Author's response to reviews

Title: Variations in hospital standardised mortality ratios (HSMR) as a result of frequent readmissions

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Author's response to reviews: see over
Author’s response to re-reviews

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Author’s response to reviews: see over
The BMC Health Services Research Editorial Team

Object: MS: 1892850092592194 - Variations in hospital standardised mortality ratios (HSMR) as a result of frequent readmissions. WF van den Bosch PhD et al.

Thank you for consideration of our manuscript for publication in your journal.

We have re-re-reviewed the above manuscript according to your reviewer’s comments.

Re-re-reviewer's report

Reviewer # 2: Mette Nørgaard

The review has addressed most of the previous comments. I am however not convinced from the discussion of causes of readmission that including frequent admissions should be strongly recommended.

I understand that if a hospital has several readmissions per patient the denominator increase and could thereby decrease their HSMR. But if a hospital has a really high standard of care which enables the hospital to improve the health of chronically ill patients in such a degree that these patients are able to have a time periods at home before new admissions may be needed I cannot see why such a hospital should be disfavoured by adjustments for frequent admissions. In that case the low HSMR is truly caused by a high quality of care. Also I cannot see why admission with e.g. a hip fracture three years earlier should affect a patient’s expected risk of dying of pneumonia in a later admission when computing the HSMR. I therefore suggest that the authors should modify their conclusion to state that HSMRs differ between the two models but let the readers decide for themselves whether or not it is clinically relevant to include frequent admissions in the model.

We have adapted our conclusion accordingly. Indeed: readers may decide for themselves what to do with the findings of our study.

Minor comments:

1. On page 5 it says: This model includes clinical admissions and day cases that ended in in-hospital death. – This is not correct. The model includes all patients admitted with the selected diagnoses – not just the cases that died.

This is how the Dutch model has been applied, so: only clinical cases and no day cases, except for the day cases where the patient died, since the last type of admission should not have been administered as a day case. In order to avoid confusion for the reader I have left out mentioning the day cases completely, since the number of deaths in day cases was very minor and of no impact on the results and conclusions.
2. Present and past tense is still inconsistently used
   We have brought even more consistency by rigorously using the past.

3. On page 4 use of the term measurement errors is not entirely correct. Mortality is not
   incorrectly measured neither are covariates such as age and gender. The problem in
   using HSMR as a measure of quality is thus not caused by measurement errors but by
   the fact the several causes other than quality of care is associated with in-hospital
   mortality.

   We have adapted this wording along the lines of the suggestion above.

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We would be grateful if you would consider publication of our manuscript in the BMC Health Services Research and are looking forward to your response.

Yours sincerely,

On behalf of all co-authors,

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