critically injured personnel. A nationwide accreditation scheme, not discipline-based, but skill-based, will prevent misuse of the equipment, and provide ongoing training and assessment of trained personnel.

Are Hospitals Prepared to Face Disaster Situations?

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The Pan -American Health Organization and the Mexican Federal Government signed an agreement to establish the voluntary and temporary certification at the institutional, national, and international levels of health installations prepared to face disaster situations. The Mexican Social Security Institute was very interested in this initiative, taking in to account the number of hospitals that form its infrastructure: 254 hospitals of medium and high complexity, of which 131 (52%) are situated in high risk areas; 67 (26%) in medium risk areas, and only 56 (22%) in low risk areas.

Because of the aforementioned statistics, a model to certify hospitals was designed in order to establish a permanent and priority program. The model, entitled "Hospitals Prepared to Face Disaster Situations", is in agreement with the Pan-American Health Organization's recommendations. The Institute, through, the Institutional Committee for Disaster Cases, developed the rules for the creation of the "Hospital Plan for Disaster Classes" that include structural and non-structural aspects of organization, and which specify the governing body for each. Each hospital unit is responsible for designing its own plan. The plan should contemplate the actions to be followed in an international or external disaster in the stages before, during, and after the event, including identifying the risk factors, vulnerability, human resources, and materials at their disposal (made-to-measure).

For the institutional certification stage, the Committee designed an "Instrument" of quantitative evaluation that permits the qualification of the medical units to select at the first instance, the hospitals classified as high level resolution and situated in high risk areas. Later, they programmed assessment visits, and applied the evaluation procedure. So far, 15 hospitals have achieved this certification, and others are in the process of doing so.

Mexican Social Security Institute: At the present time, the Institute is able to start the national certification stage, and later will ask other organizationss to grant international certification. In this way, the security of users and installations will be increased and will allow the decrease of insurance premiums, which will be re-invested in strengthening hospital security.

Medical Needs, Public Health, and Living Environment after 1999 Earthquake in Taiwan

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Objective: To identify changes in the medical needs, public health status, and living environment during the mission of the Japan Disaster Relief Medical Team (JDR Medical Team) following the earthquake in Taiwan in 1999 during the acute phase to the sub-acute phase.

Methods: The study was performed by using structured interviews of persons (93 households, 658 persons) who were living a refugee life, and by the examination of water and sanitation.

Results: Skin disease, trauma, and respiratory disease were the main diseases encountered in those who had not sustained serious injuries diring the early phase. The incidence of respiratory diseases increased rapidly with time, and was followed by mental or psychological dysfunction, and secondary trauma (not earthquake-related). Public health was maintained fairly well as evidenced by the quality of the water and sanitation. As for the living environment, supply of the food and drinking water, drugs, toilets, sleeping places, shower equipment, amusement facilities, were adequate. However, over a long period of time living in tent, mental stress increased gradually. Many displaced persons requested the installation of immediate, makeshift housing

Conclusions: Fairly good recovery occurred during the transition from the acute phase to the sub-acute phase following the earthquake. Mental problems increased. The probability for spreading infectious disease remained low.

Establishment of a Mobile, First-Aid Rescue Team for Urban Disasters

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It has been shown that the first-aid system used by hospitals in the cities have not been able to undertake the tasks of associated with the delivery of timely and effective first-aid to high numbers of wounded persons. Therefore, it is important that independent or combined mobile first-aid teams be formed at medical units at all levels. Accordingly, the first-aid teams can be grouped into three levels:

1. First-aid teams at municipal level — Led and organized to provide medical support to important objects range at the city level;

2. First-aid team at district level — Led and organized by functional district units, its task is to provide mobile first aid to wounded persons within the district and medical support to important objects and neighboring areas; and

3. Object first-aid team — Led and organized by appointed medical units, its task is to provide medical support to important and special objects such as important operational units, business establishments and residential areas.

According to their designated responsibilities, they can be grouped into first-aid teams and medical treatment teams. As a combined team, the first-aid team is made up of members from the societal elements such as fire fighting, engineering, portage, and sanitation. It is responsible for extricating and moving the wounded persons away from the danger zone, and then to provide first aid. The medical treatment teams should be miniaturized, modularized, and specialized for provision of first aid on-site or in adjacent areas. Several medical treatment teams can form a temporary hospital if the number of wounded persons exceeds the capacity of the hospitals or difficulties are encountered in the delivery of the injured to intact hospitals, and/or that some of the hospitals are badly damaged.

Tactical Emergency Medical Support in Australia
David Caldicott

Tactical emergency medical support (TEMS) is the provision of advanced life support in the tactical environment, where there is a high risk of violence directed at the police and medical teams. Examples of these high-risk environments include terrorist incidents, hostage situations, clandestine drug laboratory raids, and the serving of high-risk arrest warrants. With origins in the military, and then subsequently in Strategic Weapons and Tactics (SWAT) teams in the U.S., the concepts of TEMS have begun to move into mainstream policing and prehospital care in the U.S. and Europe. Similar developments recently have occurred in Australia. Although each state in Australia has a Tactical Police Group, the level of tactical emergency medical support is variable. The requirements for the provision of TEMS in Australia are very different from those of other countries, and the adoption of pre-existing foreign models is inappropriate.

A postal survey and telephone interview with the directors of each of the Tactical Police Groups and their ambulance counterparts was conducted. This report presents the current provision of TEMS in Australia. Based on the findings, a template for a basic standard of practice in a sadly growing new area of emergency medicine also is provided.

Using GIS as a Tool for Community-Based Disaster Preparedness
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Introduction: The poor, elderly, and persons in women-headed households are at greater risk than are other populations during a disaster. Knowledge of where these groups may be concentrated within communities and their general circumstances can be important to effective emergency management and planning. Geographic information systems (GIS) can be used to aid in analyzing and presenting information that is tied to a spatial location. In addition, the use of GIS may serve as an effective tool to assist in identifying at-risk populations with creation of community-vulnerability maps for the purposes of community-based, disaster preparedness and educational initiatives.

Methods: The United States Census Bureau's Topologically Integrated Geographic Encoding and Referencing (TIGER) digital database of geographic features was used to create maps of Baltimore City, Maryland, which included census-based information. Attribute data for the census tracts, such as total population, number of males, and number of occupied housing units, were merged to the TIGER Maps from the Census Bureau's Census 2000 Summary File 1, using Arcview GIS v3.2 (ESRI, Redlands, CA 1999).

Results: Census tracts with percentages of indigent, elderly, or women-headed households above established thresholds have been targeted for a community-based disaster preparedness initiative through Civic Works Project Liberty. These areas will receive increased attention through increased recruitment of volunteers, community information sessions, and house-to-house canvassing activities.

Conclusions: GIS is an effective tool for identifying at-risk populations prior to disasters. It can provide accurate spatial data in a visual format that can be used to determine the focus of community-based disaster preparedness education initiatives that should result in reducing local vulnerabilities.

Emerging Role of Occupational Hygienist in Man-Made Disasters
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Introduction: Emergency response professionals have recognized that occupational hygienists contribute significantly in disaster response. The advent of man-made disasters like the 11 September events, indicate that biochemical terrorism is a credible threat. This paper demonstrates that occupational hygienists play an important role during man-made disasters. The skills set of anticipation, recognition, evaluation, and control of health hazards is most important.

Methods: Exposure assessments made by a hygienist not only are for on-site or off-site populations, but also cover the exposure of the responders and emergency personnel. Disaster response planning and execution can be made by assessment of the magnitude and impact of exposures resulting from the release of chemicals or biological agents