# INTERNATIONAL MEDICAL DISASTER RESPONSE TEAMS

An effective "Volunteer, International Medical Disaster Response Team," one that can be deployed repeatedly and upon demand presumes two conditions: 1.) the ephemeral element of human compassion will have been well enough organized to produce a cohort of skilled professionals available for extended service on short notice and 2.) that these personnel will have access to a reservoir of medical supplies, equipment and logistic support in quantities which are currently only maintained in reserve by the more lavishly funded national military establishments. Can it be done? Probably, but only by creating alternatives to the current practices in international relief.

Natural disasters, whether Mass Casualty Incidents or not, as Hurricane Hugo and the Armenian Earthquake demonstrated, can elicit spontaneous responses that innundate the area but do not constitute effective relief -- the "too much too late" phenomenon. Quick onset medical disasters of a technological origin such as Chernobyl and Bhopal have elicited a different type of response -- but each serves to illustrtate the imperative need for the **sophisticated management of pre-arranged systems.**

Effective reduction of short and long term mortality and morbidity requires systems designed to address the specifics of: speed of onset, cause, geographic site, and the configuration of the indigenous medical entity both before and after the incident. They must also address the issues of global availability and management of medical disaster assistance.

The awareness of this need for changes in current practice is confirmed by the plethora of articles, books, studies and proposals being prepared for publication or presentation at conferences.

The major theoretical debates are not about the techniques of trauma care -- these already far outstrip the ability to deliver them where needed --nor the lack of antibiotics etc. they are about philosophies of disaster management and techniques for organization. The turf is divided among:

1) Those who think that pre-positioned military or other government maintained medical personnel and systems should be used -- they cite the economy and availability of using existing entities -- the critics of this concept cite the political restrictions that often inhibit deployment of these types of Medical Disaster Response Teams.

2) Those who think that a "cooperative volunteer" system loosely coordinated by governments can work best. The most ambitious examples are the Federal Emergency Management Agency and the United States National Disaster Medical System, and traditional Private Volunteer Organizations such as the Red Cross. The critics of this oncept can point to Hurricane Hugo and a history of similar events wherein these systems have failed to meet the expectations of the effected populations, either because of a lack of response or a response that was not perceived as commensurate with the vast size of the budget used to maintain the system.

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3) Then there are those who think neither of the preceding types of response are adequate. The alternative they offer is to redirect funding and increase the emergency medical response capability of areas subject to a high incidence or probability of mass casualty occurrences. The critics of this concept cite the definition of a medical disaster as being "when the indigenous medical system is overwhelmed" — therefore every system has at some point the prospect of needing outside assistance -- In addition, they point out the cost constraints on "adequate" preparedness maintained at many areas in the world. They propose that a well coordinated pre-arranged regional or global response is more cost effective.

The occurance in the preceding twelve months of two immensely destructive and well documented natural disasters, the Armenian earthquake and Hurricane Hugo, gives those interested in evolving new and more effective models for medical disaster response a unique "laboratory".

The largest "free-form experiment" in medical disaster response that has ever occured was brought about by the unusual political circumstances surrounding the Armenian earthquake; i.e. the presence in the West of a Soviet leader making an appeal for open door cooperation and the prelude of Chernobyl.

The American responses to the Armenian earthquake included: 1.) the teams sent by the Office of U.S. Foreign Disaster Assistance which had access to government, transport, diplomatic cooperation, and supplies; 2.) individual private responses such as Dick Aghababian, M.D., whose efforts enlisted no government funding but relied on pharmaceutical companies and other commercial interests for millions of dollars worth of assistance and 3.) combinations of Private Volunteer Organizations such as those coordinated by Armand Hammer which included the Red Cross, and 4.) eventually included medical consultations via satellite which were coordinated by NASA.

The response to Hurricane Hugo is still being tabulated but it already clearly outlines how the multiplicity of agencies and disaster response systems have performed.

