

Study helping to repair asthma patients' lungs

December 14 2018, by Patrick Luce

**Telemedicine follow up with
a nurse @ home
every 2-8 weeks PRN to achieve
control**

- ① Structured assessment
- ② Computerized symptom analysis (algorithmic)
- ③ Evidence based training + teaching modules

Pt ↔ Nurse ↔ Provider



THE
UNIVERSITY
OF RHODE ISLAND

Credit: University of Rhode Island

A number of patients who suffer from asthma are bringing their

condition under control, increasing their lung function and decreasing the frequency of asthma attacks—all without going to the doctor's office. The patients involved in a URI College of Nursing professor's study are benefitting from an emerging trend among nurses to increase patient care by treating them through technology.

The Technology Enabled Asthma Management System (TEAMS) is a whole new way to help patients manage their [asthma](#). Created by College of Nursing Assistant Professor Jennifer Mammen, the system uses patients' smartphones to treat their condition any time, any place, making it easier and more convenient for them, which increases the level of care they receive.

"We're taking primary care out of the office and into the home, via technology," Mammen said. "Often, the only time a patient sees a doctor is in the ER. No one really sits down and educates them about asthma, which is largely about self-management. That's what this program is really about. We're going to provide care quickly and conveniently."

The app asks patients a series of simple questions about their condition each day: Did asthma limit your activity in the past 24 hours? Did you wake up because of your asthma last night? Patients also record their lung function using a digital peak flow meter provided to them. The patient's symptoms—or lack thereof—are automatically entered into a "smart" flowsheet, which assesses the patient's condition based on standard guidelines, calculates the asthma severity and recommends proper therapy.

A nurse analyzes the information and provides feedback to the patient through screen sharing and regular tele-health video chats. The face-to-face chats take place every two weeks, and are structured to match patients' schedules, encouraging them not to procrastinate in seeking care.

"People need to be seen wherever, whenever. I'll schedule meetings at all times of the day; that's the only way to get them," Mammen said, noting that asthma sufferers often don't get the information they need at the doctor's office. "Providers don't always recognize when a patient has uncontrolled asthma, and may not have time to educate properly. People with chronic asthma often don't realize their symptoms can be controlled. We're changing the expectation of what asthma treatment is and helping them realize what it's like to live well with asthma. We're having some pretty dramatic results from this."

One patient, for example, suffered from asthma and bipolar disorder, the latter of which often dominated the conversations with her care providers, leaving her asthma untreated. When she entered the study, she had only 43 percent of her normal lung function. After three months in the TEAMS program, she achieved 100 percent function and a dramatic reduction in symptoms.

"She said that she had never been asked about her asthma, just her anxiety, so she didn't really understand what was happening to her, and she didn't trust her doctors," Mammen said. "We were able to make a personal connection with her and show her how to manage her symptoms. Once she saw the positive effects, she was able to get past her biases and she changed her behavior."

The patient is typical of many asthma sufferers, who often don't manage their condition effectively or know what it is like to be well controlled. Just 50 percent of asthma patients have the condition under control, a number Mammen said could be nearly 100 percent. Making treatment and education easy through the TEAMS program is helping volunteers in the study get there.

"Asthma patients are coming to us grossly uncontrolled, and leaving completely controlled," Mammen said. "This has a tremendous human

significance. The program is increasing lung function and decreasing the frequency of symptoms. But most importantly, we're helping give people the ability to do their everyday activities and not lose their breath doing it."

The study's results have drawn national attention, this year earning an outstanding achievement award from the American Thoracic Society for Top Nursing Abstract. Mammen is continuing to refine the system, currently working with a group of 30 asthma [patients](#), with plans to expand to a full-scale clinical trial soon.

Provided by University of Rhode Island

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