

# Disasters

## Preparedness and Mitigation in the Americas



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### The Americas and the new global humanitarian context

Editorial



The ministries of health in Latin America and the Caribbean can be proud of their historic contribution to disaster management. A milestone was the resolution passed by the PAHO Directing Council (CD26 R11) in 1976 instructing the Director of PAHO to establish a unit “to assist the ministries of health to prepare and plan for disasters following the catastrophic earthquake in Guatemala.” This focus on strengthening the capacity of national health institutions for disaster prevention, preparedness, and response has been farsighted and beneficial for the Region of the Americas. In the 35

years since that landmark resolution, the global humanitarian context has changed drastically.

The 1976 earthquake in Guatemala was a major event, leaving an estimated 23,000 dead, 77,000 injured, and 40% of the hospital infrastructure destroyed. Although the losses attracted global attention, the response was largely national and to a lesser extent regional.<sup>1</sup> There were few foreign search and rescue experts or organized field hospitals that rushed to the assistance of the affected population; of those that did assist, almost all were from the Region.<sup>2</sup>

*(continued on page 11)*

### Interview

Dr. Dana Van Alphen, the regional advisor for the PAHO/WHO emergency response team, arrived in Haiti two days after the devastating earthquake of 12 January 2010. As the coordinator for the health cluster, it was her responsibility to work with some



*Dr. Dana Van Alphen*

400 health agencies that came to provide humanitarian aid after the quake. The cluster facilitated planning strategies and established a clear leadership system. The first days were difficult due to the number of actors with different levels of experience in disaster relief, language barriers, logistics problems, and other factors. Coordination efforts were further challenged by the cholera outbreak in October 2010. To date, cholera has caused the death of over 4,000 people. Humanitarian assistance and response efforts have been hampered by severe weather conditions, the cholera epidemic, and social upheaval. As the relief work continues, PAHO/WHO is determined to ensure the population's access to health care and the creation of a decentralized health system to provide medical services.

*Haiti is facing one of the most severe outbreaks of cholera in the last century. What are the implications for the health cluster given that the epidemic occurred when the country has not yet recovered from the earthquake?*

From the coordination point of view, the epidemic was less complicated than response to the earthquake.

*(continued on page 3)*



**Pan American Health Organization**



Regional Office of the World Health Organization

### Contents

Editorial.....	1	Member Countries.....	6
News from PAHO/WHO.....	2	Safe Hospitals.....	8
The Interview.....	3	Perspective.....	9
Other Organizations.....	4	Publications and Multimedia.....	10
New Tools.....	5	What's New at CRID.....	12

## Preparing for health emergencies in Central America and the Dominican Republic

The global A(H1N1) pandemic in 2009 provided important lessons in a variety of areas including disaster management and coordination, epidemiologic surveillance, health services, and risk communication. Technical advice about these and other issues was provided to countries to support their national emergency plans to respond to this type of health event.

One of the most important lessons learned from the pandemic is the importance of preparedness. The fact that countries had anticipated and executed plans to prepare for and respond to the avian influenza A (H5N1) outbreak in 2003 and 2004 did much to strengthen the capacity of institutions and resulted in better coordination during response to the 2009 H1N1 influenza pandemic. Nevertheless, a variety of adjustments had to be made in the plans of each country.

The recent cholera epidemic in Haiti and the Dominican Republic has brought to the forefront the critical nature of organization and response to such events.

Specific projects to strengthen appropriate and timely response to health emergencies are being undertaken by ministries of health in the region with technical support from PAHO/WHO and in collaboration with the World Bank, the Office of Foreign Disaster Assistance of USAID, the Inter-American Development Bank, and the International

Humanitarian Assistance Division of the Canadian International Development Agency, among others.

As part of these activities, the regional workshop on Emergency Preparedness and Response to Health Emergencies (Epidemic and Pandemic) took place in San José, Costa Rica, on 3 and 4 March 2011. Over 70 delegates from the ministries of health in Central America and the Dominican Republic attended along with representatives from PAHO/WHO offices in the region. The main objective of the workshop was to review technical issues that will help to update and strengthen operational plans for responding to health emergencies.

The workshop analyzed the response to the cholera outbreak in Haiti and the Dominican Republic. Participants assessed how technical tools and national emergency health plans performed in these emergencies; they noted successes and identified gaps in coordination and response that the health sector must address.

Delegates shared experiences, knowledge, and tools, and expressed their commitment to advance preparedness in this important area, and to involve other stakeholders in facing future emergencies. For its part, PAHO/WHO will continue to provide technical support in these efforts. For more information on the workshop, contact Dr. Carlos Garzón, [garzonc@pan.ops-oms.org](mailto:garzonc@pan.ops-oms.org).

## The Caribbean readies for potential cholera outbreak

The recent cholera outbreak in Haiti demands measures to control existing cases and to prevent further spread of the disease. The proximity of islands in the Caribbean and the frequency of travel between the islands are added risk factors.

When Hurricane Tomas passed through the Caribbean in October 2010, some islands suffered damage to their water installations and health infrastructure, increasing their vulnerability to an outbreak of the disease. PAHO/WHO is working with disaster management entities, health ministries, and others in the Caribbean to improve measures for cholera prevention.

The United Kingdom Department for International Development is financing a nine-month project called "Readiness and Response to Cholera in the Caribbean." The project is being led by PAHO/WHO and it aims to improve collective planning on cholera, to prepare the health sector and improve its capacity to treat cases, to improve preparedness and prevention in communities, and to strengthen early detection and timely response.

These activities are being implemented at national and regional levels with a focus on strengthening local capacity. They include efforts to develop and/or update preparedness and response plans for cholera and national emergency response plans; develop and distribute treatment protocols; increase treatment and laboratory capacity; and raise awareness in communities about preventing the spread of the disease. Other activities include travel to the Dominican Republic by authorities so they can witness firsthand the preventive measures and treatments being used there, and a training seminar to be held in Barbados. For more information on this project, contact Enric Freixa at [freixaen@cpc.paho.org](mailto:freixaen@cpc.paho.org).

eign medical teams is to support the work of national governments, not to replace them.

