Reviewer’s report

Title: Comprehensive use of electronic medical records (EMRs) amongst family physicians: A Canadian Perspective

Version: 2
Date: 4 September 2014

Reviewer: Amirhossein Takian

Reviewer’s report:

Thank you for sharing with me this paper for peer-reviewing. Generally, the paper has acceptable quality. I have some suggestions, listed below, that you may want to consider for improving the manuscript:

Introduction:

- A little bit more background about ehealth or EHR macro structure in Canada and the role of Canada InfoWay looks to be useful and essential.

- The premise that most studies on the scope and quality of EMR data have mainly been performed in the United Kingdom is a bit contested, as the references used for this part are very old (e.g. 2003), ref no 12 along with some others). Much has happened in recent years in N. America regarding EMRs adoption, and the continent seems to become more advance than the UK in terms of implementation and adoption of ehealth solutions, i.e. EMRs. I suggest authors see and include more recent literature to support their argument.

- In general, given various interpretations of EMRs, and their overlap with EHRs, it is pivotal to clarify authors’ precise definition of EMRs, and their components in Canada.

- P3, Line 87-89: This premise even for lab and radiology results are not that clear and a bit controversial and needs to be tested.

- P 4: More background is required to shed light on Canada government’s supportive/incentive plans for EMRs, and the way that physicians use it. The linkage between EMRs use and doctors’ remuneration and whether or not it is related to EMRs’ utilization is influential and important to be mentioned.

More importantly, it is the integration and connection of primary and
secondary care via EMRs as well as use of clinical components, which motivate physicians to use EHRs more often and in day to day use (See for instance: Takian et al. 2012, We are bitter but we are better off: BMC HSR)

- P4, lines 102-104: Using the data completeness of a variety of EMR fields as an initial proxy measure for optimal EMR usage is a bit misleading. There could be many cases that data are completely gathered and entered into EMRs, but clinical use remains minimum and quality of care unchanged. Authors expect to explain and justify their claim as how such a proxy is reliable and valid.

- Same as above: Assessing the influence of physician and patient duration of time on the EMR on the population of these fields in Ontario, Canada. I am not sure I understand this and the rationale behind it, pls clarify.

- P4: Lines 108-109: Again accurate and precise definition of EMRs in Ontario, and a summary of the architecture of these packages is required to understand your method(s) of data extraction.

- I understand your design as cross-sectional and was wondering whether such an approach is robustly enough to address your research question. Perhaps, it would be more appropriate to follow this use and completeness via longitudinal approaches, taking into account various conditions of use and impact of different conditions on it.

- P 6, line 163: Physicians with really low numbers? Do you mean low no of patients?

- P 7, line 181: Inactive patients with some doctors, could it be because of fewer or no use of EMRs by their doctors? Do you have any data to shed light on this?

- P 7-8, Line 185-190: Please give more detail on statistical analysis, the software used, and precise code of your ethical clearance

- P8: line 193: Please explain why your samples were mostly from higher income quintiles, was this because EMRs adoption was higher among more affluent neighborhoods, or it could be selection bias, or?
- P9, line 223: Please explain a little bit more and bring other experiences from literature as why the 1st and 2nd years of data completeness are crucial in this regard.

- P 10, line 235: Please be a bit more specific about what you mean by higher level EMR functions

- Conclusion is good, but the main message and contribution of this paper is not clear enough. Also, it would be pivotal to draw some policy implications out of this study, perhaps in a separate sub-section. In addition, it is essential to include a section on rigor of this study, outpointing limitations.

- Table 1: Some words may benefit from terminology definition, as they may be confusing, e.g. referral, lab tests, which one exactly, etc.

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