



# THE SIGNIFICANCE OF ASSISTIVE TECHNOLOGIES IN AGED CARE: SUMMARY REPORT

Eyre J, Spoehr J & Barnett K  
December 2013

*A report for The Stretton Centre funded by the  
Department of Sustainability, Environment, Water, Population & Communities*

**WISeR**  
Informing Decisions



Australian Government  
Department of Sustainability, Environment,  
Water, Population and Communities



THE UNIVERSITY  
of ADELAIDE  
AUSTRALIAN WORKPLACE  
INNOVATION AND SOCIAL  
RESEARCH CENTRE



# **THE SIGNIFICANCE OF ASSISTIVE TECHNOLOGIES IN AGED CARE:**

## **SUMMARY REPORT**

Eyre J, Spoehr J & Barnett K

December 2013

Australian Workplace Innovation and Social Research Centre  
The University of Adelaide  
230 North Terrace  
Adelaide  
South Australia 5005

[www.adelaide.edu.au/wiser](http://www.adelaide.edu.au/wiser)

Published December 2013

Suggested citation:

Eyre J, Spoehr J & Barnett K, 2013, *The Significance of Assistive Technologies in Aged Care: Summary Report*, Adelaide: Australian Workplace Innovation and Social Research Centre, The University of Adelaide.

*The Australian Workplace Innovation and Social Research Centre (WISeR) focuses on work and socio-economic change. WISeR is particularly interested in how organisational structure and practices, technology and economic systems, policy and institutions, environment and culture interact to influence the performance of workplaces and the wellbeing of individuals, households and communities.*

*WISeR also specialises in socio-economic impact assessment including the distributional impacts and human dimensions of change on different population groups and localities. Our research plays a key role in informing policy and strategy development at a national, local and international level.*

# CONTENTS

.....	4
<b>FOREWORD</b> .....	<b>3</b>
<b>1 INTRODUCTION</b> .....	<b>1</b>
<b>2 THE IMPORTANCE OF ASSISTIVE TECHNOLOGIES</b> .....	<b>1</b>
THERE IS A HUGE RANGE OF ATs: <b>MOBILITY</b> .....	2
<b>PERSONAL CARE</b> .....	2
<b>HOUSEHOLD TASKS</b> .....	2
<b>RESIDENTIAL CARE</b> .....	2
<b>ASSESSMENT AND TREATMENT</b> .....	2
<b>ORTHOSES</b> .....	2
<b>ICT</b> .....	2
2.1 BUSINESS MANAGEMENT .....	2
2.2 INFORMATION, DRIVERS AND PRIORITIES OF PRODUCT SELECTION .....	3
2.3 SOURCES, SUPPLIERS AND FUNDING SOURCES .....	4
2.4 INDUSTRY OPPORTUNITIES.....	4
2.5 FUTURE DEMAND .....	4



## FOREWORD

This report has been prepared by Jonquil Eyre, on behalf of the Australian Workplace Innovation and Social Research Centre (WISeR) for the interviewees who contributed to information gathering for the WISeR Assistive Technologies Study.







## 1 INTRODUCTION

In Spring 2013 the Australian Workplace Innovation and Social Research Centre (WISeR) at The University of Adelaide undertook a study to explore the scope of, and issues related to, Assistive Technologies (ATs) in the aged care sector in South Australia.

A purposive sample of aged care organisations was identified and structured interviews were undertaken with representatives with a role in procurement of ATs and with those with a role in care management for each organisation. The interviews were designed to obtain from South Australian aged care providers insights into the types of ATs being used, drivers for product selection, the procurement processes involved, sources of supply, the financial value of AT purchases, issues affecting purchase of ATs and perceived future demand for ATs. The topic appeared to be of interest to interviewees, a number of whom had consulted with colleagues and prepared in other ways for the interview.

This report summarises the findings from 25 interviews and written material from 15 procurement, community/home care and residential care staff from seven aged care providers and 10 representatives from professional associations, suppliers and developers.

## 2 THE IMPORTANCE OF ASSISTIVE TECHNOLOGIES

Assistive Technologies (ATs) often referred to as 'aids' or 'adaptive equipment' are described as significant for three reasons: clients, staff and business management. There are mixed reports about how important the area is some saying that it is a neglected area and others reporting multiple contacts about AT recently. It is also an area in which there is significant change. The range of products, where they are made, customization, the move from congregate living to people remaining in their homes, the shift from owning to renting and fewer government dollars in aged care are affecting clients, service providers and the industry.

Most importantly AT is essential for good health for older people to maintain their quality of life through mastery of their own environment and removal of barriers to self-determination. For older people living at home the two key areas for AT are basic mobility, such as walking frames or wheelchairs and in-home equipment such as shower chairs and rails for safety and to assist activities of daily living. There is growing focus on home modifications that can make significant difference to whether a person is safe and has quality of life in their home.

