My Personal Experiences in the Midst of Chaos

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The establishment of a United Nations Dispensary in three different war-torn countries—Afghanistan, Liberia, and Iraq—will be presented. The contingency plans for dealing with emergencies will be discussed and the problems of the implementation of these plans when chaos erupted abruptly will be analysed. For each of the following situations, the background as well as the medical problems arising from it will be reviewed:

1) The setting up of a small clinic at the bunker of the UN Guest House during a *coup-d'etat* attempt in Kabul, Afghanistan in 1990, as well as the evacuation of the UN offices using the UN Ambulance as the leading car of the convoy;
2) The establishment of a UN Dispensary in Monrovia, Liberia in 1991 following the complete destruction of the UN offices and a solution to the problem of properly tested blood for transfusion should the UN staff require it. The ways in which the results of this effort in 1991 helped deal with the eruption of hostilities in 1996 will be described;
3) The setting up of an annex to the established UN Dispensary of Baghdad, Iraq in 1997 and the Standard Operating Procedures for the aeromedical evacuation of sick UN personnel will be described using the example of a young Nepalese UN Security Guard who was evacuated from Kurdistan to Kuwait via Baghdad.

Final remarks will contain measures that are applicable to all emergency situations in the midst of chaos.

Key words: Afganistan; contingency plans; dispensaries; experiences; Iraq; Liberia; medical care during chaos; transfusions; United Nations

Technical Devices and Systems for Telecommunication

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Telecommunications and the separate systems involved should be considered as a whole. Separate devices and features are meaningless if they are not related to a larger and better manageable whole. When we think of the communications chain from the point of view of its technical components, we can distinguish the systems used in the disaster field from each other including the telecommunications connections and the centralized control of the activities.

In the disaster zone, information related to telecommunications connections should be obtained preferably automatically from several sources. Images to be transmitted include the vital parameters of the victims, environmental conditions, image transfer from the subjects, and voice transmission.

The unusual environmental conditions require much from the devices in use. They must be shock and water resistant, and must withstand extreme temperatures. The power supply as well, must be designed for a long period of activity. The devices also must be user-friendly, so that they can used quickly. In the disaster zone, telecommunications connections should be wireless, but also must have a flexible access to various ground networks so that communications can be easily established, e.g., to the control centre and to the hospital(s). Telecommunications can be arranged either as wireless, surface connections, or as satellite connections. There presently are several wireless networks in use (NMT450, NMT900, Mobinet, Mobitex, GSM, etc.), and the transfer speeds of the emerging networks will increase substantially in the future. Additionally, there also will be new networks in operation (e.g., Virve, UMTS).

Telecommunications with certain centralized operative sites and control centres and hospitals should be fully operational. These should be connected to some fixed, ground networks. Simultaneously, telecommunications in use also shall support mobile control centres.

The technology evolution has been strong in the telecommunications sector, and continues to forage in this manner. As technology evolves, new and currently unavailable features will be introduced. Clear trends include greater transfer speeds of wireless communications and wireless video image transfers. It is important for manufacturers that they comply with standards in order to achieve compatibility and inter-operability between multi-vendor pieces of equipment.

Key words: communication systems; control centres; devices; disasters; linkages; telecommunications

Telecommunication in Chemical Disasters: Mastering the Situation

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When a chemical accident occurs, besides the follow-up of the status of the victims, there must be follow-up of the environmental conditions and of the situations which may result from them. The control centre should have a versatile and continuously updated picture of the situation. To follow the situation, we not only need telephone communications, but also the transmission of telemetry and imaging information.

From the disaster zone, we need the transmission of information related to environmental conditions, like the strength and direction of wind, temperature, rain, etc. This information can be obtained with a mobile weather station fitted with telecommunication devices.

Today's technology makes it possible to transfer live, good quality images without the use of wires. Live pictures can be transmitted from different sources. The rescuers can have cameras fixed on their helmets, so that images can be transmitted to the control centre in real-time. In the disaster zone, there may be a moveable camera set up on a tripod that could be guided from the control centre using

remote control. The transmission of live images using wireless networks already is possible. The growth of network speeds and the development of image processing technologies will enable transmission of higher and higher quality images. The transmission of all kinds of information from the disaster site could be implemented using several separate, compact, functional devices, and each one of them should be connected to the control centre.

