

The Current Status of mHealth for Diabetes: Will It Be the Next Big Thing?

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Abstract

mHealth is an emerging concept in health care and uses mobile communications devices for health services and information. Mobile phones, patient monitoring devices, tablets, personal digital assistants, and other wireless devices can be part of mHealth systems. With mHealth systems, glucose data can now be automatically collected, transmitted, aggregated with other physiologic data, analyzed, stored, and presented as actionable information. mHealth systems use mobile decision support software applications (or apps) to assist or direct health care professionals to make decisions, or they can assist or direct patients to make decisions without waiting for input from a clinician. With real-time decision support for patients, appropriate actions can be taken in real time without waiting to see a clinician. Decisions can be personalized if individual treatment goals and personal preferences for treatment are inputted into an app. Few mHealth apps for diabetes have been rigorously tested. Outcome studies of the use of mHealth for diabetes from the literature have shown the potential for benefits, but higher-quality studies are needed. Regulatory approval of mHealth products will require demonstration of safety and effectiveness, especially where information and trends are not just presented to patients, but used to make treatment recommendations. Three additional hurdles must be overcome to facilitate widespread adoption of this technology, including demonstration of the following: (1) privacy to satisfy regulators, (2) clinical benefit to satisfy clinicians, and (3) economic benefit to satisfy payers. mHealth for diabetes is making rapid strides and is expected to be a transforming technology that will be the next big thing.

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Abbreviations: (AUS) average usability score, (CDSS) clinical decision support system, (CUS) composite usability score, (FDA) Food and Drug Administration, (HbA1c) hemoglobin A1c, (HCP) health care professional, (HIPAA) Health Insurance Portability and Accountability Act of 1996

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