

Final Report December 2009

# Digital Technology A Health Lens

A collaboration between the  
Department of Further Education,  
Employment, Science and Technology  
& SA Health



**Government  
of South Australia**



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## Abbreviations

ABS	Australian Bureau of Statistics
ACMA	Australian Communications and Media Authority
CEG	Chief Executives Group
DBCDE	Department of Broadband Communication and Digital Economy
DFC	Department for Families and Communities
DFEEST	Department for Further Education, Employment, Science and Technology
DPH	Department of Public Health
HiAP	Health in All Policies
HLA	Health lens analysis
ICT	Information Communications Technology
IEA	Information Economy Agenda
IIP	ICT Innovation Partnerships
IE	Information Economy
JEWG	Joint expert working group
MEGA	Mobile Enterprise Growth Alliance
NGO	Non Government Organisation
OCIO	Office of the Chief Information Officer
SASP	South Australia's Strategic Plan
SES	Socio Economic Status
SIE	Science and Information Economy
SMS	Short Message Service
WIFI	Wireless Fidelity

## Executive Summary

*“Given time, low cost broadband mobile phones connected to the mobile broadband network have the best long term potential to ensure complete inclusion of all in the UK to the broadband Internet.” (Digital Britain 2009:70)*

The Digital Technology Health Lens Project has resulted in the development of a set of recommendations to support increased use of digital technology amongst low Socio Economic Status (SES) population groups in ways that also promote and do not undermine health outcomes.

This report details potential solutions to increase broadband use via mobile phones for lower-income and socio economically disadvantaged South Australians. It has been based on the findings from two phases of research conducted as part of the Digital Technology Health Lens Project. Each phase included a review of the international and national literature and qualitative focus group research. The first phase explored general digital technology use. It included a review of the published literature and the findings from six focus groups conducted with 55 Adelaide residents. The results of this work informed the development of the second phase, which looked at solutions to increase mobile internet use particularly for lower-income and socio-economically disadvantaged groups. Again this work included a review of the international and national published and grey literature and three focus groups which were conducted with 30 Adelaide residents (age range 25 to 60 years).

### Phase One

Initial literature searches into the relationship between health and access to digital technology, including broadband access, found that there was limited evidence available. The evidence became even more restricted when the research focussed on people from low SES backgrounds and their experiences accessing digital technology. As a consequence, the health lens project team (comprising members of Department of Further Education, Employment, Science and Technology (DFEEST) and SA Health) commissioned research to explore these relationships in more detail and help determine the final shape of the health lens analysis. Flinders University was commissioned in 2008 to conduct a series of focus groups with people from lower socio-economic backgrounds, to explore their interest and use of digital technology.

The focus was on metropolitan South Australia as considerable research exists on rural/remote Australia, and regional SA is the focus of the State's fifteenth Thinker in Residence, Dr Genevieve Bell. The research recruited people who are and are not using Internet and Broadband, but included discussion about use of other digital technology, i.e. mobile phones. Participants were recruited in the 25 to 60 year age range, since there is already an Australian focus on researching digital technologies with disadvantaged youth and older people.

Areas of questioning included: how people originally learned to use various technologies (or why they did not); the role of social networks in motivating and/or mediating access/usage; perceived barriers (social, cultural, economic, etc); what they wish they had access to or knew how to use; and what pathways they see from having (or not having) these technologies to the broader social determinants of their health and wellbeing.

Participants had a wide variety of digital access and use. This ranged from those who seem very “techno-savvy” and own and/or access and use a wide range of technologies, through to those who are using “the basics” (mobile phone only, or mobile phone and computer), to those who are actively resisting the use of digital technologies (in particular the Internet).

The findings showed that 95% of research participants own a mobile phone. By comparison, 32% reported having no landline at home, mainly due to resentment about paying line rental costs (approx \$30 per month) and the uncertainty of expenditure related to billing systems. All of those without a landline were on incomes under \$20,000 pa (\$399 per week). Overall, 74% of participants have access to a computer, and 58% have Internet available at home (although only 52% actually use it). None of the respondents with an income under \$10,000 pa had Internet at home, and in the \$10,000-\$20,000 bracket, half had it and half did not, while all participants with an income over \$30,000 reported having Internet at home.

Barriers cited included economic costs as much as not having the skills, perceptions of not needing to use the Internet, and not understanding computers. Some participants have explained how insecure or shared housing tenure has affected their ability to have a landline and/or maintain a landline account, which in turn has affected their opportunity to purchase Broadband Internet.

While some participants indicated that they would like to attend a course to learn computing and Internet skills, they were not aware of where such courses are conducted; felt that courses are often spaced too far apart for their learning needs (i.e. weekly only) and with insufficient one-to-one support. Some participants anticipated that they would not be able to afford a course regardless of these other factors. Interestingly however, there have been other participants who provided information about low-cost and accessible local courses during the focus group discussion, suggesting that existing community groups may provide one opportunity for distributing and sharing information to support increased digital access and use.

Many participants perceived considerable barriers to using Public Internet access as anything other than a stop-gap measure, disliking the uncertainty of access or inconvenience of having to book ahead, time-use limits (usually to 30 mins or 1 hour), lack of privacy, difficulty of use with babies/young children in tow, lack of personal assistance with skills, and lack of local internet cafes and/or high cost of internet cafes. Shared access with a limited group of people (either personally known, or of known type e.g. fellow students) was seen as less problematic.

## **Phase Two**

The findings from phase one suggested that mobile phone technology may prove the best digital medium to increase uptake amongst Low SES Population groups, as mobile phone use is more universal across the population than computer and Internet ownership/access. Access and use of digital technology and the internet are becoming increasingly important in South Australian society, as both the public and private sectors are moving towards providing information and services online and reducing the opportunity for citizens to access these services in person or by phone.

The Project (Phase Two) used a health lens analysis to examine the interaction between internet use, digital technology-mobile phone use, literacy and health and wellbeing. The health lens project used social research methodology to build upon the progress of Phase One, to identify barriers and opportunities to increasing internet use amongst low

SES groups and highlight strategies that aim to optimise their use of the internet through the mobile phone. By increasing use of the internet, people from low SES groups will have increased access to services, information and other opportunities, which in turn should help improve their access to the determinants of health and ultimately their health and wellbeing.

