Public Inquiry into Caring for Older Australians

AGEING-IN-PLACE: STRONGER FOCUS TO OPTIMISE BENEFITS from SMART TECHNOLOGY

A submission by

Australian Academy of Technological Sciences and Engineering (ATSE)

to the

Productivity Commission

28 July 2010

The Australian Academy of Technological Sciences and Engineering[1] (ATSE) is pleased to respond to the Productivity Commission's public inquiry into Caring for Older Australians.

Summary
Australia needs both an increased national focus on developing and applying smart technology to enable the aged to remain in their homes and new models to fund the deployment of this technology, says a new report from the Australian Academy of Technological Sciences and Engineering entitled *Smart Technology for Healthy Longevity.*

An increased focus on the deployment of smart technology in the homes of the elderly is essential to realise the potential of such technology to ensure a healthy, safe, secure and fulfilling future for the increasing aged population in Australia, to deliver cost effective outcomes and to maintain a healthy, harmonious and prosperous society.

The ATSE report - *Smart Technology for Healthy Longevity*, which was launched in Melbourne on the 22 July 2010, notes that:

- national coordination and sustained R&D support are essential to make optimum use of the available resources, and
- government policies and funding models must change in order to enable these technologies to be used and to realise the significant potential financial savings

The 100-page report came from an Australian Research Council-funded study ATSE conducted in 2009, reviewing the state of aged care technology in Australia and in Europe and using the expertise of Academy Fellows and invited experts to provide an informed view of the future situation of technology for ageing-in-place (continuing to live at home) in Australia. This will enable the aged to realise their passionate desire to remain in their own homes. The study was led by Professor Greg Tegart AM FTSE and a Steering Committee chaired by ATSE Vice President Mr Peter Laver AM FTSE.

The report is part of the Academy's thrust to look at the future implications of increased population in Australia[2]. Apart from the requirements for energy, transport, education and water, the increased population will lead to a dramatic change in demographics with increased elderly aged with major health problems, leading to significantly increased health care costs. Coupled with this will be a decrease in carers and medical staff and hospital accommodation. There is an urgent need to keep people at home safely and securely and provide medical support and treatment. Technology can help to provide cost-effective solutions.

The latest report says a suite of emerging innovative technologies offers the prospect of enhanced security, safety, diagnosis, treatment and physical assistance to improve the quality of life for elderly people, to help them remain at home, and to provide financial savings in aged care and medical treatment.

[1] The Australian Academy of Technological Sciences and Engineering is an independent body of 800 eminent Australian engineers and applied scientists driving technological solutions for a better Australia.

[2] For example, the Academy published in 2007 a report entitled *The Technological Implications of an Australian Population of 30 Million s by 2050 ; see* *http://www.atse.org.au/resource-centre/ATSE-Reports/Population---Infrastructure/*

It notes there is already a substantial investment in R&D capacity in this area in Australia but more needs to be done to strengthen and coordinate this activity and to ensure that public and private aged care authorities and organisations can effectively utilise the outcomes.

It says the Australian Government has a critical role to play by promoting a national R&D agenda on technology and ageing to complement the National Strategy on Ageing and the National Enabling Technologies Strategy.

Ageing-in-place supported by smart technologies offers the potential for substantial savings in residential aged care and in reduced admissions to hospitals, by providing early alerts to changing health patterns and by minimising falls and other accidents in the home.

Many of these technologies for elderly-friendly housing depend on information and communication technologies to address social communications, personal health monitoring, telehealth, shopping and education. While these can be installed in existing homes, future dwellings will need to be custom-designed to incorporate such systems and to cater for the lifelong needs of people.

It says there are opportunities for business and industry to capitalise on the projected expanded markets, both in Australia and overseas, offered by demographic change and development of a national broadband system offers great opportunities for application of e-health and for greater inclusion of the frail aged into society.

Because the elderly are more frequent users of health services and because medical researchers are developing new drugs and procedures linked to age, the Australian Government's 2010 Intergenerational Report suggests that health spending on those aged over 65 is likely to increase sevenfold.

There will be a need for new models of health care and training to deal with this situation and technology can offer possible solutions to issues of safety and security, diagnosis and treatment, while assistive technologies offer the potential to reduce costs, the report says.

Because of the complexities of the challenges that need to be addressed in applying technology to the aged, it says there is a need to bring together a wide range of technologies to focus on solutions.

The Australian Government has recognised the value of this general approach in the recently announced National Enabling Technologies Strategy. The concept of enabling technologies brings into convergence several technologies such as nanotechnologies, information and communication technologies, biotechnology and cognitive science to focus on areas of social, economic and technical importance.

The report notes that in Europe their application to ageing is termed 'gerontechnology', linking medical aspects of ageing (gerontology) with smart technologies to assist in daily living. This is a well-established concept overseas that needs to be promoted in Australia as a means to coordinate R&D activity in this area.

The report adds that there are important social and ethical issues raised by the application of technologies to aged people, who should be involved more deeply in defining their needs to ensure optimum solutions.

Outcomes should be 'demand-driven' and not a result of 'technology-push'.

With closer linkages via home communication systems there are increased opportunities for loss of privacy, fraud and misuse of personal information, particularly with the frail aged. The issue of privacy is a major one arising from the use of unseen monitoring systems which report to a central base. The Academy report says these issues must be addressed in the development and application of enabling technologies for the ageing.

The ATSE Report is available at http://www.atse.org.au/resource-centre/ATSE-Reports/Health-Technologies/

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