

Introducing second generation telecare services

SJ Blackburn¹, S Brownsell¹, MS Hawley¹, C Doman², L Kennedy²

¹ Department of Medical Physics and Clinical Engineering, Barnsley Hospital NHS Foundation Trust.

² Doncaster Metropolitan Borough Council.

It has been argued that telecare can allow people to maintain or regain their independence; allow people to stay in their own home rather than going into residential care; reduce admission to hospital; and facilitate early discharge (Audit Commission, 2004). With funding provided by a Neighbourhood Renewal Grant, Doncaster Metropolitan Borough Council and Barnsley Hospital NHS Trust carried out a pilot to discover the issues around mainstreaming telecare services. Specifically, the project sought to introduce an appropriate telecare system and evaluate its impact on older people, service providers and carers. This paper provides an overview of the project, the installation of the technology and interim results obtained thus far.

In the summer of 2004 a sheltered scheme was chosen and 29 older people agreed to be involved and have telecare installed. The telecare technology was grouped into the following packages, which assisted in mapping against user need:

- *Independence Package* - Chair occupancy sensor, bed occupancy sensor, 5 x PIRs (movement sensors), 3 x food cupboard/drawer usage sensors, 2 x electrical appliance usage sensors
- *Security Package* - Main door CCTV, intruder alarm functionality, 2 x flood detectors, temperature extremes sensor
- *Falls Package* - Fall detector, X10 automatic light switch (which works in conjunction with the bed occupancy sensor)
- *Speciality Devices* - Epilepsy bed sensor, property exit sensor, strobe light alert, vibrating pillow alert.

The telecare technology generates real time alerts and also provides "lifestyle reassurance", which monitors for deviations in peoples' normal lifestyle which may be indicative of a change in their health care status. In total, over 500 telecare sensors were installed.

Questionnaires were conducted with the older people and their carers at baseline and 6 months after the installation. In addition, a control group was recruited consisting of 39 similar older people in nearby sheltered schemes. Despite in-depth training prior to the system 'going live', initially there were some difficulties as the older people and service providers familiarised themselves with the technology. This was particularly evident with the intruder alarm. However, within a few months the teething problems have disappeared and service providers are positive regarding the benefits of the system, both to themselves and the older people.

The older people themselves have been positive towards the new telecare technology with 80% stating they like having the system while 16% are yet to come to a firm decision. Only 4% found the technology intrusive, although some individual sensors (22) have been returned. In contrast, 7 sensors have been added due to requests and changing user need. The interim results suggest that, compared to the control group, participants in the intervention group:

- feel safer at home
- have an improved social functioning
- maintain or improve their ability to stay living at home.

However, these findings need to be confirmed at the full 12-month evaluation.

In addition, an Internet Café was introduced in July 2005, with training and support being offered to 17 older people who expressed an interest in a 6-hour 'Basic Computer Skills' course prior to the opening of the Internet Café. All seventeen people have expressed an interest in taking an 'Introduction to the Internet' course, which is commencing shortly.

This project has provided useful signposts towards technology and service developments required if the potential of telecare services are to be truly realised. Due to the vast amounts of data generated by lifestyle reassurance systems it would seem appropriate that automatic alerting systems are developed. Currently graphical representations of the status of each individual are provided and must be viewed manually, which is a time consuming process. There are also many practical issues with regards to implementation of a telecare system. These include the assessment of user needs, the production of appropriate service response protocols, and suitable training material for service providers and users.