

them, and the overall and health-related damages that result. They include a conceptual formula for identifying factors that affect the probability of damage resulting from an event. The formula and the concepts that it entails also should facilitate identification of the impact of measures taken to eliminate or decrease hazards (prevention, modification) and/or the risk of hazards becoming a devastating event.

Fourteen major functional elements of a society that may be affected either directly or indirectly by an event resulting in a disaster are: 1) public health; 2) medical; 3) sanitation and water supplies; 4) shelter and clothing; 5) food; 6) energy supplies; 7) search and rescue; 8) public works and engineering; 9) environment; 10) logistics and transport; 11) security; 12) communications; 13) economy; and 14) education. These fourteen basic societal functions are linked together by a coordinating-and-control function provided by the respective governments. The interaction and relative impairment of any function can be depicted as a change from the pre-event status.

A series of three templates provides a structure for the study of disasters. The first groups the chronological, continuous mayhem of a disaster into recognizable, well-defined phases: 1) pre-event status; 2) event; 3) assessments of overall damage; 4) disturbances in health status; 5) needs assessment; 6) responses; 7) changes in health status; and 8) restoration of health status. The endpoint of the management a disaster is the time when the pre-event situation for the societal function has been recovered.

The second provides a structure and guidelines for the conduct of such studies, and the third provides a structure and guidelines for the design of such studies.

Two severity scores are proposed: a disaster severity score and a health disaster severity score. The use of the proposed severity scores will facilitate the comparison of the damage of disasters of similar severity and should facilitate the identification of factors that mitigate or intensify the effects.

A set of recommendations for implementation and testing of the Guidelines and their templates is provided.

Keywords: disaster; evaluation; guidelines; methodology; severity score

Prehosp Disast Med 2001;16(3):S119-120.

Mobilisation of Medical Resources during Catastrophes

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Our capabilities to react promptly in case of disasters has improved significantly during the last decades. However, much of the aid provided has been, and still is, based on intuition and anticipation. This presentation discusses obstacles, possibilities and mechanisms to foster better cooperation and management in the future. Ideally, responses, after being identified in needs assessments, must be requested and coordinated by a Coordination and

Control (C2) body, responsible for the overall disaster management. The C2 body must include both local and national authorities and must have continual access to all information.

The primary focus should be the needs necessary to bring supplies above the critical thresholds for minimal functioning of the society. To avoid oversupply the "Disaster Critical Control Point" (DCCP) (when supplies and assistance balance the needs) should be identified as accurately as possible. These structures, combined with disaster severity scores and standardized evaluation, should improve both the accuracy and timelines of international assistance, medical and nonmedical, and help identify any "lowest common denominator" for future disaster response. Exclusive focus on medical responses is not usually effective, since provision of health care is intimately dependant on other societal functions. Traditionally, the focus on surgical needs has been given priority in medical disaster response and, in general, the effectiveness, efficiency, efficacy, benefits, and costs of such efforts remain to be demonstrated in the overall context of resource utilization. The resources provided must be in concert with the affected society and its culture. The narrow specialisation, taking place in the western world, is highly counterproductive for medical assistance in disasters. Any team assisting in disasters must be self-sufficient and part of an experienced operational organisation.

Nationally, a cost-benefit disaster management should be feasible, but, internationally, absence of an endorsed C2-structure hamper these processes. In the 1960's United Nations Disaster Relief Coordinating Office (UNDRO) was established to give the UN a coordinating instrument for disaster management. It never fulfilled its mandate as it was opposed both from within and from outside the UN. In 1971, the UN-Secretary-General stated, "more often than not the nature of relief depends on what donors can readily supply rather than on real needs." The UN resolution "Right to Intervene" has encouraged assistance, even if national authorities neglect a dire situation, but the downside is the concomitant acceptance of interventions without a C2 structure.

Keywords: Coordination and Control; Disaster Critical Control Point; disaster management; disaster response; needs assessments; resource utilization; team; United Nations

Prehosp Disast Med 2001;16(3):S120.

Emergency Medical Preparedness and Response to a Singapore Airline Accident

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A Singapore Airline crash in 2000 was the first documented mass casualty incident (MCI) caused by an aircraft disaster in Taiwan. This aircraft accident was anticipated by a MCI plan revision program tested with field exercises at the airport. The new plan adopted a two-phase response model. During the secondary phase of the plan, a multiple