## Recommendations

Increasingly there are indicators that access to, and effective use of, digital technologies, are pivotal to economic, social, educational, political and cultural participation in our society. There are many recognised barriers to engagement with digital technology and this digital divide threatens to have increased impact as the use of on-line resources becomes more pervasive in our society. Digital participation is directly related to broader socio-economic determinants, and is a prime indicator of health and well being. Inequity of access to on-line information and services, and variations in capacity to effectively engage on-line, will exacerbate divisions in society by increasingly disenfranchising low socio-economic status (SES) population sectors.

The following recommendations have been developed by the Joint Expert Working Group (JEWG), following the research conducted in Phases 1 and 2 of the Digital Technology Health Lens project. While Phase 2 of the research focused on the use of internet enabled mobile telephony, due to the increasing accessibility and ubiquity of mobile phones, the principles of digital engagement apply to all technology channels.

These recommendations can be interdependent and include whole-of-government direction in digital inclusion, as well as initiatives in which specific agencies will take action. They have been developed with the understanding that broadband and mobile phone access are part of the commercial environment and subject to market forces as well as to the regulatory communications environment of the Commonwealth Government. Some of these recommendations are achievable within current resources and programs while others will require additional funding to be implemented successfully.

### *Recommendation 1- Digital Inclusion*

The Information Economy Agenda recognises that an ideal information economy requires all citizens to participate collectively and embrace digital technologies. Online opportunity for all is necessary to ensure that the digital divide does not alienate and disadvantage those who cannot access the services, information, and social connectivity which are increasingly, and exclusively, provided online. It recognises that ubiquitous broadband access and use:

- enhances social connectivity and sense of community which have direct correlation to well being;
- stimulates economic productivity in the form of innovation, efficiencies, new markets and employment opportunities;
- enables access to education opportunities;
- supports preventative and participative health outcomes by providing multiple sources of information and support mechanisms.

Thus the health of South Australia's information economy is directly linked to the health, happiness and prosperity of our citizens.

***It is recommended that the concept of digital inclusion is recognised across Government and all Departments are encouraged to develop applications and service delivery mechanisms which incorporate digital communication, including mobile technology, as a strategic access platform. This will assist all citizens to have opportunities for equitable participation in all aspects of the information economy.***



This recommendation builds on the Information Economy (IE) Agenda Objective (To) *Understand the nature and extent of digital divide in SA communities* which also includes the development of a Digital Inclusion strategy. DFEEST will bring together key agencies to develop this policy and report back to the CEG within twelve months. This policy should be developed in conjunction with recommendations from Genevieve Bell's Thinker in Residence report, *Getting Connected Staying Connected*, and the development of the Office of the Chief Information Officer's (OCIO) *Ask Just Once* strategy. (See also recommendations 4 and 5)

The Health in All Policies (HiAP) research project acknowledges the high penetration of mobile devices and the flexibility and immediacy provided through the delivery of data by mobile phone. The research has identified that this technology provides a good opportunity to assist low SES communities meet the challenges of the digital divide. It is critical that the existing culture of citizen access to information and the provision of services be expanded to include multiple access channels, and to also include new benchmarks for service delivery to take advantage of new technologies.

*A) As an alternate communication channel which is cost neutral to the consumer/citizen.*

The research indicates that while participants were becoming increasingly comfortable with the concept of digitally provided services, it is important that this is not perceived as government cost shifting. For example, just as pre-paid reply envelopes may be provided today for critical responses, so should electronic responses be available at no cost to the consumer.

*B) Public access to free Wireless Fidelity (WIFI).*

As part of this strategy, public access points to free WIFI should be expanded beyond public libraries to be made available at all SA Government buildings and service delivery points. The research indicated that this would encourage access to online Government services, as well as the internet generally. This strategy would need clear implementation guidelines and accompanying consumer information about wifi and how to access it.

*C) As a means for community consultation and to explore the feasibility of this media as a vehicle for e-democracy participation.*

National and international policy is highlighting the role of on-line engagement in ensuring open and inclusive government, indicating a new focus on consultation and citizen centric government. Among the recommendations of the Commonwealth's Gov2.0 Taskforce, it is suggested that in order to make government more consultative, participatory and transparent, the extent and quality of online engagement by agencies should be improved. This trend provides an opportunity for South Australia to develop innovative on-line strategies which engage citizens across all sectors. The findings of the HiAP digital technology project suggest that the use of mobile phones, from Short Message Service (SMS) to data access by phone, provides a better opportunity to engage more broadly and particularly with people of low SES who may be disenfranchised in their community.

## **Recommendation 2 Information and Resources**

In consulting the focus groups for this research, it became evident that the participants were often not aware of available information and resources which may have assisted their engagement with technology. In particular, many safety and security concerns may have been allayed through access to Australian Communications and Media Authority

(ACMA) information regarding safe on-line practices. When participants were introduced to some of these resources, it was also apparent that the needs of some community groups were not met by the available resources. For example, much cybersafety information was aimed at ensuring children's on-line security, but did not appropriately address the issues facing adults.

***It is recommended that representatives of the South Australian Government continue, through participation in On-Line Council Working Groups to liaise with regulatory bodies, including Dept Broadband Communication and Digital Economy (DBCDE) and Australian Communication and Media Authority (ACMA), to improve information flow and educational resources to all consumers.***

***A) Building Digital Engagement awareness and confidence***

The Science and Information Economy Directorate (SIE), using the extensive research and consultation on community education for on-line safety already undertaken, will develop South Australian analysis of, and input to, existing information resources such as brochures and web links and build locally based cybersafety strategies to support positive engagement outcomes.

***B) Broadband Usage Benchmarking***

Through participation in On-Line Working Groups, South Australian officials should encourage ACMA and the Australian Bureau of Statistics (ABS) to consider the importance of surveying digital engagement through mobile technology, an on-line participation indicator which has not previously been collected or benchmarked. Current benchmarks which track household computer ownership only provide a partial representation of digital participation.

***Recommendation 3 Supporting Skill Development***

For many disengaged community members, the barriers to participation are often a lack of understanding of the technology and ignorance of available options. Currently this information regarding mobile phones is only available through retail outlets and suppliers, or from complex websites such as [www.whirlpool.net.au](http://www.whirlpool.net.au). This project clearly identifies that increased on-line participation occurs when peer-to-peer support is available and delivered face-to-face (which could be either physical, or virtual, proximity). There has been considerable investment in the provision of access to digital technology through community facilities and these centres represent an opportunity to support people to engage more effectively with digital technology in a non-commercial environment.

***It is recommended that resources for a volunteer mentoring program through Adult Community Education be sought in consultation with the telecommunications industry and made available at designated "kiosks" or public libraries and other community venues to provide information, assistance and support to develop knowledge and capacity to get better outcomes from broadband via mobile phone.***

These “kiosks” are existing facilities, or could be provided by relevant agencies at a number of sites including Service SA sites, public libraries, community houses, community health centres, Broadband for Seniors sites and Centrelink Offices.

