



DISASTERS



Preparedness and Mitigation in the Americas

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Photo: Alex Candia/PAHO/WHO

Participants in the Consultation to Integrate Indigenous Traditional Knowledge in Disaster Risk Reduction for Health, Mexico, 30 July to 1 August 2018.

Consultation to integrate indigenous traditional knowledge in disaster risk reduction for health *salud* carried out in Mexico

In 2014, within the framework of a consultation in Canada concerning disaster risk reduction in the health sector in indigenous communities, 20 delegates from ten countries in the American hemisphere issued a number of recommendations for national and international action, but with a special focus on indigenous populations.

In 2016, the Member States of the Pan American Health Organization incorporated ethnicity as a cross-cutting aspect

of their Plan of Action for Disaster Risk Reduction 2016-2021. The inclusion of indigenous populations also plays a vital role in the PAHO/WHO Strategic Plan and in a number of national mandates in areas including but not limited to the Ethnicity and Health Policy, the Health Research Policy, and the Strategy for Universal Access to Health and Universal Health Coverage.

For this purpose, in fulfillment of the 2014 recommendations, PAHO/WHO held

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Editorial

What we know about the impact of volcanic ash in the respiratory system

The health impact of volcanic eruptions is of major significance, and the effects of volcanic ash on the respiratory system and on general health are especially important.

Several volcanoes are currently in eruption in the Region of the Americas, including, among others, Kilauea, in the United States (in the state of

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Editorial

What we know about the impact of volcanic ash in the respiratory system

Hawaii); Popocatepetl, in Mexico; Volcán de Fuego, Pacaya, and Santiaguito, in Guatemala; and Reventador, Cotopaxi, and Sangay, in Ecuador.

The Volcán de Fuego eruption in Guatemala in June 2018 took the lives of over 100 people and left 197 missing, a number injured, and hundreds in shelters. In addition, the emission and fall of volcanic ash have been continuous since the eruption.

Although volcanic eruptions are much less frequent than other natural events that cause disasters, such as earthquakes and floods, most volcanoes do have the potential for dangerous eruptions that release large quantities of gases and ash in the space of a few hours, sometimes followed by intermittent activity lasting weeks or even months. These gases normally disperse in the atmosphere and pose little risk for local populations. An ash plume, however, can affect extensive areas.

Most of the communities in volcanic regions are not prepared for these events.

Given the examples that history pro-

vides, some of the main lessons learned about protecting health in the face of volcanic eruptions can be outlined today.

It has become clear that the breathable particles produced by eruptions are not as acutely dangerous for respiratory health as the smoke from fossil fuels. One of the discoveries of research on the eruption of the Mount Saint Helens volcano in 1980 is that volcanic ash can contain unusually high quantities of a mineral called crystalline silica that is present in breathable particulate, and that can reach the lungs. Substantial exposure to this compound may lead to the development of silicosis, a pulmonary disease that is normally diagnosed in workers with severe exposure to silica powder in mines and quarries.

Advances in epidemiology in the last decade on the health effects of air pollution in the middle- and high-income countries have shown that the finest particles play a fundamental role as the most toxic of all components in traffic-related emissions. Short-term exposure to fractions made

up of particles under 10 microns in diameter (PM₁₀), and especially those of less than 2.5 microns in diameter (PM_{2.5}), can exacerbate preexisting respiratory diseases and increase premature mortality among patients with chronic diseases. Longer exposure, perhaps as little as a few years, has been shown to contribute to increased mortality from respiratory and cardiovascular diseases and cancer. The volcanic ash from eruptions normally includes a large proportion by weight of PM_{2.5}. The concentration of these particulates in the air can greatly exceed the air quality limits recommended by the World Health Organization (WHO) and can do so for months in the case of short eruptions, and for years following longer eruptions. Symptoms in people with asthma or other chronic pulmonary diseases are also seen to recur after acute exposure to the ash, as observed in the Mount Saint Helens case.

When erupting volcanoes continue emitting ash for months, concerns about

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the entire range of non-respiratory health impacts related to PM_{2.5} particulate matter increase, and this prompts as much or more anxiety in terms of public health as crystalline silica has in the past. An important example highlighting the caution that should be exercised in events of this type is the eruption of the Cordón Caulle volcano in Chile, in 2010, with ashfall extending into Argentina, in particular the dry areas of the Patagonian steppes. It was only three months later that conditions in some of the area's cities improved enough to allow normal life to resume. However, some very thick deposits of ash remained on the land for many months and were then born aloft by strong winds, in some cases producing powerful ash storms that temporarily reduced visibility to zero. Although that ash did not contain crystalline silica, aver-

age exposure to PM_{2.5} rose significantly in this arid environment during the months and even years following the eruption. Nevertheless, studies were not conducted to monitor the health of the population, or children's health in particular.