An ad hoc working group will develop a conceptual document that will include and expand on the main recommendations. This document will outline the next steps of the process.

The meeting in Cuba was the first step in what will likely be a long review process regarding the mobilization and deployment of foreign medical teams and field hospitals. For more information on this topic write to Jill Ceitlin at [ceitlinj@paho.org](mailto:ceitlinj@paho.org).

## Experts discuss the use of field hospitals and foreign medical teams

In December 2010, 26 experts from the international humanitarian community met in Cuba to discuss the use of field hospitals and foreign medical teams during emergency situations. The meeting was organized by PAHO/WHO and included representatives from international organizations, NGOs, and other interested parties coming from the Americas, Europe, Australia, the Middle East, and other regions.

One of the objectives of this meeting was to review the PAHO/WHO guidelines on the use of foreign field hospitals that have been in place since 2003. The topics that were of most concern to participants were how to ensure that field hospitals or medical teams meet required standards and how to coordinate them so that they support national efforts.

The number of foreign medical teams mobilized when a disaster strikes has increased. For example, dozens of field hospitals and foreign medical teams were sent to Haiti after the January 2010 earthquake. The same happened after earthquakes that hit Pakistan (2005), Iran (2003), and China (2008). While

they have been of great help in many instances, their deployment has been questioned because of timing, self-sufficiency, ability to adapt to local systems, and even the quality of their service.

A variety of related topics were discussed at the meeting, such as logistics and deployment, accreditation, quality of insurance, coordination, and level of health care provided.

The group made the following recommendations:

- To continue using PAHO/WHO guidelines on foreign field hospitals as a reference, as long as the issue of foreign medical teams is included.
- To support the process of global accreditation. The first step would be to encourage registration of medical teams that can help in case of sudden-onset disasters such as earthquakes.
- To create minimum standards for foreign medical teams in case of disaster.
- To encourage key actors who were not present at the meeting to participate, making the process more inclusive and transparent.
- To emphasize that the ultimate objective of for-

## Dr. Van Alphen talks about health cluster challenges in Haiti

(from page 1)

When the first cases were reported there were only 20 partners in the health cluster. Many of these actors have experience with cholera outbreaks in other regions of the world. Technically, there was more clarity about what had to be done.

Coordination was not the biggest problem; the problem was the way it was portrayed by some agencies and the information war that resulted. Suddenly, everyone was an expert. On the other hand, the population showed greater antagonism during the epidemic than during the earthquake. They “accepted” the earthquake as a natural disaster, but blamed foreigners and even the voodoo church for the cholera epidemic.

*What response did the health cluster provide to meet the population’s needs?*

Cholera treatment centers were set up with capacities ranging between 100 and 400 beds and cholera treatment units were established close to existing health centers so that the centers can continue to function without becoming overwhelmed. Oral rehydration points were also established to treat patients whose lives are not in danger. PAHO/WHO worked with NGOs since it was they who, along with Cuban medical brigades, cared for the patients, ran the rehydration centers, and went to the field. I would say that more than 30% of the patients were seen by Cuban medical brigades and 50% by Doctors without Borders.

The cluster expanded its presence to all Haitian departments and worked in areas such as management of dead bodies. It helped develop a national strategy for the distribution of essential medicines and supplies to the 10 departments. In conjunction with the Ministry of Health, PAHO/WHO developed a disease surveillance program that paid special attention to the 1.5 million people living in shelters and developed a cholera alert and response system to identify cholera “hot spots.” An outbreak response team was sent to investigate cases and take action. In the first two months of the outbreak, nearly 200 alerts were reported.

*What lessons have been learned as a result of the cholera crisis?*

We realize that we must decentralize the assistance: we cannot stay in the capital, but we must go to the countryside. In the beginning of the epidemic all the patients came from urban areas. Mortality in rural zones was higher, which revealed a problem of access. There are areas where people have never had access to health services.

We have also learned the importance of hav-



*Dr. Van Alphen leads a health cluster meeting in Haiti.*

ing a system for epidemiologic alert and response to treat the outbreaks. Cholera is not only about health; it is about water, hygiene, and management of waste.

*What are the challenges for the health sector from now on?*

Once the reports of cases decrease, many of the NGOs will leave and the money from agencies managing earthquake funds will be exhausted. Then we will have to think about mid- and long-term projects and resource mobilization. The projects have to be planned for the mid- and long-term because Haiti’s problem is a development problem, a poverty problem. Instead of distributing Aquatabs [water purification tablets] it is better to build a water tank and chlorinate that water. We have to do things that offer solutions, but not necessarily with major infrastructure projects. Solving the water problem is a great challenge.

The health sector will work on improving access to primary care. In fact, the Ministry of Health’s strategy for rebuilding is to ensure the provision and continuity of medical services in all the affected structures. The sector will work to support the most vulnerable populations. It is important to maintain and strengthen the governance of the Ministry of Health so that essential health care functions can be carried out. Building partnerships with other governments and NGOs will help to improve the capacity of the health sector.

Rebuilding hospitals and building new health facilities is an essential activity for the health sec-

tor. It is important to ensure that all health facilities incorporate mitigation measures in order to make them more resistant to disaster.

*Is the international community aware of this situation?*

Yes, but I am afraid that the donors will get tired... there are so many problems. But instead of offering funds every time there is a disaster, it would be better to think about mid-term solutions. It would be better to think more about how to help the government take leadership so that things are managed better.

*What role will PAHO play?*

PAHO must support the Ministry of Health to improve the epidemiologic surveillance system and to improve health services. We have to help the Ministry to ensure that the hospitals that will be built are safe. The construction of 10 new hospitals is already under way.

*What is the situation regarding cholera in Haiti right now?*

We are still responding. There are still cholera alerts in isolated areas. The large NGOs are closing their cholera centers, but since they are training medical personnel locally, the transition is less abrupt. They are leaving from 3 to 5 beds for cholera patients in each public or private institution.

