



Australian Government

Department of Health and Ageing

SECRETARY

Ms Sharon Bird
Chair
House of Representatives Standing Committee
on Infrastructure and Communications
Parliament House
CANBERRA ACT 2600

Dear Ms Bird

Thank you for your letter of 9 December 2010 to the Minister for Health and Ageing, the Hon Nicola Roxon MP, seeking a Department of Health and Ageing submission to the House of Representatives' Standing Committee on Infrastructure and Communications' Inquiry into the National Broadband Network (NBN).

eHealth and telehealth can enable a safer, higher quality, more equitable and sustainable health system for Australians by transforming the way information is used to plan, manage and deliver health care services. eHealth and telehealth can therefore have a significant positive impact on health outcomes, and are dependent on the availability of appropriate technology including internet access, with some applications either requiring, or being more effective, with high speed broadband.

As part of national health reform, eHealth and telehealth can support improved health outcomes for the full range of healthcare consumers, particularly those in greatest need – those with chronic and complex disease, older Australians, Aboriginal and Torres Strait Islander peoples, those with mental health issues and those living in rural and remote areas.

The attached submission outlines how the National Broadband Network will support improved health outcomes and the implementation of eHealth and telehealth as a driver of health reform across Australia.

Thank you for the opportunity to provide input to this Inquiry.

Yours sincerely

Jane Halton PSM
Secretary

17 March 2011



Australian Government

Department of Health and Ageing

**DEPARTMENT OF HEALTH AND
AGEING**

SUBMISSION TO

**HOUSE OF REPRESENTATIVES
STANDING COMMITTEE ON
INFRASTRUCTURE AND
COMMUNICATIONS**

**INQUIRY INTO THE NATIONAL
BROADBAND NETWORK**

Department of Health and Ageing submission to the House of Representatives Standing Committee on Infrastructure and Communications inquiry into the National Broadband Network

Overview

eHealth is a key enabler of health reform, and can support better patient self management, better collaborative care for patients with chronic disease, and a reduction of unnecessary hospitalisation, duplicate testing and adverse events.

Patients currently have limited access to and control over their own health information. Their health information is largely fragmented and held in paper based record systems across each health care provider they have seen. Each health care provider usually only has an incomplete record of a patient's medical history and care needs. This means a patient's critical health information may not be available when and where they are being treated, especially in emergencies or when seeing multiple doctors. In addition, most consultations are conducted in person even when they are of a type that could be safely and effectively conducted by video conference. Many rural and remote patients have to travel to see a specialist, which can result in high costs in time, travel and accommodation, and may sometimes deter patients seeking the care they require.

As well as being frustrating for patients and their health care providers, deficiencies in the availability of a patient's health information can have damaging effects on patients' health and the quality of care they receive. Many adverse drug events and poor transitions from one health care setting to another could be avoided with better access to patients' health information across care settings.

- Approximately two to three per cent of hospital admissions in Australia are related to medication errors. This represents an estimated 190,000 admissions each year, at an estimated annual cost of \$660 million.
- In 2008-09, eight per cent of the most serious medical errors reported in Victoria were caused by problems relating to patients' health information quality and availability.

The National Health and Hospitals Reform Commission (NHHRC) identified a national electronic health record system as a critical underpinning for a sustainable health and hospital system and one of the most important ways governments and health care providers can:

- improve the safety and quality of health care;
- reduce waste and inefficiency in the health system; and
- improve continuity of care and health outcomes for patients.

The National E-Health Strategy recommended that, to establish the national foundations for eHealth activity, there is a need to extend planned broadband connectivity infrastructure to all Australian health care providers as soon as possible. Improving access to healthcare services and advice from rural, remote and disadvantaged communities via electronic means, such as telehealth, will improve accessibility and support the Government's health reform priorities.

The ability to share information across healthcare sites is essential to reap the benefits of the digital economy. Significant steps are being taken in Australia to integrate eHealth into the Australian health care system through measures such as:

- the endorsement of the National e-Health Strategy by Australia's Health Ministers in October 2008;
- the establishment of the Healthcare Identifiers Service;
- funding for NEHTA to deliver the foundational standards and infrastructure for eHealth;
- the commitment of \$466.7 million over two years towards the development of the personally controlled electronic health record (PCEHR); and
- the commitment of over \$400 million for improved access to telehealth consultations.

As electronic health information and health care advice are increasingly delivered over the internet, broadband networks need to be available for all Australians, and need to offer the speed, security and reliability appropriate to support medical consultations and the rapid movement of health information. This connectivity can support a range of health and wellbeing targets including access to health services and health information as well as the enhanced capability to communicate during health emergencies.

