Reviewer’s report

Title: Regional variations in trajectories of long-term readmission rates among patients in England with heart failure

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Reviewer: Sanjay Ganapathi

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The investigators present data on long-term readmission rates among patients with England with first time heart failure and categorise the subjects with readmissions to high impact, intermediate and low users over a 5 year follow up period, using national database. Several parameters are assessed in relation to the reason for admission. The authors conclude that there is regional variation in England in readmission and mortality rates as well as in the frequency of readmissions. The other conclusion is that the differences in quality of care at primary and secondary level could have resulted in these variations.

The authors should be commended for analysing large data with plenty of variables. Proceeding to the comments / clarifications

1. What was the time-frame for frequency of readmissions to be categorised into high, intermediate and low impact users - was it the first year after index HF admission?

2. This reviewer could not understand the basis by which the investigators conclude that quality of primary and secondary health care could have impacted the frequency of readmissions. From table 1 and 3, the regions with higher proportions of short term high impact users had higher prevalence of ischaemic heart disease, risk factors such as diabetes and hypertension and clinical variables indicating advanced disease such as atrial fibrillation. Moreover, the association with indicators of healthcare adequacy is not consistently demonstrated across regions with higher prevalence of both types of high impact users. The association seems more evident in intermediate users. Does this need

3. The reviewer was having difficulty in following the discussion section and could not crystallise the ideas discussed out.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Unable to assess

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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