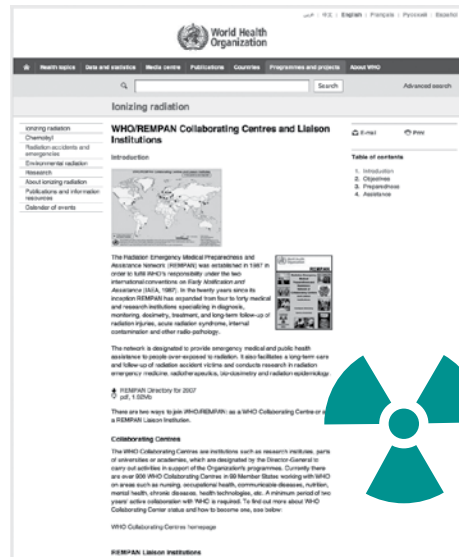
[Read more on this topic on page 7.](#)

## REMPAN promotes preparedness and assists in radiological emergencies

As part of its response to the nuclear power plant crisis in Japan in March, World Health Organization (WHO) alerted its global network of health experts specialized in nuclear-related disasters. This network, the Radiation Emergency Medical Preparedness and Assistance Network (REMPAN), was established by WHO in 1987. The network includes more than 40 specialized institutions worldwide with expertise in radiation emergency medicine, public health interventions, and long-term follow-up with victims.

There are two ways to join WHO/REMPAN: as a WHO Collaborating Center or as a REMPAN Liaison Institution. The Collaborating Centers are institutions such as research institutes, parts of universities, or academies that are designated by the Director-General to carry out activities in support of WHO programs. Currently there are over 900 WHO Collaborating Centers in 99 Member States.

The REMPAN Liaison Institutions are national public health institutions that provide support and services to WHO in the field of public health emergencies caused by radiation. The institutions provide assistance and advice in cases of over-exposure to any radiation source, provide technical assistance, assist with public health actions, conduct bio-dosimetry, and carry out surveillance, radiation epidemiology, and research. To promote medical and public health preparedness in radiological emergencies, REMPAN members serve as focal points,



assist in planning medical management of radiological emergencies, provide training courses and seminars as well as on-site assistance.

WHO/REMPAN Collaborating Centers disseminate material to liaison institutes and act as training sites, particularly for developing countries; they compile and periodically update information about the capabilities of the countries involved in the network; and they organize national and regional exercises and participate in international exercises.

Assistance provided by WHO Collaborating Centers and REMPAN Liaison Institutions include:

- Specialists: specialized personnel in radiation medicine, health physics, radiology, hematology, and other appropriate specialties, as well as skilled nurses and technicians.
- Equipment: most of the centers are well equipped to provide special medical assistance to persons overexposed to radiation.
- Medical services: assistance is given for diagnosis, prognosis, treatment, and medical monitoring of people affected.
- Scientific services: expertise can be provided to assess radiation doses to exposed persons (most REMPAN institutions have bio-dosimetry laboratories).
- Transportation: advice can be given on transportation for people affected.
- Specialized teams: WHO can organize multinational teams to provide on-site medical assistance.

The nuclear emergency in Japan raises many questions about the impact of radioactive emissions, including food safety, safety of travelers, and the capacity of all countries to cope with similar situations.

WHO works closely with the International Atomic Energy Agency in preparedness and response to nuclear accidents and radiological emergencies, primarily to facilitate and coordinate medical assistance to victims.

For more information on this topic visit: [www.who.int/ionizing\\_radiation/a\\_e/rempan](http://www.who.int/ionizing_radiation/a_e/rempan)

## Meeting for the Regional Platform on Disaster Risk Reduction

The Second Session of the Regional Platform for Disaster Risk Reduction in the Americas took place in Nayarit, Mexico, from 15 to 17 March 2011. The event was organized by the United Nations International Strategy for Disaster Reduction (ISDR) with support from the Organization of American States (OAS), the World Bank's Global Facility for Disaster Reduction and Recovery (GFDRR), IFRC, OXFAM, USAID/OFDA, UNDP, OCHA, PAHO/WHO, the Government of Canada, and the Government of Mexico as the host country.

Over 300 participants from the countries and territories of the Region of the Americas attended the meeting. Discussions focused on trends, achievements, and lines of action for making disas-

ter risk reduction an integral part of development processes at regional, national, and local levels.

The Platform brought together officials from ministries and other government agencies, representatives of NGOs and civil society, intergovernmental organizations, the international community, academia, the private sector, and others involved in development processes and risk management.

Conclusions from this meeting will serve as input to the Third Session of the Global Platform for Disaster Reduction, to be held from 8 to 13 May in Geneva, Switzerland. The "Communiqué from Nayarit on Lines of Action to Strengthen Disaster Risk Reduction in the Americas" can be viewed at: <http://eird.org/plataforma-2011/pdf/Comunicado-de-Nayarit-en.pdf>.



## CRED provides valuable information on the impact of disasters



During 2010, there were 373 natural disasters worldwide that claimed over 296,800 lives and affected some 208 million people. It is estimated that costs related to these events approached \$110 billion. For the first time, the Americas topped the list of regions most affected by natural disasters. The January earthquake in Haiti accounted for more than 75% of all disaster related deaths last year. The most costly single event also occurred in this region: losses from the 8.8 earthquake in Chile in February 2010 amounted to \$30 billion.

These statistics were compiled by the Center for Research on the Epidemiology of Disasters (CRED). Founded more than 30 years ago in Brussels, Belgium, the Center promotes research, training, and technical expertise in humanitarian emergencies, with special attention to public health and epidemiology.

CRED provides statistics on disasters around the world and the ensuing losses. The Center's goal is to disseminate information so that resources might be directed to preparing for disaster response and mitigation.

Since 1988 CRED has maintained the Emergency Events Database (EM-DAT) which provides direct access to statistics through its website. The database contains information on natural disasters worldwide from 1900 to present. It also offers an objective assessment of vulnerabilities and decision making in disaster situations. For example, it identifies the types of disasters that are

most common in a specific country and that have had a significant impact on specific populations. In areas with limited resources, this information is important in saving lives.

Besides providing information about the human toll of disasters (number of dead, injured, or affected), EM-DAT is able to calculate economic effects of a disaster.

