

# Identifying Deficiencies in National and Foreign Medical Team Responses Through Expert Opinion Surveys: Implications for Education and Training

Ahmadreza Djalali, MD, PhD;<sup>1</sup> Pier Luigi Ingrassia, MD, PhD;<sup>1</sup> Francesco Della Corte, MD;<sup>1</sup> Marco Foletti, MD;<sup>1</sup> Alba Ripoll Gallardo, MD;<sup>1</sup> Luca Ragazzoni, MD;<sup>1</sup> Kubilay Kaptan, MSc;<sup>2</sup> Olivera Lupescu, MD, PhD;<sup>3</sup> Chris Arculeo;<sup>4</sup> Gotz von Arnim, Dipl.Ing;<sup>5</sup> Tom Friedl;<sup>5</sup> Michael Ashkenazi, MPhil, PhD;<sup>6</sup> Deike Heselmann, MA;<sup>7</sup> Boris Hreckovski, MD;<sup>8</sup> Amir Khorram-Manesh, MD, PhD;<sup>9</sup> Radko Komadina, MD, PhD;<sup>10</sup> Kostanze Lechner, Dipl., PhD;<sup>11</sup> Cristina Patru, MD, PhD;<sup>12</sup> Frederick M. Burkle Jr., MD, MPH, DTM;<sup>13</sup> Philipp Fisher, MD<sup>7</sup>  
on behalf of Scientific Committee of DITAC Project

1. CRIMEDIM, Università del Piemonte Orientale, Novara, Italy
2. Disaster Research Center (AFAM), Istanbul Aydin University, Istanbul, Turkey
3. URGENTA, Clinical Emergency Hospital, Bucharest, Romania
4. Hanover Associates, Teddington, London, United Kingdom
5. NHCS, National Health Career School of Management, Hennigsdorf/Berlin, Germany
6. Bonn International Center for Conversion, Bonn, Germany
7. University Clinic Bonn Department of Orthopedics and Trauma Surgery, Germany
8. CROUMSA, Croatian Urgent Medicine and Surgery Association, Slav. Brod, Croatia
9. Prehospital and Disaster Medicine Centre, Sahlgrenska Academy, Gothenburg, Sweden
10. SBC, General & Teaching Hospital Celje, Medical Faculty Ljubljana, Slovenia
11. German Aerospace Center (DLR), Oberpfaffenhofen, Germany
12. Clinical Emergency Hospital Bucharest, Romania
13. Harvard Humanitarian Initiative, Cambridge, Massachusetts USA

## Correspondence:

Ahmadreza Djalali, MD, PhD  
CRIMEDIM  
Università del Piemonte Orientale  
Novara, Italy  
E-mail: djalali@med.unipmn.it

## Abstract

**Introduction:** Unacceptable practices in the delivery of international medical assistance are reported after every major international disaster; this raises concerns about the clinical competence and practice of some foreign medical teams (FMTs). The aim of this study is to explore and analyze the opinions of disaster management experts about potential deficiencies in the art and science of national and FMTs during disasters and the impact these opinions might have on competency-based education and training.

**Method:** This qualitative study was performed in 2013. A questionnaire-based evaluation of experts' opinions and experiences in responding to disasters was conducted. The selection of the experts was done using the purposeful sampling method, and the sample size was considered by data saturation. Content analysis was used to explore the implications of the data.

**Results:** This study shows that there is a lack of competency-based training for disaster responders. Developing and performing standardized training courses is influenced by shortcomings in budget, expertise, and standards. There is a lack of both coordination and integration among teams and their activities during disasters. The participants of this study emphasized problems concerning access to relevant resources during disasters.

**Conclusion:** The major findings of this study suggest that teams often are not competent during the response phase because of education and training deficiencies. Foreign medical teams and medically related nongovernmental organizations (NGOs) do not always

**Conflicts of interest and funding:** The research leading to these results has received funding from the European Community's Seventh Framework Program (FP7/2007-2013) under grant agreement n° 285036. The authors have no disclosures or conflicts of interest to report.

**Keywords:** competencies; disaster medicine; education; response; team; training

## Abbreviations:

CRIMEDIM: Centro di Ricerca Interdipartimentale in Medicina d'Emergenza e dei Disastri ed Informatica applicata alla pratica Medicina

DITAC: Disaster Training Curriculum  
EMDM: European Master in Disaster Medicine  
EU: European Union  
FMTs: foreign medical teams  
NGOs: nongovernmental organizations  
UNOCHA: United Nations Office for the Coordination of Humanitarian Affairs  
WHO: World Health Organization

Received: March 30, 2014

Accepted: May 26, 2014

Online publication: June 19, 2014

doi:10.1017/S1049023X14000600

provide expected capabilities and services. Failures in leadership and in coordination among teams are also a problem. All deficiencies need to be applied to competency-based curricula.

