Telecommunications and health information for multicultural Australia

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Telecommunications and Health Information for Multicultural Australia

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Glossary

Telecommunications
Refers to the use of electronic signals to transmit information at a distance, as with telephones, radio, the internet or television. Traditional telecommunications systems are converging, particularly with the increased availability of mobile and high-speed broadband. This has implications for consumers and for telecommunications policy.

Telecommunications device
Any device that allows or facilitates the use of telecommunications systems. These can include a mobile phone, a landline phone, devices with internet capability such as computers and emerging new technologies.

eHealth
Refers to the intersection of medical informatics, public health and related business in the utilisation of health services and the delivery or enhancement of information through the use of the internet and related technologies (Eysenbach, 2001).

Telehealth
Refers to health care or health-promoting services that are delivered at a distance via telecommunications services. This may include education programs for medical professionals, health promotion campaigns and health information services, the distribution of health-related research findings and many more.

Telemedicine
Similar to telehealth, though more specific, telemedicine refers to the use of telecommunications to exchange and utilise medical information for clinical purposes. Telemedicine is used for consultations, diagnostic and treatment purposes. The information exchanged includes – but is not limited to – diagnostic images (such as x-rays) or test results.

Culturally and Linguistically Diverse (CALD)
One of two expressions in common use to describe members of the Australian population who are of neither Anglo-Saxon nor indigenous Australian descent (Sawrika and Katz, 2008). The term CALD has been criticised for being non-discriminatory, in the sense that all Australian citizens can be considered CALD even if they belong to the Anglo-Saxon majority, as well as failing to recognise the challenges and disadvantages that accompany belonging to a CALD community that differs from the mainstream (ibid).

Non-English Speaking Background (NESB)
A term common in research and, formerly, policy, used to describe members of the Australian population who are of neither Anglo-Saxon nor indigenous Australian descent (Sawrika and Katz, 2008). The term NESB was dropped from government lexicons in 1996 after the Ministerial Council of Immigration and Multicultural Affairs decided that the term was problematic. The main problems identified were that the term has developed negative connotations, it does not discriminate between disadvantaged groups and those who are not disadvantaged, it does not separately identify different cultural and linguistic groups and it had developed many conflicting definitions (Department of Immigration and Multicultural Affairs, 2001).

*In this study and throughout this report the term culturally and linguistically diverse (CALD) was used consistently to avoid any confusion and to reflect the focus of this study on cultural and linguistic diversity among people living in Australia.

General Practice:
A central element of primary health care services, often the first point of contact between an individual and the broader health system, and the point at which a person's requirements for and use of other elements of the health system may be identified and coordinated. General practice 'provides person centred, continuing, comprehensive and coordinated whole-person health care to individuals and families in their communities' (RACGP). General practice differs from other specialties in that it involves the treatment of a wide range of illnesses that may be undifferentiated, acute, chronic or in various stages of development (WONCA Europe, 2011).

General Practitioner (GP):
A General Practitioner is an appropriately qualified doctor, working in general practice, who provides comprehensive, ongoing care to patients for a wide range of conditions.

Patient
A person who is receiving medical care or treatment. Patients may also be referred to as 'client', 'customer', 'consumer' or 'service user'. At times, use of specific terms may align loosely with the type of care being provided: it is possible, for example, that there is a distinction between the use of 'patient' in the context of medical treatment and 'client' in an allied health or social services environment (Nair, 1998). Preference for one or the other of the terms is often shaped by perceived semantic differences between them – for example, some health professionals feel that 'client' implies that the service user and service provider undertake shared decision making with respect to medical or health care, where 'patient' highlights the expertise and authority of the care-giver (Ratnapalan, 2009; Nair 1998).   Given that no consensus exists either among care users or providers with regards to preferred, consistent terminology, and recognising that no one word will adequately describe all relationships between service providers and users, the term 'patient' is used in this report unless reporting direct speech or referring collectively to users of either or both clinical and allied health services (Ratnapalan, 2006; Lloyd *et al* 2001; Nair, 1998).

Clients
As with 'patient', client refers to users of health and community or social services. As discussed above, it may be more commonly applied to users of allied, mental health or social services than to recipients of clinical services (Nair 1998), however the terms are widely interchangeable.

Consumers
A person or group who acquires a commodity or service for their personal use. This report explores issues for communications consumers, who are also healthcare clients.

Service-users
A person who is receiving services from health or social support services.

Literacy
The ability to read and write, or, more generally, to be educated. The word is often used in conjunction with other terms to describe knowledge or capabilities in a specific area.

Health literacy

Health literacy is a concept that has emerged relatively recently in health and medical literature (Nutbeam, 2008). The ability of individuals to obtain, understand and utilise health information and services may be influenced by a number of contextual factors, such as different health settings, as well as broader social and cultural contexts (Institute of Medicine, 2004). Health literacy therefore requires cultural and conceptual knowledge, speaking and listening skills, writing and reading skills, and numeracy (Institute of Medicine, 2004). Health literacy can be seen as an outcome in and of itself – something that can be cultivated through health education and communication strategies: in this sense, it is a 'means to enabling individuals to exert greater control over their health and the range of personal, social and environmental determinants of health' (Nutbeam, 2008). In the current context of ehealth concepts and focus on patient responsibility for seeking information, health literacy is increasingly requiring digital and information literacy.

Information literacy

Information literacy refers to the set of skills and knowledge that not only allows us to find, evaluate and use the information we need, but allows us to filter out the information we don't need (Eisenberg, 2008). While this concept is not new, the importance of information literacy has perhaps become clearer following the increase in volume of information available to people following advances in information technology (Eisenberg, 2008).

Digital literacy

In discussing a proposed European Framework for Digital literacy (DigEuLit), Martin (2005) defined this term as the ability to use ICT and the Internet, drawing from the European Commission 2003 report, eLearning: Better eLearning for Europe (European Commission, 2003).

Executive Summary

According to data from the latest Census, as of 30th June 2010, 27% of Australia's population were born overseas. Rapid population growth, the ageing population and the rise in chronic disease make delivering health care across Australia's vast landscape inherently challenging. The policy focus is now on equipping health consumers with more information and power in their interactions with health professionals and health services (Newman and Kuhlmann, 2007). eHealth has had a long incubation period in Australia but there has been a definite shift towards harnessing new technologies as enablers of health care and information exchange. Little has been done to explore the extent to which this shift is inherently socially-inclusive. The aim of this study was to explore how people from culturally and linguistically diverse (CALD) backgrounds use telecommunications to access health information. Due to the scale of this study and the intention to engage with communities respectfully and without introducing any burden, the aim was not to produce findings which were generalisable but to conduct an exploratory investigation with a population group within a defined research region.

Context and scope

This research centres on four main premises:
- ➢ Australia is becoming increasingly culturally diverse
- ➢ Health services cannot meet demands for health care so models of care are changing and the focus is on prevention and health promotion
- ➢ The digital era is also changing the way health care is delivered but some culturally and linguistically diverse populations are at risk of being isolated from advances in communications technology
- ➢ Therefore, with the shift to new models of care and preventative health care that are enabled by communications technologies, considerations must continue to be given to whether they are fully inclusive

Research questions

This study explored the following research questions:
1. Are telecommunications (landline phone, mobile phone, internet), or could they be, an enabler of access to health information and communication in health care for culturally and linguistically diverse (CALD) communities?
2. Which kinds of telecommunications are currently used by CALD communities for health purposes?
   a. If they do not use telecommunications, what are the reasons for this?
3. For what types of health purposes do these communities, and the health professionals serving them, use telecommunications?
4. Under what circumstances do these communities use telecommunications for these purposes?
5. What type of health information would members of these communities like to have access to?
   a. What types of telecommunication systems would facilitate this?

A multi-method study design was adopted to explore the extent to which members of a small CALD community living on a public housing estate in Melbourne's North currently used telecommunications to identify and access health information and to also explore the extent to which health professionals working with this community used telecommunications. Two surveys were conducted, one with CALD participants (n=59), and the other with health professionals (n=64). In addition, five interviews were conducted.

Survey findings

The study found an overall low use of telecommunications in a healthcare context by this group of CALD community health centre clients. Most CALD survey respondents reported having access to landlines (n=46 / 78%) and mobile phones (n=33 / 56%) and just over one quarter had access to the internet (n=16 / 27%) and/or email (n=14 / 24%) in their homes. Landlines were reportedly used some of the time but not every day. Mobile phone usage every day was slightly higher than every day use of landlines but overall access to mobile phones was lower. A total of 15 participants (25%) reported never using the internet. Just over one third of the CALD participants (n=21 / 35%) reported using landlines to find health information. Around 22% (n=13) reported using mobile phones to find health information and only 16% (n=10) reported using the internet to find health information. Most of the CALD participants (n=42 / 71%) reported that they do not use the internet to find health information which is not surprising given the low rate of access to internet in the home.

Most of the health professionals had access to all four types of telecommunication mentioned in the survey: landline, mobile phones, internet and email. Just under two thirds of the health professionals reported using landline telephones as a medium to ask patients questions. One third had used a mobile phone for the same purpose and only 6% had used the internet. Two thirds of health professionals reported using landlines to arrange appointments with patients and only 23% had used mobiles for this purpose and 12% had used the internet. Just over half the health professionals (55%) had used landlines to conduct consultations with patients. 20% reported using mobile phones for this purpose and only 5% reported using the internet.

Interview findings

Data collected from two interviews with CALD participants are presented as case studies.

The analysis of the data arising from the interviews with health professionals led to the development of 3 themes and 7 subthemes, presented below.

Theme	1) Language, Culture and Communication		2) Telecommunications in health			3) Health information online	
Subtheme	Interpreting and translation	Culture and perceptions of health and health care	Telephone or face to face	Skype / videoconferencing	Infrastructure, systems, equipment	Health professionals information-seeking	Health professionals information-sharing and signposting

Figure A – Themes arising from health professional interviews

Conclusion

From this research, the following conclusions are proposed:

- Access to and use of telecommunications remains very low in some communities
- There are still people in Australia who are not using the internet to access health information
- There are cultural perceptions of health that remain the same even after a period of settlement in Australia
- Language is a significant challenge for health services and CALD communities, using interpreters is a big part of every interaction
- Family members often act as mediators/interpreters and are sometimes the ones who use telecoms on the behalf of others

Recommendations

1. Health information, regardless of the medium for its delivery, must be culturally appropriate and available in a range of languages.
2. Analyses of cultural preferences within eHealth must extend beyond simply focusing on access to telecommunications and take into account other factors such as availability and familiarity with technologies in countries of origin, and availability of translated information in Australia.
3. eHealth and related initiatives must be positioned within the context of different models of health care which are grounded in the needs of specific communities. For example, a community health services hub model could make use of telecommunications in a very different way to health services for rural and remote areas. However, there is potential for enabling quality health care with telecommunications in both contexts.
4. Australia's multicultural population will increasingly require bilingual, culturally-competent health workers who act as the bridge between the Australian health care system and CALD communities, regardless of whether face-to-face contact occurs.
5. Attention must be paid to the changing relationships between patients and health professionals as new models of care are introduced. Research is needed to explore the extent to which various patient populations view themselves as active agents and are motivated to seek health information, as well as the emerging role of the health professional as broker or facilitator. The latter has considerable implications for job roles and training.

Outside of the scope of this project were a number of questions regarding the specific cultural factors that contribute to the use or non-use of telecommunications in various health contexts. This is a research area that warrants further attention.

Introduction

The Australian population in 2012

According to data from the latest Census, as of 30th June 2010, 27% of Australia's population were born overseas. While people from the United Kingdom and New Zealand account for the largest migrant groups (making up 5.3% and 2.4% of the population, respectively), a substantial proportion of the population were born in countries in which English is not the primary language, with 1.7% of the population born in China, 1.5% in India and 1.0% in Italy. Furthermore, while the proportion of people born in the UK fell between 2000 and 2010, it rose substantially for China (from 0.8% to 1.7%) and India (0.5% to 1.5%). There were also substantial increases in the number of people born in Nepal, Sudan, Bangladesh, Zimbabwe and Pakistan (ABS, 2011). The most recent publically available census data shows that, as of 2006, 30.4% of residents in Victoria were born overseas. As with the Australia-wide data, the United Kingdom (specifically, England) is the most commonly cited country of birth other than Australia at 3.3% of Victorian residents. Italy (1.7%), New Zealand (1.3%), Vietnam (1.2%) and China (1.1%) were also frequently cited (ABS, 2006).

The Australian health care system: towards self and community management

Rapid population growth, the ageing population, and the rise in chronic disease make delivering health care across Australia's vast landscape inherently challenging. The demand for health services in growth areas and rural and remote locations is ever-increasing and hard-to-reach locations are often highly populated with older residents likely to require Aged Care services and by migrant communities with diverse cultural and linguistic backgrounds. In addition, health policy is filtered through State and Territory pipelines and services adhere to different structures at the State-based, regional, and local levels.

The National Health and Hospital Reform Commission (NHHRC, 2009) report (Department of Health and Ageing, 2009) promotes a preventative self-management agenda that can be managed by market mechanisms e.g. services available to consumers within the broader health system which can be regulated by governments. Restructuring efforts articulated in the NHHRC report focus on the demand side of health care - the broader community is being asked to accept greater personal responsibility for lifestyle choices with preventative health being emphasised: "the fundamental redesign of the health system based on embedding prevention by driving a paradigm shift in how Australians think and act about health and keeping well" has been recommended (NHHRC, Executive Summary, 2009, p.5). On the supply side the medical profession is under pressure to change practices away from expensive consultations and interventions towards practices which emphasise individual responsibility for health, and "tackle practice inefficiency, waste through duplication and poor processes" (NHHRC, 2009, p.53).

The Victorian Department of Health argued that "well-planned, community-led prevention has been responsible for many of the most significant improvements in our health" (DH, 2009). Their proposal was for a vision of community-led prevention to be realised through strong partnerships between primary health care and community health, aged care and other services. One example of such partnerships are the community health centres (CHCs) which can be found throughout Victoria. CHCs are based on the body of evidence that a strong community-based primary health care system directly contributes to improved health status, reduced health inequalities and lower health system costs (Starfield, 1994). According to the Victorian Government's 2004 *Community Health Services – Creating a healthier Victoria* (DHS, 2004) - the vision for CHCs is to play a major role in maintaining and improving the health and well-being of Victorians.

CHCs vary by site and location in terms of size, service types, intake systems, service models, waiting times, and yet they are all underpinned by the following key principles:

- provide accessible services
- adopt continuous quality improvement approach
- target services to population at greatest risks
- improve health & well-being
- have a capacity building approach
- provide continuum of Primary Health Care services
- adopt a population-based and planning approach
- respond to CALD communities
- empower consumers, carers and communities
- provide a multidisciplinary service response
- work in partnership within and outside of the health system.

Core services generally include: allied health, counselling, nursing, health promotion and prevention, chronic disease management, and coordinated care with GPs. CHCs usually focus on those with trouble accessing appropriate health care – people with low incomes, people with chronic & complex conditions, older people, Aboriginal and Torres Strait Islanders, people with disabilities, refugees, homeless people, and CALD communities. The community health services model uses strong community connections and focuses on the underlying theory of the social determinants of health (Marmot, 2005).

Innovations in health services and in concepts of health: Meeting the needs of a diverse population

Policy developments and governance practices associated with the modernisation of health care in America, Britain and Europe are increasingly referring to members of the public and individual patients as health consumers. The policy focus is now on equipping health consumers with more information and power in their interactions with health professionals and health services (Newman and Kuhlmann, 2007). Health reforms in Australia reflect a similar emphasis (Lupton, 1997). Swan (2009) further explained this shift as a driver for: "a new class of patient-driven health care services ... to supplement and extend traditional health care delivery models and empower patient self-care" (Swan, 2009, p.492). While the demands for health care have been growing and changing, the explosion in digital developments worldwide has become an important part of the health care agenda. Electronic and digital technology has been linked to coordination, integration and improving quality of health care (DH, 2009).

In Australia, the Government has promised to invest $35.9 billion in the capital expenditure required for the construction and roll-out of the National Broadband Network (NBN) (NBN Co., 2010), an initiative that will deliver infrastructure expected to provide significant support for the role of new technologies in health. Recently, the launch of the National Digital Economy Strategy in May 2011 described the Commonwealth Government's vision for the NBN as an enabler for eHealth in bringing about this transformation in health care (Department of Broadband, Communications and Digital Economy 2011). Framed within Australia's digital economy, the concept of eHealth has the support of State and Commonwealth Governments (Australian Health Ministers' Conference 2008). A role for the Commonwealth Government in directing individual management of health is being sought, a role which eHealth will support but which sits uncomfortably alongside the existing institutional arrangements (Braithwaite et al., 2007). The NHHRC (2009) report argues that the NBN is essential for the transferral of a wide range of types of health information which is a requirement for the new models of care proposed in the report.

eHealth has had a long incubation period in Australia. The *Health On Line* report was first tabled in parliament in 1998, marking the initiation of a national electronic health record (EHR) system (Showell 2011):

> "With shifts in emphasis in the health care system to health outcomes, the interests of public health and individual health care converge. This view is gaining acceptance amongst State governments who support the concept of evidence-based medicine and the strategic use of Health Informatics as essential to new ways of delivering health care and enabling the measurement of clinical outcomes."
> (Slipper and Forest, 1998, p.60)

The intention to merge public health principles of population health care into a private practice model, diffusing these ideas into practice through informatics, was articulated in the *Health On Line* Report (Slipper and Forest, 1998). The last decade has seen constant activity in the eHealth space, demonstrating mixed results. Telemedicine, which uses Information Communications Technology (ICT) to provide specialist consultation to distant communities, is well developed in Australia (Mitchell, 1998). Telehealth, which incorporates wider health goals of self management and patient education, is less developed (Celler et al., 2003).

