

Access to E-Health information for the eNomad

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Abstract

The concept and implementation of an E-Health scheme is not new and there is an array of literature supporting the benefits that can be derived for participating individuals, health industries and government agencies who can access digital health records, information on medicines and medical procedures to improve the level of health literacy and assist in making informed decisions. Senior citizens are becoming more techno savvy and purchasing affordable mobile wireless enabled Information and Communication Technology (ICT) devices that easily connect to the expanding broadband Internet footprint across city and remote regions in Australia. This access provides opportunities for the electronic nomad (eNomad) and health professionals to gain access to personal digital medical records regardless of the geographical location are improving. This paper will focus on the adoption, use and impact of ICTs in gaining access to digital health records by the eNomad and the health industry as a tool to improve information literacy and informed decision making.

Keywords: information and communication technologies (ICTs); electronic nomad (eNomad); individual electronic health record (IEHR); individual healthcare identifier (IHI).

Introduction

According to the Australian Bureau of Statistics (ABS 2009a), in 2006 life expectancy for males was 78.7 years and 83.5 years for females. By 2030 the percentage of the Australian population will reach 22.1%, a marked increase from the 2000 rate of 12.6% (Obst et al. 2008). Research on the elderly and the adoption of ICTs indicate that seniors are more willing to adopt technologies and go online empowering them to take control of their social interaction, communication and health needs. Further studies show that seniors who use the Internet to seek information report greater satisfaction levels and experience less anxiety (Juznic et al. 2006).

Senior citizens are using the Internet to access online senior organizations who offer a wide range of finance, travel, insurance and social networking opportunities, allowing them to keep connected and engaged regardless of location, time and mobile ability (Juznic et al. 2006).

The Australian population is more mobile now than ever before, relocating geographically through work, education, lifestyle choices and this includes the grey nomads who, in their retirement years choose to travel around Australia and overseas. This mobile and aging population is placing greater pressure on health services across Australia as they call upon the health centres for consultations and treatment. Health professionals rely on accurate data and information on health records and the status of the people attending their health centres. While ICT systems have the ability and capacity to store volumes of data about individual patients who access these health services in their immediate location, gaining access to health records by the individual and/or health professional in distant or remote locations is not a simple process. This is due to ICT systems and records being stored using different database platforms and formats raising issues on compatibility, completeness, accuracy, security, privacy, ethics and individual sensitivity.

While data is available on Internet activity through the Australian Bureau of Statistics on fixed and mobile connections, locations, download speeds, age groups, income and education levels, there is little literature on how information accessed from the Internet is sourced, identified, sorted, managed and applied in the daily lives of an individual (Kalms 2008). For an E-Health initiative to be successful a holistic approach on the adoption and diffusion of ICTs, design, development and rollout of a national E-Health framework and platform requires user input and collaboration from all entities that have a vested interest and require access to this service.

eNomad

Forrester research (2007) found that '92 per cent of Australian households owned some form of mobile electronic device [and] are adopting mobile gadgets such as digital cameras, smart phones and MP3 players far more enthusiastically than Americans [and claim the] difference in uptake was no doubt a function of the dispersed Australian population and a penchant for travel'.

Obst et al. (2008) applies the term grey nomad to 'semi-retired, or retired people who travel for all, or part of the year, throughout Australia [and] generally seen as being aged 55 and over. These long term travellers usually use a caravan or a motorhome as their base'. Grey nomads generally travel with no particular schedule or date to return to their normal place of residence. They join or establish large social networks, carry limited documentation on medical and medication history, and members of the baby boomer generation seeking lifestyle choices. As more grey nomads purchase ICTS and use them in their everyday life, a new group of nomads have been emerging and they are the electronic or eNomad. At present there is no universal or virtual definition for the eNomad, so I extend the definition of the grey nomad to encompass '*an unplugged grey nomad who travel for all, or part of the year using ICTs to communicate and interact with other members of family and society as they travel to places of choice*'.

