

Telecare and Lifestyle Reassurance

Barnsley Hospital **NHS**
NHS Foundation Trust



The dilemma

Telecare has been used in numerous areas to keep older people independent and safe. How can this best be applied in sheltered schemes and how useful is the latest innovation, Lifestyle Reassurance? Doncaster Council's Neighbourhoods Communities and Children's Services in partnership with the Medical Physics and Clinical Engineering Department at Barnsley Hospital sought to answer these important questions.

The need

Assistive Technology, specifically telecare, is facing a period of prolonged investment and development, and the Government has recently created a funding stream dedicated to expanding its uptake (the Preventative Technologies Grant). AT4I, or Assistive Technology for Independence, is a project which involves a 12 month formal evaluation of telecare and is the largest such European project to include Lifestyle Reassurance.



All the reassurance you need

Tunstall

"It makes me feel more comfortable in my home, I don't find anything wrong with them and it gives me peace of mind"

"My family think it is very good, they know I'm safe... you've got that reassurance, it makes you feel more secure."

Service User

The need

With support from Doncaster Neighbourhood Renewal Funding, the project seeks to:

- understand the implementation issues around telecare and lifestyle reassurance to inform the future mainstreaming of services.
- provide an indication of how beneficial such systems are through a formal evaluation.

At the half way point in this initiative a number of findings have emerged. However it should be noted this is an interim review and firm conclusions can only be drawn at the end of the 12 month monitoring period.

The technology

Telecare consists of a range of wireless sensors placed around the home which monitor for potentially dangerous situations such as fire, flood, or falls raising an alert to either a formal or informal carer, or to a central monitoring centre.

Lifestyle Reassurance extends this system using additional sensors to create a pattern of daily activity which can be used to detect improvement or decline in a users behaviour.

For example, electrical usage sensors can be used to monitor how often a person boils the kettle and PIRs (movement sensors) can detect levels of activity within the home. Clinicians can then review this data to establish the progress and safety of clients.

Following extensive consultation and review of user requirements, four technology packages were offered and residents were given the opportunity to select whole packages, or individual devices within these packages.

The four packages were:

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 sensor, strobe light alert, vibrating pillow alert



Flood detector



Temperature extremes



Smoke alarm

The project

The baseline questionnaires undertaken at the outset of the project and before telecare was implemented were repeated 6 months after the installation, and these interim results suggest that overall, compared to the control group, participants in the intervention group have an improved social functioning and have maintained or improved their ability to stay living at home.

- Overall 80% of the participants like having the system, with 16% yet to come to a firm decision.
- At 6 months, no-one in the intervention group has entered long term care - in the control group several people have done so.

Nearly all participants in both groups felt safe at home during the night and day. However, the degree of feelings of safety appears to have increased in the intervention group.

As well as gathering information for the Lifestyle Reassurance part of the project, the technology also raised real time alerts in case of potential emergencies. Examples include:

- A flood detector recognising a leak from a washing machine in the laundry.
- The temperature extremes sensor detecting when pans had been left on the hob.
- The smoke alarm triggering when pans had been left on the hob or toast burnt.

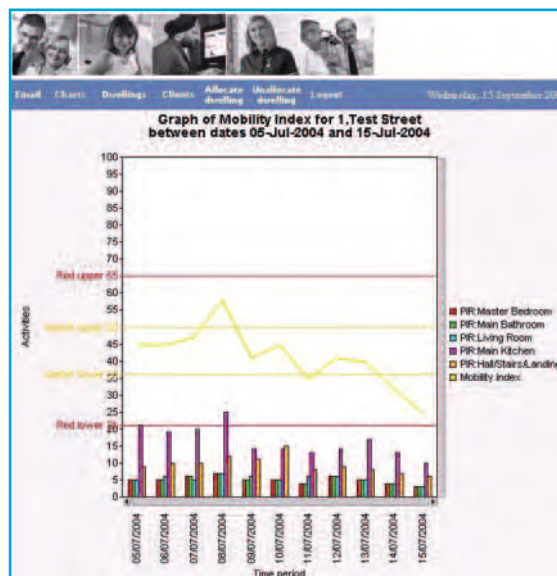
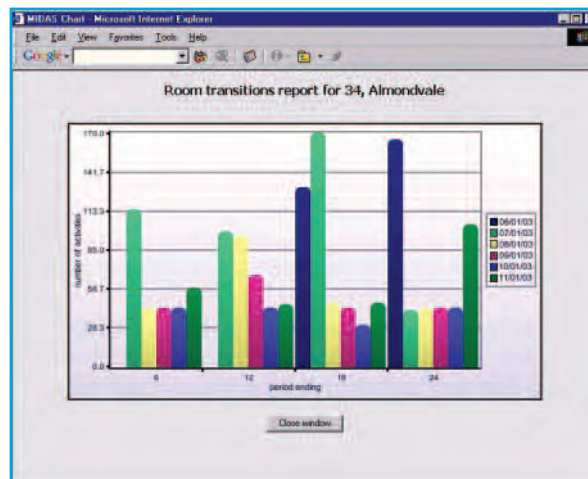
A demonstration facility located at the intervention housing scheme has been available since May 2005 and proved extremely valuable in raising awareness with approximately 60 people from social services, housing, NHS Trusts, control centres and wardens visiting to discuss the developments



What is lifestyle reassurance?

Lifestyle Reassurance utilises telecare sensors in conjunction with additional sensors which record how much electrical appliances have been used, how often cupboard or fridge doors have been opened and how often certain areas of a property have been accessed. This enables a number of indices to be derived relating for example to mobility, nutrition and bathroom usage, and a pattern of normal activities of daily living to be established. These patterns can be monitored over time to interpret improvement or decline in a person's condition, or as part of assessment to inform the development of a support plan.

Using Lifestyle Reassurance to monitor changes in routine which may indicate a change in health status remains an integral part of the project. The information that is being collected will be retrospectively analysed in conjunction with resident health event diaries and any admissions to hospital, in order to examine residents' lifestyle prior to any health events. These results will be evaluated at the 12 month point. Development and evaluation work is planned as part of further collaborative projects.



For further information please call 01977 660479



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