

The importance of circumstance: Digital access and affordability for people experiencing homelessness

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Summary:

Access to and affordability of digital technology for vulnerable and disadvantaged groups is an ongoing concern in an Australian context, however the digital needs, issues and barriers for consumers who are homeless are largely neglected in this literature. This paper presents findings from a research project on mobile phones and the internet in the lives of people experiencing homelessness and engages with some key issues of digital exclusion arising in the context of a general shift in connectivity to mobile media and the push by the Australian government to reform service provision around these changes.

The paper argues for the need to recognise the ways that life situations and circumstances of hardship, such as homelessness, factor into the patterns of mobile and internet connectivity, creating unique issues of digital access and equity. It argues for knowledge of these differences to inform digital delivery of government services and approaches to telecommunications policies and assistance programs, and puts forward a number of recommendations based on a study of 95 adults, families and young people experiencing homelessness which was carried out in Sydney and Melbourne in early 2014.

Introduction: ‘Digital divide’, digital inclusion and homelessness research

It is now well documented that deprivation of internet and mobile communication can extenuate or create new barriers for groups that are vulnerable and socially excluded (Helsper 2008; Kvasny et al. 2006; Lee et al. 2002; Willis and Tranter 2006; Vinson et al. 2007; Wise et al. 2012). Access to contemporary media forms such as the internet and mobile phones are understood to be fundamental for access to support networks and services, to social participation and civic identity formation (Arvanitakis 2013), as well as for achieving better health outcomes (Blanchard et al. 2008, Eyrich-Garg 2010; Rice et al. 2010; 2011a; Newman et al. 2010; 2012).

Earlier work in the 90s and early 2000s on the “digital divide” emphasised gaps in access to desktop based and wired internet services by some social groups as these technologies were broadly adopted. Since this time, not only has the media environment radically changed but also, research into this area has departed from the binary formulation of the ‘haves’ and the “have nots”. The concept of “digital inclusion” is an approach which captures the additional issues of long-term affordability, usability and digital skills and literacy, and points to

gradations in quality and level of access and use as more relevant for investigating contemporary “digital divides” (Warschauer 2002; Van Deursen and Van Dijk 2013).

Research on digital inclusion in Australia taking up these issues has focused predominantly on low income groups and groups marginalised by geographical barriers and literacy. Anglicare Victoria, for example, reported results among people accessing emergency relief and financial counselling services, which showed that in 2012, only 49 per cent of this group accessed the internet at home and 56 per cent used mobile internet (Wise et al. 2012). This compares to 83 percent of households with home internet in the general population, of which 93 percent had broadband access (ABS 2014). These results are further supported by household surveys, which report a gap in household information technology use based on income (Saunders et al. 2007).

Minority groups are also a focus of research into digital access and literacy covering newly arrived migrants and refugees (Leung 2014), remote Indigenous communities (Auld et al 2012; Johnson 2013; Radoll 2009; Vaughn 2011), people living with disabilities (Ellis and Ken 2011; Goggin and Newell 2003), rural and regional communities (Atkinson et al 2008; Goggin 2003) and seniors (Migliorino 2011).

Despite this burgeoning research, there is surprisingly little academic research on groups experiencing, or at risk, of homelessness. People affected by these circumstances tend to get subsumed into research on other vulnerable and disadvantaged groups if they are included at all. One exception to this was a localised study, undertaken by Goodwin-Smith and Myatt (2013) with Anglicare South Australia, which researched 17 homeless participants in metropolitan Adelaide.

One of the difficulties of researching groups who experience homelessness is access to these cohorts: many are hard to reach because they may be transient and lack a household phone or permanent address. While these groups have a high level of contact with government and other services (Baldry et al 2012), some don't access formal services at all: 60% of the 1.1 million adults who had experienced at least one episode of homelessness between 2000 and 2010 had not sought assistance from formal services, according to ABS figures (ABS 2010).

Another reason for this shortage of research is the way this literature has, up until now, emphasised demographic and socio-economic criteria, over circumstances and conditions that impact on access and use. Yet, in research where homelessness is the focus, these have been found to be significant factors shaping patterns and meanings of access and use.

