Blocked arteries? There's an App for that.

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(PhysOrg.com) -- Researchers at The University of Western Ontario's Schulich School of Medicine & Dentistry have developed an iPhone web application (app) that shows patients at high risk of stroke, what their own arteries look like.

The app displays an ultrasound image of plaque build-up in the carotid artery, the main artery leading to the brain. Plaque is the underlying cause of heart attacks and an important cause of strokes due to blocked arteries. It's hoped the handy reminder will help patients stick to the treatments and lifestyle changes necessary to improve their health.

The app was developed by iTHINK Research Labs (www.ithinkresearch.com) run by Femida Gwadry-Sridhar, a professor in the Departments of Medicine and Physiology & Pharmacology, and a scientist with Lawson Health Research Institute.

"Showing patients their own disease in a very visual way not only helps them to better understand the implications for their health, but empowers them to set a new course," says Gwadry-Sridhar. "They can use the app as a benchmark while they make the necessary lifestyle changes to lower their health risk."

The app takes the patient to a password-protected web site where their own ultrasound image is posted along with necessary medical and lifestyle information to reduce their risk of stroke and heart attack. Another benefit is it allows the patient to share their medical information with family members in a clear and concise fashion.

"We hope that by showing patients pictures of their carotid plaque and keeping track of their blood pressure, it will help motivate them to quit smoking, follow their diet and take their medications faithfully," says Dr. David Spence, a neurologist and scientist at Western's Robarts Research Institute, working on the project. "Preventing strokes is a long-term process; something like this, that would help patients stay with their program, could make a big difference."

The aim is for the app to be tested in a randomized controlled trial. Gwadry-Sridhar and her colleagues presented preliminary findings and architectural aspects of their research "Data Collection with iPhone Web Apps - Efficiently Collecting Patient Data Using Mobile Devices" at IEEE HealthCom 2010 in Lyon, France. IEEE is the world's largest professional association for the advancement of technology.

Provided by University of Western Ontario