Djalali A, Ingrassia PL, Della Corte F, Foletti M, Ripoll Gallardo A, Ragazzoni L, Kaptan K, Lupescu O, Arculeo C, von Arnim G, Friedl T, Ashkenazi M, Heselmann D, Hreckovski B, Khorram-Manesh A, Komadina R, Lechner K, Patru C, Burkle FM Jr., Fisher P. Identifying deficiencies in national and foreign medical team responses through expert opinion surveys: implications for education and training. *Prehosp Disaster Med.* 2014;29(4):364-368.

## Introduction

For several decades, the demand for better coordination and control has been heard during and after every major international disaster.<sup>1</sup> Unfortunately, the 2004 South Asian tsunami, and the 2010 Haitian earthquake and Pakistani floods exposed “unacceptable practices in the delivery of international medical assistance and raised concerns about the clinical competence and practice of some foreign medical teams [FMTs].”<sup>2</sup> These concerns voiced by the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA, New York, New York USA), the World Health Organization (WHO, Geneva, Switzerland), WHO regional organizations, and nongovernmental organizations (NGOs) called for better coordination, quality control, oversight, and international standards for health services. Recommendations included professionalization through a competency-based curriculum and registry of international provider organizations and their health providers.<sup>3</sup> This prompted national authorities and academic resources within the European Union (EU), the UK, North America, and Australia to re-evaluate their place in education, training, and standards of care for health providers in humanitarian assistance. The EU lent support for the development of a European training curriculum for international crisis management, referred to as Disaster Training Curriculum (DITAC), and a multidisciplinary collaborative team approach to standardized curriculum development. As such, the Centro di Ricerca Interdipartimentale in Medicina d’Emergenza e dei Disastri ed Informatica applicata alla pratica Medicina (CRIMEDIM), at the Università del Piemonte Orientale (Novara, Italy), was tasked with analysis of the state of the art of existing curricula and training of providers confronted with disasters. This included analysis of the programs, concepts, and methods used, as well identification of the gaps between the requirements of crises management and current available training and education.

If disaster international assistance is to improve, FMTs must have standardized organization and approach in response to disasters, which basically requires an understanding of the features, barriers, weaknesses, and strengths of response operation during catastrophic situations.<sup>4-9</sup> Even though the lack of data and standards has made the assessment of the actual effectiveness of the disaster response challenging and problematic,<sup>7</sup> the experience in the field and the knowledge acquired by disaster responders, and the opinions of experts, could be used to analyze the gaps, weakness, and problems within the operations of national and FMTs during such disasters. Because CRIMEDIM already had an established training course in the European Master in Disaster Medicine (EMDM), programmatic and academic leadership considered it necessary to determine whether future curricula would benefit from the cognitive and experiential input of worldwide experts in humanitarian assistance. This qualitative survey of field-level experts was considered to be an

essential first step in the analysis of existing curriculum content, which heretofore had been lacking.

Therefore, the aim of this study is to explore and analyze the opinions of disaster management experts, all of whom have careers involving response to various disasters, both at national and international levels, about potential deficiencies in the art and science of national and FMTs during disasters and the impact these opinions might have on competency-based education and training.

## Methods

### *Basic Methods*

This qualitative study was performed in 2013. A questionnaire-based evaluation of experts’ opinions and experiences in response to disasters was conducted. An open-ended questionnaire was designed, approved, and validated by consensus of the CRIMEDIM academic and research evaluation team. The selection of the experts was done using the purposeful sampling method, and the sample size was considered by data saturation. The questionnaire was sent to identified worldwide experts who represented expertise in different fields of disaster management, including health care, search and rescue academic teaching, and humanitarian aid that included field mission experience, military, NGOs, and intergovernmental organizations. The experts were asked to report their experiences and provide opinions about problems and challenges within the response to disasters that they felt must be included in any education and training initiatives; the main focus of which was on the subjects of management, education and training, and national and FMTs. Content analysis was used to explore the implications of the data. The completed questionnaire content was reviewed by different faculty and field managers, and relevant data were extracted. Responses of the experts were compared for similarities and differences, and then listed as merged sentences and categories.

