

# Disasters

## Preparedness and Mitigation in the Americas



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### A Disaster Myth That Just Won't Die

#### Mass burials and the dignity of disaster victims



Dati Idrasanto, Ministry of Health Indonesia

In Indonesia, relief workers helped disaster survivors in the process of identifying lost family members.

It was South Asia's worst natural disaster in memory—the earthquake and tidal wave that claimed more than 250,000 lives in a dozen countries last December. But as the death toll climbed in the days following the disaster, media reports warned that a second calamity was in the making: dangerous disease outbreaks caused by the legions of rotting bodies.

Decaying bodies are bacteria factories. The bodies must be quickly disposed of." Another noted, "Worried that rotting corpses could take more lives by spreading disease, health officials ordered them collected in city trucks and dumped in mass graves."

"International organizations urged that the thousands of bloated corpses littering beaches, streets and makeshift morgues be disposed of quickly to stem the threat of disease," one news agency reported. Other media reports were equally alarming. One quoted a microbiologist saying that "There is a very high risk of epi-

*(continued on page 7)*

### What do readers think about PAHO's publications?



At the end of 2004, PAHO conducted a study on the impact of its publications and training materials in four Spanish-speaking countries—Colombia, Ecuador, Honduras and Costa Rica—to gauge who our users are, their interests and expectations and especially, their level of satisfaction. The study yielded a sound idea of how the publications are used and the impact they have on the field of disaster reduction.

The study looked at four major categories: user profiles; awareness and consultation of the material; how the material is used and its impact; and the level of user satisfaction. Following is a sample of the most relevant conclusions.

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**Pan American  
Health  
Organization**



Regional Office of the  
World Health Organization

## Earthquake and Tsunami Devastate South Asia



WHO/IG. Hampton

Health systems are being rapidly strengthened across all tsunami-affected countries. Nutrition needs are being assessed and met. As many survivors try to return to their homes, the fluidity of internally displaced people makes the delivery of humanitarian assistance a challenge.

Headquarters in Geneva and the WHO South East Asia Regional Office (SEARO) in New Delhi established 24-hour Operations Crisis Centers with a senior level task force to support the emergency needs of the affected countries. WHO staff from all over the world were mobilized to support the Crisis Center in SEARO and country offices in Sri Lanka, Maldives, Thailand and Indonesia.

As the organization leading the coordinated public health relief effort, WHO priorities included efforts to prevent communicable disease outbreaks, particularly of water-borne diseases. The focus was on ensuring that basic needs of displaced populations in affected areas, such as adequate supplies of safe water, strong sanitation/hygiene infrastructure and basic medical supplies, were met. WHO also focused on setting up emergency disease surveillance and early warning systems, mass vaccination campaigns to protect hundreds of thousands of children against measles, providing technical guidelines and using emergency teams at field level, and activities aimed at reducing vulnerability of women and children and rebuilding the health system.

SEARO's web site has a wealth of up-to-date information, including situation reports, country information, comprehensive guidelines for health emergencies, press releases and more. The site features an excellent tsunami photo library and allows you to subscribe to an e-mail newsletter on tsunami health that offers news and updates of WHO activities in the affected countries. Visit <http://w3.whosea.org/index.htm> for complete and current coverage of the response to this disaster. WHO's headquarters site features press releases, assessment reports and information on WHO's strategy and appeals ([www.who.int/hac](http://www.who.int/hac)).

Major earthquakes off the northern coast of Sumatra, Indonesia produced a devastating tsunami in late December that affected 12 countries in south Asia and as far away as Africa. Hardest hit were Indonesia, Sri Lanka, India, Maldives and Thailand. From the outset, the World Health Organization supported the needs of country offices and Ministries of Health in disease surveillance; provided technical advice on best practices in outbreak situations and how to reduce environmental and public health risks; offered guidelines on the management of cadavers, psychosocial needs and protection of vulnerable groups; mobilized resources and supplies such as essential drugs and water purification tablets/chlorine; and coordinated and managed information requests for technical issues and public and media information. The WHO Health Action in Crisis Network was activated immediately following the news of the disaster. WHO



PAHO/WHO, R. Perez

The Framework of Action for 2005-15 calls on countries to ensure that new hospitals are built with a level of protection that helps guarantee they remain functional in the aftermath of disasters.

