MedicalXpress

Telemedicine brings Parkinson's care to 'anyone, anywhere'

December 4 2013

A new study shows that a neurologist in an office thousands of miles away can deliver effective specialized care to people with Parkinson's disease. For individuals with the condition – many of whom have never seen a specialist – these "virtual house calls" could allow them to live independently while effectively manage the symptoms of the disease.

"The idea that we can provide care to individuals with Parkinson disease regardless of where they live is both a simple and revolutionary concept," said University of Rochester Medical Center (URMC) neurologist Ray Dorsey, M.D., M.B.A., senior author of the study which appears today in the journal *Neurology: Clinical Practice*. "This study demonstrates that, by employing essentially the same technology that grandparents use to talk to their grandchildren, we can expand access to the specialized care that we know will improve patient's quality of life and health."

More than 40 percent of people with Parkinson's disease do not see a neurologist, placing these individuals at greater risk for poor health outcomes. For example, people with the disease who do not see a specialist are 20 percent more likely to fall and fracture a hip, 20 percent more likely to end up in a skilled nursing facility, and 20 percent more likely to die.

Geography is often a determining factor in whether a person with Parkinson's sees a specialist. Neurologists with training in movement disorders like Parkinson's disease tend to be concentrated in major

academic medical centers. Additionally, the nature of the disease – particularly the impact on movement, balance, and coordination – can make a long trip to the doctor's office unfeasible.

"We have an ample supply of neurologists in the country to take care of people with Parkinson's, but because of distance, disability, and the distribution of doctors, many patients have a difficult time seeing a specialist," said Dorsey.

Working with the patient networking website PatientsLikeMe, the study invited individuals with Parkinson's who lived in the five states where Dorsey is licensed to practice medicine – California, Delaware, Florida, Maryland, and New York – to receive one free telemedicine consultation in the comfort of their own home.

The participants downloaded secure web-based video conferencing software developed by California-based Vidyo. The technology, which is akin to Skype, only requires an internet connected computer and a webcam.

Using this system, Dorsey saw more than 50 people with Parkinson disease, ranging from individuals who were getting a third opinion to those that were seeing a neurologist for the very first time. Virtually all of the visits resulted in treatment recommendations, including increasing exercise (86 percent), changes in current medications (63 percent), the addition on new medications (53 percent), and discussions about potential surgical options (10 percent). Patient satisfaction with the telemedicine care exceeded 90 percent.

Parkinson' disease particularly lends itself to telemedicine because many aspects of the diagnosis and treatment of the disease are "visual" – meaning that the interaction with the doctor primarily consists of observing the patient perform certain tasks such as holding their hands

out and walking and listening to the patient's history.

"James Parkinson wrote the seminal description of the condition in 1817 by watching people walk in the park," said Dorsey. "This is just a 21st century application of that principal of observation."

The authors contend that this approach could also be applied to a number of other chronic conditions, from autism to Alzheimer disease, from diabetes to congestive heart failure. Collectively, chronic conditions affect over 140 million Americans and are responsible for 84 percent of health care expenditures.

While demonstrably effective, one of the key barriers to the wider adoption of this approach is the fact that Medicare does not pay for telemedicine care provided to people in their homes. Also, out-of-state physicians are barred from providing remote care to patients in many states.

These barriers prevent the potential savings – both in terms of cost and time – that can be realized by care delivered via telemedicine. A previous URMC study showed that not only did telemedicine visits cost less than providing care in a traditional setting such as a clinic or a hospital, but the virtual house calls saved patients an average of more than three hours and 100 miles of travel per visit when factoring in travel to and from the doctor's office.

Dorsey and his colleagues are now extending the program with the support of the National Parkinson's Foundation and support from the Patient Centered Outcomes Research Institute. The new study, called Connect.Parkinson, plans to enroll approximately 200 individuals with Parkinson's disease beginning next year. Participants will either receive their usual care from a physician in their community or additional remotely-delivered care from a Parkinson's disease center of excellence

in their state.

"This research demonstrates that we can reach anyone, anywhere with a given condition," said Dorsey. "If we can successfully remove the barriers to telemedicine, this approach will ultimately allow more patients with Parkinson's disease to live independently in their homes, while getting the care they need."

Provided by University of Rochester Medical Center