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ORIGINAL ARTICLE

Diabetes Connect: An Evaluation of Patient Adoption and Engagement in a Web-Based Remote Glucose Monitoring Program

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Abstract

Background:

We determine whether Diabetes Connect (DC), a Web-based diabetes self-management program, can help patients effectively manage their diabetes and improve clinical outcomes.

Methods:

Diabetes Connect is a 12-month program that allows patients with type 2 diabetes mellitus to upload their blood glucose readings to a database, monitor trends, and share their data with their providers. To examine the impact of the program, we analyzed patient utilization and engagement data, clinical outcomes, as well as qualitative feedback from current and potential users through focus groups.

Results:

We analyzed 75 out of 166 patients. Mean age was 61 years (range 27–87). Patients engaged in DC had an average hemoglobin A1c (HbA1c) change of 1.5%, while nonengaged patients had a HbA1c change of 0.4% (p = .05). Patients with the best outcomes (HbAlc decline of at least 0.8%) typically took less than 10 days to upload, while patients with the worst outcomes (a rise in HbAlc) took an average of 65 days to upload. Patients with more engaged providers had a better HbA1c change (1.39% versus 0.87%) for practices with an average of 74 versus 30 logins/providers.

Conclusions:

Patient engagement in the program has a positive impact on the outcomes of this collaborative Web-based diabetes self-management tool. Patients who engage early and remain active have better clinical outcomes than unengaged patients. Provider engagement, too, was found critical in engaging patients in DC.

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Abbreviations: (BG) blood glucose, (CCH) Center for Connected Health, (DC) Diabetes Connect, (EMR) electronic medical record, (HbA1c) hemoglobin A1c, (IVR) interactive voice response, (RMDR) remote monitoring data repository, (SD) standard deviation, (T2DM) type 2 diabetes mellitus

Keywords: care redesign, diabetes, health information technology, patient engagement, self-management

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