



NATIONAL RURAL  
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28 April 2011

Mr Andrew McGowan  
Secretary  
House of Representatives Standing Committee on  
Infrastructure and Communications  
PO Box 6021  
Parliament House  
CANBERRA ACT 2600

By email: [ic.reps@aph.gov.au](mailto:ic.reps@aph.gov.au)

Dear Mr McGowan

**Additional information for the Inquiry into the role and potential of  
the National Broadband Network**

The National Rural Health Alliance appeared at the public hearing on 4 March 2011 for the Inquiry into the role and potential of the National Broadband Network. We undertook to provide additional information that would help to give a clearer picture of the sort of connections that are in current use in health settings in rural and regional Australia, and the sort of connections that might be required to make it practical for rural health professionals to use current technology in more of their daily work.

Dr Jenny May's inquiries indicate that most of the Hunter New England Health (HNEH) network (which includes the Tamworth hospital she referred to in her evidence) is connected by fibre, on speeds of 10 MB/s to 1 GB/s. There are still some existing copper and ADSL connections in the network running from 4 MB/s to 10 MB/s.

However, the main interest in the NBN in such rural settings is in improving traffic when it leaves the regional health network, for example when a GP wants to access images from the hospital in his or her rooms, or when someone in the health network connects to an external videoconferencing unit to contribute to a case conference.

At present a rural clinic may have 128 kb/s or 512 kb/s asymmetrical connections, but an upgrade to 4 MB/s would enable the local Nurse Practitioner and a visiting GP to work on-site, entering patient notes and working from their clinic records.

Videoconferencing

Most videoconferencing systems today will run on 512 kb/s (symmetrical) but this would not provide sufficient detail for a clinical examination. We are advised that a tele-presence system – such as a remote specialist being able to share in an examination and advise a local practitioner on the treatment of a patient in a real time situation – may require 8 to 20 MB/s. Such applications are beyond the capacity of the current situation faced by many rural clinics outside the hospital network, where there is a 128 or 512 kb/s asymmetric connection.

For videoconference applications, the bandwidth allocation for a site is dependent on the number of systems and the usage rates for the site. Reliability and consistent bandwidth are critical as any data lost through missing pixels or screen freezing is lost forever.

Digital imaging

For digital imaging, the detail will be retained regardless of the connection speed, but the time taken to download the image(s) is the issue.

A chest x-ray image would be about 10 MB – there are usually two per session.

Thus if connections are optimal, one chest x-ray image (10 MB) would take approximately:

- 24 minutes on a 56 kb/s dial-up connection;
- 2.6 minutes on 512 kb/s ADSL; and
- 1 second on the 1 GB/s internal hospital network.

A breast screen image is a similar size, 10-15 MB, but there are usually 10 per exam so 100-150 MB in total; the time for downloading the full set would be multiplied.

As Dr May described in her evidence, it would be possible for her to use the hospital network for transmission of images to obtain prompt advice from a specialist in the city. However, transmission of high resolution images from her clinic setting with its current ADSL connection would be a slow process and the specialist would not be able to receive it during the consultation, especially if another practitioner in her clinic was using the internet connection at the same time.

The Alliance thanks the Committee for the opportunity to appear at the public hearing and to provide this additional information.

Yours sincerely

Gordon Gregory  
Executive Director