

Remote Monitoring for Type 2 Diabetes: What Do Patients, Healthcare Professionals, and Executives Think?

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Abstract. The implementation of mobile health interventions is key to the future management of diabetes. A new model of digital care for type 2 diabetes using a Bluetooth-enabled blood glucose monitoring system has been implemented at the Princess Alexandra Hospital. The perceptions of patients, healthcare professionals, and executives involved in the implementation of this model have been assessed to establish the key facilitators and barriers to digital health intervention adoption.

Keywords. Mobile health, diabetes, implementation, stakeholder perceptions

1. Introduction

The increasing prevalence of type 2 diabetes presents significant challenges for healthcare systems [1]. In response to the changing landscape of diabetes management, a mobile-based model was created, consisting of an application for monitoring blood glucose connected to an online clinician dashboard. A randomised control trial showed a significant reduction in HbA1c among enrolled patients, and the ‘Rethinking the Model of Outpatient Diabetes care using e-HeaLth’ implementation project (REMODEL-I) saw this model of care implemented at a diabetes clinic [2].

Despite the evidence supporting the role of digital health in the management of diabetes, significant barriers exist to the adoption of digital interventions by healthcare systems [3]. These barriers include funding issues, lack of decision-maker buy-in, limited workflow integration, and inadequate user acceptance levels [4]. This research aims to explore the perceptions of various levels of stakeholders involved in REMODEL-I to determine the key facilitators and barriers to the adoption of digital interventions.

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2. Methods

This mixed-methods retrospective study consisted of three arms to investigate the perspectives of patients, staff and executives involved in the new model of care. Surveys and semi-structured interviews have been conducted with participants from the three arms, exploring their perceptions of the REMODEL-I project.

3. Results

Preliminary results of the survey and interview data show that the REMODEL-I model of care is widely accepted by patients ($n = 49$), who are positive about the increased opportunity for monitoring and communication with their healthcare team, however some felt that improvements in the technology and personalisation of care could be made. Additionally, while staff members ($n = 14$) reported to accept the model itself, their major concerns arise from the significant staffing challenges that presented throughout the implementation process. The interviews with executives ($n = 7$) from across Queensland Health revealed strong support towards digital health innovations, although they also acknowledged barriers arising from current workforce pressures and Queensland's activity-based funding model for specialist care.

4. Discussion

Based on the preliminary results, the stakeholders have generally concordant views of digital health interventions and the new model of care. The key themes that need addressing in future implementation projects relate to increasing the personalisation of care that is offered, while also ensuring that the staffing levels are appropriate. On a wider scale, considerations could also be made to increase the flexibility of current funding models to further support asynchronous digital health care.

5. Conclusions

The need for digital health interventions is expanding as the incidence of diabetes rises against an increasingly overstretched health system. The implementation of new models of care requires an overarching view of stakeholder insights. Recommendations for improvements include shifting funding models, increasing the personalisation of healthcare, and utilising strong leadership to embed digital care into skilled workforces.

References

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