Reviewer's report

Title: Constructing Episodes of Inpatient Care: Data Infrastructure for Population-based Research

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Reviewer: Hude Quan

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This paper is to address how to define ICU episode in hospital discharge abstract data (DAD). The study linked ICU databases with DAD to define the episode using elements available in DAD. The method is commonly used in health services research when DAD are used. There is no consistent way of defining the episode. The authors demonstrated 2 days gap is a reasonable cut for the definition.

Major comments:

1. Current conclusions in Abstract and the main paper do not reflect the major finding -- 2 days gap method. The paper should focus on the key finding of day gaps between episodes of DAD.

2. While using the gap method, there are misclassifications of re-admissions as transfers when transfers were not flagged in the DAD elements. Thus, authors should address this matter in the results. This is very important message for health services researchers who are looking re-admissions. If majority of admissions within 2 days, HSR should exclude these admitted within 2 days for re-admission analysis as outcomes. Current researchers often ignore this matter (transfers). In addition, many countries DAD do not contain transfer-to/from data elements. Current study will provide evidence for this element.

For analysis, authors may consider various methods for describing readmission rate such as

1. when various day gap is used: 1, 2, 3, 4, ---
2. Transfer from element
3. When both of the day gaps and Transfer from is used

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
none