Digital Diabetes IDDEAS and GDS – Executive Summary

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Digital Diabetes IDDEAS and GDS – Executive Summary

The IDDEAS and GDS projects seek to develop innovative new resources for My Diabetes My Way* (MDMW) to support people living with diabetes to gain insight from health and lifestyle data to improve self-management. The IDDEAS and GDS projects were proposed by the Clinical and Technical Leads from the MDMW team, both based at the University
of Dundee. The projects were accepted by the Digital Health & Care Institute as part of an integrated 'Digital Diabetes' programme of seven projects seeking to develop digital resources to support self-management.

The IDDEAS project aims to enable communication and data transfer between NHS Scotland diabetes platforms (MDMW and SCI-Diabetes) and third party and commercial products. This would give patients choice in terms of the application(s) they use to meet their needs.
The GDS project aims to develop automated algorithms to analyse data obtained from home blood glucose monitoring and trigger automated clinical decision alerts and feedback for healthcare professionals and patients (via SMS) based on patterns in glucose readings.
The technical aspects of the IDDEAS and GDS projects are being developed within DHI Factory projects. The Experience Lab Team were tasked with working with
the intended end users to understand how they would like to collect, share, see and use their health and lifestyle data within MDMW, and understand the acceptability of the proposed innovations and how they could best support self-management.
Experience Lab activity for these projects began with Pre-Labs in late 2015, and developed through General Labs in 2016, culminating in a dedicated Niche Lab in early 2017.

Our Pre- and General Labs confirmed that people experience challenges in interpreting data gathered by glucose meters. There was a preference for data presented visually, and participants suggested that combining lifestyle data with health data visually could facilitate pattern spotting that would generate insight to improve control of their diabetes. The aims of the Niche Experience Lab were to work people living with type 1 diabetes, carers and health professionals to explore: i) how personal health and lifestyle data could be combined visually to reveal patterns and insights to support self-management; ii) how messages offering personalised advice based on glucose meter data could be used to support self-management.   This report describes the Experience Lab activity for the IDDEAS and GDS

projects and presents a detailed set of findings. It begins by providing project background and aims, and summarises the relevant findings of the Pre- and General Labs (described in full in previous reports).

The findings are mapped onto the project objectives, and are supported with visuals, photographs, sketches and direct quotes from participants. Firstly, we build on our general understanding of diabetes self-management with insight around the specific processes of pattern spotting and the use of insight to improve diabetes control in the short and long-term. Visuals illustrate these processes and highlight opportunities for IDDEAS and GDS to support pattern spotting. The findings highlight three different temporal phases of self-management: trial and error both in the moment and day-to-day, and reflection in the longer term. Through unpicking these processes, we have identified the places where tools can support trial and error in terms of identifying clues and patterns that can improve control. Insights have been translated into design principles for both GDS and IDDEAS, and specific ideas for each concept have been communicated using sketches. Finally, the scenarios of use developed by the groups in the Experience Lab have been refined and translated into simple sketch prototypes, describing the interactions with the service, and how this generates insight to support pattern spotting and improved control. The conclusions reflect on the findings and their potential application, discussing next steps and further work required to understand how these innovations could fit within the wider My Diabetes My Way service.

*MDMW provides a personal health record and online educational resources for all patients living with diabetes in Scotland. MDMW links to information stored in SCI-Diabetes, the NHS Scotland platform for managing diabetes care.

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