20 March 2017

Ms Ann Palmer
Committee Secretary
Joint Standing Committee on the National Broadband Network
PO Box 6100
Parliament House
Canberra ACT 2600
nbn.joint@aph.gov.au

**AUSTRALIAN MEDICAL
ASSOCIATION**
ABN 37 008 426 793

T | 61 2 6270 5400
F | 61 2 6270 5499
E | info@ama.com.au
W | www.ama.com.au

42 Macquarie St Barton ACT 2600
PO Box 6090 Kingston ACT 2604

Dear Ms Palmer

Re: National Broadband Network (NBN)

Thank you for inviting the AMA to respond to the Joint Standing Committee's inquiry into the rollout of the National Broadband Network (NBN).

This submission focuses on the need for access to fast, reliable and affordable NBN services in regional rural and remote areas of Australia, particularly to enable the delivery of quality health services now and into the future.

The AMA believes that the Government, in delivering the NBN, should adhere to the principle of ensuring equitable access to all Australians, regardless of where they reside or work or the type of technology used to deliver the services. Access to high-speed broadband should be available to the same standard and at the same relative cost to all communities, businesses and services across the whole of Australia.

In April 2016 the AMA conducted a Rural Health Issues Survey, which sought input from rural doctors across Australia to identify and prioritise key solutions for improving regional, rural and remote health care. The survey identified access to high-speed broadband for medical practices as the most important priority for GPs, and the second most important priority among all rural doctors.

In January this year, the AMA released its Position Statement *Better Access to High Speed Broadband for Rural and Remote Health Care* (attached), to outline the importance of this issue and highlight key solutions for improving broadband access for medical practices and hospitals in country areas.

Regional areas make a significant contribution to Australia's economy and productivity. The NBN is a necessary and worthy investment that will enhance economic and social benefits in regional, rural and remote areas and lead to future savings for the Government, especially in terms of healthcare. However, these benefits and savings can only be realised if the full potential of ICT advances is enabled through fast, reliable and affordable broadband services.

Country Australians must have access to NBN services that enable them to conduct the same level of business via the internet as their city counterparts. These NBN services must also have the capacity to meet their future internet needs. This is particularly important for providers of vital health services. Data allowances and speeds must be sufficient to enable two-way applications for eHealth and tele-health (including the transfer of high resolution medical images), medical education, videoconferencing, VoIP and other applications.

However, it is widely acknowledged that there are significant cost, data allowance, and speed differences between fixed and satellite broadband services, putting some regional and remote areas at a significant disadvantage. While NBNCo (nbn) has advised the AMA that it is looking at how some of these issues can be addressed for critical services like health care, changes are yet to be detailed at this time.

The limitations in the roll out of satellite technology by nbn, particularly the smaller data allowances and higher costs relative to other technologies, are considerable impediments to the take-up of the NBN in regional, rural and remote areas. This 'data drought' needs to be addressed as a matter of priority.

The AMA has been advised by nbn that it is working to identify medical facilities and general practices within the satellite footprint in rural and remote areas that would qualify as Public Interest Premises (PIPs) and therefore be granted access to higher data allowances. This is a small step in the right direction, but the AMA remains concerned that, even as PIPs, these medical facilities will still not have sufficient data allowance to be able to fully utilise the ehealth and telehealth opportunities that are taken for granted in metropolitan areas.

The AMA believes there should be much greater focus by the Government on finding ways to extend the boundaries of the NBN's fibre and fixed wireless footprints into the satellite footprint wherever possible to lessen the reliance on satellite for those living in rural and remote Australia and to address the increase in internet usage over time.

The AMA Position Statement also calls on the Government to:

1. Fully consider the recommendations of the 2015 Regional Telecommunications Review, and, in particular, adopt Recommendations 8, 9, and 12, to:
   a. Develop a new Consumer Communication Standard for voice and data which would provide technology neutral standards in terms of availability, accessibility, affordability, performance and reliability.
   b. Establish a new funding mechanism, the Consumer Communication Fund to replace the existing telecommunications industry levy and underwrite over the longer term, necessary loss-making infrastructure and services in regional Australia.
   c. Collect benchmark data on availability and affordability of broadband data and voice services (including mobile services), to be reported annually, in order to improve the understanding of the changing circumstances of regional telecommunications.

2

2. Develop measures to prioritise or optimise the broadband capacity available by satellite for hospitals and medical practices, such as exempting or allocating higher data allowance quotas, or providing a separate data allowance.

3. Create universal unmetered online access to government, hospital and health services for people and businesses in rural and remote areas.

4. Establish an innovation budget for the development of local infrastructure solutions for rural and remote areas.

5. Engage with state and local government and related stakeholders who wish to co-invest or coordinate planning to achieve the optimum overall infrastructure outcome for their area. This could involve public-private partnerships or the leveraging of philanthropic infrastructure funding through, for example, tax concessions.

