

EDITORIAL

The promise and challenge of providing assistive technology to older people

Many older people wish to remain in their own homes, but are faced with a slow deterioration in their abilities. Most of the time they are fit enough to retain their independence but, on some occasions and for some tasks, they need help. For these people, the use of assistive technologies may make the difference between retaining their independence and quality of life, and losing their homes, independence and self-respect.

The promise of assistive technology

Recent reports on the future needs of older people, such as those of the Royal Commission on Long Term Care [1] and the Foresight Panel on the Ageing Population [2], have highlighted the contribution which assistive technologies could make to supporting continuing independence in later life. This has been supported by the housing strategy for older people of the United Kingdom's Department of Transport, Environment and the Regions [3].

In this issue of *Age and Ageing*, Miskelly *et al.* [4] describe a range of well-publicized assistive technologies, especially sensors, which can be installed in the home or worn by the individual. This provides an indication of the way in which such technologies can help older people. Often in an unobtrusive way, they can bring a sense of security to the individual, decrease isolation and provide assistance when required.

The full range of assistive technologies includes low-technology items, such as contrasting colours in the decoration of walls and floors, grab bars and ramps, as well as electronic gadgets and sophisticated devices associated with the 'smart home'.

In this respect the definition of assistive technology adopted by the Royal Commission—"an umbrella term for any device or system that allows an individual to perform a task they would otherwise be unable to do or increases the ease and safety with which the task can be performed"—is especially helpful. This overcomes a view that assistive technology is primarily concerned with disability and accommodates a perspective that is sympathetic to the needs of all older people, many of whom do not experience major disability but may nevertheless benefit from active and passive mechanical, electrical and electronic aids to daily living [5].

Underpinning the belief of policy makers are important research and development activities. Over the last 5 years, there have been major European Union programmes concerned with exploiting the opportunities offered by advances in communications technology to meet the needs of older people and disabled people when in the home, visiting public buildings and making journeys. These have been large cross-national projects involving universities, industries, charitable bodies and the health and social services sectors.

In the UK, research has also been supported by the Engineering and Physical Sciences Research Council, for example, through its EQUAL (Extend Quality Life) initiative [6]. Many of the EQUAL projects have embraced the principles of design-for-all: that is, the development of environments and products which are non-discriminating in their design, easy to handle, environmentally friendly and easily adaptable to the multifaceted needs of users, thus illustrating that assistive technology can be of benefit to all.

The most publicized work in the UK has been that which culminated in 'smart homes' in York, Edinburgh and Gloucester (the latter specifically for people with dementia). These have provided accessible examples of the application of assistive technology and insights into how the daily routines of older people could be transformed through well-chosen packages of assistive technologies. More generally, much effort is being invested in the development of new forms of assistive technology, especially those that draw on recent advances in information and communications technology.

The adoption of assistive technology

However, despite the promise of assistive technology, the design of packages of assistive technologies to suit the specific and expected future needs of individuals, their incorporation into the home and their effective use by the individual are not straightforward. In addition, the cost of installation, issues of who should pay, the disruption caused when installing larger items of assistive technology, the cost of maintenance and the risks arising from failure of equipment create a very difficult prospect for a housing provider contemplating the wider use of

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assistive technology with older tenants. For many, moving from the theory of assistive technology, illustrated by some attractive worked examples, to the realities of practice, will not be easy.

Consequently, along with the development and refinement of assistive technology, there also needs to be detailed consideration of the way in which assistive technology is provided, managed and maintained. As well as technical challenges, there are commercial issues. This presents problems as the building industry (on whom many will be dependent for the adaptation of homes and installation of assistive technology) has an unfortunate reputation for not providing good value or a reliable service. Also, the manufacturers of assistive technologies are mostly small and have limited service networks. At present, the probability of finding an engineer who could repair, at short notice, a sophisticated electronic device installed in a home is low.

The need for research and development

Ideally the development of a business infrastructure, the greater availability of assistive technology and a reduction in cost should develop in parallel. This is vital to the widespread adoption of assistive technology. In the UK, the Foresight Panel has promoted the need for more research into assistive technology. Since Foresight informs government and industry about those developments in society which will have commercial importance, the government should be keen to back initiatives which support the development of a commercial infrastructure for assistive technology. This is already happening in the field of telecare, with backing from the Department of Trade and Industry [7] and the Engineering and Physical Sciences Research Council [8].

However, whilst high-technology developments are attractive, there is an even greater need for developments which support the wider use of more commonplace assistive technologies. This is where other research, such as that at King's College London and the University of Reading [9], and the dissemination activities of the recently created Foundation for the Advancement of Assistive Technology [10] could play a role.

The report in this issue of *Age and Ageing* provides a valuable indication of how particular assistive

technologies can help the individual. The next steps are combining assistive technologies to suit an individual person in a cost-effective way, and finding a commercial infrastructure that will support low-cost risk-free provision of assistive technologies.

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