This service should be developed in collaboration with Adult Community Education, Volunteering SA and the Office for Volunteers, Public Library Services and Local Government. The use of trained volunteer mentors also supports the recommendations of the State Reform Agenda in Engaging Older South Australians, but may also involve people from across all community sectors as mentors.

This recommendation builds on and supports the

- IE Agenda Strategic priority area “Capability” - to build a confident, educated and digitally literate population
- Thinker in Residence report, Getting Connected, Staying Connected

Recommendations:

- 6 - Digital Literacy and Lifelong Learning a
- 9 - Digital Citizenship for life Recommendation
- 10 - Invest in hubs beyond the home.

#### *Recommendation 4 **Promoting Engagement***

***It is recommended that the SIE Directorate DFEEST liaise with stakeholders to produce local information resources on the potential and use of mobile technology as a medium for e-engagement which may be available on-line or through local outlets and service providers.***

This resource may be added to existing websites, or the development of brochures, posters, advertising campaigns and would be developed in conjunction with all other recommendations which encourage SA agencies to implement mobile technology into their business models for community engagement.

#### *Recommendation 5 **Demonstrating Innovation***

The project brief for HiAP Phase 2 included an objective “to scope an application designed to encourage low SES groups to access the internet via a mobile phone”. As an example, the recent eChallenge winner was actually an SMS application which tells surfers of surf conditions via SMS see [www.saxonysms.com](http://www.saxonysms.com)

An on-line application may be developed as part of this recommendation, should an agency identify an opportunity to implement access to their services through mobile technology.

***It is recommended that the ICT Innovation Partnerships (IIP) Program and Mobile Enterprise Growth Alliance (MEGA) be approached to provide incubator funding for application developers to create content based on a smart use of SMS to demonstrate innovative and relevant applications of this technology.***

## Digital technology access and use as 21st century determinants of health: impact of social and economic disadvantage

The Health in All Policies (HiAP) approach, recently adopted by the South Australian government, is a collaborative process between SA Health and other government agencies to plan for and analyse their proposals, plans and policy decisions to identify opportunities to achieve the goals of the partner agency(s) while maximising the health benefit to the South Australian community. Health lens process is part of the broader HiAP approach

The Digital Technology Health Lens specifically aims to examine the health and wellbeing impacts associated with inadequate or lack of access to digital technology. It is based on the premise that digital technology provides access to essential information, services and resources that are needed to maintain good health and wellbeing. In the past, access has been available through traditional communication mediums such as printed materials, landline telephone services and personalised contact. Increasingly however, traditional communication methods are being replaced by digital technology, leaving behind those who do not have access and therefore placing their health and wellbeing at risk.

### South Australian context

South Australia's Strategic Plan Target 4.8 Broadband<sup>1</sup> usage in South Australia to exceed the Australian national average by 2010, and be maintained thereafter, was identified by Information Economy Directorate as a potential target where the HiAP approach could be applied in the form of a Health Lens analysis.

The core responsibility of the Information Economy Directorate is creating online opportunity for South Australia. The Directorate promotes and supports information economy<sup>2</sup> developments within government, business, industry and community sectors. It ensures that leading strategic policy is developed in these sectors for economical and social benefit to the State. To achieve these responsibilities the Directorate needs to drive and support initiatives at a local level, a government level and a whole of South Australia level.

The Information Economy Agenda and Broadband SA Strategy define the priority areas that will progress the information economy in South Australia and support the achievement of this SASP Target.

The era of the New Economy has witnessed an acceleration of technical change in information and communication technologies. It is suggested that Broadband technologies will be the "roads and railways" of the 21st century that generate the next wave of economic expansion and that broadband Internet access is fast becoming the fourth essential utility after water, gas and electricity. For the average citizen in Australia, the ability to access and use computers, the Internet, mobile phones and other digital technologies is therefore becoming increasingly vital to fully participating in the economic, social, educational, political and cultural spheres of modern society.

A digital divide is emerging in a number of ways:

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<sup>1</sup> The capability to communicate via any type of digital information from anywhere to anywhere in the blink of an eye. 'Broadband' is a general term for telecommunications services that transmit digital information at high speed over extended distances, either through the air or along a physical carriage medium. (Taken from *Broadband SA 2004, Science, Technology & Innovation Directorate Department of Further Education, Employment, Science and Technology* [www.broadband.sa.gov.au](http://www.broadband.sa.gov.au))

<sup>2</sup> The Information Economy is a term used to describe the economic and social value created through the ability to rapidly exchange information at any time, anywhere to any one.

- Regional/urban divide – broadband is simply not available in some rural and remote locations.
- Policy divide – Australian broadband policy is not supported by political consensus – it is fiercely divided along political lines. This results in funding decisions not being made to rectify market failure i.e. thin markets that could not support the roll out of services without subsidy support.
- Income divide – broadband has come down in price but is still more expensive in Australia than in many other countries.
- Education divide – lack of digital literacy manifests itself across older generations as well as lower SES groups.

The Information Economy Agenda recognises that an ideal information economy requires all our citizens to participate collectively and embrace digital technologies. Online opportunity for all is necessary to ensure that the digital divide does not alienate and disadvantage those who cannot access the services, information, and social connectivity which are increasingly provided online and nowhere else.

Ubiquitous broadband connectivity:

- enhances social connectivity and community which has a direct correlation to well being;
- stimulates economic productivity in the form of efficiencies, new markets and employment opportunities;
- enables access to education opportunities;
- supports preventative and participative health outcomes by providing multiple sources of information and support mechanisms.

