

# Disasters

## Preparedness and Mitigation in the Americas



Issue No. 99

News and Information for the International Community

April 2005

### Why Are We Still Building Unsafe Hospitals?



C. de Ville de Goyet

Why is it that hospitals are still being built without the necessary safeguards to ensure that they can function after a disaster, even though the necessary knowledge exists and is readily available, even though many countries have expressed the requisite political will to protect these critical facilities (but have not, necessarily, translated this

will into action) and cost is not really the limiting factor?

The single most often-cited factor is the absence of a mechanism that demands accountability when an unsafe structure is built. Accountability for the construction and performance of a building is not a new concept. As far back as the 1700s

B.C., Hammurabi's Code of Law issued the following somewhat drastic legal decision: *If a builder build [sic] a house for some one, and does not construct it properly, and the house which he built fall in and kill its owner, then that builder shall be put to death.*

This may be the first historical reference to the enforcement of building standards, and while no one today would advocate

This editorial draws on a presentation entitled *Methods for the Enforcement of Standards in Design and Construction*, made by Mr. Didier Deris of Guadeloupe at the PAHO/WHO Conference the Winds of Change, an international meeting held in Barbados in 2003 on building codes and their enforcement in health facilities and other institutions. Our thanks to Mr. Tony Gibbs for his review and comments.

(continued on page 7)

### Natural Disaster in Colombia Impacts Population Already Displaced by Violence



PAHO/WHO: J. Victoria

The department of Santander, Colombia has a population slightly in excess of 2 million and is home to 66,500 IDPs, those who have been internally displaced due to the ongoing violence in the region. Bucaramanga (population 568,000) is the capital of the department and is one of six Colombian cities with a large IDP presence in which PAHO/WHO maintains a field office. These field offices (also in Cali, Soacha, Medellin, Montería and Pasto) help to assess and improve access to health services, strengthen coordination among all actors working in health—government, NGOs, bilateral and UN agencies, etc.—and document and disseminate information on the impact of displacement on public health.

(more on page 5)

## Contents

News from PAHO/WHO.....	2
Other Organizations.....	3
Member Countries.....	4
Publications and Multimedia.....	6
Selected Bibliography.....	8



**Pan American Health Organization**



Regional Office of the World Health Organization

## WHO Conference on the Health Aspects of the Tsunami



In early May, some 400 delegates from all corners of the world met in Phuket, Thailand, an area hard hit by the earthquake and tsunami of last December, at the WHO Conference on the Health Aspects of the Tsunami Disaster in Asia. The conference focused on the lessons learned in the immediate health sector response to the disaster and the early phases of recovery and helped to identify approaches and commitments for strengthening the capacity of countries to step up health preparedness efforts and deal with future health sector disaster response. The conclusions of this important event will be presented to the World Health Assembly when it convenes later in May. More at <http://w3.whosea.org>.

## International Workshop on Management of Dead Bodies

Many natural disasters such as Hurricane Mitch in Central America, flash floods in Venezuela and Haiti, and earthquakes in Iran and Turkey have challenged the capacity of both the affected countries and the international community to adequately manage the large number of deaths. The devastating tsunami in South Asia in December 2004 occurred shortly after the publication of PAHO/WHO's *Management of Dead Bodies in Disasters* and the ICRC's *Operational Best Practices Regarding the Management of Human Remains and Information on the Dead by Non-Specialists*.



A direct connection between corpses and epidemics has never been scientifically demonstrated or reported. Yet this unfounded fear often leads to mass and hasty burials and cremations, which may actually have a more adverse impact on survivors and their communities. National authorities and disaster managers need clear alternatives to guide the management of large quantities of human remains in such situations. In order to improve preparedness for the proper and dignified management of dead bodies in disaster situations, PAHO and the ICRC organized an international workshop in May in Peru. This is part of a global effort to improve not only the adequate management of human remains after large-scale disasters, but primarily to provide better humanitarian assistance to survivors. View the proceedings and conclusions of the meeting at [www.paho.org/disasters](http://www.paho.org/disasters). Contact Dr. Ciro Ugarte ([ugarteci@paho.org](mailto:ugarteci@paho.org)) for more information.

