Reviewer’s report

**Title:** Assessing quality indicators related to mental health emergency room utilization

**Version:** 0  **Date:** 12 Jul 2018

**Reviewer:** Julia Crilly

**Reviewer's report:**

**Overall comments**
Thank you for the opportunity to review this manuscript regarding assessing the quality of hospital emergency room services among patients with mental illnesses.

Internationally, this is an important area of research within the ED setting.

This study uses routinely collected data to look at changes in outcomes before and after mental health reform changes in Quebec, Canada.

Terminology: I suggest avoiding labelling patients as 'MI patients', or 'MH patients' rather, I suggest using 'patients with a MI' (if diagnosed) or 'patients with a MH problem' if attending ED and not yet diagnosed.

**Specific comments**

**Background**
Some aspects within the background section warrants updating to include more recent literature.

e.g. For the first sentence "Quality improvement.." I suggest adding a few more recent references that reflect other countries to support this statement.

The sentence "Yet individuals…" seems quite long and does not quite make sense (to me) - consider rephrasing.

The reference supporting the statement "ER attendance a key indicator of health system access" is quite old (1999). Either indicate if this is still the case with a recent reference, or perhaps state that it was once considered as a metric, but now other metrics such as (…) are also considered.

Studies referred to regarding appropriate ED attendance (references 10 and 29) are from the Quebec area. I suggest either indicating this and or draw on other broader literature to demonstrate if this is a unique local issue or reflective of national and international literature.

The sentence that : "… 60% of ER visits concern non-urgent problems that could be managed in
primary care…” please clarify if the study referred to is for people who presented for MH problems or all ED presentations. Other ED literature exists that suggests that majority of people who attend the ED generally need to be there (all types of presentations considered). I think this is worth mentioning before indicating that people with MH problems who attend the ED are different - if this is the case.

Methods
Data sources - regarding the amalgamated data from QICDSS. Please briefly clarify how this data is linked (deterministic / probabilistic/ other method).

Sample - regarding the list of ICD 9 and 10 codes, I suggest having a table that also presents the diagnoses that correspond with these codes.

The sentence: "Final samples…” Typo (should be 2014-15).

As the % for 2014-15 is noted (12%), I suggest clarifying what population this is (the ED population?) also presenting what % this reflected for the 2005-06 sample.

Data analysis
Please outline if and what data cleaning measures were used

Please outline how missing data were managed

Results
I suggest presenting the demographic results of the ED attendees first.

I suggest noting that for each of the time periods analysed, how many presentations were made from the samples? E.g. A total of xxx ED presentations were made by 865,255 people in 2014-15 and xxxx ED presentations were made by the 817395 people in 2005-06.

Page 11- the years 2012-13 are noted - was data from this year also used in this study? If so, I suggest clarifying this in the methods section.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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

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

Yes

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:

Needs some language corrections before being published

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