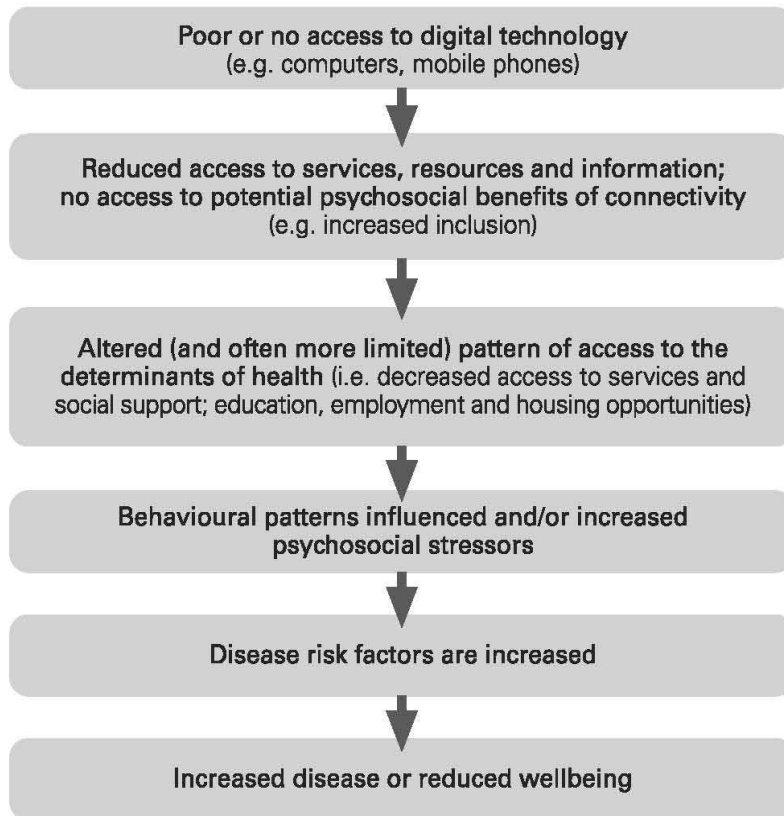
Thus the health of South Australia's information economy is directly linked to the health, happiness and prosperity of our citizens.

### **The digital divide - health implications**

There is now overwhelming evidence that those community members with lower socio-economic status are also those with lower health status. These groups are the least likely to access and use digital technologies. Consequently, there are concerns that as access and usage of digital technologies becomes central to being able to fully participate in the economic, social, political and cultural spheres of society, then unequal access and usage could compound existing disadvantage.

E-government is also increasing and could exacerbate disadvantage, considering the need for many people of low-socio-economic background to access public services and support. In 2007, 59% of Australians contacted government at least once over the Internet and for a quarter this was the main contact method; meanwhile personal contact with government fell from 46% in 2004-05 to 37% in 2007. In line with this shift, the South Australian government is currently seeking efficiency gains by shifting customers to the lowest cost service delivery channels and encouraging on-line self service modes wherever practical.

The existence of the digital divide requires that strategies to increase use of digital technology at a population level must take account of the positive and negative social and health impacts of this, particularly in relation to low income and disadvantaged groups. The Information Economy Directorate recognised that the health lens analysis could provide key information about how negative health impacts could be minimised and positives maximised, particularly for those lower down the social gradient, thereby reducing inequities.



**Figure 1: Access to digital technology and its links to health outcomes**

### Project governance

The Digital Technology Health Lens Project was overseen by a Project Team made up of staff from Information Economy Directorate, Department of Further Education, Employment, Science and Technology (DFEEST), the HiAP Unit, SA Health and Department of Public Health (DPH), Flinders University of South Australia. The Project Team was advised by representatives from Office of the Chief Information Officer and Department for Families and Communities (DFC).

## Health Lens Analysis – Phase 1

### Aim

To inform the SASP Target *T4.8 Broadband usage*, of the positive and negative health and wellbeing impacts of the increased access to and use of digital technology.

### Objectives

1. To demonstrate that a Health Lens approach can be used to support the development of a component of the South Australian Strategic Plan.
2. To identify any potential population health risks and benefits from connection (or lack of connection) to digital technology, particularly for people from lower socio-economic backgrounds.

3. To produce a set of recommendations that identify *options* to address potential health and wellbeing risks and/or benefits and present them to the Information Economy Directorate for their consideration.
4. To strengthen partnership between SA Health and the IED, DFEEST, and other agencies.

An initial literature search into the relationship between health and access to digital technology including broadband access, found that there was limited evidence available. The evidence became even more restricted when the research focussed on people from low SES backgrounds and their experiences accessing digital technology. As a consequence, the health lens project team (described above) commissioned research to explore these relationships in more detail and help determine the final shape of the health lens analysis. An outline of the research aims, methodology and findings are as follows.

Flinders University was commissioned in 2008 to conduct a series of focus groups with people from lower socio-economic backgrounds, to explore their interest and use of digital technology.

The specific research questions identified were:

1. What digital technologies are accessed and used by people of low socio-economic background in South Australia?
2. For what reasons and in what ways are people of low SES background accessing and using these technologies (or *not* accessing and using them)?
3. In what ways does having, or not having, digital access and usage contribute to, or detract from, health and wellbeing for these groups?
4. What are the pathways by which having or not having digital access and usage contribute to, or detract from, health and wellbeing for these groups?

Department of Health (DH) and DFEEST jointly funded Flinders University to undertake a qualitative research study considering these issues.

## Research plan

The research design was based on conducting six focus groups with 8-10 participants from lower-socioeconomic areas in metropolitan South Australia, specifically including the following demographics:

- outer-suburbs women's group,
- outer-suburbs men's group,
- inner-city affordable housing group,
- outer-suburbs unemployed-work seeker group,
- outer-suburbs Aboriginal group (recruitment via Port Adelaide's Tauondi College and/or Kura Yerlo Centre),
- outer-suburbs recent refugee group (recruit via the Refugee Association).

The focus was on metropolitan South Australia as considerable research exists on rural/remote Australia, and regional SA is the focus of the State's fifteenth Thinker in Residence, Dr Genevieve Bell. The research recruited people who are and are not using Internet and Broadband, but included discussion about use of other digital technology, i.e. mobile phones. Participants were recruited in the 25 to 60 year range, since there is already an Australian focus on researching digital technologies with disadvantaged youth and older people.

Areas of questioning included: how people originally learned to use various technologies (or why they did not); the role of social networks in motivating and/or mediating access/usage; perceived barriers (social, cultural, economic, etc.); what they wish they had access to or knew how to use; and what pathways they see from having (or not having) these technologies to the broader social determinants of their health and wellbeing. A question schedule was developed based partly on a literature review and on existing questions from other digital surveys (eg ACMA 2007; Blanchard, Metcalf & Burns 2007; Lee, Markotsis & Weir 2002).

The focus groups also allowed for previously unidentified issues to emerge.

## Findings

Participants had a wide variety of digital access and use. This ranged from those who seem very “techno-savvy” and own and/or access and use a wide range of technologies, through to those who are using “the basics” (mobile phone only, or mobile phone and computer), to those who are actively resisting the use of digital technologies (in particular the Internet). The characteristics of participants are outlined in Appendix B.

