Why haven't YOU thought of that? 15 great new mobile app ideas for improving the quality of life of a young person with type 1 diabetes

Andy Pulman *, Jai Hill ** and Dr Mike Masding **

** School of Health & Social Care, Bournemouth University, Bournemouth, UK*

*** Department of Diabetes, Poole Hospital NHS Foundation Trust, Poole, UK*

Introduction

Growth in use of mobile devices has become increasingly important for young people who now use them to look up health related information. Research and policy concerning the integration of health information and support with technology do not effectively consider the viewpoint of a young patient - vitally important as they have a radically different view of technology than either parents or practitioners. This research suggests a new way of exploring what young people with type 1 diabetes aged between 18 and 21 require, by seeking their views and ideas enabling the design of innovative new systems helping them to engage with health services and their own health in their preferred manner.

Methods

Recruitment was conducted at a district hospital in the South West (and a local university) with data collected by semi-structured, in-depth qualitative interviews (*n*=9). Interviews were transcribed and loaded onto the qualitative data analysis tool NVivo. Baseline data analysis was undertaken to locate potential ideas for mobile app development.

Results

Many innovative new ideas for mobile apps not currently available were suggested by interviewees. This poster outlines 15 innovative new mobile app ideas, one of which was developed and has now been released as a free download on the Apple and Google App Stores.

1. Ideas Generation

1. Carb Counting - whilst positively viewing **Carbs & Cals** as a good quality mobile app for diabetes information, it was suggested that it wasn't a perfect product. Interviewees responded positively to the ability to be able to access more localised UK information on a mobile platform.

2. General Type 1 Diabetes Directory - when a young person is first diagnosed with type 1 diabetes, they need to access a vast amount of information concerning all aspects of their lifestyle. This is also applicable initially to their parents who might be caring for them at a younger age. The capability of apps to provide this service made the suggestion of a general type 1 diabetes directory holding information on a number of topics, a popular suggestion.

3. Medication Tracker - allows user to check a tick box once a medication has been taken, with a date and time stamp. Customisable to include a number of different medications.

4. Blood Sugar Recorder - the constant proximity of the mobile phone to the user makes it an attractive option for utilising as a recorder with enhanced functionality to existing products (e.g. enabling goals/targets to be set which could then be flagged if they were met or missed).

5. Mentor App - a desire to talk to younger people than themselves who were just diagnosed - almost acting as their mentors - to help them work through the various aspects of being diagnosed with type 1 diabetes, based on their own experiences post-diagnosis.

6. Podcasts and Vodcasts - were positively received as a potential source for distributing and receiving engaging, good quality, useful information.

7. Online Helpdesk - a 24 hour online helpdesk which could be accessed via an app, SMS text message or email.

8. SOS App - allows a user to send an SOS by triggering a silent alarm to call a phone number, as well as sending an email, text message or **Twitter** post with the users current location (using GPS).

9. Alarms - Could allow users to set up multiple reminders on insulin, blood sugar level checking and remembering to have something to eat.

10. Diet and Calorie Counter - although there are existing dietary and calorie counting apps, limitations mentioned with them made the design of a more effective one attractive, taking the guesswork out of the process of calculating calorific values.

11. Local Social Network - a small personal social network was suggested in the style of a private local **Facebook** or **Twitter** community which could encourage communication between clinic attendees.

2. Prototypes Developed

12. Hypoglycaemia and Diabetes

An app which provided information on what to do for patients, and providing advice on what to do for friends, family, work colleagues, school staff and other possible people who might come into contact with the participant were amongst the suggestions received.

13. Illness and Diabetes

If they feel unwell, people with diabetes need to take special care as any illness, even if not related to their diabetes, can cause their blood sugar (glucose) level to rise. Interviewees suggested that illness information provided on a mobile format would be positively received and utilised.

14. Twitter

A way to meet others of a similar age, as an emergency link for contacting the health service, receiving direct messages from clinic staff advising on reminders about taking insulin, coming to appointments and taking blood sugar readings (personalising diabetes care) and as a news feed for information on developments in diabetes such as new diabetes products and the latest research.

3. Developed and Live

Type 1 diabetes friend: alcohol guide

15. Alcohol and Diabetes

Drinking alcohol increases the risk of hypoglycaemia (low blood glucose levels) in patients with type 1 diabetes. It is estimated that as many as one fifth of episodes of severe hypoglycemia are attributable to alcohol (Nilsson et al., 1988). Interviewees suggested that they would find a guide about alcohol limits particularly useful on a night out which could then be accessed via a mobile device.

Available on the App Store

GET IT ON Google play

Bournemouth University

Poole Hospital NHS Foundation Trust

CONTACTS:

ANDY PULMAN, School of Health& Social Care, Bournemouth University, Bournemouth, Dorset. BH1 3LT
Email: apulman@bournemouth.ac.uk

DR MIKE MASDING, The Diabetes Centre, Poole Hospital, Longfleet Road, Poole, Dorset. BH15 2JB
Email: mike.masding@poole.nhs.uk