

Letter to the Editor

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General practice coordinated chronic disease management to reduce avoidable hospital admission

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Dear Editor,

Chronic disease accounts for about 80 per cent of the total disease burden in Australia, and its management accounts for 70 per cent of all current health expenditure.¹ Effective prevention and management of chronic disease requires a coordinated approach between primary healthcare, acute care services, and the patients.² However, what is not clear is whether improvements in primary healthcare management can have a clear benefit in the cost of care of patients with chronic disease.

We recently completed a pilot study in rural Western Australia to ascertain the feasibility of a coordinated general practice-based approach to managing chronic respiratory and cardiovascular conditions, and to determine the direct cost savings to the public insurer through reduction in avoidable hospital admission. The aim of this correspondence is to share our preliminary findings and encourage debate on how such a project may be scaled up or adapted to other primary healthcare settings.

Eight matched pairs of general practices in the Central Wheatbelt of Western Australia were involved in this project. The sites were best matched on potential confounders: population size, general practice size, rural and remoteness, availability of health services, number of local hospital avoidable admissions, proportion of population over 65 years old, self-identified as Aboriginal and or Torres Strait Islander, and population socioeconomic

status according to the Australian Bureau of Statistics national census.

For the eight "intervention" sites, procedures were put in place to actively follow up all patients with chronic respiratory and cardiovascular disease. The follow-up was undertaken by practice nurses with active encouragement of the patient to re-attend at regular intervals. The non-intervention group continued practice as normal with follow-up determined by the patients or by their needs for repeat medication and or investigation.

Chronic respiratory and cardiovascular conditions were specifically targeted in this pilot project due to the higher than state average of avoidable hospitalisation for these conditions in the catchments.

An embedded quantitative-qualitative mixed methods designs was used to investigate the health outcomes and potential cost savings. The intervention was rolled out between September 2012 and September 2013.

De-identified longitudinal data was obtained from the Western Australia Department of Health. Human research ethics were granted by the Royal Australian College of General Practitioners (NREEC 11-011) and the Western Australian Department of Health (2012:03). Funding was provided by the Western Australia Department of Health, State Health Research Advisory Council.

The data showed a reduction in overall avoidable hospital admission for chronic respiratory and cardiovascular conditions over the intervention period. Using a difference-in-difference analysis, the project demonstrated a statistically significant reduction of 10.6 avoidable cardiovascular and respiratory hospital admissions per site (SEM 1.6, $p < 0.01$); the calculated absolute risk reduction is 16.8 per cent. The cost savings from the reduced avoidable respiratory and cardiovascular hospital admission was between AUD \$68,615 and AUD \$83,417 per site (2014 values).

There was some suggestion that those with chronic respiratory and/or cardiovascular presentations who were admitted into the hospitals were more serious and required

longer length of stay. The average length of stay per admitted condition was 0.4 bed days (SEM 0.9, $p=0.65$) per site more than the control sites.

Preliminary qualitative findings on barriers and enablers have been presented elsewhere.³ The major barrier was the perceived loss of “another local resources local hospital” if not used. Enablers include bulk-billing by the general practice, patients’ rapport with the practice, supportive organisational culture, and streamline administrative function.

Our pilot study suggests a responsive primary healthcare-based coordinated chronic disease management can potentially reduce avoidable hospital admission. Further exploration of the potential benefit of this intervention is necessary, including longitudinal studies and large samples.

Sincerely,

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for the Wheatbelt Primary Healthcare Study Group

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