The study by Goodwin-Smith and Myatt (2013), for example, identified a high ownership and level of importance given to mobile phones by their participants, but also found that

smartphones were mainly used for calls and text due to high data costs. Of research carried out in the US and Canada, a similarly high level of digital connectivity was identified, with mobiles used to access social support and employers, and the internet for accessing social networking sites, especially for messaging and blogging (Rice et al. 2011; Guadagno et al. 2013). This research suggests that mobiles may play an even more important role for groups who are homeless, a suggestion backed up by support providers (Hensler 2003).

The 'Homeless and Connected' study reported on in this paper, responded to the need for a baseline study in an Australian context to understand and systematically document patterns of access and use among this group. It also set out to develop a situational understanding of mobile phone and internet access and use, adding to our understanding of the digital challenges, issues and barriers faced by homeless Australians, through a media consumption lens.

Media Consumption

Studies of media consumption stress the creative appropriations of users, whereby the meanings and uses of a technology are altered to fit within lived experiences and needs. We know that differences in consumption arise and play out according to users' gender and socio-economic status, and to the meanings and values activated according to specific interests and concerns. Dealing with homelessness and its related complexities is a 'focal concern' for those affected, in the way that media consumption is carried out and what it comes to mean. Homeless consumers, it is posited, have distinct ways of using and making meaningful contemporary media forms, and capacity to afford and capitalise on future digital technologies. This approach underlines life circumstances as an important but neglected feature of consumption processes and crucial for analysing and achieving digital inclusion.

Homelessness is a concept that describes a complex social condition and there is no consistent and universally agreed definition in use. Having said that, homelessness is generally accepted to be broader than not having a shelter or 'roof over your head'. It is a lack of what most people would think of as the core aspects of a 'home' such as a sense of security, stability, privacy, safety, and the ability to control living space (ABS 2010).

Homelessness is not always attributed to low income. Indeed, any person at some time in their life can experience homelessness resulting from an event or situation such as illness, disaster, being the victim of violence, financial problems or a shortage of affordable rental housing (ABS 2010). Nevertheless interrelated factors, such as poverty, lack of opportunities for education and employment, mental illness, disability and ill health can lead to

homelessness, and are oftentimes effects of homelessness, especially long-term homelessness.

Homelessness is also embedded in a larger social and technological context that shapes the consumption and engagement with digital technologies (cf. [Donald and Wajcman 1986](#)). Two of the current developments with implications for people experiencing homelessness and other vulnerable and disadvantaged consumers are the digital reform of public services, and new patterns and technologies of mobile connectivity.

Digital Service Reform and Mobile Internet

The reform of public services through mobile and online platforms has taken on new momentum with the introduction of a number of cross sector initiatives. These include the *Australia's National E- Health Strategy* (2008), the *National Digital Economy Strategy* (2011) and the *Australian Public Service Mobile Roadmap* (2013). The government reform strategy, referred to as 'digital first', includes an aim to "require agencies to make key priority services available online, including on mobile platforms", with 2017 as the target date for all interactions that occur more than 50,000 times per year to take place online ([Department of Finance 2013](#); [Turnbull 2013](#)).

One of the main drivers of reform in the delivery of a wide range of public services is the rise of the mobile internet (mobile phone handset internet, dongle, datacard or USB modem) and growth in the use of internet services via mobile phone handsets. The uptake of smartphones in the mainstream population is currently just under 64% of the population ([ACMA 2013](#)). Accompanying this trend is a decline in fixed line services and rise of what has been dubbed the "mobile only population", recorded as 3.68 million Australians aged 18 years and older as of June 2013 ([ACMA 2013](#)).

The rise of the "mobile only" population and general take up of mobile devices and online platforms are seen by many as an opportunity to reach new networked publics. Indeed, for homeless groups, who may represent an unaccounted for segment of the "mobile only" population, changes in the delivery of public services may indeed represent a new way that individuals can access information and services. A key risk, however, for these and other vulnerable and disadvantaged consumers, is the outright exclusion from services as a result of lack of technology access. As [Sinclair and Bramley \(2011\)](#) observed, when there is a general technology shift in the population, and this platform becomes the main gateway for government and commercial services, those unable to access or use that technology can become further marginalised. Moreover, as [Napoli and Ogar \(2013\)](#) have pointed out in relation to mobiles 'leapfrogging' in developing countries, even when internet-enabled

mobile devices offer a means to skip traditional PC based fixed internet access, mobile access falls short in terms of opportunities for advanced usage, content production and dissemination.