## SUMA Team Deployed to Indonesia at the Request of WHO

In the weeks following the catastrophic earthquake and tsunami that devastated Indonesia last December, international aid poured into the country. At the request of WHO, a SUMA team was dispatched to help the Ministry of Health to classify the supplies piling up in warehouses.



The SUMA team helped local authorities in the identification of unsolicited supplies that arrived in the wake of the earthquake and tsunami.

The team first went to Jakarta to introduce the SUMA system to the Ministry of Health authorities and train them in its use. They also worked with the Ministry to translate the front end of the system into the Indonesian language. From there, the team moved on to Banda Aceh where it helped collect information on pharmaceuticals and health/medical supplies at the airport, organized the Provincial Health Authorities' warehouse and set up the SUMA system to distribute supplies to NGO health centers and districts. Arrangements have been made to translate the entire SUMA system into the Indonesian language and local staff are being trained to allow them to continue with the tasks at the provincial level. For additional information about SUMA and its activities worldwide, visit: [www.disaster-info.net/SUMA](http://www.disaster-info.net/SUMA).

# Other Organizations

Other Organizations

## ProVention Sponsors Grants for Disaster Risk Reduction



The ProVention Consortium has awarded modest grants to individuals and/or teams in developing countries to encourage them to become more involved in disaster risk reduction. Recipients of the first round of grants presented their findings at a "Global Symposium for Hazard Risk Reduction" at the World Bank Headquarters in Washington, D.C. Encouraged by the success of the program, ProVention is now teaming up with the Asian Disaster Preparedness Center, the University of Cape Town and the Disaster Management Center at the University of Wisconsin to sponsor a second round of grants to support research on disaster risk management.

The Consortium has invited young professionals from developing countries to submit proposals in the form of research projects, professional internships or professional development programs. Projects should focus on links between disasters, development and the environment, and should fall into three general categories (i) risk identification and analysis, (ii) risk reduction, and (iii) risk sharing/transfer. Read more about the grant program and its results at [www.proventionconsortium.org](http://www.proventionconsortium.org). Deadline for submission is 15 May.

We realize many readers will receive this information too late to meet this deadline. News of this competition, which reached us between issues of the Newsletter, was circulated to our listserv in April.

*Interested in becoming a member of our listserv? Send your name, postal address and e-mail address to [disaster-newsletter@paho.org](mailto:disaster-newsletter@paho.org) to receive advance notice of publications, meeting and other time-sensitive news, including an electronic version of this newsletter, weeks before the print copy reaches you.*

## The Center for International Disaster Information Readies for Next Hurricane Season

Last year, after several major hurricanes devastated the Caribbean, the Center for International Disaster Information (CIDI) aggressively tackled the problem of inappropriate donations. CIDI provides guidance and information in support of appropriate international disaster relief before groups and individuals start to collect it. In a proactive attempt to get the word out to the U.S. public and immigrant communities from affected countries living in the U.S., the Center produced media messages to spread the "Cash is Best" message.

The Center has worked diligently to persuade potential donors to either give cash from the onset or turn material offers into cash donations. The cash contributions help to address unmet needs, allow for the purchase of vital relief commodities, and ultimately to pay for the transportation of priority commodities that are urgently needed.

A new partnership between CIDI and GlobalGiving addresses many concerns the public and corporations face when giving cash donations. Donors can direct cash donations to specific projects on the front lines of disaster relief and reconstruction, and in most cases, 90 percent



of cash donations go directly to the social entrepreneur running the project in the affected country. Another common concern is the ability to know exactly how cash donations are spent. By making cash donations through the CIDI/GlobalGiving program, donors can direct donations to relief and reconstruction projects with specific beneficiaries and tangible outcomes. Each CIDI/GlobalGiving project is vetted by a leading international non-profit and is in line with the strictest government standards for international philanthropy.

Learn more about CIDI's activities at [www.cidi.org](http://www.cidi.org) or contact the Center at [cidi@cidi.org](mailto:cidi@cidi.org).

## Hurricane Season is coming . . .

The names for this year's hurricanes are Arlene, Bret, Cindy, Dennis,

Emily, Franklin, Gert, Harvey, Irene, Jose, Katrina, Lee, Maria, Nate,

Ophelia, Philippe, Rita, Stan, Tammy, Vince, and Wilma.

