ORIGINAL RESEARCH

Foreign Medical Teams: What Role Can They Play in Response to a Catastrophic Disaster in the US?

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ABSTRACT

Hurricane Katrina demonstrated that a catastrophic event in the continental United States (US) can overwhelm domestic medical response capabilities. The recent focus on response planning for a catastrophic earthquake in the New Madrid Seismic Zone and the detonation of an improvised nuclear device also underscore the need for improved plans. The purpose of this analysis is to identify the potential role of foreign medical teams (FMTs) in providing medical response to a catastrophic event in the US. We reviewed existing policies and frameworks that address medical response to catastrophic events and humanitarian emergencies and assess current response capabilities by a variety of FMTs. While several policies and plans outline the role of the US in providing medical assistance during foreign disasters, further planning is necessary to identify how the US will integrate foreign medical assistance during a domestic catastrophic event. We provide an overview of considerations related to federal roles and responsibilities for managing and integrating FMTs into the overarching domestic medical response to a catastrophic disaster occurring in the continental US. (*Disaster Med Public Health Preparedness*. 2013;7:555-562)

Key Words: international disaster response, catastrophes, medical assistance, foreign medical teams, complex humanitarian emergencies

In the event of a sudden-impact, catastrophic disaster event in the continental United States (US), the federal government can expect to receive offers of international medical assistance of both commodities and personnel. Catastrophic disasters, similar to complex humanitarian emergencies (CHEs), are marked by the loss of infrastructure and the inability of government to function effectively.[1] Such events may require a fundamental change in the provision of health care services, which will likely be governed by the transition of acute medical care delivery from conventional to crisis response.[2,3]

The federal government maintains strong capabilities and standards for domestic disaster management and response. However, conditions that result in the destruction of critical medical infrastructure, the need to augment medical surge capacity and capability, or the requirement to provide specialized medical care highlight the potential for US acceptance and integration of foreign medical assistance. In the aftermath of Hurricane Katrina in 2005, President Bush stated that no offers of assistance that could help alleviate suffering would be refused, yet most foreign assistance was declined or not used.[4,5] However, very selective assistance from neighboring countries was accepted and integrated into domestic response efforts. For example, the Mexican government deployed its first-ever disaster aid mission to the US, providing resources such as an ambulance with mobile surgical equipment, mobile kitchens, and all-terrain vehicles for search and rescue and refugee-assistance efforts.[6] The government of Canada also participated in the response to the Katrina flood catastrophe. The Canadian Department of National Defence deployed ships with military personnel to assist US Northern Command relief efforts; the Public Health Agency of Canada provided medical supplies requested by the US Department of Health and Human Services from its national emergency stockpile system; and the Canadian Air Force transported Canadian Red Cross officials to Texas.[7] Although these examples demonstrate the response of immediate neighbors to the north and south of the US border, the broader refusal of assistance, including from allies in Europe, the Middle East, and Asia, could have been attributed in part to unclear policies regarding the integration of foreign medical assets.[8,9]

What is not known is would the US government consider accepting offers of medical assistance from the international community; what thresholds would have to be exceeded to contemplate such offers of assistance; how would foreign medical teams (FMTs) be integrated into the response mechanism to a catastrophic disaster event occurring in the US; and what role, if any, might the United Nations take in implementing its oversight of medical response to disaster events.

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Policies currently exist to guide domestic catastrophic response operations but should be reviewed to address the following 3 core concepts. First, domestic policies should outline how to establish and use a pre-event registry detailing FMT capabilities. Second, domestic policies should identify how FMTs might be selected and integrated into domestic operations responding to a catastrophic disaster. Third, policies should be revised to identify the operational challenges that federal agencies could face regarding the integration of FMTs into domestic operations.

