Reviewer’s report

Title: Feasibility of evidence-based diagnosis and management of heart failure in older people in care: randomised controlled trial

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Reviewer: George Heckman

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Comments on “Feasibility of evidence-based diagnosis and management of heart failure in older people in care: randomized controlled trial” by Hancock et al.

Synopsis: The authors present the results of a small pilot RCT in UK care homes. In this trial, residents with a history of heart failure (HF) associated with left ventricular systolic dysfunction (LVSD) were randomized to assessment by a cardiologists to develop a plan of treatment (based on guidelines), and follow-up with HF specialist nurses at 1-2 weekly intervals in order to implement this plan. General practitioners (GP) were sent notes / letters, and when HF medications were optimized, residents were discharged from the program to be follow-up by the GP.

In all, 399 residents were screened, 34 of whom had LVSD. Finally, 28 agreed to participate, 16 of whom were in the intervention and 12 served as controls. Mean age was 83.6 years and most residents met criteria for “residential care”, as opposed to “higher level nursing care”.

After 6 months of follow-up, intervention residents were more likely to achieve optimal dosing of ACE inhibitors 57% vs. 27% but not beta-blockers or spironolactone. At 12 months, rates of drug utilization in the intervention group reverted back towards those of usual care, with no significant differences in utilization or hospitalization.

Major compulsory revisions:

1. “Long-Term Care” means different things in the UK, the US, Canada and elsewhere. It sounds like the residents in this study were relatively high functioning. However, the authors do not provide any information in Table 1 related to cognition, basic and instrumental activities of daily living, number and type of other comorbidities, number of other prescribed medications, renal function (particularly relevant here), falls, and other outcomes relevant to frail seniors. It is therefore not possible to place this trial and its results in the broader context of the literature on HF in frail seniors. I suspect that the residents in this study are most like the ones in the paper by Foebel at al (Clinical, Demographic and Functional Characteristics Associated with Pharmacotherapy for Heart Failure among Older Home Care Clients. Drugs and Aging. Drugs Aging. 2011 Jul 1;28(7):561-73), though hospitalization rates suggest that they are even less frail. This should be remedied in a revised version of this paper.
2. The authors excluded patients with HF and preserved ejection fraction. Among frail seniors, this population consists of up to, if not more than, half of the population with HF. More recent epidemiological data suggests that outcomes in this population may be as severe as those in the population of persons with HF and LVSD. While recommendations on prescribed pharmacotherapy are limited by negative clinical trials, these patients nonetheless may benefit from optimized prescribing as well as disease management strategies. Any intervention intended to reduce “mortality and morbidity and improve quality of life” must take this population into account. Optimal HF management is more than improving prescribing. What are the authors’ thoughts on this?

3. In the introduction, the authors mention that “research indicates the challenges of HF management in primary care”. Why then did they design an intervention that ignores these challenges? Ultimately, this paper shows that cardiologists and HF nurse specialists are better at prescribing ACE inhibitors than GPs – this is hardly surprising. In the discussion, the issue of trying to understand why GPs altered management plans is raised. Several papers (Fuat BMJ 2003, Remme Eur H J 2008, Steinman Am J Geriatr Pharmacotherapy 2010) already address some of these issues. Ultimately, unless GPs are targeted by a properly designed and sustainable capacity-building / educational strategy, interventions structured such as the one in this paper will continue to fail. The authors are clearly biased towards a viewpoint that variations in HF management result from “difficulty accessing specialist care”. Evidence exists to suggest that well-supported primary care platforms can deliver good quality care for HF and other conditions such as dementia (Peters-Klimm 2010; Meeuwsen et al BMJ 2012; Lee et al J Am Geriatr Soc 2010). What are the authors’ thoughts on this? Other than letters and notifications to the GP, were any active efforts made to improve GP knowledge about HF?

Ultimately, this study shows that insertion of a specialty team can temporarily improve prescribing in relatively low risk residential care residents with HF and reduced LVSD, but that without any apparent effort to improve that ability of the GPs to assume follow-up care over the longer run, the effects of the intervention were modest and short-lived.

This paper might be interesting to publish if the issues above were addressed and the discussion substantially enhanced to reflect the above concerns and shortcomings.

Thank you for the opportunity to review this paper.

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interests.