



Productive Ageing
PASSION GROWTH EXPERIENCE

Research Bulletin

Vol. 3 No. 1 - 2007

Using assistive technology to manage health in ageing communities: A consumer perspective

Report on preliminary findings of an initial study into seniors' attitudes toward, and willingness to use, assistive health technologies to manage their health and independence undertaken by National Seniors Productive Ageing Centre.

Background

As the population continues to age, there is growing concern about the ability of the health sector to cope with the anticipated increase in demand for residential care and supervised medical services. Furthermore, as more and more seniors live alone without the support of extended family, maintaining independence may become more difficult. One solution that is being investigated is the potential for in home health technologies to assist individuals in managing their health and safety to allow them to stay in their homes longer. Indeed, interest surrounding assistive health technologies is growing, with increasing research documenting its benefits and the establishment of major organisations to develop and disseminate these emerging technologies to seniors.

The Issues

Given that the development of this technology appears well underway it is equally important to understand how older people will respond to and adopt these technologies. Subsequently, the main issues considered in this study examined:

- seniors' beliefs about; and
- willingness to use assistive health technologies

The study also examined the extent to which seniors desired to remain in and receive care in the home.

The Survey

A mail out questionnaire was sent out to members of the National Seniors Productive Ageing Research Register. The survey consisted of two parts:

- Health status; and
- Attitudes towards assistive health technologies

Respondents were asked specifically about issues related to seniors' acceptance of, and willingness to use assistive health technology. These issues included:

- Current use of computer and Internet technology
- Computer and Internet self-efficacy
- Current use of simple assistive health devices
- Current and future needs of daily living
- Preferences for and barriers to ageing in place
- Beliefs about and attitudes towards assistive health technology
- Willingness to use assistive health technology

Respondents were also asked to provide information about themselves such as their age, gender, marital status and living arrangements.

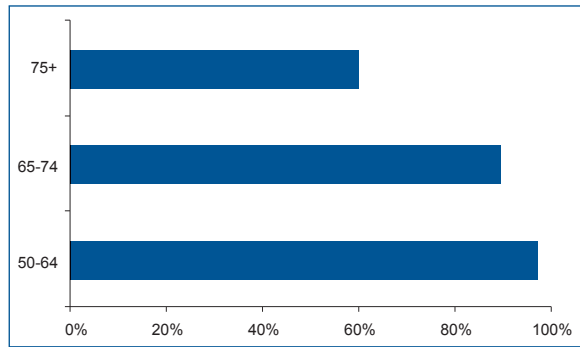
Overview of Respondents

Respondents were aged from 50 to 92 with an average age of about 63 years. Females made up 68.2% of the respondents in the sample. Over half (55.5%) were either married or in a relationship. Similarly 54.7% of respondents lived with a partner or spouse, while almost one third (29.2%) lived alone. Overall respondents reported good (32.5%) to very good health (42.7%).

Computer and Internet Use

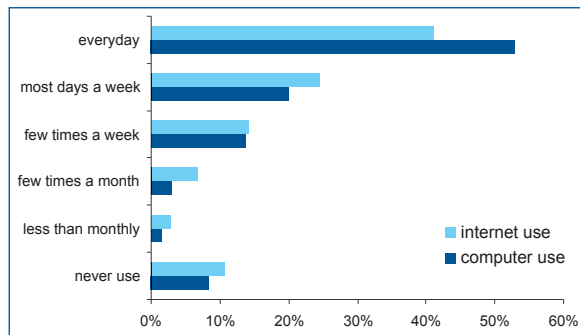
Respondents were asked to indicate whether they use the computer or Internet. The majority of respondents reported that they use the computer (91.7%) and Internet (89.4%). For computer use, age related differences were observed in which larger proportions of younger seniors reported using a computer than seniors in older age groups (see Figure 1). No significant age differences in Internet use were observed.

