



## Mobile health technology can aid diabetes management, study finds

By Allison Cerra  
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WASHINGTON — Mobile health technology may help patients, particularly those with Type 2 diabetes, better manage their condition, according to a new study conducted by University of Maryland School of Medicine researchers.

The study, led by the University of Maryland School of Medicine's assistant professor of epidemiology and public health Charlene Quinn, enrolled 163 patients — with the help of 39 primary care doctors in Baltimore County, Baltimore City, Montgomery County and Anne Arundel County — which were divided into four groups; three of which received mobile phones loaded with the diabetes management software and the fourth group served as a control group. Additionally, all of the patients received a free blood-glucose meter and testing supplies.

Throughout the study, the software provided real-time feedback on patients' blood-sugar levels, displayed medication regimens and served as a "virtual coach," the researchers said. A patient's blood-sugar test results were wirelessly sent from a blood-glucose monitor to the mobile phone. If the blood-sugar level was deemed too low or too high, the software on the phone prompted the person to take steps to correct it. Additionally, the system also analyzed blood-sugar levels and other patient information and sent computer-generated logbooks and suggested treatment plans to the patients' primary care doctor.

Among those that used the diabetes management software, blood-sugar control, also known as A1C, decreased by an average of 1.9% over a period of one year. Quinn called the results "very encouraging."

"The 1.9% decrease in A1c that we saw in this research is significant," Quinn said. "Previous randomized clinical trials have suggested that just a 1% decrease in A1C will prevent complications of diabetes, including heart disease, stroke, blindness and kidney failure.

"Mobile health has the potential to help patients better self-manage any chronic disease, not just diabetes," Quinn added. "This is one of the first large, reported, randomized clinical studies examining the mobile health industry, which is rapidly growing. The [U.S.] Food and Drug Administration just last month released draft guidance on how it intends to regulate the field. Our results can help define the science behind this new strategy for disease management."

The study will be published in the September issue of *Diabetes Care*.