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Riding the wave or paddling in the shallows? Understanding older Australians' use of the internet

Pippa Burns

University of Wollongong, prhb62@uow.edu.au

Sandra C. Jones

University of Wollongong, sandraj@uow.edu.au

Don Iverson

University of Wollongong, iverson@uow.edu.au

Peter Caputi

University of Wollongong, pcaputi@uow.edu.au

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Riding the wave or paddling in the shallows? Understanding older Australians' use of the internet

Abstract

Issues addressed: Australia's ageing population is set to become an increasing burden on an already over-stretched primary health care system. Potential strategies to alleviate this pressure need to be investigated. Increased knowledge of older Australians' use of the internet would allow the appropriateness of online health intervention to be assessed. This initial, exploratory study examined the proportion of people aged 55 years and older who accessed the internet. It investigated their duration of use, level of comfort, use of the internet to seek health information and perceived reliability of information found on the internet. Methods: A paper based survey was distributed to a purposive sample of adults in metropolitan New South Wales. Complete data was received from 115 respondents. Results: Sixty-two per cent of respondents reported internet use, with use decreasing with age. The majority of respondents who used the internet reported high confidence levels and long-term use. The majority had used the internet to search for health information which was generally perceived to be reliable. Logistic regression showed tertiary education and household income greater than \$40,000 per year predicted use of a computer to access the internet. Conclusions: The majority of older Australians surveyed were successfully riding the internet wave. They have both the skills and equipment to access health information online and many were already doing so.

Keywords

wave, paddling, riding, shallows, internet, understanding, older, australians

Disciplines

Arts and Humanities | Life Sciences | Medicine and Health Sciences | Social and Behavioral Sciences

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Riding the wave or paddling in the shallows? Understanding older Australians' use of the internet

Pippa Burns, Sandra C Jones, Don Iverson & Peter Caputi

Centre for Health Initiatives, University of Wollongong, Wollongong, NSW, Australia



Abstract

Issues addressed: Australia's ageing population is set to become an increasing burden on an already over stretched primary health care system. Potential strategies to alleviate this pressure need to be investigated. Increased knowledge of older Australians' use of the internet would allow the appropriateness of online health education to be assessed.

This initial, exploratory study examined the proportion of people aged 55 years and over who accessed the internet, and investigated their duration of use, level of comfort, use of the internet to seek health information and perceived reliability of information found on the internet.

Methods: A paper based survey was distributed to a purposive sample of adults in metropolitan New South Wales. Complete data was received from 115 respondents.

Results: Sixty two percent of respondents reported internet use, with use decreasing with age. The majority of respondents who used the internet reported high confidence levels and long-term use. The majority had used the internet to search for health information which was generally perceived to be reliable. Logistic regression showed tertiary education and household income greater than \$40,000 per annum predicted use of a computer to access the internet.

Conclusions: The majority of older Australians surveyed were successfully riding the internet wave. They have both the skills and equipment to access health information online and many were already doing so.

So what: These results suggest that older adults are likely to access e-health initiatives and that such strategies have the potential to complement existing health services.



Introduction

The ageing of the Australian population will be accompanied by an increase in chronic disease incidence and prevalence, and general declining physical health¹. It is recognised that these changes will push primary health care services beyond capacity².

The internet has long been recognised as an appealing channel for the communication of health information. It is a low cost, dynamic medium with a vast reach – that allows users to view information at a time and place convenient to them, and revisit the information as and when they need it. This reduces the burden of both time and travel on the user; for some conditions the stigma associated with attending face-to-face clinics. The internet has been shown to provide information that can result in changes to health knowledge, attitudes, skills and behaviour whilst also enhancing social support³⁻⁵.

Consumer e-health is an umbrella term used to describe online health information resources. These resources have been divided into five categories: peer to peer online support groups; self management applications; decision aids; personal health records; and internet use⁶.

Whilst the potential of e-health is undisputed, little is known about the extent of internet use amongst the Australian population aged 55 years and over. Such knowledge would allow health practitioners to develop targeted internet campaigns for older adults.

In August 2010, we conducted a small-scale survey study with a convenience sample of adults, who were aged 55 years and over. The aim of the survey was to establish the health practices, beliefs, attitudes of older Australians towards asthma. This article reports on the findings related to internet use. We describe respondents' demographic characteristics and the relationship of these characteristics to internet use, use of the internet to find health information and perceived reliability of information on the internet.

Methods

Potential respondents were approached on trains travelling between two metropolitan regions in New South Wales. One hundred and fifty six surveys were distributed, with 118 completed and returned (response rate of 75.6%). Respondents who returned the questionnaire were offered a five-dollar coffee voucher. The survey contained 14 questions which asked about computer and internet use.

Prior to the study, question validity was ensured through expert review and the use of cognitive interviews⁷. Approval for this study was granted through the University's Human Research Ethics Committee.