### *Ethical Considerations*

Informed consent was obtained and all participants were informed they could refuse to participate or withdraw from the study at any time. Also, names and personal information of the participants were kept confidential and no names or affiliation data were included.

## Results

Fourteen experts from the UK, Germany, Italy, Belgium, Portugal, France, the USA, Israel, Iran, and Saudi Arabia participated in this study. All participants were male, and were from different areas of disaster management (Table 1). The experts’ opinion and experience were summarized and slotted into the following categories: (1) Training and Education; (2) Leadership, Coordination, and Management; and (3) National/Foreign Medical Teams.

Field of Work:	Health/Medicine	7
	Fire and Rescue	3
	Military	2
	NGO/IGO	2
Level of Education:	PhD/Doctorate	8
	Master of Science	3
	Bachelor of Science/Diploma	3

Djalali © 2014 Prehospital and Disaster Medicine

**Table 1.** Background of Opinion Survey Respondents  
Abbreviations: IGO, intergovernmental organization; NGO, non-governmental organization.

### *Training and Education*

The participants confirmed that the most important element of disaster preparedness is training and education. In fact, training is the cornerstone of an effective response to disasters. However, experts assert most disaster management training programs are not effective because:

- Disaster training programs are not comprehensive and competency-based.
- The quality and quantity of training programs are insufficient.
- There is neither a worldwide strategy nor standardized curricula for training on disaster management.
- There are no standardized criteria on how to select the trainees for disaster training courses.
- There are a limited number of professional trainers for disaster management.
- Budget limitation is often a serious challenge. There is seldom sufficient budget to build a well-organized training package in disaster management.
- One result of the lack of standardized training programs is that more lives may be lost inadvertently during or after disasters. Responders, who are usually not well trained, attempt to do their best during disasters, but more damage may result from their unskilled rescue attempts.
- It is necessary to develop a competency-based training curriculum. The quality of training programs and their impact on field operations needs evaluation, which will result in updating and providing a high-quality training program.
- A standardized international disaster training curriculum is greatly needed, but it must form part of the development of international standards for response, competence training, and quality assurance. In the absence of international standards for training and competence, teams train themselves to various standards and quality.
- Sometimes, the teams are well trained in their respective field of expertise, but work without knowledge of the benefits that are gained from interactions among various organizations and activities.

### *Leadership, Coordination, and Management*

The experts believed that leadership, coordination, and management are the core of response operations during disasters.

An effective leadership, comprehensive coordination, and a well-organized management will control and minimize disaster affects, including human impacts. The experts explored some gaps in the disaster-management process; they were as follows:

- There is lack of coordination among different sectors and agencies involved in disaster response. This challenge is seen in different levels of operations, including local, national, and international. Failure of communication systems intensifies coordination problems.
- Command structure must be defined and standardized with enough flexibility to react quickly to new circumstances; in practice, the command structures are usually unclear, unstable, and inflexible during disasters. This condition results in failure in the integration of similar activities because different structures of leadership are at work at the scene.
- Resource management during disasters is usually weak due to lack of well-organized coordination among different organizations. Because of essential resource shortcomings, and often, failure of a resource-management system, it takes too long to have the required resources at the site of a disaster.
- Lack of real-time and integrated information management systems is a considerable problem with response operation during disasters, especially in the early phase. This failure causes further delay in both assessment and response.

### *National/Foreign Medical Teams*

The respondents knew that the standardized medical teams were a key component of a response system, especially during the first days after a disaster. Well structured, trained, and equipped medical teams could guarantee appropriate medical care during disasters. However, they believe there are couple of deficiencies that need to be considered, such as:

- The international humanitarian system still has a long way to go to achieve a standardized and effective response to disasters. The international coordination process and standards of care need to improve for large disasters, especially in developing countries.
- One of the main problems with national and FMTs is that they are usually staffed by volunteers. A team is always formed ad hoc, and no real team-building can be held in advance. The team leader has to go through the team-building process in the field. Usually, members of teams either are not trained enough or not up-to-date. High rotation rate of the teams' staff also adds to the problem.
- The organization and readiness of teams in the field is very different; some teams are highly trained and well equipped, whereas others have little training and lack proper equipment.
- Some teams that label themselves "heavy rescue teams" respond with a small number of personnel that is below the stipulated requirement. In fact, they create an expectation of capability that they are unable to deliver.
- Some NGO teams are not certified and do not have the necessary skills and equipment; consequently, they are unable to deliver the expected skill once deployed.