When the World Conference on Natural Disaster Reduction opened in Kobe, Japan, almost 10 years to the day on which a devastating 1995 earthquake killed more than 6,000 in that city, the painful memory of the south Asian tsunami that occurred just three weeks earlier was still fresh on everyone's mind. The Conference brought together 4,000 participants from 150 countries to review concrete results and develop a strong plan of action for reducing disaster losses over the next ten years.

"We have to make sure that key urban functions in every community are able to withstand the shocks of natural disasters when they strike. When hospitals are destroyed, it is impossible to care for the wounded;

# Other Organizations

Other Organizations

## CRID publishes new “minikit”



The Regional Disaster Information Center (CRID) continues adding “minikits” to its series of information packets on disasters. The latest addition is volcanic eruptions. Included is an explanation of the different phases and hazards associated with this type of disaster. It also includes recommendations to follow in case of a volcanic eruption and some information leaflets. Visit the CRID’s website at [www.crid.or.cr](http://www.crid.or.cr) for more information on the “minikits” and other CRID services.

## Health Canada unveils new health threat alert system

The public health agency of Canada, Health Canada, has developed a new global system to detect public health and bioterrorism threats. The system was recently unveiled at the United Nations. The new Global Public Health Intelligence Network (GPHIN) uses a unique combination of leading-edge technologies to provide an early warning system in six languages for potentially serious public health events around the world. In addition to alerts of public health news, it will have a searchable database available to users.

The system will be used to track high-profile threats, as well as lesser problems such as contamination to food and water sources, natural disasters, and unsafe medical products, drugs and medical devices. WHO is a key recipient of the alerts, and is using the information to develop plans of action to control outbreaks. During its pilot phase, GPHIN was able to detect two-thirds of the 950 outbreaks that WHO investigated in the



Health Canada’s system can be used to track high-profile threats, as well as lesser problems and can be used in the event of a chemical, biological or nuclear attack.

last two years. Besides a disease outbreak, the system could be used in the event a chemical, biological or nuclear terror attack has occurred.

It is expected that government agencies, NGOs and educational institutions will be the main users of the system. GPHIN will charge a fee for access to the services. The fee will be based on the organization’s size, the number of potential users and any customized features that are needed. Visit the network’s website at [gphin-rmisp.hc-sc.gc.ca/](http://gphin-rmisp.hc-sc.gc.ca/) for information on how to subscribe to the services.

when schools are damaged, our future generation is at risk,” said Sálvamo Briceno, Director of the U.N. Secretariat of the International Strategy for Disaster Reduction, at the World Conference. Protecting and strengthening vital social services was among the main issues being discussed at the Conference, where participants called on governments to protect and strengthen critical public facilities and physical infrastructure.

The 168 delegations at the Conference adopted a framework for action calling on states to put disaster risk at the center of political agendas and national policies. The “Hyogo Framework for Action: 2005 – 2015” will strengthen the capacity of disaster-prone countries to address

risk and invest heavily in disaster preparedness. “This new plan will help reduce the gap between what we know and what we do; the critical ingredient is political commitment,” said Jan Egeland, U.N. Under-Secretary-General for Humanitarian Affairs. The Conference also adopted a declaration recommending, among other things, that a “culture of disaster prevention and resilience must be fostered at all levels” and called on countries to recognize the relationship between disaster reduction, sustainable development and poverty reduction.

Visit the Conference web site at [www.unisdr.org/wcdr](http://www.unisdr.org/wcdr) to review official documents, presentations and plans. Read more on page 6 about the health sector initiative to make hospitals safe from disasters.

## FLOODS IN GUYANA

By mid-January, 27 inches of rain had already fallen in Guyana (normal rainfall for this period is 7 inches). This caused considerable flooding along the coastal regions which are the most densely populated areas of the country. At least 192,000 people in and around Georgetown, East Coast, East Bank and West Demerara have been affected.

The floods had an impact on the health facilities and surveys conducted by PAHO/WHO revealed that in Region 3, 25% of the 12 health centers are closed and have some damage. Region 4 (population of 75,000) is the most critically affected, where 22 of the 36 health centers (61%) were flooded, 12 health care facilities (33%) are out of service, and three (8%) have limited functional capacity (the remaining seven are fully functioning). Damage reported includes loss of supplies (needles, drugs, vaccines, cotton, bandage, etc.) and damage to water pumps, refrigeration units (cold chain), furniture and electrical wiring.

