

Co-design and user validation of a technology-enabled behaviour change intervention for individuals with cardiovascular disease: Preliminary findings

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Purpose

PATHway (Physical Activity Towards Health) is a technology-enabled lifestyle behaviour change intervention designed to enhance patient self-management of cardiovascular disease (CVD) through adherence to physical activity and other health behaviours. This paper explains the co-design and user validation process that is being employed for the development of the PATHway platform.

Methods

Thirty individuals living with CVD (18 male; 12 female; age= 55-75years) were recruited from a) two hospital-based cardiac rehabilitation programmes and b) two community-based cardiac rehabilitation programmes were invited to participate in the study. To facilitate an iterative person-centred co-design development process, three separate rounds of semi-structured focus group interviews were held. In round one interviews, participants were exposed to the researcher designed PATHway intervention and system and their feedback was elicited (Bate & Robert, 2006). This feedback was then used to improve the PATHway system prior to the next round of interviews. This process was repeated on two further occasions, each time with the aim of eliciting end-user information to enhance the co-design process. All focus groups were audio-recorded, transcribed and analysed using content analysis (Hsieh & Shannon, 2005). Key recommendations regarding technical and intervention content were identified and are currently being used by the research team to improve the PATHway system.

Results

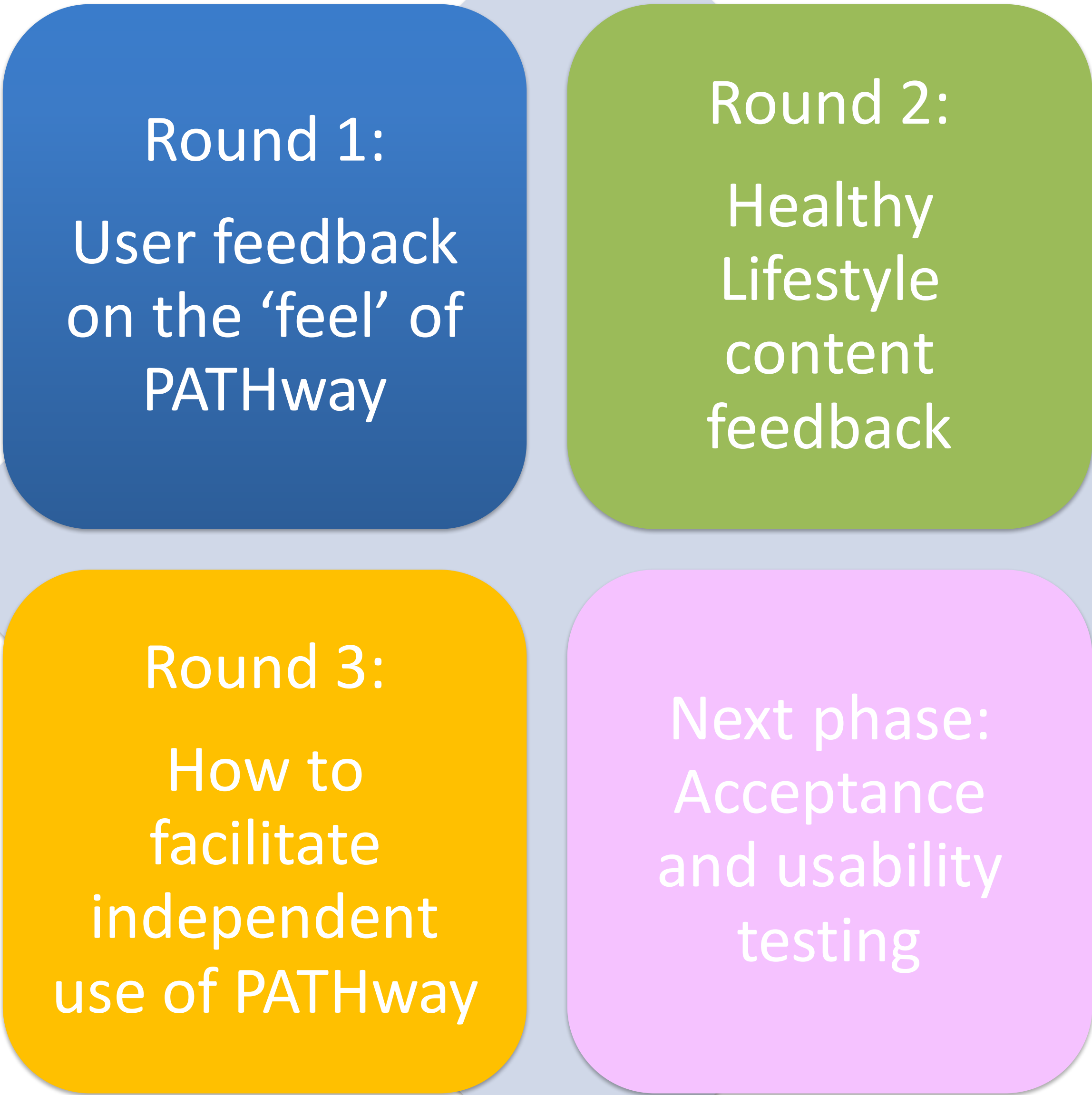
Round 1:
Feedback mainly centred on the visuals and aesthetics of PATHway, with suggestions around making the screen and avatar more clear.

The use of colour (i.e., the traffic light system) was also suggested as an intuitive way to communicate progress to the end-user without requiring several interactive steps that may burden the user.

Tailoring intervention content for exercise prescription and health behaviour change was seen as important to users. While further health information and monitoring through the system was valued. PATHway was seen as a way to increase the potential for patients to be connected with their healthcare professionals which was appealing.

Round 3:
Feedback became more technical, highlighting desired PATHway features for e.g. a module that would allow them to 'home test their progress'.

Participants also highlighted what they deemed to be necessary components to support patients using PATHway independently (i.e., IT support and the type of content requested for a PATHway training manual).



Round 2:
Feedback largely focused on the developed risk factor information content on the dashboard, as well as peer mentor videos and behaviour change notifications. In particular, the level and quality of information was deemed important. Simple, easy to understand information was prioritised by participants, but they requested that more advanced information and resources should be optional and available to the more advanced user.

The 'tone' of the content and behaviour change notifications was also raised as an important issue related to patient satisfaction and engagement. The feedback in relation to this issue was largely based around how the messages should provide 'positive reinforcement' but not be patronising.

Next phase:
An iterative co-design and user validation process is a vital component of the development of complex behavioural interventions for CVD patients.

Further acceptance and usability testing is on-going with patients using the first PATHway prototype.

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