More research is needed to determine whether PM_{2.5} particles in volcanic ash are as toxic as similar fractions of the same size in traffic-related air pollution. In the past, it was assumed that volcanic emissions were less dangerous since they consist of natural mineral particles. However, we cannot guarantee that today. For this and other reasons, populations and authorities in areas with ashfall are advised to reduce exposure as much as possible, starting with withdrawal from inhabited areas and protection for workers. Also, ash samples should be analyzed in experienced laboratories to rule out the presence of crystalline

silica and quantify the size of the particles.

Effective respiratory protection is also necessary in any heavy ashfall, especially for people with pre-existing respiratory and cardiovascular diseases, who should remain indoors to the extent possible. As to types of protection, recent research has shown that light high-efficiency masks are most effective in reducing the inhalation of PM_{2.5} from volcanic ash, and that they are preferable to the household protective measures that people normally use to cover the face. In addition, children should be prevented from playing in places where ash has been deposited, or near dusty roads. 📍

Peter J. Baxter, MD, Cambridge University, United Kingdom. E-mail: pjb21@medschl.cam.ac.uk.

PAHO recommendations on ashfall and protection of the respiratory system

The health impact of volcanic eruptions, specifically the effects of volcanic ash on the respiratory system and on general health, is of major importance. In consultation with various experts, PAHO offers recommendations for the general public on what to do when volcanic ash begins to fall or is ongoing, on how people can protect themselves if they need to go outdoors, what to do if ash is in the home, and on how to protect the respiratory system, both for members of the general population and for those who are most vulnerable to ash particulate.

PAHO also explains the principal health effects of ash fall in terms of the respiratory system, toxicity, and the eyes.

For complete information, visit: <http://bit.ly/2CwS462>. 📍

Respiratory Protection



People should know that breathing ashes can be harmful and that protection is recommended for everyone.



For people in general who have to leave home for short periods, any type of common surgical mask can be effective. Care should be taken to adjust the mask to the face properly by adjusting the clips and nose straps.

Two types of populations should receive special advice on respiratory protection:



People who work outdoors and are much exposed to the ash (such as cleaning teams, emergency and rescue teams, and police).



People who are particularly vulnerable to ash particles (for example, patients with serious illnesses, asthma patients, children, and the elderly).

The Emergency Medical Teams (EMT) initiative moves forward in the Americas

26 professionals trained as EMT coordinators to bolster capacity during emergencies and disasters

The Pan American Health Organization held the IV Regional Meeting of Emergency Medical Team Coordinators, on 16-20 July in Virginia (United States), with 26 participants from Haiti, Brazil, Uruguay, Canada, the United States, Jamaica, Barbados, Puerto Rico, and Panama.



Led by a team of eight experts from Costa Rica, the United States, Anguilla, Barbados, and PAHO itself, the course trained disaster response professionals on the mechanisms for requesting, receiving, and coordinating international Emergency Medical Teams, as well as on managing

their own EMTs at the national level. After finishing the course, the professionals join the roster of coordinators available for mobilization by PAHO/WHO to perform this function as a part of the coordination of national response to emergencies and disasters.

During the course, the participants were required to work with the response coordination mechanisms that bring together national and international efforts, to understand and harmonize the guidelines of the Medical Information and Coordination Cell (CICOM) with national emergency operations centers procedures, and to understand the best practices for supporting their own countries' national implementation of the Emergency Medical Team initiative and the development of national EMTs. 📍

United States' Team Rubicon classified as a Type 1 EMT

The United States Team Rubicon, a disaster response organization made up of armed forces veterans, received a verification visit for the classification of its Type 1 Mobile Emergency Medical Team. The visit took place on 27 and 28 June at the team's National Operations Center in Dallas (Texas), and was led by a team of international experts headed by PAHO. The team concluded that this EMT meets the international standards for classification as a Type 1 Mobile Emergency Medical Team on the WHO roster.

Team Rubicon is equipped with temporary shelters, supplies of medication for outpatient care, and technological support for lifesaving care in austere environments. Team Rubicon can provide care for 100

patients a day during a maximum of 14 days. It also has triage capacity, clinical care areas, a basic laboratory, and pharmacy capacity, in coordination with the international disaster response network.

Team Rubicon is the first nongovernmental organization in the Americas to

receive this designation and is the third Emergency Medical Team in the Region to qualify, after the Type 1 fixed EMT of the Costa Rican Social Security Fund (CCSS), and the Type 2 inpatient surgical cell EMT of Ecuador's Ministry of Health. It is also the 18th team in the world to classify. 📍



Team Rubicon providing medical aid after Hurricane Maria at a Federal Medical Station in Puerto Rico.

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Consultation to integrate indigenous traditional knowledge in disaster risk reduction for health held in Mexico

a consultation to integrate indigenous traditional knowledge in disaster risk reduction for health, in Mexico City, in August 2018. Twenty experts in disaster risk management participated, along with indigenous people and indigenous leaders from Canada, Ecuador, the United States, Guatemala, Honduras, Mexico, and Peru.

The working day included a review of the proposal and of the foundations of an initiative to integrate indigenous traditional knowledge in disaster risk reduction for health, and created an ongoing working team to make modifications in the proposal as suggested by the participants.