PAHO organized and guided

mobile health teams, visiting shelters and communities in the affected areas. Daily, about 35 health teams composed of 7-10 persons were deployed to conduct epidemiological surveillance and treat diseases. PAHO/WHO prepared and disseminated epidemiological surveillance forms, trained personnel in epidemiological and disease surveillance in shelters and communities, conducted data analysis and coordinated outbreak response, in collaboration with the Ministry of Health.

A basic protocol was developed to deal with suspected cases of

leptospirosis, a bacterial disease usually caused by exposure to water contaminated with the urine of infected animals. Humans become infected through contact with water, food, or soil. The protocol recommends testing patients who are admitted to hospitals and randomly testing those who seek treatment for symptoms consistent with signs of leptospirosis. Mobile teams are collecting blood samples from areas where leptospirosis has not yet been detected. Complete information at [www.paho.org/disasters](http://www.paho.org/disasters).



Thanks to a communication campaign advising against unnecessary contact with flood waters, PAHO field staff noted a marked decrease in the number of children actually playing in the water. However, many people still waded barefoot through the water, increasing the risk of contact with the leptospirosis bacteria through open wounds or cuts on their feet.



Mobile medical teams visit shelters on a regular basis to track illnesses and disease. Serious cases are referred to the hospital. As of 8 February, 2,400 people were still in shelters.

Sanitary conditions deteriorated quickly as a result of the floods. Garbage removal was a problem in the affected areas (compounded by the fact that shelters served meals in styrofoam containers). Rotting animal carcasses littered the roadsides and had to be disposed of.



PAHO Photos: Els Scholte, Ton Vlugman, y Hedwig Goede

(from page 1)

### Level of satisfaction

On average, users rate the sources of information and the publications as “good” or “very good.”

Readers under 30 years of age consider the content innovative. A majority of users (71%) between 31-60 years of age recognize clearly how this material has helped them achieve professional goals and therefore use the publications and other material more widely. Some adults over 61 found the publications difficult to comprehend and did not see any specific value added.

More than 62% of those surveyed are very satisfied with the quality and format of the publications. They consider the information contained in the publications credible and perceive the content as useful and up-to-date.

In terms of format, the CD-ROM generated the greatest degree of user satisfaction, although many users pointed out that it is important of this medium being well designed and user -friendly.

### Dissemination, distribution, and access to publications

The web page and the newsletter *Disasters* are the key sources of information and provide the greatest satisfaction. Users also expressed satisfaction with the Publications Catalog, the Virtual Disaster Library, the Regional Disaster Information Center (CRID), and other local documentation centers. However, 17% of survey respondents noted the newsletter does not reach them on a regular basis.

When it comes to how users get the information, the highest level of satisfaction is reserved for the Internet, where users can download full-text copies of all publications. This is followed by individual responses to their requests or queries, the CRID, PAHO's local offices, and PAHO meetings or workshops. It is interesting to note that although 93% of the respondents said they had Internet access, this does not necessarily mean they use this tool to access or download publications. The study indi-

cated that access to publications is still a matter of technology, training and resources that limit widespread Internet use.

In terms of channels of distribution, there is an “average” level of satisfaction, primarily because users think there are not enough options. The study pointed out that respondents have the most difficulty in obtaining hard copies of books.

### Impact achieved

Who uses PAHO's disaster publications and materials? Professionals interested in emergency and disaster management, technicians in specialized institutions, health sector personnel, NGOs and municipalities, and staff at the decision making level, in that order.

Over the years, these publications have sparked the interest of new generations of disaster professionals and, for many who were trained or specialized using these materials, they have had a significant impact on their work. Twenty-five years ago, disaster management was still a relatively new field and there was little literature available. These publications have opened the door for many and helped to develop a common knowledge base, particularly in the Americas.

Some of the suggestions and comments from those surveyed include:

- An interest in participating in the “field-testing” of new materials.
- The need to improve distribution.
- Publish more material geared toward the managerial and political levels.
- Update obsolete publications.
- An expressed interest on the part of many in the four countries surveyed to develop further material on mental health, the transport of dangerous materials and chemical accidents.

Consult the complete study on the web at [www.disaster.info.net/encuestainforme](http://www.disaster.info.net/encuestainforme). For more information on the survey, contact [rperez@ecu.ops-oms.org](mailto:rperez@ecu.ops-oms.org). Review all of PAHO's publications at [www.paho.org/disasters](http://www.paho.org/disasters) (click on Publications Catalog).

