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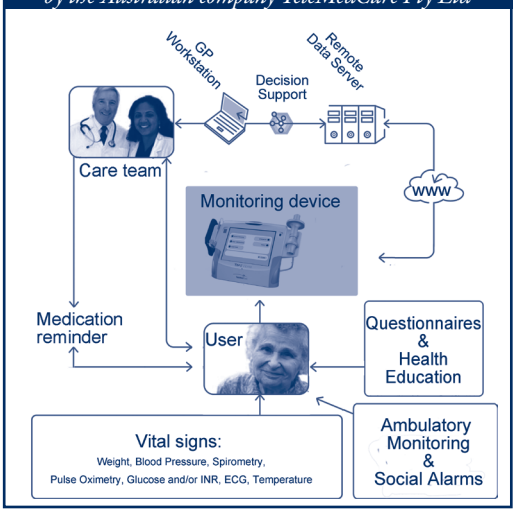
# A solution ignored: telehealth

With the proportion of those aged over 65 in Australia doubling, and those over 85 quadrupling in the next 50 years the increasing burden of chronic disease will present a huge challenge to health services worldwide. Already more than 75% of the national health budget is spent on the management of chronic disease, within a health care sector historically more aligned to the management of infections and injury.

In the UK around 80% of GP consultations relate now to chronic disease and patients with a chronic disease or complications use over 60% of hospital bed days. Two thirds of patients admitted as medical emergencies have chronic disease or exacerbation of chronic disease, and for patients with more than one condition, costs are six times higher than those with only one. As similar figures apply to Australia, it is clear that a "business as usual" approach will rapidly lead into either a decline of current standards of care or a massive explosion in healthcare budgets.

To address these challenges the current focus on episodic, institution based service delivery by individual care givers needs to shift to one that delivers continuous community and home-based care supported by a multidisciplinary team. Internationally, home based telehealth technologies are increasingly understood as integral to this change by empowering the individual, promoting self management, providing new and more efficient ways of case management and optimising the use of increasingly scarce clinical human resources (see figure). According to a recent US survey of health care providers more than 32% use telehealth services, with generally excellent results and high levels of acceptance from clinicians and patients alike. The EU has also invested heavily in the development of telehealth technologies and services, now widely deployed in Norway, Italy and Spain. The UK alone has over the past two years invested more than £120 million to mainstream the use of telehealth services, and most recently Northern Ireland has released a tender for £44m for telehealth monitoring services to manage 5000 chronically ill patients over four years.

*Outline of a home care management solution as provided by the Australian company TeleMedCare Pty Ltd*




Not so in Australia. Although some individual states in Australia have invested heavily in the development of new and often innovative programs for the management of chronic disease, such as for example, the Hospital Reduction Risk Program (HARP) in Victoria[1], these have invariably been very labour intensive and used little if any telehealth technologies for service delivery.

Unlike the UK, where government policy on telehealth has evolved over more than a decade of intensive planning and public consultation, the policy position on telehealth of successive Australian Governments has been virtually non-existent with a focus instead on e-Health and the development of a national electronic health record.

Yet, telehealth services have distinct advantages, especially in the Australian context with its remote and underserviced areas. The remote monitoring and management of chronic disease can be applied throughout the primary care sector, including the home, in residential care, in GP practices and in community health centres in rural and remote communities. In the home, remote monitoring of vital signs can be carried out with simple wireless instruments connected via the telephone to web based services and databases. More complex systems promote self management by engaging with the user and providing a range of services such as health education, daily logs, medications reminders and the provision of alerts and alarms.

Data collected from hospital grade clinical instruments together with a record of medications taken and the responses to comprehensive health status questionnaires provide a rich longitudinal record of the patient's health status. By simple observation of the longitudinal record, or with the assistance of sophisticated decision support it is possible to reliably identify those whose chronic condition is stable, those who exhibit early signs of an exacerbation of their condition and those whose condition is deteriorating and who will be at risk of suffering an acute episode and possible hospitalisation unless an immediate intervention takes place. Evidence from studies overseas has shown that such sophisticated home monitoring systems are very well accepted by patients, are easy to use, promote self management and can dramatically reduce use of clinical resources.

> ...clearly, a national telehealth agenda needs to be developed in Australia...

Based on an extensive body of literature there is good evidence for the clinical effectiveness of home telehealth in diabetes, the general area of mental health, high risk pregnancy monitoring, heart failure and cardiac disease. One study in Norfolk[2], which is yet to be published, indicates that hospitalization and length of stay could be reduced by up to 70% and nurse visits by more than 85%.

Against this backdrop, clearly a national telehealth agenda needs to be developed in Australia and new research commissioned to demonstrate categorically that telehealth services improve patient outcomes, are cost effective and introduce essential efficiencies in the healthcare system. Without these improvements the standard of care for patients with chronic disease is almost certain to diminish - unless investments are made that are likely to reach unsustainable levels as the population ages and the burden of chronic disease increases. This reality needs to be addressed in Australia as it is internationally, with large investments in Research and Development, the funding of large scale trials and a re-allocation of operating funds from the tertiary sector to telehealth services delivered throughout the primary care sector.

[1] Hospital Admissions Risk Program, Department of Human Services, Victoria, http://www.health.vic.gov.au/harp-cdm/
[2] Norfolk Telehealth Project. Evaluation Report: Norfolk PCT and Norfolk County Council Adult Social Services Department

▶ ***Professor Celler is also chief executive officer and chairman of TeleMedCare Pty Ltd, a company established to commercialise telehealth technology developed at the University of NSW.**