In the study conducted by Obst et al. (2008) on the grey nomads, 21% of females and 32% of males experienced a health incident during the 2 year period of the study and their major concern was reaching medical assistance in a timely manner. Examples quoted in the study included sever chest pains, back injuries, deep vein thrombosis, severe arthritis, cervical cancer diagnosis, pneumonia, and fainting fits. These medical incidents cause added concern and stress as they travel in an unknown part of the country without the knowledge of available medical facilities in the region. Stress levels increase due to time delays in reaching a medical facility, having to explain in great detail their full medical history (if they were fit to do so) to a health professional who then has to make informed decisions as to what treatment is best for the patient.

With 16% of Australia population using wireless technologies to gain access to the Internet and 1% accessing the Internet using a satellite connection (ABS 2009b), gaining access to E-Health records and online information for the eNomad and health professional is an achievable goal. In the age group 65 to 74 years, 568,979 males and 605,947 females accessed the Internet. In the age group 75 years and over, 405,979 males and 542,349 females had Internet access (ABS 2008a, 2008b).

The use of new personal health ICTs, home-based and mobile monitoring tools, and wearable devices empowers the individual to take a more active role in society, manage their health care needs more effectively and not be bound to a geographical location for fear of a medical incident and not gaining access to their doctor. For the eNomad, making a doctors or dentist appointment on the move is made much easier using a wireless enabled PDA/GPS/phone or laptop device. These devices enable the person to search for an available doctor, dentist and chemist or for that matter any professional service as they travel from town to town or State to State across Australia. These ICTs enable them to make appointments, setting the date and time, pay online using the Internet and use the inbuilt GPS to guide to the health facility. After the consultation and treatment, the updated

information could be entered into the E-Health database and the eNomad could download the latest information into their mobile device to reference at a later date.

The eNomad can be a driver of innovation change guiding the development and rollout of eHealth interconnected services due to their individual health needs and part of their social network. National E-Health Transition Authority (NEHTA) would be well advised to include the grey nomad organisations and eNomads in the eHealth project by including these groups during the information gathering, development and implementation lifecycle of the E-Health project to ensure the services provided on an E-Health portal and database meets the needs of a group of users whose numbers are increasing year by year. The size and ties of the grey nomad and eNomad social network (Anderson 2009), together with the social context and behaviour of relationships (Fredricks & Durland 2005) in which these groups move and communicate, will provide rich data set to influence the development, navigation and content of the portal and database to meet their needs.

E-Health

The concept and implementation of an E-Health individual electronic health record (IEHR) system in various countries around the world including Australia is not new. Countries such as Canada, USA, United Kingdom, Germany, France, Ireland, New Zealand, Denmark, Sweden, South Africa, Norway, Singapore and Australia (Cornwall 2002; HIMSS 2008) have either sponsored research or implemented E-Health projects in one form or another to digitize medical records so they can be accessed by various health related organisations to assist in managing medical records (MMR), transaction processing (TP) and in decision support systems (DSS).

The 2004-2005 National Health Survey (NHS) collected information to describe various aspects of the health status of the Australian population, with a particular focus on the National Health Priority Areas (NHPA) of asthma, cancer, heart and circulatory conditions, diabetes, injuries, mental wellbeing and musculoskeletal conditions, particularly arthritis and osteoporosis (ABS 2004-2005 4363.0.55.001). The same survey identified additional medical conditions the eNomad faces as they travel around Australia that may require medical assistance and includes attacks by another person, bites or stings, bruising, burns or scalds, choking, cuts, dislocations, sprains, strains, electric shocks, falling over, fractures and broken bones, hit by something, hitting something, inhaling fumes, internal injuries, loud sounds, near drowning, swallowing poisons and vehicle accidents.

At the Australian Health Ministers Conference (AHMC) in December 2008, the definition for E-Health proposed by the World Health Organisation as ‘the combined use of electronic communication and information technology in the health sector’ was adopted. When implemented in Australian, the objectives of the scheme to ensure that ‘the right health information is provided to the right person at the right place and time in a secure, electronic form for the purpose of optimizing the quality and efficiency of health care delivery’ would be realized (AHMC 2008).