The group agreed that this initiative requires establishing a regional network with experts who can share information on disaster risk reduction and indigenous populations.

For the first time, an innovative “mirror scenarios” methodology was tested. This methodology is designed to identify critical elements of disaster risk management where the health sector can make adjustments and adaptations to improve interventions and guarantee the well-being of indigenous populations.

The methodology looks at hypothetical scenarios both from the classical perspective and from the perspective of the indigenous worldview. Two simulation/construction exercises were conducted, once involving a disaster caused by a volcanic eruption, the other a humanitarian crisis resulting from migratory movements by indigenous communities. These exercises led to mapping priority actions that will serve as input for developing guidance on health and disaster risk management in indigenous



populations.

Jesús Guadalupe Fuentes, an expert member of the United Nations Permanent Forum on Indigenous Issues, underscored the importance of forming a network in the Region of the Americas on disaster risk reduction and indigenous populations that would make it possible to share ancestral knowledge and practices as well as share experiences that have strengthened resiliency to emergencies and disasters in indigenous populations. 📍



Photo: Alex Camacho/PHOTO 1910



Photo: Ministry of Health Guatemala

Carlos Soto Menegazzo, Minister of Health of Guatemala, visiting people affected by the eruption of Volcán de Fuego.

Carlos Soto Menegazzo, Minister of Health of Guatemala

“It is necessary to continue strengthening sectoral capacities for timely and adequate response to the population in emergencies”

On 3 June of this year, Guatemala experienced one of the worst catastrophes of recent years. The eruption of Volcán de Fuego, in the country’s south central region (one of the country’s four active volcanoes), left a toll of 113 people dead, 197 missing, 58 injured, 4,175 in shelters, 12,800 evacuated, and 1,702,130 affected, in addition to destroying 186 dwellings, damaging three health centers, and affecting five roads. In this interview, Minister of Public Health and Social Welfare (MSPAS), Carlos Soto Menegazzo, shares his experience at the head of one of the key ministries during the emergency response:

What was the response of the Ministry of Health in this emergency?

The Ministry of Health addressed the emergency in three phases. The first was to provide hospital care for 58 people who had suffered burns. They were initially treated at the Escuintla hospital and then transferred to the national referral hospitals (Roosevelt Hospital and San Juan de Dios Hospital). Due to the severity of the burns in some cases, arrangements were made for 13 of the patients to be taken to centers specializing in burn treatment, thanks to collaboration with the governments of Mexico and the United States. In the second phase, leadership and oversight was coordinated by the Health Directorates in collaboration with institutions, agencies, and nongovernmental organizations that provide health

assistance, with support from the Risk Management Unit of the Ministry of Health and the Health Cluster. The third phase provided medical and mental health services, plus psychological care in shelters and communities that were affected or at risk, and the continuity of health services has been ensured by continuous monitoring of supplies in hospitals and health areas.

What was the greatest challenge during the first 72 hours of the emergency?

As a Ministry, our challenge was to ensure immediate care for burn victims and other injured people, as well as strengthening coordination with people, organizations, and missions that provided

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support for the health sector. But coordination needed to be strengthened at the local and national levels.

What role has health sector leadership played in the response?

The Health Area Directorate represented our Ministry in the departments affected, primarily Escuintla. In close coordination with the National Hospital, the departments were responsible for responding to the emergency and ensuring medical care for victims of burns and other injuries during the first hours of the disaster, and subsequently for providing care in the shelters and affected communities to ensure the provision of medical care, public health surveillance, and control of risk factors for the population.

What sorts of coordination has the Ministry had with other entities for response to this emergency?

There was coordination with countries that sent medical brigades to provide health care, primarily the United States, Israel, Mexico, and El Salvador, plus the Cuban medical brigades already established in Guatemala, whose temporary relocation to the affected areas helped provide coverage of medical care and control health hazards.

There was also coordination with other ministries through the National Emergency Operations Center of the National Disaster Reduction Coordination Office (CONRED) to coordinate the government response to the population's needs.

Finally, there was coordination with international, national, and nongovernmental organizations, among others, through

the Health Cluster that we lead jointly with PAHO/WHO. This served to bolster the health response for the affected population through measures for medical care, psychological support, nutrition, water quality, and appropriate health conditions in the temporary emergency shelters. Those entities are also now coordinating with all the institutions and entities of the Guatemalan state, helping to meet the new challenges involved in building temporary camps to house those who have lost their homes.

What lessons learned or issues for improvement did this emergency bring to light for your Ministry?

Considering that the country is highly vulnerable to various natural events, it is necessary to continue strengthening sectoral capacities for timely and adequate emergency response, timely management of information for decision-making in emergencies, and risk communication to the population. We also need to continue a training program to strengthen regulations and procedures for prehospital advanced life support in emergencies like the current one, and to bolster triage capacity in hospitals. In addition, facilities and capacities for critical care management of injuries associated with burns must be strengthened.

What coordination has there been with PAHO/WHO in this emergency?