Specifically in relation to 1(a) above, the AMA recently made a submission to the Productivity Commission on the Telecommunications Universal Service Obligation (TUSO), calling for new safeguards to ensure Australians living in rural and remote areas have equitable access to telecommunications services.

The AMA submission highlights that the current TUSO, which focuses on standard telephone services, is obsolete and needs to recognise the significant developments in telecommunications since the TUSO was first developed.

In recommending the adoption of a new universal service obligation, the AMA proposes that it should apply not only to standard telephone services but also to high speed broadband services, particularly for regional, rural and remote medical centres and hospitals.

With the widely acknowledged potential of the internet to support better health care, the submission argues that the baseline standard for these services must be sufficient to allow affordable and reliable broadband access for eHealth and telehealth, medical education, videoconferencing, VoIP and other applications, regardless of the location of the user or the type of infrastructure available.

The AMA trusts that the above views will be considered in the Joint Standing Committee's inquiry to ensure that doctors, health centres and hospitals in regional, rural and remote Australia have sufficient and affordable broadband connectivity to enable them to make the best use of, and keep pace with, technological advancements in health service delivery, for the benefit of all Australians.

Yours sincerely

Dr Michael Gannon
President

Better access to high speed broadband for rural and remote health care - 2016

1.   Introduction

Approximately 30 per cent of Australia's population lives outside the major metropolitan areas[i]. Regional, rural and remote Australians often struggle to access health services that urban Australians would see as a basic right. These inequalities mean that they have lower life expectancy, worse outcomes on leading indicators of health, and poorer access to care compared to people in major cities.

In 2016 the AMA conducted a Rural Health Issues Survey, which sought input from rural doctors across Australia to identify key solutions to improving regional, rural and remote health care. The survey identified access to high-speed broadband for medical practices as a key priority.

This result reflects not only the increasing reliance by medical practices on the internet for their day to day operations, but also the increasing opportunities for the provision of healthcare services to rural and remote communities via eHealth and telemedicine. For the full potential of these opportunities to be realised, good quality, affordable, and reliable high-speed internet access is essential.

The AMA recognises that technology-based patient consultations and other telehealth initiatives can improve access to care and can enhance efficiency in medical practice, but the need for better access to high speed broadband goes beyond supporting rural and remote health. In today's world, it is a critical factor to support communities in their daily activities, education, and business, and has the potential to drive innovation and boost the rural economy.

This position statement outlines the importance of better access to high speed broadband for medical practices, other healthcare providers and institutions, and patients, to improve regional, rural and remote health care in Australia, and highlights key solutions for achieving this.

2.   Internet access in regional rural and remote Australia

Despite its tremendous growth, internet access is not distributed equally within Australia, and internet use by country people has yet to reach the level of use in capital cities, for a wide range of reasons.

In many country areas the internet connection is still very poor.[ii] In 2015, 80 percent of non-urban Australians had an internet connection at home compared with 89 percent of those in capital cities[iii]. Internet use via mobile phone was much lower in non-urban areas, at 37 percent, compared to 60 percent for capital cities[iv]. This reflects the patchy, unreliable or absent mobile coverage in many rural and remote areas. While mobile broadband use was highest in non-urban areas, at 29 percent, compared to 25 percent in capital cities, mobile broadband is currently not a good solution for business or eHealth, due to the relatively small amounts of data on the relatively costly plans

available.

Internet services, particularly in more isolated areas, only make available relatively small download allowances and these come at a much higher cost and slower speed than those services available in metropolitan areas.

3.   Supporting regional rural and remote health

3.1   The need for better access for health services

The health sector needs telecommunications connectivity for health service delivery and management, doing business with Government and complying with Government requirements, continuing professional development, online education, mentoring, and clinical decision and other support.

Health was identified in the Regional Telecommunications Review report[v] as one of the particular segments of the community requiring special consideration. To effectively leverage telecommunications technology to deliver better health outcomes at lower cost in regional, rural and remote areas and to implement new models of health care, both mobile and broadband technology must be reliable, affordable, and supply adequate capacity.

However, the utilisation of telehealth and telemedicine in rural and remote Australia remains patchy and is not used to full potential, because of no, or inadequate internet access. As noted in the Regional Telecommunications Review report[vi], the ability of hospitals and clinics to support remotely located clinicians and patients via video conferencing and remote monitoring could be severely limited in areas serviced by satellite, which may not be able to consistently and reliably deliver the necessary capacity and technical capability.

