
CONFERENCE ABSTRACT

Chronic Heart Failure Care Model for home Monitoring of Patients

4th World Congress on Integrated Care, Wellington, NZ, 23-25 Nov 2016

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Chronic heart failure (CHF), often life-threatening, affects over 95,000 Australian and over 23 million people worldwide. Despite advances in modern medicine, patients with CHF are dismally impacted by poor five-year survival rates, poor health related quality of life, and high 30-day readmission rates.

To improve the CHF management, an innovative telemonitoring enhanced home care model has been developed. In this enhanced model of care, patients are provided with a wireless (Bluetooth) weight scale and tablet computer to perform daily weight monitoring at home. Measured weight entries are automatically transferred from the scale to the tablet, and subsequently uploaded to a clinical portal. An application monitors uploaded entries in real time to detect missing weight-monitoring events, and abnormal weight changes according to the guidelines, such as rapid weight gains and unintentional weight loss. The detected events are then classified to generate different types of alerts for interventions needed in usual care. To minimise clinical workload, some alerts automatically trigger questionnaires preloaded in the tablet to assist nurses to triage patients. Finally, the generated alerts are distributed to project nurses and/or the MEPACS call centre, integrated in the care model. Nurses and call operators respectively monitor their alerts on a daily basis to provide three levels of interventions: 1) reminder calls to help patients monitor body weight daily, 2) clinical support on the CHF action plan, including emergency calls, and 3) nurse follow-ups to help identify symptoms of acute decompensated heart failure and other health issues for early intervention. Nurses also regularly review risks of alert and patients' health conditions and engage with the patients and their care teams.

To evaluate this care model, a multicentre RCT is being conducted. The trial started in Jan 2015, and is expected to be completed in Dec 2017. Patients with CHF (n=300) will be recruited from Victoria and Western Australia. Patients consented will be randomized to receive either the enhanced care (n=150) or usual care (n=150) for a minimum of 6 months. All the patients will be assessed at baseline, 6-month, and 12-month (if available) points. The aim of the enhanced model of care is to improve adherence (compliance) to the CHF management including daily weight monitoring, as well as health outcomes (health related quality of life, risk factors, functional capacity, frailty, and

psychological states), and economic outcomes (risks of hospital readmissions, GP/ED visits, and cost benefits).

Effective management of CHF in primary care remains a clinical challenge globally. This project will evaluate the effectiveness of an innovative telemonitoring enhanced home care model to assist patients in managing CHF. The evaluation will provide clinical evidence to integrate telemonitoring innovations to business as usual healthcare services for improvement of CHF care.

At present over 80 patients have been recruited for the RCT from a large group of screened patients. Recruitment will continue until mid-2017 to capture close as possible to the trial target of 300 patients. Early results from the trial will be presented including clinical trial protocol, trial design, recruitment, challenges and compliance.

Keywords: chronic heart failure; telemonitoring; home care; randomised controlled trial