Results

One hundred and fifteen of the returned surveys were from respondents who met the study's age requirement and provided complete data. This included 72 people (62%) who reported using a computer to access the internet.

Internet use decreased with age (Table 1). The majority of internet users spoke English (96%), were tertiary educated (70%), owned their own home (84%), had an income of \$40,000 or less per annum

(54%), with 50% receiving a government pension, allowance or benefit, and reported being in good health (88%).

Table 1: Demographic characteristics of respondents

Variable	Used the internet (%)	Never used internet (%)
Gender		
Male	24 (73)	9 (27)
Female	48 (64)	27 (36)
Age		
55-59	11 (85)	1 (15)
60-64	15 (71)	3 (29)
65-69	20 (61)	12 (39)
70-74	15 (58)	9 (42)
75+	11 (50)	11 (50)

A direct logistic regression analysis was performed which aimed to predict use of a computer to access the internet. Five independent variables were used as predictors: age bracket, health status, education level attained, household income, and language spoken at home.

A test of the full model with all five predictors was statistically reliable ($\chi^2(df=10, n=115)=29.908, p=.001$) indicating that the variables as a set reliably distinguish between people who use computers to access the internet and those who do not.

Prediction success was high, with 90% of internet users being correctly classified; 57% of non-users correctly being identified. The overall prediction success rate was 80%.

According to the Wald criterion two variables made a significant contribution to the prediction: tertiary education ($z=8.604, p=.003$) and household income greater than \$40,000 per annum ($z=4.515, p=.034$).

Over half the respondents had used the internet to search for health information (Table 2). Logistic regression was again used to predict the use of the internet to find health information. Five independent variables were used: age bracket, health status, education level attained, household income and perceived reliability of information found online. The test was not statistically significant ($\chi^2(df=9, n=115)=12.164, p=.204$), suggesting that these variables do not explain predilection to find health information on the internet.

More than two-fifths of respondents, who used the internet, perceived information found on the internet to be mostly or completely reliable (Table 2). Logistic regression was used to predict the perceived reliability of information on the internet. Three independent variables were used: age bracket, education level attained and household income. The test was not statistically significant ($\chi^2(df=7, n=115)=6.882, p=.441$), suggesting that these variables do not explain perceived reliability of online information.

In terms of computer hardware and software, most respondents owned a computer that was less than three years old (71%), and the majority were using Internet Explorer as a web browser (75%). The average respondent spent 3.2 hours using the internet each week; 89% reported having an email address.

Table 2: Demographic characteristics of respondents who used the internet

Variable	Total (%)	Respondents aged 55 – 64 years (%)	Respondents aged 65 years and over (%)
Level of education			
Completed primary school/ Some secondary school	4 (5.7)	2 (7.7)	2 (4.5)
Completed secondary school	17 (24.3)	7 (26.9)	10 (22.7)
Completed tertiary studies	49 (70.0)	17 (65.4)	32 (72.7)
Household income			
< \$40,000	37 (53.6)	10 (40.0)	27 (61.4)
>\$40,001	27 (39.1)	13 (52.0)	14 (31.8)
Don't know	8 (7.2)	2 (8.0)	3 (6.8)
House ownership			
Owned outright/with a mortgage	59 (84.3)	21 (84.0)	38 (84.4)
Rented privately/ occupied rent free	7 (10.0)	2 (8.0)	5 (11.1)
Rented from Government Authority	3 (4.3)	2 (8.0)	1 (2.2)
Aged care facility	1 (1.4)	0 (0)	1 (2.2)
Health rating			
Very good/ Excellent	35 (52.2)	11 (47.8)	24 (54.5)
Good	24 (35.8)	8 (34.8)	16 (36.4)
Poor/Fair	8 (11.9)	4 (17.4)	4 (9.1)
Years using the internet			
< 1 year	6 (8.3)	3 (11.5)	3 (6.5)
1–5 years	17 (23.6)	3 (11.5)	14 (30.5)
>5 years	49 (68.1)	20 (76.9)	29 (63.0)
Comfort level with using the internet			
Not at all	5 (6.9)	1 (3.8)	4 (8.7)
Comfortable/ very comfortable	67 (93.0)	25 (96.1)	42 (91.2)
Hours spent using the internet each week			
<2 hours	29 (40.8)	10 (38.4)	19 (42.3)
3-9 hours	27 (38.0)	9 (34.6)	18 (40.0)
>10 hours	15 (21.2)	7 (26.9)	8 (17.8)
Internet access location (at least weekly)			
Home	60 (84.5)	21 (80.7)	39 (86.7)
Work	12 (25.0)	9 (47.4)	3 (10.3)
Library	4 (7.9)	3 (15.0)	1 (3.2)
Phone	4 (7.9)	3 (15.8)	1 (3.1)
Friend/relative's	1 (2.0)	1 (5.3)	0 (0)
Computer age			
<3 years	50 (70.5)	18 (69.3)	32 (71.1)
>3 years	17 (23.9)	5 (19.2)	12 (26.7)
Don't know /don't own a computer	4 (5.6)	3 (11.5)	1 (2.2)
Internet browser			
Internet Explorer	52 (75.4)	20 (76.9)	32(74.4)
Firefox	8 (11.6)	3 (11.5)	5 (11.6)
Safari	6 (8.7)	2 (7.7)	4 (9.3)
Type of internet connection			
Broadband	56 (77.5)	19 (73.1)	36 (80.0)
Dial-up	9 (12.7)	4 (15.4)	5 (11.1)
Mobile phone	1 (1.4)	0 (0)	1 (2.2)
Satellite	1 (1.4)	0 (0)	1 (2.2)
Don't know/other	5 (7.0)	3 (11.5)	2 (4.4)
Health information			
Used the internet to search for health information	46 (63.9)	18 (69.2)	28 (60.9)
Reliability of health information on the internet			
Not at all/Not very	20 (30.8)	9 (37.5)	11 (26.9)
Mostly/Completely	28 (43.1)	11 (45.8)	17 (41.5)
Not Sure	17 (26.2)	4 (16.7)	13 (31.7)