Another CRED product is the Complex Emergencies database (CE-DAT) which provides nutrition, health, and mortality indicators related to conflicts and other complex humanitarian emergencies. These evidence-based data are important for trend analysis and improving the effectiveness of international humanitarian response and prevention policies. The database provides access to a range of health indicators that have been collected in the field by humanitarian assistance agencies and research institutes.

CRED's bibliographic database contains references for many aspects of disasters and conflicts around the world. It also maintains a multidisciplinary library with about 15,000 documents, articles, and books on these topics.

CRED has been a WHO Collaborating Center since 1980. It collaborates with the WHO Global Emergency Preparedness and Response Program, the U.N. Department of Humanitarian Affairs, ECHO, the IFRC, the USAID Office of Foreign Disaster Assistance, as well as other agencies and NGOs. For more information about the Center and its resources, please visit: [www.cred.be](http://www.cred.be)

## Guidelines for delivering humanitarian assistance in complex emergencies

Providing humanitarian assistance in conflict situations has always been a dangerous and difficult undertaking. In the last decade, casualties among humanitarian workers have tripled, averaging 100 deaths per year. In areas where violence has surged in recent years, such as Afghanistan, Pakistan, and Somalia, humanitarian assistance has been sharply curtailed.

In response to these concerns, the UN Office for the Coordination of Humanitarian Affairs (OCHA) set out to identify and document strategies and practices that have enabled humanitarian organizations to maintain effective operations in situations that pose high security risks for their workers.

In 2010 an independent research team conducted six field studies in complex security environments, conducted interviews with 255 humanitarian practitioners and policymakers, surveyed over 1,100 national staff members, and carried out a review of literature on the topic.

The results of this research have been synthesized in the report *To stay and deliver: good practice for humanitarian aid in complex security environments*. It offers guidelines on how to protect and further humanitarian actions in the most difficult situations so that aid can reach victims of armed conflict and natural disasters.

Much of the report is practical and gives examples of what is working in terms of delivering humanitarian aid in complex emergencies and what lessons can be learned from organizations facing these situations. The practical examples provided can be useful for humanitarian workers.

The study examines political constraints to humanitarian action in complex security environments, factors over which humanitarian actors have less control. It offers an analysis of the challenges of delivering humanitarian assistance and recommends areas for improvement. The report provides details of what can be done to break the vicious circle of attacks and blockades on humanitarian workers.

To view the full document online visit [www.unocha.org/about-us/publications](http://www.unocha.org/about-us/publications).

## La Niña ravages Colombia

In late 2010, an estimated 60% of Colombia's territory was affected by the severe rains and flooding associated with the La Niña phenomenon. According to Colombia's president and the country's Risk Management Division of the Ministry of Interior and Justice, more than 2.4 million persons have been impacted; there were 323 deaths, 321 injured, and 66 persons missing; 7,450 homes were destroyed, and 298 aqueducts and 16 sewage systems were damaged.

Experts consider this prolonged and intense rainy season in Colombia to be the most devastating weather event in over 40 years. All but four of Colombia's 32 departments (including the capital district of Bogotá) and thousands of people have suffered the harsh conditions brought on by the intense rains, widespread flooding, and landslides. The town of Gramalote in the Department of Norte de Santander, which borders Venezuela, is an example of one of the most severely affected areas. Landslides destroyed a large area of the town and more than 6,000 persons were evacuated and are living with relatives and in neighboring towns and villages.

It is important to keep in mind that Colombia continues to experience internal conflict. The populations displaced by violence have suffered disproportionately from the rains and flooding, and the humanitarian crisis has intensified significantly in territories where conflict is present. Responsible institutions must take into account the dual impact of conflict and the rains in the short and medium term.

The health sector has not escaped the impact of heavy rains generated by La Niña. The Ministry of Social Protection reported damage to over 225 health institutions. This significantly hinders the provision of services to the affected population, especially those located on the banks of rivers and in the most vulnerable urban areas.

These conditions, coupled with the human and economic losses, prompted the government to issue Decrees 4579 and 4580 in December 2010 declaring a state of economic, social, and ecological emergency, and a nation-wide natural disaster.

The Colombian government's response to the emergency generated support from several international agencies. The office of PAHO/WHO in Colombia mobilized a team of public health experts to work with Colombia's Ministry of Social Protection and Territorial Health to identify priorities and humanitarian needs. PAHO's program for Emergency Preparedness and Disaster Relief has been working with agencies of the United Nations system to develop a humanitarian response strategy and is leading the health cluster.



*Flooding in the Department of Chocó.*

The Economic Commission for Latin America and the Caribbean is making assessments of the socio-economic impact of the severe rainy season in the sectors of water, sanitation, agriculture and livestock, housing, tourism, and health.

Regions affected by the rains and flooding show an increase in the number of cases of acute diarrheal disease, acute respiratory infection, skin infection, snakebite, food-borne illness, leptospirosis, rabies exposure, as well as cases of dengue and malaria. The Surveillance System of the National Institute of Health indicate that children, adolescents, pregnant women, the elderly, and people with disabilities are the most seriously affected groups and require special health interventions.

In response to these public health concerns, the Strategic Response Committee of the Ministry of Social Welfare identified actions to be taken by committees responsible for cholera, leptospirosis, and epidemiological surveillance. In addition, the advisory committee for water, sanitation, and hygiene dispatched national health officials to assess the health situation in the most severely affected departments. PAHO/WHO has provided assistance as needed to national, departmental, and municipal health authorities.

According to the National Institute of Health the increase in outbreaks cannot be attributed solely to the rains, especially in the case of diseases that occur cyclically, as in the case of malaria. However, an association with the rain and flooding is evident in most cases.

There are two major challenges facing Colombian authorities at this time. First is that of assisting thousands of displaced victims to return to homes in a dignified and healthy manner. Second, weather forecasts for 2011 indicate that heavy rains will extend beyond the usual rainy season.

