







Preparedness and Mitigation in the Americas

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Hurricanes Irma and Maria:

health sector response

In the space of one month, several nations Lof the Caribbean were ravaged by two category 5 hurricanes packing winds of up to 160 mph (260 km/h). Hurricane Irma passed through 11 islands in the Caribbean starting on 5 September 2017, followed a week later by Hurricane Maria, which impacted six islands, including three in Puerto Rico, Turks and Caicos, and the U.S. Virgin Islands, that had already been hit by Irma. The total population of the islands is 37.2 million people.

The impact of these hurricanes ranged from moderate wind and rain on some islands to a significant loss of infrastructure and livelihoods in others. According to initial damage assessments, Antigua and Barbuda, Saint Martin, and Sint Maarten suffered an average loss of more than 85% of their infrastructure from Irma, while Anguilla and Bahamas were less affected, with an average loss of 30% of their buildings and infrastructure.

The country most affected by Hurricane Maria was Dominica, with more than

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Coordination of humanitarian assistance

in the health sector moves forward in the Americas

The 29th Pan American Sanitary Conference culminated on 29 September with adoption of the Sustainable Health Agenda for the Americas (2018-2030), which includes updates on the progress made in current plans and strategies, among them the Plan of Action for the Coordination of Humanitarian Assistance, was noted

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Hurricanes Irma and Maria: health sector response



90% of the island's infrastructure destroyed, including severe damage to the drinking water, electricity, and telecommunications services. Peported mortality was 37 deaths per 100,000 population, followed by Saint Martin and Anguilla with rates of 28 and 27 per 100,000, respectively. The highest total mortality was in Puerto Rico with 45 deaths, followed by Dominica with 27, and Saint Martin (information on Saint-Martin or Sint Maarten, or the whole island?) and Cuba, both with a total of 10 deaths.

The impact of the hurricanes went beyond physical infrastructure. Routine visits to health centers and hospital care were interrupted until those facilities could be repaired. There was damage to structures and to critical systems such as water, electricity, and communications. There was also damage to high-cost specialized equipment and medical supplies. Damages to roadways hindered the arrival of supplies to the affected facilities, which also affected health care.

According to preliminary data, as of 1 October 2017, 1,140 health centers in the Caribbean had to be repaired or rebuilt. (Cuba reported damages at 969 health facilities, while the other islands had a total of 171 damaged facilities.)

PAHO/WHO supported Member States

during this emergency through response activities that included: activation of regional response teams to help national authorities assess health damages; restoring the capacity for medical care and access to health services in the most impacted areas; increasing epidemiological surveillance; support in the distribution of safe water; emergency sanitation and vector control measures; strengthened coordination of humanitarian assistance; and information management.

As of 11 October, 50 expert missions had been sent to 11 countries and territories of the Caribbean (Anguilla, Antigua and Barbuda, Bahamas, Barbados, British Virgin Islands, Cuba, Dominica, Haiti, Sint Maarten, and the Turks and Caicos Islands).

In order to resume operations in health facilities, support was provided to strengthen the capacity of national authorities to assess damages in hospitals. Joint evaluations were conducted in Anguilla, the British Virgin Islands, Sint Maarten, and Turks and Caicos to determine the functionality of critical systems in affected medical facilities.

The different ministries of health were provided with medical supplies, equipment, medicines, vaccines, and insecticides. These supplies were sent from PAHO's strategic warehouse in Panama or procured from local and regional suppliers and transported by air or sea, with the support of the International Medical Corps (IMC), Direct Relief, the Dutch Navy, and other partners. In addition, vaccines were flown in from Haiti and Jamaica with support from the PAHO/WHO Strategic Fund in response to an urgent request made by Dominica and the British Virgin Islands.

Available capacity on the ground was used to solve problems, as exemplified by the case of Dutch engineers who coordinated with PAHO to repair the water plant at Dominica's hospital.

The Medical Information and Coordination Cell (CICOM) was activated as a part of support for the coordination and monitoring of emergency medical teams (EMTs). At the time of this report, 12 teams were coordinating or reporting on their activities to CICOM. Nine of these 12 teams are active in Dominica, where they continue to support emergency efforts.

