Evolution of the Humanitarian Supply Management System (SUMA) in Emergencies (Components of the SUMA Global Project)

G. Kipor
All-Russian Centre for Disaster Medicine (ARCDM), Russia

When attempting to enhance preparedness and/or providing responses to emergencies, different governmental agencies and public institutions use a large number of computer-controlled technologies designed to increase the efficiency of humanitarian assistance. The World Health Organization (WHO) supports the further development of the Humanitarian Supply Management System (SUMA) through the SUMA Global Project, the concept of which was suggested and synthesized by the non-profit, non-governmental organization, FUNDESUMA, under the guidance of the Pan-American Health Organization (PAHO). This presentation provides a brief description of the current status of the SUMA, its principles and activities.

The SUMA is recognized as a basis for management ideology for the provision of support in general, and supply, in particular, during humanitarian operations. When the SUMA begins operational, the humanitarian supplies of goods and services to the victims in the health sector is characterized by high values, conform with a list of enquiry for meeting the defined needs, is supervised at every stage of the control process, and is transparent as for the quality and form of feedback information provided.

In addition, adequate communication between all parties always exists and promotes the most efficient coordination between emergency relief workers, information exchange with mass media, as well as with the donors and victims, i.e., distribution of donations is performed in accordance with the principles of the United Nations humanitarian agencies. The basic components of the SUMA Global Project are considered to be parts of a universal management system for humanitarian support during emergencies.

The preparation of one of the SUMA Global Project Components using the Cyrillic alphabet is described. Thus, this Project can be used in those countries with the given alphabet, to enhance the efficiency of humanitarian supply management during an emergency. The provision of training seminars using a specially developed curriculum is suggested, including: (1) basic components of the SUMA Global Project; (2) introduction to humanitarian support management,; (3) practical studies; (4) ways and procedures for updating the different versions of the SUMA Project; and (5) logistical management of humanitarian supplies.

Focusing on the SUMA Global Project and taking past experiences into account, it is suggested that a discussion of the SUMA structure and functional organization relating to the needs of the countries using separate elements of computer control in emergency be conducted. There also is a suggestion about compatibility of the SUMA Global Project with components of the geoinformation system, which would provide a complete picture about the situation in a given emergency.

It is proposed that permanent training courses in the theory and operations of components of the SUMA system, according to the status of systemic tables, nomenclature of drugs acceptable in a particular country, and specific national mechanisms of supply management in the health sector during emergencies be developed.

Keywords: education; Humanitarian Supply Management System (SUMA); preparedness; response; SUMA Global Project; World Health Organization (WHO)
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Private Wells and Disaster Preparedness

N. Fuke
Teikyo University Ichihara Hospital, Japan

In 1996, the Teikyo University Ichihara Hopsital became one of the 17 disaster core hospitals in Chiba Prefecture, Japan. In preparation for disaster, it has developed a private water source, electric generators, storage, extra beds, and a heliport, to ensure water supply in case of the breakdown or malfunction of the public water pipe system.

Currently, three wells can cover more than 80% of the water demand (approximately 12,000–15,000 cubic meters per month). This amount of private water is sufficient for the ordinary activities of a 500-bed hospital, and will provide for the requirement created by extra, disaster-related patients. These wells also also cost-efficient. Although the initial investment was about [US]$876,000, the hospital could save [US]$60,000 every month by buying a smaller amount of pipe water.

Although, preparing for a rare disaster might seem unnecessary, it may be beneficial to have access to enough ground water to cope with the needs created by a disaster. This shows that preparing for the uncommon event can be profitable.

Keywords: costs; effectiveness; Japan; pipe water; preparedness; public; wells
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Disaster Preparedness: Train Trauma First Responders in the High-Risk Areas

Hans Husum, MD, PhD
Tromsoe Mine Victim Resource Center, University Hospital Northern Norway

Objective: The "epidemic of trauma" is global. Natural disasters, local wars, and large, unmapped landmine fields are concentrated in the equatorial belt, and 90% of trauma fatalities are found in low and middle income countries.[1] Where resources are few, what should be the standards of minimum acceptable trauma care? In a multi-center study, the authors suggest that the rather advanced, United States standard for prehospital trauma life support (PHTLS) serve as the foundation for rural trauma systems worldwide.[2] In a study of system effectiveness in North Iraq and Cambodia, the impact of basic versus advanced trauma life support techniques on trauma mortality, was compared.[3]
Methods: From 1997 to 2001, 1,061 trauma victims received in-field care before evacuation to surgical centers. The injuries were severe, with a mean injury severity score (ISS) of 12.4, and there were 227 (21.4%) major trauma victims (ISS >14). The trauma response system was comprised of

5,200 first responders. These were village laypersons trained in basic life support techniques in 2-day courses. Their only equipment was five rolls of elastic bandages. Advanced trauma life support techniques were provided by 135 trained and well-equipped rural paramedics.

