



Bridging the Digital Divide

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OVERVIEW

National Seniors conducted an annual survey in 2017, and spoke to members through policy forums held in a number of areas across Australia. Digital issues dominated forum discussions, with some audiences expressing intense frustration at the rate of digital change, and the problems they have using new technologies.

In line with current digital divide research from around the world, this report provides evidence that the digital divide is not drawn only between the young and old (the intergenerational digital divide) but is also evident within the over 50 cohort. Some older Australians are digitally literate and active, while others struggle with many aspects of the digital world (the intragenerational digital divide).

This study found that:

- National Seniors has a digitally literate cohort within its membership who have email addresses, can complete an online survey, and who indicate they use their computer on a daily basis;
- Other National Seniors members indicated in policy forums that they struggle with some aspects of digital change, have a great desire for computer training, have issues with internet access and buying digital devices due to cost, would prefer face-to-face services in some situations, and consider the expectation to keep up with digital change a form of age discrimination;
- While the gap is slowly closing, without policy and infrastructure changes the digital divide cannot be eliminated. Older Australians should not be expected to fix this issue themselves, but need support, assistance, and understanding;
- The co-design of products and services with the older cohort that they are intended for is essential; and
- Alternatives to the digital delivery of information and services should be maintained.

Digital access is becoming a normal aspect of social engagement for many older people. In 2017, the National Seniors annual survey was delivered online, and the respondents were, consequently, a digitally literate cohort. Of these:

- 90 per cent use a computer on a daily basis for email, internet or other tasks;
- 36 per cent have contact with their children by text message or on social media 3 or more times per week, with another 33 per cent having contact once or twice each week;
- 34 per cent have contact with family members, such as siblings, by text or social media at least once or twice a week;
- Almost half have text or social media contact with friends at least once or twice a week;
- 30 per cent indicated they accessed government websites for financial information about retirement; and
- 23 per cent seek health and lifestyle information online.

In the policy forums, however, the differences between those who are digitally literate, and those who aren't, took on a different reality, with many older Australians being dependent on family and community services for access, and others who had totally opted out of digital contact and service delivery.

The digital world is unfamiliar to many older people. Whereas in the past, formal (commonly government), informal, and family services were in partnership supporting older people, it is now evident that technology is a third player in this partnership. The new digital partner is not "peopled" but online or embedded in smart devices. The older person is required to become an immigrant to this new territory to benefit from it as a service partner.

Even those who are currently functioning in the digital world, and the new cohorts coming through into aged care, will be challenged further in the coming years to maintain their literacy. A new balance between digital and analogue information and service delivery will have to be found.

Older people value human interaction, which is crucial to their physical and mental health. The digital world gets large amounts of information around quickly, but it doesn't build the relationships and trust that makes information reliable and usable.

The Australian Government recently launched the Be Connected initiative to reach those older Australians in the community who are yet to embrace the benefits that technology offers. This initiative is needed, and requires full support of the community.

National Seniors Australia supports efforts by governments and business to counter digital discrimination against the over 50 population.

INTRODUCTION

National Seniors Research regularly gathers data about how older Australians are faring across many areas of service access and general wellbeing through an annual survey, recorded policy forums, and qualitative interviews. It has become apparent that digital access and literacy are pressing concerns for older Australians. In public policy forums in 2017, we have had trouble in getting debates to move beyond digital literacy and issues with new technologies, to discuss other policy issues. There is clearly an intergenerational digital divide in the Australian community, and older Australians both recognise the existence of it, and are increasingly concerned. The digital divide between so-called “digital natives”, those born into a digital world, and “digital immigrants” (Prensky, 2001), those who’ve had to take up digital technologies in later life, is widely acknowledged. Recently digital divide research has also confirmed an intragenerational divide between younger and older seniors, with many “young old’s” now quite digitally literate, while the over 80s are recognised as being almost completely left out of the digital society. The digital divide has been slowly closing, however, the gap will widen unless effective, affirmative action is taken immediately. This report explores the implications of age discrimination against older Australians who are struggling with digital technology.

Age discrimination, or ageism, is defined as “prejudice by one age group toward other age groups” (Butler, 1969). Much of it is implicit, operating below conscious awareness, and based on stereotypes. A recent media survey of 800 adults aged 18 to 90 (Freedom Aged Care, 2017) reported a new focal point for identifying old age, namely “difficulty with understanding new technology”. This was reported as a sign of ageing at a rate similar to wrinkles and physical signs of ageing. This generalisation is unsupported by the evidence, which shows that many older people are not struggling with new technology, but skilfully using it. A Deloitte mobile consumer survey found 78 per cent of people aged 63 to 75 years owned a smart phone in May-July 2017, up from 69 per cent between June-July 2016, while 82 per cent of 55 to 64-year-olds owned one (Mitchelson, 2017). On the other hand, older people who do have difficulty are being stereotyped and blamed for something not requested or controlled by them. They are forever playing catch-up or being left behind with rapid digital change that inhibits their access to essential services such as government information, banking, supermarket checkouts, travel, passports, and more. Ongoing replacement of face-to-face services by digital technologies is taking place without enough programs for those who need support to learn new systems and adjust to digital ways of doing things. To further complicate the issue, digital assistive devices and systems may be poorly designed for the physical capabilities and service needs of older people.

These digital difficulties can be encountered when older people are under financial, emotional and social stress. One example reported by National Seniors research in 2017, was late access of the aged care sector when care is urgently required and the need for care decisions are imminent (Rees, McCallum, & Cantwell, 2017). Members reported finding the process of accessing My Aged Care a maze and a struggle. Access of the sector often occurs when consumers feel vulnerable or upset about what is happening. They face these emotional and stress-laden situations as digital immigrants rather than as digital natives, with the difficulties this analogy implies.

Male in policy forum October 2017:

I used to be on top of all this, but I feel there really is a growing digital divide. When it's about a surviving partner, I mean either because of dementia or widowhood, they have very big finance issues. They need to talk to the old-fashioned desk service at a bank. You can't do that sort of thing through a computer.

Our audiences in 2017 reported that in some locations there are few or no services for digital education and training available to them. This a critical gap; retirees don't have access to education and updates provided for the employed, or the social support of work colleagues that normalises change and development. Many older Australians feel as though policy makers think they no longer need continuing digital education, despite the digital revolution coming into its 4th wave with increasing pace. Recently, costs of internet connection and new phones have become prohibitive for some and a burden for others, at the same time as these have become the main point of access for information and communication.

Frustration arises when seniors believe their side of the story is not being considered. They have been characterised as resistant, when this is something beyond their personal control. This is also a negative stereotype for those who are, or who are trying to be, digitally competent. Their request for more personal, face-to-face services is also entirely reasonable. People who are normally polite and respectful, now publicly express frustration and sometimes anger about this situation. The central issue is an assumption by the general public that older people should take action as individuals to solve the challenges they confront as they age: "This focus on individual responsibility mutes attention to our shared responsibility as a nation to ensure that our older residents are well supported and experience well-being" (Lindland, Fond, Haydon, & Kendall-Taylor, 2015). The digital divide experienced by older Australians needs to be tackled by policy and infrastructure changes, and a close look at age discriminatory practices.

Digital immigrants and digital natives

An influential essay (Prensky, 2001) redefined a perceived "decline in education standards" during the 1990s as a misunderstanding between digital native students and digital immigrant teaching staff in schools and universities. The digital native students were characterised as fluent in the digital language of computers, video games and the internet. Those not born into the digital world became fascinated by and adopted aspects of the new technology becoming the digital immigrants. Like all immigrants they retained more or less of an accent, a foot in their world of origin. Prensky provides amusing examples of the digital "accents" of immigrants:

- Printing out your emails;
- Having an assistant print out emails – a stronger accent than doing your own!
- Editing a printed version of a text rather than directly on the computer;
- Bringing people into your office to see an interesting website rather than sending them the URL; and
- Making phone calls asking, "did you get my email?".

By contrast the digital natives:

- Are used to receiving information fast;
- Like to parallel process and multitask;
- Prefer graphics before text;
- Prefer random rather than linear access, e.g. hypertext;
- Function best and most happily when networked;
- Thrive on instant gratification and frequent rewards; and
- Prefer games to what immigrants think of as serious work.

Not only had the thinking patterns of students changed but the neuroprocessing research showed that their brains had physically changed with their different exposures. This explanatory analogy is relevant to the thinking and functioning of older Australians as they interact with digital systems and information. It translates well to the older Australians we've heard from, but they are, almost universally, digital immigrants dealing with service staff and digital designers who are digital natives.