A priority for PAHO/WHO is to continue to develop activities to improve the preparedness and response capacity of affected communities. This disaster represents a turning point in Colombia's approach to preparedness and response to natural disasters, making risk management a national priority, as outlined in the Hyogo Framework for Action 2005-2015, Building the Resilience of Nations and Communities to Disasters.

In addition to its severe impact in Colombia, between December 2010 and March 2011 the La Niña phenomenon resulted in heavy rain, severe landslides, and flooding in Argentina, Bolivia, Brazil, Panama, and Venezuela. At the same time, severe drought was experienced in other parts of the region.

For the first time in the history of the Panama Canal, operations had to be suspended because of heavy rain. A major water treatment plant was shut down because of the large amounts of sediment present in rivers. This crisis left more than one million Panamanians without water for more than 2 months.

In Bolivia, 102 of the country's 337 municipalities were impacted by the rains caused by La Niña; more than 70,000 people in that country were affected.

## Haiti: moving from emergency to a fragile recovery

The emergency phase for Haiti at the national level—both in terms of post-earthquake activities and cholera response—is now near completion. This conclusion has led many national and international NGOs to reduce their staff and end operations. On the one hand, such a development represents a positive benchmark for Haiti as agencies transition towards reconstruction and early recovery. On the other hand, the current situation remains extremely volatile, with potential for disasters at both the local and national level in the year ahead.

Nearly 800,000 people are still living in tents and shelters following the earthquake, and hazards remain from a lack of clean water, unhygienic living conditions, insecurity, and a weakened education sector. Health services are the same, or in some cases worse than before the earthquake and access will continue to decline as national and international partners reduce their resources. A serious concern during reconstruction and early recovery is that the threshold which might trigger new emergencies remains low at the same time that available humanitarian resources are being reduced.

Within this new reality, PAHO will continue to maintain an emergency team in Haiti that is lean, agile, and responsive to a fluid situation on the ground. The goal is for this team to bolster national response by the Government of Haiti during future emergencies. Limiting the impact of future disasters will require action, and maintaining the cholera alert and response mechanism established by PAHO and the Ministry of Health during 2011 will be a cornerstone of early interventions. The Health Cluster will work to support emergency response as well as carrying out reconstruction projects. Beyond PAHO, other health partners should acknowledge the fragile state of Haiti and continue to allocate human and material resources for emergency response in the year ahead.

### Response

In the aftermath of the earthquake an unprecedented humanitarian operation was launched to support the Haitian government in its efforts to respond. Since January 2010, virtually all national and international resources have been dedicated to emergency response. In the short term, this meant that more people were able to access health services than before the earthquake, as demonstrated by subsidized health visits for high risk populations.

The government led the cholera response efforts from the outset. This involved the design of a national plan, with support from PAHO, and the

creation and operation of an alert and response system. In addition, to improve response capacity the government installed a National Emergency Operations Center in the presidential palace, under the chairmanship of the Haitian president

PAHO has mobilized over 100 specialists to complement some 50 staff in PAHO's country office. They are providing technical assistance to the government, UN agencies, and all Health Cluster members at the national and departmental levels.

Coordination of more than 400 organizations and agencies involved in earthquake and cholera response was the responsibility of the Health Cluster. The formation of sub-clusters following the earthquake harnessed expertise of leading NGOs in areas such as mobile clinics, mental health, and providing prostheses where virtually nothing existed for amputees before the earthquake. Humanitarian actors collaborated on important initiatives such as post-disaster needs assessments, flash appeals, the consolidated appeals process (CAP), mobilization of health funds, and implementation of the national cholera response plan.

In the face of administrative, security, and logistical challenges, critical medical supplies have been provided without interruption since January 2010 through PROMESS, the central national pharmacy created in the mid-1990s and operated by Haiti's Ministry of Health, with technical and managerial support from PAHO/WHO.

### Current situation

The current health situation in Haiti remains uneven. It is characterized by improvements in some areas and persistent threat from cholera, measles, and other diseases. There is a potential for deterioration in coverage for the majority of the population if the government lacks funds to provide free health care to children under five and an expansion of the free health care package for pregnant women. Securing this funding is an essential bridge for the health of the Haitian population because reconstruction of health services is still years away.

As of today, it appears the number of cholera cases and the case fatality rates have peaked. However, the conditions that precipitated the spread of cholera and could cause other water-borne disease have not been addressed. In addition, rural communities have only recently received access to cholera care and still need help. It is anticipated that the PAHO/WHO alert and response system will continue to be in demand going forward.



### What is next?

Although the cholera epidemic has stabilized, urgent action is needed to accomplish the following:

- Set up new Oral Rehydration Posts (ORP), especially in hard-to-reach areas;
- Improve quality care and case management to further reduce the fatality rate;
- Undertake social mobilization campaigns emphasizing prevention and response activities;
- Increase the presence of health professionals in remote and underserved areas;
- Set up a local response mechanism at central and departmental levels to provide a minimum response capability for future disasters or epidemics.

Going forward, the most pressing issues are the reestablishment of “routine” programs and acceleration of reconstruction programs, both of which need strong and unwavering support from UN agencies and national and international partners. Actions in these areas include:

- Provide clean water, proper hygiene, sanitation, and safe waste disposal;
- Ensure access to free-of-charge basic health services for the population as the foundation of a social protection scheme;
- Promote massive social mobilization with other partners;
- Strengthen surveillance systems to identify trends in disease occurrence and outbreak control;
- Establish small stocks of essential supplies to deal with other natural disasters or epidemics which are to be expected in this fragile socio-political and natural environment;
- Improve quality of care and case management to continue to reduce the fatality rate;
- Re-establish “routine” programs such as vaccination, HIV/AIDS programs, protection of vulnerable groups, and others;
- Start reconstruction programs immediately while taking into account risk reduction measures.

For more information on PAHO/WHO's response in Haiti, contact Dr. Dana Van Alphen at [vanalphd@pan.paho.org](mailto:vanalphd@pan.paho.org).