# Member Countries

## Mexico Marks 20th Anniversary of Devastating Quake



Twenty years have passed since a devastating 8.1 magnitude earthquake struck Mexico City on the morning of September 19, 1985 (a second quake, magnitude 7.5, struck the following day). The damage to health infrastructure was shocking. In the three largest health institutions in Mexico City—the Social Security Institution's National Medical Center, the Hospital General and the Hospital Juárez—5,826 hospital beds were lost either to the direct impact of the quakes or because the hospital had to be evacuated. Most striking were the collapse of the obstetric complex (six floors) and the medical residences (eight floors) of the Hospital General and the collapse of the 12-story central tower of the Hospital Juárez.

The damage to Mexico's health infrastructure marked a turning point. Up until the mid-1980s, efforts had focused almost exclusively on disaster preparedness for health personnel. The Mexico earthquake revealed the futility of focusing exclusively on preparing the region's human resources if the facilities in which they worked could not withstand the impact of the disaster (among the 561 people who perished at the Hospital Juárez were many health professionals who had participated in disaster preparedness training). Many in the disaster community were awakened to the importance of disaster mitigation and Mexico's health authorities were among the region's strongest proponents.

Today, 20 years later, the Government of Mexico, in coordination with the Pan American Health Organization, is convening a major international meeting to mark this anniversary and to highlight the issue of safe hospitals as a disaster reduction goal for the Americas. The meeting will take place in Mexico City from 19-21 September and is open to all interested health preparedness professionals, civil defense and civil protection personnel, engineers, architects and other mitigation experts, representatives of Ministries of Health and other institutions from Latin America and the Caribbean. There will be simultaneous Spanish-English translation in all plenary sessions. Mark your calendars now. More information in the next issue of this Newsletter.



Mexico City



1985



Photos: PAHO/WHO

## Central American Disaster Coordinators Meet

Disaster Coordinators from the Ministries of Health and disaster focal points from the PAHO country offices in Central America, together with representatives from regional national emergency commissions, met in Panama to review how they have fared in implementing the overarching regional disaster reduction plan for the health sector, approved in 2003, in addition to the sub-plans that were subsequently developed on mental health and the transport of hazardous materials. The passage of these collective plans represents an achievement, but concrete results have varied from country to country due to personnel changes or insufficient local support. The mental health sector is near completion of diagnostic materials to assess mental health in disaster situations. However, less progress has been made in the area of hazardous materials. An analysis of the role of the Ministry of Health in Central America's regional water and sanitation plan clearly revealed that the health sector should assume responsibility for ensuring water quality in the aftermath of disasters.

The participation of UN agencies, the Federation of Red Cross Societies and bilateral and regional agencies added to the realization that health concerns cannot be isolated from the actions of other sectors. Participants identified strategies for implementing the goal of Safe Hospitals, an outcome of the recent Kobe World Conference on Disaster Reduction. Proposed strategies include making an inventory of hospitals that have already conducted a vulnerability analysis and of existing disaster mitigation legislation in hospitals and developing a database of regional teams with expertise in hospital disaster planning. For more information contact Dr. Alejandro Santander: [santanda@cor.ops-oms.org](mailto:santanda@cor.ops-oms.org).

Photos: PAHO/WHO: J. Victoria

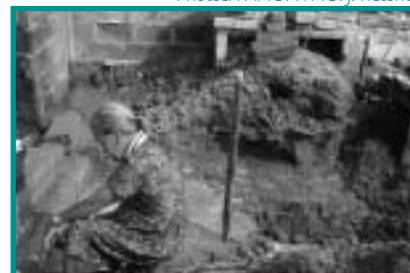
## Disaster Impacts Displaced Population

(from page 1)

In February 2005, an already difficult situation was compounded by serious flooding and landslides, particularly in the municipalities of Bucaramanga and Giron in the department of Santander. On 9 February, rainfall continued unabated for more than 12 hours and caused the Oro and Frio Rivers to overflow their banks, flooding nearby settlements, particularly those housing the internally displaced population. Just as municipal authorities were activating their emergency response plans, a second disaster struck. Two days later, heavy rainfall and rising flood levels caused much more dangerous and severe landslides and avalanches, affecting a much broader area. An Emergency Operations Center was set up to conduct a detailed census of the affected population, initiate an epidemiological surveillance system, prepare recommendations to prevent disease outbreaks and

serve as a repository for data collected. The SUMA system was set up to track incoming relief supplies and basic sanitation equipment was made available. As a result of early intervention measures, no serious public health problems occurred in the affected municipalities.

