

Introduction: An on-site observation of an actual Red Cross mass casualty disaster by one of the authors of this article who specialized in "Industrial Logistics Management" aroused doubts about the regulator's efficiency, both from a medical as well as from a logistics point of view. During a postexercise discussion session, the authors decided to form a small study group with the primary aim to formalize the important task of the mass casualty disaster regulator within a framework of a decision sciences and management approach.

Methods: A case game "Dis_Strat" was developed, describing an oxygen-tank explosion on a factory site at the precise moment that one of the company's busses leaves the industrial site. The explosion is supposed to have injured some 40 shift-workers. For didactical purposes, however, the simulated task of the candidate regulator has been limited to the 12 U1 and 13 U2 victims. They have to be evacuated by a certain, but not a priori, fixed number of ambulances to a set of 16 possible hospitals with known medical specialties and specific admittance characteristics. The pedagogical aspects were tested and improved through several trial runs at three different universities by staff members, all specializing in the field of industrial logistics management. As the case game was clearly conceived as a highly sensitive multicriteria problem with only vaguely described strategy objectives, the authors were compelled to develop also a computer program "Dis_Strat_Eva" to evaluate the results of the trainees' respective possible dispatching approaches. Furthermore, the study's aim intended to compare and benchmark the trainees' performances with "Best Practices" obtained by medical specialists of the regulator's task in cases of mass casualty disasters.

Results: The case game has been organized five times for participants of the European "Leonardo Community" program in "Logistics Management". The preliminary results of our experiments in the manual simulation of the human regulator's task, show an unexpected high disparity of solutions, this due to: (1) first time confrontation by the participant with such an assignment; (2) the differences in the perceived policy criteria; (3) the difficulties to agree on concrete measurement means of commonly accepted policy criteria; (4) the existence of a high number of variety of theoretically well-known dispatching heuristics; and (5) the lack of a trainees' capability to transfer and use knowledge from well-known fields of applications for unexpected or even apparently unrelated problems.

Conclusions: The multicriteria assignment of the regulator's task in mass casualty disaster problem has to be more clearly defined and imposed by the competent authorities, if one does not want to leave the initiative for the choice of the dispatching strategies to a regulator. Training in the use of appropriate dispatching heuristics seems essential. An expert-like computer simulation is an inevitable necessity and a pedagogically valuable tool for the debriefing session.

Key words: computers; control; coordination; decisions; disaster; dispatching; exercise; mass casualties; regulators; simulations

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Experience in International Relief Activities for Gujarat Earthquake 2001 in India

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Introduction: Kobe University dispatched its medical team, KUMT, which consisted of two emergency doctors, to Gujarat, India from February through December, 2001 to provide medical advice and assistance to Gujarat Earthquake victims. In this video session, we will share our experiences in this catastrophe.

Results: KUMT visited two municipal hospitals in Ahmedabad, where many trauma patients were transported from neighboring cities and hospitalized. Some of them needed splinting for bone fractures and treatment for wound infections and sepsis. KUMT provided suggestions and advice based upon its knowledge from experience in the Kobe earthquake of 1995.

From 03 through 07 February, an ad hoc team named "Play It By Ear" comprised of the two medical doctors of KUMT, a firefighter paramedic from the USA, an Indian pharmacologist as interpreter, and a car driver, investigated medical care in the most devastated area in Gujarat state. The team contacted control centers and/or hospitals in cities and towns such as Bachau, Rapar, Gandhi Dham, Anjar and Bhuj, and interviewed them regarding problems they had at the time. Their official response was that everything was under control; the supplies of food, water, and manpower for medical care were sufficient, and that no village was left without medical service. Many NGO groups contributed to the disaster medical relief for the victims. However, better coordination is required to coordinate the functions of many NGO teams properly. More appropriate supply distribution was required.

At Bachau, the team joined Indian Medical Association to check remote villages, where several days had passed since one medical team had checked the residents by using a mobile hospital. We treated approximately 30 patients who suffered from sickness, bone fractures, and infected wounds. Hospitalization or more frequent medical care such as dressing changes and debridement for wounds were essential.

The devastated area that should be covered from the point of medical care was scattered and was more widespread than was present following the Kobe earthquake.

Conclusion: KUMT has achieved its initial goals with collaboration of Gujarat Government. Domestic and foreign medical relief by GO and NGO teams were well-mobilized and activated. Better coordination is needed for them as is the more efficient supply distribution should have been carried out.

The first priority for the government must be to provide temporary houses for victims to sleep and live. More frequent health care surveying and checkups are required, especially in remote areas, in order to avoid preventable diseases, deaths, and epidemic outbreak.