While the NBN is not a prerequisite for progressing the delivery of the personally controlled electronic health record system or more widespread telehealth services, the NBN is expected to enhance delivery across the health sector, increase the number of people who can access health services and information, and is expected to significantly expand opportunities for future innovation.

eHealth and the personally controlled electronic health record

The introduction of a PCEHR system is seen as one of the most important systemic opportunities to improve the quality and safety of health care, reduce waste and inefficiency, and improve continuity and health outcomes for patients.

For Australians who choose to have a personally controlled electronic health record, the system will enable improved sharing of information and better integration of patients' care across multiple providers. With the personally controlled electronic health record system in place:

- consumers will be able to be more involved in managing their health care;
- discharge information from hospital stays, test results and prescribed medications will be available to inform clinical decisions; and
- health care providers will not need to order unnecessary tests or spend unnecessary time recreating records, chasing information from other providers, or requiring patients to repeat their health and medical history.

Information will be attached to patients, rather than the places where they receive health care, allowing a more comprehensive picture of a patient's health and medical history.

This will be particularly valuable in helping the growing number of people with chronic and complex conditions manage their conditions more effectively, as these patients are often seeing several care providers and taking several types of medication.

Parents who register their children for a personally controlled electronic health record, will not have to remember what vaccinations each child had, be concerned that allergies will be forgotten when emergencies occur away from home, or need to recall the last GP visit and what was diagnosed or prescribed.

Over time, the personally controlled electronic health record system will also add to the benefits offered by telehealth and other online consultation services, helping to improve health care for Australians living in rural and remote areas.

Healthcare Identifier Service is an essential infrastructure to enable the PCEHR to operate. A healthcare identifier (HI) is a unique number that has been assigned to healthcare consumers, to healthcare providers and to organisations that provide health services. The HI Service is operated by Medicare Australia.

A key aim of healthcare identifiers is to ensure that individuals and providers can have confidence that the right health information is associated with the right individual at the point of care. In most cases, identifiers will be obtained by healthcare provider systems using an internet based, system to system interaction. To the extent that the NBN will expand access to high-speed reliable internet connections, it will support interactions with the HI Service.

The PCEHR system will use healthcare identifiers to accurately associate an individual's health information, if that individual has chosen to have a PCEHR.

Implementation of the PCEHR system is expected to focus initially on people who have the most contact with the health and hospital system. These include people with chronic and complex conditions, older Australians, Aboriginal and Torres Strait Islander peoples, and mothers and their new-born children. It will help patients experience smoother transitions between health care providers, reducing waste and inefficiency, and enable better and safer care that is more responsive to patients' needs.

Telehealth

A further key initiative that will significantly benefit from the implementation of the NBN is the Government's August 2010 "Connecting Health Services with the Future" commitment to providing, from 1 July 2011, Medicare rebates for online consultations across a range of medical specialties, expanding the GP After Hours helpline to include video conferencing capability and providing General Practitioners (GPs) and specialists with financial assistance to deliver online services.

While eHealth relates to the ability to have the right information available about the right patient at the right time, telehealth relates to the direct delivery of healthcare services using information and communications technology, such as videoconferencing and telemonitoring technology.

Like eHealth, telehealth has the potential to improve health outcomes in the long term. In the future the NBN is expected to deliver significant benefits for the improved delivery of telehealth services in Australia in several key areas:

- rural health care;
- aged care;
- delivery of online consultations;
- improvements in Aboriginal and Torres Strait Islander health; and
- chronic disease management, including cancer services.

In conjunction with eHealth records, the NBN will enable major expansion of telehealth services by assisting with:

Greater access to healthcare services for those who would most benefit, eg. rural & remote locations, aged-care, mental health.

Preventative healthcare through early diagnosis and prevention, eg. remote-monitoring.

Enhanced quality of healthcare services, eg. better management of chronic medical conditions such as diabetes, cancer particularly through better coordinated multi-disciplinary care including case conferencing.

Improved quality of life of patients – earlier identification of onset of health problems, more time at home or work and less time travelling to appointments.

Clinician consultation among healthcare practitioners, eg. GP-to-specialists, specialists-to-specialists.

Distance education / training of the health workforce.

Access to shared electronic health records, care plans and e-pharmacy to facilitate comprehensive and preventive health care and the continuity of care between primary, secondary and tertiary health care providers and to reduce the risk of adverse events.