Another risk, which tends to be obscured by the commitment to technological change as 'progressive' in and of itself is the way in which service changes in and through technologies affect the service relationship and potentially add to, or exacerbate particular barriers, financial burdens and forms of disadvantage experienced by service users. Whether and how mobile phones (including smartphones) are used, the sources and type of internet access and the activities conducted through mobile phones and other internet-enabled mobile devices all have implications for the overall impact of service change on particular groups of consumers and may have specific meaning for people at imminent risk of, or experiencing, homelessness.

The study: Homeless and Connected

The research project 'Homeless and Connected' was carried out from February to April 2014 and involved a survey of 95 families, adults and young people who were clients of specialist homelessness services located in inner and outer metropolitan Sydney and Melbourne. The study participants were homeless at the time they presented to services or at imminent risk of becoming homeless. The housing arrangements of participants encompassed emergency housing (8%), supported housing (32%), staying (temporarily) with a friend or family member (11%), living on the street, squatting or living in a park (12%), living in a boarding house (4%) and in private rental (22%).ⁱ

Participants were recruited with the assistance of support staff and caseworkers who distributed invitations to participate in the study. Surveys were also collected by directly approaching customers of a foodvan service at an inner city park in Sydney over a series of nights. Semi-structured interviews with clients and staff were conducted as well as interviews with government department personnel in the 'Future Service Design' section of the Department of Human Services, and the reform team of the Specialist Homelessness Services at the Department of Family and Community Services/Housing NSW.

The cohort sampled was made up of young people (15-24) (60%), families (defined as single parents with children or couples with children) (22%) and adults (over 24) (18%) experiencing homelessness, and a smaller number who were at risk of homelessness. The gender breakdown was: 53 (56%) female and 42 (44%) male. 30 (41%) participants were from culturally and linguistically diverse backgrounds (CALD), 10% were Aboriginal or Torres Strait Islanders, 19 (20%) identified as having a disability and 38 (43%) reported having or having experienced a mental illness.

The aim of the sampling strategy was to provide an insight into the patterns of access and use of a range of groups within the homeless population to achieve a comprehensive snapshot rather than a representative sample. The sample sought information about users of mobile phones and the internet, with a separate survey delivered to those who indicated they did not have a mobile phone at the time of the study. The scope of this study was limited to groups living in metropolitan centres in Sydney and Melbourne, however early in the project it was identified that the digital experiences of groups in regional and rural areas experiencing, or at risk of homelessness, may have distinct patterns and needs, and warrants its own research.

Key Findings and Discussion

The study found a high level of mobile phone ownership. 95% of the homeless families, youth and adults surveyed had a mobile phone. Remarkably, this was higher than the rate of ownership recorded in the general population by ACMA (2013), which was 92% of all Australians over 18 in 2012. There was also a very high number of smartphones recorded. Of those surveyed, 68 (77%) had smartphones, which again exceeded the total rate of smartphone use in the overall Australian population by 13%.

While most participants had access to a mobile phone, the study found a large variation in the age and functionality of mobile phones and ways these were acquired. The majority of mobile phone users (57%) purchased their mobile handset new or second-hand from a mobile reseller, second-hand dealer or from an online platform trading in second-hand goods such as eBay or Gumtree. A significant proportion (32%) obtained their phones as a gift from a family member, friend, support service or other source. Only 6 (7%) of the mobile phone users surveyed purchased their mobile handset on a mobile plan.

The high level of mobile phone ownership and pattern of acquisition outlined is consistent with the way that participants negotiated the cost of their mobile. The majority used a mobile phone with a pre-paid service and participants explained this as the only way to avoid getting into financial difficulty. Nevertheless, for a small number, a mobile plan represented a way to get hold of a mobile phone urgently in a time of need. Barbara, a young woman in supported accommodation explained how, living on the street, when she had her phone stolen, broken or lost, she would then need to get hold of another phone. Signing up to a mobile plan was a way to obtain a mobile handset without the upfront cost. She also explained how this ultimately lead to connectivity problems as a result of not being able to make contract payments a little further down the track.