Key words: coordination; India; hospital; international;

Kobe; KUMT; NGO; relief; shelter; supplies; team
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Advance Deployment and Organization of Activities of a Field Multiprofile Hospital (FMH) in Local, Armed Conflicts

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In health responses to military operations, one must deal with the particularly specific role of a Multiprofile Hospital (FMH) in health response under these conditions. First, this is the structure of casualties, characteristic properties of the affected people cohort, and capacity for evacuation. The specific nature of medical care delivery to the affected in armed conflicts is not a general practice with civilian medical units, while the Field Multiprofile Hospital (FMH) belongs to the ARCDM "Zaschita", and the FMH has had a unique experience of such activity during military conflict in the Chechen Republic in 1994–1995. In those years, the FMH teams worked in such localities as Mozdok, Tolstoi-Yurt, Znamensky, and Grozny; took part in health response activities following terrorist acts in Budenovsk, on the Chechen-Daghestan border (Pervomajsky); and in military operations within the area of Sunzhi station (1996). During the period of its work depending on the specific medico-tactical situation, the FMH's tasks, principles of its operation, and variants of deployment have been amended correspondingly.

Summarizing the experience gained, one may determine three basic variants of FMH's operation during armed conflict: (1) deployment of a surgical hospital on the basis of a local medical facility, (2) deployment of a self-supported surgical hospital, and (3) deployment of a self-supported multiprofile hospital

Our experience demonstrates that the FMH of ARCDM "Zaschita" is well-adjusted for operation under such conditions, as its organizational and staff structure and medical equipment promote the delivery of any type of medical care, including secondary care. The FMH is capable of urgent response to changing situations, and can timely amend the task set to that medical unit.

Key words: adaptability; armed conflict; experience; field; hospital; medical care; multiprofile; uses

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Dissolving and Eliciting Technique Applied to Cerebral Hemorrhage Associated with Hypertension

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Objective: To investigate whether use of the dissolving and eliciting technique applied to a wound that is not serious is or not feasible for treating cerebral hemorrhage associated with hypertension.

Methods: From July 1998 to October 1998, we applied the technique to treat cerebral hemorrhage associated with

hypertension on 23 patients.

Results: Hematomas were eliminated in more than 50% of patients within 24 hours. Of the group, 3 patient's hematomas were smaller than 10 ml, the next day they were drawn by tube. Otherwise, in 12 patients, hematomas were eliminated in more than 70% of patients and were able to be drawn by tube.

Conclusions: The technique to apply to a wound that is not serious is simple and feasible, adaptability is broad, and is not restrictive. The effects of the hemolytic medicament "two in one" is remarkable.

Key words: cerebral hemorrhage; dissolving and eliciting technique; hematoma; hypertension

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Floods in Mozambique 2000: Analysis of the MSF Emergency Response

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Introduction: Heavy, torrential rains during the rainy season 1999–2000, caused serious flooding in many parts of Southern Africa. Mozambique was the worst affected country with an estimated 1,000,000 people affected directly, and around 300,000 people temporarily displaced. All southern provinces of Mozambique were affected to a varying extent; the coastal regions as well as the population along the main rivers of Gaza, Sofala, and Inhambane Provinces suffered most the consequences of the flooding.

MSF response and activities: Medecins sans Frontieres (MSF) launched an emergency intervention on 6 February, two days before the Mozambican government declared a national state of emergency. A large MSF stock of drugs and material in Mozambique facilitated the rapid initiation of an assistance program. At the peak of the disaster, four MSF sections (operational centers) were involved in the management of the emergency. MSF-Switzerland in a joint mission with MSF-Luxembourg, focused its intervention on Maputo and Gaza Provinces. Collaboration with the Mozambican authorities and other aid organizations was satisfactory. In Maputo and Matola, the Mozambican authorities assured primary and secondary health care and MSF focused on cholera control. In the identified zones in Gaza province—Chokwe, Chaquelane, Macia—MSF was involved in assisting approximately 100,000 displaced persons. The main activities were the following:

1. Primary health care through the installation or reinforcement of health posts
2. Introduction of an adapted epidemiological surveillance system
3. Provision of potable water and improvement of sanitary conditions in displaced camps
4. Cholera preparedness and outbreak control (9,587 cholera cases in Maputo and Matola with cumulative attack rates = 0.70 and 0.69 respectively, and overall case fatality rate = 1.4, and 241 cases in Gaza province [CFR = 1.24])
5. Management of malnourished children (rehabilitation