In spite of the perceived potential of information systems in health care delivery and education, recent studies have raised concerns about the gap between the promise and the uptake of the technology in health care (Coiera, 2011; Westbrook and Braithwaite, 2010). Coiera (2007) noted "Information technologies seem crucial to the development of sustainable health services, but every IT intervention seems to generate an unanticipated consequence" (p. 98). Braithwaite and Westbrook (2009) questioned the efficacy of technology facilitated collaborative team-based approaches to health care: "Most of us think that it must be the case that there is a positive relationship between collaborative clinical networks and good patient outcomes. But there are problems"(p.1). Such problems include the challenges inherent in conducting a study to definitively demonstrate the relationship between collaborative practice and patient outcomes. As with other advances and initiatives in the healthcare arena, confirming a relationship with patient outcomes is challenging. The translation of policies into practice, particularly where information systems are involved, remains a challenge and a legitimate concern.

eHealth and disadvantaged groups

The Australian Charter of Healthcare Rights (Australian Commission for Quality and Safety in Healthcare, 2010) includes the right of all patients to be informed about services, treatment, options and cost, a concept that has also been noted in the UK (Gann and Needham, 1992). As a major source of information about health and well-being, as well as about the Australian healthcare system and services, the internet is a crucial resource for patient-centred, patient-driven health systems. Health policies increasingly promote eHealth developments, including consumer access to online health information to enable patients to actively participate in their own health care (Lupton, 1997; Newman, Kuhlmann, 2007). For these developments to be inclusive for culturally and socially diverse communities, not only do considerations of internet accessibility, literacy and eHealth literacy need to be taken into account, but also consumers' preferences and information-seeking behaviours for accessing health information have to be understood. For migration destination countries that have culturally diverse populations such as Australia, these considerations are crucial when designing major new health policy directions.

This study sought to contribute to the body of evidence on the use of telecommunications by CALD communities to access health information and health services and to contribute to understandings of the role of telecommunications as an enabler of access to health information and services. The study's main aim was to examine the use of telecommunications by people from culturally and linguistically diverse (CALD) backgrounds as health care clients.

This field of research is relatively new and the use and potential benefits of using telecommunications in health care delivery is a burgeoning field, but the current research was primarily focussed on the ways in which patients or members of the public and health care practitioners use telecommunications to access health information and to communicate about health and health care.
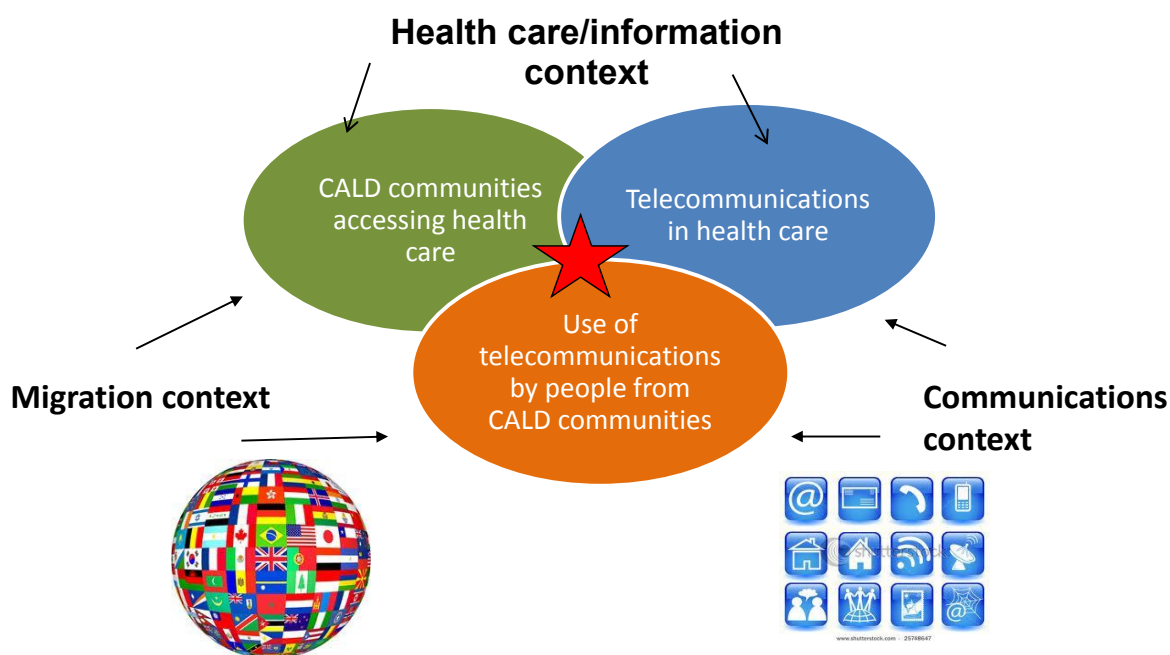
Figure 1 - Overlapping research themes in CALD communities' access to health care and health care information

The focus of this project was on how CALD communities currently use telecommunications to access health care and how telecoms could be used in the future to improve their access to health care and health information. This includes a consideration of who initiates the exchange of information and how they are mediated, for example does the patient use telecoms and/or does a family member or health professional aid them in this process? The project explored how CALD community members use telecommunications to access health information and how health professionals use telecommunications to interact with or inform members of CALD communities. This information is a necessary starting point for considering if eHealth strategies are appropriate for improving health outcomes for under-represented communities.

The report will adhere to the following structure: a review of the relevant literature is presented, followed by the methodology of the research, then the findings are presented, and Part 1 of the report concludes with the Discussion, Conclusion and Recommendations.

Literature Review

Purpose and Scope

The broad aim of the study is to explore the role of telecommunications, including any technology which facilitates communication over a distance, namely telephones, the internet and email, in improving access to health information and information exchange between people from CALD communities and health professionals.

As part of the foundational scoping activities to address these questions, exploratory narrative literature searches were conducted. The initial literature review indicated that there were several overlapping research domains broadly characterised as: i) access to, and use of, health care services and information by CALD communities; ii) the use of telecommunications generally in health care; and, iii) the use of telecommunications by people from CALD communities (see Figure 1). The preliminary literature review also indicated that the role of telecommunications in CALD communities' access to health care and health care information is an emergent field of research.

The three overlapping but distinctly separate bodies of literature shown in Figure 1 provide the framework for the literature review. As a result of identifying these three themes, the narrative literature review was guided by the following questions:

> *What evidence currently exists about how people from CALD communities access and use health services and health information?*
> *What evidence currently exists about the role of telecommunications in health care and health services?*
> *What evidence currently exists about the use of telecommunications by people from CALD communities?*

The aim of the literature review was therefore to synthesise the existing evidence and extrapolate the potential role of telecommunications in health communication and access to health information for people from CALD communities and the health professionals serving this population. The findings of this literature review will inform the scope, design of the data collection and analysis stages of the project.

Methods

Search Strategy

Appendix 1 provides an extended search strategy including inclusion criteria for the literature referred to in the literature review.

A narrative literature review was conducted to search the academic literature in a systematic manner. The literature review was primarily undertaken using the Medicine, Dentistry and Health Sciences database at the University of Melbourne. Academic literature was searched systematically using the search terms identified below. The databases accessed in the search are also listed.

Key words included but were not exclusive to the following:

- CALD communities
- Non-native English speakers
- Migrant populations
- Telecommunications
- Health information
- Communication in health care

Databases included:

- University of Melbourne Library Catalogue
- Web of Science (ISI)
- SCOPUS V.4 (Elsevier)
- MEDLINE (ISI)
- CINAHL PLUS (EBSCO)
- PsychINFO (CSA)
- PubMed
- University of Melbourne Digital Repository (DigiTool)

In the discussion of CALD communities accessing health information and health care, the most prevalent terminologies found in existing literature to describe the population(s) of interest include: non-English speaking backgrounds (NESB), 'culturally and linguistically diverse' (CALD), 'non-native speakers of English' (NNS), and 'migrants'. We recognise that individuals from CALD communities are by no means a homogenous group. The literature identified was very broad and this finding was expected. The literature draws from research conducted around the world and in relation to a wide range of different CALD communities. This literature review aims to develop a general understanding of the scope and breadth of the literature in this area.

The findings on the role of telecommunications and health care and health services were also broad, reflecting the range of terminology and potential applications of telecommunications technology in health. The body of literature surrounding the use of telecommunications overlaps with literature concerning the use of other technologies in health care. In order to manage the scope of this part of the literature review, only literature that concerned communication between health care services and/or professionals and patients and/or consumers was included.

Literature review limitations

The literature search was loosely confined to the last 10 years (since 2001). Only peer-reviewed papers were included. International literature was included and the discussion of this literature takes into consideration the Australian context. The literature contained in this review was not appraised for methodological quality using instruments such as those developed by the AGREE Collaboration and NHMRC. The literature was excluded if it referred only to: telecommunications and health records, or communication between professionals. Only papers that directly referred to patients or members of the public were included.

Key emerging findings

Of the 53 papers initially retrieved, the 20 articles identified as being the most relevant to this study are reviewed in this preliminary report. The first review question guiding the literature review sought to provide background and context to the study by examining the health information seeking behaviours of CALD community members. This section is followed by a discussion of the findings for the role of telecommunications in health care and health services, and the role of telecommunications for CALD communities. The review concludes with a discussion of how these three themes intersect in relation to the current research.

People from CALD communities accessing health care and health information

The evidence retrieved from the literature searches on CALD communities (as defined in the Glossary) and access to health information, both in an Australian context and internationally, highlighted two major concerns:

- CALD communities are underserved populations in terms of health care
- CALD communities often have more chronic health issues and more mental health issues but are less likely to be proactive when it comes to accessing health services

Within the papers retrieved there was evidence that cultural and linguistic differences can have a range of implications for the ways in which individuals access and perceive health services and health care. There is evidence to suggest that there is a *need* for culturally-appropriate health services and health information. Existing literature indicates that there are subtle differences within and between heterogeneous communities and greater differences between others. Some communities also differ in their preferences for accessing services and information by generation and age, as well as by cultural background. The papers included in this section include four Australian-based articles and three international articles.

In an Australian study, Henderson et al. (2011) conducted a systematic literature review exploring the evidence that culturally-appropriate interventions improve chronic disease management among CALD communities. The findings of this review reiterate that chronic disease is high in prevalence among CALD communities and that those communities access and use health services less than the mainstream population. The authors suggest that the latter finding is due to a lack of culturally appropriate health care services. The authors also report that the use of bilingual, culturally competent health workers can promote greater uptake of prevention strategies, increase knowledge and awareness of available health services and deliver health programmes which are culturally appropriate. Henderson et al. (2011) identified five categories of intervention that they believe would improve health outcomes for CALD communities: (1) the use of community-based bilingual health workers; (2) providing cultural competency training for health workers; (3) using interpreter services for CALD people; (4) using multimedia and culturally sensitive videos to promote health for CALD people and (5) establishing community point-of-care services for CALD people with chronic disease.

The extent to which four prominent CALD communities access and use health services in Queensland was examined by Henderson and Kendall (2011). Focus groups (with interpreters) were carried out with Sudanese, Afghani, Pacific Islander and Burmese populations. The study findings indicate that even settled CALD communities, for example Pacific Islanders, were unfamiliar with health services and experienced difficulties in accessing health care. Three main themes emerged from the focus group sessions:

unfamiliarity with health services and difficulty accessing them, the need for doctors to accept or acknowledge traditional healing methods alongside orthodox medicine, and language difficulties, which could be resolved by more effective use of interpreters (e.g. consistency in interpreter used, employing face-to-face rather than telephone interpreters). Members of CALD communities that arrived more recently were aware of health services and how to use them due to information they were given upon arrival but were not aware of fundamental cultural differences between health systems.

In a comparative study conducted in the U.S., Geana et al. (2011) examined differences in the ways that Latinos and white non-Latinos access health information in the USA. They administered a large-scale bilingual paper & phone survey to 4500 households, and had 701 respondents. The findings indicate that there is an increased reliance on media and secondary sources (family and friends) to answer health-related questions and decreased reliance on health care providers across both groups. The results suggest Latinos and non-Latinos use similar health information sources, and the sample is differentiated more on age than on ethnicity. Those over the age of 45 used more traditional media (television, brochures) to access information, but did not find it very useful. Those under the age of 45 used the internet and family and friends to access health information, preferring interactive, socially-mediated information sources. Both groups used their pharmacist – pointing to a need for an accessible, identifiable community member who can be approached with health-related questions.

Health care inequalities for minority ethnic populations is likewise a theme in Glueckauf and Lustria's (2008) study, which provides an overview of health care inequalities for rural and ethnic minority populations in the U.S. This study, however, considers the potential of eHealth to reduce inequality. According to the authors, previous studies have reported a high level of "satisfaction and comfort in the use of eHealth technologies" (p.4) – but rural and ethnic minorities are under-represented in eHealth research. They identify reasons behind low representation of rural and ethnic minority populations and discuss methods for increasing participation from these groups. The main suggestions include: developing close ties with 'trusted gatekeepers' of ethnic communities, such as church leaders and community activists, and enlisting their help to recruit participants, as well as the use of Language Level 1 printed materials, aimed at a low-literacy audience, and information presentations when recruiting from CALD communities. These recommendations have implications for the current research.

Another study which sought to address health care inequalities was conducted by Manderson and Allotey (2003) who sought to improve understanding of how migrant women from the Horn of Africa position themselves in relation to the health care system. The data is drawn from a larger study of 255 women from Sahel African and Middle Eastern refugee and migrant communities in Melbourne. The original study consisted of surveys, focus groups and in-depth interviews. The authors stress the importance of migrant social networks on how information is disseminated throughout the community. Through their data, the authors "illustrate the influence of storytelling and gossip on women's perceptions and, ultimately, on their use of health care and health services" (Manderson and Allotey, 2003, p.9). They use examples of 'gossip' that deter use of health care services, for example: the use of 'pork injections' (a drug derived from the gut of pigs) on a Muslim woman – intimating to the participants that there is no respect for Islamic beliefs, and the late-term miscarriage of an African girl who was convinced the paracetamol she was given in Emergency had killed her baby – intimating that Australia does not want 'black babies'. The intercultural mistrust illustrated by these examples point to the need for better intercultural communication between health professionals and ethnic minority group patients.

Barrett and Mulugeta (2010) considered whether poor communication and lack of culturally accessible health information has contributed to the dramatic increase in heterosexual HIV infection in the UK. Of the 24 Eritrean and Ethiopian immigrants interviewed, 21 reported that they did not believe they could be infected with HIV in a 'safe environment' such as the UK. This attitude, it is claimed, is formed because of the lack of easily accessible information. In Africa, information and warnings about HIV/AIDS are prevalent but in the UK the migrants reported no access and no exposure to that sort of information. The lack of accessible information can have very serious consequences on health outcomes for individuals and on the demand for health services.

Adily and Ward (2005) conducted a survey which returned 76 self-administered questionnaires completed by population health staff of the South Western Sydney Area Health Service. The majority of respondents (83%) strongly agreed with applying culturally appropriate approaches to health initiatives. However, when there was no evidence that culturally appropriate approaches were more effective than standard approaches, half of the respondents (49%) were unsure or disagreed that culturally appropriate approaches should be used. More empirical evidence is needed to reassure health workers that culturally appropriate approaches are effective and worthwhile.

To recap, the relevant findings included in this section were:

- Many CALD communities are underserved populations in terms of health care
- CALD communities often have more chronic health issues and more mental health issues but are less likely to be proactive when it comes to accessing health services
- Culturally appropriate health interventions would improve health outcomes for CALD communities
- Even long-standing CALD communities may experience difficulties in accessing health services
- Age and culture influence telecommunications choices
- Access to CALD communities for research purposes can be improved by developing close ties with trusted community members
- Better communication between CALD community members and health professionals could increase intercultural trust
- Lack of access to culturally relevant health information can have serious and long-reaching consequences
- Health professionals need to be reassured that culturally appropriate approaches to health care will increase the effectiveness of health services

The role of telecommunications in health care and health services

As health care continues to transition into the 'digital era', there is a vast amount of research being undertaken to examine the potential and implications of the eHealth paradigm shift and the practical applications of ICT in the exchange of health information and delivery of health care. As such the general literature searches surrounding the role of technology and telecommunications in 'health' retrieve hundreds of thousands of hits. For the purpose of retrieving relevant and useful evidence on the topic of this study, inclusion and exclusion criteria were set in place (as discussed in the search strategy).

Existing research indicates that telecommunications can play a positive, enabling role in health care. These studies suggest that telecommunications have enormous potential to make health care more equitable and accessible for underserved communities such as ethnic minority groups. It is worth noting that all of the

studies included for review in this section are international articles, indicating that this is an under-researched area in the Australian context.

