Author’s response to reviews

Title: Systematic reporting to improve the emergency medical response to major incidents: a pilot study

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Author’s response to reviews:
Dear Editor

Thank you for considering our paper for submission. We have amended the content according to the peer review. Each concern has been addressed below in red, and the main changes are available as marked changes in the main manuscript.

We ask you to please re-order the authors as described below. Unfortunately, we reported a wrong order of author on the first submission.

EMMD-D-17-00044
Systematic reporting to improve the emergency medical response to major incidents: a pilot study
Sophie Elizabeth Jap Hardy; Sabina Fattah; Trine Staff; Lasse Raatiniemi; Torben Wisborg; Marius Rehn
BMC Emergency Medicine
Scott Goldberg, MD, MPH (Reviewer 1):

I commend the authors of the manuscript Systematic reporting to improve the emergency medical response to major incidents: a pilot study on their efforts to highlight a real concern in emergency medical response. Objective reporting of major incident metrics and lessons learned is a valuable resource, and the authors strive to highlight one potential avenue for such reporting. However, there are substantial concerns with the manuscript as it is currently written. With some reworking, it may be acceptable for publication, but as it stands currently I have some reservations.

The background is well written and highlights the scope of the issue and the need for a database for objective reporting of major incidents. I was slightly confused as to why climate related disasters were called out specifically, however the background is otherwise well written.

Reply
To comply with the reviewers suggestions, the following has been deleted “According to the Centre of Research on the Epidemiology of Disasters (CRED), disasters have become more frequent over the last 20 years. The Emergency Events Database (EM-DAT) is a database of basic data on the occurrence and effects of technological and natural disasters. Since 2000, EM-DAT has reported an average of 341 climate related disasters worldwide per annum. This is a rise by 44% compared to 1994-2000 and a rise in over 100% compared to 1980-1989.1

The methods section is lacking important details. The manuscript revolves around an evaluation of a database housed at www.majorincidentreporting.net. Additional information pertaining to this database are essential. Who inputs data into the database? Who maintains the database? What are the authors' affiliations with the database? How is the database funded? Is there any conflict of interest? How is data validity and integrity assessed? When was the database created? How much of the data is publically accessible? A more robust description of the database is necessary for an informed analysis of the following sections of the manuscript.
Reply
We thank the reviewer for this useful feedback. We have addressed these issues in Figure 1.

The authors state that "quantitative data on a set of key variables" was collected. What variables are present in the database, and what percentage of these variables were analyzed? Further, the database evaluates data from "major incidents." However, "major incident" is not defined. This is a critical piece of information necessary for establishing external validity.

Reply
We have now defined major incident in the background section. We did not analyse all variables in the template. The included data is now described in the methods section and we simply added a trend analysis as an illustrated example of the possibilities. The template can be attached if the editors recommend us to do it. Otherwise the template is freely available online as we now mention more clearly in Figure 1.

The discussion section of the manuscript highlights some important points. Specifically, the authors note "this study shows how results could be analysed to develop and later test hypotheses." This is an excellent point and I might suggest this be the main focus of the manuscript. This database has the potential to guide emergency response to major incidents and could be a valuable resource. However, the authors evaluate eight very different major incidents occurring in very different geographic regions with vastly different emergency response systems. It might be more useful to highlight the lessons learned from each of these incidents as opposed to comparing these incidents to one another. This manuscript would be improved by focusing on a descriptive analysis of the database and its potential impact on emergency response as opposed to focusing on a limited statistical analysis of this small data set.

Reply
In the revised version the results are restructured, and now begin with lessons identified in the submitted reports. A descriptive analysis of data has now been added and we have underlined that the trend analyses has been performed as an example of which opportunities the database
provides for future research. We also emphasise that the analysis of trends is based on a limited number of reports from different major incidents and EMS systems.

The authors might seek to address some of these concerns in the limitations section. This section does note that the "number of reports analysed is small and heterogeneous" and there is the potential for bias. However, highlighting the vastly different emergency response systems, training of providers, incident type and duration, etc. is also important in recognizing the substantial limitations of this data set.

Reply
These concerns have now been addressed in the limitations section.

The conclusions are well written and I agree with the authors that "the findings of this study highlight the importance of systematic reporting in major incidents and the potential advances that could be made." Overall, I think this database has potential utility and I applaud the authors for sharing this with the broader medical community. However, overall, this manuscript would be better suited to a descriptive analysis of this database and a discussion of its potential utility, as opposed to the current statistical analysis of a very small, heterogeneous data set of questionable validity.

Kirsten Johnson (Reviewer 2):

This is an important paper in that it introduces a tool that can be used for standardizing data collection in disasters in a field that is becoming standardized but that lacks tools. It is also important because it provides a cross comparative analysis of 8 disaster responses and analyzes the data collected in these disasters. It demonstrates the kind of impact on practice and policy that a tool like this can have in terms of informing and improving future disaster response efforts.

Ideally, the sample size would be larger but the 8 cases here are a good start. As a reader I would like to know if there are any other standardized checklists for this kind of data or if this is the
first of its kind. And if there are other checklists out there, how this one compares. Finally, how is this tool "marketed" for use by other entities.

Reply

In the introduction we refer to a systematic review of templates for such reporting (Fattah S, Rehn M, Reierth E, Wisborg T: Systematic literature review of templates for reporting prehospital major incident medical management. BMJ Open 2013, 3:e002658.). To our knowledge, these templates have not been compared to each other. However, the current template is based on previous existing ones described in: Fattah S, Rehn M, Lockey D, Thompson J, Lossius HM, Wisborg T. A consensus based template for reporting of pre-hospital major incident medical management. Scand J Trauma Resusc Emerg Med. 2014;22:5

The reporting template used in this descriptive study is “marketed” through commentaries in journals, presentations at conferences, social media and through an animated video: https://www.youtube.com/watch?v=tisymgIwpXY. This information have been added to Figure 2 “information on majorincidentreporting.net”

Mostafa Omaish (Reviewer 3): The manuscript is considered a good start to highlight the importance of standardised report of incidents. The forthcoming challenge is including all factors affecting disasters outcome such as cultural and political factors across different countries. At the stage, all reached conclusion from this study should be considered preliminary due to small sample size.

Reply

Thank you to the reviewer for his comments. We have now emphasised the findings as ‘preliminary’.