The telecommunication connections available on the spot, if any, also should be utilized. From urban centres and along the main roads, we usually can use faster connections than are available in uninhabited areas. This is due to the fact that it is easier to transfer better quality live images from cities rather than remote areas.

Key words: acquisition of information; chemical disasters; communications; control centres; information; technical devices; telecommunications

Evaluation of Health Disaster Management

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This initiative from the Norwegian Association of Disaster Medicine, to develop a globally accepted protocol for evaluation of Health Disaster Management, was formally adopted by the Nordic Society of Disaster Medicine in 1993. At the International Resuscitation Research Conference in Pittsburgh in 1994, the World Association for Disaster and Emergency Medicine (WADEM) decided to collaborate in the project. At the World Congress in Mainz, 1997, the WADEM General Assembly formally endorsed the process.

The Task Force on Quality Control of Disaster Management (TFQCDM) has had seven meetings and workshops. An important break-through in the process was the development of The Research Template in the Utstein Style at the Utstein Abbey outside Stavanger in 1994. On 01 March 1997, 50 experts from all over the world met at the Nordic School of Public Health in Gothenburg under the patronage of HRH Princess Christina of Sweden to discuss key problems of the Template. The 2nd version of the Template was presented at the Kobe Summit in Kobe, Japan, May 1997. The version presented at this Nordic Conference is the last of three. 13 Basic Elements for Disaster Management and their variables have been identified and listed. The principles behind a Vulnerability/Preparedness Index (VPI) have been established and also a Disaster Severity Score and a score for Health Disaster Impact are being developed. The group is working on the scientific approach, comprised of both quantitative and qualitative methods, and on a uniform disaster terminology. The generic part of this protocol aims at finding the lowest common denominators, regardless of type of disaster or where it takes place (geographically, culturally, and climatologically). This will enable us to compare and learn from seemingly very different scenarios.

To conclude, this TFQCDM protocol should help all actors in disaster management, and, to a large extent, actors on development of cooperation, to objectively analyse the effect of their activities, and adjust and improve them accordingly.

References: TFQCDM: Disaster Medical Response Research: A Template in the Utstein Style. *PDM* 1996:11;16–24.

Key words: basic elements; disaster medicine; disaster responses; evaluation; preparedness; qualitative methods; quantitative methods; research; severity scores; template; terminology; vulnerability; vulnerability preparedness index

What Are the Expectations for Preparedness of Medical Doctors and Nurses?

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Disaster preparedness concerning personnel at the hospitals in Preparedness Region II-DK, was investigated. The aim of this investigation was to describe the disaster preparedness among the hospital staff members and to describe the outcome of the Disaster Medicine courses given in the region—in theory as well as practice.

In the region, a questionnaire was sent to the chief doctor and chief nurse for each of the involved departments. A personal questionnaire was sent to all the doctors and nurses in the region who had participated in one or more courses in Disaster Medicine during the period from 1990–1995. Of the total numbers of doctors at the involved departments, 7% of the residents, 29% of the senior residents, and 56% of the consultants had taken a course, and as few as 2% had participated in a follow-up course to the primary one given in the region. Forty-one percent had used their acquired knowledge either in theory or practice: 55% for educational purposes, 11% for disaster planning, and 12% for buying equipment for the hospital. In general, easier access to follow-up courses is desired, and there seems to be a need to give more consideration to courses in Disaster Medicine.

Key words: disaster medicine; nurses; physicians; preparedness; training

Toxicity of Organophosphates and Experimental Therapy

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Organophosphates (OPs) are used widely as pesticides and therapeutic drugs. Unfortunately, OP compounds such as sarin were used by terrorists against civilian populations in Japan in 1994 and 1995.

Acetylcholinesterase (AchE) hydrolyzes acetylcholine (Ach) at the neuromuscular junction and at the