We enjoy close communication and coordination as a natural counterpart. This facilitates technical assistance in the form of specialists, supplies, medicines, and water quality monitoring. With PAHO/WHO, we also lead the Health Cluster and jointly



Carlos Soto Menegazzo,
Minister of Health of Guatemala.

Photo: Ministry of Health, Guatemala

activate the Medical Information and Coordination Cell (CICOM) along with the Risk Management Unit of the Ministry of Health. PAHO/WHO has also offered technical support in the Escuintla Health Area to strengthen leadership and coordination with national and international institutions and organizations.

Once the population's needs in the emergency phase are met, what path will your Ministry take to maintain access to health for the affected population?

We must guarantee access to health services for the people in shelters and communities through primary health care teams and public health teams mandated to identify and control risks. In particular, it is important to provide mental health care and psychological support in coordination with other institutions. It is also necessary to strengthen intersectoral work and preparedness for new emergencies that can have health impacts on the population. 🌐

Countries of the Americas bolster their response to address yellow fever

Between December 2016 and June 2018, 2,045 confirmed cases of yellow fever were reported to PAHO/WHO, including 677 deaths in confirmed cases in seven countries of the Americas: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Peru, and Suriname. Additional confirmed cases involved international travelers who had traveled to endemic areas of Argentina, Chile, and several European countries.

In the context of a major epizootic wave in nonhuman primates at a level of magnitude unseen since the 1940s, Brazil experienced an outbreak of yellow fever starting in late 2016 in the southeastern part of the country. It was characterized by propagation to geographical areas that had not been considered at risk since the 1960s. Brazil responded aggressively to control the 2016-2017 outbreak through vaccination activity in the affected areas, monitoring that was better integrated (humans, vectors, and nonhuman primates), clinical case management, and vector control activities in at-risk urban areas. Since the beginning of 2017, over 57 million doses of vaccine have been administered in affected and at-risk areas. Given the situation manifest in the 2016-2017 and 2017-2018 outbreaks, however, Brazil has announced its intention to expand yellow fever vaccination to the entire country.

In addition to vaccination, effective early detection and the reporting of yellow fever cases is essential in order for risk management to reduce the impact and spread of outbreaks. Alerted by the outbreak in

Brazil, public health authorities in the countries of the Americas where the disease is endemic have prioritized addressing the risk of infection and the rapid transmission of the yellow fever virus in large unimmunized populations, and have worked with PAHO/WHO support to improve their surveillance systems.

Coordinated by the PAHO Health Emergencies Department, the Organization's Infectious Hazard Management Unit (PHE/IHM) and Health Emergency Information and Risk Assessment Unit (PHE/HIM) are collaborating with the endemic countries to enhance preparedness for possible outbreaks of yellow fever by strengthening surveillance systems and diagnostic capacity.

Workshops on yellow fever prevention, control, and surveillance

Argentina

With coordination by the PAHO/WHO Representative Office in Argentina (Tamara Mancero, Health Emergencies Focal Point) and support from the Organization's Department of Health Emergencies (Enrique Perez Gutierrez, PHE/HIM Unit Chief, and Roberta Andrighetti, Advisor for the Country Health Emergency Preparedness and International Health Regulations Unit), a theoretical and practical workshop was held in Posadas (Argentina). Participating were the Ministry of Health and its representatives in the provinces of Chaco, Corrientes, Jujuy, Formosa, and Misiones, as well as representatives of the nation's

Ministries of Environment and Sustainable Development. Experts from the Institute of Subtropical Biology, the Dr. Julio Maiztegui National Institute of Viral Diseases, and the National Institute of Tropical Medicine (INMET) also participated.

Collaborating as facilitators were professional staff from the Brazilian Ministry of Health, as well as from the state secretariats. The State Center for Health and Surveillance (CEVS) of the state of Rio Grande do Sul, the National Primate Center and the Ministry of Health's Evandro Chagas Institute and the Zoonosis Control Center of the state of Alagoas.

The agenda stretched over four days and familiarized the participants with the context of the epidemiological yellow fever situation in the Americas, covering the environmental patterns associated with yellow fever and their use in risk assessment. It also presented the yellow fever situation in Brazil and the country's epidemiological surveillance system, in particular as regards the constituents of epizootic surveillance of nonhuman primates and in relation to entomological surveillance.

As a result of the workshop, the integration of the health and biodiversity conservation agendas was consolidated. It was suggested that there is a need to consolidate the provincial technical rapid response teams to deal with epizootics, and that their technical capacities need strengthening. Along a similar line, the Zoonosis Coord-

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mination Office of the Ministry of Health and the Bureau of Wildlife and Biodiversity Conservation are working on an epizootic surveillance protocol that will apply to nonhuman primates and insects and be oriented to yellow fever, and that will provide general guidance for the provinces.

Ecuador

In Ecuador, a PAHO/WHO mission has worked with the national Ministry of Health to strengthen yellow fever response. The Ministry of Health issued a yellow fever alert last March and initiated a preparedness plan to respond to the presence of cases in the country.