AT is also essential for staff to be able to do their job particularly in the fields of personal care, occupational therapy, physiotherapy, podiatry and exercise physiology. Residential facilities rely on a large variety of equipment to provide care. AT is essential if a person is unable to bear their own weight in order to provide safety for clients and safe manual handling for staff.

One area of change is driven by organisations looking for new timely, efficient and effective ways to address client needs. This is resulting in the use of tablets for administration and recording client data. Increasingly aged care providers are using ICT tools also for tracking purposes, for example, the sources of staff injuries to implement better procedures while retaining focus on client safety, dignity and comfort.

As the responsibility shifts to the individual both in home care and increasingly in residential care, interviewees raise the question of who will be expected to pay for AT that helps a person stay in their home.

## 2.1 BUSINESS MANAGEMENT

Aged care providers identify that growth in spending on AT aligns with organisational growth which is affected by the increased age and complexity of clients seeking services. Spending on the diverse range of items classified as AT by aged care organisations ranges from 0.3% - 4.6% of annual revenue. New facility construction and renovation elevates the cost in any year. There is a broad range of AT and classification varies by organisation (see Box)

There is increasing attention to collecting data and managing procurement, including the move to organisation-wide central procurement. Data bases that capture inventory, maintenance schedules, accident hazard reporting, incidents of push-pull injuries or repair and replacement tracking are increasingly being developed to manage residential care assets more rigorously.

Some organisations are exploring how ICT (Information and Communications Technology) can help maintain good contact with clients while gaining some savings in the cost of staff and travel. There is some trialing of video conferencing in people's homes to provide support and provide another way for metro staff to support regional sites. Introduction of new AT, particularly when it involves ICT, requires support to staff and explicit illustration of the benefits.

The administration and authority of providing care workers with smart phones or tablets is requiring a shift in thinking for the

### THERE IS A HUGE RANGE OF ATs:

#### MOBILITY

- Walking frames, sticks
- Manual and powered wheelchairs and scooters
- Devices to give confidence and safety driving

#### PERSONAL CARE

- Pressure care – cushions, air and gel mattresses
- Personal alarms and call alert buttons
- Slings, lifters and hoists
- Continence products
- Blister packs for medication
- Shower chairs
- Bed hair baths
- Angled sponges
- Tap turners and large handles

#### HOUSEHOLD TASKS

- Beds - bed raisers, electric beds
- Chair raisers, electric chairs, sit to stand chairs
- Hand and bed rails
- Home modifications e.g. magnetic door catches, grab rails, ramps, half steps, handrails, shower alcove modifications
- Lightweight vacuum cleaners

#### RESIDENTIAL CARE

- Trolleys - kitchen and laundry
- Timed lighting systems
- Movement sensors
- Aids for palliative care such as pumps for pain relief

#### ASSESSMENT AND TREATMENT

- Ultrasound - diagnostic and therapeutic
- Podiatry drill
- Blood glucose monitor
- Exercise bikes, treadmills

#### ORTHOSES

- Upper limb splints, braces and supports
- Orthotics, e.g. wedges

#### ICT

- Mobile and smart phones
- Large button phones
- Computers, iPads and tablets
- Building management systems
- Apps e.g. as prompters

ICT department in organisations which have to develop back-end procedures to support new practices.

Another area of saving for aged care providers has been the shift away from storage and inventory management of owned equipment which is loaned to clients (which brings the added responsibility of liability) to AT rental from an external supplier. Whether purchased or rented the AT is increasingly the responsibility of the older person. Maintenance of AT which was once reactive has moved to product life cycle preventative maintenance with records of equipment on monthly, quarterly or annual cycles being a required part of accreditation.

Procurement managers meet together in SA and across states to share information and increase buying power, which sometimes includes investment in the required research and development. Influencing related policy is another area in which collaboration is important and one in which peak bodies are expected to provide a constructive role.

## 2.2 INFORMATION, DRIVERS AND PRIORITIES OF PRODUCT SELECTION

Aged care staff rely on conferences (including international ones), trade displays, buyers guides, online searches, innovation networks, suppliers, networking with colleagues in other organizations, professional associations, the OT Board, the Independent Living Centre, books and industry journals for information about products, their functionality and availability.

Client needs and the impact on health, independence, choice and quality of life are central criteria for AT selection. Safety and dignity of clients and safety of staff are key criteria. The AT needs to be a good fit for its purpose, including benefit versus risk. Consideration is also given to the client's cognitive and physical capacity to use the AT and the suitability for the environment. Bariatric equipment is growing in importance.

