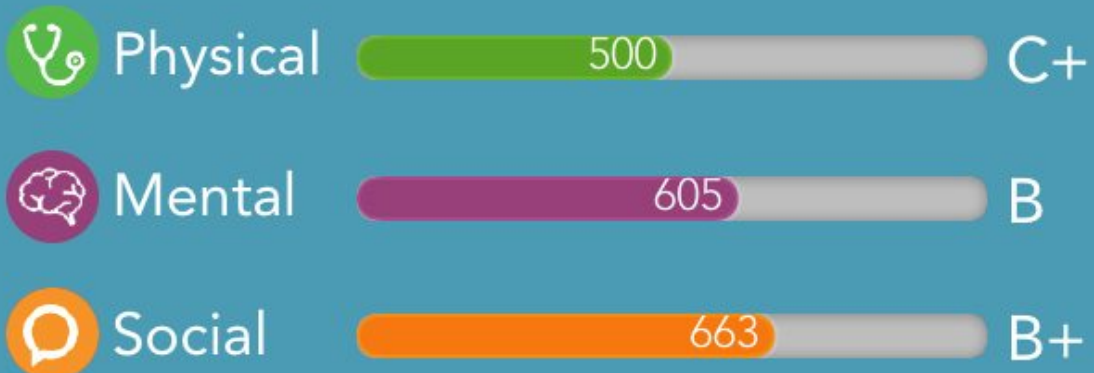


Physician develops app that tracks health, well-being

January 29 2016, by Renée De Pooter



TODAY, SEPTEMBER 22



Dashboard



Questions



Data

Qualia Health displays your Q-score: the average of your physical, mental and social health scores. Credit: David Beiser

The average person spends almost three hours a day on mobile devices, market data show. But what if people could invest some of that time into improving their health?

That's the idea behind [Qualia Health](#), co-founded by Assoc. Prof. David Beiser, a free app that measures the aspects of well-being that can't be evaluated with tests like blood draws or X-rays.

"We divulge all sorts of secrets to our phone," said Beiser, an Institute for Translational Medicine investigator. "Why don't we leverage that relationship for [health](#)?"

Much like fitness tracking devices Fitbit or Jawbone, Qualia can measure distance traveled and how quickly it's done. But Qualia also can record other factors like weight or choice of meals.

Qualia asks questions about [mental health](#), anxiety, social connectedness and satisfaction with relationships. It uses an adaptive algorithm to choose the next question from a huge database based on the answers already given. Using data from these questions, Qualia gives out a number called a Q-score, a scientific metric of health, and indicates how that Q-score ranks in the happiness continuum of a healthy population.

Qualia may soon be able to give personalized suggestions to help make its users healthier. Using a phone's GPS, for example, it could find a flight of stairs instead of an elevator. In a new town, it might locate a

gym or a healthier dining option.

"Right now, our data is being leveraged by corporations to sell us things," said Beiser. "It's a step in the right direction to let our data be used to keep us healthy."

The idea for Qualia was born several years ago when Beiser's mentor unexpectedly left UChicago. "I was trying to do Big Science, but I had a tiny little lab and not that much funding," Beiser said.

He realized that he had a skill set that few others in his field had, and applied it to bolster his research and make it translational.

"I have this advantage: I know how to program," said Beiser, who has graduate-level experience in computation and big data sets.

Beiser said he noticed an interesting trend.

"I saw this confluence of mobile computing, large data sets being made available and health reform," Beiser said. "Our phones are almost always with us, so I saw a huge opportunity to measure [patients](#)' health in ways doctors can't. We're working to translate that data into personalized suggestions to patients on ways they can improve their health."

In one of the first Qualia clinical trial applications—in collaboration with Kathleen Grady, professor of cardiac surgery at Northwestern University, the team used Qualia to track the well-being of heart failure patients with implanted Left Ventricular Assist Devices.

LVADs are expensive, but mental and social costs might be lessened if patients' doctors or family knew that they were growing more anxious or felt socially isolated. In the study, Qualia asked for daily check-ins and gleaned information about weight, activity level, sleep disturbances,

fatigue and pain. Beiser and his colleagues were interested in how well Qualia's Q-score matched with patients' own perceptions of their ups and downs.

Anecdotally, the patients said that Qualia reflected their good days and bad days, with one patient's scores foreshadowing rising anxiety levels that eventually required medical intervention.

Beiser has submitted a grant proposal with Grady, and future studies are in the works at Stanford (with LVAD patients), Northwestern and the University of Chicago (with hypertension patients).

In the future, Qualia may be able to send important daily reports to a patient's [health care provider](#), but Beiser said it will always hand the information back to the patient to allow them to better manage their conditions.

"The promise of Qualia is that we could follow your health and use that information to help understand what makes you feel better or worse," Beiser said.

More information: L. W. Miller et al. Cost of Ventricular Assist Devices: Can We Afford The Progress?, *Circulation* (2013). [DOI: 10.1161/CIRCULATIONAHA.112.139824](#)

Provided by University of Chicago

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