Looking within the intragenerational divide, our digital immigrants can be said to fall into three categories using a second language analogy:

1. Those who are fluent in a second language with noticeable accents.

Man, who was active digitally:

When it's about a surviving partner, I mean either because of dementia or widowhood, they have very big finance issues. They need to talk to the old-fashioned desk service. You can't do that sort of thing through a computer.

2. Those using a second language but still relying on the help of translators:

Older people don't look for information in the place that are common now, like websites and things like that. They are very unaware of where they can pick information up, and usually it's the adult children that have to find it.

3. Those who are non-tech "speakers" who choose to only communicate in their "mother tongue":

People like us in their 80s and 90s living in retirement villages are not interested in the 'WWW'. You can forget about that for us and I can't answer your surveys because I won't use it! And the worst thing of all they've now taken away our phones [landlines]. We're feeling really cut-off. It's all happening too fast.

While this is only an analogy, it is helpful for targeting the different needs and different stages that people are at with digitisation.

The evidence of a digital divide

Evidence points to rising senior digital literacy, and a definite group of older Australians who are savvy about digital technology. In 2014-15, 51 per cent of Australians over 65 were internet users (ABS, 2016), up from 46 per cent in 2012-13 (ABS, 2014). The proportion of older Australians completing the 2016 Census online was 39 per cent for the 70-79 age group, which was not the majority, but still a 165 per cent increase from the 2011 Census. For those aged 80+, 28 per cent completed online, which was a 225 per cent increase from 2011. These proportions are an indicator of online preference rather than digital literacy. People may be able to use a computer but prefer paper submissions and others prefer the computer and won't use smart phones and social media. The rates clearly show that older people are moving towards an online preference but from a low starting rate.

Of the National Seniors membership, there are about 53,000 active email address, and of these, 11 per cent completed the voluntary 2017 National Survey which took approximately 40 minutes and was delivered online for the first time. This year's survey respondents were, consequently, a digitally literate cohort.

In the 2017 Survey, when asked about the activities in their life now (see Appendix 2 for the following data), 90 per cent indicated that they use a computer for email, internet or other tasks daily. Digital access has become a normal aspect of social engagement for many:

- 36 per cent have contact with their children by text message or on social media 3 or more times per week, with another 33 per cent having contact once or twice each week;
- 34 per cent have contact with family members such as siblings by text or social media at least once or twice a week;
- Almost half have text or social media contact with friends at least once or twice a week.

It is worth noting that education was not a significant predictor of digital contact with family and friends, and there were differences, not only by age as expected, but also by gender:

- Women are more than 2 times more likely to text or have social media contact than men;
- Those under 60 are more than 4 times more likely than the over 80s to contact their children via text or social media, with those aged 60 to 69 almost 3 times more likely than the over 80s to do so.

As well as for social engagement, the internet was used as a source for health and lifestyle information by 23 per cent of men and women. While financial advisors are commonly used for face-to-face advice, 30 per cent of all respondents used government websites to find financial information about retirement, with use of the internet for financial information increasing with the amount of retirement savings and investments. The uses for social contact, health, lifestyle and financial information are important because they indicate potential touch points of interest for older people where digital literacy education and training could be focused.

To maintain direct contact with members who are not online, we conduct National Seniors policy forums, most recently in Melbourne on 10 October 2017, and in Hobart on 23 October 2017. The audiences at these forums were presented with a PowerPoint presentation to prompt discussion on major policy areas. This included some results from the National Survey, which many in the audience knew nothing about. Members who don't have an email address registered to receive National Seniors emails didn't realise a survey had been conducted this year.

The introductory PowerPoint presented the participants with a list of policy issues affecting older Australians for them to provide views and comments on, namely:

- Aged care generally;
- The My Aged Care website;
- Digital literacy required for the internet;
- Aged care assessment processes;
- Consumer Directed Care in home care;
- Knowledge of available services;
- Types of home and residential care, and;
- Pricing and complaints commissioners.

In both forums, despite continuing prompts to broaden the issues discussed, digital issues dominated, in lively and sometimes passionate discussions. The issues were not only of those being left behind but the issues for digital immigrants who had been literate but were struggling with recent developments for many different reasons:

Woman age 80:

I just need someone to talk to not computers and I'm tired of all the questions the banks and others are asking. They're just loaded with all the things they want to hear. They're not interested in us.

Woman, a relatively new Branch President:

I've taken over the Branch and I've felt like I'm 'out on a branch'! I've received no information from National Seniors when taking on the role and I've had to make it up by myself as I go forward with it.

Others present interrupted her: *But all the introductory materials were sent to our emails and, in addition, there's also the weekly 'Connect' emails which keep us in touch with everything that's happening.*

She responded: *If it comes by email, I'm not reading it. Don't bother sending things that way!*

She then went to talk through the well organised activities of her branch and asked to have her branch to be actively involved in any research that was planned.

The starting point for disenchantment has been the digitisation of information sources, when information is essential for full civic, social and economic life. As people search for strategies that enhance their health, wellbeing, and financial situation, there is a primary need to recognise when information is required, and be able to "locate, evaluate, and use effectively the needed information" (American Library Association, 1996-2017). This is called information literacy, for which digital literacy is now required. Evaluating sources of information is important because "Not all information is created equal: some is authoritative, current, reliable, but some is biased, out of date, misleading, false" (University of Idaho, 2017). Attempts have been made to take the concept of information literacy from its base in the education sector and apply it to everyday life: "having the knowledge and skills to connect with and interact with this information can enable people to solve real world problems and address life concerns" (Todd, 2000). As one forum participant commented:

One of the things I feel with the internet is that we've got information overload really, and there needs to be some way that older people are able to access information, but it's not reams and reams of stuff, and you don't have to go through 10 different websites. You want to be able to get some information, if you're going down that path, where it's expressed reasonably simply, and you're not having to go through these volumes, because I know I get frustrated with it.

While the My Aged Care gateway is a good example of an attempt by government to offer information and services from one coordinated service point rather than the complex system that operated prior to its introduction, the recent Tune Review found that "the ability for a single entry point to meet the needs of those who require support and active face-to-face engagement to navigate the system" was being questioned by those working with vulnerable cohorts trying to access aged care services (Tune, 2017).

Why it matters: The 4th wave of digital revolution

There are many reasons, some not immediately obvious, to be concerned about the digital divide. A 2016 study by Michigan State University found that use of social media by older adults is correlated with better self-rated health, less chronic illnesses, and a decrease in loneliness and depression:

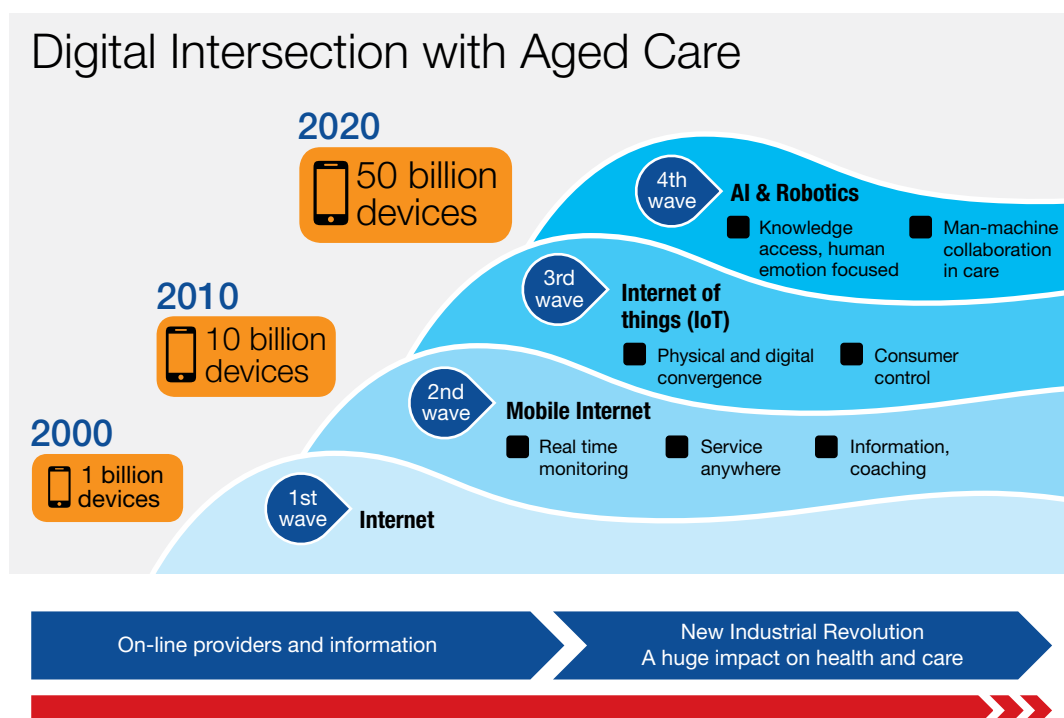
Technology use predicted lower loneliness, which predicted better mental and physical health ... The current study also revealed that social technology has physical health benefits as well. The fact that older adults' attitudes toward technology were positive also dispels the perception that older adults lack the motivation to use and learn about technology ... To the contrary, older adults recognized the benefits of technology use for social relationships and increasing capacity for convenience – it made communication easier and saved time (Chopik W. J., 2016).

