Paper III

Experience with a Novel, Global, Open-Access Template for Major Incidents: Qualitative Feasibility Study

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ABSTRACT

Objective: The transfer of experiences gained after prehospital medical responses to major incidents has largely been nonsystematic, and better-structured reporting methods have been advocated. A consensus-based template was recently created and implemented as an open-access website. This qualitative study assessed the feasibility of using the template and reporting site.

Methods: Informants who had used or who had been asked to use the template were interviewed. The semi-structured interviews were transcribed verbatim, and the transcripts were analyzed by using an inductive approach based on grounded theory methodology.

Results: The major theme identified was a need for "defining purpose" as explained by the minor themes "relevance," "scope," "resources," and "usefulness." Informants reported that the template content needed to be revised and that the scope and rationale behind each question should be conveyed to the user. Resources necessary for reporting and clarity regarding the aim and outcome also need to be communicated to users and policy-makers. The interface between informants and the template is critical.

Conclusions: Informants considered the template and website useful but reported that the workload exceeded their expectations. Despite pilot testing of the template before implementation, early revision of the template is recommended. (*Disaster Med Public Health Preparedness*. 2017;page 1 of 4)

Key Words: major incident, emergency medicine, systematic reporting, feasibility study

Major incidents require the mobilization of extraordinary emergency medical services (EMS) resources and exert an enormous toll on communities.[1] Structured sharing of experiences can improve preparedness and save lives, and more structured reporting of major incidents has been requested.[2-5] Based on findings in a systematic review,[6] a consensus-based template for reporting prehospital medical response to major incidents was developed.[7] The purpose of the template is to gather standardized data that can improve future prehospital responses to major incidents. The open-access website, www.majorincidentreporting.net, was launched in December 2013 to disseminate the template and allow online reporting (Box 1). To date, 8 reports have been published on the website. These are from 3 different road traffic incidents, a train collision, a prison fire, 2 shooting incidents, and a major incident field exercise of a plane crash. The reports are from the United Kingdom, Norway, Chile, and Finland.

For such templates to be of value, they need to be disseminated and implemented successfully. This requires insight into users' experiences, barriers, and facilitators toward using new reporting systems. Such knowledge may enable necessary revisions of the template, and the findings may be transferable to other structured reporting systems. Therefore, the aim of the present study was to elicit experience from persons who had used or who had been asked to use the template regarding its feasibility during reporting and to identify possible hindrances and areas of improvement.

METHODS

The recruited participants were of both genders and from several continents and all worked in the medical services on a clinical level. They were either physicians or paramedics. All participants had been responsible for either managing or responding to the major incident they reported on or were asked to report on. All informants were familiar with the content of the template whether or not they had submitted a report. No potential participants were excluded. Participation in the present study was not a prerequisite for publishing a report.

One author (SF) conducted all interviews by using a semi-structured interview guide (see the online data supplement). This interviewer was a PhD student and did not have a professional role similar to the informants. Interviews were performed in English or

BOX 1

Process of Reporting a Major Incident Using www.majorincidentreporting.net.

- The template is accessible to anyone who has been involved in the early medical response to a major incident and wishes to submit a report
- Registering to submit a report generates a username and password
- The report can be saved throughout the submission process allowing individual progress
- Once the report is submitted it is evaluated by two peer-reviewers to facilitate high-quality reports
- The final report is published free of charge and open access for anyone to read

FIGURE 1

Key Issues Addressed by Informants.

- Template is too comprehensive.

- The relevance of the questions included in the template needs to be explained.

- The aim of reporting needs to be more clearly stated; eg, is the information collected for scientific value or for sharing experiences?

- The reporting process should be made clearer, including the time needed to complete a report.

Norwegian and were audio recorded. Supplementary notes with the interviewer's impressions were made after each interview and were included in the data.

Two authors (SF, TW) coded all data individually. Consensus was reached with reiterated confirmations between transcripts and codes. Analysis was based on a grounded theory approach that aims to expose new issues from data.[8] Because of a narrow field of study, we developed a limited theoretical framework. We extracted substantive codes from the transcripts and used theoretical memos in the process of generating categories (minor themes). After integrating and reworking the categories with the data, a main category (major theme) was identified, and the minor themes were theoretically sorted and developed in relation to the major theme. All codes and themes were derived from the data with constant comparative methodology.[8] Despite the restricted number of participants, the analysis reached saturation on the major theme. Although a full analytical theory was not developed, the resulting theoretical concepts revealed the participants' main concerns about the feasibility of the template. The Consolidated Criteria for Reporting Qualitative Research and the Standards of Quality Improvement Reporting Excellence guidelines were consulted and used whenever applicable.

Ethics
Study participants received written information about the project and signed a consent form to participate. Participants were anonymized as required for approval from the Norwegian Social Science Data Services (reference number: 36565/2/LMR).

RESULTS
Of the 12 individuals eligible to participate in the study, 8 initially consented, 7 were interviewed, and 4 did not respond to the request. The reason for 1 informant consenting and subsequently not participating remains unknown. Four of the informants had submitted reports at the time of

the interview. Supplementary comments sent by e-mail after the interviews were analyzed with the data from the interviews.

The defined purpose of the template emerged as the main theme (Figure 1). The informants were uncertain about the purpose of the reporting template, which made the task of completing the reports difficult. This main concern appeared to be divided into 4 minor themes: relevance, resources, scope, and usefulness.

