CONFERENCE ABSTRACT

Monitoring of Chronic Disease in the community: Australian Telehealth Study on Organisational Challenges and Economic Impact

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Introduction: Commonwealth Scientific & Industrial Research Organisation (CSIRO) of Australia was tasked to lead a National Telehealth Trial for chronic disease in the community to investigate models of care, health service utilization and economic impact on the Australian health system.

Chronic and aged care accounted for over 70% of Australia's $155bn expenditure on healthcare during 2013–14, and is projected to dramatically increase into the future. Australia's hospital-centric public health system is unnecessarily burdened by the management of chronic disease, which should occur in home and community settings. Telehealth services delivered through home Telemonitoring have been demonstrated to deliver cost effective, timely and improved access to quality care. They also reduce social dislocation and enhance the quality of life within communities and their sustainability by allowing chronically ill and aged members to stay in their homes and communities longer. The development of a robust business case and business models for large scale commercial deployment of Telehealth services based on solid economic evidence is essential if these services are to be scaled up nationally to have any impact on the escalating costs of health service delivery and the increasing deficit in clinical work force.

Description of practice change: Trial was designed with the aim of demonstrating how Telehealth services for chronic disease management in the community can be deployed nationally in a range of hospital and community settings, by piloting services in six different locations across five Australian states with a range of health service provider's, including a hospital, Local Health Districts, Medicare Locals and aged care organisation.

The intervention was the provision of Telemonitoring equipment for the collection of vital signs and the administration of questionnaires. Control patients received normal care. In this trial we analysed and compared the performance, across four distinct groups with one hospital site, two community based services, two GP managed Medicare Local coordinated services and one Aged Care focused service.

Key Findings: Based on a before and after control intervention (BACI) case matched design this trial evaluated health outcomes, impact of workplace culture and capacity for organizational change management. The project recruited 113 chronically ill patients with

multiple co-morbidities and remotely monitored using Telehealth. These patients were compared with 174 patients acting as matched controls who were tracked for periods 6-18 months with at home telemonitoring of vital signs and clinical symptoms.

Telehealth monitored patients' demonstrated:

a. Reduction in health services utilisation observed towards the later part of the trial (after 8-9 months) by reduced number of GP visits, specialist consultations, laboratory tests and procedures performed.

b. Reduction in primary healthcare costs were demonstrated by the reduction of Medicare benefit costs by more than AUD600/year/patient and pharmaceutical dispensing cost by more than $300/year/patient at end of trial.

c. Reduction in hospital length of stay by more than 7 days

d. Reduction in rate of hospitalisations by 1 less event

e. There were improved Quality of life metrics/Human factors /Useability and acceptability to patients and clinicians

Highlights: At all trial sites the Telehealth technology was well accepted by patients. The key barriers were related to integration of Telemonitoring into existing models of care was at the services provider level. These barriers included the capacity to implement/participate in new programs within health organisations and one of our trial sites had to be decommissioned.

Main highlight was the continuation of Telemonitoring at three sites post-trial, offering Telehealth as a mainstream service for chronic disease management of patients in their home. This is a big win from the trial where three health service providers have integrated Telehealth as an ongoing sustainable service for chronic disease management in the community.

Conclusions: Telemonitoring can be deployed for management of chronic disease in the community as a cost effective alternative. From the experience throughout the trial has demonstrated that successful deployment of remote Telemonitoring of chronic disease requires the following success factors:

− Importance of a new Clinical Care Coordination role to centrally coordinate optimal response to caregivers as demonstrated in this trial

− Strong support and leadership from the health service management team and the formation of strong clinical governance for the service

− Strong alignment of workplace culture and values with the objectives of Telemonitoring. This will often require the implementation of extensive training and education programs

− A clear "ownership" and engagement not only with the patient, but with the patient's carers who may include relatives, neighbours, community nurses and GPs.

− Clear governance protocols and lines of communication between the clinical care coordinator and the patient's care team, in particular the patient's GP.

— Support for Telemonitoring services through automated risk stratification protocols that can identify with high probability patients who are demonstrating an exacerbation of their condition and may require immediate attention to avoid an unnecessary hospitalisation.