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Correspondence

Operative care after the Haiti 2010 earthquake: implications for post-disaster definitive care

To the Editor,

On January 12, 2010, a 7.0 earthquake struck Haiti, affecting 3 million people and causing 220 000 deaths and more than 300 000 injuries [1]. In response to a request from Hopital Saint Francois de Sales in Port-au-Prince, a series of surgical teams were deployed from the Shock Trauma Center at the University of Maryland Medical Center (STC-UMMC) to operate 2 operating rooms and provide postoperative care. The STC-UMMC teams operated alongside the staff of Hopital Saint Francois de Sales from January 30 through June 27, 2010. After reviewing the teams' operative records and reports of other foreign medical teams (FMTs) responding the Haiti earthquake (see Table and Fig.), we have explored the potential implications of these experiences regarding disaster preparedness and FMT response.

Although the injury pattern of the Haiti 2010 earthquake closely resembled that seen after other recent disasters [2,3], foreign medical and surgical support teams were engaged in the treatment of traumatic injuries in Haiti for a substantially longer period than previously recognized [2,4]. In Haiti, STC-UMMC and other FMTs were fully occupied with the treatment of traumatic injuries for 6 weeks after the disaster [4]. STC-UMMC performed operations treating solely fractures and wounds for the initial six weeks. After this point, STC-UMMC continued to treat predominantly soft tissue and orthopedic injuries. Although the cause of injury was not listed in operative reports, the vast majority of these injuries were reported to be earthquake-related.

A number of factors likely contributed to this prolonged role of the FMTs: roadway damage delayed patients' access to care, widespread confusion persisted regarding the availability of treatment facilities, limited relative capacity for patient evacuation, and local residents' hesitation to seek treatment from FMTs [5]. Likely the most significant reason for a prolonged FMT presence was that local health care services were extremely limited before and after the earthquake. Haiti is the most impoverished country in the western hemisphere with some of the poorest public health indicators in the region, and the limited health services that were available in Haiti were

devastated by the earthquake [1,6]. There existed a limited capacity to transition care back to non-functioning or impaired local health care counterparts. FMTs also became responsible for much of the long-term surgical care typically required for the high incidence of non-union, mal-union, and postoperative infection following disaster-related surgery for musculoskeletal injury [2,5]. Additionally, in the experience of the authors, patients with chronic and non-emergent complaints presented for evaluation and treatment from Week 3 onward, because free health care was available from the FMTs. Eventually a dual system emerged with the Haitian providers managing routine care and STC-UMMC or other FMTs maintaining their focus on the trauma and surgical patient. Still, FMTs' exit strategies were significantly complicated by the ongoing demand and need for their services.

This experience emphasizes the need for more focused and stronger programs to build local acute care capacity and strengthen surgical systems at the national level. Such programs would function to enable a more expedient transition of care to local providers following a disaster response. These would serve as a fundamental mechanism for disaster preparedness. Additionally, the experience of STC-UMMC highlights the importance of FMTs leveraging local partnerships. FMT coordination with local partners, as seen in the STC-UMMC response, limits many of the hazards observed in prior long-term disaster response efforts, such as creating a new health-gap or inattentiveness to local concerns.

The Guidelines for the Use of Foreign Field Hospitals in the Aftermath of Sudden-Impact Disasters state that foreign field hospitals (FFHs) be established within 24 hours after a disaster and that FMTs operate them for up to 15 days, unless otherwise requested by local authorities [7]. In the aftermath of the earthquake in Haiti though, the need for FMTs with surgical capacity continued far beyond 15 days. Cooperating with local health care providers, international medical and surgical teams treated high volumes of patients in temporary field hospitals and surviving medical facilities for up to 6 months and longer after the earthquake [4]. It has been suggested that the 15-day exit guideline for FFHs should be revised to better reflect local context and needs, as well as the diverse modalities of health disaster responders [3,8,9]. This aspect of FMT efforts in disaster response is the subject of much discussion, and further study is needed to elucidate the appropriate exit strategy for FMTs in

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	Internal fracture treatment	External fracture treatment	Wound care	Amputation	Extraneous
Week 3	1	4	9	0	0
Week 4	12	9	22	1	0
Week 5	12	9	21	0	0
Week 6	14	2	15	3	0
Week 7	13	3	4	2	10
Week 8	19	1	5	0	13
Week 9	7	6	9	2	19
Week 10	6	6	11	1	14
Week 11	4	2	9	0	6
Total	88	42	105	9	62

^a STC-UMMC operations in Haiti began during week 3 post earthquake, so no data is provided for Week 1 and Week 2. Data reviewed for initial 2 months of operations.

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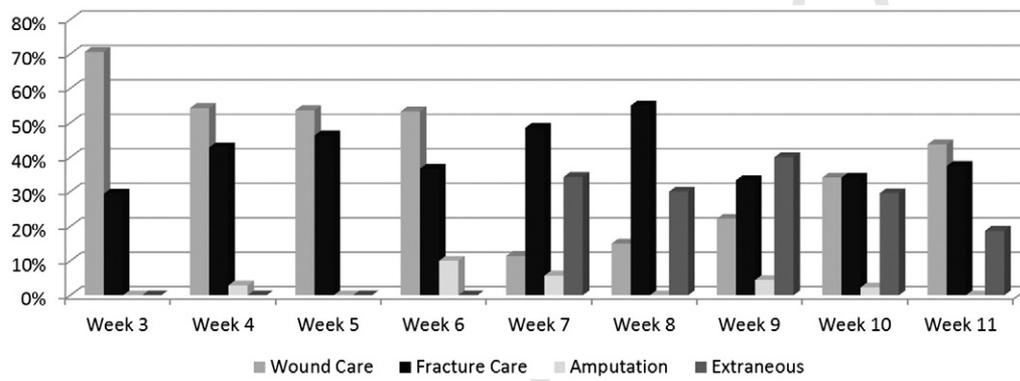


Fig Procedures performed by week and type during STC-UMMC operations in Haiti, January 30 through March 25, 2010 (weeks 3–11).

88 such situations. The experience of STC-UMMC as well as the
89 extended timeline realized by other FMTs in this particular
90 response effort could potentially suggest a longer deployment
91 period for FMTs than previously set for FFHs, but certainly
92 supports a more context-specific end point.

93 On the whole, with an extended demand for international
94 medical and surgical support in Haiti due to the limited
95 baseline health care capacity and further complicated by the
96 earthquake, the experience of STC-UMMC emphasizes the
97 importance of national acute care capacity building as an
98 essential component of emergency preparedness, the role of
99 local partnerships in FMT response, and the need to further
100 evaluate exit guidelines for FMTs in disaster response.

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