The most pressing need is to relocate the families still living in shelters and camps. PAHO has developed a prototype for low-cost, healthy housing as a temporary solution, with a view toward making it more permanent (see photo lower right). Municipal authorities have welcomed the proposal and are discussing its adoption. A prototype model has been constructed to familiarize the affected population with the design and to estimate actual construction costs. Read the after-action report (Spanish only) of the floods in Santander at [www.disaster-info.net/desplazados](http://www.disaster-info.net/desplazados).



The temporary modular family unit is quick and easy to set up, can house a family of 5-6, and can be expanded by adding additional modules. The unit includes an ecologically safe latrine, shower and sink until a more permanent sewage system can be set up. Water tanks are included to capture rainwater.

## Health and Displaced in Colombia

PAHO's Country Office in Colombia recently published the series *Health and Displacement in Colombia*, in collaboration with the School of Public Health at the University of Antioquia. The series of 13 modules present sociodemographic and epidemiological information on the displaced population in six urban areas of Colombia. A separate foldout chart provides basic health indicators. The first module compares these health indicators between the displaced and resident population. Among the findings: more than half of the IDP homes are headed by women; in general, illiteracy rates among IDPs are three times the national average; and only two of every 100 children aged 1-4 years of age have completed their vaccination scheme. Both the first module—which contains an executive summary in English—and the accompanying annex can be downloaded in PDF format from the *Health and Displacement—Colombia and Neighboring Countries* website: [www.disaster-info.net/desplazados](http://www.disaster-info.net/desplazados).



## Caribbean Disaster Coordinators Meet

The 40 Caribbean disaster management focal points from the English, Dutch, French and Spanish speaking Islands States who met in Tortola, BVI in May represented a vast wealth of expertise and experience. Many of these countries had to deal with hurricanes and floods over the past year and one of the goals of this Coordinators' Meeting was to exchange these experiences and learn from one another. Some of the issues that arose included unwanted donations and how to deal with the possibility of a large number of corpses on small islands with very limited forensic expertise. The Minister of Health and Welfare of BVI, the Hon. Ronnie Skelton, opened the meeting stressing the importance of preparedness but also stating, "it is within disaster events that the best in us is revealed. We can find strengths that we did not even expect." The Government of the British Virgin Islands, Disaster Management Office hosted the meeting. For more information write to [vanalphe@paho.org](mailto:vanalphe@paho.org).

# Publications and Multimedia

P u b l i c a t i o n s   a n d   M u l t i m e d i a



## Disaster Mitigation in Health Facilities—Wind Effects



Each type of natural disaster poses a unique risk to health and health facilities. In the case of hurricanes, the effects of high winds can affect both the structural and non-structural elements of a hospital or clinic. This new training material focuses on reducing the vulnerability of structural elements; those parts of a building that withstand gravitational and lateral loads to ensure stability. It also looks at non-structural elements and those that have special functions such as communication networks, gas and water pipes, electrical wiring, and medical equipment and supplies.

Examples are drawn from the partial or total failure of hospitals in the region and the material is designed to guide planners of health infrastructure (hospital administrators, engineers, architects, technicians, etc.) in Latin America and the Caribbean in reviewing the effects hurricanes on their facilities and assessing their vulnerability.

All of this material—which includes PowerPoint presentations with scripts, technical publications on disaster mitigation in health facilities and posters suitable for reproduction—is on the web at [www.disaster-info.net/viento](http://www.disaster-info.net/viento). A limited number of CD-ROMs containing the material is available. Write to [disaster-publications@paho.org](mailto:disaster-publications@paho.org).

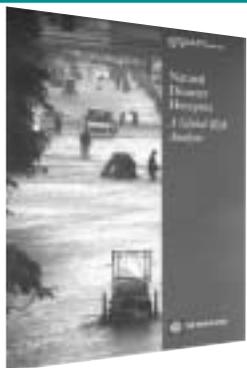
## Health Preparedness Guidelines for Volcanic Eruptions

Most of the active volcanoes worldwide are concentrated in Latin America and the Caribbean and millions of people live in cities and towns close to them. Throughout history, these volcanoes have demonstrated their enormous capacity for destruction. The new *Preparedness Guidelines for Volcanic Eruptions* (currently available in Spanish only as *Guía de Preparativos de Salud Frente a Erupciones Volcánicas*) provides support material to prepare health contingency plans to deal with these emergencies. The preparation of these guidelines involved a long process of collecting, organizing and testing the material, in which more than 100 experts were consulted, primarily from Colombia and Ecuador.