A mission was conducted to strengthen yellow fever preparedness, warning, and response activities by reviewing surveillance, laboratory, and preparedness and response capacities.

For three days, the PAHO/WHO team, made up of Jairo Méndez, Regional Virology Advisor to the Infectious Hazard Management Unit, Joao Toledo, the unit's consultant on clinical management, prevention, and control of infectious diseases, and the technical staff of the Representative Office in Ecuador, worked together in technical sessions with the health teams, addressing surveillance, strategy, and delivery of services. In addition, there was a visit to the Eugenio Espejo Specialized Hospital in Quito and to the laboratory of the National Public Health Research Institute (INSPI) in Guayaquil.

On the last day of the mission, conclusions and recommendations were presented to the Vice Minister of Governance and Health Surveillance, Carlos Durán, and PAHO/WHO reiterated its willingness to provide support for processes, training, and strengthening of yellow fever response.

Peru

A four-day workshop was coordinated by the PAHO/WHO Representative Office in Peru (Monica Guardo and Edgardo Nepo), with 29 participants from the Health Bureaus of Loreto, Amazonas, Madre de Dios, Cusco, Puno, Huánuco, Pasco, Junín, and Ucayali, as well as from the central office in Lima. The workshop included theoretical and practical sessions on surveillance of nonhuman primate epizootics (active and passive); environmental surveillance in yellow fever settings

(biological features of the Culicidae family, with emphasis on yellow fever vectors and collection techniques); and the biology, ecology, and most common diseases of nonhuman primates.

The workshop also devoted one full day to defining an action plan for the development, structuring, and consolidation of entomological and epizootic surveillance in Peru. A PAHO/WHO tool was used for this purpose.

The national authorities present at the workshop provided strong technical and policy support. As was the case in Argentina, there were seven experts from Brazil's Ministry of Health, from the State Health Surveillance Centers, and from the Evandro Chagas Institute, as well as from the Health Emergencies Department. This expert team was in charge of a 36-hour theoretical and practical workshop that covered epidemiological factors, elements of environmental surveillance of both insects and primates, and the development of a plan to be proposed for the implementation of such surveillance in the country. The field work component of the workshop took place in the Pucallpa Nature Park, with surveillance actions demonstrated and practiced in three working groups: the first conducting entomological surveillance, the second capturing primates, and the third conducting sampling and necropsy in primates.


As a result of the activity, Peru now has a proposal for structuring a surveillance system that will target nonhuman primates and insects in the yellow fever context from a subnational perspective, and an expert group is in place composed of 14 professionals from the Ministry of Health and 16 from elsewhere in the country and from other institutions relevant to this work, such as nature parks, the National Agricultural Health Service (SENASA), and the University of Ucayali, among others. The members are trained in this type of surveillance and can act as facilitators to replicate the course in the future, building capacities in other regions of Peru where yellow fever is endemic. 



Photo: Enrique Pérez PAHO/WHO



Guatemala

The response to the **Volcán de Fuego** eruption


On 3 June, Guatemala's Volcán de Fuego, located some 20 kilometers west of Antigua, began erupting, emitting columns of ash reaching 10,000 meters above sea level and producing constant pyroclastic flows. The ash particles and lahars affected the communities located near the volcanic dome in the departments of Escuintla, Chimaltenango and Sacatepequez. Intermittent eruptions continued for days, with pyroclastic flows and ash columns. Some 1,702,130 people were affected, 113 died, 58 were injured, and 197 disappeared. Approximately 12,800 people were evacuated, including 4,175 who were relocated to shelters.

The support provided by PAHO focused on strengthening the health sector's response capacity under the leadership of the Ministry of Public Health and Social Welfare. Experts in disaster response were transported to assist health authorities at the national and local levels for conduct-

ing damage assessment, coordinating the management of information, conducting health response operations in the field, and providing medical and other health services, including mental health care, in the shelters. PAHO distributed personal protective equipment, hygiene kits, water quality monitoring kits, and sterile materials for shelters and hospitals dealing with burn patients in the department of Escuintla. It also gave departmental health authorities technical assistance on managing corpses, as well as supplies and equipment for setting up emergency operations centers in the field and in situation rooms in the department of Escuintla. Materials were prepared with educational and public health messages about good practices and psychological support for dissemination among the affected communities in the form of campaigns for disease prevention and health promotion.

PAHO mobilized approximately US\$

310,000 from the Common Emergency Response Fund (CERF) to support the emergency health response and avoid deterioration of health in the communities impacted by the eruption. The focus was on four lines of action:

- Strengthening public health and epidemiological surveillance, as well as disease prevention in shelters and affected communities;
- Improving access to mental health services and psychological support for victims of the disaster;
- Increasing access to safe water and intensifying vector control interventions to prevent water-borne and vector-borne diseases;
- Enhancing awareness of health hazards and promoting healthy environments and good practices through risk communication and health information campaigns. 

