

The likelihood of an elderly patient falling in a nursing home, developing a wound or receiving inappropriate treatments are things that can be predicted, based on thousands and thousands of other cases. But how could a doctor, nurse or other clinician caring for that person access such information?

A new company in the START-UP NY program, founded by an adjunct professor in the Jacobs School of Medicine and Biomedical Sciences at the University at Buffalo, has a cloud-based solution. Patient Pattern uses data taken when a patient is admitted to a nursing home or a hospital and compares it with thousands of previous cases to assess that patient's risks.

"We use a clinical business intelligence platform that uses mathematical models of vulnerability to assess patients' risks for poor outcomes," said Steven Buslovich, MD, a geriatrician and founder of the company.

Patient Pattern is not a tool for day-to-day care, he said, but rather a broader assessment of the risks a patient faces and how to handle them. For instance, some [patients](#) receive too much medicine or receive unnecessary tests. For a frail person, that raises risks of poor outcomes.

"What we're identifying is not something used on a day-to-day level," Buslovich said. "It supersedes that. It gives us the big picture of clinical decision making."

Saving money, improving results

Such decisions can have immediate effects on a health care facility. Reducing hospital readmissions and reducing the use of expensive low-yield therapies rapidly improves patient outcomes, as well as the finances and overall facility operations, he said.

The company was recently recognized as a "Top Innovative Startup of 2016" by the magazine PM360, a monthly aimed at marketing professionals in the pharmacology, biotech and medical device industries.

The company's product, called LivePAC, calculates in real time the level

of a patient's frailty and informs the clinician what therapies might deliver the best outcomes. A 300-bed nursing home using LivePAC saw its 30-day hospital readmission rate drop from 24% to 11% in less than six months.

"We are also working with hospitals to help them handle complex patient populations, which tend to be high users of resources," Buslovich said.

"We are able to make dramatic savings."

Pressure to improve

The government is penalizing hospitals for too many readmissions, but is not providing help to resolve the problem, he said.

"There is no data in this market. There is no clinical intelligence in post-acute care. Right now, it's all eyeball care," he said, referring to the gut-level decisions being made about care. "We're working to integrate this into [electronic health records](#), because they do not provide this level of information."

Three area hospitals and multiple [nursing homes](#) are using LivePAC, Buslovich said. It is also being adopted in Canada, Great Britain and, soon, Australia.

Provided by University at Buffalo

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