Yellowlees et al. (2008) conducted a review of eHealth care initiatives in the U.S., with particular regard to mental health care. The authors were also particularly concerned with the intersection between culture, geographical locations and telecommunications use for health care. 'Culture is known to influence a number of aspects of an individual's health care, including approaches to advanced directives, preferences for differing treatments, and individual health beliefs, as well as attitudes toward autopsy, organ donation, and the disclosure of medical information' (Yellowlees et al., 2008, p. 486). Similarly, different cultures may approach and understand technology differently. However, they found that income, education level (related to income, at least in terms of poverty and low education levels) and geographical location to be more significant than culture in terms of accessing telecommunications for health care purposes. "Poverty not only affects the technology experience, often causing limited or complete lack of easy access, or access only via outdated technologies, but it also potentially adversely affects the experience of use as well as capacity to change health care outcomes" (Yellowlees et al., 2008, p. 489). This article highlights that culture or cultural differences cannot automatically be assumed to be an explanatory variable as there are many other potential influences.

Health literacy levels may be another potential influence. Atherton et al. (2010) conducted a systematic literature review investigating the use of email in primary health care settings in the UK. Email is increasingly being used in health care settings for the management of appointments and the provision of test results. The wide availability of email and the web means that certain population groups may rely less on their physician for health information. The majority of articles reviewed discussed the benefits of physicians using email and the web to distribute particular health information that patients can read closely in their own time. The authors also point out that the issues surrounding low-health literacy are still present irrespective of the medium of communication, and that new technologies are not always accessible or understood by all sectors of the population. Of the ten relevant articles they found, only one was a randomised control trial suggesting that there is a need for further empirical evidence on the benefits of email use in this setting.

Accessing health information online requires a certain level of language literacy and health literacy (Nutbeam, 2008). In order to investigate how lay individuals find and interpret health information online, Keselman et al. (2008) interviewed 20 participants about a hypothetical situation involving a family member displaying symptoms of *stable angina*. The participants then searched an online health information portal, MedlinePlus®, to find more information about the problem. Participants were asked to think aloud during their searches. All participants' understanding of the condition presented was labelled as either incorrect or imprecise based on the interview data. Furthermore, the participants that formed strong (incorrect) hypotheses about the condition were most likely to start searching that condition, and interpreted the information they found as supportive of their hypothesis. Those who did not form a strong hypothesis initially were more inclined to end their search before reaching a conclusion, and were dissatisfied with their results. Through semantic analysis and thematic coding, the authors found that participants experienced difficulty with health information searches regardless of their web experience and online searching proficiency. The authors suggest that the accuracy and usefulness of online health searches could be improved by providing query formulation support tools and providing links between consumer-friendly terminology and professional terms.

A US-based study conducted by Denizard-Thompson et al. (2011) explored communication technology used by health centre patients and health centre practitioners. Survey data was collected at an urban community health centre over a week-long period. Centre staff, clinicians and patients were surveyed. Patients were surveyed about their internet and mobile phone text messaging habits, and also their willingness to use these technologies to book appointments at the health centre in the future. Staff and clinicians of the health centre were interviewed and asked to predict the survey results, based on their knowledge of the health centre patients. A total of 308 surveys were collected, a response rate of 85%, calculated on the amount of patients seen at the clinic during the data collection period. The surveyed patients were predominantly African-American (68%), white patients were the next largest group (27%) followed by Latino (3%). Two thirds of the surveyed population were female. The survey results revealed that while a third of the patients used the internet and text messages daily or weekly, nearly two thirds of the population never used these technologies. Younger patients were more likely to use communication technologies frequently, and females were more likely to use text messages more frequently than males but there were no other statistical differences in technology use in regards to race or gender. Interestingly, 44% of the population said they would use the internet to schedule clinic appointments in the future, and 27% said they would use text messages for this purposes. These are higher percentages than those who claimed to currently use these technologies. The clinicians and staff over-estimated the technology use of the patients, predicting that around 40% of the clientele would use the internet daily or weekly and nearly 57% would use text messaging services daily or weekly. The results point to the need for accurate information regarding telecommunications use in the general community if those communities are to be best served by the available technology.

In terms of using technology to manage health care, Rogers et al. (2011) interviewed patients in England and Wales with long-term health issues about their experiences in using technologies to manage their health. The health care technologies involved included telephone consultations, remote monitoring of vital signs and online consultations and a total of 31 patients were interviewed. The findings indicate that patients valued the technologies highly, and felt they had more professional attention through the use of these technologies than they would receive through traditional health care systems. The results also suggest that the technologies were seen to be more convenient but they did not increase self-management by patients of their conditions. Patients were essentially happy to monitor their condition and collect results but relied on professional interpretation of these results. Increased access to health services coupled with stable self-management levels could theoretically increase, rather than decrease, the demand on health services. This research suggests that introduction of telecommunications to enable better access to health services should be coupled with education programs to promote better self-management of health conditions.

To recap, the relevant findings included in this section were:
- Telecommunications can play a positive, enabling role in health care
- Cultural differences, geographical location, education level and socioeconomic status may all be significant factors in relation to telecommunications access
- Email may be a beneficial tool in terms of distributing health information, but issues of health literacy still need to be addressed
- The accuracy and usefulness of online health information searches could be improved with relatively simple measures
- Telecommunications are highly valued by patients and can be seen as self-management tools, but they may also increase the strain on health services if not coupled with appropriate education programs

- There is a need for accurate information regarding telecommunications use to best serve the health needs of CALD communities
- Health professionals may overestimate their client's familiarity with different telecommunication technologies

The use of telecommunications by people from CALD communities

In 2010 a report developed for ACCAN by the National Ethnic Disability Alliance (NEDA) stated that "one in four telecommunications consumers in Australia is from a Non-English Speaking Background (NESB)" (p.7). The report argued that in order to effectively safeguard and meet the needs of these consumers, government, industry, regulators and consumer advocates needed to act on their responsibility to "promote a more responsive telecommunications sector" (p.7).

This section of the literature review was conducted to explore the evidence surrounding the ways in which individuals from CALD communities access and make use of telecommunications. This part of the review was conducted with the diversity and heterogeneity of CALD communities in mind. The evidence surrounding this topic indicated that individuals from some CALD communities rely on telecommunications for building and maintaining social networks, entertainment, and sourcing information – most likely in that order. Typically there is a generational divide in terms of preferred forms of telecommunications, with older generations preferring telephone technologies and younger generations more likely to access the internet. Only one of the following eight articles reviewed focuses on the Australian context but many are directly related to the use of telecommunications by CALD community members in a health care context.

Anogianakis et al. (2003) discussed the benefits of using telecommunications to access health services by looking at a specific project that provided clinical and educational links between two universities in Bulgaria and Greece. The telecommunication modes used in the project were varied, ranging from the supply of internet-connected personal computers, video conferencing and satellite communications. The authors argued that telecommunications can be utilised to provide remote assistance to colleagues and also significantly improve the quality of care for migrants by remotely connecting them with physicians who speak the same language.

Also within a health care setting, Kaewkungwal et al. (2010) assessed the use of integrating mobile phone use to improve antenatal care and disease immunisation in Thailand, particularly in border areas which house underserved populations. The research focussed on the Suan Phung District on the Thai-Myanmar border which has a population of around 4,200 villagers, around 90% of whom are ethnic Karen and classified as *displaced persons*. Data collected over three years showed that the introduction of both health information and appointment reminders sent to mothers' mobile phones via an automated SMS system significantly increased the number of on-time consulations, and decreased the number of missed appointments. This in turn increased the overall efficiency and satisfaction of health care workers in the area.

In Australia, Lessing and Blignault (2001) surveyed 23 mental health services which reported implementing telemedicine programmes. Participants were surveyed about their catchment areas, organisational structure, equipment, clinical and non-clinical activity, and uptake of their services by traditionally underserved populations. They found that 75% (n = 397) of the clientele were based in rural or remote areas, 7% (n = 37) identified as Aboriginal or Torres Strait Islanders, and only 4% (n= 19) were from non-English speaking backgrounds. The programmes provided both direct clinical and secondary support services. An average of 123 sessions of direct clinical care per programme per year was conducted via

videoconferencing, this number was deemed 'low' by the researchers. Videoconferencing was also used for professional education, peer support, professional supervision, administration and linking families. The authors suggest that "telehealth can increase access to mental health services for people in rural and remote areas, particularly those who have previously been underserved by mental health services in Australia" (p.317).

Mucic (2008) conducted a longitudinal study over 18 months to assess patient satisfaction with a telepsychiatry service. A total of 30 refugees and asylum seekers in Denmark received mental health care through videoconferencing with mental health professionals based in Sweden. In all consultations the patient and the health professional conversed in the patient's 'mother tongue'. The number of consultations for each patient ranged from 1-22, with an average of 6.8 sessions per patient. At the end of the research period the patients completed a satisfaction questionnaire. Nearly a quarter of patients (23%, n = 7) were unable to complete the questionnaire due to illiteracy and/or a psychotic condition. The remaining 23 patients reported high levels of satisfaction and displayed a willingness to use telepsychiatry again or recommend it to others. The main benefits cited were that communicating in their mother tongue meant they were able to express themselves clearly, and this outweighed any disadvantages which may be associated with this method of care, for example lack of physical contact and reduced non-verbal communication. Telepsychiatry in a native language was felt to be superior to face-to-face consultations in which an interpreter was used. The convenience of not having to travel long distances or wait for long periods was also reported as a strength. The high levels of acceptance for using telecommunications in this way suggest that they may be powerful tools for improving the quality of health care for underserved populations such as migrants.

The use of telecommunications by migrants for more general purposes has also been explored, particularly in China. Panagakos and Horst (2006) examined a series of case studies which were used to assess what sort of telecommunications (ICTs) are used by certain migrant groups, and how and why these populations use particular forms of telecommunications. Though the focus is essentially on how migrant populations stay connected through telecommunications, and how these technologies may affect identity, the authors make an interesting point that there is a generational and gender divide among some populations in terms of telecommunications use. Younger generations tend to use the internet more than older generations. Some older, settled migrants prefer to access information through older technologies such as satellite television, radio and newspapers and find newer technologies inconvenient. There are also some tensions based on gender in that females are more likely to assume responsibility for keeping social and familial connections strong but in some migrant cultures are restricted in their use of telecommunications due to stigma or cultural values.

Research conducted by Peng (2008) concentrated on internet use of migrant workers in the Pearl River Delta (PRD), China. The PRD has the largest concentration of migrant workers anywhere in the world. Peng (2008) interviewed 26 internet users who visited one of two internet cafes in the city of Shenzhen. Twenty four of these were migrant workers and two staff of the internet cafes. Field observations of the research sites were also used to supplement the data. The migrant workers in this study were not from other countries, but from other (mainly rural) areas of mainland China. In terms of what the migrant workers primarily use the internet for, there were no differences based on gender but education level seemed to make a difference. The higher educated migrant workers tended to use the internet to source information, whereas the less educated workers primarily used the internet for entertainment, watching movies online or playing games for example. The latter, who are generally paid less than the former, also tended to

spend more time and money in internet cafes. Migrant workers also frequently used the internet for social purposes.

Qiu (2008) focused on migrant workers in China and their use of 'working-class ICTs', which are defined as internet cafes, prepaid services and a limited mobility wireless service. Working-class ICTs have 'materialised on a massive scale' (p. 334) in China over recent years and their accessibility and affordability have made them popular among migrant groups. Qiu collected both qualitative and quantitative data. 22 migrant workers were trained in interviewing and then interviewed one another several times, as well as taking part in a focus group. Then each interviewer was sent into the field to recruit 40 people each to complete a questionnaire, using their local dialects if appropriate. A total of 899 questionnaires were collected, with 390 retained for analysis. They found that 76.7% of respondents had access to the internet and 83.5% owned their own mobile phone. Only two respondents reported no access to any form of ICT. Generally the people with a higher socio-economic status had higher ICT connectivity. They also found a generational difference, with older migrants relying on phone-based technologies and younger migrants preferring online message services which can be accessed by a computer or a mobile phone. There was a widespread lack of knowledge about how to use the internet to source information and, similar to Ping's (2008) findings, the primary use of the internet was for entertainment or social purposes.

Yang (2008) considers the implications of the significant growth in the number of mobile phone users in China over the past decade, and the increasing affordability of mobile phones for migrant workers. The data are from a survey about mobile phone use in Beijing. Of the 178 migrant worker respondents, all had used a mobile phone and 158 owned a mobile phone. Eight of these respondents took part in an in-depth interview. Yang concludes that mobile phone usage has changed the migrant workers' way of life. He found that mobile phones are used to relieve boredom during long work hours, mainly through text messaging friends, but sometimes as a way of subversion, sneaking off to play cards and being alerted by a mobile phone when it is time to come back, so as not to get caught by the boss. Another important use is keeping connected with and displaying concern for family left at home. Mobile phones are also commonly used to develop and maintain wider social networks and to call on these networks in times of conflict. The last major use of phones cited by Yang is that of developing romantic relationships, particularly as many of the migrant workers work such long hours that it is difficult to develop such relationships face to face.

To recap, the relevant findings included in this section were:
- Telecommunications can significantly improve the quality of care for migrants
- Telecommunications can improve the efficiency and job satisfaction of health professionals
- Telecommunications can increase rural and CALD community access to health services, but are at present under-utilised in Australia
- There is a high level of acceptance among some CALD communities for using telecommunications in health care
- Migrant communities increasingly rely on telecommunications for social, entertainment and information purposes

Synthesis and Discussion

This literature reflects a very broad overview of evidence surrounding a diverse collection of topics. It was not the intention of this review to present an exhaustive summary of these evidence bases but instead the objective was to provide the reader with a sense of the breadth of existing literature and to get a sense of

the themes emerging. Overall, the scoping of the literature suggests that more research is needed in these areas, particularly in Australia, as only five of the 20 articles included here are set in an Australian context. This literature review sought to address the following review questions:

> *What evidence currently exists about how people from CALD communities access and use health services and health information?*

In section 3.1, the searches retrieved a number of papers which referred to the relationship between cultural and linguistic diversity and access to health services and health information. There was some evidence of inequalities and a number of barriers to access. Health outcomes appear to be poorer for CALD communities and it is not clear if this is due to cultural characteristics or due to the additional barriers to access that culture and language can cause. There appears to be a need for culturally-appropriate and culturally-sensitive information, service delivery and workforce; the optimum being the availability of health professionals from a similar background and/or native speakers of the same language as the patient and community members. Telecommunications hold great potential for connecting these community members with health professionals who share the same language. There is a general theme across the literature suggesting that among the most important factors in engaging CALD communities is that they are engaged with 'gatekeepers' who produce or disseminate information in translated formats, as well in low-level language to ensure that consumers with all levels of literacy can access that material.

> *What evidence currently exists about the role of telecommunications in health care and health systems?*

The literature in section 3.2 demonstrates the varied, extensive and increasing role of telecommunications in health care and health systems. It appears that the use of telecommunications in the industry is growing steadily, but that the telecommunications tools are not always accessible for some populations. Cultural background, education level and socio-economic status may all impact the accessibility of health services through telecommunications. The overall attitude to the use of telecommunications to enable better health outcomes is positive but more research is needed to assess the practicality and efficiency of such systems. There is evidence that patients may feel better served when accessing health care through telecommunications rather than traditional avenues. Despite the large numbers of people accessing health information online, researching and accessing accurate health information on the web can be difficult and confusing and further research is needed to find ways that make the process easier and simpler for the general population. Research also suggests that consumers are open to using telecommunications in health care, regardless of whether they use these technologies outside of a health care setting. Increased knowledge about the target populations will help to tailor telecommunication solutions appropriately and increase the likelihood of improved health outcomes.

> *What evidence currently exists about the use of telecommunications by people from CALD communities?*

Section 3.3 reflects the finding that in many countries around the world, migrant populations are high users of telecommunications, particularly for purposes of a social and community nature. There is some evidence of the use of telecommunications specifically in health care contexts and these have been found to be effective if the individual has access to a health professional speaking their native language. 'Online health care delivery' has also shown to bridge gaps in rural health care, which is a factor associated with CALD communities who may be 'hard to reach' geographically.

The literature indicates that CALD communities are often reluctant to engage with health services, or do not know how to engage with these services in their adopted countries. Preliminary research into the use of telecommunications to improve health outcomes has had extremely positive results but CALD communities have so far been under-represented in this research. Telecommunications may have the potential to make health care more equitable for CALD communities, but at the same time, reduced access to telecommunication tools because of poverty could cause disparity. This is one of the tensions in the use of telecommunications in health care. In addition, more equitable health care access does not automatically improve community members' health literacy levels. The preference for face-to-face interactions with interpreters over telephone mediated interactions, suggested by Henderson and Kendall (2011) also raises questions about the role of telecommunications in health care. Other research suggests that connecting CALD community members with health practitioners who speak their language may be preferable in comparison with face-to-face consultations with an interpreter present. Issues have also been raised regarding the significance of the different influential variables. Furthermore, Rogers et al. (2011) warned that the utilisation of telecommunications in health care should be combined with education initiatives to avoid an increased burden on health services. Clearly, more research is needed to address these issues.

