Mobile apps for diabetes present usability issues for older adults

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Diabetes is prevalent among adults aged 65 and older and can lead to a number of other serious health issues. Maintaining control of blood glucose levels is one of the most important actions diabetics can take to control their illness. New technology is designed to make self-monitoring easier and more accessible than ever before, but often tech products fail to accommodate some older users. Human factors/ergonomics researchers Laura A. Whitlock and Anne Collins McLaughlin evaluated the usability issues that older adults may experience with one type of emerging technology, blood-glucose-tracking applications for mobile devices, and will present their findings at the upcoming HFES 56th Annual Meeting in Boston.

Tracking apps for mobile devices are designed to log the multiple variables, such as food consumption and medication use, that influence blood glucose levels. These apps may incorporate other features to help diabetics monitor their blood glucose, including alarm-based reminders, educational tools, interactive forums, and report generators. But older users may experience difficulty because of the declines in cognition, vision, and motor skills that can occur with aging or the progression of the disease. If they can't easily use tools that encourage active self-monitoring, they may stop using them.

In their Annual Meeting proceedings paper, "Identifying Usability Problems of Blood Glucose Tracking Apps for Older Adult Users," the researchers examined three leading blood glucose mobile apps to determine whether they present usability issues for older adults,

particularly visual and physical obstacles. "We found that even though these apps are rated highly [in Apple's App Store], they may present a number of challenges for older adults," Whitlock noted.

Examples of potential design problems include pages with small text and poor color contrast, icons that enter into an alternate mode if the user holds the button too long, scroll wheels that obscure the page view, and a font size that decreases when the length of the text exceeds one line. Adults with poor vision, memory limitations, or declining motor skills are especially likely to encounter usability problems.

"Developers are recognizing and responding to the desire to use mobile technology to improve personal health, and we're going to continue to see the growth of mobile applications to answer health needs," continued Whitlock. "However, I think it's important for the public to know that this can and should be done in a way that is accessible to all, including older adults."

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