### Who is using what?

A wide range of digital technologies were reported, including mobile phones, digital cameras and video, PC computers and laptops, Dial-up and Broadband Internet (fixed and wireless), GPS, games such as Nintendo and Wii (offline and online), iPod, VOIP and “Internet-phone”, set-top digital boxes and PVR/HDD recorders. A brief summary shows that of the group participants:

- 95 % owned a mobile phone
- 32% had no landline at home
- 74% had computer access
- 58% had Internet at home

**Mobile phones and landlines:** 95% of research participants own a mobile phone. The main benefit is seen with the prepaid option which gives known upfront fees as well as the benefits of mobility and perceived safety of permanent communication. By comparison, 32% reported having no landline at home, mainly due to resentment about paying line rental costs (approx \$30 per month) and the uncertainty of expenditure related to billing systems. All of those without a landline are on incomes under \$20,000 pa (\$399 per week). Having a landline at home was also related to housing tenure, with all of those in home ownership and private rental having a landline but only 33% of those renting publicly.

**Computer and internet:** Overall, 74% of participants have access to a computer, and 58% have Internet available at home (although only 52% actually use it). None of the respondents with an income under \$10,000 pa had Internet at home, and in the \$10,000-\$20,000 bracket, half had it and half did not, while all participants with an income over \$30,000 reported having Internet at home.

**Social connection as a motivator for access/use:** While the research literature shows that higher levels of social connection are beneficial for health and wellbeing, in the focus groups, people’s digital access or use was influenced to some extent by their current social connections and family status. For example, women in families particularly cited one reason for Internet use being the desire for increased social connection with family interstate or overseas.

**Barriers to computer and internet access/use:** Barriers cited so far have equally included economic costs as much as not having the skills, perceptions of not needing to use the Internet, and not understanding computers. Some participants have explained how insecure or shared housing tenure has affected their ability to have a landline and/or maintain a landline account, which in turn has affected their opportunity to purchase Broadband Internet.

While some participants indicated that they would like to attend a course to learn computer and Internet skills, they were not aware of where such courses are conducted; felt that courses are often spaced too far apart for their learning needs (i.e. weekly only) and with insufficient one-to-one support. Some participants anticipated that they would not be able to afford a course anyway. Interestingly however, there have been other participants who provided information about low-cost and accessible local courses during the focus group discussion, suggesting that existing community groups may provide one opportunity for distributing and sharing information to support increased digital access and use.

**Hidden costs:** The discussions also allowed some previously unidentified issues to emerge, which had implications for a Health in All Policies view of the SASP Broadband Target. For example, preliminary analysis showed that for some people there are definite benefits of having



Broadband access, yet these can at the same time put people under increased financial pressure. Perceived financial hardship is in turn known to have a negative influence on mental health. As an illustration, one participant was already intending to give up Broadband access in order to continue being able to afford to run a car.

**Government contact:**

Participants were asked if they contacted Government in any ways for information, assistance and services. Contact methods used were as follows:

- Visited government office in person 79%
- Phoned government office/staff 74%
- Searched government websites 47%
- Sent email information via email/online 37%
- Handwritten or posted letters/documents 21%
- Sent text messages 16%

*In relation to this issue, the particular findings may not accurately represent the views of the all people from low SES backgrounds, as the sample size was very small and therefore is not transferable to the wider population.*

**Public internet access:** Many participants perceived considerable barriers to using Public Internet access as anything other than a stop-gap measure, disliking the uncertainty of access or inconvenience of having to book ahead, time-use limits (usually to 30 mins or 1 hour), lack of privacy, difficulty of use with babies/young children in tow, lack of personal assistance with skills, and lack of local internet cafes and/or high cost of internet cafes. Shared access with a limited group of people (either personally known, or of known type e.g. fellow students) is seen as less problematic.

**Digital technology scoping meeting**

A scoping meeting using the findings of the *Digital Technology* focus groups was held to map out the positive and negative health and wellbeing impacts of increasing use of digital technologies. Identifying both was considered important in order to identify the opportunities for positive change. Outcomes of this meeting are captured in Table 1.

**Table 1: Positive and negative health and wellbeing impacts of increasing use of digital technology**

Positive impacts of increasing use	Population groups affected	Negative impacts of increasing use	Population groups affected
Increased convenience and flexibility in accessing services, i.e. Centrelink, banks, which can lead to time and cost savings	Internet users	Increased Life Balance risks i.e. addiction	<ul style="list-style-type: none"> <li>▪ People with mental health issues</li> <li>▪ Heavy users</li> </ul>
Increased independence <ul style="list-style-type: none"> <li>▪ ability to access own information</li> <li>▪ ability to access information re health, education, health etc</li> </ul>		Technology not aligned to peoples needs <ul style="list-style-type: none"> <li>▪ Negative experiences puts people off</li> <li>▪ Lack of skills/literacy</li> <li>▪ Content issues</li> </ul>	
Opportunity to be flexible and control communication, including		Increased feelings of 'loss of control'/fear due to:	Whole of population

Positive impacts of increasing use	Population groups affected	Negative impacts of increasing use	Population groups affected
accessibility. Being accessible increases communication and business opportunities.		<ul style="list-style-type: none"> <li>▪ Feeling pressured to use technology</li> <li>▪ High rate of change in technology</li> <li>▪ Lack of literacy</li> <li>▪ Concern regarding internet content (quality, reliability)</li> <li>▪ Being tied to an internet or mobile phone plan that isn't right for them.</li> <li>▪ Being taken for a ride by phone and internet providers.</li> <li>▪ can lead to lack of engagement with technology</li> </ul>	
Increased choice and access to information and products from around the world.		<p>Current Information Communications Technology (ICT) infrastructure, services and supports do not meet the needs and expectations of individuals.</p> <ul style="list-style-type: none"> <li>▪ Unreliable services</li> <li>▪ Lack of 'access' to clarify questions re technology</li> <li>▪ Lack of face to face support</li> <li>▪ Lack of access/ability to clarify issues net and phone issues with service providers</li> </ul>	All users, particularly people in rural and remote areas.
Increased national and international political and social awareness.		Increasing services provided online or via mobile phone and reducing other options can limit access to services.	Non or low users of technology. People in rural and remote areas.
Increased access to educational and employment opportunities and options.		<p>Increased need for digital literacy and competency without appropriate supports</p> <ul style="list-style-type: none"> <li>▪ Community lacks awareness of available training courses.</li> <li>▪ Unclear if courses meet the needs of</li> </ul>	People from low SES backgrounds, older people, people with mental health issues, people with English as a second language.