It is known that CALD communities often rely heavily on some form of telecommunications to create and maintain social networks, to access information and for entertainment. However, little is currently known about how CALD communities use telecommunications to access health services or information about their health. It is not clear which forms and types of telecommunications they use for these purposes, if any. It is yet unclear as to whether individuals from CALD communities would be open to using more telecommunications if they believed that this may benefit their health, and if so, which modes of telecommunication would they be most likely to use for these purposes. It appears that generational differences might be as much a factor, if not more, than cultural and linguistic background, in the use of telecommunications.

Overall, this scoping literature review has confirmed the need for more research in this area, particularly in an Australian context and many of the findings can be linked to the recommendations made by ACCAN and NEDA in 2010. The literature suggests that increased use of telecommunications in health care could significantly improve health outcomes for underserved populations but more empirical evidence is needed before any definitive conclusions can be reached. The literature has also confirmed the relevance of the research questions that the current study aims to answer.

The research questions arising from this literature review are:
1. Are telecommunications, or could they be, an enabler of access to health information and communication in health care for CALD communities?
2. a. Which kinds of telecommunications are currently used by CALD communities for health purposes?
   b. If they do not use telecommunications, what are the reasons for this?
3. For what types of health purposes do these communities, and the health professionals serving them, use telecommunications?
4. Under what circumstances do these communities use telecommunications for these purposes?
5. a. What type of health information would members of these communities like to have access to?
   b. What types of telecommunication systems would facilitate this?

Research Design and Methods

Ethics

The research was given full ethical approval by the Human Research Ethics Committee at the University of Melbourne (ref. 1136528). Participants were informed of their ethical rights in non-technical language and were given full information about the project before being asked to provide informed consent to take part (Appendices 1-5). Participants were de-identified in the reporting of the research.

Design

A guiding principle of this study was to engage with the CALD population groups of interest without becoming a burden or intruding in private environments, while also acknowledging the documented challenges of sampling migrant groups (Sulaiman-Hill and Thompson, 2011). It has been noted that "personal contact was critical for both recruitment and data quality" (Sulaiman-Hill and Thompson, 2011, p.2), therefore, an involved research design was selected focusing on a defined research site, similar to an environmental case study. This was deemed the most respectful approach to engage and increase likelihood of participation.

Within this framework, a mixed-methods study design was employed, drawing on a combination of quantitative and qualitative methods of data collection.

Sampling and Participants

Participants were recruited from two population groups identified in the sampling criteria below.

Sampling Criteria

Population Group 1	Individuals who are present at the North Richmond Community Health Centre
	Individuals who self-select as having proficiency in a language other than English
	Individuals who are over the age of 18
Population Group 2	Health professionals who currently, or have previously, work with people from culturally and linguistically diverse backgrounds (eg. those with proficiency in a language other than English)
	Health professionals who currently work in a primary health care or community health setting

Table containing sampling criteria of population groups

Group 1

Advertisements for the study were translated into the languages previously mentioned and were positioned in view of service-users visiting the Community Health Centre (CHC) site. The researchers visited the site in pairs twice a week for a four month period and set up a survey station positioning a desk in the foyer to the CHC and placing chairs on both sides of the desk. Surveys, advertisements and plain language statements were placed on the desks in piles according to translation. The researchers did not invite or approach potential participants in any way. Potential participants were identified as they approached the survey station within the Community Health Centre and read the research documents or asked questions directly to the researchers. Potential participants were asked whether they spoke any languages other than English and if they answered Yes, they were informed of the nature of the study and offered an

advertisement and plain language statement in the language they preferred. In most cases the participants chose to sit at the survey station and complete the survey immediately in the presence of the researchers. Other participants completed surveys in the waiting room.

Group 2

The entire staff database at the CHC were sent information and a plain language statement about the survey via the Centre Manager who had access to their email addresses. Health professionals were invited to consider completing the survey and were signposted to where the survey was available. Two months after the initial email was sent, the research team applied for an amendment to the ethical approval conditions to send out a further email to health professionals in the original database and to snowball this email to other health professionals meeting the selection criteria but working in community health outside of the CHC, but still inside the research region, and to provide a link to an electronic version of the survey.

	Surveys completed	Surveys included*	Permission to follow up for interview	Interviews conducted
Group 1 participants (CALD)	64	59	5	2
Group 2 participants (health professionals)	64	64	3	3

Table 1 – Number of valid surveys completed and returned. *Group 1 surveys were excluded if the participants reported having no acquired languages other than English.

Study setting: North Richmond Community Health (NRCH) is situated at the bottom of the North Richmond Housing Estate which includes approximately 6,000 residents; approximately 70% are born in a non-English speaking country and a significant number arrived in Australia as refugees. NRCH provides a range of services including: medical, dental, nursing, occupational therapy, diabetes education, dietetics, speech pathology, drug safety program, post-acute program, counselling, health promotion and a volunteers program. In response to the linguistic diversity of NRCH's client group interpreters in Vietnamese and Chinese are employed, in addition all reception staff are bilingual and represent the ethnic communities that live on the estate. There are currently 113 staff.

Research instruments

The survey instruments were piloted with a small sample (n=7). The survey instruments were then refined and the final survey instruments were used in the main study (Appendix 1 & 2).

Translation

All research documents which were to be made available to participants were translated into the following languages, as advised by the management of the CHC research site, regarding the primary users of the service. This was cross-referenced with demographic data about the Local Government Area (PHIDU, 2011):

- Traditional Chinese
- Vietnamese
- Sudanese Arabic

Toward the end of the project some documents were also translated into Hakka due to the prevalence of native Hakka speakers completing the surveys in English.

Procedure

In order to engage with the CALD population groups of interest while not becoming a burden or intruding in private environments, an environmental case study design was chosen. A mixed-methods study design was employed, drawing on a combination of quantitative and qualitative methods of data collection.

The environmental case study approach made use of existing relationships with organisations providing services to members of CALD communities within the North West Metropolitan region of Melbourne. This approach allowed researchers to build trust and familiarity with the research population by maintaining a presence at the CHC for four months. Relationships with key service providers working around and within the CHC were developed. This removed the need to send out surveys to home addresses and allowed researchers to remain present while potential participants became familiar with the purpose of the research and began to feel comfortable in approaching the survey station and completing a survey. Researchers at no stage approached or invited service-users to complete the survey. This meant that data collection required a patient and flexible approach. Findings are not generalisable and are not representative of other CALD communities.

Surveys

Survey questions were a combination of Yes or No responses, multiple choice, and Likert scale responses asking participants about the following topics:

- Access to telecommunications (landline, mobile phone, internet) in the home
- Frequency of use of telecommunications
- Competency and range of use of telecommunications
- Purpose of use of telecommunications: finding health information, contacting health services

The survey instruments were piloted with a small sample (n=7). The final survey instruments were used in the main study (Appendix 1 & 2).

Interpreters

On a number of occasions interpreters were present at the CHC. One of the interpreters was employed by the CHC and supported participants completing the surveys in Traditional Chinese. On one occasion during the data collection, the research team arranged for three interpreters (1xHakka, 1xTraditional Chinese, 1xVietnamese) to be available at the research site and to support the completion of surveys where needed.

Interviews

Group 1

When Group 1 participants handed back a survey they had completed at the CHC, they were thanked and given an invitation to be interviewed (Appendix 3). The invitation explained that they were eligible to take part in a 30-minute face-to-face or telephone interview with a researcher. Participants who responded to the invitation and expressed an interest in being interviewed were invited to provide a telephone number for a follow-up call from a researcher to arrange an interview. A total of five participants provided their consent to follow-up and gave a telephone number. A total of two of these participants were available and willing to be interviewed and three interviews were conducted. Researchers followed up with each of the other three potential interview participants but all three opted out by not returning phone calls and by cancelling interview appointments.

When Group 2 participants handed back a survey they had completed at the CHC, they were thanked and given an invitation to be interviewed (Appendix 3). The invitation explained that they were eligible to take part in a 30-minute face-to-face or telephone interview with a researcher. Participants who responded to the invitation and expressed an interest in being interviewed were invited to provide a telephone number for a follow-up call from a researcher to arrange an interview. A total of three participants provided their consent to follow-up and gave a telephone number. A total of three of these participants were available and willing to be interviewed and three interviews were conducted.

In all interviews the researcher followed a framework of questions (see Appendix 4 & 5) and encouraged participants to speak openly about their experiences surrounding the interview topics. Interviews were audio-recorded with the full informed consent of the participant.

Analysis

Analysis of survey data

A simple descriptive, quantitative analysis was conducted using the survey data. The survey data was treated as two separate datasets: survey responses from people from CALD backgrounds and survey responses from health professionals.

The data sets were stored on an MS Excel spreadsheet and frequencies, averages and percentages were calculated using simple formulae. Each survey question was interrogated and key findings are presented in the Findings section.

Analysis of interview data

A thematic analysis was conducted and transcripts were coded using the QSR NVivo software. Passages of data were assigned nodes and nodes were structured hierarchically as concepts were linked thematically. After initial coding, the nodes were interrogated further and nodes conveying similar meanings were merged to consolidate the list. Coding was discussed by the researchers and meanings were negotiated to ensure inter-rater reliability. The most prevalent nodes were developed into themes and passages were extracted, as demonstrated in the following section (Findings).

Key Findings

Surveys

People from culturally and linguistically diverse backgrounds

The findings presented here demonstrate that use or non-use of telecommunications in accessing health information is complex and may be influenced by a number of factors.

Sample demographics

Two thirds (68%) of CALD survey respondents were aged 51 years or older and the mean age was 59 years, reflecting an older sample which may have been due to the times at which the researchers were available at the CHC to distribute and collect surveys. Researchers were present on week days only, between 09:30 and 16:00.
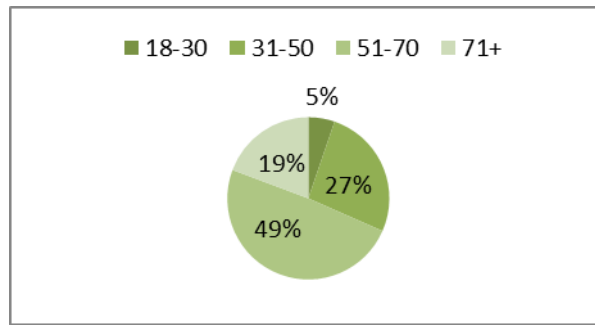
Figure 2 – Age range of participants
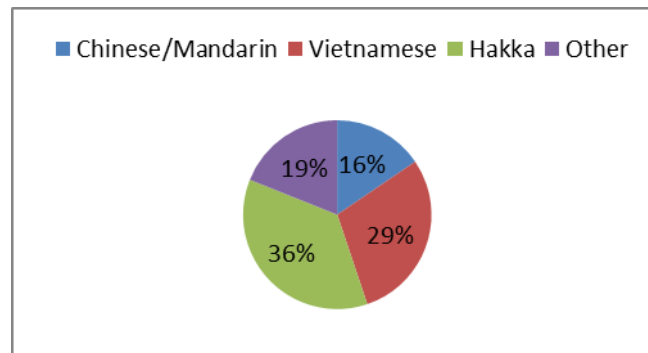
Figure 3 – Participants first language
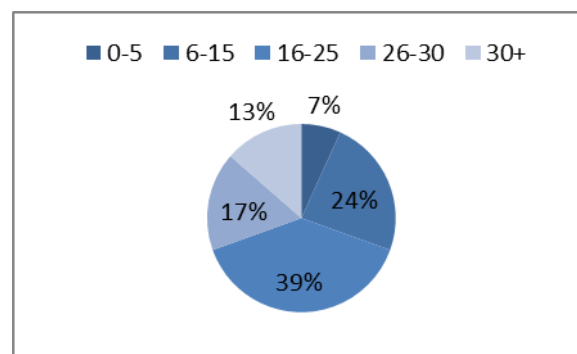
Figure 4 – Length of time in Australia

Just under 70% of participants reported living in Australia for longer than 16 years. This finding was interesting when compared with the number of participants who completed surveys translated into other languages (n=35 / 59%).   Only 7% of respondents reported living in Australia for 5 years or less, suggesting that only the minority of this sample would be considered recently arrived.

The demographic data shows that the study sample is largely made up of residents over the age of 50 years who have lived in Australia for two decades or more with a high proportion of these residents opting for surveys in their native first language. The implications of this finding for health information seeking are explored in the Discussion.

A total of 8 survey respondents (14%) reported having a first language other than English, Traditional Chinese, Vietnamese or Hakka[1].

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[1] Other = Tetum, Somali, Dinka, French, Tamil, Greek, Oromo, Urdu

Access to telecommunications

Most survey respondents reported having access to landlines (n=46 / 78%) and mobile phones (n=33 / 56%) and just over one quarter had access to the internet (n=16 / 27%) and/or email (n=14 / 24%) in their homes. A total of 22 participants (37%) reported having home access to a landline telephone only and answered No to mobile phone, internet and email access. One participant reported having access to none of the four telecommunications categories. Only nine participants reported having access to all four (15%).
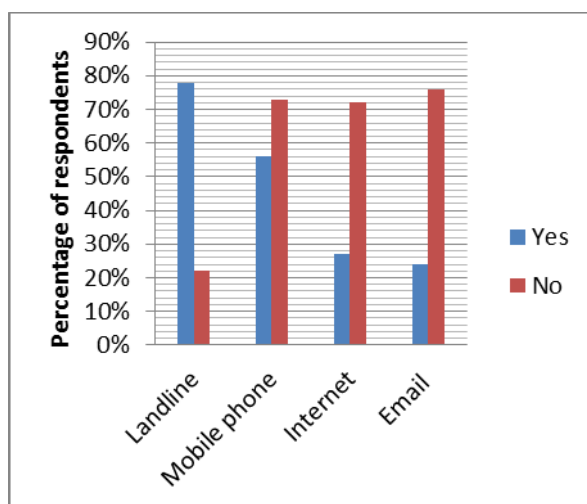
Figure 5 – Access to telecommunications in the home
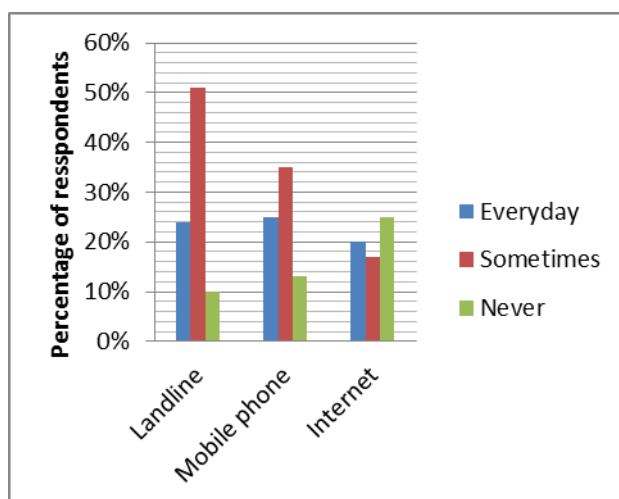
Figure 6 – Frequency of use of telecommunications

 Landlines were reportedly used some of the time but not every day. Mobile phone usage every day was slightly higher than every day use of landlines but overall access to mobile phones was lower. A total of 15 participants (25%) reported never using the internet.

Use of telecommunications to access health information

Just over one third of the participants (n=21 / 35%) reported using landlines to find health information. Around 22% (n=13) reported using mobile phones to find health information and only 16% (n=10) reported using the internet to find health information. Most of the participants (n=42 / 71%) reported that they do not use the internet to find health information which is not surprising given the low rate of access to the Internet in the home[2].

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[2] Seven participants did not answer the question
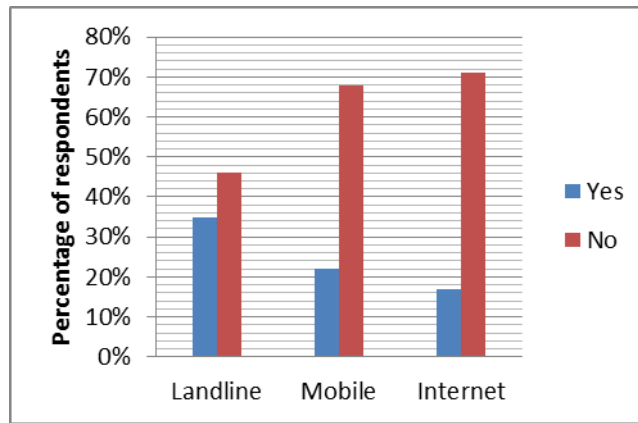
Figure 7 – Use of telecommunications to find health information

The survey data demonstrates that access to some forms of telecommunications is low for this sample. It also demonstrates that use of some forms of telecommunications to access health information is not common practice.

Observations recorded while conducting the survey led researchers to identify their own assumptions about the use of telecommunications and to consider other ways of viewing this data. The location of this survey was unique in the availability of community health and social welfare services in a hub. The use of the CHC was of particular relevance because many survey respondents told researchers verbally that they came to the CHC for information about health and health services. This was a face-to-face information-seeking behaviour, rather than information-seeking while in the home.