E-Health will enable a safer, higher quality, more equitable and sustainable health system for all Australians by transforming the way information is used to plan, manage and deliver health care services. (AHMC 2008 p. 5)

The current ad hoc E-Health initiatives being developed by private and public organisations include NEHTA, the federal Department of Health and Ageing (HealthConnect), the Queensland State Government via the delivery of electronic medical records and the Australian Capital Government commitment to invest in E-Health technology. The use of ICTs within the health industry to enter, store and retrieve electronic patient records, conduct online research, for appointments, accounting purposes, sharing information and images across computer networks with selected specialist services is not new. According to the Australian Health Information Council (AHIC), there is no

coordination or cooperation between federal and state authorities on a national framework to E-Health and the sharing of electronic records (AHIC 2007). This was made evident in a consultant report prepared Deloitte Touche Tohmatsu for AHMC alerting Ministers to the fact that:

“the health information landscape is characterised by discrete islands of information with significant barriers to the effective sharing of information between health care participants. It also poses challenges when trying to understand and report on what is really happening to support population health surveillance and guide policy, service planning, innovation and clinical and operational decision-making (AHMC 2008).”

Isolated islands of information and database systems within and across state and territory government health agencies, general practitioners, specialists and other health professional industries creates barriers and time delays as health professionals and individuals try to access health records. In addition, individuals attempting to have their health records transferred when they change doctors can cause additional stress and anxiety. For the grey nomad, this adds additional stress as they travel around Australia or overseas and need to seek medical advice and treatment.

Table 1 shows the results of a study conducted by The Royal Australasian College of Physicians (2007) indicating the highest percentage of computer usage by physicians in all three categories is for searching information on the Internet while using a computer for patient records is low. The most encouraging outcome of the report was that 94% indicated they would use electronic applications for online prescribing and 95% would use online computers systems for evidence based information. Pearce (2009) in his study on ‘Electronic medical records – where to from here?’ says that while 90% of general practitioners have a computer on the desk where they work, only 65% use them for clinical records and processing notes to update patient information at the point of care. He further states that in a 14 minute consultation approximately 2 minutes is spent interacting with the computer system.

Table 1: Computer use of electronic applications

Computer use of electronic applications	Public hospital		Private hospital		Consulting rooms	
	n	%	n	%	n	%
Electronic prescribing	92	6	34	2	173	11
Electronic request for investigations	246	16	42	3	130	8
Receiving results electronically	854	54	124	8	310	20
Electronic patient notes	302	19	50	3	230	15
Electronic referrals	140	9	26	2	65	4
Electronic letters to patients	234	15	33	2	125	8
Patient held records/USB/Data keys	185	12	42	3	133	8
Administration practice finance	310	20	67	4	377	24
Educational activities	837	53	63	4	348	22
Searching internet for information	1123	71	120	8	486	31

Source: The Royal Australasian College of Physicians (2007, p.20)

In a study on computer usage of GPs in Australia for the Australian Institute of Health and Welfare (2008), Britt et al. found that only 3.3% of those who took part in the survey worked in a practice that were not computerised. This indicate that many of the health activities and functions are already computerised for prescribing, billing, for medical record management, Internet, email, and other administrative requirements (Table 2).

Table 2: Computer applications available/used at majority practice address

Computer use	Number	Per cent of GPs (n = 953) ^(a)	Per cent of GPs with computers (n = 922) ^(a)
Not at all	31	3.3	—
Prescribing	845	89.3	92.3
Billing	818	86.5	89.4
Medical records	783	82.8	85.6
Other administrative	765	80.9	83.6
Internet/email	746	78.9	81.5
Missing	7	—	—

Source: Britt et al. (2008, p28)

The results of these two studies clearly indicate that the use of computer systems for patient record management, prescriptions and access to the Internet is already wide spread in Australia. These numbers could increase provided the technology and network platform on which the national E-Health database system is built is available, reliable, cost effective and provides relevant information on a national basis. While it is technically feasible to rollout a national E-Health system across Australia and create a database management system to capture, interrogate and display information on a range of ICTs both fixed and wireless, it does not mean that patients, physicians, GPs and health professionals would necessarily use the technologies for decision making. Accuracy of medical records recorded by GPs and health professionals resulting from diagnosis, procedures and blood tests relies on the competency of the staff (Wan et al. 2009) and the adoption of a national coding scheme for all routines to ensure consistency.

