Reviewer's report

Title: The care.data consensus? A qualitative analysis of opinions expressed on Twitter

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Reviewer: Amanda Lee Hughes

Reviewer's report:

I enjoyed reading this paper and I found the analysis to be thoughtful and generally well done. This paper will be of interest to those who are trying to use Twitter as a source for understanding and evaluating public opinion on important health issues and topics. There are, however, several areas for improvement which I outline below.

Major Compulsory Revisions - The author must respond to these before a decision on publication can be reached. For example, additional necessary experiments or controls, statistical mistakes, errors in interpretation.

1. Page 6, first paragraph -- The description of the Twitter data collection could be clearer. For example, why were tweets collected between 4-6pm only? What was the rationale for this choice? Does this mean only tweets that were created around this time period were collected? I also didn’t understand why the query was performed multiple times and only the one with the largest result was kept. If the queries returned different results (which it seemed like they did), wouldn’t it have been better to keep all results and aggregate them? The paper states, ”The target number of tweets was reached on the fifth capture, which encompassed all tweets from the fourth capture. Thus, the fourth capture was deleted.” This raises lots of questions, such as, what was the target number of tweets? What happened to captures one, two, and three? Were five captures performed for every collection period? More clarity around the Twitter data collection process is needed.

2. Page 6, “Data Analysis” section – This section needs more detail about the coding scheme, without this data the research is not reproducible. The paper states that the tweets were “coded in iterative fashion according to an evolving list of themes.” This is an appropriate approach, but what were these themes? In the “Results” section on page 2, it states that tweets were coded into one or more of 66 themes. However, I was unable to find these 66 themes in the paper. One way to address this concern would be to create a table listing these themes, along with an accounting of how many tweets were coded for each theme. This approach would be helpful for several reasons: 1) it would help the reader understand how frequently these themes occurred and 2) the paper can better demonstrate how the findings reported in the “Results” section of the paper were derived from the coded themes (right now that link is unclear).

3. Page 9, line 24 – “Tweets disclosed a lack of trust…” How many tweets? All
tweets?

4. Page 19, line 1 – The paper states that the themes discussed in the paper are related and then refers to Figure 1 for a conceptual model of how the themes are related. However, this model is never explained. If the conceptual model is going to be used in the paper, it needs to be explained in much greater detail. What do the arrows mean? What does the model tell us? If it is not going to be explained then it should be removed.

5. Page 22, lines 11-16 – This last paragraph would be much stronger if it tied back to the findings of the paper. How did the study of Twitter messages around the care.data project contribute to a greater understanding of the issues and public opinion around the project? How might the project use these understandings to improve the project?

Minor Essential Revisions - The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

6. Page 6, line 9 – The word “protagonists” is problematic; it paints the Twitter authors in a particular light. For instance, the word “antagonists” could just have easily been used, but it would portray very different types of Twitter author. I would suggest removing “protagonists” and just say “authors.”

7. Page 9, line 9 – The phrase “Users took to Twitter” seems to suggest that use of Twitter for this purpose was widespread by all users of Twitter. Unless this is true, it should be rephrased.

8. Page 10, line 8 – “The third batch of tweets…” To what batches of tweets is this referring? I suspect this has something to do with the collection dates, but it is unclear.

9. Page 11, line 13 – The hashtags are on a separate line. They should probably be at the end of the line above them.

10. Page 13, line 1 – “with the factual accuracy such statements, this debate again highlight the…” should read, “with the factual accuracy of such statements, this debate again highlights the…”

Discretionary Revisions - These are recommendations for improvement which the author can choose to ignore. For example clarifications, data that would be useful but not essential.

11. Page 5, paragraph starting on line 18 – This paragraph describes what was done and how it was done. The paragraph would also really benefit from a sentence that describes why this study was done and why the research is important. This will help motivate the research for the reader.

12. Page 5, line 4 – Consider changing “Twitter is being used to educate…” to “Twitter can educate…”

13. Page 19, lines 2-5 – I’m not sure this tweet adds anything to the discussion.

I encourage the authors to continue improving their work!
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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.