Accessing health services despite language barriers

Survey respondents indicated that they were satisfied overall with the health services available to them with 76% reporting being satisfied and 16% being somewhat satisfied. A high proportion (35%) reported always using a face-to-face interpreting service when communicating directly with health professionals and other services. A total of 27% of participants reported never using a face-to-face or telephone interpreting service when communicating with health professionals but a number of these reported relying on family members to translate and in some cases a family member was present while they completed the survey.
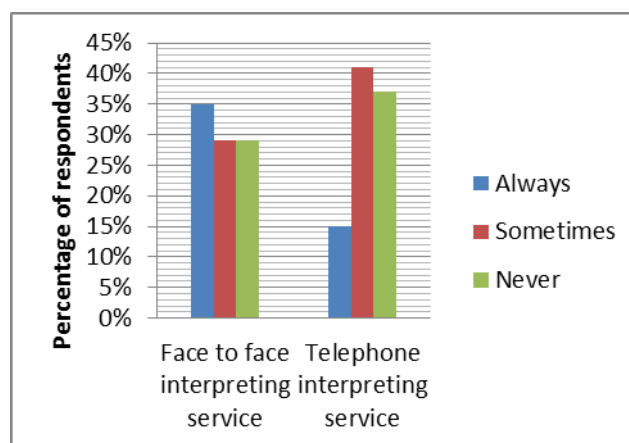
Figure 8 – Use of interpreters when engaging with health services

Health professionals working with CALD communities

The job roles reported by the health professionals were categorised into the following five groups: clinical, administrative/coordination, allied health, educator, and other. A total of 30% of the survey participants reported a clinical job role and a similar proportion (29%) reported being a current job role with administrative or coordination duties. One quarter of the participants reported a role in the allied health fields.
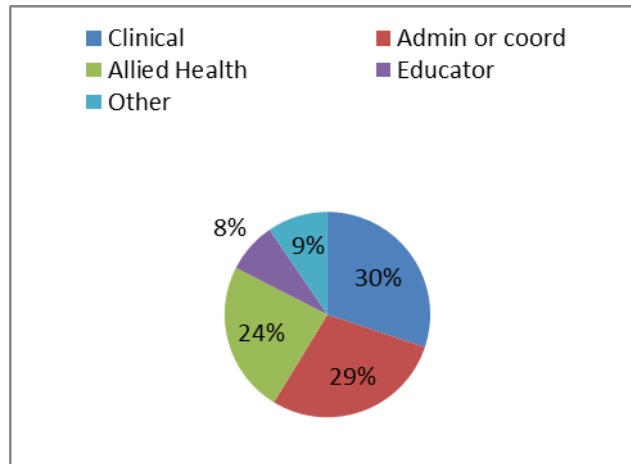
Figure 9 – Health professional job role categories

Just under two thirds of the participants (63%) reported being born in Australia and 37% reported being born outside of Australia.

Most of the participants had access to all four types of telecommunication mentioned in the survey: landline, mobile phones, internet and email. It was not possible to determine from this dataset the reasons why those who reported not having access to mobile phones, internet or email in the workplace but this may have been due to the breadth of environments in which the health professionals were working.
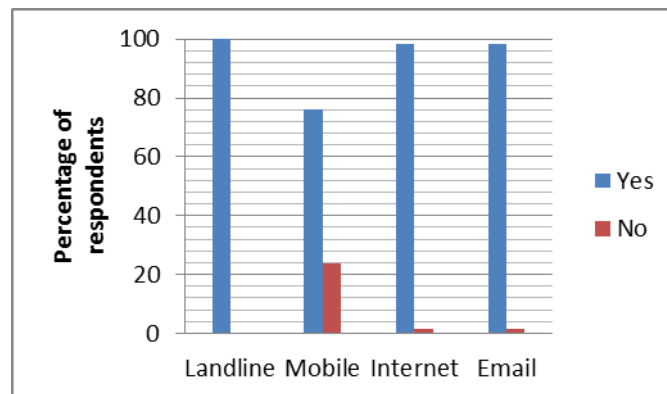
Figure 10 – Access to telecoms in the workplace

Just under two thirds of participants reported using landline as a medium to ask patients questions. One third had used a mobile phone for the same purpose and only 6% had used the internet.
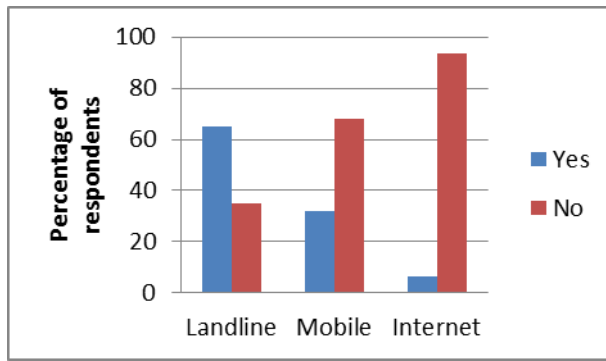
Figure 11 – Use of telecommunications to ask patients questions
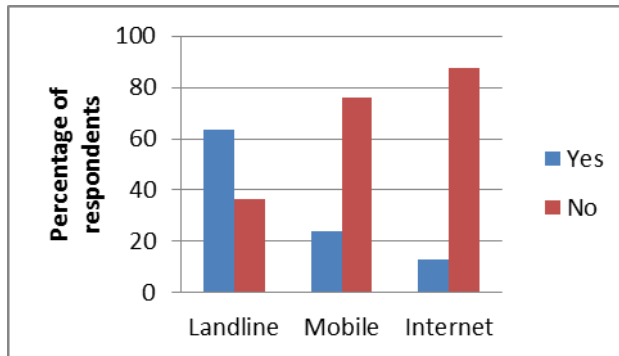
Figure 12 – Use of telecommunications to arrange appointments with patients

Two thirds of participants reported using landlines to arrange appointments with patients, only 23% had used mobiles for this purpose and 12% had used the internet.

Just over half the participants (55%) had used landlines to conduct consultations with patients. 20% reported using mobile phones for this purpose and only 5% reported using the internet.
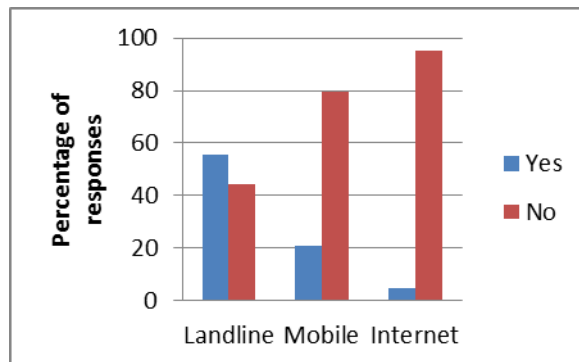
Figure 13 – Use of telecommunications to conduct consultations with patients
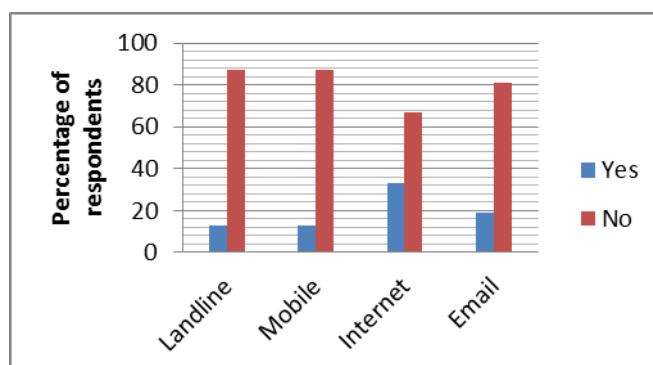
Figure 14 – Health professionals' feelings about helpfulness of telecommunications when working with CALD patients

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Health professionals were asked about their opinions for opportunities to use telecommunications as a means to improve communication with CALD patients. The health professionals leaned more towards the internet and email as having potential to support communication with patients from CALD communities. Only 12% felt that landlines would be supportive and 13% felt that mobile phones would be helpful. One third felt that the internet had potential to be helpful and 19% felt that email would help. These findings are explored in more detail in the Discussion.

Interviews

CALD interviews

The initial aim was to interview four members of CALD communities who gave permission for researchers to follow up with them after submitting a completed survey. A total of five participants gave this permission but three did not return phone calls and/or cancelled interviews at the last minute. This resulted in a very small sample size of two interviews conducted with members of CALD communities. As a result, it was deemed inappropriate to conduct a thematic analysis of two interview transcripts so instead the findings from these interviews are presented as two succinct case studies.

The researchers noted that the five participants from the CALD survey group who gave permission to be interviewed all appeared to be proficient in English and spoke directly to the researchers in English at the time of returning a completed survey. The interview data reflected this and the interview transcripts provided a contrasting perspective to the findings of the surveys. Some of these differences reflect the relationships between the experiences of CALD community members with little or no English, and those who could potentially be considered fluent in English. These points are explored in the Discussion.

Case Study 1 has an absence of verbatim quotes due to the poor quality of the participant's phone connection. The interview has instead been summarised and presented in note-form directly from the researcher's notes.

Case Study 1

Group 1/Interview participant 1

> *He lives in an inner city, multicultural area.*
> *Uses his home phone to call the health services, primarily to make appointments. Rarely uses a mobile phone. Also visits the health services in person.*
>
> *He couldn't think of a time when telecommunications may have improved a visit to health services. He had not used nor been offered translation services.*
>
> *When he wants to find health information for himself or for his family, he primarily tends to look online. He has access to information online, and finds information that he trusts by comparing information from several pages.*
>
> *If he needs help finding more information, within his building there are people (people who work there in an official capacity to help residents, I believe) who can help him to access information that he needs.*
>
> *No problems communicating with health professionals. Sometimes he accompanies his partner and their children, acting as an interpreter for them.*

Feels that if he isn't there that's a barrier to his family. Even though he doesn't need an interpreter, he feels that it's something that might benefit his partner.

Clearly his English was excellent, if not fluent. I got the impression from the interview that he personally had had few problems with obtaining health care or accessing the information that he required either for himself or for his family. Though he didn't say so, it sounds as though he lives on the estate in which the community health centre was situated, and was perhaps therefore less reliant on being able to communicate 'at a distance' with health services: though he said that he called sometimes to make appointments, he also said that he could just drop in when necessary. It seems there are residential service people who live in/near the building who can direct him to more information, though it wasn't clear that this was health related per se.

For himself, he did not have a need for translation services – understandably, given the level of his English, he had not been offered nor had he utilised health services. He did note, however, that he had acted as a translator for his partner and children and that, were he not available to do so, this may be a barrier to their receiving care.

He seemed technologically very savvy, clearly comfortable in accessing information on the internet and finding relevant information using search engines etc. I tried to determine if he used specific sites (like better health etc), but it seems that he just searches until he finds the information that is right for him and seemed comfortable doing so.

Case Study 2

Group 1/Interview participant 2

The participant involved in the second CALD case study was very vocal about her experiences of taking her mother to health services and accompanying her in consultations. The participant was able to share experiences of what she perceived to be different treatment of her mother which she attributed to cultural differences.

> "I see how they treat her and their general attitude and demeanour toward a particular type of cultural person" CALD2

> "One of them [health professionals] had this thing because she was a Greek widow of a particular age there was nothing wrong with her at all, psychosomatic" CALD2

The English language literacy of her mother was an issue for this participant, whose own English was excellent. Much of her accounts of accessing health information and health services were related to her unintended role as an interpreter for her mother. This sometimes led to unwanted interactions with health professionals who focused their communication toward her, rather than her mother who was the patient in these instances. This had even occurred when the health professional was speaking Greek, her and her mother's first language.

> "There have been a few in the past who have completely ignored her and talked directly to me despite the fact that she's the patient" CALD2

> "Once they realised that the daughter speaks Greek there was no more offer of interpreter services" CALD2

When asked about her experiences of information-seeking for her own purposes and in her role as care-taker for her mother, this participant referred to a combination of face-to-face information sources, e.g. friends, as well as the use of the internet. In some cases she shared that she would be likely to actually make a face-to-face appointment to source information she needed.

> **"**Sometimes it's through friends. Sometimes it's internet" CALD2

> "These days if I want any advice from anyone I'll have to physically make an appointment to go and see the actual doctor" CALD2

The participant's accounts of her own practices for accessing information about health and health services varied to her observations of her mother's information-seeking behavior. She was able to share experiences of using the internet to seek information about 'a particular consultant' or a 'particular specialty'. She would use the Google search engine to conduct this search.

> "Most of the other information I get, if it's to do with going to see a particular consultant in a particular specialty it would be using the internet" CALD2

> "I get on the net, I Google search" CALD2

In her observations of her mother's behaviour, which we were unable to verify due to not being able to interview her directly, the participant felt that her mother's experience of using technology was limited due to not having access to training at school. She also shared her perceptions of her mother's belief that mobile phones are expensive, though her mother will now occasionally initiate phone calls to mobile phones.

> "I think she has only had one-and-a-half years of schooling and computers or the technology stuff she's not very comfortable with … … she can use the phone although sometimes she forgets to hang it up" CALD2

> "Her perception is that they cost a lot of money and she never, ever liked making phone calls to ring mobiles" CALD2

Health professional interviews

A total of three themes and seven subthemes arose from the interviews with three health professionals. The themes are interrelated and will be discussed in turn.

Theme	1) Language, Culture and Communication		2) Telecommunications in health			3) Health information online	
Subtheme	Interpreting and translation	Culture and perceptions of health and health care	Telephone or face to face	Skype / videoconferencing	Infrastructure, systems, equipment	Health professionals information-seeking	Health professionals information-sharing and signposting

Table 2 – Themes arising from the analysis of health professional interview data

1) Language, Culture and Communication

The health professionals described the communities they worked in as culturally diverse. HP2 referred to newly-emerged communities, while HP3 described a more settled population.

> "The communities are very diverse communities. Some of them have quite established communities as well as newly-emerged communities as well. So we do see a variety of people from different backgrounds" HP2

> "It's a fairly multi-ethnic community but I think it's more a second generation, third generation. There's a very large Italian and Greek population in the area" HP3

Because of the diverse cultural backgrounds within the communities they served, the health professionals frequently mentioned the need to have a certain level of awareness of other cultures and a level of cultural competency.

> "It mostly is about cultural competency … … I think it's important to be able to communicate as well as be aware of each other's culture as well as we need to understand that all of us, even though we might not be aware of it, we all have our culture" HP1

1a) Interpreting and translation

The cultural diversity identified by the health professionals was reflected in their references to the use of translation and interpreting services or other informal means of interpreting between languages, such as family members interpreting and translating (HP3). Addressing language barriers was a big part of the health professionals' accounts of providing care and information for CALD communities. The ways in which interpreting services were used tended to be related to the resources available and the preferences of the patient.

> "There's some people that say I don't need an interpreter, so we have to be a little bit slower when we talk" HP2

Each of the three health professionals interviewed shared different perspectives on the role of family members as interpreters. HP3 expressed that family members were the preferred interpreter in his clinic, while HP1 expressed a concern that even young children are relied upon to interpret for parents in some cases.

> "Where a family member will be present and they'll translate for us … … you're probably involving the family members and communicating through them primarily" HP3

> "We're seeing that a lot of families are taking the kids out of the school, taking them to the doctor or whatever to actually interpret for the parents" HP1

When discussing the language barriers, all health professionals shared examples of face-to-face communication. Two out of the three interviewed had experience of using telephone interpreting services but HP3 had never used this resource.

"We use telephone interpreters" HP2

"I know there are telephone interpreters but I've never used it myself in that practice. I've used it in other practices previously but not that one" HP3

All three of the health professionals mentioned linking CALD patients with health professionals who are bilingual and in most cases speak the same language.

"Sometimes Vietnamese or Italian they actually go and see the doctor or the nurse from their own ethnic background" HP1

"I do speak Greek, and instead of somebody struggling … … if it's Greek, I'll follow it up" HP2

"Often what happens is that patients, if they don't speak English well, then they will find a doctor who speaks the second language" HP3

1b) Culture and perceptions of health and health care

When working with patients from CALD communities, health professionals explained that language is not the only barrier and referred to their experiences of dealing with different cultural expectations, beliefs and assumptions.

"Sometimes it's not like an easy prescription, you have one language and completely change it to another language because it needs to be culturally appropriate" HP1

The health professionals had all experienced working with patients who had expectations of the health service which were unique to their cultural background and were not necessarily in alignment with the Australian system.

"A lot of different people with a lot of different beliefs about health systems, different understandings about health systems, and it is a little bit confusing for all of them" HP2

These cultural expectations may relate to confusion around the role of various health professionals and the payment mechanisms within the health system, for example.

"There might be different assumptions about the role of the doctor or different perceptions about the role of the doctor" HP3

"Some of the newly-arrived communities … are not understanding very well as to why we're providing that or, do we have to pay, or I don't have to pay - because maybe they come from health systems that do not offer something like that" HP2

2) Telecommunications in health

When discussing their use of landlines, mobile phones and the internet, the health professionals shared their opinions and experiences about the use of these media for a variety of purposes including: general communication between patients and the health service, exchange of information, and within the

consultation itself. These accounts largely focused on some strong opinions about the preference for face-to-face communication and the use of a face-to-face interpreter.

2a) Telephone or face to face

Each of the three health professionals expressed the view that communication with a patient was more effective when it was face to face.