Hurricanes Irma and Maria demonstrated the importance of disaster preparedness. The health sector's efforts facilitated the good response, reflected in the low number of deaths and affected hospitals, despite the destructive capacity of both events. The support of the international community will be vital for the recovery phase.

More information can be found on the PAHO Web site: www.paho.org/emergencies.

⁴ Available from: https://reliefweb.int/sites/reliefweb.int/files/resources/2017107-DOM-Dominica_Situation%20 Report%20%234%20United%20Nations.pdf.

Editorial

Coordination of humanitarian assistance

in the health sector moves forward in the Americas



29th Pan American Sanitary Conference

for its technical and political relevance in the wake of hurricanes Harvey, Irma, and Maria in the Caribbean and the United States, and two earthquakes in Mexico.

The Director of PAHO/WHO, Dr. Carissa F. Etienne, who was reelected unanimously for a second five-year term, declared that "(PAHO) stands in solidarity with you (the Member States) as you rebuild lives, homes, livelihoods, the physical infrastructure and the mental health of your peoples." She stressed "the imperative need for addressing, without delay, the issue of climate change and its effects..." on people's health and the need to strengthen the capacity of health services to remain operational during emergencies and disasters.

The 29th Pan American Sanitary Conference was also the forum for presentation of "Health in the Americas 2017," a publication that points out that "disasters such as earthquakes and hurricanes, among other events, also pose regional challenges. The Region suffered 682 disasters between 2010 and 2016, representing 20.6% of the world's disasters, with a financial toll of more than

US\$300 billion."3

Accordingly, the Plan of Action for the Coordination of Humanitarian Assistance, adopted in 2014 and reviewed at its midpoint during this Pan American Sanitary Conference, has remained effective and relevant. But more importantly, it shows the significant progress made on the plan's strategic lines: a) strategic partnerships, cooperation among countries, and international agreements; b) foreign medical teams; and c) leadership, coordination, and accountability.

In this regard, the multilateral agreement of the Union of South American Nations (UNASUR) recognized the standardization of emergency medical teams (EMTs) and 12 UNASUR member countries undertook to join the Inter-American Emergency Health Network.

To date, 21 countries of the Region have trained 64 national experts as EMT coordinators. Four countries have implemented the CICOM (Medical Information and Coordination Cell) methodology for requesting, registering, and coordinating EMTs.

Training workshops have been held in 15 States of the Region on procedures to coordinate the receiving and sending of EMTs. As of now, five countries have integrated these procedures into their national mechanisms. Chile, Colombia, and Peru are pursuing EMT classification, while Costa Rica and Ecuador have already achieved it.

In his remarks, Ciro Ugarte, PAHO's Director of Health Emergencies, pointed out that "during Hurricane Irma, the National Center of Emergency Operations in the Virgin Islands was transferred to and operated from a hospital; in Dominica, although Hurricane Maria affected an important hospital, it continued to function and is recovering; and after the earthquake in Mexico, almost all the hospitals were still operational, unlike 32 years earlier when many had severe damage and/or collapsed." He also emphasized that "today we have smart (green and secure) hospitals thanks to the health workers who are on the front lines of this work; Haiti sent vaccines to the Virgin Islands, with support of the Dominican Republic, in a display of country solidarity, coordination, and response capacity."

Dr. Etienne insisted on the need to reduce the risks of disaster and promised to share the experience and capacity achieved in the Americas with other regions of the world.

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Pan American Health Organization, Washington (DC): PAHO; 2017 [cited 18 Oct 2017]. Available from: http://bit.ly/2E620Ye.

lbid.

³ Pan American Health Organization, Washington (DC): PAHO; 2017 [cited 18 Oct 2017]. Available from: http://bit.ly/2E7pbcz.



Note:

Health sector recovery after disasters

The document provides extensive practical guidance on key decisions, planning, financing, and execution. It also describes activities for developing and implementing a recovery plan. Finally, it describes common mistakes and how to correct them.

There are many documents available on the subject of health emergencies and post-disaster recovery. But much of the material can overwhelm health officials who are simply looking for tools to meet their practical needs. They seek clear, concise, actionable guidance in leadership, support, and feasible recovery efforts.