Peru

The regional health directorates strengthen capacities for monitoring water quality

Those in charge of monitoring water quality programs in 12 of Peru's regions took part in the Workshop on Monitoring Drinking Water Quality, which aimed to strengthen capacities and ensure adequate conditions in the systems responsible for supplying safe water to the population. This, in turn, will contribute to reducing diseases associated with poor quality water.

Organized by PAHO's technical team for water and sanitation and Peru's Directorate of Environmental Health and

Food Safety (DIGESA), the workshop was directed at those responsible for the water quality monitoring programs of the regional health directorates (DIRESAs) in the southern section of the country (Tacna, Moquegua, Cusco, Puno, Apurímac, Ayacucho, Pasco, Huánuco, Huancavelica, Junín, Madre de Dios, and Arequipa).

The objective was to strengthen the capacities and skills of human resources to formulate and implement water quality monitoring programs and tools for inter-

ventions to enhance the efficiency of the health authority's monitoring.

The workshop allowed the personnel of the DIRESAs to improve their capacities and skills for health-related monitoring of drinking water quality, and thus ensure the presence of water supply systems that provide safe water to the population, improving people's health by reducing the incidence of water-borne diseases. 🌐

Honduras

Workshop to assess the Hospital Safety Index



The María de Tegucigalpa Hospital (Honduras) served as headquarters for the workshop on evaluating the Hospital Safety Index (HSI), hosted by PAHO/WHO, from 24 to 27 April 2018, and led by international experts from the Organization.

The purpose of the workshop was to

train evaluators to use the HSI tool. Professionals from various of the country's hospitals participated. These included the Mario Catarino Rivas Hospital, Leonardo Martínez Hospital, and María de Tegucigalpa Hospital. Other institutions, such as the Ministry of Health, the Central Amer-

ican Technical University (UNITEC), the Fire Department, the Red Cross, and the Permanent Commission on Contingencies (COPECO) were also represented. The workers trained are now in a position to evaluate other hospitals and strengthen the capacity to respond to emergencies.

The Hospital Safety Index is a tool for fast, reliable, low-cost evaluation that provides an immediate estimation of the probability that a health facility can continue to function in disaster situations. By determining a hospital's safety index, which also considers the natural environment and the health services network to which the hospital belongs, countries and decision-makers will have a better sense of their ability to respond to major emergencies and disasters. 🌐



PAHO has intensified its technical cooperation with Venezuela and neighboring countries.

Photo: Sabina Rodríguez PAHO/WHO

Venezuela and neighboring countries

Institutional regional response to the health situation

The Bolivarian Republic of Venezuela, a federal state of over 30 million inhabitants, is dealing with a sociopolitical and economic situation that has had a negative impact on its social and health indicators. Outbreaks of diphtheria, measles, and malaria have spread rapidly, affecting several states simultaneously. Other areas of public health concern are HIV, tuberculosis, increased maternal and child mortality, access to medicines, and adequate health care for people with chronic health conditions. Population movements have increased both within the country and toward other countries: Argentina, Brazil, Chile, Colombia, Ecuador, Guyana, Peru, and Trinidad and Tobago in particular. In 2017, over 2.3 million Venezuelans migrated to other countries. This includes more than 1.53 million going to South American countries, increasing public health concerns.¹

Venezuela's health system is currently

under stress as a result of a combination of factors, including migration by health workers and scarcity of medicines and health supplies. This situation has affected the general functioning of the health system and its capacity to respond rapidly to emergencies and disease outbreaks. Despite this, the health system does have some capacity, which includes health infrastructure and human resources that can be mobilized to implement immediate actions when necessary.


In response to the situation in the country, the Pan American Health Organization has substantially intensified its technical cooperation with the Ministry of Health of Venezuela to strengthen the management of health systems, improve communicable and noncommunicable disease prevention and control, and improve disaster management and the procurement of medicines, vaccines, laboratory reagents, and other supplies for health programs through the

Regional Revolving Fund for Strategic Public Health Supplies (Strategic Fund) and the PAHO Revolving Fund, which facilitates vaccine procurement. This response was strengthened in December 2017 by activating the Incident Command System (at PAHO headquarters and at Representative Offices in Brazil, Colombia, and Venezuela) and delivering resources from the PAHO Disaster and Emergency Fund and PAHO Epidemic Emergency Fund, as well activating administrative procedures internally to facilitate a rapid and flexible technical cooperation response to countries.

Furthermore, in response to the various public health problems, PAHO has deployed technical and multidisciplinary field missions since November 2016 that include mobilizing over 60 employees and setting up six field offices (five in Colombia and one in Brazil). The experience embodied in these country mission teams and field offices encompasses a range of technical areas such

as disaster management, entomology and vector control, surveillance, epidemiology, health and laboratory services, health services management, immunization, cold chain, infection prevention and control, prenatal checkups, clinical management, coordination and logistics, administration, and risk communication. In addition to the solid presence established on the ground through the Representative Offices, PAHO has conducted more than 35 technical cooperation missions at the national and subnational levels in Venezuela, Colombia, Brazil, and Guyana.

