Author’s response to reviews

Title: Best practices for collecting repeated measures data using text messages

Authors:

Noa’a Shimoni
(noaa.shimoni@rutgers.edu; noaa.shimoni@gmail.com; shimonno@njms.rutgers.edu)

Siripanth Nippita (siripanth.nippita@nyulangone.org)

Paula Castaño (pc2137@cumc.columbia.edu)

Version: 2 Date: 23 Oct 2019

Author’s response to reviews:

October 23, 2019

Dear Dr. Hodges:

Thank you again for the opportunity to revise our manuscript, “Best practices for collecting repeated measures data using text messages”. We thank Dr. Mars for his recommendations. They continue to improve the manuscript. We have included our responses below along with the tracked manuscript. They are also attached as a pdf for ease of review.

On behalf of all authors, thank you for your consideration of this revised manuscript.

Sincerely,

Noa’a Shimoni MD MPH
Reviewer reports:

Maurice Mars (Reviewer 1): Thank you for the opportunity to re-review this paper providing recommendations for using text messages and replies for gathering patient information. The paper is much improved by the addition of the literature review. As this was not a systematic review what type of review was undertaken?

Thank you for highlighting this important point. Since we were not addressing a specific clinical question, we were not comfortable defining our literature search as a systematic review. We explored themes central to data collection by SMS through narrative and conceptual review. Since narrative reviews may be prone to bias, especially when search methods are not shared with the reader, we worked to be transparent about our search strategies and have clarified them further in the manuscript (lines 88-96). We re-defined our search terms and articulated our focus on studies where participants texted answers directly (as opposed to using an app or linking to an online survey) and where data were collected repeatedly.

The literature review needs to be described in more detail so that it can be replicated. More information is needed on the search terms and inclusion and exclusion criteria. For example, "data collection" is a MESH term as is "data collection". A search using ("Text Messaging"[Mesh] AND ("data collection"[Mesh])) returned over 730 papers. A search using what I think has been described in the methods, (("Text Messaging"[Mesh] OR "text messages") AND ("data collection"[Mesh] OR "data collection")) returns over 970 papers. How was were the 204 papers mentioned in the results obtained? I could not replicate the search.

The precise methodology and output from Ovid are listed below. A search with the same methodology today returns 212 articles. We modified the description in the text to clarify our search methodology (lines 90-94).
Database: Ovid MEDLINE(R) ALL &lt;1946 to August 12, 2019&gt;

Search Strategy:

--------------------------------------------------------------------------------

1 text messages.mp. or Text Messaging/ (3343)
2 data collection.mp. or Data Collection/ (152617)
3 1 and 2 (204)

A PRISMA figure would add value.

A PRISMA figure would be appropriate in a systematic review with a clearly defined clinical question. We chose not to include one given that our focus is exploring best practices for using text messages as a research methodology.

The paper still has no stated aim.

We have added the aim to lines 70-71 as follows: The aim of this paper is to review project setup and management for successfully collecting patient-reported data through text messages.

While I appreciate that the purpose of the paper is to share experience there are issues that have not been covered. The text message responses are patient generated health data. As such there are associated legal and ethical issues.

What advice do the authors have on data security and what are patients told about data transmission, security, storage and who will have access to the data.
Are the data encrypted during transmission?

Text messages sent by phone are not encrypted during transmission. For this reason, we recommend limiting transmitted protected health information (PHI). Of note, phone numbers are considered PHI and transmission of this variable during a study should be reviewed with the participant during the consent process. Investigators who wish to encrypt all transmitted data have options beyond text messages. They may use apps that utilize SSL encryption (a security protocol that encrypts data in transit similar to online banking apps that could allow omission of PHI entirely by utilizing an assigned identification number) or may send the participant a link to a secure survey. If transmitting data by Wi-Fi, participants should ensure they are using a secure network. We’ve added this explanation to lines 294-302.

Do messages pass through external servers? Are they stored in the external servers?

Depending on the database used, messages may pass or be stored on external servers that are not protected by a firewall. Many academic institutions require that data containing PHI be stored behind a firewall. We’ve added this explanation to lines 303-305.

Issues of HIPAA and GDPR compliance should at least be mentioned.

We discuss that secure data platforms are recommended for data collection on lines 171-175, and recommend that investigators not elicit personally identifiable information via text message (lines 247-249).

We’ve added additional guidance in lines 306-312 as follows: When selecting a vendor or database, investigators should inquire if the data are stored in an encrypted environment that conforms to regulations such as the United States’ Health Information Portability and Accountability Act or the European Union’s General Data Protection Regulation. Participants should be informed during the consent process that the database vendor will have access to study data. When we use an external vendor to store data, our institutional review board and legal counsel vet the agreement to comply with health information privacy regulations.
The recommendations are useful.

Page 6, line 106: "(can cite here all the studies that have high response rate)" appears to be comment between authors and not part of the paper.

This placeholder was removed with citations listed in subsequent sentences (currently line 111).

Page 6, lines 108-109: "...with only two participants responding less than 10 times minutes." What does this mean?

Thank you for catching this typographic error. We have corrected this sentence as follows (lines 111-113): A 7-day study evaluating hunger hourly in 15 participants during waking hours yielded a 92% response rate within 30 minutes of the text prompt, with only two participants responding to fewer than 10 daily texts (out of 16).

Page 6, line 109: IBS should be in given in full.

IBS was spelled out (now line 114).