

Study examines effectiveness of telemonitoring vital signs

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Like the bleeps of an alarm clock, TeleCare, a home monitoring device, gives the chronically ill a wake-up call: "It's time to take your vitals."

Researchers from Case Western Reserve University and Cleveland State University will study how effective TeleCare is in keeping individuals with complex health issues healthy and out of the hospital.

CWRU's University Center on Aging and Health awarded a one-year pilot grant to investigators Elizabeth Madigan from the Frances Payne Bolton School of Nursing, Rebecca Boxer from the School of Medicine at CWRU, and Amir Poreh from Cleveland State, for the study, "Supporting Self-Management with Telehealth for Patients with Multiple Morbidity."

The researchers will work with the 40 patients under the care of the Cleveland Visiting Nurses Association (VNA) of Ohio, headquartered in Cleveland. The patients suffer from one or more of the following illnesses: heart failure, [chronic obstructive pulmonary disease](#) (COPD) and diabetes. They also experience symptoms of depression, anxiety or difficulties making decisions.

The Cleveland VNA has about 100 TeleCare monitors in use to track heart rates, blood pressures, [oxygen saturation](#), temperature, weight and blood sugar of patients on days when the visiting nurses do not make house calls.

When the device announces the time to take vital signs, the patient plugs the device into the telephone jack, attaches various pieces of medical equipment (like a blood pressure cuff or scales) to the device and then records the data. The information is sent directly to a specially-trained VNA nurse at a computer station, who tracks the data for health changes that signify a potential medical issue.

According to Madigan, the technology allows health care organizations like the VNA to monitor and extend care beyond the regular home visit and find changes in the health condition before it might reach a critical stage.

An example says Madigan, who is a professor of nursing, is an elevated weight gain in a person with heart failure—a sign of potential fluid overload.

"Generally patients like this monitoring," said. While it is distant monitoring, "it's another set of eyes on their health conditions."

The VNA has used the monitors for about seven years, but past studies on home telehealth monitoring have been done on the ideal or controlled patients.

Because the targeted illnesses in this study also are associated with cognitive or mental health changes, the researchers want to see if the technology is effective in helping "the real patient with real issues" manage their illnesses.

"We hope to find out which patients benefit the most from telehealth monitoring," Madigan said.

Provided by Case Western Reserve University

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