In our sample most internet users were long-term users with high comfort levels, who accessed the internet through broadband connections at home or at work (Table 2).

Discussion

The results show high rates of internet use amongst our sample with the majority of 55-59 year olds reported internet use (85%), and 50% of those aged 75 year or older reported having been online. By comparison the Internet Access at Home report, using data from 2006/07, noted that just over half (52%) of 55-64 year olds in Australia had used the internet, with the rate falling sharply to just 11% of those aged 75 years and older⁸. The difference in reported internet use is likely to be due to the combined effects of our sampling frame and changes in internet access over time. It is argued that the current heterogeneous profile of online seniors will change as the baby boomers age, as this generation is likely to retain the information technology skills learnt in the workplace⁹⁻¹¹.

Strong associations between level of education attained, household income and internet use were seen which is consistent with other studies^{8,12,13}. This indicates that both level of education and level of household income continue to create a digital divide, separating those who use the internet from those who do not.

Reported average weekly internet usage among our sample was less than other studies examining similar populations. It is possible that this difference was due to face-to-face recruitment and use of a paper based survey tool which may have enabled capture of data from light to moderate internet users, as opposed to the use of an online tool and online recruitment which is predisposed to attract people who are online more frequently¹².

Internet use for more than five years was higher than expected in our sample (68%). Patterns of long-term internet use reported by other Australian studies vary, with a 2009 study finding just 47% of people aged eighteen years and older reported internet use of 5-10 years¹³. Another study, looking at internet use among people aged 55 years and over (the same as our sample), reported approximately 80% of respondents had used the internet for more than five years¹⁴. However, this study utilised purposive online sampling, which would have excluded both less experienced internet users and those who were off-line.

High rates of online health information seeking were found; which is consistent with US studies conducted between 2003 and 2008¹⁵⁻¹⁷. While trust in online health information was moderate among our respondents (43%), this is likely to increase over time as the baby boomers are reported to have greater trust in online sources than those aged over 65 years¹⁸. Further research is needed to explore the factors that contribute to trust in online health information sources in this population, including both website design and recommendations from health professionals.

The recruitment of participants on trains proved highly successful; this is likely due to relatively long journey times. The number of respondents who spoke English at home was higher than that for the NSW population as a whole¹⁹, this may be attributed to the nature of the research tool, a written survey in English.

The generalisability of the results is limited by both small sample size and place of residence as it is recognised that people living in regional and remote Australia are less likely to be online⁸. Further, the survey did not attempt to identify ex-internet users or explore reasons for not using the internet.

Nor did it attempt to elicit what if any action occurred as a result of the health information found online. Future, larger studies looking at Australian populations should explore the relationship between use of the internet to obtain health information, and self-reported health status.

Our results suggest that future e-health strategies aimed at this demographic should be optimised for viewing in Internet Explorer using relatively new computers.

While the internet has many benefits as a source of health information, it also has a number of drawbacks that need to be acknowledged. These include: access to the internet (both physical access and technological literacy) and access to the information presented (health literacy)²⁰; sites presented only in English are likely to exclude those from culturally and linguistically diverse backgrounds (CALD)⁵; concerns about confidentiality of personal details entered online; and site quality and credibility as the nature of the internet allows anyone to publish a website or blog²⁰. This final point may be somewhat overcome by encouraging health care practitioners to recommend trustworthy sites to patients⁶.