Beyond individual health effects, however, the rapid rate of digital change is unparalleled. The current Information Age, brought about by an evolution in digital technology, is being heralded as a new Industrial Revolution. Information, in all formats, is expanding at a rapid rate and ensuring widespread access to information that enhances people's lives. The way of accessing information and the nature of assistive devices are in flux through four waves of digital change:

- The internet;
- The introduction of mobile devices from mobile phones to smart phones;
- The Internet of Things (IoT) involving physical and digital convergence, and greater consumer control; and
- Artificial Intelligence (AI) and robotics.

The intersection of this with aged care can be presented pictorially using an estimation of the number of devices coming into use (McCallum & Rees, 2017).

Figure 1: The digital intersection with aged care¹



¹ Modified from source (Fujitsu, 2000-2017)

The key issues are aligned with the waves of digital change, and can be pictured as waves that riders fall off the back of as new waves roll in, for example:

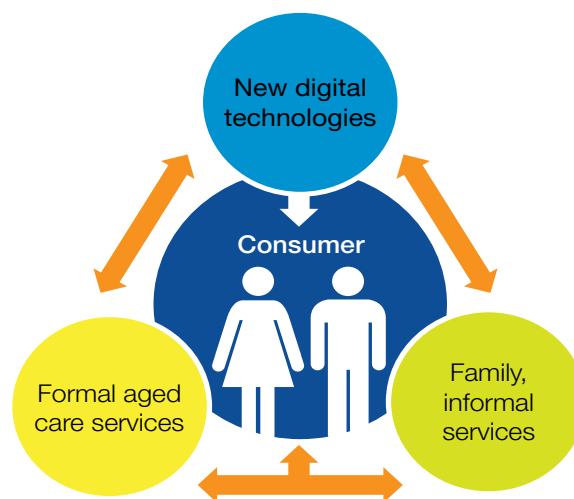
1. Many digital immigrants have already been left behind by the first and second waves of digital change, and, as this affects their information literacy, it negatively impacts their decision-making ability; and
2. The third and fourth waves of digital change are upon us, and merging at a fast rate with aged care services delivery, and this will add to the barriers for those who didn't join in the first waves, and challenge further the ones who did.

Moving away from the digital wave analogy and back to the provision of personal services, while there are usually alternatives to digital access such as call centres, they are sometimes not served by enough staff, are insensitive to the style of language of older persons, and inexperienced in the technicalities of the system they are helping with. This poor service effects people of all ages.

The digitised world which this has created is now unfamiliar to many older people. Whereas in the past, formal (commonly government), informal, and family services were in partnership supporting older people, it is now evident that technology is a third player in this partnership. The new digital partner is not “peopled” but online or embedded in smart devices. It is necessary to become an immigrant to this new digital territory to benefit from it as a service partner. It is clear that smart phone technology will impact an increasing number of products and services driven by competition and cost savings (Fagan 2017). The challenge is to ensure that digital technologies are understood by, and of benefit to, the older person. As a woman at one of the forums said:

You can hear a shiver go through the room “technology, my god”. They just won't have a bar of it.

Figure 2: Technology – the new partner in care²



² Modified from source (Aged Care Industry Information Technology Council, 2017).

Things that cause the digital divide

In the discussion so far, we can identify some issues that lie behind the digital divide:

1. **The failure of co-design** – technology for use by seniors needs to be designed with them. Seniors feel that young designers and technicians don't understand their manual issues with technology use, an intergenerational issue. For example, the connection of the mouse with the cursor on the screen and, more generally, the virtual world is not intuitively understood by some. This fits a prevention model where one works upstream to stop the problems occurring rather than downstream after it has. One forum participant said:

Our computer technician used to go crook at me for being so slow, and I said to him one day "Did you grow up with a computer?" and he said, "Yes". I said, "When I was a kid, biros weren't even invented, and we had chalk boards at school until I was in Grade 3", and he said, "I've been using the computer since I was in about Grade 2". How do we get that through to the younger generation that we need to bring the older people into the 21st century gently without them being so frightened of it?

2. **Financial hardship** – causing seniors to have outdated devices and lack of access to the internet:

Older people are on a very restricted income. When they see NBN deals are \$50 a month, they just turn off. It's an extra cost they can't afford.

There are many people who can't afford to change their computers on a fairly regular basis. If you look at mobile phones, we now have smart phones. Every year, every time they change it the price goes up. There's an awful lot of seniors who are left behind and I think it is a community problem.

3. **Powerful efficiency drivers being prioritised over customer loyalty** – the need for governments (e.g. My Aged Care) and organisations (banks and retail outlets) to increase efficiency by putting everything online.

Example 1: My Aged Care

In 2012, Living Longer Living Better (LLB), the aged care reform package, identified a lack of integration across aged care programs in Australia as a deficiency of aged care delivery. Accordingly, a single gateway, My Aged Care, was introduced as the main entry point to the aged care sector. In a National Seniors report on Consumer Directed Care, less than 20 per cent of survey respondents had accessed the My Aged Care gateway across nearly all age groups and types of retirement income streams. Of those, a total of 62 per cent accessed via the website, 15 per cent via the contact centre, and 23 per cent accessed both the website and the contact centre. Of interest, is the way the gateway is used across age groups, with people aged 75 and older having less access online and greater access by phone. A substantial number of people from all age groups make use of both website and contact centre, with one quarter of people aged 50-64 doing so. It is unclear from this data whether the use of both modalities is a positive search for information or trying one after being unsatisfied with the other (McCallum & Rees, 2017).

In interviews, one member of National Seniors said that, though information was hard to find on the My Aged Care website, once she delved into it she did find the information she needed. Another said the website was only moderately easy. He described his computer skills as average or better and said the process was "okay". A man who called the aged care sector "mind-blowing", said:

I don't know how people get on without younger family members or someone who has the time to work it out. It's not fair and it's very time consuming. It's not fair on the elderly or those that don't have help. It stinks for those who aren't millionaires.

Example 2: Banks

After one policy forum, a number of people came forward to complain or comment about a new branch in the city. They said they were shocked and disappointed about its dominant technology and lack of any personal service. They described it as located in a classic, much loved, old sandstone building with merino sheep carved on the front, full of technology and ATMs, and no one at the counter to talk to. It was presented as an example of the changes in banking that they were unhappy with.

Figure 3: *The branch operating at lunch time on a week day*



As seen above, this branch has a line of ATMs along the entry, a counter at the back for two staff (one seat vacant at the time), with many customers, most visibly younger, using the ATMs around lunch time on a Monday.

4. **The rate of change** – the starting point for many of the current older cohort was chalk boards at school, but many have become digitally literate. Some seniors who felt they were “on top of things” by being able to use a computer have been continually bewildered by ongoing waves of change, for example, the introduction of tablet and smartphone devices, social media and apps:

I was one of the early computer users at home and work but I’m finding the new systems and programs difficult. When something doesn’t work it’s very hard to work out “how did it do that?”.

5. **Lack of digital literacy courses** – intermittent offerings of course for seniors, which should be ongoing and standard:

There seem to be fewer online courses for digital help now in town.

6. **Lack of assistance** – in the workplace, adapting to new technologies is expected and supported. In retirement, seniors without family assistance have either no incentive or encouragement to keep up. When assistance is available, it may not be helpful:

I have a lot of mobile phones at home only because I can’t seem to get the right one for me. I’ve explained to the staff in the shop what I want but I continually come away with one that has much less functionality than I’ve asked for. Whatever I say they have a view of my needs which isn’t what I’ve said to them. They then assume that this is what I want when it isn’t!

The intergenerational communication issues evidenced by such experiences can be dealt with relatively easily with better training.

