



# Health Services Research Unit

## Nuffield Department of Population Health

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### **Assessing self-management in people with type 2 diabetes using web-based and mobile technologies: qualitative research to inform the development of a new questionnaire**

#### **AN UPDATE FOR PARTICIPANTS**

The above study has been undertaken and funded by the Health Services Research Unit, University of Oxford. Following previous updates relating to the completion of in-depth interviews to explore how web-based and mobile technologies are used by people living with type 2 diabetes to support the self-management, we now report on the refinement of our new questionnaire items for this study. Several phases of questionnaire item refinement were undertaken. This included two phases of patient refinement through the use of cognitive debrief interviews, one round of expert consultation and one round of public patient involvement (PPI) feedback.

#### **Phase 1: Patient interviews**

Four participants took part in phase 1 interviews. The 36 questionnaire items were arranged in two parts. The first questionnaire part asked about the management of type 2 diabetes, and their use of web-based or mobile technology, over the past four weeks (22 items), while the second part asked about the extent to which a specific app helped them to manage aspects of their diabetes (14 items). While most items were considered relevant to the management of type 2 diabetes, considerable changes needed to be made to the arrangement of the items. Participants found it difficult to respond to the second set of app specific items as they did not always use one app in isolation. Furthermore, many items were also not applicable to specific apps and it was therefore difficult for them to determine how they should respond. In response, the second part of the questionnaire was removed resulting in 12 items being deleted and two items, covering topics not covered in part one, being restructured and put into part one. Two further items, which asked about healthcare services, were deleted from part one due to participant feedback as unrelated to personal management of their type 2 diabetes. Twenty-two items were therefore retained.

Five items were amended following participant feedback. Two items were amended to improve comprehension and clarity. One item was amended to make it more suitable to response options. One item was changed to be more specific and capture the intended meaning better. One item was changed to prevent duplication with a previous item.

#### **Phase 2: Patient interviews**

Four participants took part in the second phase of cognitive interviews. Following participant feedback, two items were deleted as they were considered to be duplications of a previous item. A further two items were deleted as they were considered vague and were already covered by a more specific item. Five items were amended as they were considered too broad and needed further signposting and clarity, while one item was amended to be applicable to wider population. Two items were split into two items each as they were considered too broad. This left 20 items to for Phase 3 testing.



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### **Phase 3: Expert review**

Twenty items were circulated to the expert group consisting of three survey development and patient reported outcome experts, one survey expert and user engagement manager for a national diabetes programme, two diabetes experts specialising in digital health, one professor of diabetic medicine, and one consultant physician in diabetes.

Following expert feedback, two items were amended to improve language for low literacy groups. One item was amended to be more inclusive to a broader range of people. Six items were amended to improve clarity and one item was split into two items to try and find the best way to capture reassurance.

### **Phase 4: Public Patient Involvement (PPI)**

Four patient representatives gave feedback on the 21 item questionnaire. All items were understood by representatives, however some showed a preference for further clarity on some of the examples provided within questions. For example, one representative expressed a wish have separate questions for how easily they can monitor their blood glucose levels, their diet and their exercise. This change was omitted due to the likelihood of high frequencies of not applicable or missing data. One item was amended as the examples provided were thought to be addressing different concepts; everyday activities and socialising. The examples listed were therefore amended and an extra item regarding socialising was added. This left 22 items for the final questionnaire to be validated among a large group of people living with type 2 diabetes.

### **Thank you!**

The research team would like to say a huge thank you to the participants who helped us so far in this research. Without your input our work would not be possible. We would also like to thank the support groups, Diabetes UK and the Diabetes Support Forum UK, who so readily assisted us in finding people to take part.