The Access Group Inc. conclusion, after reviewing this data, is that the essential action that needs to be taken now is to:

1) apply the sophisticated information and management systems that are in common use in the commercial sphere to inventory and access the global reservoir of medical disaster responses,

2) staff this effort with a cadre of systems management professionals

3) whose work is supported by a clientele of international corporations, development banks, etc. and

4) operated under International Conventions and protocols regulating medical disaster response.

The essence of the Access Group approach is to **avoid** creating or relying on the static reserves that military establishments and traditional Private Volunteer Organizations expend so much effort on maintaining.

Our alternate proposal relies on manipulating the proven reservoir of global disaster response - including the vast resources of the daily commercial world - for example the private commercial air freight companies handle in one twenty four hour period more than the combined military transport systems of the world, so there is at any one time more aircraft available than needed, similarly more antibiotics, etc. are in transit from pharmaceutical manufacturers to their distribution centers than would be needed in the initial phase of a medical disaster, and there are hundreds of medical personnel who can quickly be converged in the area of a medical disaster.

The experiences of Armenia, Hurricane Hugo and other similar events indicates that **a small cadre of disaster management professionals using the currently available communications and information systems could deliver effective relief efforts** - avoiding the too much too late and other problems that now characterize the management of medical disaster response.

This proposal for applying "high tech" systems to recruit, train and deploy the United States component of a Medical Disaster Response Team is a modest but useful beginning.

T. Windle Dyer

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**ASSUMPTIONS:**

There is a growing consensus that steps should be taken to minimize the risks from disasters and that the impact of disasters be managed effectively to lessen the incidence of mortality and social disruption.

A significant percentage of victims who die or are severely injured in disasters could be saved and returned to functional productivity by improved medical rescue techniques and disaster management strategy.

That an effective response to MEDICAL DISASTERS is philosophically and organizationally different from the routine, taught and practiced response to MEDICAL EMERGENCIES and that these important functional differences require advanced preparation of personnel and systems.

That emergency medicine practitioners constitute a reservoir of skills and experience around which to evolve effective medical disaster responses.

**DEFINITIONS:**

A medical disaster occurs when the disruptive effects of natural or man-made forces overwhelm or threaten to overwhelm the ability of the involved community to meet the demand for medical services.
Topics in Emergency Medicine/January 1986

Medical disasters may occur in two phases: those having a rapid onset such as the Armenian earthquake, or slowly evolving such as famine in the Horn of Africa or a combination of rapid onset with continuing or evolving effects - such as Bhopal or Chernobyl.

**THESIS:**

That timely delivery of medical care following a rapid onset medical disaster can best be accomplished by pre-rehearsed and coordinated efforts between the indigenous medical system that remains intact and a "Ready Reserve" of practitioners and material brought to the scene from outside.

The certain knowledge that specialized help will be forthcoming and the reliance of both sectors on pre-determined protocols should greatly improve the ability of the affected system to care for ordinary medical conditions and provide the triaging and staging that can facilitate the work of the supplementary medical assistance brought in from outside.

That sufficient volunteer manpower and material exists to respond to international medical disasters and that adequate coordination, training and preparation can be supplied by international funding of private agencies if appropriate protocols and conventions are formulated that address the questions of access and communication.

# INTERNATIONAL MEDICAL DISASTER RESPONSE TEAMS

**DESCRIPTION:**

1.0 A volunteer ready reserve of emergency medical practitioners and affiliated professionals whose availability and preparedness is monitored by a management entity so that a cohort of thirty-five personnel will be available for deployment within three hours of activation for a seven to ten day tour of duty.

2.0 Recruitment, training, deployment, support, field operations and retrieval would be coordinated by the core staff of a management entity.

3.0 The Medical Disaster Response Teams would be accompanied by pre-assembled, containerized supplies and equipment that had been tailored for the particular type of casualties and conditions to be encountered.