These high rates of mobile ownership might lead government and service providers to a view that people experiencing homelessness are as fitted out to participate online and interact

with digital services as everybody else. Yet, the study also found that participants encountered significant difficulties affording their mobile services and internet connections, and these difficulties, though similar for other low income, vulnerable and disadvantaged groups, were also specifically related to their circumstances of homelessness.

For example, 32% of participants reported difficulty recharging their handset battery and described the efforts they went to in order to secure a reliable source, a basic condition of access that most people take for granted. One customer of an inner-Sydney Food Van service talked of a power point at Central station he visited to recharge his mobile phone. Other issues that affected connectivity included imposed service restrictions, breakdown and loss of mobile handsets, and most of all, shortage of credit for one or more mobile services. All of these limitations meant that participants had partial or discontinuous access to phone and internet services.

Despite appearances, having a mobile phone (recalling that many were smartphones) was not indicative of their affordability but rather the degree of their importance and priority given to them by participants because of their essential role for 'survival' when no ready alternative was available. Recent reports (Cowie 2014) on the diminishing number of public payphones (half that of a decade ago) starkly highlights the lack of alternative means for communication and heavy reliance on mobiles for those without household phones.

What do mobiles mean and how are they used

The results showed that mobile phones are essential for survival and safety, for gaining new skills and for moving out of homelessness. Participants identified using their phone to contact emergency services, support services and medical assistance as the most important uses of their phones after contacting friends and family. The internet played a lesser role for contacting emergency services and for safety but was identified alongside the mobile as very important for finding accommodation, employment and for maintaining professional ties, with 47% using the internet to look for a job, 33% for being contacted by employers and 33% for learning new skills.

Making and receiving calls were the main uses of mobile phones that had little or no support for web browsing or app downloads, but many participants used the tools that came built in with their phones like the 'memo pad' and 'calculator'. Jen, a young person in supported accommodation, offered two examples of how she used these features on her four year old LG phone to satisfy the income reporting requirements of Centrelink and to track her spending while shopping:

I use the memo pad a lot. I write my work hours in my memo pad because I've got to report to Centrelink. So it helps me work how much I got paid because, unless they're really fast with the pay slip, I don't have my pay slip before I have to report...

The ability to control communication – how and when it happens – was also an important aspect of the mobile's utility as an emergency and safety device. A support service worker who had provided support and assistance to clients escaping family violence explained that this control, and the ability to screen calls easily, is something that landlines don't easily offer, and is a really important way of engaging with young people because it is less confrontational when you can choose when and how you respond.

Smartphone users were taking advantage of the multimedia functions of their phones and engaging strongly in social media and content creation (e.g. photos). Family use of mobiles and smartphones was particularly striking – of the 21 families in the study, only 3 did not have a smartphone and smartphones were central to family organisation and communication.

The smartphone was also a tool for budgeting, for finding out about and scheduling school activities, accessing government services and for self-study. This latter use was stressed by two of the women with children interviewed, both of whom had recently engaged in formal learning. Melinda, a single parent with a five year old son, living in an outer Melbourne suburb, explained the use of her smartphone in this way:

The main things are the school stuff, my banking, job searches. I've got my Centrelink on there. I've got the deals, a lot of shopping deals, OurDeal, CatchofTheDay, Groupon, so if I can always buy something cheaper from somewhere else I'll do that...

Indeed the findings made clear that managing everyday costs was a major focus of participants' strategies of mobile use – to make savings and budget for other costs and to keep the costs of the mobile down. At the same time, the smartphone also exposed participants to an increased risk of debt. Out of the 28% of all users who had reported a mobile phone debt, there was a higher proportion of smartphone users (86%) compared to non-smartphone users (75%), and families were more likely to have experienced a debt than young people and adults. Two of the known risk factors for debt are the high cost of data and difficulty monitoring children's data use and in-app purchases (NCYLC 2013), reasons cited by participants' for shifting over to a pre-paid from a post-paid plan.

The most common method participants used for accessing the internet was using a Wi-Fi hotspot with a mobile phone or other mobile device (43%), and a proportion used an alternative device with mobile broadband such as a tablet or laptop for accessing the internet instead of, or in combination with their mobile phone. But there was a surprisingly high

number of mobile users who only accessed the internet from their mobile (22%) and where there was support for the internet through a mobile phone, even if in a limited way, users availed themselves of this source of access. This finding contrasts with some of the earlier studies of internet access among the homeless suggesting a shift in line with the general move in the population to mobile forms of internet access, which for many people experiencing homelessness might be the only way to get online.