With this challenge in mind, the Global Facility for Disaster Reduction and Recovery (GFDRR), the Pan American Health Organization (PAHO), and the International Recovery Platform (IRP) have prepared guidelines for health sector recovery after a disaster, based on an extensive review of the literature and consultation with experts.

The guidelines are available in English, Spanish, and French on the GFDRR and PAHO websites.

Additionally, a site called Recovery Hub has been set up, offering guidance and quick references to help develop frames of reference and assess needs after a disaster. It also provides guidance on the recovery of specific sectors, including education, social protection, energy and transport, environment, gender, and housing.

December 2017 Issue 125 Perspective ◀

The Latin America Network of Disaster Risk Information Management Centers (RELACIGER)

consolidates strategic partnerships

From 19 to 22 September 2017 in San José (Costa Rica), high-level representatives in charge of managing national disaster risk information management systems met with members of the Latin American Network of Disaster Risk Information Management Centers (RELACIGER) to review the Network's objectives, discuss advances in information technology, and participate in the international symposium on evidence-based data for emergency and disaster management.

The event enjoyed technical and other support from the Regional Information Center on Disasters for Latin America and Caribbean (CRID), the National Library of Medicine of the United States (NLM), the Department of Health Emergencies of the Pan American Health Organization/World Health Organization (PAHO/WHO), and the National Commission for Risk Prevention and Emergency Care (CNE) of Costa Rica. It also received technical contributions from representatives of the disaster risk management systems of Honduras, Colombia, Bolivia, Ecuador, Panama, and El Salvador, Universities in Honduras, Guatemala, and Nicaragua, and the Ministries of Health of Bolivia and Nicaragua.

The event afforded opportunities to share knowledge and partnerships with national organizations, international cooperation agencies, and universities, and to receive technical and policy support in countries.

The agenda addressed conceptual considerations, good practices in emergency care, organizational management and capacity building at coordinating centers, new technology tools for information management, and use of social networks to collect and disseminate information during disasters, among other topics.

The presentations are available on the RELACIGER website: www.relaciger.org/wordpress/?p=1501472.



The workshop was also an opportunity to appoint the REL-ACIGER Advisory Committee and to analyze the information and communications resources developed for disaster risk management (available at www.relaciger.org/wordpress), and to outline a new vision for information management as a pillar of the risk management systems in the America.

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Honduras y El Salvador

Violence-prone areas lead to the creation of

"Safe and Resilient Health Services"

Honduras and El Salvador are part of an initiative that prioritizes six hospitals located in precarious areas, with high demand for health services.

The objective is to boost the capacity of care ... by diagnosing the impact of violence (collective and/or community) on the health services, and the associated demand for medical care, and to strengthen the functional and nonstructural components of hospital safety.

The Rapid Preparedness Assessment for Health Care Facilities-RPA tool (which analyzes the following components: the

dangers a facility faces, current administrative management procedures, and the state of the physical infrastructure) found that even though health workers described violent situations (verbal threats/intimidation, violent patients or family members, physical attacks, intrusions, theft/robbery, armed attacks, extortion, massive influxes of people, highly impacted patients with restricted mobility, etc.), they did not perceive them as threats.

Hospital emergency plans did not include risk analysis or have specific response plans or operational safety procedures; nor did

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they establish protocols for psychosocial intervention or counseling for patients and staff members affected by violence.

Therefore, the initiative implemented priority activities, including:

- The preparation of protocols and workflows for the management of firearm and stabbing injuries in both countries, in close coordination with the Ministry of Health, the Medical School and College of Surgeons, and the Medical Emergency System;
- Training of physicians and nurses in advanced trauma life support (ATLS), management of injuries caused by firearms and sharp weapons, and basic life support;
- Training of 48 new national instructors in "advanced life support in cardiology and severe trauma;"
- Development of guidelines for self-care and psychosocial and mental health support for victims of violence. This includes both the general population and health workers ("Care pathways for health workers facing violent situations," which includes an individual workbook for self-care, community rapid intervention guidelines, rapid intervention guidelines for health workers in crisis situations, guidelines on the use of self-care spaces and actions to strengthen self-care at the institutional level);
- Preparation of regional guidelines for mental health care and psychosocial counseling in contexts of violence;
- Development of violence risk maps for health centers and identification of safe routes and hours for accessing health services;
- Preparation—in collaboration with hospital staff—of security procedures and their inclusion in hospital emergency plans;
- Purchase and installation of supplies to strengthen video surveillance and security systems at priority hospitals, including signs announcing the No Weapons policy, evacuation routes, emergency exits, and critical areas;
- Preparation of an information and community awareness campaign with key messages about the protection of health services and health workers. These may