> "I think face-to-face is always better than on the phone" HP2

> "I realised that how much people on the phone, they can be quite shaky and can't understand completely … In so many cultures the gesture is so important" HP1

> "I realise face to face has been one of the most important aspects of dealing with a health professional" HP1

This also applied to the involvement of an interpreter which was also a situation in which face-to-face was preferable to phone-based communication.

> "Even though it's not important to see the interpreter but actually they wanted to have the person on side and to have that kind of face-to-face conversation" HP1

> "They've been really good on the phone as well" HP2

The health professionals did give reference to times at which they had used phone communication including phoning patients or providing a phone number for patients to call them (not mobile).

> "Sometimes we call on landlines, but sometimes they say, oh can you call my daughter or can you call my son, or look, I'm out and about, can you please call me on my mobile" HP2

> "If there's an urgent result that needs to be discussed, I will call them on landlines and often times I have patients call me back later in the day just to follow up on a consultation … … I will call them on their mobiles but I don't give out my mobile telephone number to patients" HP3

HP3 also spoke about introducing an SMS reminder service.

> "Our practice is starting to use SMS reminders sent out to patients' phones. So reminders that they need appointments and when they're due for particular health checks" HP3

2b) Skype / videoconferencing

Two of the three health professionals mentioned the opportunity for use of some sort of videoconferencing. This appeared to be linked to their preference for face-to-face communication, while recognising that this was not always possible.

> "like the Skype things, and you can actually - instead of the phone, you can actually communicate through the computer - they can see you, you can see them, and you can discuss issues" HP2

> "We have telephone interpreting, we also have face-to-face interpreting, there should be something in between" HP1

HP1 also indicated that if there was travel involved, she would prefer to use something like Skype or email, rather than travel, if possible.

> "If I can do the job by sending an email or having a Skype conversation or just the phone I would prefer" HP1

2c) Infrastructure, systems, equipment

There was some very brief mention of the infrastructure and equipment implied by the use of telecommunications in information exchange or communication with patients. The main resources mentioned were staff and specific equipment needed for telecoms-enabled communication.

> "You've got to be on call all the time, so you don't want to have clients calling you up at three o'clock in the morning, saying, oh, guess what happened to me" HP2

> "They [health professionals] could not even download the Skype automatically on their computer because they had to have permission from the IT administration, all those kinds of procedures" HP1

> "They had a little gadget, little kind of monitor attached to the phone and they were moving it from ward to ward when they needed an interpreter" HP1

3) Health information online

The health professionals interviewed gave examples of their own information-seeking behaviours and referenced some of the information-seeking behaviours they had observed among their patients. For CALD patients the health professionals suspected issues surrounding the accessibility and reliability of translated information on websites.

> "At this point, the only websites I'm familiar with are in English" HP3

> "If you're not able to read it in English, it will be extremely hard" HP2

> "A lot of websites have some information translated, but to get to the translated information you have to read all the other pages beforehand in order to be able to click" HP2

> "Let's say you had a website set up in another language but it was purely a translation of a website that you knew was reliable, I suppose that might be an opportunity" HP3

3a) Health professional information-seeking

During the interviews the health professionals mentioned their own internet use and the ways in which they searched for, identified, and retrieved health information. The health professionals mentioned the use of search engines and specific websites which they perceived to be from reliable sources.

> "Sometimes I go into Google Scholar kind of thing, and I put the word, and then you can find all the rest of it" HP2

> "Hopefully the information is updated and based on the needs of the client … I would prefer to go to some more established organisation" HP2

HP2 and HP3 both mentioned preferring to access and refer to websites from organisations they recognised and trusted.

> "There are sites that I know of personally and have had experience with personally. I know there's one site in particular, eMedicine, that colleagues have written articles for. So I've often used that as a reference myself" HP3

3b) Health professional information-sharing and signposting
The assessment of some websites as reliable sources of information, and not others, linked to the health professionals' discussion of directing patients to certain information sources online.

> "The example that comes to mind is describing internet sources of information, so that's obviously a relatively new phenomenon but directing people to appropriate websites for information … … Just trying to point them to reliable sources of information" HP3

HP2 and HP3 mentioned that patients they have worked with had reported searching for information themselves. Both HP2 and HP3 shared their caution over unreliable information on the internet and perhaps a lack of awareness among patients about the best ways to find these sources.

> "The patient will come in after having done internet searches themselves … … there's lots of questionable information out there on the internet" HP3

> "Maybe they haven't shown the way to find health information … I would think a lot more about education and awareness, like teaching" HP2

Discussion
Survey respondents in the CALD sample were mostly settled migrants with an average age of 59 years. The study confirmed that the population in the North West region is culturally and linguistically diverse with a range of languages spoken and varied duration since they settled in Australia. The findings indicated that many of the members of those communities remain fluent in their first native language and some acquire little to no English. Even some of those who do acquire English prefer to read and write in their native language where possible. It is likely that the majority of readily available information sources in Australia will be primarily in English. This may immediately exclude those living in Australia who do not read in English at all and raise questions about social inclusion in relation to eHealth information. This has considerable implications when examining the accessibility of spoken and written health information for CALD communities in Australia and considering the role of interpreting and translation in this context.

The survey and interview findings indicate that linguistic diversity is far from the only challenge in meeting the health information and care needs for CALD communities. Whether recently arrived or settled for several decades, many CALD participants appeared to conceptualise health differently to Australian norms, and this was mirrored by the health professionals' emphasis on ensuring health information and health care, as well as the channels by which these are provided, are culturally appropriate. Independent information-seeking that the patient or a family member may engage in outside of contact with health services is likely to be influenced by the availability of information in-language from any sources, including electronically.

Collecting both survey and interview data allowed the exploration of some of the tensions and inconsistencies within and between the two groups surveyed. These are discussed below.

Overlaps and tensions between the datasets

The CALD survey respondents, as stated, were largely an older, settled population opting to communicate in their native languages, of which there were 11 recorded in addition to English. The CALD interviews, however, provided two case studies of participants who were untypical of the survey respondents, both being perceived as competent in spoken English. The first tension in the findings, then, is the contrast between the accounts provided in these two interviews and the findings of the CALD survey as a whole. The CALD survey findings indicated that just over a third of the sample only had access to a landline and that some participants do not use telecommunications in any capacity to access health information. There was a tendency to prefer face-to-face interaction with the health service (Henwood et al., 2003) and 35 % of the group always used an interpreter when doing so. The two interviewees, on the other hand, both had experience of using landlines, mobile phones and the internet to access information about health and health services and did not require an interpreter. Both of the two CALD interviewees referred to family members who would require an interpreter to access information and services and in some cases they themselves had assumed this role. They both felt able to identify information that they felt was reliable and shared a preference for face-to-face interaction and exchange of information some of the time.

The health professionals' interview accounts for the most part supported the health professional survey responses. Health professionals appeared flexible in their use of telecommunications and more than half had used landline telephones to ask patients questions, arrange appointments, and conduct consultations. However, when asked in the survey specifically about the potential for use of telecommunications to provide information for CALD patients, some health professionals felt that the internet and email may be an enabler but overall there was not an overwhelming response to this question. In the interviews the health professionals felt that cultural awareness was of great importance and two interviewees shared that they would like to see a mode of communication 'in between' phones and face to face, for example something similar to Skype. This could potentially be the first tension with the CALD surveys and interviews because the low level of access to the internet would mean that videoconferencing of any kind would be challenging. The health professionals recognised that, while they actively seek information from reliable sources, there is a distinct lack of reliable information translated into languages other than English. One of the health professionals acknowledged that with access to reliable information on the internet in English, they were in a position to direct patients to this information and had done so in the past.

Addressing the research questions

The aim of this research was to address the following research questions. These will now be addressed in turn. For the purposes of addressing the research questions logically in the context of the findings, the first research question will be addressed last.

1. Are telecommunications, or could they be, an enabler of access to health information and communication in health care for CALD communities?
2. Which kinds of telecommunications are currently used by CALD communities for health purposes?
   a. If they do not use telecommunications, what are the reasons for this?
3. For what types of health purposes do these communities, and the health professionals serving them, use telecommunications?

4. Under what circumstances do these communities use telecommunications for these purposes?
5. What type of health information would members of these communities like to have access to?
   a. What types of telecommunication systems would facilitate this?

Which kinds of telecommunications are currently used by CALD communities for health purposes? If they do not use telecommunications, what are the reasons for this?

The findings of this study must be considered in the context that the study was conducted and are not suitable for generalisation. It was discovered that the members of this community are typically not high users of telecommunications with very few having access to landline, mobile *and* internet. This community as a whole appeared to have very low access to the internet in the home, compared with the Local Government Area (84%) (Community Indicators Victoria, 2011). A third of the survey respondents reported only having access to a landline in the home and though only one participant reported having no telecommunications access at all, this remains a noteworthy finding with social and economic implications for the individual and the community (NEDA, 2010). A US study Denizard-Thompson et al. (2011) showed that nearly two thirds of a sample of users of a similar community health centre never used the internet and/or mobile phones. The clinicians and staff in fact over-estimated the use of technology. During the course of the research it became clear that the research team involved in this project had also over-estimated the level of access to telecommunications that this community had in their homes, highlighting researcher assumptions in conducting the research.

This may be in part due to the fact that "ethnic minorities are under-represented in eHealth research" (Glueckauf and Lustria, 2008, p.4), meaning that very little is known about their telecommunication usage patterns and their consumption is thus over-estimated. The ABS published data in 2006 regarding the use of telecommunications to contact family and friends living outside of the household which showed that only 13% of those living in Australia but born in a non-English speaking country with low English proficiency used the internet for this purpose (ABS, 2006; in NEDA, 2010). This was compared to 47% of those born in Australia who were assumed to be fluent in English, who reported using the internet to contact family and friends (ABS, 2006; in NEDA, 2010). The same dataset presented by the ABS also demonstrated that migrants to Australia born in English-speaking countries were the most likely to use the internet to communicate with family and friends outside of the household (ABS, 2006; in NEDA, 2010). When considered in the context of this study, this finding may imply that internet use among migrants living in Australia may be related to familiarity with the technology in their country of origin, as well as their proficiency in English, given that all information about telecommunications and most of the information online in Australia is in English. Therefore, migrants living in Australia who come from non-English speaking countries are less likely to use the internet while living in Australia. This supports the hierarchy of telecommunications literacies produced by Leung (2011) which demonstrated that use of telecommunications in the country of origin was a predictor of use once settled in Australia.

As a typically older sample some members of this community may have higher care needs and may need to make informed decisions about their own care in the near future. However, previous research has suggested that "those over the age of 45 used more traditional media (television, brochures) to access information" (Geana et al., 2011). Panagakos and Horst (2006) cited a similar finding arguing that some older settled migrants do not show a preference for new technologies.

The participants of this study appeared to use landlines in most cases and most participants demonstrated that they felt confident and able to use landlines. They did disclose using landlines for accessing health information but this was mostly in relation to making appointments and general service navigation. The use of mobile phones and internet was very low for health purposes but some health professionals did report accessing information online and directing participants to these sites. Most CALD participants had access to landline telephones, as did all health professionals. Landlines were reportedly used by both groups to initiate contact with each other and to arrange appointments and occasionally have a brief conversation - health professional to patient and vice versa. One of the challenges of this study was defining the nature of the health information exchange and information-seeking behaviour of interest, and this is an emerging research phenomenon. It became apparent that perhaps seeking information outside of the consultation is something that many people are still unfamiliar with, so when language and culture present additional barriers, it is not surprising that landlines and face to face were the most common channels used for traditional information exchange about appointments and following up with patients, rather than to seek or distribute any other forms of information about health or health services. This may in fact reflect one of the unique opportunities inherent within eHealth models of information sharing and health care which are quite unfamiliar to many population groups.

Despite the discussion above of the multitude of possible variants in use and non-use of telecommunications, it was challenging to determine the precise reasons for the low rates of using telecommunications for health purposes but anecdotal evidence supports the finding that the following are all interrelated factors influencing this. Possible reasons may include:

- Lack of awareness or unfamiliarity with telecommunications in Australia and in country of origin
- Lack of infrastructure for telecommunications in the home
- Cost of telecommunications to the individual or household
- Cultural differences in concepts of health and health care
- Personal choice and preferences
  - Preferring face-to-face contact with the health professionals and health services
  - Preferring not to use telecommunications due to lack of experience or lack of interest
  - Preferring to depend on information sources within the community e.g members of the extended family or other community-based relationships
- The proximity of the CHC providing a service hub nearby
- Availability of information in preferred oral and written languages

Many of these factors were mirrored in the findings of a report by NEDA (2010) who argued that when summing up all the overlapping factors influencing use and non-use of telecommunications it is evident that policy has not yet adapted to meet the needs of a multicultural community. In a similar study to this one, conducted in Wales in 2004, Dolan et al. (2004) reported that age and gender were both factors in the use of the internet to access health information among the two groups of general practice patients they surveyed. The majority of Dolan et al's (2004) participants preferred to use their GP as their main source of health information, a finding which was mirrored anecdotally in this study by participants' apparent preference for face-to-face communication at the CHC. Similarly, Henwood et al. (2003) concluded after surveying women seeking information about hormone-replacement therapy (HRT) in the UK that most patients are willing and happy to trust their GP as a source of information, rather than actively seek information elsewhere.

Drawing on the definition of telecommunications referred to in the Glossary may provide another reason why use of telecommunications was reported to be so low. "Communication over a distance" of course implies that the communication partners, whether they be individuals or services, are not co-located. In the case of the CHC they in fact are. This research was conducted in a CHC which was in the centre of the public housing area. The CHC employs a community health model of care and may be viewed as a hub of health and allied health services. This hub is in very close proximity to the residential areas of the estate, meaning that health services are very close by. Informal observations within the CHC indicated that residents viewed the CHC as their source of health information – meaning that distance was not an issue. However, this does not necessarily mean that telecommunications hold no value in terms of health information for this community, as NEDA (2010) argued that geographic distance is not in itself a determinant of access to ICT. It does, however, suggest that this concept may need to be clearly defined within a community health model, particularly as this is a key part of current health reforms (NHHRC, 2009).

For what types of health purposes do these communities, and the health professionals serving them, use telecommunications? Under what circumstances do these communities use telecommunications for these purposes?

CALD participants reported using telecommunications, mostly landlines, to make appointments, ask health professionals questions and to navigate health services. Accessing health information appeared to be facilitated by health professionals at the CHC, rather than by telecommunications per se. Only 16 participants reported home internet access, and of these only 10 reported using the internet to find health information. With so few CALD participants reporting the use of the internet to find health information there are implications for policies that actively place onus on individuals to seek information about their personal health online and the extent to which such policies expect patients to be motivated to become active agents in this regard (Henwood et al., 2003). Likewise, the health professionals in the survey reported relatively low use of the internet for contacting patients and/or providing information but the health professional survey indicated that many felt that the internet had more potential to facilitate communication with CALD patients than landlines or mobile phones did, though it was not clear why. The health professionals interviewed referred to their personal use of websites to remain informed and to direct patients to information, as well showing some interest in how the internet may enable face-to-face communication at a distance, for example using videoconferencing.

Informal observations from the research site indicated that those community members accessing the CHC came in pairs or groups, sometimes as large as five or six (in many cases presumed to be family groups) – this may suggest something about the ways in which community members conceptualise health services and seek health-information. The location and proximity of the CHC may have been a factor in information-seeking behaviour and in some cases coming to the CHC was perceived as health information-seeking behaviour in itself. The health professionals did not refer to any patient contact outside of the consultation and appointment-making process meaning that patient contact and exchange of information was almost always face to face.

These findings indicate that this population are not typically engaging in online health information related behaviours. Therefore it is not known if or how the CALD participants confirm information provided by health professionals or gather additional information, access information about specific health conditions, connect with others with a similar health concern, or review rankings of health services as outlined by (Fox

and Rainie, 2000; Nicholas et al., 2003; McMullan, 2005; Fox, 2011). This may present a number of health inequalities and potentially inequities.

These findings also confirm the limitations, and potential implied inequality, of the notion of "savvy and reflexive actors" (Newman and Kuhlmann, 2007, p.108) keen to search the internet and other resources in order to make 'rational' decisions. This phrase presupposes that consumers have access to the internet to begin with and that access to telecommunications predicts competency and frequency of use, a suggestion that NEDA (2010) opposes, arguing instead that access alone does not guarantee ability and desire to use telecommunications.

Figure 15 – Diagram showing the proximity of community health services

The odds are stacked against this particular community being high users of the internet to access health information for these reasons:
- Access to internet in the home is low on the estate
- They have a source of in-person health information at the CHC
- Principle income source is Age or Service pension, followed by Disability Support Pension (Richmond Housing Office, 2011)
- 34% of people living in Richmond public housing properties are over the age of 55 (assuming age is an indicator of internet use) (Richmond Housing Office, 2011)

What type of health information would members of these communities like to have access to? What types of telecommunication systems would facilitate this?