Access to reliable information on health issues and personal health records regardless of one's physical location could empower the individual and health professional to make informed decisions on health issues and enable them to make informed decisions on health issues. Access to E-Health records regardless of geographical location is important for the grey nomads and eNomads who share the same health needs as others members in the community. However health literacy has a marked impact on the ability of the individual to assess to their E-Health records and make an informed decision on how to manage medical conditions. Access to E-Health records has the potential to 'reduce costs in the health system, prevent illnesses and chronic diseases, and reduce the rates of accidental death' (ABS 4102.0, 2009). Data from 2007-2008 national health survey shows that 85% of people over the age of 65 years had 'three or more long-term health conditions' to manage (AS 4102.0,2009) at any one time making access to accurate and up to date health information for the health professional and eNomad essential.

With the objective of an E-Health system to provide ease of access to authorised users, there is a possibility that data being entered into the system could be subject to error, lead to misdiagnosis and compound the medical condition. During the design, development and testing of the E-Health system, information extracted from the system would need to be checked for accuracy, completeness, reliability from the perspective of the health professional and tested by the developer alike (Rawson & D'Arcy 1998). In addition to these technical requirements, the information would have to satisfy the health professional and eNomads measured against a set of benchmarks to show the E-Health system improves organisational and operational efficiency and improves the quality of health care (Ochieng 2007).

While research shows that seniors are willing to travel regardless of their medical condition, many seniors do not carry with them adequate medical history records and medication documentation having the potential to place a burden on medical resources during an emergency. The National E-

Health Transition Authority (NEHTA) is one of a number of organisations working with federal, state and territory governments to develop a national approach for electronically collecting, securing and exchanging health information across borders' using multi-channel communications means. This provides the eNomad with the surety that regardless of where they are, so long as they have access to Internet, should a medical situation arise they should have peace of mind that the most current medical information can be shared between GPs, specialists, hospitals and other medical related professions. The benefits derived through a secure authenticated system means that should an emergency arise, access to this vital information will reduce the need for the medical practitioner to ask multitude questions of the patient before conducting a battery of tests to try and eliminate possible cause and effects through the administration of drugs and procedures that can be time consuming and costly. This process can also divert medical attention away from other cases that also need medical attention.

ePrescriptions

The use of electronic prescription (ePrescription) or e-prescribing replaces the paper based system used by the medical professional by entering prescription details directly into a computer based system that can be accessed by any authorised pharmacy or chemist connected to the network (Lapen 2007). In a media release from The Pharmacy Guild of Australia (2009), they report that of the '250 million prescriptions dispensed each year 60 per cent are repeat prescriptions'. This means that majority of the paper based prescriptions currently being carried by the grey nomad around Australia are repeats. Carrying around repeats could be a risk to the grey nomad if they are misplaced in the caravan or motorhome, lost or become out of date.

In the Northern Territory, a small number of medical centres and pharmacies in Darwin are providing an ePrescription service under their ehealthNT program that requires a digitally encrypted signature and barcode before the system is accessed (Katehar 2008). And while this is initiative provides a limited service, experiences of countries such as England, United States who have standalone or integrated systems shows that patients safety is improved, prevents errors through medication management, deliver cost-benefits and create linkages between laboratories and pharmacies (Vatanara 2008).

The benefits of incorporating the ePrescriptions into the E-Health database would enable the grey nomad and eNomad to have their medications dispensed at any pharmacy or chemist in Australia. Where changing medical conditions occur, the outstanding ePrescriptions can be cancelled removing the possibility of increasing medical complications since the medication will no longer be required or appropriate. Using mobile ICTs, the eNomad can use their device to check on the status of prescriptions, dosage rates, expiry dates and locate a pharmacy or chemist to have them dispensed.