### **Discussion**

When a disaster impacts a large area of a population, local disaster management systems might be overwhelmed quickly, and

national and FMTs, as well as other agencies, are requested to provide assistance in the affected area.<sup>10</sup> In the current century, there have been several disasters, mainly seismic events, which have required international medical response due to their huge human impact: the Bam earthquake in Iran in 2003; the tsunami in Asia in 2004; the Kashmir earthquake in Pakistan in 2005; and the Haiti earthquake in 2010.<sup>11–14</sup> In such catastrophes, international assistance is regarded as a right or obligation;<sup>15</sup> however, these cross-border operations face many challenges, problems, and barriers with respect to managerial, legal, social, and financial issues, as well as medical care.<sup>16,17</sup>

This study shows that there is lack of competency-based training for disaster responders. Indeed, developing and performing standardized training courses is influenced by shortcomings in budget, expertise, and standards. This result is consistent with other studies. Competency-based approaches in disaster training programs are a necessity,<sup>18,19</sup> but there is lack of this approach.<sup>20–22</sup> A study in the EU showed that only 61% of the disaster and emergency training initiatives have a competency-based curriculum design.<sup>22</sup> To have an efficient disaster-response system, training programs in disaster management need to train in core competencies.<sup>21–25</sup> All disaster-response teams must consist of staff competent in their duties and tasks.

Current results confirmed that the training of a response team is neither purposeful nor balanced. These results are supported by other experiences and studies.<sup>26–29</sup> In some disaster-assistance teams, the level of experience and training of team members vary widely, in regard to disaster management, and only some members have previously received well-organized disaster training.<sup>8,26</sup> A well-organized team, in which all personnel have enough knowledge and capabilities to perform the required tasks, is a prerequisite for efficient performance during response to disasters.

While the number of disaster educational programs continues to grow, there are no finalized and common standards upon which these programs are based.<sup>30,31</sup> As this study, as well as previous research, has shown, the essential role of disaster responders, especially during cross-border response operations, underlines the need for worldwide standards for disaster educational programs.

In this study, financial shortcoming was reported as a barrier to the development and conduct of standardized training programs in disaster management. Previous studies have confirmed the negative impact of financial limitations on disaster preparedness, including education of personnel.<sup>32–34</sup> Decision makers on disaster planning and preparedness should take the importance of funding under consideration and provide sufficient budgets for disaster training programs.

Current results support previous findings<sup>13,35,36</sup> indicating the lack of both coordination and integration among teams and their activities. Lack of communication, language barriers, information challenges, and failure in command systems could result in

insufficient coordination among different activities, such as search and rescue, medical care, and damage assessment, among others, serving in the disaster area. Development of international standards would help all response team members to follow the same principles, therefore, diminishing critical coordination gaps.

The participants of this study emphasized problems concerning access to relevant resources during disasters. Shortfalls of resources, such as human resources, equipment, and financial resources, among others, often are reported during response to different types of disasters worldwide.<sup>7,13,37</sup> Sometimes, this arises due to the lack of a resource management system.<sup>13</sup> A standard list of essential resources, a standardized financial planning instrument, a standardized resource management system, and a standard rapid-need assessment process after a disaster must be considered for the use of international teams.

Lack of reliable information was cited as a major issue during disasters, though some guidelines and procedures have been developed by research teams.<sup>38–41</sup> Disaster response teams sometimes enter the disaster area without sufficient information about the situation.<sup>13</sup> To solve this problem, the establishment of international centers for disaster information management will assist response organizations and teams before and during disasters.

The current study indicates that neither NGOs nor international teams fulfill the expectations of the impacted society with respect to capabilities and services. This problem is previously reported.<sup>13,16,27,42</sup> The NGOs and international teams should be required to provide a precise, standardized report of their capabilities, resources, and services before entering the disaster-impacted country. Working as a component of national teams will ensure that NGOs and international teams provide expected services in the disaster area, filling the gaps in the national disaster-relief effort.

### Limitations

Neither the sample size, nor the sample itself, were sufficient to fulfill random sampling criteria. Nevertheless, the selection of participants from different countries who had experiences of different disasters, worldwide, ensures a reasonable reliability of the findings.

### Conclusion

This study was based on the experience and opinions of recognized international experts in disaster response. The main focus was on the training, leadership, coordination, and operation of national and FMTs. The major findings of this study suggest that teams often are not competent during the response phase because of education and training deficiencies. The FMTs and medically related NGOs do not always provide expected capabilities and services. Failures in leadership and in coordination among teams are also problems. All deficiencies need to be applied to competency-based curricula.