Future risks

It is generally assumed that, as the baby boomer generation enters retirement in larger numbers, they will take the digital skills learned in the workplace with them, and, thus the senior digital divide will disappear. However, the speed of digital change is working against this assumption. Many seniors learned to use computers, and can email and conduct internet searches. Not all of them can adapt to digital changes introduced to retail environments, are resistant to social networking online, and have a strong preference for face-to-face interaction.

The second danger is the need to access services in times of stress, such as access of My Aged Care when an elderly parent or spouse urgently requires residential home care. This issue arose in a National Seniors qualitative study reported in *Be Heard: Snapshots of members' views* (Rees, McCallum, & Cantwell, 2017), as discussed in the introduction. My Aged Care was described by many participants as being complicated and confusing. They found it hard to find information on the website and when consumers then tried to call My Aged Care, many said no one got back to them.

On the extreme end, participants described the process of accessing My Aged Care as a maze and a struggle. Some expressed being shocked and upset by what was required. One respondent called the process mysterious, and this was echoed by another, who said:

A lot of stuff is shrouded in mystery, almost as if you're not allowed to know about it. Until you stumble across it you don't know what exists.

Another participant who accessed aged care for her mother and has no children of her own said she was frightened about what will happen to her with no one to spend the time organising care on her behalf:

The system is so badly patched together. It's a catastrophe waiting to happen. I've heard of old people ending up living in cars. Anyone with an education or language problem or if you don't have money, what can they do?

Digital divide research

Current digital divide research shows the following trends (Bergstrom, 2017):

- The digital divide described here is less about the gap between seniors and younger people, but more about the differences in internet use between younger and older seniors;
- The 80+ age group are largely left out of the digital society;
- So-called "laggards" in taking up new technologies are characterised by high age, lower levels of education, and being traditionalists;
- Support and encouragement of older adults by their social network members to take up use of the internet is crucial;
- Pre-retirement computer use has a strong influence on adoption of computer-based technologies;
- Uptake among those aged 80+ is recent;
- Uptake of digital technology is not only about access but a complex range of factors;
- The most common internet activities for seniors are information searches and email.

Commenting on both the inter- and intragenerational divides, Bergstrom concludes:

The digital gap due to age does seem to be closing, but at a very slow pace ... Considering the development of the Internet over the past 20 years and its ever-growing relevance for virtually every aspect of societal life, just allowing this to run its course does not seem to be a viable option for digital inequality initiatives.

According to the findings, two out of three in the age group of 80-85 years are not taking any part in digital applications... It is likely, however, that an increasingly digitised society might suffer from not having all citizens included in digital activities and involvement (Bergstrom, 2017).

Co-design

A preventive approach is for industry and designers to co-design with older people, rather than trying to fix digital technologies designed for seniors after they've entered the marketplace. Co-design is a way of identifying issues, developing solutions and putting them into practice. It involves everyone in the community of interest working together. In an example from the aged care industry, Helping Hand Parafield Gardens took up the challenge of co-design in 2013. A project team comprised of staff and residents were trained in co-design techniques, and they interviewed 18 residents to understand their hopes and aspirations, and to identify what is important in their lives. The project team used these ideas to generate new opportunities for programs and activities, one of which has been implemented by the project team with other residents. More broadly co-design is critical in assistive technology design.

In contrast to the approach to ageing by technological companies, in Australia, there is also a consumer-focused approach to current changes and innovations in the aged care market, based around the following four key areas:

1. Engage consumers and service/product developers.

This should begin by understanding the situation of older Australians and proposing services and products that address this.

One member commenting on intergenerational contacts through working with schools:

We've tried to do that sort of thing and, unfortunately, we've not got very far. You've got to get the schools onside.

2. Develop more resilient and open-learning consumers:

This is the aim of the South Australian Health and Medical Research Institute (SAHMRI), for example, with the Wellbeing and Resilience Centre developing a proposal to encourage consumers to be more empowered (SAHMRI, 2017). Some National Seniors members expressed a willingness to seek help, and the need to do so:

You know you can get help easily with doing things online. The local libraries are always helpful but paper copies are 'bye bye'.

3. Encouraging start-up companies and entrepreneurs:

Engage them with aged care businesses and providers. An example is Aging 2.0, an international alliance supporting innovators to address the challenges of ageing using a collaborative model to “design with, not for, older people” (Aging 2.0, 2017). Many Aging 2.0 products and services use technologies that address quality of life rather than monitoring, assessment, intervention, and communication. Another example is the South Australian Ageing Well initiative, which includes a co-design principle and supports infrastructure to assist South Australian aged care businesses into the national and international market (Economic Development Board of South Australia, 2017).

4. Extract and share the learning:

This is what Think Local Act Personal was designed to do in the UK, a national partnership of 50 organisations with the aim of transforming care through personalisation and community support (TLAP, 2017). There have been implementation issues, although the idea is worthwhile. The ACH Group in South Australia also takes a “Healthy Ageing” approach to service delivery (ACH Group, 2016). Two years ago, they attempted to implement a digital log for all Home Care coordinators with requests and ideas. A market failure occurred when almost nothing was reported. Some National Seniors members acknowledged the benefits of engaging with digital natives to support digital learning:

At USA we're doing classes where the student will come to meet the older people, and they know what they're coming to and they come prepared to teach basic skills.

Working to counter digital discrimination

A substantial number of older Australians feel they have no control over, and have decreasing alternatives to, avoiding digitised information and services, and, clearly, the forces driving digitisation can be expected to continue, if not increase in reach.

Man, with business background:

I used to be on top of all this but I feel there really is a growing digital divide. It's an all-inclusive discrimination and working with the banks is too hard for people now.

Man age 76:

I'm very happy to use the internet but not social media. Is there a responsibility for organisations to keep things on the web?

The observations from this quantitative and qualitative work are, first, that **people regard the digital divide as a form of discrimination** and are prepared to stand up to it, even though they are polite and respectful about it.

A 2015 study into ageing in America suggested some reasons for ageist discrimination. Problems for older people are viewed by the public according to an individualist model rather than a policy level approach:

The default to individualistic thinking about the aging process, and the multiple ways in which attribution of responsibility is automatically assigned to individuals, is a direct impediment to thinking about the importance of structural, systems and policy-level solutions on many aspects of the expert agenda (Lindland, Fond, Haydon, & Kendall-Taylor, 2015).

Clearly, in terms of the digital divide, solutions need to go beyond assuming the problem is with older people themselves, and introduce policy and structural changes that facilitate digital access and use.

The second observation is that **people are prepared to use it for various services**, in particular for social contact, health, lifestyle and financial information. It is the services that have utility for people that will encourage them to improve their digital skills.

Issues with service provision are very significant and are the frontline of the intergenerational digital divide. Apart from government, which clearly responds to this, it's not clear how seriously these are being taken. Recent results show that the Commonwealth Bank of Australia (CBA), Westpac, ANZ Bank and National Australia Bank each notched up profit growth this year, with combined earnings reportedly lifting to \$31.5 billion in the last financial year, from \$29.6 billion last year. Such profits should allow for better service provision for customers, even if such services are for older cohorts who may not be the ones contributing to bank profits. Self-service technologies need to be augmented by in-person, skilled relationships that service customers and promote loyalty. People will only use digital banking if they trust the organisation, and that trust is founded on relationships. It remains a puzzle, therefore, why the loud concerns of older people are not being acted on.

On the other hand, at least for CBA, Keycard and Autobank were both introduced in 1981, EFTPOS in 1984, and their first internet site in 1995. CBA Netbank for online personal banking has been around since 1997. As such, many banking technologies can no longer be described as new. If a large portion of older Australians are frustrated by a perceived lack of face-to-face service provision and have not been able to take up internet banking, then perhaps the question should be, what has the banking sector done to facilitate the transition of seniors into internet banking? Some banks are considering digital divide issues, and whether training can be conducted within branches or via road shows, however, very little seems to be in place to assist and encourage older Australians.

A German study in 2011 found that more than one third of people over 60 use internet banking compared to more than half of people aged 20 to 49. The greatest barriers to internet banking for older people were:

- The users' feeling of safety;
- Access to an internet connection and the technical support needed to ensure that access is ongoing; and
- The ability to use a computer, and the perception that the internet was difficult to use.

The study concluded that:

The introduction of technological innovations to banking activities should not end up with a loss of any single customer. It is crucial for banks to see and break the possible barriers to internet banking adoption. It was determined in our study that the degree to which an individual believes that it is safe to use internet banking services is the most essential factor for the intention to use internet banking. Consequently, banks should make investments in the most advanced security systems and inform clients and mass media about it.