Figure 1: Computer Use by Age Group (% of Respondents)



Respondents also indicated how often they use the computer and Internet. Overall, a large proportion of respondents reported using the computer (95.2%) and Internet (87.6%) on a regular basis with 53.5% using the computer and 41.1% using the Internet on a daily basis.

Figure 2: Frequency of Computer and Internet Use (% of Respondents)



Age related differences in frequency of computer and Internet use were also found in which younger seniors reported using the computer and Internet more often than older seniors.

Benefits of Assistive Technology

Respondents were asked about their beliefs regarding the usefulness of different types of assistive technology for active seniors and for seniors suffering from chronic health conditions. Over 95.7% of respondents reported that they believe assistive technologies such as personal devices, home computer and monitoring systems would be beneficial for seniors suffering from chronic health conditions. The majority of respondents (over 59.5%) also reported that they believe these technologies would benefit active seniors.

Experience and confidence with computer and Internet technology was found to be related to respondents' beliefs about the benefits of assistive technology devices. Respondents who had greater confidence in their ability to use the computer or Internet also believed that home computer monitoring systems would be beneficial for seniors suffering from chronic health conditions. Those respondents who had higher computer self-efficacy did not believe that personal devices would benefit active seniors, while those with lower self-efficacy believed they would be of benefit.

Willingness to Use

Respondents indicated their willingness to use a range of assistive technology devices on a scale from 1 to 5 where 1 was not at all willing and 7 was extremely willing. Overall, over three quarters of respondents (76.8%) indicated that they would be willing to use a range of assistive technologies. Most respondents (76.6%) were unwilling to pay the full cost to use the technology, while 60.4% indicated that they would be more willing to pay part of the cost.

Respondents' computer and Internet use was found to influence their willingness to use assistive technologies. Those who use the computer and Internet and those who reported using these technologies on a more regular basis were also more willing to use a range of assistive technologies and to pay the full or part cost of the technology.

Age differences in willingness to use assistive technologies were also observed in which younger seniors (aged 50-64) were more willing to use than older seniors (aged 65+). In terms of willingness to pay costs, gender differences emerged in which men were more willing to pay the full cost of the technology than women.

Beliefs about Assistive Technology

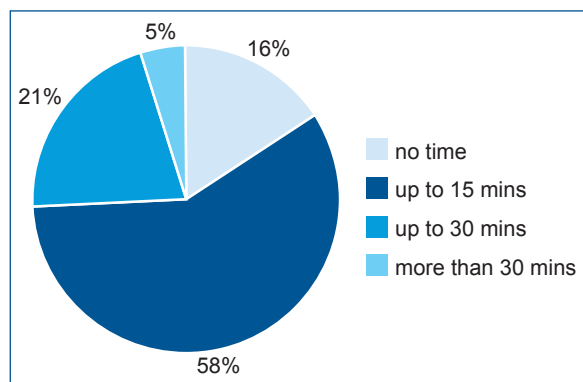
Seniors' beliefs about assistive technology were measured by asking respondents to indicate the extent to which they agreed with a series of statements about assistive technology. These statements gauged beliefs related to the extent to which assistive technology could assist in the management of health conditions, would be time efficient, and easy to use. Overall, 68.5% of respondents indicated that they held positive beliefs about assistive technology. Some age differences were found where younger age groups reported more positive beliefs about assistive technology than older age groups.

As with willingness, beliefs about assistive technology were also related to respondents' computer and Internet use. Computer and Internet users held more positive beliefs about assistive technologies than non users. Moreover, respondents with greater confidence and higher frequency use of computer and Internet technologies also held more positive beliefs about assistive technology than less confident and less frequent computer and Internet users.

Respondents were also asked to indicate how long they would be willing to invest each day into setting, adjusting and using assistive devices. Most respondents (58.5%) indicated that they would be willing to spend up to 15 minutes each day using, setting and adjusting technologies.

