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IT-Enabled Self-Monitoring for Chronic Disease Self-Management: An Interdisciplinary Review

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Abstract

Self-monitoring is a strategy that patients use to manage their chronic disease and chronic disease risk factors. Technological advances such as mobile apps, web-based tracking programs, sensing devices, wearable technologies, and insideable devices enable IT-based self-monitoring (ITSM) for chronic disease management. Since ITSM is multidisciplinary in nature and our understanding is fragmented, a systematic examination of the literature is performed to build a holistic understanding of the phenomenon. We review 159 studies published in 108 journals and conferences between 2006 and 2017. By adapting affordance actualization theory, we develop an overarching framework to organize the existing literature on ITSM for chronic disease management. Four themes emerge: key ITSM functionalities that enable affordances; effects on ITSM system use; effects on the achievement of chronic care goals; and the role of intermediary outcomes. For each theme, we identify what is known, what is unknown, and opportunities for future research. We also discuss cross-theme opportunities for future research where more diverse theoretical perspectives can contribute to our understanding of the phenomenon. This work provides research directions for IS researchers studying ITSM for chronic disease self-management.

Keywords: IT-based self-monitoring, chronic disease self-management, literature review, ITSM use, affordance actualization theory