Durability and quality are key criteria for purchasing, with risk assessments a part of purchasing decisions. Trialling before buying is common. Shelf life of products is a consideration, although a number of items such as a shower chair may be more economically discarded when a client has finished with it, rather than incur pick up and cleaning costs. Questions about a piece of equipment's user-manual, clear and easy to read instructions, the existence of a manufacturer's risk assessment, the provision of training by the supplier for safe operation, spare parts availability, emergency stop button, inclusion of a service agreement as well as a check list about identified hazards such as pinch points, noise and risks of entanglement are criteria used by one organisation.

Life cycle costs are a consideration for residential care providers. The policy change to Consumer Directed Care (CDC) provides the older person with the responsibility to plan for and make their own choices about their spending of aged care funding, including AT. The shift to user pay raises the concern that costs could become extreme for clients buying AT. Aged care providers describe over three quarters of their clients living on a full pension, not owning their home, having debt and no savings and not having the resources to purchase expensive equipment including AT that would benefit them. Where price is a barrier, cheaper options are sometime recommended to avoid the client not using anything at all.

Occupational health and safety concerns and the well-being of staff are major considerations for aged care providers. People working with older people are reported to be one of the most injured groups in the workforce. Vigilance to minimize injury to staff is constant.

## 2.3 SOURCES, SUPPLIERS AND FUNDING SOURCES

Historically Australia was the location of manufacture of AT but this has significantly diminished. Garage based manufacturers that existed years ago are now limited to customization and have been replaced by national and international manufacturers. Aged care providers express an interest in buying Australian made, but the cost is estimated to be 30 - 50% more than that of a similar item made in low cost countries such as China. For size of the market, the costs of labour and overheads are described as the biggest barriers to manufacture in Australia.

The general impression is that South Australia is well served by a relatively small number of distributors who carry a range of AT for sale and rent. Organisations typically have a small group of preferred suppliers that they invite to tender on large purchases for which they try to leverage buying power by collaborating with others. Both suppliers and buyers agree that integral to loyalty are the relationships that are developed. Skilled staff with health care knowledge in addition to their sales skills, follow up, timely service and reliable after sale service are key. Organisations also value being able to raise queries with suppliers and being able to obtain spare parts. Often aged care providers negotiate preventative maintenance contracts as part of their purchase. Suppliers are expected to have service staff on call and available 24/7. Aged care organisations describe their maintenance staff doing limited repair and specialized repairs being done by original equipment manufacturers or suppliers.

For the AT manufacturing and distribution industry, group buying, the increase of manufacturing in low cost countries, the importance of winning large tenders and the increase in rental of equipment are some of the major changes.

There is consensus that the environment for spending on aged care and therefore related AT is changing, with the current picture of government funding described as austere. There is consensus that it is useful and essential for researchers, customers and suppliers to be working closely together on the development of new AT to ensure that products are relevant. Aged care reform, in particular the *Living Longer Living Better* framework, with a strong focus on Consumer Directed Care (CDC) is seen as bringing a need for new ways to attract resources to research and development, including universities, government and customers working together. Some aged care providers have funded university led research. A facilitated steering committee at the highest level that would invite small and large players to work together to influence innovation was suggested.

## 2.4 INDUSTRY OPPORTUNITIES

Australia was described as behind the US and European Union in developing industry opportunities. Interviewees would like to be able to create jobs in South Australia but the size of the market, 6% of the national market, and cost of overheads and labour relative to low cost country manufacturers are seen as the primary barriers to manufacturing in Australia.

Gaps in available products are not seen as a concern. Instead, there are multiple opportunities for innovation in AT that would make a difference in supporting independence for the older person, including people with dementia. Possible areas are the need for lighter weight and less bulky products that can reduce the demands on users, carers or care staff for manual handling and be more easily transported and used in homes. Other ideas are for low cost items and aesthetically appealing products that fit well into home décor.

## 2.5 FUTURE DEMAND

Creative and better ways to use existing ICT and customization of ICT to support greater sustained independence for older people are suggested as key areas of demand. The

areas of telehealth and telelink are growing in places like the UK and beginning in Australia. Innovative Apps that support independence are expected to be increasingly in demand. At the Independent Living Centre a room has been dedicated to ICT that enables remote manipulation of e.g. lights, blinds, curtains, doors and electronic equipment. The need for such items is expected to grow.

Residential care providers expect that people will be increasingly frail when they come to a facility and AT will be important in their palliative care and with degenerative diseases. Memory support will be a growing area, especially for people with dementia. This has design and geo mapping implications e.g. for wanderer alerts for safety.

Transportation is an area of concern for older adults, both travelling long distances and getting about locally. As with other areas of thinking on AT, the disability sector has some lessons to share. Arts, recreation and culture are important for quality of life. Better audio equipment, digital TV and digital radio accessed by choice using an iPad are examples that have engaged people who have become socially isolated or depressed.

As Baby Boomers begin to be consumers of aged care services they are expected to know what they want, be technologically savvy and be informed consumers who will shop around and ask new kinds of questions, bringing implications for the design and range of AT.