include radio spots, short videos on health service closed circuit TV, pamphlets, etc.

Given this background, it was recommended that violence be included as a threat in health facility risk analyses and hospital emergency and contingency plans. It was also recommended that consideration be given to revising and adapting the RPA tool to the context of collective and community violence without armed conflict (which characterizes the region), and annexing this to the Hospital Safety Index (HSI).

The initiative began in 2016 with support from the Disaster Preparedness Program of the European Civil Protection and Humanitarian Aid Operations (DIPECHO). It is promoted by the International Committee of the Red Cross (Water and Habitat Unit; and Health Care in Danger Project), the International Federation of Hospitals, the World Health Organization (WHO), and Doctors without Borders (MSF).

Priority hospitals in violent areas

El Salvador	Honduras
Dr. Maria Isabel Rodríguez National Women's Hospital in San Salvador (NNM). Dr. José Molina Martínez National Psychiatric Hospital in Soyapango (HNP). Dr. Juan José Fernández National	University Teaching Hospital in Tegucigalpa. Dr. Mario Catarino Rivas Spe- cialty Hospital in San Pedro Sula. El Progreso General Hospital.
General Hospital in Zacamil,	
Mejicanos (HNZ).	



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México: Health sector response and recovery from the September 2017 earthquakes

n 7 and 19 September 2017, Mexico suffered significant human and material losses as a result of two earthquakes that primarily impacted Morelos, Oaxaca, Chiapas, and Mexico City. To support the health sector and the population, the Pan American Health Organization (PAHO/WHO) activated its experts on the Rapid Response Team (RRT).

In response to the events, the National Contingency Plan (Plan MX) and the National Emergency Committee were activated to coordinate the local, municipal, and federal response. The Ministry of Health did what it could to increase the capacity for care at health facilities; to facilitate access to health services in the affected areas, including mental health care; to ensure safe access to sanitation services during the emergency; and to ensure efficient coordination and continuous improvements in order to meet the urgent humanitarian needs.

The Federal Government responded to

the emerging needs: patients were relocated from health facilities that were damaged in the quakes; medical care in national health system hospitals was provided to everyone, regardless of their beneficiary status; and emergency care was prioritized and non-urgent surgical procedures were rescheduled.

Furthermore, medical teams were deployed to the affected areas and medical facilities underwent structural assessments. An emergency was declared in 16 boroughs of Mexico City, 33 municipalities in the state of Morelos, 112 municipalities in Puebla, and five municipalities in Guerrero. Authorities verified the availability of medical supplies, focused on operation of the epidemiological surveillance system, and mobilized professional medical teams to provide psychological care in shelters and hospitals.

By 21 September 134 health units had been evaluated: 90 were functioning, 31 were functioning only partially, and 13 were non-functional. Of the latter, four were in Morelos, four were in Mexico, three were in Puebla, and one was in Tlaxcala.

Medical care was provided to 9,500 injured people by the Ministry of Health, the Mexican Social Security Institute (MSSI), the Institute of Safety and Social Services for State Workers (ISSSTE), and other units, with no saturation of health services. However, in Oaxaca, Morelos, and Chiapas, temporary mobile care units were installed to serve shelters and communities that lacked access to health centers or hospitals. In the state of Oaxaca three mobile units were installed with staff from the Ministry of Health and the Mexican Navy.

Through the Humanitarian Supply Management System (LSS/SUMA) PAHO/WHO supported the health supply warehouses and also trained workers from the government of Mexico City and the Ministry of Health of Morelos state in the distribution of drugs and

donations, and in the proper use of LSS/SUMA.