The type of health information required and desired by a given community depends greatly on how members of that community conceptualise health and health services. How they prefer to receive this information may also depend on the availability of technologies in their country of origin and the experiences they had with technology before leaving (Leung, 2011). Existing research suggests that CALD communities have lower levels of participation in health care (Henderson et al., 2011) and are generally perceived as underserved (Henderson and Kendall, 2011). This may be because they find themselves in an unfamiliar cultural context and because even basic health information is not available in-language. Some population groups also have higher levels of chronic disease and there is a close relationship between cultural and linguistic difference and other major determinants of poorer health (Marmot, 2005; Henderson et al., 2011) (depending on how you use the term CALD). This research further demonstrated that cultural conceptions of health must come into play when delivering information and planning and delivering services to CALD communities.

Henderson and Kendall (2011) argued that cultural differences between health systems are not widely understood. The participants in this research reported similar experiences which concur with this argument. One of the CALD participants interviewed gave accounts of insensitivity to her mother's cultural background and all three of the health professionals interviewed shared their experiences of meeting different cultural expecations held by CALD patients. There is a need for culturally-appropriate health service and bilingual culturally competent health workers (Henderson et al., 2011) and, as this study showed, there needs to be a systematic approach to this service. The health professional interviews indicated that in many cases there just happened to be a bilingual health professional in the vicinity, meaning that this person would be likely to be involved with most patients speaking that language but not necessarily because they possessed the appropriate clinical skills.

The cultural disparities have implications for the most suitable style and content of health information delivered via any medium. Barrett and Mulugeta (2010) argued that a lack of accessible information can have very serious consequences on health outcomes and use of health services. Adily and Ward (2005) further demonstrated that health professionals themselves were unsure of what culturally-appropriate methods should be used as were some of the health professionals involved in this research.

Based on the findings of the surveys and interviews, providing access to health information to CALD communities is not as simple as focusing on telecommunications systems alone. Any innovation in this area must be supported by bilingual, culturally-aware health workers (Henderson et al., 2011) and a level of awareness of the digital literacy of the population groups, based largely on access in their country of origin and exposure in Australia (Glueckauf and Lustria, 2008; Leung, 2011). The crude information, of which there could potentially be many sources and types, must be made available in written languages other than English and where appropriate interpreters must at least be available upon request. Bilingual health professionals with cultural competency would be even better (Henderson et al., 2011).

When these fundamental communication enablers are in place, the opportunities for channelling information become broader. Landline telephones are relatively widely used but do not appear to be perceived as a link to sources of health information. This may however be a good place to start and with education and awareness raising, this could become a bridge to a wider breadth of information sources. The health professionals seemed interested on the whole in the opportunity to combine face-to-face patient-practitioner interaction with communication at a distance, much like what is now possible with videoconferencing – a phenomenon which is being encouraged in the UK (Henwood et al., 2003). The findings of this study clearly show, though, that without access to the internet and basic hardware at the patient-end, this would be challenging.

Are telecommunications, or could they be, an enabler of access to health information and communication in health care for CALD communities?

This research reiterated that there are communities in Australia with very low levels of access to telecommunications in the home. Though it was beyond the scope of this study to thoroughly determine the reasons for this, the study does provide enough evidence to suggest that some communities will not benefit from moving health information and services online with the levels of access to telecommunications they are experiencing currently. Atherton et al., (2010) argued that health literacy levels occur irrespective of the medium of communication used to deliver information to the general population. The extent to which an individual or a community is informed about their health and health services, is due to their information-seeking behaviours, which are influenced by a number of factors.

The communities involved in this project appeared to seek information directly from the CHC and the bilingual staff working there, most likely because of its proximity and their own cultural expectations of accessing health services. To expect these individuals to access health information online would be expecting a shift in information-seeking behaviour, as well as increased access to and use of telecommunications in the home and an understanding of how to use the technology (technological/digital literacy).

If telecommunications were to become an enabler of access to health information for CALD communities this would have to be grounded in a thorough exploration in the following key facets:
- What people want to know about their health and health services
- What people need to know about their health and health services
- Which media people prefer to receive this information
- The ways in which telecommunications could support the individual's preferred channels for receiving information
- The ways in which information could be translated into other languages in formats that are culturally applicable, appropriate and accessible and how this then transfers to telecommunications channels

Study limitations

There were a number of limitations inherent in this exploratory study. The topic itself provided many challenges with regards to defining and operationalising key concepts. The topic, as defined throughout the report, focuses on a very specific aspect of health information-seeking behaviour for CALD communities, through the lens of telecommunications consumer behaviour. Bringing together the three overlapping topic areas (see Figure 1) meant that the literature and policy context relevant to the study was extremely broad. This presented many challenges in conducting a concise and useful review of relevant literature. This is somewhat to be expected of a review surrounding an exploratory topic but this experience influenced the research team to consider the boundaries of the topic differently in further research, so as to be able to present a concise overview of the surrounding literature and existing knowledge on the topic and provide a logical argument for the specific topic area selected.

The challenges inherent in defining terms in an exploratory research area meant that use of the term 'health information' was at times inconsistent and a source of some confusion. This was, however, a source of learning with regards to how members of CALD communities and health professionals conceptualise and use this term, which became a strength of this project.

Conducting research with CALD communities residing within Melbourne's Northern suburbs was a timely and relevant decision but selecting a community or communities to work with was challenging. It was acknowledged in the Glossary that the term CALD has been criticised (Sawrika and Katz, 2008) for being too broad for some research purposes and for failing to acknowledge social disadvantage in its definition. Conducting this study demonstrated to the research team that the term CALD encompasses an extremely wide variety of heterogeneous communities and it proved challenging to identify a small proportion of Melbourne's CALD communities to focus on. It eventuated that the study would focus on a defined CHC site, as discussed further below, and this provided a boundary to the CALD communities included in the research population. CALD participants were then defined by their presence at the research site, rather than selected on the basis of their own cultural and linguistic background per se. This facilitated the

development of trust and familiarity but also implied that the research population was culturally diverse and this may have narrowed the conclusions that could be drawn.

In order to facilitate respectful and unobtrusive sampling with CALD communities and health professionals, while also ensuring maximum potential for recruitment of an appropriate sample, the research team agreed that an environmental case-study style design was suitable. This was enabled by the support from the Centre for Culture Ethnicity and Health who agreed to allow us to conduct the research at a CHC in the research region. There were, however, a number of limitations with this approach which have been summarised as follows:

- The CALD communities accessing the CHC spoke a multitude of languages and we did not have access to translated surveys for every participant
- Ethical review by a Human Research Ethics Committee prevented researchers from approaching potential CALD participants so recruitment for the survey component was slow and response rate was lower than hoped (CALD participants n=60 out of an anticipated 100)
- Recruitment of health professionals for the survey was also slow and required additional sampling approaches, this may be due to demands on health professionals and an increase in requests to complete surveys
- A total of five interviews were completed out of a planned eight. This was again due to lack of interest from survey participants. Two CALD interviews were cancelled by the participants who then did not return phone calls. Ethical review prevented researchers from following up with them further.
- The CHC site was a unique example of a community health model of service provision. The co-location of services appeared to influence telecommunication consumption.
- The community-based model of care that underpins the CHC service has implications for interpreting the research findings and hence their applicability and transferability to other health care settings.

Further limitations surrounded the development of the survey instrument. The pilot survey was found to be too long and the final survey was revised and shortened. Analysis of the survey data revealed weaknesses in the wording of some survey questions meaning that opportunities to 'drill down' into participant experiences of using telecommunications to access health information were lost. This was also influenced by the smaller than hoped sample size.

Conclusion

This research was exploratory and dealt with some large and significant topics, bringing these together in a unique nexus of what is known about eHealth and cultural and linguistic diversity. To conduct a manageable and meaningful project, the research was conducted in a specific and unique setting but the findings raised some broad questions about the inclusivity of the movement towards eHealth and telehealth within multicultural Australia. The research raises questions specifically about the cultural competence of the health workforce serving CALD communities and the strain placed on health professionals and family members who become informal interpreters – regardless of whether health care is being delivered or information is being exchanged.

What we learned:

- Access to and use of telecommunications remains very low in some communities

- There are people in Australia who are not using the internet to access health information
- There are cultural perceptions of health that remain the same even after a period of settlement in Australia
- Language is a significant challenge for health services and CALD communities, using interpreters is a big part of many interactions
- Family members often act as mediators/interpreters and are sometimes the ones who use telecoms on the behalf of others
- Face-to-face communication appears to continue to be preferable for this group of CALD clients and the health professionals who serve them and when distance is an issue, close to face-to-face solutions such as videoconferencing were identified as being potentially valuable.
- eHealth and telehealth must be considered more broadly within different models of care which are introduced to meet the needs of Australia's diverse population and across its vast landscape

These conclusions raise the following questions:

- ➢ Does the concept of eHealth fit with community health models of care?
- ➢ Is the use of telecommunications as low in other CALD communities where health services are further away, for example?
- ➢ Can telecommunications alone improve equal access to health information and health services? Assuming everyone in Australia had equal access to telecommunications some people may still choose not to make use of it. As a result, for choice to remain a reality in the health system, there must be other options for patients.

For frequent and competent users of the internet, moving health information online may well contribute to equipping them with information and power regarding their health but it does not necessarily provide them, or other populations, with a choice in how they can become well informed. ACCAN advocates for the right of consumers to choose when and how they use communications (ACCAN, 2010) and this research indicated that some people may actively choose not to use telecommunications in a healthcare context. This implies a need for other channels of information, including face-to-face information delivery from the health service and health professionals to stay wide open.

There appears to be a need for culturally-appropriate and culturally-sensitive information, service delivery and workforce; the optimum being the availability of health professionals from a similar background and/or native speakers of the same language as the patient and community members (Lupton, 1997; Nicholas et al., 2003). There is a general theme across the literature suggesting that among the most important factors in engaging CALD communities is engaging with 'gatekeepers' in those communities and producing information in translated formats, as well in low level language to ensure that consumers with all levels of literacy can access the materials (Lupton, 1997; Fox and Rainie, 2000; Nicholas et al., 2003; McMullan, 2005; Newman et al., 2007). This is regardless of the channel of delivery and applies equally to face to face exchanges. Telecommunications hold great potential for connecting these community members with health professionals who share the same language but the end-to-end access to these media must be thoroughly examined first.

In the broadest sense, it is argued that this research is about the concept of socially-inclusive eHealth, a topic which has not been widely explored (Gibson and Sloan, in Smedberg, 2011). If health information and health services do continue to transition to online channels, the model of health care may change entirely, influencing the role of the health professional, the nature of health information, and the expectations on

individuals as information-seekers, responsible for their own health outcomes. This new paradigm may see relationships such as Figure 16 emerging. The question mark over the 'informed patient' still remains and increasing pressures may mount on health professionals as possible new roles emerge, for which they are yet to receive training (Gann and Needham, 1992; Henwood et al., 2003).

Figure 16 – A 'connected' world

The increased use of telecommunications in health care and the expectation for patients to become active agents in the pursuit of health information has knock-on effects for patient-practitioner relationships (Henwood et al., 2003). With these shifts may come assumptions about the extent to which patients from CALD communities are willing and able to access and use telecommunications which stem from a lack of understanding of the factors influencing use and non-use and a lack of awareness of technology use in patients' countries of origin. Outside of the scope of this project were a number of questions regarding the specific cultural factors that contribute to the use or non-use of telecommunications in various health contexts. This is a research area that warrants further attention.

How accessible and equitable this model is for CALD communities is questionable given the findings of this research. However, the scope of the research now needs to extend beyond the community health boundaries to explore a much broader picture of telecommunications use across Australia, while continuing to drill down into what empowers individuals, whether they be patients or health professionals, in being an informed consumer of telecommunications in the context of their health.

Recommendations

As a result of conducting this research, the authors present the following recommendations:

1. Health information, regardless of the medium for its delivery, must be culturally appropriate and available in a range of languages.

2. Analyses of cultural preferences within eHealth must extend beyond simply focusing on access to telecommunications and take into account other factors such as availability and familiarity with technologies in countries of origin, and availability of translated information in Australia.

3. eHealth and related initiatives must be positioned within the context of different models of health care which are grounded in the needs of specific communities. For example, a community health services

hub model could make use of telecommunications in a very different way to health services for rural and remote areas. However, there is potential for enabling quality health care with telecommunications in both contexts.

4. Australia's multicultural population will increasingly require bilingual, culturally-competent health workers who act as the bridge between the Australian health care system and CALD communities, regardless of whether face-to-face contact occurs.

5. Attention must be paid to the changing relationships between patients and health professionals as new models of care are introduced. Research is needed to explore the extent to which various patient populations view themselves as active agents and are motivated to seek health information, as well as the emerging role of the health professional as broker or facilitator. The latter has considerable implications for job roles and training.

Implications for policy-makers and future research

Policy	Future research

Health policy-makers:
-Will need to consider the many factors influencing access to and use of telecommunications before enforcing an eHealth model which replaces other forms of communication.
 	
-Will need to consider the variation in service models across Australia and see this as a factor influencing health information-seeking behaviour.
 	
Will need to recognise that front-line health professionals and non-health professionals working within the health system are faced with the true diversity of Australia's multicultural population and are unable to meet the communication needs of every patient.
 	
Communications policy-makers:
Will need to recognise that some population groups are not aware of advances in technology and others choose not to use mobile phones and the internet.
 	
Will need to consider that the role of telecommunications in health care must be governed by how consumers choose to use and not use telecommunications in their day to day lives.
	Extend this study by developing the survey instrument further and conducting a follow-up survey with a wider range of CALD communities including those where a community health services hub is not present, for example other metropolitan areas, as well as rural and remote communities.
	
	Scope the extent of training currently offered to health professionals in the areas of:
	  • cultural sensitivity and use of telecommunications in information-exchange with patients
	  • the responsibility to direct patients to health information and potentially act as a broker or facilitator for informing patients
	
	Conduct in-depth case studies and interviews with a small sample of members of CALD communities to identify the reasons why they choose to use telecommunications or not, and to explore in more depth their conceptions of health and health information seeking. Compare this with evidence about technology access and usage in countries of origin and explore the potential for integrating basic training in these areas in settlement programs for recently arrived migrants.

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Appendices

Appendix 1 – CALD survey

Connecting people from culturally and linguistically diverse (CALD) backgrounds and health professionals through telecommunications
Survey for CALD people

This survey is about your use of telephone, mobile phone and internet, the ways in which health information and services are made available to you, and how you communicate with health professionals (doctors, nurses, speech pathologists). Your answers are anonymous and will be kept confidential. By returning this pilot survey your consent to take part is implied. Thank you for your participation.

General Information

Male☐   Female ☐   Age: _____

First language: _____   Other languages: _____

How long have you lived in Australia? _____

How often do you visit a health professional (e.g. doctor, nurse, speech pathologist)?

_____

Do you use any of the following at home? (please tick all that apply)

- ☐ Landline telephone
- ☐ Mobile telephone
- ☐ Internet
- ☐ Email

How often do you use the internet?   ☐ Everyday   ☐ Sometimes   ☐ Never
How often do you use a landline telephone?   ☐ Everyday   ☐ Sometimes   ☐ Never
How often do you use a mobile telephone?   ☐ Everyday   ☐ Sometimes   ☐ Never

---

Landline telephone
Please tick the statements that apply to you (please tick all that apply)

- ☐ I know how to make and answer calls on a landline phone
- ☐ I use a landline telephone to find information about my health
- ☐ I use a landline telephone to find health services (doctor, nurse, specialist)
- ☐ I use a landline telephone to arrange appointments with health professionals
- ☐ I use a landline telephone to ask questions of a health professional
- ☐ I have consultations with a health professional on a landline telephone
- ☐ Health professionals contact me on my landline telephone

Mobile telephone

- ☐ I know how to make and answer calls on a mobile phone
- ☐ I know how to send and receive text message on a mobile phone
- ☐ I know how to send and receive emails on a mobile phone
- ☐ I use a mobile telephone to find information about my health
- ☐ I use a mobile telephone to find health services (doctor, nurse, specialist)
- ☐ I use a mobile telephone to arrange appointments with health professionals
- ☐ I use a mobile telephone to ask questions of a health professional
- ☐ I have consultations with a health professional on a mobile telephone

☐ Health professionals contact me on my mobile telephone

Computer and the Internet
- ☐ I know how to send and receive emails
- ☐ I know how to search the internet and find websites
- ☐ I know how to talk to people using Skype or other online video services
- ☐ I use the internet to find information about my health
- ☐ I use the internet to find health services (doctor, nurse, specialist)
- ☐ I use the internet to arrange appointments with health professionals
- ☐ I use the internet to ask questions of a health professional
- ☐ I have consultations with a health professional using the internet
- ☐ Health professionals contact me via the internet
- ☐ Health professionals contact me another way (e.g. by post)
- ☐ Health professionals don't contact me at all

Please tick the statements that apply to you (please tick all that apply)
- ☐ I have found health information in a language I can read
- ☐ I have found health information on the internet in a language I can read
- ☐ I have been able to talk to a health professional in a language I understand
- ☐ I have been able to use the telephone to find health information in a language I understand

---

How often do you use an interpreter service when communicating with a health professional? (tick one)
☐ Always ☐ Sometimes ☐ Never

How often do you use a <u>telephone</u> interpreter service when communicating with a health professional? (tick one)
☐ Always ☐ Sometimes ☐ Never

Are you satisfied with your communication with health professionals and health services?
☐ Satisfied ☐ Somewhat satisfied ☐ Dissatisfied

Thank you for taking the time to fill out our survey. Please contact us if you have any further questions. Dr. Louise Greenstock lgreens@unimelb.edu.au / 03 9035 4628

Appendix 2 – Health professional survey

Connecting people from culturally and linguistically diverse (CALD) backgrounds and health professionals through telecommunications
Survey for health professionals

This survey is about your general use of telecommunications (telephone and internet) in the workplace, the ways in which health information and services are made available by you, or the service you work for, to people from CALD communities, and how you communicate with patients from CALD communities. Your answers are anonymous and will be kept confidential. By returning this pilot survey your consent to take part is implied. Thank you for your participation.