Results: The rural basic trauma system had a significant impact on trauma survival. The mortality rate dropped from a pre-intervention level of 40% to 8.8% during the study period (95% Confidence Interval (CI) for difference of 23%–39%). In 16 patients (1.5%), the paramedics used advanced techniques (airway intubations, chest tube placement, etc.); all other patients received basic support only. The outcomes of patients managed primarily by first responders (first-responder group) were compared with patients managed only by trained paramedics (paramedic group). The response time was significantly less for the first-responder group (0.9 hours) compared to the paramedic group (2.0 hours). The overall mortality rate was significantly lower in the first-responder group, 7% versus 19% (95% CI=8.2%–15.0%). Also, in major trauma victims, the mortality was lower in those treated by the first-responder group (47%) than those treated by paramedics alone, (70.2%) (95% CI=5.3%–40.5%).

Conclusion: In traumatic events with long evacuations in rural areas, the key to initial survival is doing simple things early. Time, not sophisticated procedures, is the critical factor. Contrary to this lesson, disaster rescue missions traditionally consist of high-tech interventions arriving late at the scene. This is well documented in a recent Iranian report on the Bam earthquake, where the first emergency team entered the scene at Bam 14 hours after the accident; only 12.6% of flight evacuations took place during the first 24 hours.[4] Rather than advanced and expensive external interventions, basic disaster preparedness should involve training the ABCs of trauma to thousands of lay persons inside the risk zones.

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Keywords: disaster; paramedics; preparedness; response time; training
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Japanese Red Cross Medical Activity in Iranian Earthquake (2003–2004)

M. Yabumoto;[1] *M.Y. Yabumoto*[2]
1. Japan
2. Japanese Red Cross Society, Japan

A powerful earthquake struck the remote city of Bam located in the southeast area of Iran on 26 December 2003. It killed 26,271 people and injured approximately 40,000. The Japanese Red Cross Society dispatched a medical team composed of 15 staff (one team leader, four doctors, four nurses, three administrators, and three engineers). The medical activity of this basic healthcare emergency response unit (ERU) was begun on 31 December, and treated 1,163 patients during three weeks. The medical facility was designed to provide for minor surgeries, general medicine, and primary health care including psychological support. Fourteen percent of the problems were ailments closely related to the earthquake. Victims were crushed to death or were asphyxiated due to the thick and dense dust from the collapse. Both traumatic injuries and an upper respiratory infection constituted 10% of the total problems. No endemic diseases were identified.

As an emergency system for the earthquake-victims, Japanese basic healthcare ERU was deployed first in India 2001. In Iran, it also was effective in replenishing the function of the totally damaged local hospitals, especially during the initial stage of the disaster.

The clinical data of the patients will be presented, as will the medical activities of the Japanese Red Cross Society.

Keywords: activities; Bam; diseases; earthquake; effectiveness; emergency response unit; injuries; Japanese Red Cross Society; team
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Prior Topic Knowledge and Post-Course Improvement in a Disaster Preparedness Course

C. Dey;[1] *A. Vu;*[1] *T. Herbosa*[2]
1. Johns Hopkins University, Baltimore, Maryland USA
2. Philippines General Hospital, Philippines

Introduction: In the last several years, there has been an increased interest in disaster preparedness and response. Based on this interest, a course in disaster preparedness was created for five countries in Southeast Asia: Bangladesh, India, Indonesia, Nepal, and the Philippines. The course initially was taught to the most experienced hospital and administration personnel in each respective country.

Objectives: To: (1) briefly describe the course; (2) assess prior knowledge aptitude with course topics; (3) determine country variability in regards to topic knowledge base; and (4) determine course content that needs to be targeted in future disaster preparedness course development.

Methods: A team of international experts developed a four-day course covering 30 topics and exercises. The course used an earthquake as the primary disaster. Participants, who were hospital administrators and senior hospital health officials, were surveyed pre- and post-course, regarding prior topic knowledge and post-course topic knowledge. Data were compiled and variability assessed on non-earthquake-related topics. To date, the course has been held in Indonesia, Nepal, and the Philippines.

Results: The improvement scores for all topics were at 1.21/5. The greatest areas of improved knowledge were in Hospital Emergency Incident Command Systems (HEICS) (1.6/5), and on-site facilities (1.5/5). Of all participants, the five lowest topic areas of pretest knowledge were HEICS, on-site medical facilities, hospital evacua-