This use of mobile phones as an internet platform had clear cost implications, and users shaped their use accordingly – relying on alternative free or less costly fixed or wireless sources of the Internet such as Wi-Fi hotspots, government centre ‘self-service’ terminals, networked computers at public libraries and the computers belonging to friends or family members. Staff of support services also commented on the heavy use of networked computers offered to clients for use within their premises – and observed their cost saving role.

This strategy of maintaining connectivity through a pastiche style is especially common and possibly unique to people who are homeless. Participants also reported a variety of other strategies and innovations for managing the upfront and ongoing costs of a mobile. Some of these included: usage monitoring tools/apps; tethering the mobile as an internet server; avoiding downloading/turning off features that use data; using Facebook messenger, Live Chat and Skype for free messaging; using available public/private power sources for charging; using SMS/text and call back and purchasing a low cost basic mobile for temporary use.

Many of the strategies discovered were very novel and had the dual role of maintaining continuity of access, standing in as temporary solutions or workarounds when a connection wasn’t available, such as when a phone service was turned off or suspended because of credit shortages. At the same time, these strategies could in themselves affect service provision and lead to difficulties with getting in touch with clients, for example, when clients used temporary basic phones when their had been lost or stolen. These strategies drew attention to the partial way in which these practices were able to deal with fundamental structural issues of affordability of mobile and internet services in the context of the overall cost of living for people on little or no income.

The Cost of Contact

Strategies for maintaining connectivity and affording the cost of the mobile are indicative of the high cost and burden that these costs represent for people experiencing homelessness. Even without factoring in extra payments for internet access (which a number of basic and feature phone users reported having for their other mobile devices such as laptop and tablet),

the monthly payment costs for a mobile service (which may or may not have internet capability) as a proportion of monthly income is considerably higher for a person on a government benefit than it would be for a person on an average salary (8.7%ⁱⁱ compared to 1.42%). Significantly, while many presenting to specialist homelessness services are on government supported incomes a sizeable proportion have no income at all.

One subset of the sample who, because of cost as well as other factors such as lack of interest and skill, were without a mobile and in most cases were also non-internet users. Single adult males (aged over 24 years) living in emergency housing, boarding houses, on the street or in temporary accommodation were ten times more likely than the other participants studied to be without a mobile phone. This group of non-mobile phone users relied on borrowed phones, public pay phones, phones provided by government agencies and accommodation centres for making and receiving phone calls. This group also had little or no Internet access – with 2 of the 5 reporting that they don't use the Internet at all and 3 reporting that they access the Internet from a public library or from a friend or family member's computer.

The affordability of mobile phone and data services must thus be considered not only in light of their cost compared to other utility appliances and services but rather in light of the overall income needed to meet housing and other essential needs and obligations in society. For chronically homeless males, a different set of issues are involved in addition to cost factors, with issues of engagement, skill and interest being as much of, if not more of an issue, for this group.

Compelled to contact and be contactable

One obligation that drives the need for a mobile phone is the contact and reporting requirements of government agencies and support services. As previously noted, people experiencing homelessness interact with a wide range of government services and agencies, and much of this by phone. 1800 and 13/1300 numbers, which many services use as their primary access point, were identified by study participants as a major expense and frustration. In some cases participants talked of attending centres in person just to avoid the cost of the call and wait time. Indeed, it was the combined effect of wait time and the timed nature of these calls that made this contact method so costly. In one case, a young woman living in a refuge without a pay phone had signed up to a mobile phone contract to try to meet Centrelink reporting requirements because her pre-paid mobile service kept running out of credit while on hold, only to end up in financial difficulty at the end of the billing cycle when she exceeded the cap on her mobile plan.

A range of institutions and government departments now recognise the impact of the cost of contact on service users. The Commonwealth Ombudsman, in a report investigating

complaints made by customers of Centrelink (now integrated into the Department of Human Services (DHS)) identified access problems as a major cause of complaints to their agency.

Following reports such as these and concerted public campaigns, awareness of the cost of contact appears to be informing the way some services are being implemented as well as how 1800 numbers are charged. Under a new charging framework, individual mobile operators will make 1800 numbers free of charge from pre-paid mobiles from 2015 ([ACMA 2014](#)).

