

Project Progress summary – July 2011

Three versions of the prototype Personalised Self Management System are now ready for testing with people with long term conditions in their own homes. Progress with each version of the prototype is detailed below.

Prototype for Congestive Heart Failure

The clinical researchers based in Sheffield have received the final update of the prototype from the technology developers at the University of Ulster. Recruitment of health professionals and people with heart failure for the evaluation is currently underway. We plan to recruit ten participants who will be asked to use the Personalised Self Management System daily for up to six weeks in their own home and community. The system will require them to input their health information, undertake a walking activity which will contribute towards the achievement of their identified life goals, be able to learn more about their condition, upload data from the mobile device to the home hub and view their progress over time. Questionnaire and interview data will be collected before and after deployment to enable us to explore its effectiveness.

Prototype for Chronic Pain

The version of the Personalised Self Management System for people with chronic pain is close to completion. The latest version has been tested in the laboratory by the technology developers at Ulster and clinical researchers at the University of Bath; recommendations and alterations have been discussed where appropriate and actions agreed. The therapeutic content for the prototype includes;

- 1) Behaviourally triggered responses through both the HomeHub (touch screen computer and Mobile Device). These responses take the form of different therapeutic messages based on how much activity a person has engaged in and what goals they have achieved.
- 2) A serialised programme of psychological therapy which consists of daily messages leading the person through different ways of relating to their experiences and thoughts. This programme is accompanied by therapeutic exercises recorded by a clinical psychologist and followed by brief tasks related to each exercise.

Prototype for Stroke

A two-day workshop was held at Newcastle University, Culture Lab to explore the design of the feedback and progress screens for the stroke version of the prototype. Clinical researchers and designers worked on the design of several screens that might help people with stroke receive the most acceptable feedback including from the shoe insole (an additional element of this version of the prototype designed to assist people with stroke to address their balance). Several paper version

of the proposed screens and were then tested with five people with stroke to obtain their views which were then given to the designers so that changes could be made in light of comments received.

A meeting was held with the community stroke rehabilitation professionals interested in the stroke prototype to discuss how the implementation of the evaluation of the prototype might be taken forward.

Method of evaluation

The consortium has received ethical approval from the NHS for the evaluation of the prototype. A method called Realistic Evaluation is to be used as this is particularly appropriate for the evaluation of complex interventions such as the Personalised Self Management System. Realistic Evaluation enables examination of the context of use, mechanisms of use and outcomes.

Project outputs

A workshop was held for Consortium members to explore the use of a selected outcome measure for the evaluation. TELER is an individualised health-related outcome instrument which measures personalised goals.

Results of prototype development, testing and planned evaluation were presented at national and international conferences in May, July and August; namely the 2011 Workshop on Advances in Techniques and Technologies Assisting Care at Home at Pervasive Health 2011, Design4Health and the 11th European Conference for the Advancement of Assistive Technology.

The Design4Health conference involved people with heart failure and stroke who have already assisted us with the project. They were invited to attend a workshop at the Design4Health conference where they were able to talk to people who had been involved in other research studies and give their views on the participation process. The outputs from this workshop can be viewed on the KT-EQUAL website (www.equal.ac.uk).

An Ontological Framework for Activity Monitoring and Reminder Reasoning in Healthcare Applications (see publication list)

An abstract based on integrated analysis of vital signs, activities and self reporting for heart failure has been accepted and will be presented at the conference Computer in Cardiology 2011 (September, 2011).

An article documenting the process of therapy adaptation for technology-based delivery for chronic pain was accepted by the Journal of Telemedicine and e-Health is now in print (see publication list)