

Peer Review File

Article Information: <https://dx.doi.org/10.21037/mhealth-24-2>

Reviewer A

Thank you for allowing me to review this paper. I think the goal of the paper and the presentation are mismatched. I have provided some comments below, but it was hard to make it through the paper at times because of the sheer amount of information being presented. I would recommend reworking this paper as a methods paper. I don't feel it fits the traditional manuscript that requires results. It would also be helpful to have a specific clinical example that you walk the reader through. I applaud the effort and the reasons for writing this manuscript, however, the execution does not match what I believe the author was trying to accomplish. I have provided some specific recommendations below. I encourage the author to rework this manuscript and would gladly review another submission as I believe there is merit in this work.

Background - Well written and thorough. I enjoyed reading this section.

Methods

Overall - this is a lot to digest. Is there a way to simplify the delivery of this information? The definitions seem necessary for the manuscript, but overwhelming to the reader.

I am unclear as to what you did in this manuscript at the end of reading the methods. You seem to provide a lot of definitions, but I'm not sure what was actually done.

Reply: First of all, thank you for the overall positive feedback and for giving me the opportunity to submit a revised draft of my manuscript. The methods section has been renamed to “Methods and theory”. The purpose of this section is to present the typical scenarios and to provide the essence of the methodology to capture real-time data from the EHRs as a solution. Thank you for understanding the necessity for large amount of definitions in order to explain the implementations. We have simplified the section by removing information about REST, Subscriptions, Database triggers and reverse proxies. We have divided the approaches in only two sub-sections: REST-dependent (REST Hooks, WebSockets) and independent of REST (DB triggers, reverse proxy) merging the content of the sub-sections.

Changes in text: Line 132 – Section name changed to “Methods and theory”

Line 146-196 – Sub-section titles 2.2.1 Database triggers and 2.2.2 Reverse proxies have been removed and content has been merged. Part of the information about REST, Subscriptions, DB triggers and reverse proxy, which could be avoided has been removed.

Section 2.1.2 - I think the header numbers are off here as this follows section 2.2.1.

Reply: The section title has been removed (content is now part of the section 2.2 real-time data independent of REST).

Results - I'm confused where these results "came from". If the goal was to provide scenarios/examples, which was my understanding, this wouldn't be a traditional results section.

Reply: As suggested I have reworked the manuscript as methods paper and renamed the section to Implementation description.

Changes in text: Line 197-240 – Section name changed to “Implementation description”. Sub-section titles: 3.1.1 Subscriptions through REST hooks, 3.1.2 Subscriptions through WebSocket notifications, 3.1.3 Polling, 3.2.1 Database triggers, 3.2.2, Reverse proxy have been removed. Content merged into only two sub-sections: 3.1 Real-time data in REST 3.2. Real-time data independent of REST.

Section 3.3. - This seems like a method of what you did to me.

Reply: The sub-section now belongs to the section Implementation description and I think that it is appropriate to leave it there. I have written an additional section 3.4 Use case clinical example as suggested by you in order to walk the reader through a hypothetical scenario. Here I provide how the approaches could be used in real-life and the main actors in the process. A use case model diagram is provided as an additional Figure 5 to visualize the relationships and the flow of RTD.

Changes in text:

Abstract Line 29-43: Section Results changed to Implementation description (use case clinical example has been added)

Line 258-281 –Use case clinical example has been added

Figure 5 – Use case model diagram has been added

Discussion - Again, well written and enjoyed reading. However, I'm confused about the situation of your given results with this discussion.

Reply: Thank you very much. The discussion should give an insight into the approaches and suggest considerations for their use which should guide readers. I think that after adding the use case clinical example the discussion should be easy to interpret.

Reviewer B

1. Abstract: 200–450 words structured with the subheadings Background, Methods, Results, and Conclusions.

Reply: Results added to abstract part

2. Main text: Original articles should organize the main text in Introduction, Methods, Results, Discussion, and Conclusions.

Reply: Methods and results added to main text

3. References 27 and 28 are not cited in the text. Please check.

Reply: References 27 and 28 included in text

4. Abbreviations in all figures and legends should be explained.

Reply: Abbreviations explained in figures

5. The below link cannot be opened. Please check. In addition, if the below part used as a supplementary material, it should be cited in the text as Appendix 1.

Supplementary Appendix

The code for the reference implementations, including instructions how to use them, is publicly available on GitHub: https://github.com/kirilovnikola/rtd_ehr.

Reply: The repository has been made public and is now accessible (https://github.com/kirilovnikola/rtd_ehr)

6. The Original Article should include a part with a subtitle named “Statistical Analysis” in the Methods section. If it is not applicable, please explain the reason.

Reply: The article investigates the challenges of real-time data captured from EHRs, typical scenarios and their solutions. The manuscript describes the implementation of these solutions, as well as indicating the use case with a clinical example. Reference implementations are provided and published in a GitHub repository and statistical analysis is not applicable.