Several countries maintain robust medical teams for deployment to foreign disasters (see online Appendix A). However, their capabilities vary, and it is likely that few of these foreign capabilities may be appropriate to meet the needs of the US government. Evidence indicates that during management and response to disasters, FMTs are often uncoordinated, particularly with regard to collaborating with other FMTs and the host nation's domestic emergency management authorities.[10-12] Only some FMTs have medical capabilities that include surgical and specialized medical capabilities. Others maintain expertise in basic trauma care and medical services.[13-18] The federal government should improve plans and policies regarding the potential utilization and integration of foreign medical assistance, recognizing that such assistance will likely be offered and, in select circumstances, may be warranted in a catastrophic event affecting the US. Pre-event planning that identifies the specific gaps in the process to determine selection and utilization of FMTs should be initiated.

CONSIDERATIONS FOR USING FMTs IN A DOMESTIC DISASTER

A series of catastrophic events in the past decade highlights the complexities and pitfalls involved in coordinating the international health and medical response to those in need.[19] Planning for a catastrophic disaster has become an increasing priority of the federal government. The focus on developing crisis standards of care, in which usual health care operations are no longer possible because of an extreme demand placed on limited medical resources, is a significant feature of such planning.[20,21] While the US has significant resources in the health and medical sector, the ability to mobilize such resources in a rapid fashion and place them in the immediate response to a catastrophic event are very limited. These restrictions are primarily due to the existing limitations of federal disaster medical response capabilities,[22] and the inability to rapidly mobilize and organize the thousands of spontaneous medical response volunteers that might be needed to lend assistance under such circumstances.[23]

Current federal plans identify programs and agencies having key roles in response to a catastrophic event. The National Disaster Medical System consists of 80 deployable teams; 55 of these are disaster medical assistance teams (DMATs), which are primarily focused on the delivery of emergency-level care and the reconstitution of chronic care needs; and 3 are international medical surgical response teams.[24] Additional resources, such as those from the US Public Health Service,[25] deployable Department of Defense (DoD) medical capabilities, and academic health centers, would be used during a catastrophic response. Other private resources would respond under an ad hoc process of *convergent volunteerism*,[26] but would largely be disorganized and only marginally integrated into the official, coordinated government-led response. Even if such practitioners volunteer to respond, or become convergent volunteers who are drawn to respond to a regional catastrophe, it remains unclear how they will integrate into Incident Command System operations under its current structure.

Therefore, while significant medical resources exist across the US, their ability to rapidly contribute to the acute response to a large-scale event would likely fall short in face of a catastrophic disaster. Academic health centers and deployable DoD assets have assisted with medical response efforts in CHEs outside of the US, such as after the 2010 Haiti earthquake.[27-30] However, for response operations to a domestic catastrophe, it remains unclear who will supply additional medical assets, where such assets will be staged, and how they will be organized under current response frameworks. In the absence of a ready plan to integrate large numbers of domestic volunteers, or investments in significant resources to expand National Disaster Medical System capabilities, the advantage of integrating FMTs into response operations lies in the fact that such teams are organized and trained in providing acute medical support to disaster-affected regions. Unlike well-intentioned domestic volunteer counterparts, FMTs are equipped, trained, and supplied to provide the needed medical support under austere conditions. The combination of a sudden-onset catastrophic event with a recognized shortfall in the availability of an organized domestic medical response capability, in which the absence of trained medical providers might affect morbidity and mortality outcomes, could therefore trigger the use of FMTs.

BARRIERS TO THE INTEGRATION AND COORDINATION OF FMTs

The participation of well-equipped, well-staffed, and experienced FMTs in response to a large-scale domestic disaster could enhance the opportunity to save lives and reduce suffering. Allowing selected FMTs that are vetted, and whose capabilities and limitations are clearly understood before an event, to participate in the delivery of acute medical care to injured and dying American citizens should be considered as a potential mechanism to improve response capabilities. However, a number of significant challenges are related to the potential use of FMTs in response to a disaster event in the continental US. These include political concerns

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regarding the acceptance that such teams should be invited to respond to an event in the US, as well as the logistical challenges that will result from the arrival of FMTs.