During the high-level mission to Venezuela, led by PAHO Director, Carissa F. Etienne, the Venezuelan President, Nicolás Maduro, informed PAHO that he had authorized the Ministry of Health of Venezuela to purchase a significant quantity of medicines and vaccines through the PAHO Revolving Fund and Strategic Fund.

PAHO has also intensified its response in Venezuela's neighboring countries (Brazil, Colombia, Ecuador, Guyana, Peru, and Trinidad and Tobago), and has established field offices in border areas, where it has deployed additional personnel. These activities are designed to strengthen health system response in the border areas and provide vaccination and epidemiological surveillance at the local and national levels, in order to detect and provide an effective response to the needs of Venezuelan migrants and the populations receiving them. 

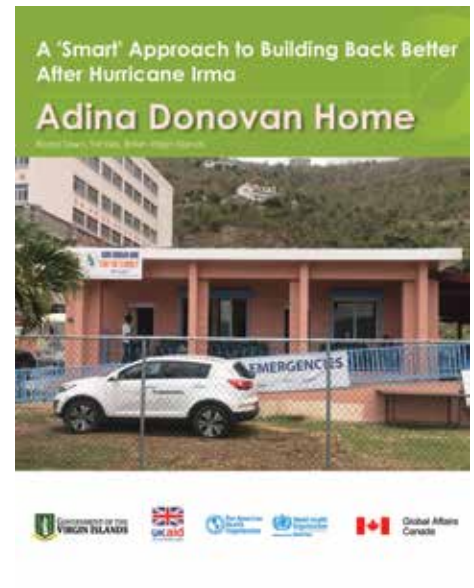
PAHO/WHO publishes a case study of how to rebuild better: reconstructing the Adina Donovan nursing home in the British Virgin Islands after Hurricane Irma

This document is a case study of efforts to rebuild and improve the Adina Donovan nursing home in Tortola. The facility sustained major damage during the passage of Hurricane Irma, which hit the British Virgin Islands on 6 September 2017. The Adina Donovan nursing home is one of two facilities for the elderly in the British Virgin Islands and is very important for both the community and the elderly.

The rebuilding was done by the Pan American Health Organization with financial support from the United Kingdom Department for International Development (DFID) and the Canadian government.

The notion of “rebuilding better” here drew on the Smart Hospitals Toolkit. The best practices recommended in this toolkit include modifying buildings to resist higher winds by employing structural forms that have better aerodynamic properties, such as steep roofs and a standardized floor plan. Following this recommended best practice, the Adina Donovan nursing home was equipped with a stronger and steeper roof.


Renewable energy sources were also an important aspect of the improvements implemented. A photovoltaic system was added to the front of the building, and all the facility's light bulbs were replaced with



LEDs. Low-flow toilets and faucets with aerators were also incorporated to reduce water use as well.

The government of the British Virgin Islands showed great commitment to rebuilding the nursing home's facilities in the hope of limiting the harm caused by events like this in the future, and to make the building more environment-friendly and less costly to operate.

This case study shows that it is never too late to use the “smart” approach to rebuilding better after a disaster.

For the complete case study, see: <http://bit.ly/F9XJhU>. 

¹ Source: IOM, Migration trends in the Americas: Bolivarian Republic of Venezuela, July 2018. Available from: <https://bit.ly/2N7jqnr>.

The Information Management Toolkit for Emergency Operations Centers, a resource to improve Member States' coordination and decision-making during emergencies



Photo: Raquel Argente PAHO/WHO

PAHO/WHO's Emergency Operations Center at HQ, in Washington, D.C.

Information management during emergencies continues to be a challenge for the health sector because the available information can be limited and even contradictory. Also, the information is often difficult to organize, analyze, and visualize in a way that makes it useful for decision-makers. In response to this problem, drawing on practical observation and experience shared with ministries of health in the countries affected by emergencies and disasters, PAHO has compiled and developed a toolkit for better management of information in both minor events and more severe ones.

This Information Management Toolkit

(IMTK) consists of a series of wall panels that help at a glance to organize, visualize, and monitor natural threats or epidemiological situations that are unfolding. The toolkit also provides strategic day-to-day information on response activities such as transportation of personnel to the field, epidemiological surveillance data, laboratory information, impact on people and health services infrastructure, and so on.

The toolkit has been designed on the principle that “less is more” and that focusing on what is basic and what is simplest is a practical way to analyze situations during health emergencies. It is expected to help operational data collection and analysis sys-

tems withstand the technological challenges that arise during emergencies, to provide better support for responses designed to meet the needs of affected populations.