## Despite advances, much remains to be done to reduce risk in the health sector



*The Hospital Safety Index has been adopted worldwide and is being put to use in almost every continent.*

The health sector has progressed at a steady pace in disaster risk reduction (DRR) since 1985, when ministers of health in the Region of the Americas included vulnerability reduction in health facilities in their disaster and emergency preparedness programs. In 1989, the first international meeting was held on integrating disaster risk reduction into the planning, design, and construction of hospitals in seismic areas. The health sector has been a pioneer in identifying challenges and setting priorities for intervention and has overcome difficulties encountered one by one.

There was progress in the following decade, particularly in the Caribbean, where it was evident that safe hospitals could be built. Pilot projects in Latin America have shown that by applying existing knowledge and human and financial resources it is possible to reduce vulnerability in hospitals. These advances seemed out of reach in countries where incomes are relatively low.

The enormous challenges of risk reduction prompted the health sector to focus on the single issue of safe hospitals, and in 2004 the PAHO/WHO Directing Council adopted the safe hospitals strategy. The following year, the same ini-

tiative was presented at the World Conference on Disaster Risk Reduction where 168 countries adopted the Hyogo Framework for Action. Hospital safety is the only issue affecting the health sector in that framework. In 2011, the health sector stands out because it has put into practice indicators for hospital safety which are being implemented in 27 countries and territories in the Region of the Americas.

The Hospital Safety Index is a tool developed by experts from this region to assess at-risk health facilities. The Index has been adopted worldwide and is being put to use in almost every continent. These advances are important not only because of their impact in the health sector but because of the potential for use in other sectors. For example, the education sector is adapting the Index for assessing the safety of schools.

Despite the gains made, they are limited compared to what still must be done in countries to reduce disaster risk. And to the extent that the issue is better understood, we see more complexity to the challenges we face. But we can overcome these problems in a progressive, organized and sustained process.

To meet commitments made in the Hyogo

Framework, in 2010 the Directing Council of PAHO/WHO adopted Resolution CD50.R15 which urges Member States to adopt the Safe Hospitals Plan of Action for 2010–2015. The goals of this plan are first, to ensure that all new hospitals are constructed so that they can continue to function in disaster situations and, second, to ensure that disaster mitigation measures are carried out in existing health facilities.

Health facilities are highly dependent on other sectors for lifeline services. A hospital without water, road access, power, or communications is unable to provide medical treatment. The health sector depends on the capacity of a variety of institutions to continue to provide critical services so that health facilities can provide emergency medical treatment and, indeed, safeguard the health of those charged with maintaining lifeline services.

As part of the Inter-American and United Nations systems, PAHO/WHO has been able to promote policies, forge agreements, and work in cooperation with member agencies and organizations in the interest of hospital safety. Of note has been its work in the framework of the United Nations International Strategy for Disaster Reduction (ISDR), which led to the 2008–2009 “Hospitals Safe from Disasters” Global Campaign. Likewise, the contributions and participation of sub-regional agencies and donor countries and institutions have been instrumental in driving this initiative. However, there are still important barriers among sectors.

National, regional, sub-regional, and global platforms are being developed in the ISDR framework. We believe that these platforms will make it possible to reach the goal set for 2015 whereby all new hospitals will be planned, designed, and constructed so that they can continue to function in emergencies and disasters.

We appeal to all sectors, national and international agencies, and civil society, to review the Safe Hospitals Plan of Action and discuss their respective roles and responsibilities. The aim of the plan is to ensure that every country, regardless of its economic status, can have safe hospitals as symbols of social and economic resilience, thus achieving one of the priorities of the Hyogo Framework of Action.

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*Presentation by PAHO/WHO's Area on Emergency Preparedness and Disaster Relief to the Second Session of the Regional Platform for Disaster Risk Reduction in the Americas.*



## Water, sanitation, and hygiene: the Dominican Republic's plan to control outbreaks

*The Dominican Republic developed an action plan for environmental health that was decisive in the prevention and control of the cholera outbreak that occurred there in November 2010. This plan emphasizes the importance of clean water, sanitation, and promotion of hygiene and can serve as an example for other health emergencies.*

In an emergency or disaster situation, whatever its nature, coordination is the greatest challenge. The countless short- and mid-term actions needed to strengthen environmental health and to prevent and control epidemic outbreaks must be set into motion in an efficient and timely manner.

For the sector responsible for drinking water, sanitation, and hygiene, the main objective of emergency procedures is to restore conditions and services to the level existing prior to the event or to strengthen these services in case of a health emergency.

In a health emergency it is important to have clear strategies, with the following objectives:

- Improve the response capacity of the water, sanitation, and hygiene sector in the face of environmental hazards;
- Enhance coordination between sectors in order to stay aware of risk factors;
- Implement key interventions for water, sanitation, and promotion of hygiene;
- Develop dynamic mechanisms for managing information regarding environmental health;
- Promote advocacy, communication, and social mobilization strategies that have the needed force to achieve positive and timely impacts on health at the local level.

Leadership by the Ministry of Public Health has been essential in responding to the presence of cholera in the Dominican Republic. The Ministry made it possible for different stakeholders in different sectors to take immediate action to confront the hazard created by the cholera situation in Haiti.

The environmental health division (Dirección General de Salud Ambiental—DIGESA) of the Ministry of Public Health formulated the Plan of Action for Environmental Health and the Prevention of Cholera. The response plan addresses the first cholera case in Dominican territory.

Another group dealing with water, sanitation, and hygiene sectors is GASH (Grupo de Agua, Saneamiento e Higiene). It works to bring together all entities in these sectors, including operators of water and sanitation systems, environmental health authorities, health authorities, United Nations agencies, civil defense, NGOs, and the community at large. GASH designed a plan for a mas-

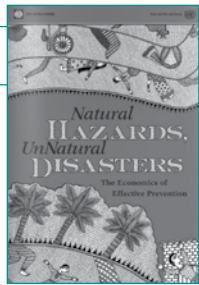


sive mobilization to: improve drinking water and sanitation conditions in the most vulnerable areas; develop capacity at the local level; make protocols and technical guidelines available; provide supplies to treat and monitor drinking water quality; evaluate environmental hazards; assess technical options for treatment and disposal of human waste; provide information to those responsible for epidemiologic surveillance of cases of diarrhea and cholera; monitor water sources; and increase the capacity of environmental laboratories.