Seven hospitals in Mexico City, among others, offered mental health services, in accordance with the mental health technical guidelines for emergency situations.

The National Water Commission (CONAGUA) evaluated the affected areas to determine which localities, neighborhoods, or municipalities lacked drinking water. The Tláhuac and Mixquic Santa Catarina (Mexico City) lines were found to have suffered major damage with 26 leaks. These were subsequently repaired by completely replacing the pipes. In Morelos, cracks were found in three dams, four water treatment plants, and three water tanks.

While leaky pipes and water tanks were being repaired, the emergency drinking water supply in Mexico City, Morelos, and Puebla needed to be safeguarded. Measures were taken to ensure the chlorination of water, solid waste management, proper operation of the garbage collection system, and distribution of basic hygiene supplies.

Another important issue during the emergency was providing food to the victims. This required the implementation of a system for the rapid distribution of good quality, safe foods over a sustained period. The Secretariat of Social Development (SEDESOL) set up community cafeterias in the six most impacted jurisdictions (Morelos, Oaxaca,

Chiapas, Mexico City, Mexico state, and Guerrero). Civil society played an important role in the distribution of food during the emergency response activities by supporting collection centers and helping supply rescue personnel working in damaged buildings.

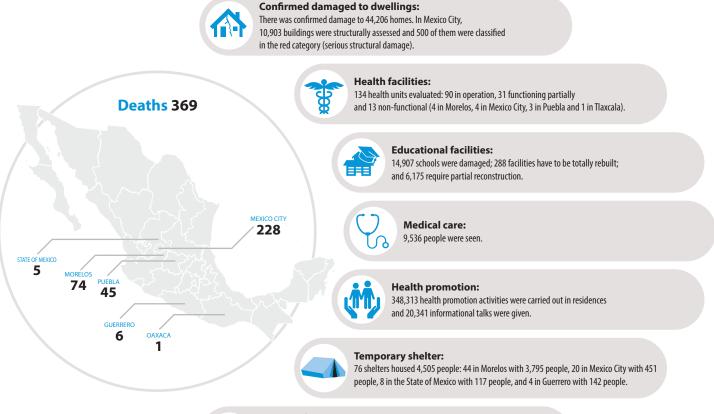
International cooperation was also coordinated through the United Nations Development Program (UNDP) in order to establish emergency response and coordination of the UNETE group. Six subgroups of UN agencies, funds, and programs in Mexico were defined: health, education, early recovery, communications and information, water, sanitation and hygiene, and protection and shelters.



On 7 September at 23:49:18 hours, magnitude 8.2 on the Richter Scale, with the epicenter 133 kilometers southwest of Pijijiapan (Chiapas), 58 km deep.



On 19 September at 13:14:40 hours, magnitude 7.1 on the Richter Scale, with the epicenter 12 km southeast of Axochiapán, Morelos, 57 km deep.



Water and sanitation:

2,603.06 liters of water were chlorinated, 5,959 tablets calcium hypochlorite tablets were distributed, 688 community talks were given on hygienic food handling and basic sanitation, and 3,922.3 kg of expired drugs and 171.1 kg of controlled drugs were taken out of circulation.

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Dr. Veronica Espinosa, Minister of Public Health of Ecuador, receives recognition of EMT type II and surgical cell classification from Dr. Tedros Adhanom Ghebreyesus, WHO's Director General, together with Dr. Carissa F. Etienne, PAHO/WHO's Director, Dr. Peter Salama, Executive Director of WHO's Health Emergencies Program, and Dr. Ciro Ugarte, Director of PAHO/WHO's Department of Health Emergencies.

Ecuador's emergency medical team

classified as a WHO EMT

The emergency medical team of the Ministry of Public Health of Ecuador is the second in the Americas region to receive verification from the World Health Organization (WHO), as part of its Emergency Medical Team (EMT) initiative.

At a ceremony held at the headquarters of the Pan American Health Organization in Washington, DC, WHO Director-General Tedros Adhanom Ghebreyesus presented the recognition to the Minister of Public Health of Ecuador, Verónica Espinosa, together with the Director of PAHO, Carissa F. Etienne. Both congratulated Ecuador on this accomplishment.