The AMA Rural Health Issues Survey received many comments from rural doctors on the problems encountered with poor internet access. For example:

> *High-speed broadband [is the] single most critical issue to run practices now, many areas not getting the best from NBN.*
>
> *Internet services by satellite are slow and time consuming. Reliable internet services at reasonable speed and reliability is critical.*
>
> *Internet services are a critical area [of concern]. The NBN has been deficient in providing a comprehensive coverage even in areas that are under 25km from a major regional centre i.e. Orange and Dubbo.*

As mainstream healthcare provision becomes increasingly technology based and requires more and faster broadband services to operate, there is a real risk that regional, rural and remote areas of Australia will be left further and further behind in their ability to provide quality health services.

3.2.   The benefits of high speed broadband for rural and remote health care

High-speed affordable broadband connectivity to the Internet has become essential to modern society, and offers widely recognised economic and social benefits, with numerous studies showing a strong link between broadband growth and rapid economic development[vii]. Affordable and reliable

broadband access can support the development of new content, applications and services that allow people to work in new ways, changing business processes in ways that stimulate productivity and potentially increase labour-force participation[viii].

3.2.1 Economic benefits

It has been estimated that in New Zealand, the benefits from broadband-enabled health care could reach around $6 billion over a 20-year period[ix]. These benefits come from reduced hospital, travel and drug costs and improvements in care. A case study by Deloitte Access Economics shows savings to a single older Australian of $7,400 per year, with savings to the Government, through reduced health and service provision costs, of over $14,500[x].

3.2.2 Driving greater efficiency and reducing costs

Telehealth practice will be one of the most important online services in the broadband future, enabling significant changes to work practices to drive greater efficiency and reduce costs[xi].

If sufficiently supported, telehealth services, such as video-conferencing, could become more effective in complementing local health services. They could be used to expand specialty care to patients in areas with shortages of health care providers as well as extend primary care to remote areas, reducing the need to travel, and increasing the frequency of patient and primary care provider interactions. By providing timely access to services and specialists, telehealth could improve the ability to identify developing conditions, and thereby reduce the need for more costly treatments and hospitalisations in the future. Telehealth could also help to educate, train and support remote healthcare workers on location and support people with chronic conditions to manage their health.[xii]

A CSIRO report on home monitoring of chronic disease[xiii], for example, shows that a modest investment in home monitoring technology, allied to risk stratification tools and remote monitoring, could save the healthcare system up to $3 billion a year in avoidable admissions to hospital, reduced length of stay and fewer demands on primary care.

3.2.3 Supporting eHealth solutions now and into the future

eHealth encompasses patient access to doctors via online consultation, remote patient monitoring, online tools and resources for patients and doctors, clinical communications between healthcare providers, and professional's access to information databases and electronic health record systems. If sufficiently supported with affordable, high-speed broadband services, eHealth has potential to improve health outcomes at all levels, from preventative health, specialist and acute care and self-management of chronic conditions, through to home monitoring for people living with disabilities[xiv].

Advances in information technology will act as a catalyst for the development of a range of potential eHealth solutions to some of the challenges faced by rural and remote communities. If available and accessible, improved connectivity will facilitate new and emerging best practice models of health care, such as those which incorporate high definition video conferences, data exchange and high resolution image transfer[xv].

Technological advancements in health care that could become the way of the future, if affordable and sufficient access to broadband services becomes available, include better point of care diagnostics, resulting in faster, cohesive patient care; biosensors and trackers to allow real time monitoring; 3D printed medical technology products; virtual reality environments that could

accelerate behavioural change in patients; and social media platforms to improve patient experience and track population trends[xvi].

3.2.4 Supporting education and training

The internet also plays a big part in the lives of doctors and their families, assisting with education and social cohesion. It enables rural doctors to learn from the most current resources, explore treatment options, watch demonstrations of procedures and attend live discussions with experts.

Access to high speed broadband has the potential to change the way medical education, training and supervision is delivered in rural and remote areas[xvii]. As pressure on access to prevocational and vocational training places increases, harnessing this technology to support training is a viable strategy to create additional training places in rural and remote locations and ultimately improve access to specialist services for rural and remote patients.

The use of telehealth and telesupervision as an adjunct to face-to-face teaching will allow doctors in training to remain in rural and remote settings to complete their training, and enhance the likelihood that they will choose to work long term in a rural areas. Improved information and communications technology will enhance the learning experiences for trainees at rural sites and during rural rotations, provide exposure to innovative models of care, and improve supervisor capacity by allowing supervisors to transfer knowledge, supervise and mentor trainees remotely.

Improved telehealth and communication technology infrastructure to support teaching and training at rural sites will also enhance professional collaboration between rural and remote medical generalist practitioners and other specialists in the provision of shared care, skills transfer and education.

The requirement for doctors to maintain their skills is a fundamental component of medical registration. It is important that processes mandated by the Medical Board of Australia, including in revalidation proposals, do not discriminate against medical practitioners working in rural and remote Australia. Access to high speed broadband is an essential support for rural and remote practitioners who must comply with these requirements.

