QoN No. 1 (By Senator Nash, Hansard Page: NBN28)

Background:

> **Senator NASH**—Are there instances in other countries around the world where you could perhaps direct the committee to look at some of the existing evidence of rural and regional communities, in terms of health, having an improvement in their network services, broadband and the resultant improvements? You do not need to answer that now. You might take that on notice and come back to the committee with some examples that we could have a look at where that improvement has already been done and can be measured. That would be useful.
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> **Dr Haikerwal**—Yes. Off the top of my head, Canada is doing some work, but we can get some more information for you. The Baltic region in Scandinavia has projects around regional and rural remote, and data that if you do not have the health services people leave; that by putting in health services and enhancing those with an e-environment they have actually got some guide—
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> **Senator NASH**—That would be very useful. Thank you.

Response:

Within Canada, there are a number of instances of how high speed broadband network services are used to improve the delivery of health care services. Examples include:

- The Ontario Health Network uses video consultations to allow specialists to consult with clients in rural and remote settings. The chief benefit is it reduces the amount of long distances that need to be travelled by patients for routine consultations. This means that for transplant recipients in remote settings, for instance, specialists can have twice weekly meetings[1].
- Nunavik in Quebec also runs a similar scheme to allow some 4,000 residents who live in rural areas to access specialist healthcare services. This results in a reduction of 1,200 patient transfers to Montreal per year[2].
- Northbay, a small city in Ontario, runs a remote laparoscopic surgery clinic that enables surgeons in Hamilton (400 km away) to perform laparoscopic surgery[3]. Surgeons who use this facility rely on a shared fibre optic link.

[1] http://www.infoway-inforoute.ca/lang-en/about-ehr/ehr-success-stories/ehealth-brings-quality-care-to-remote-patients

[2] http://www.infoway-inforoute.ca/lang-en/about-ehr/ehr-success-stories/324-telemedicine-speeds-access-to-care-in-nunavik

[3] http://en.wikipedia.org/wiki/Remote_surgery

Within Scandinavia, the Batlic Health Network connects 200 hospitals and many other health care institutions from Denmark, Norway and Sweden[4]. Among the many features of this network, it includes "R-Bay" an online market place where radiologists can bid for business to analyse images. Support for rural remote communities at this stage is in the early stages of development.

In the UK, there are 61 projects currently in progress testing the viability of telemedicine in the home. These programs range from monitoring vital signs through to broadband implementation of consultation services utilising the digital TV networks. NSW company Telemedcare and Professor Celler is involved in Norfolk and Ireland based projects. Professor Celler notes that based on the Norfolk implementation, hospitalisation and length of stay can be reduced by up to 70 per cent and nurse visits by more than 85 per cent.

QoN No. 2 (By Senator Lundy, Hansard Page: NBN29)

Background:

Senator LUNDY—Are you working on another stream of innovation that is about the high-bandwidth interconnectivity between health centres and hospitals? I am happy for you to take that on notice to give the committee a bit of feedback.

Mr Fleming—We will take it on notice. The answer is that we have been working on the basis of the current infrastructure with the expectation that these other things are moving along. Where we would expect the high-bandwidth applications to come in would be once the electronic health record is in place and particularly when we have various parties looking to access, for instance, MRI-type data. Diagnostic images can be quite bandwidth intensive. It is as when electronic health record gets built and we get greater community care involved that we would expect that to occur.

Response:

Implementation of high bandwidth interconnectivity between health centres and hospitals is not currently in the remit of the NEHTA work program.

The program known as PACS (Picture Archiving and Communications System)[5] was the stand out success in the UK's Connecting for Health e-Health program with every hospital being connected to it with widespread and whole of sector approval and excitement. It is being implemented across Australia and its potential here is to be fully realised.

Governments have been investing in a series of health innovation related projects. The major investments have been made through the clever networks fund managed by the Department of Broadband, Communications and the Digital Economy.

[4] http://www.baltic-ehealth.org/Baltic_Health_Network.htm
[5] http://www.connectingforhealth.nhs.uk/systemsandservices/pacs

The following health projects have received Clever Networks funding:

- CDM-Net: A Broadband Health Network for Transforming Chronic Disease Management
- Clever Health: A program of Risk Reduction in the Grampians Region
- Hunter New England—Clinical Outreach Program
- ConnectCare
- Cooeenet@qld
- Enhancement of Telehealth in Western Australia
- Greater Southern Area Health Service Clinical Outreach Program
- Greater Western Area Health Service Clinical Outreach Program
- Loddon Mallee Virtual Trauma and Critical Care Unit
- North Coast Area Health Services Clinical Outreach Program
- Scope Connect
- Livewire (previously called Starlight Digital)
- Virtual Care@TAS Program

Individual jurisdictions have been implementing virtual private networks to link a small number of hospitals and community health centres. For example, Victoria has been implementing HealthSMART. One aspect of HealthSMART is the implementation of TrakHealth into community health centres. This has required a broadband link into these centres. This network also supports the Hospitals operating on HealthSMART. Funding for these connections is managed through the Health alliance networks.

Similar networks are being implemented in the ACT, Queensland and NSW. For example, NSW Health has funded and is progressing several strategic initiatives to support healthcare delivery. These include the Electronic Medical Record (eMR), medical imaging (PACS/RIS), corporate services, business information systems and community health programs. All of these initiatives include components that involve the establishment of enhanced broadband connectivity to ensure that clinicians and other health sector workers across the state have the access that they need. NSW Health has also initiated several “Clever Networks” projects that included the establishment of broadband connectivity to support healthcare programs in rural and regional NSW. These projects were co-funded by the Australian Government. The Department is now preparing submissions for NSW health services funding from the commonwealth Digital Regions Initiative. These submissions will cover a wide range of health related projects requiring infrastructure and will seek to leverage benefits from the National Broadband Network. Possible projects being considered for the submissions include high definition videoconferencing for emergency departments, and linkages between the state health system and primary care providers such as GPs.

All major hospitals in rural Area Health Services are connected to broadband. However, connection speeds particularly to the smaller hospitals tend to be insufficient to meet business requirements. Many remote facilities such as community health centres are either not connected at all or do not have enough capacity. Acquisition of broadband by rural Area Health Services is hampered by high prices. These are significantly higher than in metropolitan areas. Available connection speeds are generally lower than those offered in Sydney and major

regional centres. NSW Health considers that the National Broadband Network (NBN) will offer opportunities to address these connectivity gaps by facilitating:

- Fibre to all hospitals where fibre links do not yet exist or have insufficient capacity;
- Fibre to Community Health Centres;
- Wireless mobility for Community Health clinicians;
- Fibre to all Ambulance Stations; and
- Enhanced videoconferencing for clinical and other healthcare applications.