Access to electronic registers (for example, immunisation) to improve population health outcomes, especially in the areas of child health and chronic disease.

The use of high resolution cameras to provide acute care support from specialists and or hospital emergency departments.

Access to up-to-date guidelines and protocols for health care.

The NBN has the potential to assist with the delivery of health care to rural and remote areas by providing infrastructure to support reliable video conferencing and the associated high speed transmission of data and images. Access to the NBN will give medical practitioners and patients a high level of confidence in online consultations, with regard to real time image quality, and the speed and reliability of data transmission. Patients and health practitioners in isolated locations can use telehealth to link to specialists in cities or major regional centres for consultations that clinicians have deemed suitable for this model of care.

The availability of online access for some types of specialist consultations will reduce the necessity for patients to make time-consuming and expensive journeys to see specialists face-to-face, which can compromise or prevent timely specialist intervention. Conversely, online consultations may also reduce the need for specialists to travel to rural and regional areas to provide out-reach services.

After Hours GP Telephone Advice Service

As part of the Australian Government Health Reform agenda, access to after hours primary care will be improved through an after hours GP telephone advice service. The service will add to the nurse triage, information and advice services currently being provided by the National Health Call Centre Network, trading as *healthdirect Australia*. From 1 July 2011, callers to the service will have their call triaged by a *healthdirect Australia* nurse, who will forward calls to a telephone-based GP where necessary.

These calls will be free of charge to landline callers. It is expected that in many cases the nurse and telephone-based GP will manage the patient's condition and reduce the caller's need to see a GP face-to-face after hours. Where the telephone-based GP's assessment is that a patient should see a local GP or other primary health care provider as soon as possible, they

will be directed to the most appropriate after hours service in their community.

Videoconferencing capability will be added to the service from 1 July 2012 and will enable nurses and doctors staffing the service to more quickly and effectively assess a caller's medical condition. It will also improve access to after hours primary care, particularly in rural, regional and remote areas, where access to face-to-face after hours services is often only possible after travelling long distances.

This capability will be available to anyone in Australia who has access to a computer with a webcam and broadband technology. It is expected to fully utilise and demonstrate the benefits of broadband technology in delivering information and services to Australians, particularly for those living in rural, regional and remote areas.

Aged Care

There is a growing body of evidence to support the use of telehealth in aged care and an increased interest from the industry in utilising this technology. International and national studies have identified the following benefits:

- reductions in further hospital episodes;
- reductions in residential care admissions;
- increases in medication compliance;
- increased quality of life for clients;
- reductions in need for provision of other community services; and
- reductions in health system costs.

The NBN has the potential to expand the use of telehealth and tele-monitoring in aged care, including in residential aged care, community aged care, multi-purpose services and indigenous settings. Rural and remote aged care services are particularly well placed to benefit as aged care residents tend to have higher needs for services while also facing greater access problems than other populations.

Chronic Disease Care

Speedier sharing of health records between each of the healthcare providers who are treating a particular patient will facilitate better coordinated and integrated care and allow smoother transitions for chronic diseases patients as well as helping patients to make informed choices, adapt new health behaviours and take an active role in managing their chronic conditions.

For example, the NBN could be used to expand cancer telehealth care between regional, rural and remote health facilities including Regional Cancer Centres and tertiary teaching hospitals to enhance multidisciplinary care outcomes. Telehealth to support cancer treatment requires high speed, high resolution transfer of data (such as x-rays or computed tomography) to enable regional cancer care health professionals 'real time' access to expert specialist advice in metropolitan cancer centres. This has the potential to improve the time taken to determine a diagnosis and plan an appropriate course of action in advance of the patient travelling to a Radiation Oncology centre for treatment.

Aboriginal and Torres Strait Islander health

The NBN's investment in broadband infrastructure nationwide has enormous potential to improve the quality and timeliness of Renal Replacement Therapies (RRT) throughout remote and very remote Aboriginal and Torres Strait Islander communities. Greater access to

reliable broadband coverage would enable state and territory governments, service providers, and non-government organisations to utilise burgeoning technological advancements in RRT, such as real time patient monitoring and teledialysis. Reliable broadband could also underpin greatly increased accuracy and transfer of patient data, as well as enhanced ability of the RRT workforce to better communicate across large patient catchment areas.

Additional health benefits accrue at a population level when health service providers analyse the data that they hold to identify health and demographic trends in their client populations and use that information to tailor and improve service delivery.