Five modules dealing with health sector risks, protecting health services, damage and needs assessment, environmental risks and communications planning are packaged together into this set of training aids. The guidelines also include a CD with PowerPoint presentations on each module, a description of the volcanic situation in Ecuador and Colombia and reference publications. Those interested in acquiring this material in Spanish should get in touch with the CRID (see page 8). It is also available on the web at [www.paho.org/disasters](http://www.paho.org/disasters) (click on Publications Catalog).



## World Bank Publishes Book on Global Risk Analysis



The World Bank and the Earth Institute at Columbia University has published: *Natural Disaster Hotspots: A Global Risk Analysis* (ISBN: 0-8213-5930-4; \$20; March 2005). It assesses the global risk of mortality and economic losses from disasters and combines exposure to six hazards—earthquakes, volcanoes, landslides, floods, drought, and cyclones—with historical

vulnerability for two indicators of elements at risk—gridded population (allowing the estimation of risk levels at subnational scales) and Gross Domestic Product (GDP) per area. Case studies explore risks from particular hazards or for localized areas in more detail.

This book is part of the "Disaster Management Risk Management Series." Other titles in the series include: *Understanding the Economic and Financial Impacts of Natural Disasters*; *Managing Disaster Risk in Emerging Economies*; and *Building Safer Cities: The Future of Disaster Risk*. Readers who mention this Newsletter will receive a special discount on the purchase price when ordering from the World Bank online bookstore at <http://publications.worldbank.org/ecommerce/>. For more information, write to [books@worldbank.org](mailto:books@worldbank.org).

## Why Are We Still Building Unsafe Hospitals?

(from page 1)

applying such harsh measures, it does make clear that someone must take responsibility, and more so, when it comes to building critical infrastructure such as hospitals. This responsibility must be shared by the administrators, acting on behalf of the owner, as well as by the designers and builders.

### The check consultant mechanism

Today, the importance of involving check consultants to accompany the entire building process—from design to construction and through delivery and an evaluation of performance—is acknowledged, if not universally practiced. A check consultant is an experienced individual, usually an engineer, or an independent organization that is knowledgeable about quality standards for structures and is acceptable to all parties involved. Some countries have an official mechanism to accredit check consultants, evaluating and validating their competency, independence and confidentiality. In France before 1978, insurance companies made it a practice to insure certain public buildings such as hospitals, schools and other large structures, only if an independent check mechanism, in this case a *Bureau de Contrôle*, was involved to certify that the building met certain design, construction and performance standards. Since 1 January 1978, the involvement of *Bureaux de Contrôle* in checking the design and construction quality control for buildings slated for public occupancy has been mandated by the law, the Spinetta Act. In the case of other buildings, such as private homes or multi-family dwellings, the use of *Bureaux de Contrôle* is not mandated by law but is sometimes voluntarily used and publicized by developers for marketing purposes. Property insurance companies charge lower premiums for buildings which have had design and construction checks by *Bureaux de Contrôle*. The *Bureaux de Contrôle* originally came into being not because they were imposed by law but rather because of private sector pressure from insurance companies, who recognized they needed specialists



to identify potential risks and guarantee their reduction.

Many parties are involved in the construction of a building and thus have a vested interest in having a check consultant oversee the multiple stages of the design and construction. These include the owner of the construction, the architect, the engineers, the construction company and the insurance company. Often, it is the insurance companies who drive the process.

A large number of countries have building codes; however, the level of enforcement of these codes varies greatly from country to country. There are still many other countries in which public buildings are not required to carry insurance, and therefore building standards may not be applied properly or conscientiously. In some countries, the Department of Public Works or other national or municipal agencies act as the building inspectorate; however, the training of public sector building inspectors is usually insufficient to allow them to act as effective checkers.