In spite of all the internet banking advantages, traditional banks should avoid total dependence on the internet. There should always remain alternative options for customers to get banking services, such as telephone banking with a live representative (Borbacheva, Niehaves, Plattfaut, & Becker, 2011).

Efficiency drivers are sweeping all opposing concerns aside. At the very least the co-design of assistive devices, and information and service points needs to be mandatory, and there should be responsiveness to feedback on how digital systems are working. Alternatives such as phone lines and manned checkouts should always be provided.

Man age 70:

When you get someone to talk to you at Centrelink, they're not our generation. It's really frustrating getting them to understand what you're saying.

Woman age 81:

I've run out of money and I cannot afford mobile phones and connection costs. Apart from that, all this drives me mad. I won't even use the Express Self-Checkouts. I don't know how to so I just stand and wait until someone serves me.

Recently, a UK study found that one quarter of elderly people found automated checkouts intimidating and unfriendly. A spokesman for the UK charity Anchor who conducted the survey said that: "they have gone shopping without having said 'hello' to a single person - and that's quite a miserable experience" (Coughlan, 2017).

Finally, it is the case that the enthusiasm for new technologies does wane, and they typically find a place alongside existing ones, so people who don't find them useful need to be protected during that phase. There is generally more technology than service in the design of services and assistive devices.

I think the other thing we need is coaching, so that you may be able to do something constructive, and that can happen within a community particularly through the Financial Information Desk where you get people on who say "now do this, now do that", "oh that's what I wanted to know", so we do have things we need to do to cope with this world that's coming to get us and we can be active in that space, rather than passive.

Digital versus analogue

In many areas, digital disruption is feared or has already met its limits, and it seems that a new balance between digital and analogue delivery of information is becoming apparent in some areas and desired in others. According to David Sax (2016), Pew Center research from the USA found 70 per cent were worried about the impact of automation on jobs, and another Quartz survey reports that only 21 per cent said they trusted Facebook with their personal information. The American Psychiatric Association reports evidence that half of millennials worry about the negative effects of social media on their mental and physical health. Obsolete technologies like turntables are finding new buyers among the young who have no nostalgia for them, and sales of print books are up and independent bookshops are prospering (Sax, 2016). The American Association of Publishers says that sales of eBooks are in decline. It appears that the richness of experience through a book is greater than anything delivered through a screen. Sax (2016) argues that:

People are buying books because a book engages nearly all of their senses, from the smell of the paper to the glue, to the sight of the cover design and weight of pages read, the sound of those sheets turning, and even the subtle taste of ink on your fingertips. A book can be bought and sold, given and received, and displayed on a shelf for anyone to see, it can start conversations and cultivate romances (Sax, 2016)

Likewise, older people value the human interaction they encounter through the services that are increasingly being replaced by digital delivery. Connection is crucial to physical and mental health. The digital world gets large amounts of information around quickly but it doesn't build the relationships and trust that makes information reliable and usable. Every new digital wave brings with it the fantasy that it will make everything better, but we now have enough experience to know that this is unrealistic. The choice is never absolute between digital and more traditional modes of information or service delivery, rather we're looking for the right balance between the two. Clearly this is an issue for all Australians. It's "ageless".

Who's doing what and what should we do?

This report differentiates the intergenerational from the intragenerational digital divide. Considering the former, there are clear needs for education and training to improve young-old intergenerational service interactions and an urgent need for emphasis on co-design so that products actually meet older people's service needs and capabilities. The responsibilities for this lie largely with businesses and service providers for whom the benefits are customer loyalty and increased business. There has been a tendency for efficiency and cost reduction to outweigh service, loyalty and value shared with the community. Business is now being confronted with new issues that go beyond their strategies for reputational management and require co-creation of value with communities.

It is also important to gain a clearer understanding of the intragenerational divisions between different groups of older people. Within the older generation (intragenerational divide), we identified three groups using the immigrant-native analogy:

First, those who are *well-integrated immigrants, fluent in a second language but with noticeable 'accents'*. Since they are competent, they need to keep their skills up-to-date as new systems and devices come into the market. The quality of such courses depends on the knowledge and skills of the providers and their ability to understand older learners and communicate effectively with them.

Second, those *using a second language but still relying on the help of translators*. For these 'immigrants' it is necessary to work with groups including their trusted intermediaries and helpers since the helpers need to have two kinds of expertise, helping skills and digital skill and knowledge.

Third, those who are *non-tech "speakers" who choose to only communicate in their "mother tongue"*. This group has to cross both an emotional and skill barrier to cope with a digital world. It is very likely that their stance is well supported by other non-tech speakers who reinforce one another in their stance against digital cooperation. It will be important to find "influencers" who they trust to move them towards some training and online experience. Further, they need to be doing things they actually want to do and find enjoyable. The NSW Government, in partnership with Telstra, introduced the Tech Savvy Seniors program in 2013, which is still running, for example, in Bellingen, Urunga and Dorrigo in Northern NSW through December 2017. The aim is to help people become more independent in the digital world and to gain life skills through the use of technology, including paying bills and banking, planning holidays, online shopping, and social connection with the wider community (NSW Government, 2017).

Considering aged care services, a 2016 position statement from Leading Age Services Australia (LASA), highlighted the need for resources that support consumer decision-making, including digital literacy (Leading Age Services Australia, 2016). This was also highlighted in the recent National Seniors report on Consumer Directed Care (McCallum & Rees, 2017). A new report by the Benevolent Society, *The drivers of ageism*, suggests that governments fund computer training and skills programs for older people (Benevolent Society, 2017).

On the larger, national scale, the Australian Government recently launched the Be Connected initiative to reach those older Australians in the community who are yet to embrace the benefits that technology has to offer.

Be Connected is specifically designed for older people who have minimal or no engagement with technology. The target is to get more than 2,000 community partnering organisations across the country such as libraries, community centres and retirement villages, to support older Australians with free one-on-one coaching or group classes. The aim is to benefit more than 100,000 older Australians each year.

Improving the digital literacy of older people in CALD communities keeps them engaged with the community and prevents them from becoming isolated. There are many differences between groups amongst CALD communities from tech savvy, well-educated, to refugees who have spent their childhoods in camps. Being online allows them to find and connect with other people of similar backgrounds, to share their stories and experiences, as well as staying connected with family and friends near and far through the likes of Skype, Facebook and email. Be Connected tip sheets on all topics are available in four languages – Arabic, Greek, Italian and Chinese – with more under development. Understandably, there are deeper challenges for engaging with groups who are newer and more disadvantaged in all senses, including digitally.

The attitudes reported here indicate that there is a high degree of resistance and frustration amongst older people who have fallen off the back of the last two digital waves. They will need choices put to them that have clear benefits for them and their friends. Decision-making can be influenced by small but noticeable changes in the decision-making environment. The UK Government's Behavioural Insights Team has published a model to help in making interventions for change which is a good example of the ways to sensitively bring people into the digital world.

Table 1: The UK Insights Team EAST Framework

Framework Element	Description
Make it EASY	<ul style="list-style-type: none"> • Use the power of defaults – make people opt out rather than in • Reduce the hassle factor in taking up a service • Simplify messages to reduce errors and grow response rates
Make it ATTRACTIVE	<ul style="list-style-type: none"> • Attract attention (use salience, personalising information) • Design rewards and sanctions to maximum effect (use of lotteries, scarcity, gamifying activities)
Make it SOCIAL	<ul style="list-style-type: none"> • Show that most people perform the behaviour you are seeking • Use the power of networks (reciprocity and mutual support) • Encourage people to make commitment to others
Make it TIMELY	<ul style="list-style-type: none"> • Prompt people when they are most likely to be receptive • Consider the immediate costs and benefits • Help people plan their response to events

Among many followers of this method, the Benevolent Society is using it to reduce ageism generally in Australia. It also needs to engage influencers and trusted intermediaries if it is to succeed. Tackling digital literacy is one way of reducing the barriers and negativity of ageism for older Australians. The task is large and requires full community support for a range of existing and new local and national initiatives.

Conclusion

In line with current digital divide research from around the world, this report provides evidence that the digital divide is not drawn between the young and old but exists within the over 50 cohort such that some older Australians are digitally literate and active, while others struggle with at least some aspects of the digital world.