As a result of the cooperation among different actors and in particular with the Dominican Emergency Operations Center (EOC), it was proposed that a committee representing GASH establish procedures in line with those of the EOC to strengthen operational plans laid out by GASH. In this way, necessary interventions can be

put into black and white, and the “when, where, who, and how” of operations can be defined. An established structure for coordinating response will have terms of reference that make it possible to monitor progress and a work dynamic that will have impact wherever necessary.

It is important for countries to review their national, regional and local emergency plans. The experience of the Dominican Republic regarding critical operations related to water, sanitation, and hygiene can be applied in other scenarios. Technical cooperation provided by PAHO/WHO has been important in forging partnerships with others who confront similar situations, strengthening capacity in the sector, and sharing information about products and activities. For more information about this issue please contact Henry Hernandez at [hernandezh@pan.ops-oms.org](mailto:hernandezh@pan.ops-oms.org).



Earthquakes, droughts, floods, and storms are natural hazards, but unnatural disasters resulting from human activity cause deaths and damage. Every disaster is unique, but each one exposes actions by governments and individuals which, had they been different, would have resulted in fewer deaths and less damage.

The book *Natural hazards, unnatural disasters: the economics of effective prevention*, published by the World Bank, examines disasters mostly from an economic perspective. However, it also draws on other disciplines, such as psychology (to examine how people may misperceive risks), political science

## Natural Hazards, Unnatural Disasters

(to understand voting patterns), and nutrition science to see how undernutrition in children after a disaster impairs cognitive abilities and can affect their productivity as adults. It asks provocative questions, such as: Should all disasters be prevented? Do disasters increase or decrease conflict? Does foreign aid help or hinder prevention? How do growing cities and a changing climate shape the disaster prevention landscape?

This book will appeal to government officials, urban planners, aid agencies, NGOs, donors, and other development professionals. The English version can be accessed online at: <http://issuu.com/world.bank.publications/docs/9780821380505>

## A Chronicle of the Earthquake in Haiti

This document gives an overview of the actions taken by PAHO/WHO in response to the Haitian earthquake. It covers those immediate actions that were staged through the Office of the PAHO/WHO Representative in the Dominican Republic relating to hospital care and improving the capacity of health centers on the border between Haiti and the Dominican Republic. It also addresses activities in the areas of risk communication,

rehabilitation, mental health, biosecurity, water and sanitation, and epidemiologic surveillance. The document examines coordination issues at the government level, among United Nations agencies and civil society. It is available in Spanish at [www.paho.org/dor](http://www.paho.org/dor).



## Report on Climate Change Adaptation in Central America, Mexico, and Cuba

The results of a regional project, “Promoting Capacity for Stage II of Climate Change Adaptation in Central America, Mexico and Cuba,” were published after an intensive and lengthy review process. The project is sponsored by the Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC), the

Global Environmental Facility (GEF), and the United Nations Development Programme (UNDP).

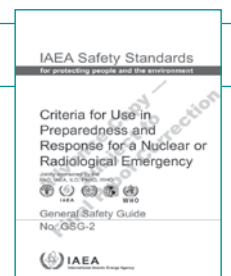
Central America, Mexico, and Cuba are the pilot region for developing strategies and policies in response to climate change. The project aims to bridge the gap between existing vulnerability and current and future climate issues. The document was published in 2008 by CATHALAC and is available in Spanish at [www.cathalac.org/Publicaciones](http://www.cathalac.org/Publicaciones).

## Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency

This safety guide presents a set of criteria for developing the operational levels needed for decisions concerning protective and response actions in a nuclear or radiological emergency. The recommendations for emergency preparedness and response conform with guidelines set out in the International Atomic Energy Agency (IAEA) Safety Standards Series No. GS-R-2.

One of the mandates of the IAEA is to establish and adopt safety stan-

dards to protect people and the environment from the harmful effects of ionizing radiation. These standards must be used and applied by Member Countries of the IAEA. The document is available in English at [www-pub.iaea.org/MTCD/publications/PubDetails.asp?pubId=8506](http://www-pub.iaea.org/MTCD/publications/PubDetails.asp?pubId=8506)



## Disasters newsletter using new technologies

The PAHO/WHO newsletter, *Disasters: Preparedness and Mitigation in the Americas*, has been available in print format since 1979 and in digital format since 1995. Now the newsletter's portal, [www.paho.org/disasters/newsletter](http://www.paho.org/disasters/newsletter), allows our readers to browse through current and previous issues and a new search engine makes it easier to find specific

topics. The newsletter can also be accessed using e-reader systems, on Facebook ([www.facebook.com/PAHOdisasters](http://www.facebook.com/PAHOdisasters)), and on Twitter ([www.twitter.com/PAHOdisasters](http://www.twitter.com/PAHOdisasters)).

If you would like to receive the newsletter by e-mail, or if you have changed your e-mail account, please contact us at [disaster-newsletter@paho.org](mailto:disaster-newsletter@paho.org).

(from page 1)

International coordination mechanisms at that time were comparatively young and weak, and they worked through Guatemala's National Emergency Committee. In the health sector, technical assistance was provided by experts from the Region through PAHO. Financial contributions for emergency and early recovery were extraordinarily generous but modest compared to today's mega response. Contributions were overwhelmingly from the Region itself.<sup>3</sup>

There were many large-scale disasters after 1976, but mainly outside the region. Lessons learned in these disasters revealed that management problems such as those faced by the Guatemala government were indeed systemic: the lack of resources dedicated to rescue and rapidly providing care to the affected population; the flow of inappropriate donations, especially pharmaceuticals; and finally a lack of coordination of an increasing number of humanitarian actors. United Nations procedures to coordinate this assistance were strengthened over the years and specific mechanisms were established at the global level. Of note are the International Search and Rescue Advisory Group (INSARAG), which promotes and coordinates rapid deployment of qualified rescue teams, and the United Nations Disaster Assessment and Coordination Team (UNDAC), which provides guidance to the international community. On another level, the creation of CNN, the television news channel, in 1980, transformed what had been primarily national tragedies into global dramas where international actors play the main roles.

