Leaders of the pack—innovative technological solutions to rural issues

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Howard Bunt is the Business Technology Administrator for the Western Australian Country Health Service (WACHS). Howard manages the ICT functions and resources for the agency in accordance with the corporate objectives, advises on all matters pertaining to the policy, acquisition and implementation of ICT strategies. He also provides advice to WACHS Management and regional IT managers in the formulation of the development and policy matters that may affect ICT in the Health Service.

Howard project managed the Commonwealth funded Bush Medivac project that has allowed Western Australia's preparedness to respond to health emergency incidents and health crisis situations in regional and remote areas and managed the implementation of the infrastructure phases of the Clever Networks Project, which included the implementation of bandwidth upgrade to 78 health sites throughout the state and network infrastructure upgrade to 120 sites.

Howard joined the Australian Army in 1971 as an electronics engineer where he served in postings in Victoria, Queensland and Canberra. He spent many years as an instructor training new recruits on all aspects of information, communications and technology until he left the military and joined the Western Australian Department of Corrective Services later as part of the Ministry of Justice as the Telecommunications Manager. During his time at Justice, his major achievements were to design, develop and implement a digital trunked radio network throughout Perth prisons, court houses and juvenile centres.

He also project managed a prisoner telephone system for all WA housed prisoners, which enabled prisoners to contact family and friends via a telephone from within a prison complex.

In 2004, Howard joined the WA Health Department as the ICT Manager for the South West Area Health Service before accepting his current position as the Business Technology Administrator in WACHS Area Office.

WA Country Health Service (WACHS) has over the past several years implemented and updated it's Information Technology and Communications services to rural and remote Western Australia by improving voice and data communication capabilities to improve access to best practice, safer work environments, improve communications where there has been nor or none existed previously to decrease the isolation of rural and remote Hospitals, Health Centres and Clinics.

WACHS is one of the largest Health Services in the Australia covering 2.55 million square kilometres with over 6 thousand full time staff with 6 regional Resource Centres, 15 integrated District Hospitals, 52 small Hospitals and over 300 sites including Child Health, Community Health, mental Health, residential Aged Care Facilities, Remote Nursing Posts, Multi Purpose Centres and Aboriginal Community Clinics.

The output of ICT services in WACHS was to set the scene, to implement a robust reliable and affordable network infrastructure and to plan for future development to meet the demands of a fast growing health network and better access to more Health applications and systems.

The wide area network (WAN) was upgraded and expanded to 78 health sites ensuring consistent connectivity. This included the provision of WAN services to 21 new sites with a minimum bandwidth of 2 Mbits. The primary objective of this project was to develop the Department of Health's IP WAN to sustain and support end-to-end health service applications, including provision of new and increased IP connectivity with quality of service (QoS) to designated and priority sites.

The local area network (LAN) infrastructure inside 120 Hospitals, Multi Purpose Units, and Health Clinics to provide a consistent hardware platform at each site and to provide a proven, reliable and maintainable LAN infrastructure that can be managed remotely by WACHS ICT staff.

To improve the voice and data communications capabilities for mobile health staff in previously un-serviced or under-serviced areas, WACHS purchased 25 Balconi units. These units extend the 3G mobile telephone network up to 120 kilometres from the nearest mobile phone tower. The unit is mounted on top of a vehicle and consistently tracks mobile towers without losing connectivity. The Balconi unit has direct connection into the WA Health data network so the user can log in and out as if in their office environment.

Close circuit television (CCTV) IP Cameras and duress alarm systems were installed into 30 Health sites. This included the setting up of CCTV cameras with digital recording and fixed and portable duress alarms to provide security measures to ensure the safety of staff, facilities and the general public. WACHS made a significant investment in the procurement of NEC Telephone systems to 130 of its health sites across Western Australia based on a standardisation of hardware and its infrastructure. This standardised environment has reduced overall support, maintenance and on-going administration costs. Over 80 of these sites now have all their phones calls trunked over the Health data network average 45,000 calls in-c0ming and out-going each month resulting in a massive savings on telecommunications call costs to the agency.

WACHS upgraded and expanded the videoconferencing network to replace redundant units, to improve IP access and expand the network to those areas currently not receiving services. This has included purchase of 65 high definition (HD) units with 43 going to new sites. The current videoconferencing network has now been increased to over 300+ units with 98% IP enabled and begun to incorporate HD within the network. Additionally 10 desk top units have been integrated within the network enabling fit for purpose provision of equipment as opposed to the ongoing development of traditional room based service delivery.

Development of a State wide internal Central Infrastructure that enables cost effective multipoint bridging, firewall traversal, gatekeeper services, ISDN gateway services, video streaming and centralised scheduling. This solution enables development of secure networking with external services providers such as general practitioners, private specialists and Aboriginal medical services, as well as access into patients' homes for future home based clinical solutions. This internal health approach has enabled increased development of educational opportunities for the rural and remote workforce both within and outside of Australia, with the addition of increased networking opportunities for staff and consumers. Collaborative partnerships for service provision (eg Department of Veteran's Affairs, Justice and Corrective Services) have been able to be developed during this project, with further opportunities for this expansion within the Health network rather than duplicating services.

These innovations will allow WACHS to make further investment into delivering a better health service into rural and remote towns and communities to meet the demands of patient care and ongoing training and retention of fully qualified clinical staff.