A national ePrescription service would also act as a monitoring system warning when people abuse the writing and dispensing of prescriptions from multiple doctors and pharmacies across geographical regions. The same system will alert authorities as well as help the national health system track the consumption and misuse of drugs identifying dangerous trends in drug consumption so they can be addressed by governments and medical authorities. While this electronic transfer of prescriptions is currently being trialled in the Northern Territory, the benefits warrant its inclusion as a national eHealth policy.

As the number of people seeking information about drugs from the Internet, health care professionals, from the labels on the packages, print and wireless media increase (DeLorme 2007), a study conducted by McGuire (2005 found in Reisenwitz et al. 2007), showed that 37% of online seniors used the Internet for this purpose. For the eNomad, being on the road allows them to

continue online searches, post blogs, chat online and use other forms of social networking to improve their level of medical literacy and make informed decisions.

For an ePrescription service to be effective nationally, it would require pharmacies Australia wide to opt in and be integrated into the E-Health database. This would enable the eNomad the choice of which pharmacy to have their prescriptions filled regardless of which town or city they are visiting (AHMC 2008). The number of eNomads visiting remote centres seeking this service would put pressure on pharmacies in those centres to become part of the national system.

At present the NHETA E-Health model will not integrate the MediCare numbering identification number as it is not unique (Dearne 2009a) as family members share the one number. The proposed E-Health card will contain a 16 digit individual healthcare identifier (IHI) number to access the system. This will require the eNomad to carry two cards, their family MediCare card to access the payments system, and E-Health card with their IHI number. Keeping two cards access E-Health records and MediCare could be confusing and NHETA would be well advised that once the E-Health system is established, the family based MediCare card will be integrated into the one card. Keeping the two identification systems could breach security and privacy by using the MediCare number to circumvent the security built into the IHI system (Dearne 2009c).

eCommunication

To gain the most benefit from a national E-Health system and adopted by the medical profession and the eNomad there needs to be effective communication pathways between all parties. Such communication will ensure that the design of the E-Health system database and data entered into the records is accurate, reliable and consistent by using a standardized code set (Pearce 2009). It also requires seamless connectivity across disjointed islands of health record systems across Australia. It will require a coordinated and unified investment policy at the industry, state, territory and national level. At present, the independent development of E-Health decision support systems by various state and territory governments is being conducted without a national framework or technical specifications that would ensure independent systems will provide interconnectivity so that the stored data can be shared among users (AHIC 2008). The Australian federal health minister has called for full cooperation between state and territory governments (Dearne 2009a) and the health industry while ensuring there is a balance between the access, privacy and security of personal information (Dearne 2009b). Drawing upon the study by Parnaby and Towill (2007), their 'patient-centred seamless supply chain' model can be replicated into the Australian national E-Health initiative by adopting a systems engineering approach to replace the uncoordinated piecemeal approach delivered by health care systems by state and territory governments. A national coordinated approach could subsume all the separate subsystems. In doing so, the objective of delivering a comprehensive national E-Health system could be realized in the most cost effective and efficient way. This does not imply that the federal government should take over the responsibility and management of state and territory health systems, but requires that all systems are designed to be interconnected so that data and information can be shared across all systems.

The Australian federal health minister and the Council of Australian Governments are committed to introduce the 16 digit individual healthcare identifier (IHI) as a way to accurately identify healthcare providers, organizations and individuals (NHETA 2007a) and is a major step to ensure the national E-Health initiative progresses. The IHI will not replace the Medicare card that is used for claiming government healthcare benefits (AHMCC 2009). In a survey conducted by NEHTA (2008), over 90% of respondents indicated that would want their health records, and those of their children included in the IEHR system.

