Crisis Standards of Care: Concepts of Operations and Tools

Vicki L. Sakata
Senior Medical Advisor, Northwest Healthcare Response Network, Tukwila/WA/United States of America


Background: In a catastrophic disaster, standards of care may change, either due to overwhelming number of patients or lack or resources. In 2009, the Institute of Medicine published a landmark report on CSC. Since then, many others have worked to operationalize concepts of CSC. Delivering health care when resources are limited (e.g., ventilators in a pandemic) would force clinical practice to change dramatically. The NWHRN is a health care coalition representing the two largest counties in Washington State. We convened a Disaster Clinical Advisory Committee (DCAC) and developed clinical guidelines for use during times of scarce resources.

Methods: The NWHRN DCAC committee developed nine Scarce Resource Cards based on work by Minnesota Public Health. We have modified Minnesota’s work to meet our regional needs and have added 3 Critical Care Algorithms. The Critical Care algorithms are used together with Triage Team Guidelines. All resources were developed by subject matter experts and clinical leaders, with input by adult and pediatric ethicists.

Results: These CSC tools are important, but only a small part of response. Local and regional coordination between clinicians, health care executives, and public health is required to best serve a community. Recognizing this, NWHRN developed an overall Concept of Operations for Scarce Resource Management bringing all stakeholders together for regional planning.


The Golden 100 Hours of Mass Casualty: A Civilian Team Applying the Military ‘Mobile Forward Surgical Team’ Model to Deliver Mass Casualty Surgical Care in the Aftermath of Super Typhoon Haiyan

Richard P. Koehler1, Michael M. Karch1, David T. Page2, Sara May3, Martha Kim1, Wayne Anderson1, Jon Bourne1
1. Surgery, Mammoth Hospital, Mammoth Lakes/CA/United States of America
2. Mammoth Medical Missions, Mammoth Lakes/CA/United States of America
3. Anesthesiology, Mammoth Hospital, Mammoth Lakes/CA/United States of America

Study/Objective: The first 100 hours following a mass-casualty or natural-disaster event offers a “Golden 100 Hour” period of time where the opportunity exists to provide maximal medical and social benefit to disaster victims. Our rapidly deployable, self-sustained, Civilian Mobile Forward Surgical Team (CMFST) analogous to the Mobile Forward Surgical Team utilized by the United States Military showed this model is safe and effective.

Background: The first 72-100 hours post-event is often devoid of formalized medical responses from outside the disaster zone, and local response is often hampered by the disaster itself. Among survivors, there is a need for urgent medical care within the first 100 hours.

Methods: Our CMFST began surgical operations in Leyte Province, Philippines approximately 60 hours after Super Typhoon Haiyan hit landfall. This represented the only operational medical facility, providing Damage Control surgical and obstetrical care within the hardest hit region from 60 to 110 hours post typhoon landfall. Our CMFST training, organization, and discipline was based on the Military Forward Surgical Team model. Ten out of the 13 individuals had prior formal CMFST/Mass Casualty training, none had prior military experience.

Results: Over a four-day period, we cared for 157 patients requiring urgent surgical, obstetric, or orthopedic operations or procedures, who otherwise would not likely have had access to medical or surgical care. Our field hospital was the de facto medical and surgical facility for a population of 50,000, until the local hospital resumed operations, and even then, remained functioning for a time period of four months after our team departed the disaster zone.

Conclusion: Based on our operational experience in the immediate aftermath of Super Typhoon Haiyan, we believe that Civilian Mobile Forward Surgical Teams should become standard in international disaster relief to provide care as early as is possible within the “Golden 100 hours” post-event.