### References

- Burkle FM, Jr. The development of multidisciplinary core competencies: the first step in the professionalization of disaster medicine and public health preparedness on a global scale. *Disaster Med Public Health Prep.* 2012;6(1):10–12.
- Inter-Agency Standing Committee, Global Health Cluster. Concept paper: foreign medical teams. May 17, 2011. [http://www.who.int/hac/global\\_health\\_cluster/about/policy\\_strategy/fmt\\_concept\\_paper\\_16may11.pdf](http://www.who.int/hac/global_health_cluster/about/policy_strategy/fmt_concept_paper_16may11.pdf). Accessed January 26, 2012.
- Proceedings of the WHO/PAHO technical consultation on international foreign medical teams (FMTs) post-sudden onset disasters (SODs), December 7–9, 2010. Havana, Cuba. <http://new.paho.org>. Accessed January 26, 2012.
- Bradt DA, Drummond CM. From complex emergencies to terrorism—new tools for health-sector coordination in conflict-associated disasters. *Prehosp Disaster Med.* 2003;18(3):263–271.
- Briggs SM. Disaster management teams. *Curr Opin Crit Care.* 2005;11(6):585–589.
- Burkle FM, Jr. Integrating international responses to complex emergencies, unconventional war, and terrorism. *Crit Care Med.* 2005;33(1 Suppl):S7–12.
- Aitken P, Leggat PA, Harley H, et al. Human resources issues and Australian disaster medical assistance teams: results of a national survey of team members. *Emerg Health Threats J.* 2012;5.