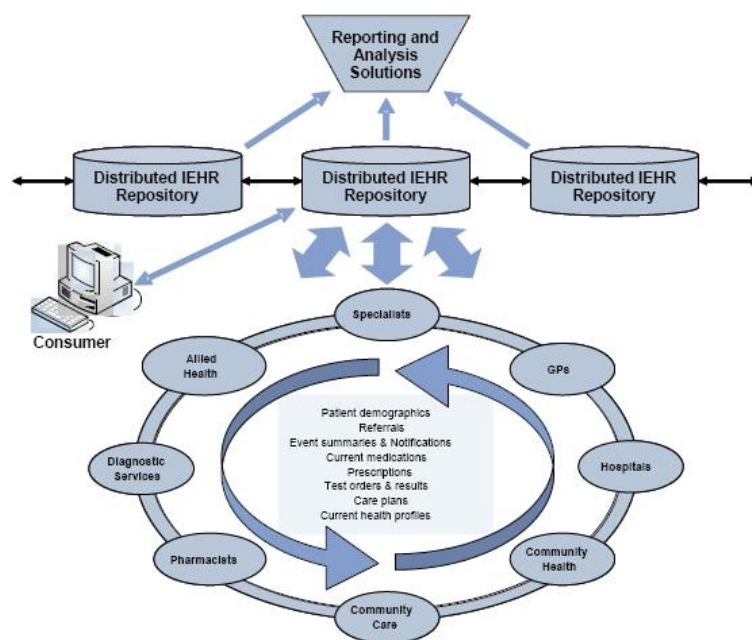
The grey nomad and the eNomad carry with them an array of plastic cards as they set out on their nomadic travels. Among them is their Medicare card with the 10 digit identification number and validity date. A systems approach to integrate the features and functions of both cards would go a long way to remove the confusion, stress and anxiety for the grey nomad and eNomad during their journeys.

One of the most effective communications tools is an Internet based portals as the window to gain access and discriminate E-Health information to health professionals and the eNomad. Secure encrypted text messaging over the telephone network (fixed or wireless) and by completing predefine web based forms on the portal can be used to streamline the process. The use of an IHI and password provides the user with a quick and reliable platform to gain access to the E-Health system at an affordable price. The success however is dependent on a well designed and functional portal containing rich and relevant information based on the computer literacy level of the user (Liederman et al. 2005).

The convergence of Internet protocols (IP), availability to faster broadband networks, together with the emergence of new ICT devices incorporating web services enable the integration of voice, video and data across the telecommunication network. These devices and services are changing our assumptions about distance as a perceived barrier to communication and interaction with family members and friends and are regularly used by the eNomad while on the road. These same technologies could be incorporated into the E-Health system for communication between the eNomad, their general practitioner, specialist, hospital system, health services and other health professionals including ambulance and other emergency services.

The distributed database model proposed for the IEHR provides for the separate subsystems of healthcare providers and organisations to provide an incremental link of subsystems into the national repository as their system comply with the national standard. This will ensure the data and information remains accurate, reliable, secure, private and traceable (audited) regardless of the access point and ICTs used.

Figure 1: Distributed Database Model



Source: National E-Health Strategy (2008 p. 15)

mScanner

The application of mScanner (mobile scanner) hardware and software is available on the 3G, 4G and NextG mobile device equipped with a digital camera. These devices could be used by the eNomad to point their mobile device at a barcode on a food source, click the camera button and send the image to the E-Health database. Alternatively, the eNomad could enter the product into the device using the keypad to access the same information. The Food Standards Australian and New Zealand (FSANZ) database could be connected to the E-Health database as it holds data from manufacturers', food processors, packaging companies and distributors on foods that come within their responsibility. Information on food products and ingredients could be cross referenced with the individuals E-Health records to provide instant feedback on the product and it's suitability for consumption so as to prevent a health reaction. Since 2002, FSANZ have required food labels to contain information on nutrition value, ingredients and major allergens. Access to this information in electronic form on a national database cross-referenced to the E-Health database would provide the eNomad with a rich data source on which to make informed decisions on the purchase, preparation, consumption and storage of foods.

This technology also has the potential when connected to a dietary database to assist in the selection of healthy foods, their preparation, quantities of consumption and information on their safe handling. Once connected to the Internet and the E-Health portal, a search of the Food Standards Australia New Zealand (FSANZ) database for information on any additives, food safety, labeling and GM foods could be used within the E-Health database to identify if the product could have adverse reaction to medications the eNomad currently has in the body. With a fully developed database system, helpful information could also be relayed to the eNomad on food alternatives. This would require legislative changes to the FSANZ code of practice and require the organization to take responsibility for labels, nutrition and food compliance (FSANZ 2007). This information could then be stored in the PDA/GPS/phone for later access, uploaded to their laptop computer as a record to access in the future.