Relevance
The informants found the questions too numerous and some of them too detailed. Some informants stated that they understood the necessity for detail in research but did not find the report very relevant for themselves. Others stated that they were uncertain whether the details were useful. Not understanding the rationale for certain questions was considered demotivating and led to delays in completing and submitting reports. The informants illustrated their experience with the following statements:

> "For motivating reporters for going on, I think that a less exhausting template would be nice." [Informant 7]

> "There were quite a few things that related to number of patients and such, which I found very detailed and I am a little uncertain if they are very relevant." [Informant 1]

After having experienced a major incident, the rationale and interest for reporting may be clearer to the medical personnel who participated in the response phase or management of the incident. Individuals should be approached when the interest is present and, perhaps, the data more easily available.

> "Then [right after a major incident has occurred] the focus is on the incident and it is easier to have all the detailed knowledge present than if one would report

later…then you kind of have things fresh and are interested in sharing your experiences." [Informant 3]

Resources

The persons who were asked to submit their reports had no professional obligation to do so and completed the reports in their spare time. Several wanted to contribute, but a lack of time was reported as a problem. When the informants lacked the information needed to answer several questions, they felt frustrated and lost their motivation to complete the report. Some data could not be reported because of a lack of accessible information.

"Due to patient confidentiality and ethics, I couldn't get a hold of a lot of that kind of [patient and timings] data.…There were many things we didn't register in the EMS papers at all." [Informant 2]

"Because there were so many systems involved, it becomes a little difficult to have an overview." [Informant 1]

Scope

Based on the extent of the data required, the informants were uncertain about whether the main purpose of the template was scientific data gathering or to share experiences. Most informants asked who the report represented (the person or their organization), what would happen to the reports after submission, and where and how the reports could be accessed. More clearly stating the aims and providing more information on the website would be useful. Language was also an issue that contributed to a lack of clarity.

"Due to the fact that it [the template] is in English and not all the terminology is compatible with my language, I used a lot of time understanding what was actually meant." [Informant 4]

"It's a balance. It must not be too comprehensive, at the same time there needs to be enough data to make it worth reading." [Informant 5]

Some informants were unaware of the amount of time needed to complete the template and were not prepared to spend the amount of time required.

"The first time I opened the template, I thought that now I'll just do this in full speed, and then I realized 'oops, I can't do this quickly.'" [Informant 4]

Another concern was that reports could be used to identify "scapegoats." Therefore, clarity on the intended outcome of the reports was considered necessary.

"Very often the conclusion is centralization. If one sees that this kind of, yeah that we need less local hospitals and more trauma hospitals with the right competency at any given time or more air ambulances, and that this is

the only resort, then this can give a resistance for reporting." [Informant 3]

Usefulness

The informants felt the results of the report would be useful to themselves and others in planning for future major incident responses. The questions the informants considered most useful depended on the role of the person reading the report and whether the answers indicated potential for improvement.

"Well, it depends what your position is and what do you want to improve. For example, the EMS point of view is a bit different than, for example, that of an official who is responsible for disaster coordination or disaster response." [Informant 7]

"I thought it was very easy to use, very well set out, and it looked good as well so immediately I just…your one definitely stood out as the easiest to fill in." [Informant 2]

Most of the informants thought the template would be useful globally as well as in low-income countries:

"Yes, because the basic system is the fireman, Red Cross, police, EMS, ER [emergency room]. It's not different." [Informant 6]

The informants were also positive about the further dissemination of the template and had suggestions on how to achieve this.

Defining Purpose

The participants' greatest concern was that the purpose of the template be clearly defined. The relevance of the data reported, resources needed, clarity regarding the process and scope, and the usefulness of the template were perceived as central elements in revising the structure.

DISCUSSION

The results of the present study show that the reporting template and website solution were easy for the informants to use when getting started, but that the content of the template was too detailed. The level of detail hindered complete reporting. Better defining the purpose of the template appeared to be crucial to its overall feasibility, and the study identified several areas for improvement (Figure 1).

A crucial factor in the usefulness of the template is that the reports actually be submitted; therefore, the interface between the informants and the template is critical. Convincing explanations of the relevance of each data variable may motivate informants to make the extra effort needed to obtain and report the requested data. Information provided to potential users should answer the question, "Who should report and whom does the report represent?"

Clearly communicating the resources needed for reporting is important to prevent the person who is completing the report from underestimating the workload. It was not possible to report some data because the data were absent from the prehospital records, access to the data was lacking, or the time it would take to find the data was not available. The scope of the report needs to be reassessed.

Previous studies have shown that using existing models to implement public health interventions leads to higher success rates.[9,10] This may also apply to the field of major incident management.

Limitations

The results of this study were collected after the first year of implementation of the reporting system and are limited concerning the time, number, and geographic distribution of the participants. This may have caused a lesser variation in the data. Despite a limited number of informants, however, the findings were accordant and saturation was achieved during data analysis. There is a risk that the personnel who agreed to take part in this research were more motivated than average and more likely to give positive feedback. Still, including informants whose experience with the template varied from having submitted reports to being in the process of or considering submitting reports allowed us to gather input from different perspectives.

Implications

All informants were positive about the concept of a consensus-based exchange of experiences from the prehospital medical management of major incidents. The findings of this study suggested areas in which the template can be revised (Figure 1). A revised template may be a useful tool for future comparative analysis of how different responses to a major incident affect the outcome.

CONCLUSION

A consensus-based approach to systematic data collection and dissemination was designed to improve reporting of major incident management. Early identification of user experiences revealed that clarifying the purpose of the template is necessary. This interview study identified issues that were not apparent during pilot testing, and a similar process can be recommended for similar settings where structured reporting systems are to be implemented.

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