Positive impacts of increasing use	Population groups affected	Negative impacts of increasing use	Population groups affected
		community.	
Increased literacy and skills associated with use of digital technology.		<p>Increased Isolation</p> <ul style="list-style-type: none"> <li>▪ Between users and non-users of technology (generation effect?, particular groups)</li> <li>▪ Lack of face to face or human contact.</li> <li>▪ Disruption to relationships</li> </ul>	
<p>Increased social connectivity, social cohesion:</p> <ul style="list-style-type: none"> <li>▪ linking with people from similar cultural groups, interest groups etc</li> </ul> <p>Social connectivity has many benefits, including economic benefits, at a local and national level.</p>		<p>Financial stress/Financial Literacy</p> <ul style="list-style-type: none"> <li>▪ Being tied to a plan when income is unstable.</li> <li>▪ Pre-paid is more flexible but more expensive.</li> <li>▪ Unclear what is being paid for.</li> <li>▪ Cost of hardware (phone, computer)</li> </ul>	<ul style="list-style-type: none"> <li>- people who are isolated</li> <li>- older people with strong family/friend connections</li> </ul>
Access to large numbers of people who can be mobilised for community support.		<p>Exacerbating current issues associated with the digital technology industry.</p> <ul style="list-style-type: none"> <li>▪ Lack of responsibility and transparency of service providers.</li> <li>▪ Invasive, confusing marketing tactics.</li> </ul>	
Audio/visual medium can increase leaning and engagement.		Increased exposure to scam's/identity theft.	Whole population
Flexibility and control over communication		<p>Direct health</p> <ul style="list-style-type: none"> <li>▪ Headaches from over use</li> <li>▪ Fear of cancer from mobile phones</li> </ul>	
Opportunity to be flexible and control communication, including accessibility. Being accessible increases communication and business opportunities.		<p>Increased feelings of 'loss of control'/fear due to:</p> <ul style="list-style-type: none"> <li>▪ Feeling pressured to use technology</li> <li>▪ High rate of change in technology</li> </ul>	Whole of population

Positive impacts of increasing use	Population groups affected	Negative impacts of increasing use	Population groups affected
		<ul style="list-style-type: none"> <li>▪ Lack of literacy</li> <li>▪ Concern regarding internet content (quality, reliability)</li> <li>▪ Being tied to an internet or mobile phone plan that isn't right for them.</li> <li>▪ Being taken for a ride by phone and internet providers.</li> <li>▪ can lead to lack of engagement with technology</li> </ul>	
Increased choice and access to information and products from around the world.		<p>Current ICT infrastructure, services and supports do not meet the needs and expectations of individuals.</p> <ul style="list-style-type: none"> <li>▪ Unreliable services</li> <li>▪ Lack of 'access' to clarify questions re technology</li> <li>▪ Lack of face to face support</li> <li>▪ Lack of access/ability to clarify issues net and phone issues with service providers</li> </ul>	All users, particularly people in rural and remote areas.

Four key themes are evident in Table 1.

- Literacy
- Content
- Access to Infrastructure
- Access to Support

These themes relate to both engagement and disengagement with digital technology.

Mobile Phone technology is a rapidly developing field and the Project Team felt it offered the best opportunity to assist low SES communities to leap frog the existing broadband system and access the internet, services and other resources by increasing their capacity to utilise their mobile phones.

### **Rationale for phase two of health lens project**

The findings from Phase 1 clearly indicated that the barriers to increasing internet use through personal computers were real and significant. However, the findings also found that most participants at least owned a mobile phone, even if they could not get access to a computer. There is opportunity to focus on the mobile phone as hardware. Furthermore, current South Australian government policy is to encourage the community to increasingly use the Internet to access its services and general information and so it is important to ensure that all South Australians have the supports to enable them to do this successfully. It was decided that mobile phones could be a more affordable, convenient, and easier-to-use way to support increased

access to the Internet and its benefits, compared with using a computer, particularly for those in lower-income brackets.

## Health Lens Analysis – Phase 2

Given the outcomes of Phase 1, the second phase was entitled: Supporting Low SES populations in accessing broadband Internet through their mobile phones.

### Scoping of phase 2

#### Revised Project Aims and Objectives

##### Aim

To increase use of broadband internet through mobile phone technology, in order to improve the health and wellbeing of people from low SES backgrounds.

##### Objectives

- To determine the potential for mobile phones to impact on SASP Target 4.8: Broadband Usage.
- To develop a set of guidelines/criteria to support the inclusion of low SES groups in the roll-out of, and benefits derived from all new technology. These guidelines/criteria will be aimed at the following groups:
  - JEWG, DFEEST, DH, OCIO,
  - Other Government Departments,
  - Telecommunication industry,
  - NGOs (Education).
- To develop an evidence base that documents the relationship between low SES groups, internet access and mobile phone use, as it relates to health and wellbeing.
- To produce a set of recommendations for DFEEST and SA Health that supports increased mobile phone internet use to improve the health and wellbeing of low SES groups.
- To create an application/concept/piece of content designed to encourage low SES groups to access mobile phone internet.

Preliminary research has suggested that mobile phone technology may prove to be the best digital medium to increase uptake amongst Low SES Population groups, as mobile phone use is more universal across the population than computer and Internet ownership/access.

The Project (Phase Two) used a health lens analysis to examine the interaction between internet use, digital technology-mobile phone use, literacy and health and wellbeing. The health lens project used social research methodology to build upon the progress of Phase One, to identify barriers and opportunities to increasing internet use amongst low SES groups and highlight strategies that aim to optimise their use of the internet through the mobile phone. By increasing use of the internet, people from low SES groups will have increased access to services, information and other opportunities, which in turn should help improve their access to the determinants of health and ultimately their health and wellbeing.

#### Identification of focus areas

The outcomes from Phase 1 identified four areas for focus in Phase 2. :

1. Literacy
2. Content
3. Access to support
4. Access to infrastructure (i.e. hardware and plans)

These key issues are applicable to mobile phone and other digital technologies. While there are differences in the specific implications of the four theme areas to specific digital technologies, many of the key issues are similar whether looking at uptake of internet use via computer or via a mobile device. The principles behind the solutions, and possibly the solutions themselves are likely to be transferable between different digital technologies.

Phase 1 findings indicated that as mobile phone ownership is nearly universal, broadband use via mobile phone is likely to be more accessible to low SES populations than broadband via computers. Therefore it can be argued that mobile phones provide more options for people from low SES backgrounds to gain access to the internet.

