

## Development of a Coordination System: Lessons Learned in Earthquakes in Nepal and Japan

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**Study/Objective:** Designing a local health emergency coordination system for the disaster relief, based on the lessons we learned in international and domestic disaster medical relief.

**Background:** Major earthquakes with a magnitude of 8-9 are anticipated to occur in Mie Prefecture, Japan. Health emergency management services in local governments need to establish an efficient and accountable coordination system.

**Methods:** While having participated in disaster relief in recent earthquakes in Nepal and Japan, we observed the need for coordinating immediate medical assistance and support, to maintain local healthcare in transition from acute to later phase. We utilized the concepts of a health cluster meeting, and explored the roles of disaster medical coordinators in the regions.

**Results:** In 2015, we visited Nepal two weeks after the first earthquake and observed that the government was overwhelmed to distribute many international and domestic medical teams focusing on trauma, and emergency medical relief for mass casualties. Although the health coordination mechanism worked in the initial phase, support to local healthcare facilities where employees were also suffering, did not gain much attention. There was a gap between the disaster support in acute phase and long-term humanitarian relief, and the national and local authorities seemed unable to fill the gap. In the East Japan Earthquake and Tsunami 2011, many medical teams rushed to the areas without formal agreement. We requested to be dispatched as a prefectural medical team under the authority of affected prefectural government, which enabled us to support an acute and recovery phase under authority of local government. Based on the experience, Mie prefecture and Mie University have developed and distributed a local coordination system adapting concepts of a cluster approach.

**Conclusion:** We developed a local health emergency coordination system to cope with the disasters, considering the lessons we learned at the recent earthquakes.

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## Counter-Terrorism Medicine: It Is Time

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**Study/Objective:** To demonstrate the demand for a new medical specialty committed to the unique mitigation, preparedness, and response requirements needed to be proactive in addressing terrorist attacks, based on the growing amount of medical literature analyzing such attacks to date. There is currently no such field.

**Background:** Asymmetric and multi-modality terrorist attacks represent an emerging and global healthcare crisis, increasing since the September 11<sup>th</sup> attacks. The particularity of modern intentional acts of violence is their non-conventional characteristics, that often result in a surge of specific injuries and wound patterns that put high demand on our healthcare systems. In addition, such attacks carry unique target-hardening, logistics, operations, and safety issues in order to positively impact morbidity and mortality.

**Methods:** The authors performed a systematic review of peer reviewed literature indexed in PubMed, with no limits on year of publication or language. Exploded search terms included "Counter-Terrorism Medicine" "Terrorist Attacks", and "Terrorism".

**Results:** Search strategy yielded 12,309 citations for "Terrorism", 2,046 citations for "Terrorist Attacks", and 0 citations for "Counter-Terrorism Medicine" that use the words together as a phrase. There was a clear increase in articles since 2001, with 96.7% of the articles written between 2001 and 2016.

**Conclusion:** We found 14,355 articles reporting on terrorism and terrorist attacks in the medical literature. The majority of articles were written after the September 11<sup>th</sup> attacks. This vast amount of data supports the need for a unique area of expertise dedicated to mitigation, preparedness and response to these events. We call that specialty 'Counter-Terrorism Medicine'.

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## Response of a Tertiary Care Teaching Hospital following a Grid Collapse in North India: Through a Contingency Plan

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**Study/Objective:** The current study brings about the response of a tertiary care teaching hospital in the event of a northern grid collapse that occurred in July 2012 in North India.

**Background:** Continuous and uninterrupted supply of electricity is vital for the smooth functioning of a hospital, as it is required for the functioning of life saving equipment. Electricity failure can lead to major adverse events in a hospital. Power disruption is not always predictable or preventable.

**Methods:** The real challenge was not only to address individual hospital services which were dependent on feeder electricity, but also to have a fine synchronization among various hospital operations to mitigate chaos and to avert any adverse outcome.

**Results:** The response to this major electricity failure was a contingency plan in place. As per the plan, we had a priority power back up system in the form of Diesel Generator (DG) back up. DG sets could provide power back up for a continuous eight hours, after which it had to be refueled. A liaison was created with the city-level engineering department to remain updated about resumption of power, and with government operated fuel stations to get the required amount of diesel on payment. Concurrently, various supportive functions and services of the hospital dependant on electricity were switched over from automatic modes to manual mode, without letting the patient care services be affected by it. The communication system was catered in through the use of

mobile phones from the closed circuit user group. Vertical transport systems were affected, and hence ramps were utilized for internal transportation of patients and supplies. The water crisis was averted by impressing upon need of water conservation among various users.

**Conclusion:** In the event of any crisis, having a contingency plan in place is the advantage to systematically and effectively make use of resources on hand.

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