8. Aitken P, Leggat PA, Robertson AG, et al. Education and training of Australian disaster medical assistance team members: results of a national survey. *Prehosp Disaster Med.* 2011;26(1):41-48.
9. Aitken P, Leggat PA, Robertson AG, et al. Leadership and use of standards by Australian disaster medical assistance teams: results of a national survey of team members. *Prehosp Disaster Med.* 2012;27(2):142-147.
10. Owens PJ, Forgione A, Jr., Briggs S. Challenges of international disaster relief: use of a deployable rapid assembly shelter and surgical hospital. *Disaster Manag Response.* 2005;3(1):11-16.
11. Edelman N. The Kashmir Earthquake: a confluence of unfortunate events. December 1, 2006. <http://neil.chaosnet.org/documents/courses/epsc-250/kashmir.pdf>. Accessed March 26, 2014.
12. de Ville de Goyet C. Health lessons learned from the recent earthquakes and tsunami in Asia. *Prehosp Disaster Med.* 2007;22(1):15-21.
13. Djalali A, Khankeh H, Öhlén G, et al. Facilitators and obstacles in pre-hospital medical response to earthquakes: a qualitative study. *Scand J Trauma Resusc Emerg Med.* 2011, May 16;19:30.
14. Stuart JJ, Johnson DC. Air Force disaster response: Haiti experience. *J Surg Orthop Adv.* 2011;20(1):62-66.
15. Gunn SW. The humanitarian imperative in disaster management—a memorial tribute to Professor Peter Safar. *Prehosp Disaster Med.* 2005;20(2):89-92.
16. Habibzadeh F, Yadollahie M, Kucheki M. International aid in disaster zones: help or headache? *Lancet.* 2008;372(9636):374.
17. Jauregui C, Sholk J. Guide to giving international disaster response. Rootcause. <http://www.rootcause.org/docs/Resources/Research/International-Disaster-Response/International%20Disaster%20Response-%20Guide%20to%20Giving.pdf>. Accessed January 24, 2014.
18. Seynaeve G, Fisher AF, Lueger-Schuster B, et al. International standards and guidelines on education and training for the multi-disciplinary health response to major events that threaten the health status of a community. *Prehosp Disaster Med.* 2004;19(2):S17-30.
19. Frank JR, Snell LS, Cate OT, et al. Competency-based medical education: theory to practice. *Medical Teacher.* 2010;32(8):638-645.
20. Subbarao I, Lyznicki JM, Hsu EB, et al. A consensus-based educational framework and competency set for the discipline of disaster medicine and public health preparedness. *Disaster Med Public Health Prep.* 2008;2(1):57-68.
21. Schultz CH, Koenig KL, Whiteside M, et al. Development of national standardized all-hazard disaster core competencies for acute care physicians, nurses, and EMS professionals. *Annals Emerg Med.* 2012;59(3):196-208.
22. Ingrassia PL, Foletti M, Djalali A, et al. Education and training initiatives for crisis management in the European Union: a web-based analysis of available programs. *Prehosp Disaster Med.* 2014;29(2):115-126.
23. Burkle FM, Jr. The development of multidisciplinary core competencies: the first step in the professionalization of disaster medicine and public health preparedness on a global scale. *Disaster Med Public Health Prep.* 2012;6(1):10-12.
24. Burkle FM, Walls AE, Heck JP, et al. Academic affiliated training centers in humanitarian health, part 1: program characteristics and professionalization preferences of centers in North America. *Prehosp Disaster Med.* 2013;28(2):155-162.
25. Hsu EB, Ma M, Lin FY, et al. Emergency medical assistance team response following Taiwan Chi-Chi earthquake. *Prehosp Disaster Med.* 2002;17(1):17-22.
26. Waisman Y. Integration of foreign and local medical staff in a disaster area: the Honduras and El Salvador experiences. *Eur J Emerg Med.* 2003;10(2):124-129.
27. Bridgewater FH, Aspinall ET, Booth JP, et al. Team Echo: observations and lessons learned in the recovery phase of the 2004 Asian tsunami. *Prehosp Disaster Med.* 2006;21(1):s20-25.
28. Altevogt BM, Stroud C, et al. *Barriers to integrating crisis standards of care principles into international disaster response plans: workshop summary.* Washington, D.C. USA: National Academies Press. 2012.
29. Macpherson R, Burkle FM. Neglect and failures of human security in humanitarian settings: challenges and recommendations. *Prehosp Disaster Med.* 2013;28(2):174-178.
30. Archer F, Seynaeve G. International guidelines and standards for education and training to reduce the consequences of events that may threaten the health status of a community. A report of an open international WADEM meeting, Brussels, Belgium, October 29-31, 2004. *Prehosp Disaster Med.* 2007;22(2):120-130.
31. Daily E, Padjen P, Birnbaum M. A review of competencies developed for disaster healthcare providers: limitations of current processes and applicability. *Prehosp Disaster Med.* 2010;25(5):387-395.
32. Hyde J, Kim B, Martinez LS, et al. Better prepared but spread too thin: the impact of emergency preparedness funding on local public health. *Disaster Manag Response.* 2006;4(4):106-113.
33. Sauer LM, McCarthy ML, Knebel A, et al. Major influences on hospital emergency management and disaster preparedness. *Disaster Med Public Health Prep.* 2009;3(2 Suppl):S68-73.
34. Djalali A, Castren M, Hosseiniyab V, et al. Hospital Incident Command System (HICS) performance in Iran; decision making during disasters. *Scand J Trauma Resusc Emerg Med.* 2012, Feb 6;20:14.
35. McEntire DA. Coordinating multi-organisational responses to disaster: lessons from the March 28, 2000 Fort Worth tornado. *Disaster Prevention and Management.* 2002;11(5):369-379.
36. Yi W, Ozdamar L. A dynamic logistics coordination model for evacuation and support in disaster response activities. *European Journal of Operational Research.* 2007;179(3):1177-1193.
37. McCunn M, Ashburn MA, Floyd TF, et al. An organized, comprehensive, and security-enabled strategic response to the Haiti earthquake: a description of pre-deployment readiness preparation and preliminary experience from an academic anesthesiology department with no preexisting international disaster response program. *Anesth Analg.* 2010;111(6):1438-1444.
38. Brohi K. The Utstein template for uniform reporting of data following major trauma: a valuable tool for establishing a pan-European dataset. *Scand J Trauma Resusc Emerg Med.* 2008, Aug 28;16:8.
39. Bradt DA, Aitken P. Disaster medicine reporting: the need for new guidelines and the CONFIDE statement. *Emerg Med Australas.* 2010;22(6):483-487.
40. US National Library of Medicine. Disaster Information Management Research Center. <http://disasterinfo.nlm.nih.gov/>. Accessed February 2014.
41. Debacker M, Hubloue I, Dhondt E, et al. Utstein-style template for uniform data reporting of acute medical response in disasters. *PLoS Curr.* 2012 Mar 23;4:e4f6cf3e8df15a.
42. Samarasinghe D. Disaster management: lessons from immediate responses to the tsunami. *Ceylon Med J.* 2005;50(1):25-27.