TREO
Technology, Research, Education, Opinion

Data For Social Good

IT And Healthcare Combine To Address Chronic Care

Wickramasinghe, N., Swinburne University & Epworth HealthCare, Australia, nilmini.work@gmail.com;
Goldberg, S., inet Intl Inc, Canada, sgoldberg@inet- international.com

Diabetes, a massive problem globally is noted by the WHO as the silent epidemic. By 2020 there will be a 54% rise of individuals diagnosed with this disease (WHO, 2017). Early detection and proactive management of diabetes is essential. A critical treatment imperative is to provide patients appropriate monitoring to enable better assessment and control of blood glucose coupled with appropriate diet and exercise regimens, and thus also prevent further complications (Wickramasinghe et al, 2011). However, diabetes is reaching a crisis point for healthcare delivery, this indicates that current approaches are falling short. To address this healthcare and community predicament, the Data for Social Good Cloud Innovation Centre powered by Amazon Web Services Swinburne University of Technology, Northern Health and inet Intl., Inc, Canada are developing a unique flipped healthcare model for providing patients with type 2 diabetes support for self-management and patient empowerment.

Methodology/Discussion
This study is the first AWS Cloud Innovation Collaboration (CIC) in the Southern hemisphere and it subscribes to a rapid idea-to-realization format incorporating AWS techniques of "working backwards" that have been used and proved to be successful, coupled with design science research methodologies, co-creation and user centred design principles. The developed prototype has several unique features including being culturally sensitive and supporting ethnic diversity and being tailored to individuals needs around their diabetes management. Moreover, it provides educational and behavior change support coupled with guidance around good diabetes care for medication management, glucose control, diet and exercise. The next phase will include testing the prototype with patient and clinician users in a clinical trial of 100 patients to test the usability, fidelity, desirability, viability and establish proof of concept conducted in a two arm cross over design (Rigby, 2003). The solution will then be rated in terms of usability, acceptability and functionality and assessed regarding patient compliance, patient satisfaction, level of glycemic control and clinician satisfaction.

References
Rigby, A. (2003). Cross-Over Trials in Clinical Research. Journal of the Royal Statistical Society, 52(3), 417- 418. WHO, 2017 http://www.who.int/topics/diabetes_mellitus/en/
Wickramasinghe, Cole, S., Kliman, L., Vogel, D., & Goldberg, S. (2014). Exploring The Possibility For A Pervasive Technology Solution To Facilitate Effective Diabetes Selfcare For Patients With GDM. Paper presented at 2014 ECIS, Tel Aviv.