Supporting independent living for older people

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The Challenge

It is well known that as a society we are aging. Within 20 years it is expected that one in four people in the UK will be over the age of 65. That poses many challenges in itself in terms of people's health, wellbeing and quality of life. But when combined with the fact that the number of people of working age will decrease dramatically, it means that as a society we must consider how we will care for our older members. One key component of the solution is for older people to live as independently as possible with dignity, pleasure and security, supported by a range of technologies, that not only assist them but help them remain connected to their family, friends and the wider community.

Areas to be addressed

The need is for a holistic and sensitive approach to older people's wellbeing. An increasing reliance on technology is inevitable. If it is to be successful the technology has to be clearly of a positive benefit to all stakeholders.

Caring

For wellbeing to be encouraged among older people, they need to feel comforted, protected and, most of all, connected to those who care for them. Similarly, carers need to be confident that they are aware of the current and future health and wellbeing of those for whom they are responsible. In order to achieve this, we must rise to the challenge of providing unobtrusive, thoughtfully designed technology can monitor an individual and anticipate the need for the attention of carers. An obvious level response to such monitoring is providing help when an emergency such as a fall occurs; however, appropriate monitoring may help to head off such emergencies. The tracking of signals from unobtrusive sensors, understanding the common patterns, and detecting the deviations that indicate the worsening of problems, such as illness or discontent, all represent interesting issues to tackle.

Nutrition

A key element of staying healthy in later life is good nutrition, although this is often neglected by older people, with surprising amounts of malnutrition in the older population, even in the UK. Preparing and cooking food is in itself a useful activity that stimulates the mind and gives structure to life. More people might be able to undertake responsibility for their own nutrition if given appropriate technological support, for instance, in the compilation of shopping lists, for on-line or 'bricks-and-mortar' shopping, assistance in maintaining an inventory of food in the fridge and cupboards, and in support in planning and preparing meals.

Fitness and exercise
There is scope for supporting and encouraging exercise in the home for older people. Physical fitness along with regular intellectual stimulation can ward off cognitive decline. The current interest in the Wii by older people shows the potential for delivering and monitoring exercise using technology. There is also the possibility of encouraging more walking and exercise out of the home. This would be coupled with the caring role, whereby if a person has more confidence that they are safe, they are more likely to venture out.

Memory aids
Some decline in memory is inevitable in later life. Technology can help compensate for such decline, particularly in critical areas such as medication compliance. While short-term memory may decline, long-term memories can remain sharp and this is to be encouraged with the provision of reminiscence aids.

Social inclusion
A fear – and sometimes a reality – of independent living is of social isolation. Communication and robotic technologies can provide contact with diverse and dispersed human and virtual companions.

The *real* challenges
Technologies already exist which can address the underlying problems mentioned above. The true need is to do this in a way that works. That is, it must address:

Usability
Increasingly powerful technology is increasingly complex and hence potentially harder to use. The technology must be easy to use for users with limited experience of it, and with declining physical, sensory and cognitive abilities; it needs also be easy to learn to use and remember, and create a sense of achievement and satisfaction in users.

Acceptability
Technology cannot and should not be forced on anyone. The perceived benefits must be such that users positively want to adopt it and feel protected by it. Any negative (or potentially negative) aspects must be out-weighed by the positive. This must be apparent to all stakeholders, who are much broader than just the users themselves.