However, 13 and 1300 numbers will continue to be timed. Unwittingly, this could lead to further confusion and unexpected charges since organisations such as banks, insurers and mental health support will likely continue to use these popular and easy-to-recall numbers.

The shift to digital service delivery by government agencies is another area for potentially new or additional costs. As part of a sector-wide program of service reform, many public service agencies are rapidly enlarging the volume and range of transactions that can be performed using online and mobile channels. The Medicare and Centrelink Express apps, launched by the Department of Human Services in 2012 are good examples of this digital reform program.

As options for interacting online and through mobile apps grow, the cost of contact goes up for mobile phone users where these options are additional to existing telephone services, due to new or higher data charges. For those already finding their mobile service payments difficult, this cost comes as an added burden, which may put interacting online out of reach. The implications is not only that it will have the paradoxical affect of pushing users back into staff intensive and costly (to services) contact centres, but will mean that for a number of users who have mobiles and are currently interacting online, as with the vast majority of participants in this study, they will miss out on the benefits of digital services and may find it increasingly difficult to comply with contact and reporting requirements.

Conclusions: Policy Implications

The study identified that for people experiencing homelessness digital inclusion is not just a question of getting hold of new technologies – indeed when it comes to mobile services, a sizeable portion of consumers who are homeless can be considered technology leaders. Not only are they able to get hold of technologies, these savvy consumers make use of their platforms in creative and innovative ways. The findings support the conclusion that there is a shift in internet connectivity within the homeless population and the idea that these consumers are a subset of the growing “mobile only” population, with many using smartphones to support a wide range of online activities and coordinate family life.

Issues of inclusion nevertheless remain – these users have fewer options and reduced agency and power when it comes to obtaining and affording digital technology and in navigating the market. Indeed, lack of or inadequate control over space and social relations, which is characteristic of homelessness is key to, and possibly, an underestimated aspect of the capacity to engage with and use digital technology, operating alongside other recognised issues such as technological skill and literacy.

These barriers are not necessarily overcome through creative re-appropriations. Though these are similar to those of other low income groups, they are also shaped by circumstances of homelessness. In the context of evolving expectations and demands of connectivity and the push to online and mobile services, this reduced agency can become a new point of social exclusion. Imperatives of contact and being contactable are built into usage contexts and these come with a cost, one that is unequally borne by people on low incomes and those experiencing hardship such as homelessness.

The findings provide further evidence of the need to develop targeted communication strategies that takes into account people's circumstances of homelessness, and to develop policies that recognise the importance of affordable access in telecommunications and broadband services (Bruce et al 2012; Morsillo 2012, Notley and Foth 2008). With this in mind, a number of recommendations are proposed to mobile providers and government and support agencies to improve on and develop existing assistance programs and policies. In summary these are:

Telcos:

- Recognise unique issues of people experiencing homelessness in hardship policies, contact methods and staff training.
- Ensure cost effective methods for consumers to reach staff and teams with responsibility for hardship.
- Create and extend aid and subsidy programs that work effectively across all mobile service providers, to support mobile and data services and make available to community services supporting people who are homeless and in crisis.
- Improve community phone and internet facilities to assist telephone/online access by people experiencing homelessness in partnership with support and housing providers, libraries, local councils and service users.

Government Agencies and Support Services:

- Ensure cost-effective access points to government services from mobile devices such as 1800 numbers, call back, live chat and text.

- Preserve alternate contact and service points for non-digital and digital customers without online access.
- Build digital capacity of staff and services to support clients better online and via mobile.
- Improve community phone and internet facilities to assist telephone/online access by people experiencing homelessness in partnership with mobile service providers, libraries, local councils and service users.