The responsibility for procuring and delivering these supplies would not be the responsibility of the volunteers. It would be a function of government agencies and a coordinating management entity. Hopefully long term agreements with pharmaceutical companies and commercial carriers could be negotiated that would eliminate the need to rely on static reserves of material and transport.

4.0 The volunteers would operate according to pre-arranged protocols for interacting with the host country. Preferably joint training sessions at Regional Medical Disaster Response Centers and exchanges between international agency personnel and participating clinicians etc. would have created functioning communications systems that would survive the dislocations caused by the disaster.

5.0 The volunteers would be activated by a request for assistance through diplomatic channels maintained by the office for U.S. Foreign Disaster Assistance, etc. Preferably through an International Convention on Medical Disasters which might emerge as a product of the upcoming United Nations Decade for National Disaster Reduction.

6.0 Wherever possible the volunteers should be given the protection from liability and access to compensation that temporary enrollment as representatives of some appropriate national or international health agency would provide.

The management entity envisioned to operate the systems would be "lean and mean" and held to high levels of accountability by its funding sources.

Three features would be at the core of its operations:

1) A computer based schedule management data system that was highly interactive with the prospective team members. Its dual purpose would be to assure their availability by monitoring changing family, employment and health circumstances, arranging personnel to cover during their absence on assignment, maintaining updated immunization, visas, etc. and informing them of the state of alert during the periods for which they were available. These states of alert would be modulated by a system for predicting probable occurrences - such as a typhoon approaching a vulnerable population area, etc.

2) A sophisticated system for psychological support that maximized effectiveness when on assignment by placing field operations under a trained manager who regulated routines for sleep and work in order to lessen the psychological and physical stresses, these would include post-event re-entry support as well. This attention to the psychological aspects would also include familiarization with cultural aspects of the area and other team members, and training exercises to develop mutual confidence.

3) An aggressive policy of information dissemination, leadership training and state of the art systems for accessing the logistic support for the Response Team.

**BUDGET**
for
Design and Development

INTERNATIONAL MEDICAL DISASTER RESPONSE TEAMS
Emergency Medicine Component

NOTES

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2.

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| LINE ITEM: | Agency Funding | $300,000 |
| 1.0 | , M.D.<br>for time away from his practice | -86,000<br>$214,000 |
| 2.0 | Access Group, Inc. | |
| 2.1 | Subcontract: Synchrotech, Inc.<br><br>Design and develop a data base and management system for maintaining an effective "Ready Reserve" of Medical Disaster Response Teams. | -36,000<br>$178,000 |
| 2.2 | Subcontract: American College of Emergency Physicians, Disaster Medicine Section | |
| | 1) Assist in recruiting teams and creating a mechanism for providing continuity of leadership and an "institutional memory." | |

2) Develop and provide training based on the "seven points" of preparedness developed by Richard Aghababian, M.D., and the instructional material developed by Joseph Waeckerle, M.D., and the Annals of Emergency Medicine

-30,000
$158,000

3) Convene a series of conferences which can generate financial support and research, etc. and that can issue the call for a National Medical Disaster Response Center. The first being a Retrospective of Hurricane Hugo. The lessons to be learned, re: evacuation, governmental preparedness, etc. that has resulted in a dramatic lessening of the medical disaster configurations of hurricanes - compare 6,000 deaths in Galveston in the first decade of this century to less than a hundred in Hugo which blanketed the Caribbean.

18,000
$140,000

2.3 Subcontract: Systems Research and Applications

1) Perfect the logistic and other systems for deploying and supporting the Medical Disaster Response Teams.

2) Prepare the system's support and rationale for presenting the " Prototype" as the model to be adopted by the international community during the upcoming, 1990, United Nations Decade for the Reduction of Natural Disasters.

3) Provide a reserve of planning and management resources which will be needed to create a Medical Disaster Study Center and Disaster Response Centers.

-80,000
$50,000

3.0 Access Group, Inc.

To provide development services, which include but are not limited to: concept development, document production, agency representations, contract negotiations, communications, etc.

50,000