Reviewer’s report

Title: A Basic Model for Assessing Primary Health Care Electronic Medical Record Data Quality

Version: 1 Date: 09 Oct 2018

Reviewer: Reviewer 2

Reviewer’s report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?
Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?
Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?
Yes - experiments and analyses were performed appropriately

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?
Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Could an appropriately REVISED version of this work represent a technically sound contribution?
Yes - current version is technically sound

PEER REVIEWER COMMENTS:
GENERAL COMMENTS: Overall:

A well-written paper in which the researchers model a set of quality-measures for EMR data. The results of testing against three Canadian systems appropriately tests their quality domains, and also highlights some of the serious problems of data collection, chiefly focusing on the variability of the data collection. This is a complex topic, and the authors have tackled it well.

Best practice:

* A good introduction to the topic, as many GPs and other interested in the topic may not be entirely familiar with some of the subtleties of the problems involved.

* The process of conceptualisation, development, operationalising and testing is well described, and fundamentally sound.

* The results are well-presented, and the Discussion is clear, with the limitations acknowledged. Although there are limitations on generalisability (as acknowledged by the authors), the paper serves as a useful spring-board for others (or the authors) to repeat the study in other environments, thereby allowing for a more comprehensive picture to be built.

Not Best practice

* I am not sure about the validity of the second part of the title. The question in the title appears to indicate that the paper is going to begin with a recap of what we know, and then try to project/predict the areas of future research and exploration. This is not the focus of the paper. I would recommend that the title be changed to be more descriptive of what is contained in the paper: Perhaps something simple like "A basic model for assessing primary health care EMR data quality".

* There is little to criticise in the paper itself, as the work has been well-performed and well-presented. Only one minor point: when p values are recorded (Table 3), if the statistical package reports p=.000, then these are usually reported as p<0.001

ADDITIONAL REQUESTS/SUGGESTIONS:

Some Minor Issues:

* Incorrect use of which/that: "records contain data which do not exist elsewhere" should be "records contain data that do not exist elsewhere", "require tools which use EMR data to" should be "require tools that use EMR data to", and check on others also.
The paragraph beginning "It is incumbent upon us therefore, as potential users..." is very long, and needs to be broken up into smaller paragraphs.

"However, other results such as no difference in the completeness of blood pressure, height, and weight recording for male and female patients in dataset B versus datasets A and C, do not have an obvious explanation. Some practice sites may have decided that blood pressure, height, and weight should be universally recorded among males and females.” It would have been useful if the researchers could have visited some of these sites to confirm this, because, yes, many sites do this. (It also serves to relieve some of the boredom in the waiting room): after the patients check in, they are immediately referred to a nurse's station where this information is recorded, and then entered into the record, so that the physician has this when the patient enters.

I am not entirely sure of the value of Appendix A, although, perhaps it has value for the novice reader.

Note: This reviewer report can be downloaded - see attached pdf file.

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

Yes

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

Yes

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.

Not relevant to this manuscript

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable
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