Research is needed to investigate the format of e-health information that older Australians find most acceptable. This knowledge could be utilised to develop e-health education aimed at older adults to complement existing services. There has been little research into the use of e-health in health promotion, and this has been attributed to the dearth of models available to guide the design and evaluation processes²⁰.

Our results show that older adults are riding the internet wave, with more being online than expected. The majority of respondents were confident, long-term users, with up-to-date equipment, who utilise health information online. Further, it is likely that the profile of online older adults will continue to change with the ageing of the population. This makes the internet an attractive and economical mode for health communication, particularly as older adults are the greatest users of health care resources. However, since both level of household income and level of education achieved continue to function as barriers to internet access and usage, the internet should not be the sole channel of health communication with older adults.



References

1. Australian Institute of Health and Welfare. Chronic diseases. 2010;2011(March). Available at: <http://www.aihw.gov.au/chronic-diseases/>. Accessed February 24, 2012.
 2. O'Halloran J, Harrison C, Britt H. The management of chronic problems. *Australian Family Physician*. 2008;37(9):697.
 3. Griffiths F, Lindenmeyer A, Powell J, Lowe P, Thorogood M. Why are health care interventions delivered over the internet? A systematic review of the published literature. *Journal of Medical Internet Research*. 2006;8(2):e10.
 4. Lorig K, Ritter PL, Dost A, Plant K, Laurent DD, McNeil I. The Expert Patients Programme online, a 1-year study of an Internet-based self-management programme for people with long-term conditions. *Chronic Illness*. 2008;4(4):247–256.
 5. Bull SS, Gaglio B, McKay HG, Glasgow RE. Harnessing the potential of the internet to promote chronic illness self-management: diabetes as an example of how well we are doing. *Chronic Illness*. 2005;1(2):143–155.
 6. Horden A, Georgiou A, Whetton S, Hordern A, Prgomet M. Consumer e-health: an overview of research evidence and implications for future policy. *Health Information Management Journal*. 2011;40(2):6–14.
 7. Drennan J. Cognitive interviewing: verbal data in the design and pretesting of questionnaires. *Journal of Advanced Nursing*. 2003;42(1):57–63.
 8. Australian Bureau of Statistics. Internet access at home. 4102.0 - Australian Social Trends. 2008;2010. Available at: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Chapter10002008>.
 9. Abbey R, Hyde S. No country for older people? Age and the digital divide. *Journal of Information, Communication and Ethics in Society*. 2009;7(4):225–242.
 10. Gilleard C, Higgs P. Internet use and the digital divide in the English longitudinal study of ageing. *European Journal of Ageing*. 2008;5(3):233–239.
 11. Alpay L, Toussaint PJ, Ezendam NPM, Rövekamp TAJM, Graafmans WC, Westendorp RGJ. Easing Internet access of health information for elderly users. *Health Informatics Journal*. 2004;10(3):185–194.
 12. Sum S, Mathews RM, Hughes I. Participation of older adults in cyberspace: how Australian older adults use the Internet. *Australasian Journal on Ageing*. 2009;28(4):189–93.
 13. Ewing S, Thomas J. The Internet in Australia. *Social Sciences*. 2010;(May). Available at: http://www.cci.edu.au/sites/default/files/sewing/CCi_Digital_Futures_2010_1.pdf. Accessed May 16, 2010.
 14. Russell C, Campbell A, Hughes I. Ageing, social capital and the internet: findings from an exploratory study of Australian “silver surfers”. *Australasian Journal on Ageing*. 2008;27(2):78–82.
 15. Jones S, Fox S. *Generations Online in 2009*. Washington: PEW Research Center's Internet & American Life Project; 2009:1–9.
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16. Ybarra M, Suman M. Reasons, assessments and actions taken: sex and age differences in uses of Internet health information. *Health Education Research*. 2008;23(3):512–521.
 17. Hardt JH, Hollis-Sawyer L. Older adults seeking healthcare information on the internet. *Educational Gerontology*. 2007;33(7):561–572.
 18. Cho A, Arar NH, Edelman DE, Hartwell PH, Oddone EZ, Yancy WS. Do diabetic veterans use the internet? Self-reported usage, skills, and interest in using my HealtheVet web portal. *Telemedicine and e-Health*. 2010;16(5):595–602.
 19. Australian Bureau of Statistics. 2006 Census QuickStats: New South Wales. 2007;2011(March). Available at: <http://www.censusdata.abs.gov.au/ABSNavigation/prenav/ViewData?method=Place of Usual Residence&subaction=-1&producttype=QuickStats&areacode=1&action=401&collection=Census&textversion=false&breadcrumb=PL&period=2006&javascript=true&navmapdisplayed=true&>. Accessed March 15, 2011.
 20. Laakso E-L, Armstrong K, Usher W. Cyber-management of people with chronic disease: A potential solution to eHealth challenges. *Health Education Journal*. 2011;71(4):483–490.
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