Disaster Mitigation

Health sector agencies responsible for reducing the structural non-structural and functional vulnerability of health services and water system infrastructure have the necessary awareness, materials, knowledge and skills to reduce this vulnerability to natural hazards.

Disaster mitigation in the health sector looks at two areas: reducing the physical and functional vulnerability of all types of health facilities—hospitals and clinics—and reducing vulnerability of water and sanitation systems, a more difficult task given the reasons that are put forth below.

Number of construction or retrofitting projects that include the variable of disaster mitigation or for which vulnerability studies have been performed.

Lobbying efforts aimed at reducing vulnerability to disasters were stepped up in 2004, not only within the health sector (Ministries of Health and health services) but with Civil Defense, Ministries of Foreign Affairs and others. The most notable achievement was the CAPRADE Andean Strategy (described in the previous section) which included disaster mitigation. This achievement provides the foundation on which to build concrete results in the years to come.

Colombia commits additional budget to vulnerability studies

By law, the government of Colombia requires an assessment of the vulnerability of national health facilities and the retrofitting of those that are determined to be at risk. It has studied the advances from these vulnerability studies and has found that 100% of the nation's tertiary level hospitals (the most complex), 30% of secondary level facilities and 16% of primary level facilities have carried out seismic vulnerability studies. In 2004, the government assigned 1 1 million Colombian pesos to raise to 45% the number of secondary facilities that

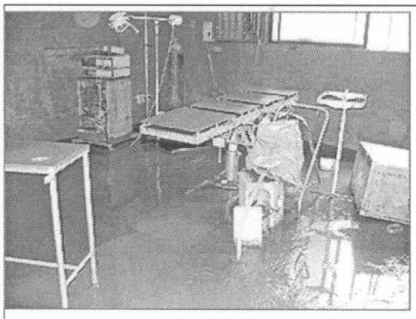
From a social standpoint, health care facilities are too valuable to health, the economy, and the community to lose them in a disaster. Approximately 50% of the 16,567 hospitals in the Americas are located in high-risk areas. In the last 20 years, more than 100 hospitals and at least 1,000 health care centers in this region were damaged as a consequence of natural disasters, which amounted to losses of over $3 billion dollars.

When struck by large-scale natural disasters, damage to infrastructure often causes the services provided by hospitals and health care facilities to be interrupted temporarily or even permanently. The operational loss of these facilities often leave a severe and lasting scar on the welfare and the socioeconomic development of communities and countries, not to mention the financial losses involved. Most recently during the 2004 Hurricane season, hospitals and health facilities in Grenada and Haiti that the community once viewed as points of refuge and trust were paralyzed or destroyed when they were needed most and they themselves became in need of urgent assistance.

PAHO used the World Conference on Disaster Reduction (WCDR), held in Kobe, Japan, January 2005, as the catalyst for a number of regional events that focused on safeguarding critical infrastructure from the effects of disasters. Two major subregional meetings were held in Latin America (Nicaragua) and the Caribbean (Trinidad and Tobago) to review the status of disaster vulnerability in the health sector of the Americas, propose a forward-looking strategy through 2015, and identify topics for discussion at the WCDR (recommendations attached in Annex 4). The principal conclusions from these meetings were:

- Low and middle-income countries have demonstrated, through pilot projects, that it is possible to significantly reduce health vulnerability to disasters with existing technical and financial resources.
- Every new hospital must be designed, built and maintained so that it continues to function immediately after a disaster.
- For the most part, technical or financial difficulties do not stand in the way of making hospitals safe. Any significant advancement in vulnerability reduction in the health sector now depends essentially on other sectors.

PAHO undertook a lobbying and advocacy campaign in member states to make policy and decision makers aware of these important conclusions. The outputs from these meetings were incorporated into the regional position on disaster reduction at meetings of the Conference Preparatory Committee. The Ministry of Foreign Affairs of Ecuador was a key member of this committee and ensured the visibility of Health sector concerns.



PAHO Directing Council Passes Resolution Urging Safe Hospitals

The devastation caused by Hurricanes Frances, Ivan and Jeanne in Bahamas, Cayman Islands, Cuba, Dominican Republic, Grenada, Haiti, Jamaica, and United States of America raised an overwhelming expression of solidarity of PAHO member countries at the 45th Directing Council in late September. The Ministers of Health unanimously approved a resolution "to urge Member States to adopt "Hospitals Safe from Disasters" as a national risk reduction policy, to set the goal that all new hospitals are built with a level of protection that better guarantees their remaining functional in disaster situations, and implement appropriate mitigation measures to reinforce existing health facilities, particularly those providing primary care."

The text of the resolution is online at www.paho.org/english/gov/cd/CD45.r8-e.pdf

Several months before the World Conference, the Ministers of Health of the Americas passed a Resolution (Annex 5) giving the political legitimacy necessary to call for safe hospitals. They urged all Member States to adopt a national policy to ensure that the health sector remains functional in disaster situations. Although it is not feasible to completely reduce overall vulnerability, due to many factors, focusing on one easily-identifiable type of infrastructure helps make the objective achievable and allows nations to demonstrate significant progress. The objective for the health sector at the World Conference was to ensure that this one simple message relating to the importance of health sector disaster vulnerability reduction was included in the final outcome document emanating from the conference. Toward the end of 2004, PAHO/WHO organized three thematic sessions to be held at the WCDR that showcased the achievements and challenges in Latin America and the Caribbean in making their hospitals and health facilities disaster-resistant.

Despite the fact that due to economic situations many countries throughout Latin America and the Caribbean have limited advances in reducing the physical vulnerability of health facilities, there are some important achievements to note. In Peru, the national Institute of Civil Defense is a relatively new actor in this field, and thanks to a new law requiring safety inspections of public facilities, they are now assessing the vulnerability of the country's health facilities. The expansion of responsibility for the safety of health facilities beyond the Ministry of Health is a very positive step and will allow PAHO to capitalize on the work of this sector and export the model to other countries.