For a universal barcode system on food products to be successfully integrated into the E-Health database, a consistent and logically designed barcode standard would need to be developed upon a nationally agreed standard (Hankin 2002). The same technology could also be used by the eNomad to scan pharmaceutical products and natural health products sold in supermarkets and health stores as a way of increasing their health literacy and could result in a drop of medical related incidents that require medical assistance.

A further extension to the E-Health system would include the service provided by dietitians and nutritionists who could provide advice on food consumption and suggested menus while the eNomad is on the road. Advice and recommendations would be based on their medical condition, the geographic location, season of the year and food types in that region. Dietitians and nutritionists are already employed within the health system at general and private hospitals and working across all areas of patient health. For example, the Queensland Health (2008) recognises these benefits for integrating these professionals into their multi-disciplinary teams as their services contribute to the well being of the patient in areas of allergies, diabetes, cardiovascular diseases and paediatrics.

Barriers to e-Health Adoption

While the benefits of introducing a seamless national E-Health have been well documented, there are a number of barriers to its widespread acceptance. GPs and other health professionals may not want to store sensitive information about the patient in a national database and suggest they seek consent from the patient before storing the data where it is shared (Tap et al. 2009). Many medical professionals respond to the sensitive needs of their patients so that it does not hinder treatment (Saiid, Tonsi & Baig 2008) rather than consider a shared network. The need to engage health

professionals and the public in identifying issues that may hinder its successful design, development and implementation have been recognized by the bodies charged with overseeing the E-Health initiative (AHIC 2008; NEHTA 2007b).

Without a clear national governance and regulatory scheme endorsed by the state and territory governments as well as the law society, there will always be concerns related to security and privacy issues that would prevent data being entered into the system, or users accessing the system and using the information.

A summary report provided by NEHTA (2007c) from attendees at a workshop to identify barriers to E-Health initiative identified the cost of developing new systems and redeveloping existing ICT interfaces, change management and resources as barriers. In addition, the report identified the need for a consistent use of terminology agreeing on a common code set for recording data and generating reports.

The roadmap spread over 3 to 10 years could also act as a barrier to a successful implementation as the medical needs of professional bodies, state and territory governments and the public may change over that period of time. In addition, the political will of governments to continue the project could be a barrier as it spans across a 3 to 4 year political lifecycle (NEHTA 2007c).

It would appear from the same summary report, issues that could cause the greatest barrier to the successful implementation of an E-Health initiative centre around governance principles of '*clarity of accountability, transparency, stakeholder representation, sustainability, support for activity at multiple levels, effective leadership and coordination, balance local innovation and national outcomes*' (NEHTA 2007c p. 18). As this is the domain of federal, state and territory governments, without a united and collaborative approach on an agreed governance policy, regulatory framework, the design, development and implementation of the IEHR system is at risk. Barriers would seriously impact on the eNomads ability to gain access to a safer, high quality, more equitable and sustainable health system where ever they travel around Australia.

Conclusion

The numbers of grey nomads and eNomads travelling around Australia seeking a lifestyle change are increasing. As their health declines, access to safe, high quality, more equitable and sustainable health system in health centers and facilities located away from their normal geographical region is essential if their travels are to be stress free. One way to meet these needs is through the implementation of the integrated E-Health initiative being developed by NEHTA. The aims and objectives for developing such a scheme when realized will provide access to medical records through the IEHR system which will enable prescriptions to be filled through an ePrescriptions system. Access to the distributed database IEHR model using the 16 digit individual healthcare identifier will improve health literacy so that more informed decisions can be made on individual's diagnosis and treatment options, and enable health professionals use the most up to date information stored in the IEHR database.

The key benefits derived through the E-Health initiative and cost reductions on health to governments, hospitals and patients will be realized when the barriers to its rollout have been overcome. While these are admirable objectives, cost reduction should not be the driving force for its implementation, rather the benefits that can be derived by a healthier society which includes access to digital medical records by the eNomad.

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