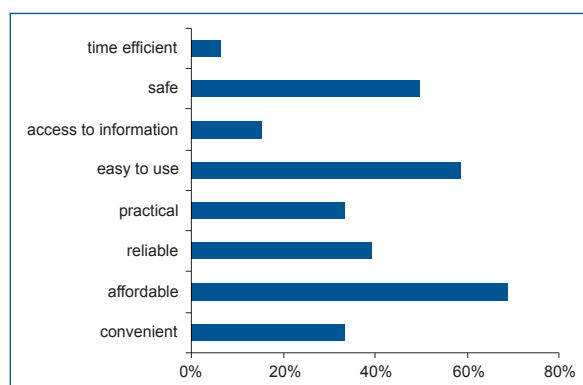
“ Respondents' computer and Internet use was found to influence their willingness to use assistive technologies. ”

Figure 3: Time Investment



Important features of assistive technology were identified by asking respondents to indicate three features that would encourage people to use assistive health technology. As seen in Figure 4, the three most important features identified were affordability (68.8%), ease of use (58.8%) and safety (49.5%).

Figure 4: Important Features of Assistive Technology Devices



Needs of Daily Living

An assessment of seniors' current and future daily living needs was included to determine the areas for which assistive technology may be of most benefit. Respondents were asked to indicate for each need whether it was of no concern, current, or future concern. Generally, most respondents were not concerned (53.2%) about their needs of daily living. For those who indicated some concern, most reported future (41.1%) rather than current concern (5.7%) about their needs of daily living. As can be seen in Table 1, falls, vision or hearing and getting help in an emergency were the main concerns held for the future. The main current concerns indicated by respondents related to home security, vision or hearing, monitoring vital signs and getting help in an emergency.

Table 1: Needs of Daily Living (% of Respondents)

Needs	No Concern	Current Concern	Future Concern
Getting help in an emergency	33.6	14.3	52.1
Vision or hearing	31.7	16.0	52.3
Falls	33.9	12.5	53.6

Moving from one room to another in the dark	57.7	5.7	36.7
Kitchen safety (eg. hot stoves, ovens)	58.9	6.0	35.1
Home security (eg. home alarm)	52.5	18.1	29.4
Remembering appointments	56.2	9.6	34.2
Managing a medication or treatment schedule	56.0	8.2	35.8
Using control panels (eg. temperature, TV)	57.3	11.0	31.7
Monitoring your vital signs (eg. blood pressure)	45.0	15.2	39.7

Relations between needs of daily living and attitudes towards assistive technology were also explored. Respondents who reported more future concerns with needs of daily living were also more willing to use and held more positive beliefs about assistive technology than those who were not concerned about their daily living needs.

Preferences for and barriers to ageing in place

Respondents were asked to answer questions about their preferences to receive care and remain living in their current home as means for gauging their desire to age in place. When asked about their preferences for receiving care or assistance, most respondents (78.3%) indicated a preference for receiving care or assistance in their own home. Interestingly, while most held positive beliefs and were willing to use assistive technology, those who preferred to receive care outside of their home (i.e. retirement facility or family/friend's home) were more willing to use and held more positive beliefs than those preferring to have help provided in the home.

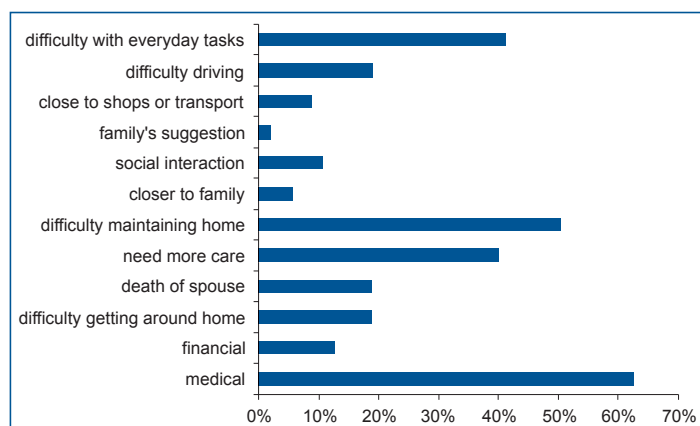
When asked about their desire to remain living in their current home, 96.4% of respondents agreed that they would like to stay living in their current home as long as possible. In comparison, only 75% of respondents expected that they would always live in their current home. Age differences in seniors' expectation and desire to remain in their home reflected the pattern that older seniors both desired and expected to remain in their current home more than younger seniors.