The PAHO Emergency Operations Center is promoting the use of the toolkit, initially distributing it to the countries currently confronting emergency health situations. The toolkit will gradually be distributed to all the Member States to support their operations and information management during emergencies, outbreaks, and disasters. In addition, a series of workshops is being planned to present the toolkit and train strategic personnel on its use. 🌐

NLM launches newly designed disaster information website

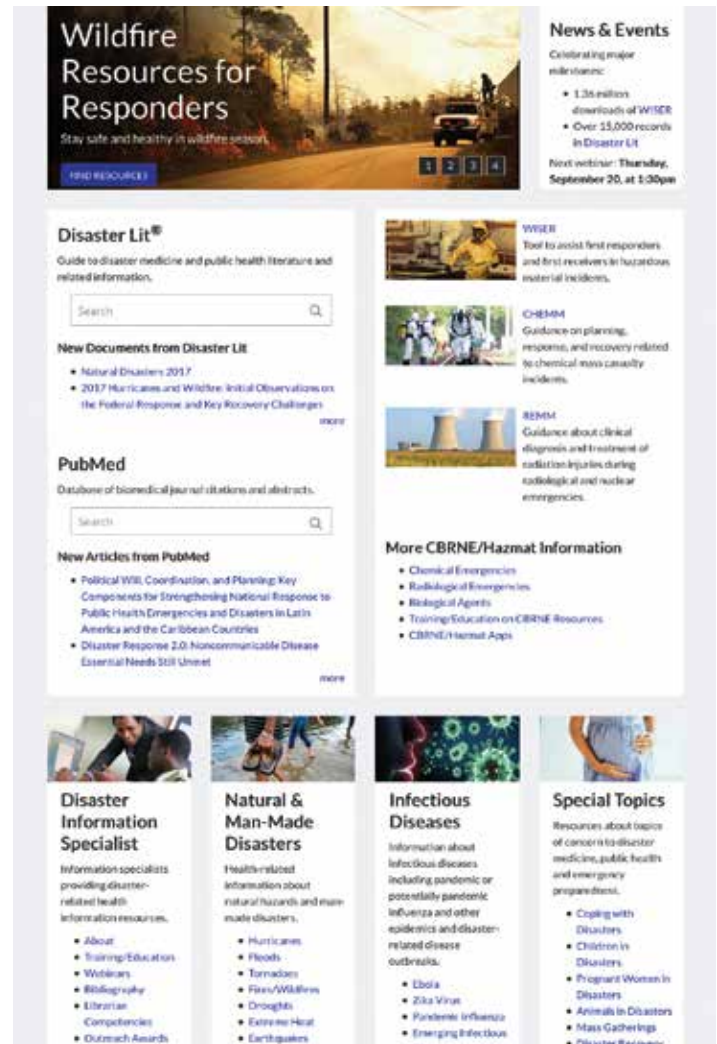
The United States National Library of Medicine (NLM) has launched a newly designed website for its Disaster Information Management Research Center (DIMRC) and Disaster Lit® database.

This new design facilitates access to key resources on both natural and anthropogenic disasters, as well as health emergencies.

The Disaster Lit® database supplements the PubMed database with information on disasters and public health emergencies from hundreds of sources. Around 14,000 reports, training courses, web pages, etc., from government agencies, nongovernmental organizations, universities, and other sources, can be accessed here with a single click.

Related links:

- Disaster Information management research center: <https://disasterinfo.nlm.nih.gov>.
- Disaster Lit® database: <https://disasterinfo.nlm.nih.gov/disaster-lit>.
- PubMed database: <https://pubmed.gov>.



International Volcanic Health Hazard Network

The International Volcanic Health Hazard Network (IVHHN) is an umbrella organization for all research and dissemination of information on the health hazards and impacts of volcanic eruptions. IVHHN represents academics and practitioners working across diverse scientific disciplines such as volcanology, epidemiology, environmental science, toxicology, public health, and exposure science, with a common objective of trying to determine the health impacts of volcanic emissions, and to protect exposed communities.

The website of the International Volcanic Health Hazard Network has thorough information on the health effects of volcanic ash, advice on the most appropriate measures for respiratory protection, as well as methods for analysis and description of ash

samples for public health purposes: www.ivhhn.org/index.php.



Upcoming Events

Africa-Arab Platform on Disaster Risk Reduction and High-level Meeting on Risk Reduction

9-13 October 2018, Tunis, Tunisia

<https://www.unisdr.org/conference/2018/afrp-acdrr>

Focusing on knowledge about disaster risk for inclusive sustainable development, the platform is organized by the United Nations Office for Disaster Risk Reduction in collaboration with the League of Arab States and the African Union Commission.

European Forum on Disaster Risk Reduction

21-23 November 2018, Rome, Italy

<https://www.unisdr.org/conference/2018/efdr>






This meeting will discuss key issues to accelerate implementation of the Sendai Framework, in accordance with the Sustainable Development Goals and the Paris Agreement.


HAC2018 + 3rd Latin American Forum – ISQua. New challenges in quality and risk management in health

1-2 November 2018, Cali, Colombia

<http://hac.fiu.edu>

HAC2018 will bring together health professionals and speakers from Latin America and the United States to discuss the new challenges facing quality and risk management in health. Issues such as quality of care for chronic diseases, accreditation, emergency preparedness, and antimicrobial resistance in hospitals will be discussed.

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