The greatest perceived barrier to the integration of FMTs into a domestic response will likely focus on the adherence to accepted standards of care expected of health and medical providers delivering emergency care in the US. While bringing FMTs into the US to render care in a disaster might actually result in care not delivered to the level of expectations of US medical providers is a concern, we believe that doing so will likely result in improved rather than lowered, standards of care. These are events that will likely result in standards of care and emergency medical response that are fundamentally different than emergency medical response that occurs on a day-to-day basis.[22] Therefore, the expeditious utilization of FMTs could help support the acute medical response. By providing critical supplies, staffing, key resources, and the capability to manage the medical and surgical needs of the affected population, FMTs may provide services that might otherwise not be available during the acute phase of the disaster response.

As described in the Institute of Medicine's work on standards of care in disaster events, medical care will be delivered across the continuum from conventional to contingency to crisis surge response paradigms.[20] Permitting and integrating FMTs should be considered only during catastrophic events, when all available domestic medical response resources have been committed to the response, and a gap in delivering medical care remains. The use of FMTs would occur within the context of the implementation of crisis standards of care.

Another significant challenge relates to the legal and regulatory framework as it pertains to the delivery of health and medical care. Medical providers, as licensed independent practitioners, or nonlicensed practitioners dependent on certification and registration, work in a highly regulated environment.[31] FMTs would likely only be permitted to deliver care in the US based on some measure of verification of their capabilities. However, licensing, credentialing, and verification cannot be accomplished in real time during a disaster. These issues must be addressed before an event, or a mechanism to address them in real time must be created. Because the granting of medical, nursing, and pharmacy licensure is a state's responsibility, state governments will likely have to permit the licensing and credentialing of FMTs during a CHE. Therefore, current planning for catastrophic disaster response should, to the extent possible, rely on pre-established international agreements, which are nonbinding instruments not subject to ratification.[32] Planning should also be based on a pre-event registry of foreign capabilities and credentials for proper integration of FMTs. Disaster response entities are mobilized at the request of, and to provide support to, local emergency management authorities. In the case of FMTs coming to the US, they will be tasked with specific mission assignments at the local or state level. Although states are ultimately charged with approving integration of FMTs, the federal government is constitutionally responsible for negotiating and entering into the international agreements likely to be required to make such integration possible.[33]

Finally, assuring the operational integration of FMTs will pose challenges, as these teams would be expected to operate within the existing National Response Framework. Concerns include team placement, scope of services, logistical support, language services, and coordination with local, state, and federal domestic emergency response assets. An additional consideration will be reliance on the United Nations and the World Health Organization (WHO) Global Health Cluster to provide a framework for international disaster response, similar to the current efforts that are modeled on the International Search and Rescue Advisory Group framework used by the international urban search and rescue (USAR) community.[34] Initial exploration of integrating foreign response teams into a domestic catastrophic disaster response event occurred during the Federal Emergency Management Agency (FEMA)'s National Level Exercise, conducted in 2011.[35] Specifically, the Israel Defense Forces' search and rescue command staff worked in conjunction with the FEMA USAR incident support team to simulate the arrival of an Israeli search and rescue team to help respond to the exercise scenario, that is, a large-scale disruptive earthquake along the New Madrid Seismic Zone resulting in tens of thousands of casualties.

OVERVIEW OF EXISTING POLICIES AND FRAMEWORKS

The US government supports several policies and frameworks regarding response to domestic and international CHEs (see online Appendix B). However, neither domestic nor international policies completely address the role and integration of FMTs, and current policies are piecemeal and incomplete. This situation can result in an inability to meet public health and medical needs, inhibit the opportunity to contribute meaningful data regarding the public health response, and limit reporting of useful information regarding the utilization of services and delivery of care. In some cases, lack of FMT coordination in the acute response could even exacerbate public health and medical problems.[11,36-41] In contemplating the potential use of FMTs in response to an event in the US, many provisions in existing policies could be adapted to more comprehensively address the integration of such teams in the domestic setting.