References

- Arvanitakis, J. 2013. 'Young Ozzies in a Digital World', *Young and Mediated. RJR* vol. 33, pp. 1-19
- Atkinson, J; Black, R; Curtis, A. 2008. 'Exploring the Digital Divide in an Australian Regional City: a case study of Albury', *Australian Geographer*, 39(4) pp479-493.
- Auld, G; Snyder, I; Henderson, M. 2012. 'Using mobile phones as placed resources for literacy learning in a remote Indigenous community in Australia', *Language and Education*, 26(4) pp279-296.
- Australian Bureau of Statistics. 2007. National Survey of Mental Health and Wellbeing: Summary of Results, cat. no. 4326.0, Canberra.
- Australian Bureau of Statistics. 2010. *Life After Homelessness, Australian Social Trends*, cat. no. 4102.0, March Quarter, ABS, Canberra.
- Australian Bureau of Statistics. 2014. Household Use of Information Technology, 2012-13. ABS Cat. No. 8146.0. Canberra: Australian Bureau of Statistics.
- Australian Communications and Media Authority. 2013. *Communications Report 2012-2013 Series*, ACMA.
- Australian Communications and Media Authority. 2014. *New arrangements for mobile call to 1800 and 13/1300 numbers – consumers to benefit*, Media Release 34/2014, ACMA.
- Baldry, E; Dowse, L; McCausland, R; Clarence, M. 2012. *Lifecourse institutional costs of homelessness for vulnerable groups*. Department of Families, Housing, Community Services and Indigenous Affairs.
- Blanchard, M; Metcalf, A; Degney, J; Herman, H; Burns, J. 2008. 'Rethinking the digital divide: findings from a study of marginalised young people's information communication technology (ICT) use', *Youth Studies Australia*, 27(4), 35.
- Bruce, J; Eardley, T; Goggin, G. 2012. 'Telecommunications and Social Inclusion: Approaches to Accessibility and Affordability in Australia, the United Kingdom and the United States.' [unpublished work]
- Cowie, T. 2014. 'Australia Hanging up on Payphones', *Sydney Morning Herald*, August 15, Retrieved from: <http://www.smh.com.au/digital-life/digital-life-news/australia-hanging-up-on-payphones-20140815-104ght.html>
- Department of Finance. 2013. *Australian Public Service Mobile Roadmap*, Australian Government, Canberra
- Donald, M; Wajcman, J. 1986. *The social shaping of technology*. Open University Press.
- Ellis, K; Kent, M. 2011. *Disability and new media*, Routledge Studies in New Media and Cyberculture, New York, Routledge.

- Eyrich-Garg, K. M. 2010. 'Mobile Phone Technology: a New Paradigm for the Prevention, Treatment, and Research of the Non-Sheltered "Street" Homeless?', *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 87(3): 365–380.
- Goggin, G; Newell, C. 2003. *Digital disability: The social construction of disability in new media*. Rowman & Littlefield.
- Goggin, G. 2014. 'New Ideas for Digital Affordability: Is a paradigm shift possible?' *Australian Journal of Telecommunications and the Digital Economy*, 2 (2) June.
- Goodwin-Smith, I; Myatt, S. 2013. *Homelessness and the Role of Information Technology in Staying Connected*, Adelaide, SA: Anglicare.
- Guadagno, R. E; Muscanell, N. L; Pollio, D. 2013. 'The Homeless Use Facebook?! Similarities of Social Network Use between College Students and Homeless Young Adults', *Computers in Human Behavior* 29(1): 86–89.
- Helsper, E. 2008. *Digital inclusion: An analysis of social disadvantage and the information society*. Department for Communities and Local Government, UK.
- Hensler, N. 2003. *Young People Connected*, Mission Australia and NSW/ACT Community Services
- Johnson, G. 2013. 'Technology use among Indigenous adolescents in remote regions of Australia', *International Journal of Adolescence and Youth*, DOI: <http://dx.doi.org/10.1080/02673843.2013.823553>
- Kvasny, L; Kranich, N; Schement, J. R. 2009. Communities, Learning, and Democracy in the Digital Age. In *Learning in Communities* (pp. 41-44). Springer, London.
- Lee, L; Weir, T; Markotsis, D. 2002. *Social impacts of the New Economy*. Department of Industry, Tourism and Resources, New Economy Branch.
- Leung, L. 2014. Availability, access and affordability across 'digital divides': Common experiences amongst minority groups [online]. *Australian Journal of Telecommunications and the Digital Economy*, Vol. 2, No. 2, Jun: pp [38.1]-[38.13]
- Migliorino, P. 2011. 'Digital technologies can unite but can also divide: CALD communities in the digital age', *Australian Public Libraries Information Service* 24(3) pp107-110.
- Morsillo, R. 2012. 'Affordable Broadband for All Australians', *Telecommunications Journal of Australia*, vol. 62, no. 5, pp. 80.0-80.16
- Napoli, P. M; Obar, J. A. 2013. *Mobile Leapfrogging and Digital Divide Policy*, New America Foundation, Open Technology Institute.
- National Children's and Youth Law Centre. 2013. *Caps, Apps and Other Mobile Traps: Responding to young Australians' financial and legal issues arising from mobile phone usage*, Australian Communications Consumer Action Network.
- Newman, L. A; Biedrzycki, K; Baum, F. 2012. 'Digital technology use among disadvantaged Australians: implications for equitable consumer participation in digitally-mediated communication and information exchange with health services', *Australian Health Review*, 36(2):125-129.
- Newman, L A; Baum, F; Biedrzycki, K. 2010. 'Digital Technology Access and Use Among Socially and Economically Disadvantaged Groups in South Australia', *Community Informatics*, 6 (2)
- Notley, T; Foth, M. 2008. 'Extending Australia's digital divide policy: an examination of the value of social inclusion and social capital policy frameworks', *Australian Social Policy*, 7, pp 87-110.
- Radoll, P. 2009. 'The emergence of the indigenous field of practice: factors affecting Australian Indigenous household adoption', *OzCHI '09: Proceedings of the 21st Annual Conference of the*

