Reviewer's report

Title: Comparison of different comorbidity measures for use with administrative data in predicting short- and long-term mortality

Version: 1 Date: 26 August 2009

Reviewer: Ronald Lagoe

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Minor Essential Revisions

This is a sound manuscript. It addresses an important topic within its field. It is based on a population which has not been addressed previously. It uses a simple and effective design. It includes statistics that are used effectively. The revisions that are being suggested could be classified as discretionary, however in this reviewer’s opinion, they would add to the quality of the manuscript.

Administrative data has been widely used to describe and evaluate health care outcomes in Europe and the United States. Because individual patient records are not widely accessible in electronic formats, this will probably be the standard for some time to come. The opportunity to use this data on populations in Asia is extremely important. It opens the opportunity for application of administrative outcomes data tools to a new area of the world with different demographics and large populations. This article could be a ground breaker for more studies of this type from Asian nations.

The manuscript is well thought out and designed. It concerns an important topic in outcomes data. The significance of mortality as an outcomes indicator may be waning. Other algorithms that address readmissions and complications are receiving increased attention. Still, outcomes data are where most administrative database research began. The authors are correct in using it as a starting point for populations in their area of the world.

The research design is simple, focusing on three measures of comorbidities. The authors use two different data periods, two diagnoses, and three types of comparisons. This is a manageable design for a study of this type. They have carried out the study in a logical manner and have identified specific results. This type of design could easily be applied to similar populations elsewhere in Asia or other areas of the world.

One addition to the manuscript which the authors should consider is some additional description of the three models used to evaluate hospital mortality. To those who are less familiar with these three models, some additional explanation would be useful. This material could take the form of a table or graph that compares the components of the models. This presentation could make a visual comparison of components such as comorbidities, demographics, and other factors evaluated. Some additional narrative material in the text could
supplement such a table.

Another revision to the manuscript could take the form of an expanded section concerning limitations. The current version includes a brief paragraph concerning limitations at the end of the Discussion section. An expanded version might be included in the Methods or Discussion session. This section could comment more fully on issues such as the use of a single year of data, two diagnoses, and other population issues. It might be suggested that these limitations could be turned into advantages if the design were applied to other populations in Asia. The simplicity of the design could become a strength as well as a limitation.

One additional revision that might be considered would be a paragraph suggesting other opportunities for replication of this research in Asia. The authors may have knowledge of administrative databases in this area that would allow them to suggest a plan for such an initiative.

None of the suggested revisions are intended to be major undertakings. This is a worthwhile effort that deserves publication.

**Level of interest:** An article of importance in its field

**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.