Implementing a Web-Based Home Monitoring System within an Academic Health Care Network: Barriers and Facilitators to Innovation Diffusion

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Abstract

The practice of outpatient type 2 diabetes management is gradually moving from the traditional visit-based, fee-for-service model to a new, health information communication technology (ICT)-supported model that can enable non-visit-based diabetes care. To date, adoption of innovative health ICT tools for diabetes management has been slowed by numerous barriers, such as capital investment costs, lack of reliable reimbursement mechanisms, design defects that have made some systems time-consuming and inefficient to use, and the need to integrate new ICT tools into a system not primarily designed for their use. Effective implementation of innovative diabetes health ICT interventions must address local practice heterogeneity and the interaction of this heterogeneity with clinical care delivery. The Center for Connected Health at Partners Healthcare has implemented a new ICT intervention, Diabetes Connect (DC), a Web-based glucose home monitoring and clinical messaging system. Using the framework of the diffusion of innovation theory, we review the implementation and examine lessons learned as we continue to deploy DC across the health care network.

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Abbreviations: (CCH) Center for Connected Health, (DC) Diabetes Connect, (DIT) diffusion of innovation theory, (HbA1c) hemoglobin A1c, (ICT) information communication technology, (RE-AIM) Reach, Efficacy, Adoption, Implementation, Maintenance, (T2DM) type 2 diabetes mellitus

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