Another notable achievement during disaster situations is the additional steps beyond evaluating physical damage that Costa Rica has now implemented. In a parallel effort, the Costa Rican Caja de Seguridad Social (Social Security Institute, which is responsible for the overwhelming majority of the nation's hospitals) now conducts a vulnerability analysis in order to have a sound technical opinion regarding whether to rebuild or relocate facilities. This institution also carried out a quantitative study of the advantages of the cost/benefit of investing in disaster mitigation vs. the damage sustained in earthquakes.

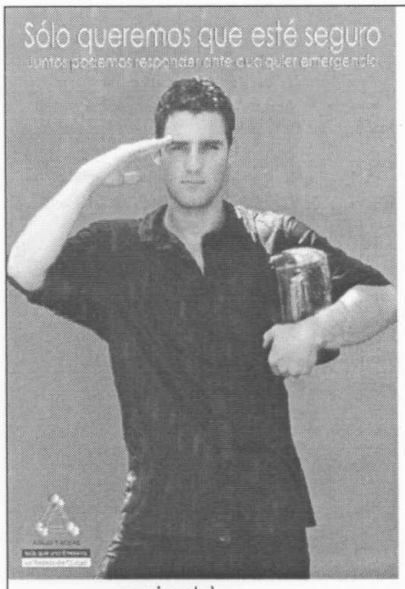
Costa Rica Studies the Cost-Benefit of Disaster Mitigation Measures

For many years, the Caja de Seguridad Social of Costa Rica has been well attuned to the need to ensure that earthquakes do not damage health facilities nor harm patients and staff, and recently has conducted vulnerability studies of its principal health facilities to determine the most at-risk, and plan for their retrofitting. Since then, three hospitals have been retrofitted (the Hospital Mexico, the Hospital de Niños and the Monseñor Sanabria) and three have had to be rebuilt due to earthquake damage.

The results of these efforts yielded a cost/benefit analysis of the two courses of action (the cost figures do not include the political and social cost of lost facilities, which are difficult to quantify). The results of the study (see Annex 6), are used to present effective arguments for the former to decision makers

Four major hospitals in El Salvador were seriously damaged by the 2001 earthquakes and subsequently, studies were conducted to ensure that the investment made in their rehabilitation would be sustainable. On the basis of these studies, the technical specifications for these reconstruction works were prepared in 2004. The Ministry of Health and PAHO played an important role in this process, ensuring that disaster mitigation and prevention aspects were incorporated into these proposals. In the case of PAHO, this was an Organization-wide effort involving the PAHO/WHO Representative (at the highest political level), the PAHO disaster focal point, and the Area on Health Services. At the same time, the joint efforts undertaken during this process reinforced contacts with other institutions that do not work on a routine basis in this field such as the Salvadoran Association of Engineers and Architects, the Coordination Unit of the Ministry of Health (which often has little interaction with the Ministry's Disaster Program) and the national Program for Hospital Reconstruction. The process is by no means complete, and the next step will be for PAHO and the Ministry to work with the government to ensure that the proposed mitigation aspects are actually incorporated into the projects. Within the framework of the "Safe Hospitals" initiative, the success of these efforts could be showcased in other countries as a model to show that it is possible to take advantage of hospital reconstruction.

When it comes to vulnerability reduction of water and sanitation systems in large urban areas of Latin America, it is more and more common to see water service providers themselves promote and conduct vulnerability studies of their infrastructure and finance the interventions necessary to reduce the identified vulnerability. This is particularly true where a regulatory framework exists and where national risk management programs have reached out to a number of sectors, as is the case in Costa Rica, Colombia and Barbados.



Water and sanitation company in Pereira, Colombia pledges to respond to disaster situations

The company that provides water and sanitation services to the city of Pereira, Colombia recognizes that the city is located in a highly at-risk area that is exposed to many natural hazards. For several years they have undertaken sustainable actions to ensure that their beneficiaries receive uninterrupted service or, if not possible, that service cuts are kept to a minimum and to guarantee that water quality remains at a level appropriate for human consumption, even in emergency situations.

The water company manages risks in a number of ways:

- disaster prevention activities (respecting regional planning laws and avoiding building in high-risk areas)
- disaster mitigation (conducting vulnerability analyses of water systems, risk mapping the location of the systems, and incorporating mitigation measures into infrastructure projects)
- disaster preparedness (design, dissemination and application of emergency protocols).

In this way, the water company seeks to comply with its commitment to the community, promoting the slogan: "We want you to be safe – Together we can respond to any emergency."

Unfortunately, the same cannot be said of water service providers in rural areas or smaller cities where many water systems are run by local authorities or the community themselves. In these instances, technicians in charge of keeping the services running often have little knowledge of risk reduction. It would seem almost contradictory that at the local level—the very place where many international aid agencies have concentrated the greatest amount of resources to promote "local risk management"—is where the least progress can be seen in the water and sanitation sector.

Recognizing that PAHO has neither the mandate nor the resources to intervene in the physical vulnerability of water and sanitation services, we limited ourselves to incorporating technical criteria related to risk management in the norms and design codes, the operation and the maintenance of these services during 2004.

In Central America, where a long-standing tradition of regional integration has taken hold, a collective will exists among countries to reduce the vulnerability of their physical infrastructure. Through the Central American Water and Sanitation Forum, subregional agencies have developed the Central American Plan for Vulnerability Reduction in their respective sectors. This sectoral plan officially forms part of the Central American Disaster Reduction Plan, developed under CEPREDENAC and SICA.