The purpose of this classification is to create an international listing to ensure a predictable and coordinated response from EMTs that have proven to comply with internationally agreed EMT standards and technicians.

"This is a way for Ecuador to return even a little, after everything we received following the earthquake" that hit the country in 2016, said Minister Espinosa.

Type 2 EMTs administer 24-hour emergency care and can provide emergency ambulatory care, emergency general and obstetric surgeries, and treat fractures and wounds. Type 2 EMTs can deploy a field hospital with at least 20 beds, with laboratory services, radiology, surgery, transfusions and even a rehabilitation unit. They are totally self-sufficient during the time of their mission.

Between September 13 and 15 2017, an international PAHO/WHO mission with experts from Costa Rica, Peru, and the United States verified compliance with the minimum standards for EMTs. These experts reviewed the documentation of

processes, standards and guidelines for patient care, administrative and logistical processes, and the protocols for activation, displacement, and deactivation of EMTs. In Guayaquil, they evaluated the Mobile 1 hospital and its surgical unit. The Mobile 1 hospital is just one of the mobile hospitals and surgical units that have been adapted by the Ministry of Public Health of Ecuador to meet EMT classification. The unit can be deployed in less than 48 hours and transported by road using seven trucks.

To date, EMT teams from Australia, China, Germany, Israel, Japan, New Zealand, Russia, and United Kingdom, have been recognized as WHO EMTs. Costa Rica was the first country in the region to join the list.

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The WISER tool is increasingly useful

Several groups of users tested the tool and made their recommendations

Information is power, especially for first responders and those receiving help during a hazardous materials (HazMat) incident involving chemical, biological, radiological, or nuclear (CBRN) threats. Time is of the essence when there are potentially multiple victims, including the emergency responders themselves. For this reason, the National Library of Medicine (NLM) makes a set of HazMat/CBRN tools available free of charge for emergency responders, including:

- Wireless Information System for Emergency Responders (WISER)
- Chemical Hazards Emergency Medical Management (CHEMM)
- Radiation Emergency Medical Management (REMM).

The most popular tool, WISER, compiles information from many reliable sources and provides support in terms of identification, physical characteristics, human health information, containment and elimination advice, and mapping capacity. WISER is available for download onto Windows PCs or through apps on mobile devices (iOS and Android).

There is also an on-line version (Web-WISER) that can be used through a Web browser when an internet connection is available. Given its broad base of users working in public safety, health, and planning/training, NLM conducted a usability study to determine whether the tool provided the type of information needed and



in the format and devices required.

The study was done with five groups of WISER users: first responders, HazMat specialists, emergency medical services, hospital care providers, and planners. Nine participants from each group used the tool—delving into its sources of information, structure, special characteristics, tools, etc.—and tested its usefulness and functionality.

The results showed that many users had prior knowledge of WISER but few were aware of all of its functions. Most knew how to search for substances and found the information useful, but only the HazMat specialists were familiar with its special features.

They found the tool easy to use although there were some issues with nav-

igation. Also, sometimes the information was not presented concisely enough for their purposes. This user feedback has provided the guidance needed to make the tool more user friendly. Some changes (navigation, tutorial videos, etc.) have already been incorporated while others remain pending.

Such studies should be done periodically with all public safety/health/medicine tools to ensure that they evolve in step with demands in the field.

We hope that you will download and explore the abundant information on WISER and our other tools and feel free to provide feedback to help us improve it, at: dimrc@nlm.nih.gov.

Upcoming Events

7th Disaster Recovery Institute International Annual Conference (DRI 2018)

 $11\text{-}14\ February\ 2018/Nashville,\ United\ States\ of\ America.$

http://driconference.org

The event will bring together world experts to share their experiences and knowledge about disasters.

Understanding Risk

14-18 May 2018/Mexico City, Mexico

https://understandrisk.org/event/ur2018

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This event will address technical issues and experiences related to risk.

Regional Platform on Disaster Risk Reduction

20-22 June 2018, Cartagena, Colombia Details not available yet







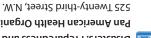




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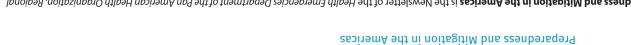
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