## Virtual Information on Health Emergencies and Disasters for South America

Peru's national disaster program in the Ministry of Health, with the support of PAHO and the Regional Disaster Information Center (CRID), has created its first Virtual Disaster Library, focusing on disasters in South America. The virtual library is available to the entire disaster community at [www.minsa.gob.pe/ogdn](http://www.minsa.gob.pe/ogdn).

Thanks to web technology, the Virtual Library is a reality, and it is powered by two databases: DESAS and INFOR. DESAS provides access to full-text documents, bibliographic references for in-person consultations, courses and events related to natural, manmade and social disasters. The INFOR database keeps up-to-date information on events throughout Peru using a simple spreadsheet on the web to consolidate reports and provide a quick preliminary analysis.

The Virtual Library is a very useful tool, not only for its user-friendliness but because of the variety of titles available to all those interested in disasters and emergencies. The National General Civil Defense Office offers a consultation service for a wide variety of material. We invite the whole disaster and emergency community to visit the Peruvian Virtual Library and offer their contribution, share information, research and experiences with other countries in the Region.



# 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



## Safe Hospitals—A Collective Responsibility, A Global Measure of Disaster Reduction



Protecting critical health facilities, particularly hospitals, from the avoidable consequences of disasters, is not only essential to meeting the Millennium Development Goals set by the United Nations, but also a social and political necessity in its own right. This is the message that *Safe Hospitals—A Collective Responsibility, A Global Measure of Disaster Reduction*, prepared by

PAHO/WHO for the UN World Conference on Disaster Reduction, puts forth.

According to the publication, the vulnerability of a hospital is more than a medical issue. Other factors must be taken into account: public health, socio-political significance, and the economic aspects. It is possible to reduce the vulnerability of a hospital by raising the levels of life, investment and operational protection not only in existing facilities, but in the plans for new installations as well. It has been proved time and again that disaster mitigation measures pay off when health facilities are able to withstand the effects of devastating disasters and continue to offer their services. Although the financial investment can be high (and it is not always possible to protect an installation against all kinds of disasters), the cost of ignoring the risks can be much higher, not only in terms of money, but more importantly on the loss of human life.

The importance of hospitals goes far beyond the role they play in saving lives after disasters. They are powerful symbols of social progress and a prerequisite for economic development, and as such, special attention must be given to reducing their physical vulnerability.

The publication can be downloaded from [www.paho.org/disasters](http://www.paho.org/disasters) (select Publications Catalog).

## New on CD-ROM



### EDAN in the Health Sector Expanded to Include Assessment Forms

Several months ago, PAHO/WHO published a new manual on Health Damage and

Needs Assessment for Disaster Situations to assist health workers to conduct field evaluations in the aftermath of natural disasters.

Due to the high demand in countries in Latin America for additional material, particularly in the context of regional and national response teams, PAHO/WHO, together with a large group of regional experts, has produced a new CD-ROM with a variety of information on the topic, including Powerpoint presentations for training personnel who will conduct health sector damage and needs assessments, assessment forms, the original publication and other reference materials. In its current format the material can be adapted to regional or national needs.

All material (in Spanish only at present) is on the web at [www.disaster-info.net/edan](http://www.disaster-info.net/edan). For a copy of the CD-ROM, write to [disaster-publications@paho.org](mailto:disaster-publications@paho.org).

### New Materials Improve the Hospital Disaster Planning Course

In 2003, PAHO published a training module to support the organization of hospital disaster planning workshops. Suggestions and comments on how to improve the content were gathered from the participants at many of these workshops. At the same time, PAHO began working with other experts to develop complementary material to train trainers.

The result is the second version of Hospital Disaster Preparedness, a technical training tool that now includes the methodology to train trainers to carry out these courses. The revised version includes lesson plans, guidelines for instructors, visual aids, evaluation forms and reference material.

Presently, this material is available in Spanish only and is on the web at [www.disaster-info.net/planeamiento04](http://www.disaster-info.net/planeamiento04). All material is also available on a new CD-ROM. Visit the web site or request the Spanish language materials from [disaster-publications@paho.org](mailto:disaster-publications@paho.org).