Domestic Policies

The International Assistance System (IAS) concept of operations, most recently updated in 2010 by the US Agency for International Development (USAID), Department of State, and FEMA, outlines how the US government should integrate foreign assistance into domestic disaster operations.

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It details how relevant agencies should submit requests, process offers, and accept foreign offers of assistance to help manage and respond to domestic incidents (see Appendix C). The IAS is only activated under specific circumstances and, to be activated, the federal government must request or decide to request offers of international assistance. FEMA must also request assistance in managing offers.[42] As this policy was crafted after Hurricane Katrina, it is still yet to be fully used in a catastrophic event.

The DoD's support of the Defense Support of Civil Authorities (DSCA) provides civil support during domestic emergencies and natural disasters, with a focus on augmenting homeland defense. The application and activation of DSCA are limited; for example, it is not activated for chemical, biological, radiological, and nuclear events, high-yield explosives, or acts of terrorism.[43] It might, however, be implemented in the event of a catastrophic disaster in the US in which a large loss of life and loss of infrastructure, combined with complex response-assistance needs, were to occur. DSCA is likely to provide an added degree of surge capability and technical expertise during response efforts, which FMTs, as individual response entities, will be less likely to provide. A large-scale catastrophic event for which threats to the homeland prompt implementation of DSCA could also be a threshold for warranting consideration of the use of multiple FMTs. Any event that requires a DoD domestic response, which is not typically involved in such response efforts, could also be an indicator that FMT mobilization should be considered to address medical needs in affected areas.

International Policies

The US government supports many initiatives with foreign entities that provide guidance and establish standards for operating procedures during public health emergencies and disasters. Several of these policies include elements that could be adopted into policies and frameworks outlining the role of FMTs in catastrophic disaster response. The North American Plan for Animal and Pandemic Influenza (NAPAPI), which was released in April 2012, establishes an operational framework to coordinate efforts between Canada, Mexico, and the US during animal and influenza events.[44] Provisions on personnel exchange and critical infrastructure protection could be adopted to identify ways to provide oversight and coordinate FMTs.

The North Atlantic Treaty Organization (NATO) issued a Status of Forces Agreement (SOFA) in 1951 that establishes the legal status for a visiting NATO military force deployed to a foreign territory, and issues guidelines for humanitarian actions in foreign territories.[45] All 28 NATO members adhere to SOFA and must reach a consensus to determine when member states engage in a crisis management operation, regardless of whether the operation is in a NATO or non-NATO state. In recent years, NATO response efforts have underscored the need for pre-agreed legal templates with potential recipient nations. For example, in response to the 2005 Pakistani earthquake, the Pakistani government and NATO had not yet finalized the operational status of NATO forces before the first deployment of the NATO response force. As a result, donors were unable to coordinate response efforts with each other, and the Pakistani government was unable to fully assess the needs of the affected population.[46,47]

In 2003, the WHO and the Pan American Health Organization (PAHO) outlined guidelines for the use of foreign field hospitals (FFHs) after sudden-impact disasters. These guidelines addressed FFHs, which are mobile, self-sufficient, and self-contained health care facilities capable of rapid deployment and of adjusting in size to meet immediate emergency needs for a specific period of time.[48] In the immediate aftermath of the 2010 Haitian earthquake, the international response community recognized the need for increased evaluation of the use of FFHs and FMTs.[49,50] As a result, a WHO Global Health Cluster meeting in 2011 called for revisions and expansion on proposed uses of FFHs and FMTs. The Global Health Cluster specifically called for action on recommendations in a WHO concept paper, which recommended the establishment of the FMT working group and an international registry of FMTs.