In 2009, the Australian Government made a commitment to the Aboriginal and Torres Strait Islander primary health services it funds to the development and use of a new web-based reporting system. In addition to providing a secure mechanism for submitting data for reporting to governments, the new system will also support better service provision by assisting providers in their quality improvement processes. It will do this by enabling organisations to initiate cycles of data analysis and verification at frequent intervals between dispatches of data to meet reporting obligations.

High speed broadband is critical to the national roll-out of the new web-based reporting system. The Office for Aboriginal and Torres Strait Islander Health is identifying the minimum IT requirements of its funded services in order for them to access the NBN. Should the NBN not go to every remote location where primary health care services are delivered, there would need to be consideration of how the NBN would work with related and alternative telecommunications technology as well as the implications for the communities of not having the NBN.

Access to the NBN would enable Indigenous communities to participate more broadly in both economic and social situations. Access to telecommunications facilities equivalent to mainstream urban areas would support the achievement of social inclusion and social and emotional wellbeing policy outcomes of the Government.

Mental health

The 2006 COAG Measure *Telephone Counselling, Self Help and Web Based Support Programmes* supports the provision of evidence-based telephone and online mental health programs to supplement or substitute for existing face-to-face services for individuals with common mental health disorders or those in psychosocial crisis.

The projects funded under this measure utilise telephone and internet communications infrastructure to provide counselling and web based treatments for people with mental disorders such as anxiety and depression.

The capability to deliver online mental health services and support via the NBN will increase the reach of these services and also increase the speed of interaction between the consumer and the online service. Low bandwidth internet connections can be a deterrent to seeking treatment, particularly when consumers are already suffering a degree of stress or anxiety. A slow response by web based systems can be create significant barriers to seeking help online, which is designed to provide consumers with choice and an anonymous avenue for seeking help.

Remote training and workforce

Better training of health professionals, and consequent improvements in patient health outcomes, may also be possible with improved access to high speed broadband across Australia.

The Australian College of Rural and Remote Medicine (ACRRM) provides training programs to medical professionals with a particular focus on clinical skills, knowledge and values that are required by practitioners working in rural and remote contexts. ACRRM also plays an important role supporting medical students and junior doctors considering rural practice.

ACRRM currently delivers two Commonwealth supported telemedicine healthcare programs (Tele-Derm and Radiology Online) through the Rural and Remote Medical Education On-line (RRMEO) web based platform. RRMEO delivers virtual telemedicine services and support to General Practitioners (GPs) and people in locations where no face-to face option is available to them locally.

The NBN has a strong role to play in workforce planning and addressing skills shortages. High-speed broadband opens up the opportunity to employ staff from any location, including regional Australia, and for staff to work in offices or from home without technological disadvantage. The NBN can remove many geographic obstacles, opening up opportunities to source skills nationally, including from regional areas.

The NBN is expected to provide improved access to mobile devices and use of remote access to business environments that can:

- facilitate access to business systems using mobile devices through the provision of underlying infrastructure to facilitate access to business systems by mobile devices such as smart phones and tablet computing devices (such as the iPad); and
- facilitate access to business environments from remote locations by providing underlying infrastructure to facilitate remote access to business environments by staff including home based work and 'tele-commuting'.

Each of these basic facilities will support the development of flexible employment opportunities.

Features of the NBN that could enhance the delivery of health services include:

- the equity of access to broadband technology for all Australians to allow participation in eHealth activities including telehealth and the PCEHR system;
- a preference for rural and remote locations to be given priority consideration in the NBN rollout. Particularly to those least served by existing broadband infrastructure;
- and
- that the NBN be fit for health purposes in terms of speed, security and reliability.

Conclusion

eHealth and telehealth, supported by access to fast, reliable broadband, are key enablers of health reform, and essential in addressing the increasing burden of an ageing population and rising levels of chronic disease in the Australian health system. New models of care that embrace collaborative team approaches, prevention of the onset or escalation of disease and better self management by consumers of their own health, can be encouraged and supported by technology that improves real-time access to information and medical expertise and advice.

Current service delivery and health information programs of work will be improved by the availability of the NBN, and as technology is increasingly embedded as ‘the way we do business’, new opportunities will emerge within the health sector to deliver better services blending new models of care and modes of delivery.

Australia cannot physically reduce the geographic challenges that face the delivery of health services over a vast continent with widely dispersed and often quite mobile - populations. However, the combination of ubiquitous high speed broadband, and innovative approaches to delivering healthcare, can minimise the impact that distance and remoteness have on the availability of high quality healthcare for all Australians.