This study found that:

- National Seniors has a digitally literate cohort within its membership who have email addresses, can complete an online survey, and who indicate they use their computer on a daily basis;
- Other National Seniors members indicated in policy forums that they struggle with some aspects of digital change, have a great desire for computer training, have issues with internet access and buying digital devices due to cost, would prefer face-to-face services in some situations, and consider the expectation to keep up with digital change a form of age discrimination;
- While the gap is slowly closing, without policy and infrastructure changes the digital divide cannot be eliminated. Older Australians cannot be expected to fix this issue themselves, but need support, assistance, and understanding;
- The co-design of products and services with the older cohort that they are intended for is essential; and
- Alternatives to the digital delivery of information and services should be maintained.

National Seniors Australia supports efforts by governments and business to counter digital discrimination against the over 50 population.

The seemingly overwhelmingly digitisation of the world of older Australians will reach a new balance between new, analogue, and personal services, as has been already achieved in other areas. However, as one man with a management and union background expressed his view:

I have to declare, I've always been a union man even after I went into management in the electricity generating field. We always believed in solidarity on tough issues. Surely there's enough of us here (the 50 or so participants at the Policy Forum) to do the same. We just have to stand our ground and demand some personal service rather than being timid and upset about it. You should also try to get into courses and help for the internet. We can negotiate.

There will need to be compromise on both sides to reach this new balance.

APPENDIX 1: DATA

National Seniors Social Survey (NSSS) (Wave 6)

1 Design

The National Seniors Social Survey (NSSS) (Wave 6) was cross-sectional in design and conducted by National Seniors Research Director Professor John McCallum using a questionnaire survey of National Seniors Australia members aged 50 and over. The study was approved by the Bellberry Human Research Ethics Committee of South Australia on 17 May 2017, application number 2017-04-293.

2 Data

Data in this report were collected using the National Seniors Social Survey (NSSS) (Wave 6), designed by National Seniors Research staff. The survey was conducted from 24 May 2017 to 11 June 2017. The NSSS (Wave 6) asked participants about their experiences, intentions and attitudes across a range of areas including health and social wellbeing, finance, work, and retirement.

The survey was a self-complete instrument, delivered online for the first time, and collected using the survey instrument, Survey Monkey. It consisted of the following modules:

About yourself

A range of questions used to obtain information from respondents about their demographic and socio-economic characteristics.

Work and retirement

This module asked participants about their work situation, such as their employment or retirement status, reasons for not being in paid work, and work preferences.

Finances and decision-making

Questions that asked about expected levels of savings and investments in retirement, general financial literacy, strategies for dealing with financial distress, attitudes towards investments, and the use of trusted intermediaries in financial, health and lifestyle decision-making.

Savings and finances in retirement

This module contained questions about anxiety regarding retirement savings and investments, the desire to leave an inheritance for the next generation, access to retirement funds, knowledge about increases to life expectancy, financial planning for increased lifespan, and preferences regarding retirement annuities.

Social activity and health

Participants were asked about their social activities, social networks and engagement with others, loneliness, the social cohesion of their community, their life satisfaction, mood, and life purpose, the impact of life events, and the level of intergenerational conflict and support.

3 Method

A total of 53,058 National Seniors members residing in all states and territories of Australia with an email address were invited to complete the survey. The survey invitation was emailed, and contained a link to the survey instrument.

The age breakdown of National Seniors members as of May 2017, compared with the 2016 Census data is as follows:

Table 2: NSA members compared with 2016 Census data.

	NSSS Frequency	NSSS Percent	All NSA members	Census 2016
50-59	793	13.8	18.64	37.4
60-69	2497	43.2	39.96	31.3
70-79	1996	34.6	28.78	19.4
80+	484	8.4	12.62	11.9
Total Answers	5770	Total NSA members with email approval	53,058	

4 Analysis

A total of 5,770 surveys were completed, a response rate of 11 per cent. The software package SPSS was used to analyse the data.

Data was collected to be compared with major international studies of ageing populations, including the Health and Retirement Study (HRS) from the US, and the English Longitudinal Study of Ageing (ELSA) from the UK. The NSSS (Wave 6), therefore, introduced similar psychosocial and lifestyle questions, including:

- The CESD-10 instrument to measure depression (The Center for Epidemiologic Studies, n.d.)
- Self-reported health evaluations (McCallum, Shadbolt, & Wang, 1994)
- Measures for social participation and engagement (Hultsch, Hertzog, Small, & Dixon, 1999)
- Assessment of social network and social integration (Schuster, Kessler, & Aseltine, 1990)
- The loneliness score (Hughes et.al. 2004)
- A measure for neighbourhood social disorder and cohesion (Kelley-Moore, Cagney, Skarupski, Everson-Rose, & Mendes de Leon, 2016)
- Subjective age (Rubin & Berntsen, 2006) (Montepare, 2009)
- The purpose in life dimension (Ryff, 1995)
- A modified Holmes and Rahe Life Events Stress Scale.

The NSSS (Wave 6) also sought to measure financial literacy based on the OECD financial literacy score.

5 Sample

Basic characteristics of the NSSS sample, 2012-2017 (%):

Table 3: Basic characteristics of NSSS sample, 2012-2017 (%)

	2012	2013	2014	2015	2017
Age (unweighted)					
50-64	48.0	42.2	44.7	43.9	33.3
65-79	40.9	42.8	43.8	43.3	58.3
80+	11.2	15.0	11.6	12.8	8.4
Gender (unweighted)					
Female	54.3	55.9	53.3	54.2	56.2
Male	45.7	44.1	46.7	45.8	43.8
State (unweighted)					
NSW	29.9	28.8	29.5	30.7	21.8
VIC	25.8	25.8	25.9	24.7	14.9
QLD	17.1	18.1	17.4	18.7	42.2
SA	9.6	9.5	9.3	9.3	4.5
WA	10.3	11.1	10.1	11.2	8.9
TAS	4.1	4.1	3.5	3.0	2.5
ACT	2.2	2.0	2.3	2.0	3.7
NT	1.0	0.6	0.6	0.4	1.5
Education (weighted)					(unweighted)
Not completed high school	52.1	50.1	49.0	42.3	32.2
Completed high school	47.9	49.9	51.0	57.7	67.8
Other qualification					(unweighted)
Yes	-	-	-	-	77.5
No	-	-	-	-	22.5
Highest level of qualification					(unweighted)
Certificate	-	-	-	-	24.8
Diploma	-	-	-	-	26.1
Bachelor degree	-	-	-	-	26.5
Masters/Doctorate	-	-	-	-	13.2
Other	-	-	-	-	9.4
Employment	(weighted)				(unweighted)
Currently in the paid workforce	43.2	41.5	40.3	40.5	27.0
Not currently in the paid workforce	56.8	58.5	59.7	59.5	73.0
Place of residence	(weighted)				(unweighted)
Capital city	48.7	47.8	50.5	48.6	48.0
Major regional centre (above 80,000)	-	-	-	-	20.1
Regional centre (above 25,000)	-	-	-	-	12.8
Town (above 3000)	-	-	-	-	11.0
Village or rural property	-	-	-	-	8.1
Not capital city	51.3	52.2	49.5	51.4	-
Country of birth	(weighted)				(unweighted)
Australia	77.6	80.9	80.8	79.6	75.0
Other	22.5	19.1	19.2	20.4	25.0
Marital Status	(weighted)				(unweighted)
Married/de facto/living with partner	62.3	63.7	63.6	63.5	63.8
Divorced/separated/never married/widowed	36.4	35.8	36.4	36.7	33.0
Other	1.4	0.5	0.0		3.2
Total					100%

Member interviews

1 Design

This was a case-study survey to collect information about a specific demographic: those people aged over 50 who had previously sought information about the aged care sector from National Seniors via the Financial Information Desk. While the study was a quality improvement exercise for National Seniors, the Commonwealth Department of Health was informed about the survey findings.

2 Data

Data in this report was collected using semi-structured qualitative research interviews. First and second call attempts were made on Thursday, 11 May 2017; third (final) calls were made on Monday, 22 May 2017. Of a total of 1,293 calls made to National Seniors in the last six months of 2016, 61 calls and follow-up emails handled by NSA in this time-period were categorised as dealing with 'Residential Aged Care'. Excluding follow-up calls and emails, an upper limit of 32 members were available to be sampled for this survey. Interviews were completed using range finding, such that, interviews continued until the same issues were continually mentioned.

Of the calls to National Seniors regarding the aged care sector eligible for this sample, 73 per cent were made by women. It is likely that callers to National Seniors, particularly those who agreed to be interviewed, had something to say. There is no claim that the views are representative. They do raise issues for attention in quality improvement.