The FMT working group has been tasked with establishing guidelines for the utilization of FMTs, including how to address surge capacity concerns and coordination of multi-sector assets.[51,52] The working group will collaborate with international associations and agencies, including international nongovernmental organizations (NGOs), civil defense organizations, the WHO, and the International Federation of the Red Cross, to develop a classification system for FMTs and compile an international registry of their capabilities. In March 2013, the working group completed a draft document that outlines the criteria for FMT self-registration assessment and classification.[53] It is intended that the registry will provide information on technical, resource, and deployment capabilities, and will serve as a means of quality assurance for medical assistance.[54] This arrangement is not unlike the domestic utilization of registries for disaster responders such as the use of the Emergency System for Advanced Registration of Health Volunteers[55] and the recruitment of health care providers under the auspices of the Medical Reserve Corps.[56] It permits a degree of accountability and transparency of available resources that is otherwise not readily apparent.

RECOMMENDATIONS FOR IMPROVING INTEGRATION OF FMTs IN DOMESTIC OPERATIONS

In spite of efforts organized under existing frameworks and policies, further pre-event planning is necessary to improve management and integration of FMTs during a domestic CHE. The following recommendations address how the

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US government and international community can advance the FMT working group's efforts and outline considerations regarding the utilization and integration of FMTs responding to a CHE occurring in the US.

1. *Encourage US government agencies to provide continued support for FMT working group efforts, specifically the development of a pre-event registry and an FMT classification planning process, as outlined in their recent concept paper*. National governments should be encouraged to support the FMT working group in establishing a robust registry of FMT capabilities. This registry will provide the US government and other governing entities with a registry of medical assets. The registry will also promote high standards for medical assistance and uniform ethical guidelines for operating in foreign territories. The establishment of such a registry could ultimately lead to a classification system, which would promote internationally accepted standards regarding the capabilities and specializations of FMTs. Through this process, FMTs could deploy based on a predemonstrated assessment of specific capabilities. Because the proposed registry also calls for registrants to identify minimal service capabilities, much like those adhered to by international NGOs, the registry can eventually expand to include NGOs. This in turn can help standardize requirements for medical assistance from both governments and NGOs. The US government should support the creation of a registry and classification system and encourage the future integration of NGOs into the framework.
2. *While the federal government provides support to states for emergency response efforts, some states may find it necessary to enter into emergency assistance agreements with foreign governments*. Select states and localities have explored waivers for medical licenses in emergency situations; however, for jurisdictions that lack such policies, federal support would be warranted to expedite medical response. Governors are currently permitted to request assistance from other states or the federal government through mechanisms such as the Emergency Management Assistance Compact (EMAC). All US states and territories have adopted EMAC, and some states have added legal provisions that also facilitate the use of foreign-licensed professionals. This arrangement is not true of all states via their adoption of EMAC but it could be a mechanism to permit foreign-licensed practitioners to assist in the event of a disaster. Some states may also find that foreign assistance is less expensive, timelier, or more readily available. For example, states bordering Canada or Mexico may find that cross-sharing critical resources, such as equipment or personnel, allows for a more timely response than awaiting assets from another US state. Select local jurisdictions also have mutual aid agreements with their international cross-border counterparts; these agreements address how to coordinate and command requests for assistance, address liability concerns, and conduct joint training.[57]

   The federal government should coordinate with states to encourage state laws that promote unilateral engagement with foreign governments and establish a process for temporary, rapid recognition of existing foreign licenses and certifications. Two provisions can serve as models for state governments when coordinating and integrating FMTs during disasters. Currently, when the President declares an emergency or disaster and the Secretary of Health and Human Services declares a public health emergency, the secretary has authorization to take actions that are not typically under the secretary's purview. Section 1135 of the Social Security Acts gives the secretary permission to modify or waive certain provisions under the Children's Health Insurance Program, Medicare, or Medicaid, to ensure sufficient health care is available and accessible to those enrolled in these programs.[58]

