



SUBMISSION TO HOUSE OF REPRESENTATIVES STANDING COMMITTEE ON INFRASTRUCTURE AND COMMUNICATIONS

Introduction

The National Broadband Network (NBN) is poised to create significant opportunities for innovation in digital services creating a profound impact on almost every sector of the economy. This transformation is vital to ensure competitiveness of Australian businesses and industries at the global scale and is particularly important for regional, rural and remote Australia to enable communities in these areas, access to critical services and skills particularly from a health and education perspective.

University of Wollongong (UOW) Expertise

The Faculty of Informatics at UOW is unique in Australia with its mix of disciplines that jointly underpin and serve the ICT industry – computer engineering, electrical engineering, telecommunications engineering, computer science, software engineering, information technology, mathematics and applied statistics. Over the years it has developed and honed expertise in telecommunications research and student training. UOW is the largest supplier of ICT graduates of any NSW based university.

The ICT Research Institute currently home to more than 50 research staff and about 100 PhD students has conducted leading edge research in collaboration with industry and communities to deliver applicable research output continuously for more than 15 years. Through its long-term research collaboration with Telstra it helped Telstra understand the issues involved in switched networks and services for broadband networks. Deep expertise has been developed in mobile ad-hoc networks through collaborative research with Motorola and the Desert Knowledge CRC where University of Wollongong ICT Research Institute was the leading technology developer for remote and desert communities.

Of particular importance to the Australia's NBN objectives, is the development of innovative and transformative ICT enabled application and services for delivery of health and education services. Medical research and training at the University of Wollongong has addressed the problem of training doctors for rural and regional areas of the country through the use of telecommunications technologies. This has provided unique engagement with rural and regional communities and thereby generating deep understanding of the issues associated with the delivery of healthcare in these settings. In 2008, UOW's Graduate School of Medicine's Online Learning Environment (OLE) was selected from amongst 23 global finalists in Austin, Texas, to win the prestigious 2008 Platinum Learning Impact Award. UOW was recognized as the top entry overall and shared the Platinum Award with the Tennessee Board of Regents Online Campus Collaborative and Giunti Labs at Volkswagen Group Italia.

UOW Comprehensive Health and Medical Precinct

The University of Wollongong in partnership with NSW Health and St Vincents & Mater Health Sydney are proposing to develop a \$300 million Health & medical Precinct. The Precinct will deliver quality, accessible and integrated health services from primary care through to inpatient hospital care, while simultaneously fostering innovation in the management of acute and chronic conditions, team-based education and training, and involvement of community resources in population-directed health promotion and disease prevention efforts.

UOW has a major ongoing commitment to addressing the health/medical workforce and health access problems in rural and regional communities as evidenced by its Graduate School of Medicine having as its primary focus – preparing doctors who are capable and desirous of working in regional, rural and remote areas.

The proposed Precinct development is underpinned by a \$20 million comprehensive e-health strategy for both within the Precinct's facilities and reaching out to its rural and regional network of collaborators across rural and regional NSW. The NBN will play a significant role as part of this e-health infrastructure that will deliver significant services, training and support improvements to rural and regional people and their primary health care and other providers.

It is anticipated that the e-health activities will expand in both scope and depth as the NBN is rolled out in the areas where UOW has a presence

Key aspects of the proposed E-health infrastructure strategy include:

- State-of-the art health/medical record capability as a cornerstone for medical care, providing on-line access to key clinical information, including alerts, allergies, orders, results, medications, history, referrals and care plans with automated capture and exchange of imaging, pathology and other diagnostics.
- Secure sharing of information among hospital staff, primary health care practitioners and specialists will support continuity of care and foster collaboration, while supporting high levels of patient referrals to and from practices across a wide geographic area and the needs of a dynamic clinical workforce. Effective, secure interchange of information with external clinical service providers, clinical registries and administrative services will also be targeted.
- ICT support for clinical teaching and quality improvement will include interactive access for students using on-line learning, interactive clinical simulation for both basic and advanced clinical teaching, and access to on-line resources for teaching, research and clinical decision support.
- State-of-the-art voice/video communications, conferencing and document sharing is to be available with a focus on clinical care, teaching, administrative and telehealth activities – including web-based interaction for more remote locations - leveraging the National Broadband Network as it develops.
- The planned ICT capability includes a range of other applications needed to support acute-care, primary health care and community-based care – patient administration; resource booking and scheduling; operating theatres; pharmacy; food services; site maintenance; staff rosters; patient billing; financial accounting; reporting and costing; specialised applications for specific clinical disciplines; HR/payroll; clinical appointments; external interfaces, identification/directory services; office applications; facility website, etc. Where appropriate, these applications will integrate with the electronic health/medical record capability and with external systems, such as national health identifier and reimbursement services being developed by NEHTA and Medicare Australia.
- Systems for collecting and reporting clinical, utilisation, quality and cost information will contribute to operational transparency, effective management of resources and clinical quality management. ICT will be embedded in wards, theatres, clinics, specialists' rooms and relevant teaching and administrative areas to enable easy access to clinical information at the point of care, supporting clinical decision making and the timely capture of clinical information.
- In line with current best practice, sufficient access points will be provided to enable all clinical personnel to use ICT capability as and when needed, including the potential for handheld mobile technologies. Wireless networking (engineered to appropriate safety and security standards) is to be available throughout the Precinct for use by staff, patients, visitors and students alike. The required ICT capability will be underpinned by advanced network technology, server environments and network management tools appropriately engineered for throughput, reliability, security, high levels of business continuity, and protecting the privacy of personal health information.