3 Method

Call recipients were invited to participate in the survey. Six direct, open-ended questions guided the interview and allowed for flexibility so that responses could be pursued in more detail where necessary or questions omitted when they weren't relevant to the individual circumstances of participants. In some cases, it was only necessary to identify the overall survey purpose, whether National Seniors' members found it easy or difficult to access information on aged care, and participants then offered their experiences, beliefs, and feelings, in detail and without being prompted.

Survey questions were designed to yield as much information as possible and to allow a story to emerge:

1. Besides National Seniors, where else did you seek information?
2. Did you use the My Aged Care website as well?
3. What information did you get?
4. Was it helpful/were you able to make a better-informed decision?
5. What was the outcome/decision?
6. Would you like to add anything else?

Ten call respondents declined to take part in the survey. Of these, three had finalised their aged care decision or were still trying to work it out and didn't want to discuss the issue; four were happy to take part but gave apologies as they were currently too busy, with two on the way to visit their spouse in a nursing home. A further two were unable to participate; one member had passed away and the other was having calls screened by a guardian.

4 Analysis

Interview transcripts were read to identify preliminary themes, and confluent and diverging issues. Systematic text condensation was conducted for thematic analysis of meaning and content. This allowed the outcome of multi-vocal stories across the sample so that individual experiences that concurred provide a context for what is happening in the aged care sector without excluding those voices that challenge the study conclusion. Saturation is not assumed and there are some limitations associated with the data and method for the purposes of analysis. The sample size is small, and though range-finding allowed a pattern to emerge, this is not considered a total and final picture. This kind of analysis provides knowledge about individual experiences of accessing the aged care sector and clearly identifies some issues and areas of interest.

Forum discussions

1 Design

Two policy forums were conducted by National Seniors Director of Research, Professor John McCallum, the first in Melbourne on 10 October 2017, and the second in Hobart on 23 October 2017. Both forums included a PowerPoint presentation that aimed to prompt a discussion of policy issues affecting senior Australians.

2 Method and analysis

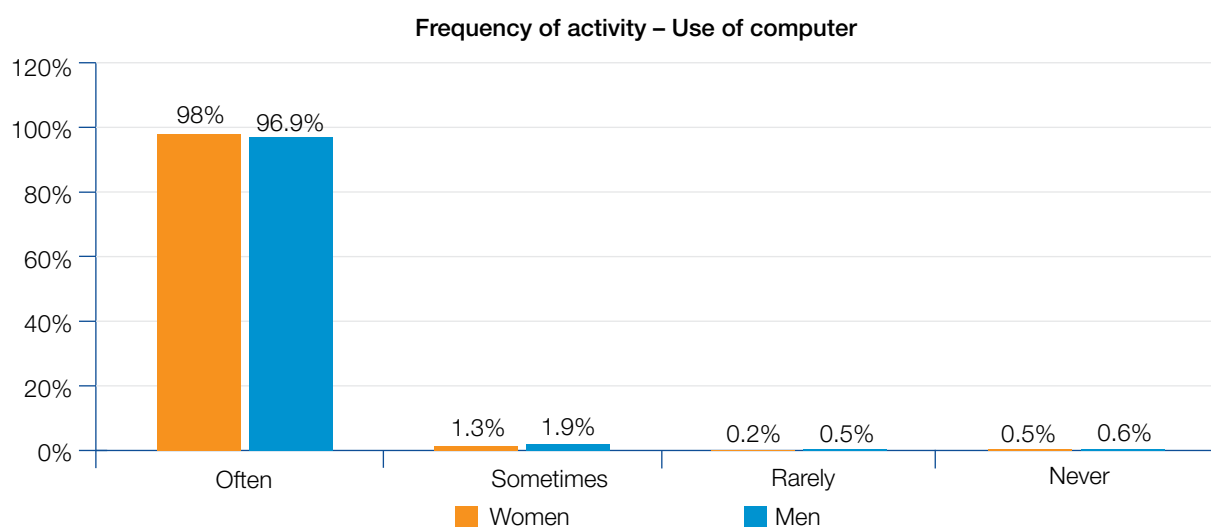
The forums were recorded and transcribed. Interactions of audiences were very lively in both locations. Forum transcripts were read to identify preliminary themes. Systematic text condensation was conducted for thematic analysis of meaning and content.

APPENDIX 2: USE OF DIGITAL TECHNOLOGY AS REPORTED IN THE NSSS (6)

1 Use of the computer for email, internet or other tasks

Overall, 90 per cent of respondents (a digitally literate cohort) indicated they used the computer daily for email, internet or other tasks.

Figure 1: Computer use by gender



2 Frequency of text message and social media contact with children, family members, and friends

Table 4: Text message or have contact on social media with children

	%	N
3 or more times a week	35.75	1425
Once or twice a week	32.87	1310
Once or twice a month	15.15	604
Every few months	3.86	154
Once or twice a year	1.71	68
Less than once a year or never	10.66	425
Total	100	3986

Table 5: Text message or have contact on social media with family, e.g. siblings

	%	N
3 or more times a week	12.63	526
Once or twice a week	20.94	872
Once or twice a month	23.08	961
Every few months	12.01	500
Once or twice a year	6.80	283
Less than once a year or never	24.54	1022
Total	100	4164

Table 6: Text message or have contact on social media with friends

	%	N
3 or more times a week	18.77	883
Once or twice a week	30.95	1456
Once or twice a month	23.74	1117
Every few months	7.82	368
Once or twice a year	3.40	160
Less than once a year or never	15.32	721
Total	100	4705

Odds ratios – univariable models

Odds of using text or social media once a week or more

Table 7: Comparing gender (male as baseline, OR for females)

	OR	95% confidence interval	P-value
Text or social media with kids	2.41	2.10-2.76	<0.001
Text or social media with family	2.34	2.04-2.68	<0.001
Text or social media with friends	2.49	2.21-2.80	<0.001

Table 8: Comparing age in years

	OR	95% confidence interval	P-value
Text or social media with kids	0.95	0.94-0.96	<0.001
Text or social media with family	0.96	0.96-0.97	<0.001
Text or social media with friends	0.96	0.95-0.96	<0.001

Table 9: Comparing age groups (80+ group is the baseline)

	OR	95% confidence interval	P-value
Text or social media with kids			
40-59	4.88	3.54-6.73	<0.001
60-69	3.09	2.43-3.92	<0.001
70-79	2.01	1.58-2.55	<0.001
Text or social media with family			
40-59	2.13	1.52-2.98	<0.001
60-69	1.71	1.25-2.33	0.001
70-79	1.15	0.84-1.59	0.383
Text or social media with friends			
40-59	3.63	2.75-4.79	<0.001
60-69	2.52	1.98-3.21	<0.001
70-79	1.69	1.32-2.16	<0.001

Table 10: Comparing education (high school education as baseline, OR for no high school) – NOT SIGNIFICANT

	OR	95% confidence interval	P-value
Text or social media with kids	0.91	0.79-1.05	0.179
Text or social media with family	1.07	0.93-1.23	0.331
Text or social media with friends	1.00	0.88-1.13	0.995

Odds ratios – multivariable models

Table 11: Odds of using text or social media once a week or more

	OR	95% confidence interval	P-value
Text or social media with kids			
female	2.20	1.91-2.53	<0.001
40-59	4.14	2.98-5.75	<0.001
60-69	2.73	2.13-3.49	<0.001
70-79	1.86	1.46-2.38	<0.001
Text or social media with family			
female	2.24	1.95-2.57	<0.001
40-59	1.72	1.22-2.42	0.002
60-69	1.46	1.06-2.00	0.021
70-79	1.05	0.76-1.45	0.768
Text or social media with friends			
female	2.32	2.06-2.62	<0.001
40-59	3.04	2.28-4.04	<0.001
60-69	2.19	1.71-2.80	<0.001
70-79	1.56	1.21-2.00	0.001

Figure 2: Sources of health and lifestyle information for all survey participants in all categories

