Reviewer's report

Title: Variations of 10 common medical conditions on unplanned readmission, length of hospital stay, mortality, and medical cost: retrospective analysis of hospital episode statistics in Hong Kong: A retrospective cohort study using hospital admissions data

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Reviewer: Kai-Chow Choi

Reviewer's report:

This manuscript reports a study to examine unplanned hospital readmissions attributed to ten medical conditions and their implications in mortality and hospital cost. The study addressed an important topic in health policy and services. The manuscript is generally well-written although there are some confusing issues and wordings that needed to be clarified.

Major compulsory revisions:

1. Since age, sex, public assistance, lived in elderly home and health outcome are all patient level variables, the authors should clarify the denominators of the percentages reported in Table 1. Also, it is better to present the number of subjects in each category as well.

2. The authors indicated their study population was all the patients admitted to the wards of the department of internal medicine of all public hospitals in Hong Kong in 2007 (stated in the “Study Population” part). They retrieved all eligible subjects from the CMS database; their sample was actually the study population. They don’t need to do the statistical comparisons!

3. On page 6, the last sentence of the “Definition of unplanned readmissions” part: “Thus, we used 30-day as one of the criteria to define the unplanned readmission.” Please clarify what other criteria have been used to define the unplanned readmission in the study.

4. The authors also need to clarify the reference group of the disease-specific odds ratio of 30-day unplanned readmission, whether it is the 9 remaining diseases grouped together for comparison, or all other diseases, or what other else. They should also disclose what methods have been used to estimate the adjusted odds ratios and how the multiple admission episodes are accounted.

5. On pages 12 and 13, the last three sentences of the second paragraph under the subheading of “Comparison with other studies” of the “Discussion” part are contradicted to Table 3 and the second and third sentences of the third paragraph of the same section.

6. It is unsure how the authors come up with the conclusion: “Our findings
showed that the care process for the patients with aortic aneurysm, pneumonia, cerebrovascular disease, liver and heart disease is needed to be reviewed.”

Minor essential revisions:

1. On page 6, “Definition of unplanned readmission” part, the authors indicate that 30-day and 28-day timeframe are commonly used in United States and United Kingdoms respectively. However, they report some confusing findings from these two countries (the first sentence under the subheading of “Comparison with other studies” in the “Discussion” part).

2. A number of figures in the first two paragraphs of the “Results” part do not match with those in Table 1 (e.g. the mean age and its SD, mean LOS).

3. On page 12, the first sentence of the second paragraph under the subheading of “Comparison with other studies”, “… between 30-day unplanned readmissions and all other readmissions.” Please clarify what actually all other readmissions refer to or whether it is a typo.

Level of interest: An article whose findings are important to those with closely related research interests

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.