Australian Computer-Human Interaction Special Interest Group, pp317- 320.

Rice E; Monro, W; Barman-Adhikari, A; Young, S. D. 2010. 'Internet use, social networking, and homeless adolescents' HIV/AIDS risk', *Journal of Adolescent Health*, 47: 610–613.

Rice, E; Lee, A; Taitt, S. 2011. 'Cell phone use among homeless youth: potential for new health interventions and research', *Journal of urban health: bulletin of the New York Academy of Medicine*, 88(6):1175–82.

Saunders, P; Naidoo, Y; Griffiths, M; with the assistance of Davidson, P; Hampshire, A; Taylor, J; Bellamy, J; King, S. 2007. *Towards New Indicators of Disadvantage: deprivation and social exclusion in Australia*, Social Policy Research Centre, University of New South Wales, Sydney.

Sinclair, S; Bramley, G. 2011. 'Beyond Virtual Inclusion - Communications Inclusion and Digital Divisions', *Social Policy and Society*, 10 (1), 1- 11.

Turnbull, M. 2013. *The Coalition's Policy for E-government and the Digital Economy*, August, Retrieved from [http://www.malcolmturnbull.com.au/assets/Coalitions_Policy_for_E-Government_and_the_Digital_Economy_\(2\).pdf](http://www.malcolmturnbull.com.au/assets/Coalitions_Policy_for_E-Government_and_the_Digital_Economy_(2).pdf)

Van Deursen, A. J; Van Dijk, J. A. 2013. 'The digital divide shifts to differences in usage', *New Media & Society*.

Vaughan, D. 2011. 'The importance of capabilities in the sustainability of information and communications: the case of remote Indigenous Australian communities', *Ethics and Information technology programs Technology*, 13 pp131-150.

Vinson, T; Rawsthorne, M; Cooper, B. 2007. *Dropping off the edge: the distribution of disadvantage in Australia*. Catholic Social Services Australia and Jesuit Social Services.

Warschauer, M. 2002. 'Reconceptualizing the digital divide', *First Monday*, July 1. Retrieved from <http://firstmonday.org/ojs/index.php/fm/article/view/967/888>

Willis, S; Tranter, B. 2006. 'Beyond the 'digital divide' Internet diffusion and inequality in Australia', *Journal of Sociology*, 42.1:43-59.

Wise, S; Wilks, S; Victoria, A. 2012. *Anglicare Victoria's Hardship Survey*, Anglicare Victoria.

Wise, S. 2013. *Trying to Connect: Telecommunications access and affordability among people experiencing financial hardship*, Anglicare Victoria and ACCAN, September

Notes

ⁱ The relatively high representation of participants living in private rental is explained by the intake of clients to specialist homelessness services, some of whom may have been living in dwellings so severely crowded that they counted as homeless, or were facing a threat of eviction or violence.

ⁱⁱ This figure is the cost of a mobile phone as a proportion to a monthly Youth Allowance payment if on a mobile plan. The proportions ranged from 4.7 to 8.7% depending on the type of government benefit.