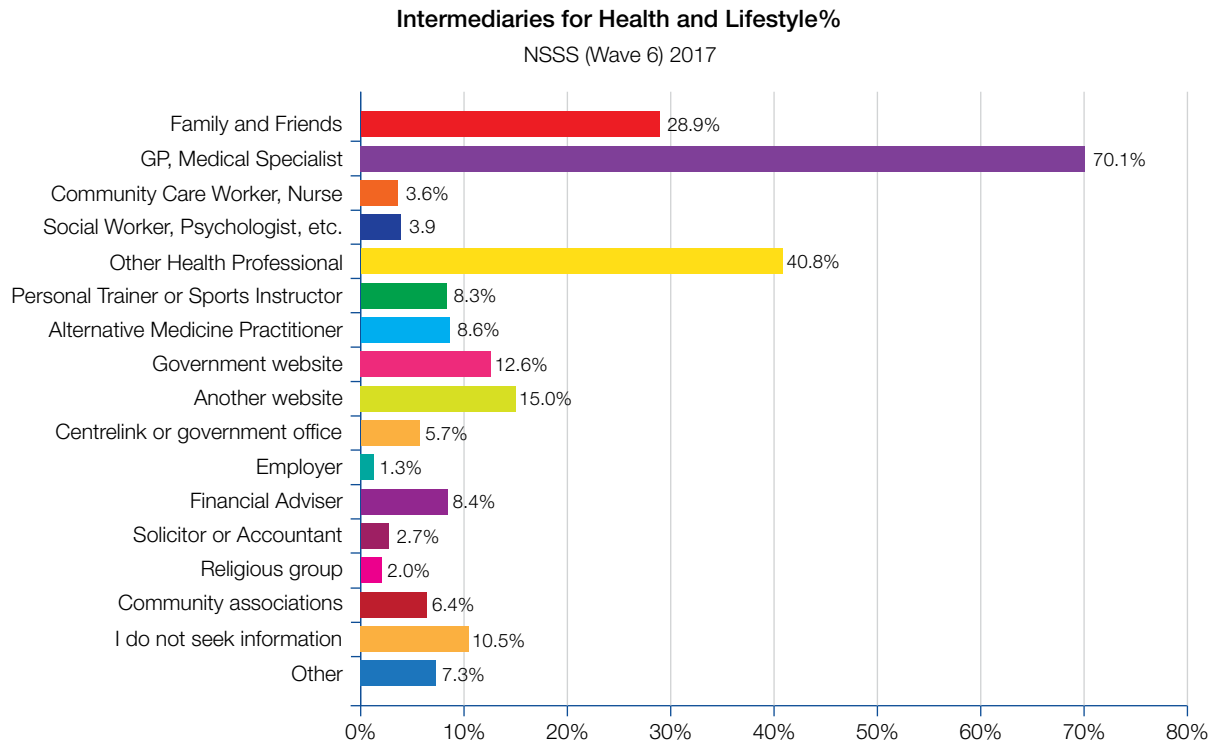


Figure 3: Sources of financial information about retirement for all survey participants in all categories

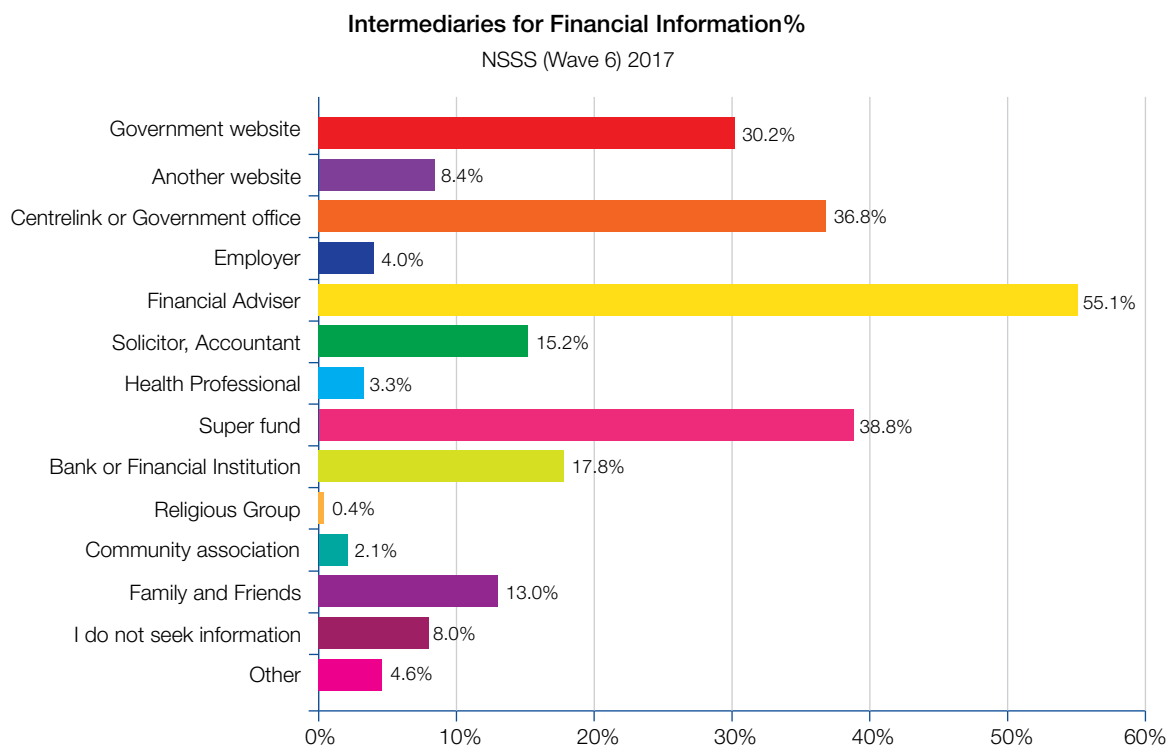
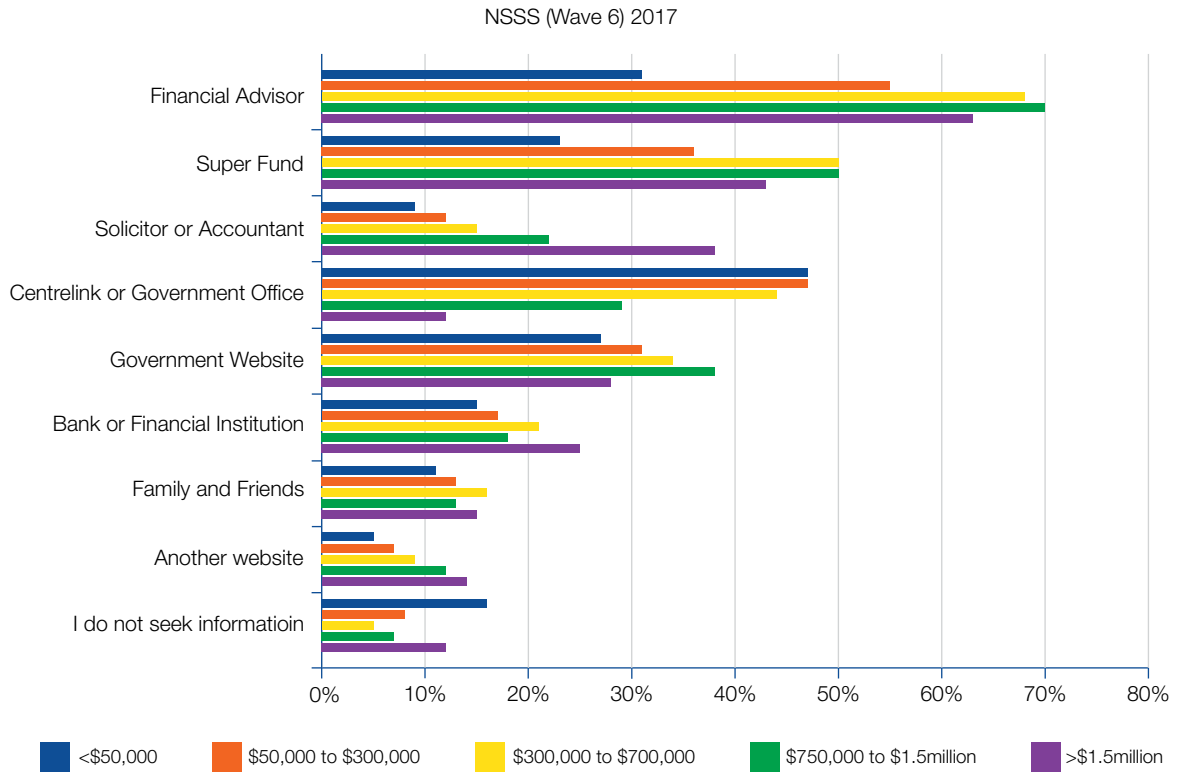


Figure 4: Use of intermediaries according to the value of savings and investments in retirement



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