General Information

Gender: _____ 		Age: _____
First language: _____ 		Second language: _____
Job title: _____
Were you born in Australia?_____
If no, for how long have you lived in Australia?_____

I have access to the following telecommunications in the workplace (please have in mind the workplace where you base yourself most often) (please tick all that apply)
- ☐ Landline telephone
- ☐ Mobile telephone
- ☐ Internet
- ☐ Email

How often do you use the internet? 			☐ Everyday 		☐ Sometimes 			☐ Never
How often do you use a landline telephone? 	☐ Everyday 	☐ Sometimes 		☐ Never
How often do you use a mobile telephone? 	☐ Everyday 	☐ Sometimes 		☐ Never

I feel that learning more about how to use the following telecommunications would help me in my professional role (please tick all that apply)
- ☐ Landline telephone
- ☐ Mobile telephone
- ☐ Internet
- ☐ Email

Landline telephone
(Please tick the all the statements that apply to you in your professional role)
- ☐ I know how to make and answer calls on a landline phone
- ☐ I use a landline telephone to arrange appointments with patient
- ☐ I use a landline telephone to ask patients questions
- ☐ I use a landline telephone for consultations with patients
- ☐ Patients contact me on my landline telephone at work
- ☐ Patients contact me on my landline telephone at home

Mobile telephone
- ☐ I know how to make and answer calls on a mobile phone
- ☐ I know how to send and receive text message on a mobile phone
- ☐ I know how to send and receive emails on a mobile phone

☐ I use a mobile telephone to arrange appointments with patients
☐ I use a mobile telephone to ask patients questions
☐ I use a mobile telephone for consultations with patients
☐ Patients contact me on my mobile telephone

Computer and the Internet
☐ I know how to send and receive emails on a computer
☐ I know how to search the internet and find websites
☐ I know how to talk to people using Skype or other online video services
☐ I use the internet to arrange appointments with patients
☐ I use the internet to ask patients questions
☐ I use the internet for consultations with patients
☐ Patients contact me via the internet
    ☐ Email
    ☐ Other

_____
☐ Patients contact me another way (e.g. by post)
☐ Patients don't contact me directly

How often do you use an interpreter service when communicating with patients? (tick one)
☐ Always   ☐ Sometimes   ☐ Never

How often do you use a <u>telephone</u> interpreter service when communicating with patients? (tick one)
☐ Always   ☐ Sometimes   ☐ Never

What strategies do you use to <u>facilitate communication</u> with patients from culturally and linguistically diverse backgrounds?
_____
_____
_____
_____
_____

What strategies do you use to <u>share or signpost health information</u> with patients from culturally and linguistically diverse backgrounds?
_____
_____
_____
_____
_____

Do you feel telecommunications (telephone and/or internet) could enable better communication with patients from culturally and linguistically diverse backgrounds?

☐   Yes   ☐   No   ☐   Maybe

Please explain your answer
_____
_____
_____

_____

Additional comments

Please share any additional comments.

_____
_____
_____
_____
_____
_____
_____

Thank you for taking the time to fill out our survey. Your input is greatly appreciated. Please feel free to contact us if you have any further questions.

Dr. Louise Greenstock
lgreens@unimelb.edu.au / 03 9035 4628

Appendix 3 – Invitation to be interviewed

Australian Health Workforce Institute and General Practice Victoria
Funded by the Australian Communications Consumer Action Network

Dr. Louise Greenstock | Lead Chief Investigator **|**Research Fellow – Australian Health Workforce Institute

Project: Connecting people from culturally and linguistically diverse backgrounds and health professionals through telecommunications

Invitation to be interviewed

We invite you to take part in a 45 minute face to face or telephone interview with a researcher. The interview will be audio-recorded with your consent. During the interview the researcher will ask you questions about how you use telephones and the internet to communicate in a health care setting.

You will not be paid for the interview, but your travel costs will be reimbursed.

If you are willing to be interviewed, please complete your details below:

Name:_____

Preferred contact (e.g. phone number, email address) :_____

Would you like an interpreter for the interview? _____

If yes, which language would you like the interpreter to speak? _____

Thank you.

We will be in contact shortly to arrange a convenient time and place to conduct the interview.

Appendix 4 – CALD interview topic guide

Introduction
Ethical considerations: How the interview will operate
Aims of the interview

1. Without identifying the area specifically, could you tell me about the area that you live in?

2. How would you describe the cultural mix of the population in that area?

3. In what ways do you typically communicate with health services?
    Have you ever used translation or interpreting services or had this service made available to you?
    Can you describe this experience?

4. In what ways do you typically look for and access information about your health and the health of others?

5. Can you tell me about any barriers or challenges you have experienced in finding and accessing information about your health?

6. Can you tell me about any barriers or challenges you have experienced in communicating with a health professional?
    What steps or strategies do you use to ensure you understand a health professional and to make yourself understood?

7. If applicable, can you tell me about how you use landline telephones to communicate with a health professional or health services?

8. If applicable, can you tell me about how you use mobile phones to communicate with a health professional or health services?

9. If applicable, can you tell me about how you use the internet to communicate with a health professional or health services?

10. Can you share with me any experiences you have had of interactions with a health professional or health service in which the use of a phone or the internet made communication easier for you?

11. In what ways do you think telecommunications (landlines, mobile phones and the internet) could benefit communication with a health professional or health service in the future?

12. In what ways do you think telecommunications could assist you in accessing information about your health in the future?

13. Further discussion of the points raised
14. Researcher summarises key points and confirms with interviewee
15. Final comments and debrief

Appendix 5 – Health professional interview topic guide

Face to face interviews
Topic Guide for health professionals

Introduction
Ethical considerations: How the interview will operate
Aims of the interview

16. Could you please summarise your job role?

17. Without identifying the area specifically, could you tell me about the geographical region in which you practice?

18. How would you describe the cultural mix of the patients you work with?

19. In what ways do you typically communicate with patients from culturally and linguistically diverse background?
    Have you ever used translation or interpreting services?
    What was this experience like for you?

20. If applicable, how do you, or the health service you work with, provide any information to patients from culturally and linguistically diverse (CALD) backgrounds?

21. Can you tell me about any barriers or challenges you have experienced in providing information or communicating directly or indirectly with patients from CALD backgrounds?

22. If applicable, can you tell me about how you use landline telephones in your practice?
    Do you use landlines any differently when working with patients from CALD backgrounds?

23. If applicable, can you tell me about how you use mobile phones in your practice?
    Do you use mobile phones any differently when working with patients from CALD backgrounds?

24. If applicable, can you tell me about how you use the internet in your practice?
    Do you use the internet any differently when working with patients from CALD backgrounds?

25. Can you share with me any experiences you have had of interactions with patients in which the use of a phone or the internet made communication easier for you and/or the patient?

26. In what ways do you think telecommunications could benefit communication with patients in the future?

27. In what ways do you think telecommunications could benefit the provision of accessible health information with patients in the future?

28. Further discussion of the points raised
29. Researcher summarises key points and confirms with interviewee
30. Final comments and debrief

Part 2 of this report provides a framework for developing a resource for consumers and potentially health professionals and other stakeholders about the implications of this study. The intention is to provide an overview of the findings in accessible language and to stimulate further discussion around the production of consumer-focused materials based on the findings of this study. Part 2 of this study is intended to be used as a starting point for the development of such materials.

Part 2 - Consumer-focused report

Telecommunications and Health Information for Multicultural Australia

The Australian Health Workforce Institute (AHWI) at The University of Melbourne was funded by the Australian Communications Consumer Action Network (ACCAN) to conduct a study exploring how people from culturally and linguistically diverse (CALD) backgrounds living in one region within Melbourne's North use telecommunications (telephones and the internet) to access health information.

Many people living in Australia were born overseas (27%) (ABS, 2010). Australia's population is rapidly growing and many people arrive in the country every month. In addition, by 2020 there will be more people over retirement age than ever before and many of these people will need help and care from the health service. Chronic disease is also on the increase and this means that the future health workforce will have to meet more demand for their services than we have experienced in the past. This has led many researchers and policy-makers to believe that something needs to change within the health service and how we as individuals interact with the service as patients.

We know that when we understand our health we can make positive choices to keep ourselves fit and healthy but sometimes we need information about how to do this and how the health service can help us.

In Australia we make an appointment with a General Practitioner (GP) when we have a question or some symptoms. We then go along and speak with the GP face to face. In more serious cases we might have to visit a hospital for a short, or perhaps a long visit. For some people this is challenging if they do not speak the same language as the GP or if they live a long way away from the health service.

There is a lot of information available about health and health services and this information is now available in many different places. It can be confusing trying to decide what information we need and where to get the information from.

A lot of information about health and well-being, as well as about health services, can be found online using the internet, and some information is available in more than one language. This information is not within everyone's reach because not everyone has access to the internet or knows how to use it and not all the information is translated into all the languages used within Australia. This is a challenge for some people living in Australia. Today, many health professionals believe that people can benefit from knowing more about health, and expect their clients to find some information about their health themselves so that they can discuss their health together.

Survey findings

A research study was conducted to explore how a small culturally and linguistically diverse (CALD) community in Melbourne currently access health information and to explore whether the members of these communities use landline telephones, mobile phones and/or the internet to access information about health and well-being, and health services.

The study found an overall low use of telecommunications in a healthcare context by this group of CALD community health centre clients. Most CALD survey respondents reported having access to landlines (78%)

and mobile phones (56%) and just over one quarter had access to the internet (27%) and/or email (24%) in their homes. Landlines were reportedly used some of the time but not every day. Mobile phones usage every day was slightly higher than every day use of landlines but overall access to mobile phones was lower. A total of 15 participants (25%) reported never using internet. Just over one third of the CALD participants (35%) reported using landlines to find health information. Around 22% reported using mobile phones to find health information and only 16% reported using the internet to find health information. Most of the CALD participants (71%) reported that they do not use the internet to find health information which is not surprising given the low rate of access to internet in the home.

Most of the health professionals had access to all four types of telecommunication mentioned in the survey: landline, mobile phones, internet and email.   Just under two thirds of the health professionals reported using landline as a medium to ask patients questions. One third had used a mobile phone for the same purpose and only 6% had used the internet. Two thirds of health professionals reported using landlines to arrange appointments with patients and only 23% had used mobiles for this purpose and 12% had used the internet. Just over half the health professionals (55%) had used landlines to conduct consultations with patients. 20% reported using mobile phones for this purpose and only 5% reported using the internet.

The researchers working on this project put together some information which may be useful to you in your day to day life.

Why do I need to be informed about my health?

We are all consumers of health care at some stage in our lives. We all need to stay healthy and know where to go and what to do if we are unwell. We also all have the opportunity to learn more about our health by ourselves. There are a variety of ways to do this.

Today, many health professionals believe that people can benefit from knowing more about health. These benefits may include:
- Choosing a healthy lifestyle
- Preventing illness
- Managing chronic disease
- Following (and sticking to) instructions about treatment
- Involving patients in decisions about their health
- Knowing your options as a patient and being able to make choices

All these factors help to improve peoples' health and lead to healthier communities. Finding information about your health or the health of others may improve:
- your overall approach to maintaining good health
- your way of thinking about diet, exercise, or stress management
- your way of coping with a chronic illness or managing pain

Information about health and well-being and about health services can help you decide if and when you need to see a health professional or not, and, if so, which health professional to see. You will then be able to ask the right person about your health and any condition you may be experiencing.

Health information can also help you or a family member better understand how ill health might affect you (changes to the way your body functions, your well-being or your lifestyle). It can help you decide what you would like to know and what questions to ask. It may also prompt you to ask and find out about different treatment options and ways in which you can keep yourself healthy. Sometimes it might be appropriate to get a second opinion.

> *Vy Nguyen is a 62-year-old grandmother who recently found out she has Type 2 Diabetes. Vy's doctor told her that she needs to be very careful about the amount of sugar she eats, but Vy is confused – is she allowed to eat fruit – some fruits are very sweet, but she has seen ads on TV saying that fruit is healthy? She wants to ask her doctor about this but her next appointment is three weeks away. She explains her problem to her 16-year-old grandson – a good boy, but always on his mobile phone! Vy's grandson says "I'll use my mobile phone to connect to the internet and see if I can find an answer". He finds a website that says* "All healthy diets, including diets for people with diabetes, should include whole fruit since fruits are great sources of many essential vitamins, minerals, fiber, and other nutrients that provide a lot of health benefits". *This makes Vy feel better – OK, I can eat some fruit - but she makes a note to herself to talk about this with her doctor at her next appointment.*

What information is out there?

Information or assistance about health or medical issues is available from a wide range of sources. Most people ask a health professional such as a doctor, pharmacist or physiotherapist. Others might ask friends or a family member for advice. Health information is also available through information phone numbers, TV campaigns, the internet, books and other printed brochures. A small but increasing number of health care organisations encourage patients to contact their doctor through email. Some people join internet communities such as support groups or bulletin boards to hear the experiences of people with similar conditions or illness as themselves. The difficult thing about all these different sources of health information is knowing which ones to trust.

What challenges may I face if I do not speak English?

Information about medicine and health can be complex. Often it is written in English and, if this is not your first language, it may be even more difficult to understand - making it hard for you to follow the doctor's directions about your treatment or medication. Some leaflets and websites may be translated into a language you understand, but not always. Some health centres have face-to-face or telephone interpreting services to help you talk to your doctor during an appointment, but many times you may need to bring along a family member or friend, who can speak English.

> *Nella's 74-year-old father Alfredo migrated to Australia from Italy in 1958. Over the years, he had always intended to learn English, but what with work and the kids – well, he just never got around to it. Besides, in the suburb where he lived and worked he was part of a large Italian community, so he never really needed to learn English. Over the past few years, Alfredo's blood pressure has been rising. Recently, his doctor prescribed medication for him to take. Alfredo*

doesn't understand what all the fuss is about – he feels great – why does he need to take tablets? His daughter Nella is keen to find information about high blood pressure, translated into Italian, for her father to read. She thinks if he knew more about the risks of high blood pressure he might take his medication. She has searched the internet for local websites on high blood pressure, but hasn't found any that give Italian translations. She did manage to find an Italian website, but wasn't sure if the information was relevant to the medication her father was prescribed here in Australia.

What cultural differences may there be in health care in Australia?

In Australia the focus of health care is on giving patients more information and choices in their interactions with health professionals. Many health professionals encourage their patients to take an active role in health care, involving them in decisions that are made about treatment and medication, and encouraging them to ask questions if they don't follow what is being discussed. This approach may be in contrast to other cultures where people might prefer to get all information from the doctor and not look elsewhere for other sources.

How can I connect to this information through the internet or my telephone?

The internet provides access to many health websites. If you have a particular illness or condition, your doctor should be able to guide you to good quality websites that may help you. Other websites provide more general information about health, for example:

Better Health Channel http://www.betterhealth.vic.gov.au/

People often use an internet site called Google to search the internet for health information because it is quick and easy. If you use Google to find a website, be sure to check the credentials of the source of that information to make sure it is trustworthy (see below).

What do I need to know about health information online?

The quality of health information on the internet is not all the same, some websites are more reliable and useful than others.

1.   Look on the website for this logo that shows if a website follows the Health on the Net Foundation's standard code (http://www.hon.ch/) for trustworthy online health information.

2. Asking questions about a website may also help you to decide if the health information is reliable or not. Here are some questions you can consider (The following excerpt has been adapted from the eHealthwise program,Melbourne Health, 2010).

- What is the purpose of the website - is it a general site or is it written for a special audience such as people with diabetes – does the site target patients, care-givers or others, such as health professionals?
- Which organisation publishes the website – is it a government body or a private media company, for example?

- In which country is it published? Information given on international sites may not be applicable to the Australian health care context.
- Is the information on the website evidence-based, that is, are the claims being made backed up by scientific research?
- Do clinicians provide information on the website and are their qualifications shown?
- Is the information on the website up to date?
- Does the website show contact details – this is often a good way to see who looks after the website?
- Does the website reveal its funding sources?
- Is the site easy to use?
- Do you understand what is being said?

3. The Australian website HealthInsite is a gateway to reliable health information and has a section on "How to Assess Health Information Online" at:
http://www.healthinsite.gov.au/topics/How_to_Assess_Health_Information_Online

However, it is only available in English.

How can a health professional help me?

If you find health information on the internet that you would like to talk over with your doctor, it is a good idea to print out the information and take it along with you to your next medical appointment. If you don't have access to a printer, make a note of the name of the website so your doctor knows where the information came from.