4.   What can be done to improve broadband access for country Australians?

The AMA is of the view that high-speed broadband should be available to the same standard and at the same cost to all communities, businesses and services across the whole of Australia. The platforms used must be able to accommodate future developments in information and communications technologies and provide connectivity through suitable combinations of fibre, mobile phone, wireless, and satellite technologies. For rural practices, in order to be incorporated routinely in everyday practice (clinical, educational and administrative), network connectivity must be sufficient, reliable, ubiquitous and dependable.

The Government must ensure that broadband services are affordable in regional, rural and remote Australia. Lack of affordability is regarded as one of the most important barriers to good internet access for country people whose incomes, on average, are 15 per cent lower than those of city people[xviii].

Government policies play a tremendous role in bringing internet access to underserved groups and regions. Unless issues around equitable and affordable access to telecommunications in regional,

rural and remote Australia are addressed, the potential benefits of the digital economy for non-urban Australians will go unrealised.

The AMA urges the Government to consider the following actions:

- Fully consider the recommendations of the 2015 Regional Telecommunications Review, and, in particular, adopt Recommendations 8, 9, and 12, to:
  - o Develop a new Consumer Communication Standard for voice and data which would provide technology neutral standards in terms of availability, accessibility, affordability, performance and reliability.
  - o Establish a new funding mechanism, the Consumer Communication Fund to replace the existing telecommunications industry levy and underwrite over the longer term, necessary loss-making infrastructure and services in regional Australia.
  - o Collect benchmark data on availability and affordability of broadband data and voice services (including mobile services), to be reported annually, in order to improve the understanding of the changing circumstances of regional telecommunications.
- Extend the boundaries of the NBN's fibre cable and fixed wireless footprints and mobile coverage wherever possible.
- Begin an incremental process of terrestrial network expansion over the longer term to address increase in usage over time.
- Develop measures to prioritise or optimise the broadband capacity available by satellite for hospitals and medical practices, such as exempting or allocating higher data allowance quotas, or providing a separate data allowance (as is the case with distance education[xix]).
- Create universal unmetered online access to government, hospital and health services for people and businesses in rural and remote areas.[xx]
- Establish an innovation budget for development of local infrastructure solutions for rural and remote areas.[xxi]
- Engage with state and local government and related stakeholders who wish to co-invest or coordinate planning to achieve the optimum overall infrastructure outcome for their area. This could involve public-private partnerships or the leveraging of philanthropic infrastructure funding through, for example, tax concessions.

References

[i] Australian Institute of Health and Welfare (AIHW) (2015), *Australia's Welfare 2015*

[ii] Curtin J (2012), *A digital divide in regional and rural Australia*.

[iii] Australian Communications and Media Authority (2016), *Regional Australians Online*

[iv] Ibid

[v] Australian Government Regional Telecommunications Review (2015)

[vi] Ibid.

[vii] Alcatel-Lucent (2012), *Building the Benefits of Broadband. How New Zealand can increase the social & economic impacts of high-speed broadband*

[viii] Centre for Energy-efficient Telecommunications (CEET)(2015), *Economic Benefit of the National Broadband Network*

[ix] Alcatel-Lucent (2012), op.cit.

[x] Deloitte Access Economics (2013), *Benefits of High-Speed Broadband for Australian Households*. Commissioned by the Australian Department of Broadband, Communications and the Digital Economy

[xi] CEET (2015), op.cit.

[xii] National Rural Health Alliance (2013), eHealth and telehealth in rural and remote Australia. Accessed October 2016

[xiii] Prof. Branko Celler et al (2016), *Home Monitoring of Chronic Disease for Aged Care*, CSIRO Australian e-Health Research Centre.

[xiv] National Rural Health Alliance (2013) op. cit.

[xv] National Rural Health Alliance (2016), website accessed October 2016

[xvi] Deloitte (2016), *Design, service and infrastructure plan for Victoria's rural and regional health system* discussion paper, commissioned by the Victorian Department of Health and Human Services.

[xvii] Wearne S M (2013), *Using telehealth infrastructure for remote supervision could create medical training places where they are needed*. Medical Journal of Australia, 198 (11): 633-634. 17 June 2013.

[xviii] AIHW (2016), *Are things different outside the major cities?* Accessed October 2016.

[xix] Australian Government (2016), *Australian Government Response to the Regional Telecommunications Independent Review Committee Report: Regional Telecommunications Review 2015*.

[xx] Broadband for the Bush Alliance (2016), Broadband for the Bush Forum V: Digital Journeys Communiqué

[xxi] Broadband for the Bush Alliance (2014), Broadband for the Bush Forum III: Building a Better Digital Future Communiqué