The new UN publication **Know Risk**, which highlights global efforts and practices in disaster reduction, says that people

have been living with risk ever since they first joined efforts, shared resources and assumed responsibilities in social groups; social development and human well-being have advanced only because people have taken risks. Today, reducing risk as it applies to critical infrastructure such as health facilities is often weighed in cost-benefit terms. But reducing the risk to hospitals is more than a medical issue. Hospitals have a symbolic social and political value that we cannot put a price tag on. A check consultant will advise on what constitutes an acceptable level of risk and how to keep the level of risk as low as is practicable and appropriate under the circumstances. In the case of the *Bureaux de Contrôle*, the cost of this mechanism is between 0.5% and 3% of the cost of construction, depending on the size and complexity of the project. Most usually the range is 0.5% to 1%. Undoubtedly, if we compare the cost of a check consultant with the decrease in insurance claims and reduced annual premiums over the life of the building, countries and building owners save money. If we add to this the social benefit of protecting our hospitals and health facilities, it makes even more sense.

# Selected Bibliography



S e l e c t e d B i b l i o g r a p h y

The articles listed in this section come from the collection of the Regional Disaster Information Center (CRID). Request copies from CRID, citing the numerical reference code included with the title.

Boroschek Krauskopf, Rubén et al., "The response capability of hospitals in seismic disasters: Nonstructural aspects." Mexico, D.F., 1996. 13 p. (7637)

Velásquez, José Vicente, "Seguridad en edificaciones hospitalarias." In: Muñoz Arias, Juan et al. *Análisis de vulnerabilidad y planes hospitalarios de emergencia*. Santa Fe de Bogotá, Colombia. Ministerio de Salud, May, 1992. p. 75-9. (5042)

Boroschek Krauskopf et al., "Aspectos básicos en la evaluación de la capacidad de respuesta a desastres naturales de un hospital." Santiago, Chile, 1994. 10 p. (8519)

Romero, Mirta et al., "Arquitectura para la salud en zonas de alto riesgo sísmico." In: Universidad Nacional de San Juan. Facultad de Arquitectura, Urbanismo y Diseño, Argentina. Universidad Nacional del Litoral. Facultad de Arquitectura, Diseño y Urbanismo, Argentina. *ARQUISUR 2004*. Oct. 2004. p.10. (15606)

Rosales Ardón, Vanessa, "General policies on consideration of natural disasters in proposals for investment in health infrastructure." México, D.F.; Feb. 1996. 13 p. (12917)

Kuroiwa, Julio, "Criterios, métodos y técnicas para la localización de hospitales para la reducción de desastres naturales." *Criteria, Methods and Techniques to locate Hospitals and Reduce Natural Disasters*. [26] p. (13394)

**Disasters: Preparedness and Mitigation in the Americas** is the Newsletter of the Area on Emergency Preparedness and Disaster Relief of the Pan American Health Organization, Regional Office for the Americas of the World Health Organization. The reported events, activities and programs do not imply endorsement by PAHO/WHO, nor do the statements made necessarily represent the policy of the Organization. The publication of this *Newsletter* has been made possible through the financial support of the Division of Humanitarian Assistance, Peace and Security of the Canadian International Development Agency (HAPS/CIDA), the Office of Foreign Disaster Assistance of the U.S. Agency for International Development (OFDA/AID), and the Department for International Development of the U.K.

Correspondence and inquiries should be addressed to:

The Editor

Disasters: Preparedness and Mitigation  
in the Americas

Pan American Health Organization  
525 Twenty-third Street, N.W.

Washington, D.C. 20037, U.S.A.

Tel: 202-974-3527 • Fax: 202-775-4578

**E-mail: [disaster-newsletter@paho.org](mailto:disaster-newsletter@paho.org)**

**[www.paho.org/disasters/](http://www.paho.org/disasters/)**

Regional Disaster Information Center

Apdo. 3745-1000, San José, Costa Rica

Fax: (506) 231-5973

**E-mail: [crid@crid.or.cr](mailto:crid@crid.or.cr)**

**[www.crid.or.cr](http://www.crid.or.cr)**

April 2005

FIRST CLASS

Postage and Fees Paid  
PAHO  
Permit Number G-61

Disasters: Preparedness and Mitigation in the  
Americas  
Pan American Health Organization  
525 Twenty-third Street, N.W.  
Washington, D. C. 20037-2895  
Official Business  
Penalty for Private Use \$300