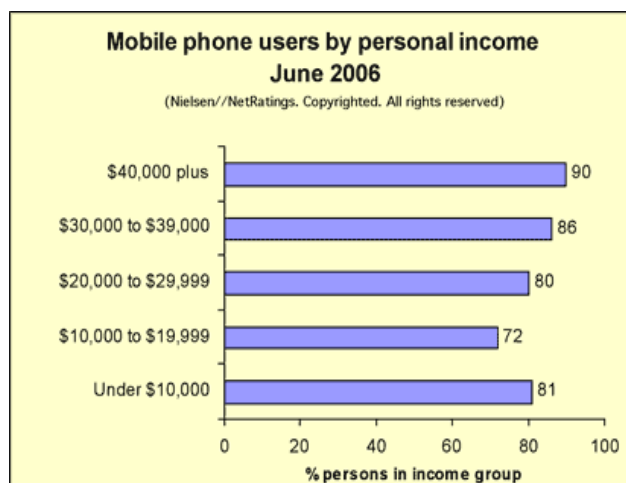
The project team agreed that all four areas identified above could be considered using the 'mobile phone' to maximise the uptake of the internet and increase the potential benefits from utilising digital technology. The reasons for this are:

Near universal use:

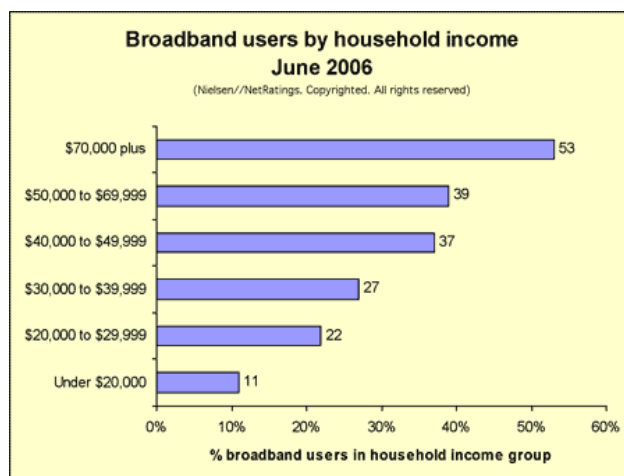
- A significant proportion of the population have access to mobile phones - according to the Australian Communications and Media Authority (2008) 83% of adults have a mobile phone. This was reflected among the participants of the Phase 1 research. This is higher than proportion of the population with access to internet – 73% of individuals aged 14 and over live in a house with internet access, and 58% live in a household with broadband connection<sup>3</sup>.
- The higher population saturation of the different digital technologies is reflective of a number of elements, including the fact that mobile phones have been around longer than internet, particularly broadband. Mobile phones also involve less upfront establishment costs and lower ongoing maintenance costs, and also have a greater variety of funding options such as prepaid credit compared with computer based broadband. Mobile phones may also present fewer skills barriers.

Both mobile phone and broadband use are linked to household income, as shown in Figures 2 and 3. There is still a significant correlation between mobiles and household income, although not as strongly as broadband.

**Figure 2:**  
Mobile phone use by income,  
Australia June 2006



**Figure 3:**  
Broadband use by income,  
Australia, June 2006<sup>4</sup>.



Note: Under \$10,000 use reflects student population

<sup>3</sup> Australia in the Digital Economy Report Two Online Participation (May 2009) Australian Communications and Media Authority

<sup>4</sup> Department of Broadband, Communications & the Digital Economy (2008). Online Statistics. [www.archive.dbcde.gov.au/2008/01/statistical\\_benchmarking/online\\_statistics](http://www.archive.dbcde.gov.au/2008/01/statistical_benchmarking/online_statistics) Accessed 16 April 2009.

- Access, capability and support are all essential to ensuring meaningful engagement with digital technology, including mobile phone technology. The phase one research indicated considerable variation in peoples ability to engage with mobile phones, with some utilising the many of the phones functions and others using phone just to receive calls.

***The mobile phone will be a key platform for internet access in the future***

- In recent years, with growing use of mobile phones and the introduction of 3G technology, the possible uses for mobile technology have multiplied. While the predominant use of the mobile phone is for contacting family and friends<sup>5</sup>, a growing number of users are accessing the internet via their mobile phone. While the numbers of people doing this in Australia are not yet significant, the Australian Mobile Telecommunications Association estimates that “three quarters of internet use will be done from mobile phones within 10 years”<sup>3</sup>.

***Engagement in society***

- Access to, and the skills to enable quality use of, mobile phones (whether internet enabled or not) are increasingly important for engagement in society at multiple levels, for example recruitment agencies will often SMS job details to applicants with the expectation of the receiver knowing how to receive and read the SMS and then afford to call in to inform on availability and access the job.

**Refinement of project scope**

The table below summaries the key issues that were explored during Phase Two of the Digital Technology Health Lens Project.

**Table 2: Key issues explored in phase 2**

<b>Key Issue</b>	<b>Scope as it applies to Mobile Phone</b>
Literacy/ capability	Mobile phone literacy including ability to understand and compare mobile phone plans, and select appropriate plan, as well as the skill and confidence to use handset and navigate content and applications. General literacy and how it affects mobile phone use is also included.
Content	Mobile phone content also includes applications, considering in particular what content/applications draw people of low SES to use mobile phone (the pull factor), appropriateness or attractiveness of language and cultural content, what is available via mobile phone internet, what are people using mobile phone internet for. Stage Two research will attempt to answer these questions.
Access to Infrastructure	Structure of the mobile telecommunications industry and how this influences use (cost structure etc). For the purpose of this report it is not around hard infrastructure such as towers and coverage (although access to mobile signals can still be a problem).  Views about cost of internet download on mobiles compared with download on private or public computers?
Access to Support	Where do people from low SES go for mobile phone support (formal and informal)? What support is available and how do they know where support is available from. Role of mobile phone shops (generally visible and accessible, but are they used for other than purchasing?? Or do people buy through dept stores and do these have sufficient tech support?)

<sup>5</sup> <http://www.amta.org.au/pages/Social.Research>

This second phase of research explored the above key issues in relation to mobile phone use for lower SES people, in particular the associated opportunities and barriers of each. Flinders University researchers approached the original focus groups engaged in the Phase One and conduct further discussions to explore barriers and opportunities. As a result Phase Two was also be made up of participants from a range of low SES and disadvantaged backgrounds, from metropolitan Adelaide and will be within the age bracket of 18 – 55 years.