   Second, the Food and Drug Administration permits the interstate shipment and importation of unapproved new drugs, which are generally prohibited, in the event that the intended use of the drug is unapproved and for which effective treatment is unavailable domestically through clinical or commercial means.[59] Congress should authorize states to waive or modify requirements for foreign medical assistance on the declaration of an emergency and activation of the IAS, provided these FMTs are invited to respond and have undergone the registry and classification process. For FMTs that have been vetted before the onset of the catastrophic event, their integration into an operational response that occurs under the auspices of federal response efforts would eliminate the need for urgent state-by-state amendments to existing state law, including those related to state-based licensing decisions.
3. *Adjust current guidance under the International Assistance System to more clearly address the integration of FMTs, from both foreign governments and international NGOs, in a domestic response*. The executive branch should establish an interagency coordinating committee that can provide recommendations about how the IAS can more comprehensively address the role of FMTs in a domestic response effort (see online Figure). Such a committee should include USAID; DoD; Department of Health and Human Services; the departments of State, Justice, and Transportation; and several divisions of the Department of Homeland Security, including FEMA, Customs and Border Patrol, and Immigration and Customs Enforcement. This effort should be initiated immediately with the intent to utilize the recent FMT working group draft guidance as a catalyst to establish a registration and classification system. This kind of system would be required to support selected invitation of FMTs to respond to a catastrophic event in the US, if warranted.
4. *Identify how to coordinate planning and response to a catastrophic event within accepted international response frameworks*. The US government will likely manage domestic response operations, yet it should identify how

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to address the role of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), since OCHA coordinates international response efforts to disasters in foreign nations. Similar to work with the International Search and Rescue Advisory Group for search and rescue operations, the US government should coordinate with the United Nations Disaster Assessment and Coordination (UNDAC) unit within OCHA to set up a system that establishes operating standards for FMTs. This system should aim to create uniform standards among FMTs and response teams in a host country to ensure efficient integration of FMTs into domestic operations. As noted, these efforts should expand as well to address approaches to professionalizing NGOs so that such teams can also meet the standards necessary to integrate into overall operations. USAID and other relevant agencies should begin conversations with OCHA to predetermine what role the UNDAC will play in response to a CHE in the US, instead of reacting to the request for participation of the key international organizations as an event unfolds.

5. *Just as domestic assets address liability protection issues, foreign governments deploying medical responders to the US should also address liability concerns regarding their medical teams.* All medical providers will be subject to some potential liability and, therefore, in the absence of criminal, malicious, or grossly negligent conduct, governments that dispatch FMTs should be responsible for all costs and liabilities associated with their teams. Beyond direct costs associated with receiving foreign medical assistance, the US government should not be accountable for any potential additional costs and liabilities associated with injuries, economic losses, and other claims borne by FMTs when responding to a disaster in the US. Congress, FEMA, and other federal agencies should develop a template and prescripted language for response policies and frameworks that clarify this responsibility for foreign donors.

CONCLUSIONS

A catastrophic event in the US may result in the need to use and integrate FMTs into domestic response efforts supporting the health and medical management of American casualties. As stated in a 2012 PAHO report assessing response to the 2010 Haitian earthquake, strategic coordination during catastrophic disaster response must be improved. Furthermore, international responders should coordinate with UN authorities and complement domestic response efforts.[52] Pre-event planning must address legal, regulatory, and coordination concerns, to maximize FMTs as a resource, and it should incorporate considerations regarding standards of care and professionalization of providers. The US and other governments should support the advancement of the registry and classification system proposed by the FMT working group. Following such a registry, the US government must identify how to use existing international mechanisms for coordination and how to integrate such efforts under existing state and local emergency mechanisms. If implemented rapidly, FMTs could alleviate the burden of injury, illness, and suffering of American citizens affected by a major catastrophic health emergency occurring in the US.

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Supplementary materials

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