The Humanitarian Reform process launched by the international humanitarian community in 2005 seeks to improve the effectiveness of humanitarian response by "ensuring greater predictability, accountability and partnership."<sup>4</sup> International agencies were designated as Cluster Lead Agencies to ensure, among other things "partnerships between UN agencies, the International Red Cross and Red Crescent Movement, international organizations and Non-Governmental Organizations (NGOs), all working together towards common humanitarian objectives through the Clusters." No specific role was reserved for the national disaster or health institutions.

The international humanitarian community has evolved rapidly. Disaster response has become a major global industry. However, progress at the country level has been more tentative, especially in countries that have not been affected by a major disaster for a long period of time.

The level of international humanitarian response to the earthquake in Haiti may be exceptional, particularly when taking into account what remained of management capacity at the local level in that country. But what would happen if an event such as the earthquake in Guatemala in 1976 happened today?

- Modern news coverage would undoubtedly

### *Humanitarian response is now a global business; disaster experts from the Region may lose their competitiveness if they are not part of the global effort.*



document preferentially the spectacular global response (number of actors, medical teams, financial contributions, etc.) while overlooking the more efficient but discreet management capacity of existing national institutions.

- All UN and other coordination or data collection mechanisms would be activated. At least three international Cluster Lead Agencies (for health, nutrition, and water and sanitation) would attempt to assume the corresponding sector responsibilities of the ministry of health in the affected country. The objective would be to improve "...strategic field-level coordination and prioritization in specific sectors of response by placing responsibility for leadership and coordination of these issues with the competent [international] operational agency."<sup>5</sup>
- Among the cadre of international experts, an appreciable number would have skills and experience in massive disasters that few experts can match in our Region.
- Actors and donors would belong to all continents and regions.
- For months, all meetings and reports would use English, the de facto humanitarian working language. This will significantly reduce interaction between national experts and the international humanitarian actors.

What is the option for national authorities wishing to maintain their leadership and exercise their public responsibility? In a large disaster with many casualties there is probably no easy alternative to the deployment of external mechanisms. After the earthquake in 1985 in Mexico, this well organized and relatively wealthy country rightly concluded that it had sufficient health and other resources to attend to the few thousands of injured in the capital city. This was a proper technical assessment but it proved to be unsustainable politically during the barrage of criticism from international mass media. Mexico opened its borders to international assistance in less than 24 hours. In a larger disaster in a smaller country, such a decision would deny the affected population the clear benefits of a much more rapid and comprehensive national response.

National leadership comes through active participation and display of competence. The countries and disaster institutions of this Region have continued to progress but at a slower pace than in other places. Humanitarian response is now a global business; disaster experts from the Region may lose their competitiveness if they are not part of that global effort.

Considering these changes, ministries of health determined to lead the sectoral response process should consider:

- Ensuring that there are a sufficient number of disaster managers who are fluent in English through selective recruitment and on the job training.
- Exposing their staff to mass scale disasters, particularly outside the region. Belonging to the rather closed global humanitarian club is an asset. A roster of experts potentially available at short notice should be established.
- Strengthening the status and outreach of their health sector's disaster program.

With such assets a ministry of health will be able to assert itself as the effective leader in a major disaster that nowadays will certainly trigger international response.

1 Orlando Olcese, Ramón Moreno, and Francisco Ibarra, The Guatemala earthquake disaster of 1976: a review of its effects and of the contribution of the United Nations family (Guatemala, UNDRP, July 1977); <http://www.crid.or.cr/digitalizacion/pdf/eng/doc4146/doc4146.htm>.

2 Primarily, this assistance included one 100-bed U.S. military hospital and smaller facilities from Costa Rica, Mexico, and Nicaragua.

3 Financial contributions for immediate response and rehabilitation (excluding loans) amounted to a few million dollars for the health sector out of a total of approximately US\$ 110 million. EU contributions were reportedly US\$ 40,000. See U.S. Agency for International Development (USAID), Disaster relief case report : Guatemala earthquake, February 1976 (Washington, DC, USAID; July 1978) ; <http://desastres.usac.edu.gt/documentos/pdf/eng/doc4300/doc4300.htm>

4 It is important to point out that this reform was initiated by donors and UN agencies. Involvement of NGOs in design of the reform was limited, while affected countries were absent.

5 UN Office for the Coordination of Humanitarian Affairs (OCHA), "What We Do," <http://ochaonline.un.org/roap/WhatWeDo/HumanitarianReform/tabid/4487/Default.aspx>



The **Regional Disaster Information Center's (CRID)** mission is to promote the development of a culture of prevention in Latin American and Caribbean countries through the compilation and dissemination of disaster-related information and the promotion of cooperative efforts to improve risk management in the Region.

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## Information on risk management in Central America

Over the past several months CRID has assisted countries in Central America to develop the following information products and services on risk management:

- **Disasters in Guatemala: the road to disaster risk reduction (2010; Spanish).** A compilation of information published by Guatemala's National Office for Disaster Reduction (CONRED) and other agencies involved in the field.
- **Information resources on risk management and land management in Honduras (2010; Spanish).**
- **Risk management: information resources from the National Service of Territorial Studies (SNET) in El Salvador (2010; Spanish).** 250 documents organized according to SNET activity areas of (including geology, oceanography, hydrology, meteorology, and risk).

These resources are available on the CRID website at the following address: [www.crid.or.cr/esp\\_serv\\_cdroms.shtml](http://www.crid.or.cr/esp_serv_cdroms.shtml)

## CRID resources available on DesAprender website

DesAprender is an interactive web portal that aims to improve the preparation and training of people working in disaster risk reduction at the community level. It provides tools, reports, and access to blogs and forums on a variety of topics relating to disaster preparedness.

The International Federation of Red Cross and Red Crescent Societies (IFRC), a sponsor of DesAprender, and CRID signed an agreement making it possible for CRID to publish information resources on web portal. To access these resources, visit [www.desaprender.org](http://www.desaprender.org).

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