## A disaster myth that just won't die

(from page 1)

The notion that dead bodies pose an urgent health threat in the aftermath of a disaster is one of several enduring myths about disasters and relief efforts that live on. Survivors, however, are much more likely to be a source of disease outbreaks. Most victims of natural disasters die of trauma, drowning or burns rather than from infection, and victims are no more likely to carry infectious agents than survivors. Someone who died without cholera is not likely to produce it after they are dead.

An environmental epidemiologist at the London School of Hygiene and Tropical Medicine reviewed the scientific evidence on the issue in a recent article in the *Pan American Journal of Public Health*. "The microorganisms involved in decomposition are not the kind that cause disease." "And most viruses and bacteria that do cause disease cannot survive very long in a dead body." An exception is the human immunodeficiency virus, HIV, which has been shown to live up to 16 days in a corpse, but only under refrigeration. He points out that blood-borne viruses, such as HIV and hepatitis B and C, as well as tuberculosis and gastrointestinal infections, do pose a slight risk for relief workers charged with handling bodies. But the risk of contagion can be minimized with basic precautions and proper hygiene.

One valid concern is that fecal matter from decomposing bodies may contaminate water. Getting clean water to people should be a high priority, regardless of the source of contamination.

Despite the scientific evidence, the belief that dead bodies spread disease remains a chronic problem in disaster relief efforts. Alarming reports in the media about the risk of massive disease outbreaks can prompt authorities to rush to bury bodies in mass graves. This adds to the survivors' anguish and to the chaos. It becomes one more blow to the affected population.

### Seeking closure

There is a larger problem: mass burials and cremations can make identification of



Doti Idrasanto, Ministry of Health, Indonesia

remains all but impossible and they prevent survivors from burying loved ones according to local customs and beliefs. Survivors have a strong psychological need to identify lost loved ones and to grieve for them in customary ways. Every survivor's hope is, of course, that they will find someone alive. But when that hope fades, there is a nearly universal human need to learn the fate of a missing loved one and to somehow say good-bye. This need must be recognized along with all the other needs that people have in the aftermath of a disaster. This is why following the recent tsunami disaster, countries with specialized forensic identification teams and technology offered their services to the affected countries in support of the disaster recovery effort.

Failure to find and identify a victim can have material consequences as well, leaving survivors in a kind of legal limbo with respect to property ownership, inheritance, or family benefits. In many cases, these problems add to the economic hardship caused by the disaster itself. Although authorities may feel public pressure to dispose of bodies quickly, families, neighbors and immediate community members are

likely to resist efforts to bury victims en masse. Following Hurricane Jeanne in Haiti last September, residents of Gonaives reportedly stoned a truck trying to dump corpses into a mass grave.

Much of the news coverage of the tsunami catastrophe propagated the myth of dead bodies and epidemics, particularly in the first days following the disaster. But the coverage also reflected the enormous importance survivors place on identifying lost loved ones. Media reports were filled with stories and images of survivors searching desperately in hospitals and morgues, perusing bulletin boards with victims' photos, and posting pleas on the Internet for help in finding lost loved ones. They also showed many instances in which relief workers tried to facilitate this process.

In disaster and emergency situations that produce mass casualties, dealing with large numbers of corpses is a critical challenge for disaster relief. The approach to this task should recognize the rights of survivors and be based on scientific evidence, which is widely available, rather than on unfounded fears.

Survivors have a strong psychological need to identify lost loved ones and to grieve for them in customary ways. Denying survivors the right to carry out those rituals can add significantly to mental health problems that occur after a disaster.

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*This article is based on an upcoming article from *Perspectives in Health*, a biannual magazine published by the Pan American Health Organization. The full version will be online at: [www.paho.org](http://www.paho.org). Read more about infectious disease risks from dead bodies following natural disasters in an article by Oliver Morgan published in the *Pan American Journal of Public Health* ([http://publications.paho.org/english/dead\\_bodies.pdf](http://publications.paho.org/english/dead_bodies.pdf)). An editorial in the same issue of the *Journal* on topic is online at [http://publications.paho.org/english/editorial\\_dead\\_bodies.pdf](http://publications.paho.org/english/editorial_dead_bodies.pdf). Finally, the new PAHO/WHO publication *Management of Dead Bodies in Disaster Situations* is available in full text on the web [www.paho.org/English/dd/ped/ManejoCadaveres.htm](http://www.paho.org/English/dd/ped/ManejoCadaveres.htm).*

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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)**

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