To support the further focus group studies a literature scan was undertaken to ascertain readily available literature and information on mobile phone technology use in Australia and South Australia. From this initial scan Flinders University presented a literature review of existing research, papers that identify barriers and enablers to use of the internet via mobile phone.

## Summary of findings

The main finding from the 2009 Adelaide focus groups was that all **participants had a mobile phone that was internet-capable, yet only a few used this capability**. Some had already tried but had given up. Along with general lack of awareness of what the internet on a mobile phone might offer them, the main concerns about starting or continuing use were affordability, security/safety and lack of skills and support.

**An overriding theme was lack of awareness** about benefits that internet on the mobile phone might offer, and fear of "giving it a try" due to expectations of incurring high bills or being "ripped off". People would be encouraged to try free internet options, or to increase use of the full internet on their phones, if they could become aware of how to access content relevant to their lives, knew how to do this so that allowance use and expenditure is transparent, and knew how to get support so that their experience is positive. The academic literature suggests that **people go through an ordered set of steps to progress from being a non-user of internet on mobile to a full ongoing user**. The literature scan, and in particular evaluations of the Canadian and UK governments' national digital inclusion initiatives, show that people can be assisted to progress in their level of use. Solutions and recommendations can therefore help progress people through all steps, or move them to the next step. Some recommendations such as those addressing general awareness, cost and trust issues, have the potential to move the whole population to increased internet use.

**Infrastructure & Hardware solutions** to support greater population level digital use include having an explicit jurisdictional digital inclusion strategy and associated initiatives to support all citizens (for example Governments of Northern Ireland, England, Wales, Canada and Brazil). Further infrastructure support which is already available online to support consumer rights and skills acquisition in relation to digital technology could be made available offline if the people who are currently offline are to transition to the online world (e.g. DBCDE and some ACMA information on cyber safety). Written materials currently aimed at teens (e.g. on "mobile phone safety") was attractive to focus group participants who recommended it be written appropriately for the "average adult Australian" and advertised in the offline world e.g. on radio, posters, brochures at libraries etc. Telecommunications companies should develop an industry code of ethics and fair trading. Developing lower-cost phones with larger screens and buttons would facilitate web-viewing and make internet on mobile more attractive, as would expanding the number of mobile-friendly websites and finding ways to make people aware of their existence. Writing instruction manuals in '1-2-3' jargon-free guides with pictures would also assist, particularly for those with low language or technical literacy and/or with English as a foreign language.

**Skills and general support** are required to address the **major barriers of lack of awareness and low skills**. A good proportion of people cannot imagine going beyond talk on a mobile phone. A solution is to find ways to raise awareness of affordable options for internet on mobile phones (especially prepaid), to show people how to use internet on their phone without incurring unexpected costs, showing them relevant mobile-friendly websites, and providing personal support to give their free mobile internet content "a try". Such support is provided for lower-income and disadvantaged groups in the UK's national network of UK Online Centres (which specifically includes training for mobile phone use), Canada's Community Access Program, and Cyber centres in some US cities.



**The key components of this solution are local personalised support on a cost-free drop-in basis**, a place which is familiar, welcoming and easy to travel to, and where literacy problems, low income and lack of internet-knowledge are not looked down upon. Relevant locations include local libraries, community centres, drop-in centres, regional shopping centres, NGO offices and Centrelink. People want access to government "cybersafety" pamphlets in similar places and at point-of-sale, written for "the average Australian adult". A free 24-hour independent and trustworthy phone helpline was also suggested for support and as an avenue for redress e.g. re cost comparisons, overcharging, unfair contracts, skills, safety, features, where to get more help.

**Cost solutions** relate to (a) contract and pricing; and (b) options to reduce cost or provide free or subsidised phone use. There was general agreement that many lower income people will pay no more than \$15 prepaid over as long a timeframe as possible. Adding, say, \$8 per month for internet/data was not affordable for most, and many were unaware of combined prepaid talk+text+data packages which can be more affordable. Many said they would be more interested in mobile internet if it were free, subject to a guarantee of no hidden extra costs. In particular, people want greater clarity, simplicity and transparency in phone contracts, greater detail about what pricing includes or excludes, clarity about what a certain data amount provides (e.g. 10 web views) and an independent source providing personalised cost-comparisons for lower-income budgets.

**People also offered suggestions to make internet on mobile cheaper or free.** This includes making portal sites free for prepaid users or concession card holders, allowing regular amounts to be deducted from welfare payments to cover internet services as a basic need, providing the option for the institutional landline subsidy to concession holders to be transferable to a mobile phone, offering phone/internet recharge as an alternative on existing incentive schemes (such as petrol subsidies offered by supermarkets which are useless for those without personal vehicles), and companies offsetting mobile internet costs by advertising (as with free-to-air commercial TV).

**Content ideas were also put forward.** Free content already on mobile phones can encourage people to "have a try" but for many will first require a trustworthy guarantee of no hidden costs. Many also require awareness-raising of what content is relevant to them, and to seeing how this is different and more beneficial than their current information channels. Particularly attractive content is transport timetabling and real-time progress mapping for buses and trains. Raising awareness of the existence of internet social networking may also increase use. Other content options focus around ordering fast food and supermarket deliveries, and nominating a set number of free-access websites (as with nominating a set number of phone numbers that can be called for free).

**Increased pushing of text alerts by providers, including government,** could also support an increased range of use on the mobile phone, moving people further towards ongoing internet use. People already like receiving text alerts for appointment reminders and particularly welcome "important" texts. The government is seen in this category but must identify itself on incoming alerts. Lower-income people would welcome a reply-paid service for mobile phones that mirror reply-paid enveloping or they will be suspicious of providers shifting costs onto them as consumers. Those who do not understand texting require support to deal with such texts, or texts must arrive on the phone's front screen.

**The cost-free aspect of WiFi hotspots is particularly attractive,** although many lower-income people's phones are not WiFi capable. Many people are also unaware of what WiFi actually is and require plain English explanation on WiFi signage ("*WiFi available here - this means free internet on your mobile phone*"). This could particularly apply at SA Government site

## Recommendations

Upon completion of Phase 2, the project group was reconvened and presented with a summary of the research findings. These findings were used to inform a series of recommendations to be taken up by SA Health and DFEEST.

During the drafting of these recommendations, Thinker in Residence Dr Genevieve Bell's draft report findings were also taken into consideration in an effort to add value to the work that would come out of her residency and to avoid duplication in work.

As part of the recognised HiAP process, the recommendations must be signed off by the Chief Executives of SA Health and DFEEST before they are presented to the ExComm Chief Executive's Group.