Relations between respondents' desire and expectation to remain in their home and their attitudes towards assistive technology were also explored. Again we found that overall most respondents held positive beliefs and were willing to use assistive technology. However, respondents who did not desire or expect to remain living in their home were more willing to use and held more positive beliefs than those who indicated a preference to stay living in their homes.

“ Overall, respondents held more positive beliefs about and were more willing to use a variety of assistive health technologies. ”

Important barriers to ageing in place were identified by asking respondents to indicate the three most important reasons that would cause them (or have caused them) to move out of their home. As seen in Figure 5, the three most important barriers identified were medical reasons (62.6%), difficulty maintaining the home (50.5%) and difficulty with everyday tasks (41.3%).

Figure 5: Reasons Causing Seniors to Move from Current Home



Discussion

Overall, respondents held more positive beliefs about and were more willing to use a variety of assistive health technologies. However, these beliefs and attitudes were found to be dependent on their experience and use of general computer and Internet technologies. Despite respondents' experience with technology and their willingness to use assistive technologies, affordability, ease of use and safety were still important features that influenced their decision to use assistive devices. Respondents were also only willing to invest minimal time each day into setting, adjusting and using the health technologies.

While the vast majority of respondents indicated a preference to remain in and receive care in their homes, the need for medical assistance, difficulties maintaining the home and completing everyday tasks were given as common reasons seniors expect to move out of their current home. Although most respondents' attitudes towards assistive technology were positive, those who preferred to remain in and receive care in the home were less willing to use and held less positive beliefs than those who preferred to receive care outside of the home. As the development of these technologies is being offered as a means to enable seniors to age in place, further investigation of this finding is required to understand why those who want to remain in the home are less willing to use and hold less positive beliefs about assistive technology.

In light of the focus on ageing in place and the growing interest in the development of assistive technologies to support those wanting to remain in their homes longer, it is crucial that seniors' attitudes towards these technologies are fully understood. The preliminary findings of this survey highlight some important considerations for seniors in their day to day living, and factors that are important in determining their willingness to use and adopt assistive technologies. Subsequently, the challenge in enhancing and improving the independence of seniors is largely based on the extent to which seniors' needs are understood and effectively addressed in the design and development of assistive technologies.

National Seniors Productive Ageing Centre

National Seniors Productive Ageing Centre (NSPAC) was established by National Seniors in 2002, in partnership with the Australian Government Department of Health and Ageing and the University of the Sunshine Coast.

The Centre's annual program consists of consumer research and policy forums, cross-sectoral research collaborations, development of productive ageing research products and innovative use of a range of media to disseminate research widely.

The National Seniors Association and the National Seniors Productive Ageing Centre gratefully acknowledge the financial and other support provided by the Australian Government to the National Seniors Productive Ageing Centre Project.

The Australian Government accepts no responsibility for the accuracy or completeness of any material contained herein and recommends that user exercise their own skill and care with respect to its use.

The Australian Government disclaims to the extent permitted by law all liability for claims, losses, expenses, damages and costs the user may incur as a result of or associated with the use of the information contained herein for any reason whatever.

If you are involved in a research project which you believe would be of interest to the Centre, please contact us on:
 email info@productiveageing.com.au
 telephone **+61 7 3221 7074**

For further information on National Seniors Productive Ageing Centre visit www.productiveageing.com.au

National Seniors Productive Ageing Centre for consistency with the National Seniors membership base uses the term 'senior' to describe an individual aged 50 years and over.

