This page is left blank on purpose
Annual Report

2017

Health Emergencies Department

PAHO
The Pan American Health Organization (PAHO) is grateful for the support of its partners, who have invested in health sector disaster risk reduction and response in the Latin American and Caribbean Region. We would like to recognize the invaluable contributions of our core donor, the U.S Agency for International Development (USAID/OFDA) and our key financial partners during the year 2017:

- Canada’s Department of Foreign Affairs, Trade and Development (DFATD)
- Centers for Disease Prevention and Control (CDC)
- European Commission’s Humanitarian Aid and Civil Protection Office (ECHO)
- Government of Brazil
- Government of the Dominican Republic
- Public Health Agency of Canada (PHAC)
- Spanish Cooperation Agency for International Development (AECID)
- UK’s Department for International Development (DFID)
- United Nation Central Emergency Response Fund (CERF)
- United Nation International Strategy for Disaster Reduction (UNISDR)
- United Nations Development Programme (UNDP)
- United Nations Multi-Partner Trust Fund (MPTF)
- United Nations Population Fund (UNFPA)
- U.S. Department of Human and Health Services (HHS)
- World Health Organization (WHO)
<table>
<thead>
<tr>
<th>Chapter/Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>PAHO’s New Health Emergency Department</td>
<td>7</td>
</tr>
<tr>
<td>Chapter 1</td>
<td>Disaster Risk Reduction and Preparedness</td>
<td>11</td>
</tr>
<tr>
<td>Chapter 2</td>
<td>Readiness and Response</td>
<td>33</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>PAHO and Health Cluster Support in Disaster Situations</td>
<td>59</td>
</tr>
<tr>
<td>Chapter 4</td>
<td>Cross-Cutting Themes</td>
<td>73</td>
</tr>
<tr>
<td>Acronyms</td>
<td></td>
<td>81</td>
</tr>
</tbody>
</table>
Towards a more resilient health sector in the Americas

Each year, disasters cost between US$300-500 billion worldwide, with disproportionate effects on low-income countries. These losses correspond to 22% percent of the countries’ social spending, with the potential to increase if disaster risk management is not incorporated into their national development policies. The annual losses caused by earthquakes, tsunamis, cyclones, winds, and tidal waves are estimated to represent between 1.2% and 1.7% of the world’s gross domestic product (GDP).

The Americas are the second continent most affected by disasters. Almost a fourth of all disasters that occurred in the world in 2017 took place somewhere in the Americas, representing cumulative damages of approximately US$ 306 billion. The most common events were of hydrological and meteorological type, which caused the highest percentage of deaths and damages in this period.

The need for comprehensive preparedness of the health sector, a more effective surveillance and a collective rapid response in the Latin America and Caribbean (LAC) Region is required to respond to potential pandemics, outbreaks, more frequent and destructive natural disasters, and conflicts. This is a major challenge due to high population movements, climate change, changes in environmental settings, including deforestation, and the creation of new human settlements with increased contact with animals, therefore raising the potential for epidemics or pandemics.

Overall, the capacity of LAC countries to manage the response to a minor emergency or small-scale disaster, without seeking aid from the international community, has increased. However, there is a growing demand for different levels of technical cooperation with increased specificity to countries’ particular needs, or to respond to large multi-hazard emergencies, particularly when national capacities are overwhelmed.

During the year 2017, the LAC region was affected by three Category 5 hurricanes impacting 19 countries and territories; as well as two earthquakes with a magnitude over 7 that stroke Mexico, severe floods in Peru and Chile, and a landslide in Colombia; all of which reminded us of the destructive capacity of natural disasters. Furthermore, the rapid emergence of the Zika virus affecting 48 countries and territories combined with the outbreak of Yellow Fever in 10 states of Brazil with peri-urban transmission, as well as the re-emergence of epidemic-prone pathogens such as malaria, diphtheria and measles, raised the levels of public health alerts throughout
the Region, highlighting challenges in knowledge, research and coordination.

These events, and their impact on people and health systems in the Americas, led to the emergence of two key questions: What else can we do in terms of prevention, readiness, and response in the health sector? and how can we improve technical tools to benefit the population under risk?

To establish a stronger program that would better and more efficiently respond to the needs of its Member States, following the World Health Organization (WHO) reform and the creation of its Health Emergencies Program (WHE), PAHO established its new Health Emergency Department (PHE) in September 2016 by joining the Department of Emergency Preparedness and Disaster Relief (PED) and the Unit of International Health Regulations/Epidemic Alert and Response and Water Borne Diseases into a single management structure. As such, the new Department combines over 40 years of experience and technical excellence preparing for and responding to disasters and epidemics; all aimed at strengthening countries' management of all-hazard health emergencies within the framework of the International Health Regulation (IHR).

This report summarizes the work and achievements of the newly established Department of Health Emergencies of the Pan American Health Organization (PAHO) in support of its Member States during the year 2017, and provides a path for moving forward.

As a roadmap for the Organization's work in disaster management, the new PAHO Emergency program seeks to develop a health sector with enough capacity, strong national leadership, and resilience to rapidly recover from the impact of health emergencies and disasters and be able to protect the physical, mental and social wellbeing of their communities. The program's main objectives are:

- To improve capacity of Member States to provide a timely and appropriate response to disasters, complex emergencies and other health crises [Chapter 1];
- To enhance capacity of national health systems in emergency preparedness and disaster risk reduction [Chapter 2];
- To increase effectiveness of PAHO and the Health Cluster in responding to disasters [Chapter 3].

PAHO's work in disaster risk reduction and response is carried out in an environment of cooperation, in which Member States, health authorities, sub-regional organizations and a wide variety of other strategic partners work together to achieve a more resilient health sector in the Americas and help reduce the health consequences of emergencies, disasters and crises and ease their social and economic impact.

Underpinning PAHO's work are important cross-cutting themes that are mainstreamed into all activities: ethnicity; governance; gender; and human rights [Chapter 4].
PAHO’s New Health Emergency Department

Building countries capacities to respond to all-hazards

Although the countries of the LAC Region have strengthened the capacities of their national health system to manage small and medium health emergencies, there continues to be challenges at decentralized levels, due in part to the lack of awareness, capacities, or resources, as well as serious limitations to respond to larger disasters. Notwithstanding the important advances in the creation of capacities and application of public health regulations, including the International Health Regulation (IHR), there is still a need to further develop supportive legal instruments, improve in-country coordination and availability of qualified personnel and resources and develop overall capacities for all-hazards risk management.

To better address those needs, and to continue leading and coordinating the international health response to contain outbreaks, epidemics and respond to disasters, PAHO established its new Health Emergencies Department on the 15th of September, 2016. Responding to its Member States’ discussions at the 2016 World Health Assembly, the new department functionally aligned its work with the WHO Health Emergencies Program, while continuing to direct important efforts towards the regional priority work areas that were not included in the global program.

The structure of the new department is reflected as one of the six categories of PAHO’s Strategic Plan 2014-2019 (revised in September 2017) and focuses on strengthening capacities to carry out prevention, risk reduction, preparedness, surveillance, response, and early recovery for emergencies and disasters related to any hazard (natural, human-made, biological, chemical, radiological, and others). When national capacities are overwhelmed, PHE will be ready to lead and coordinate the international health response to contain disasters, including outbreaks, and to provide effective relief and recovery to affected populations.

The new Department reports directly to the PAHO Director. Its priority is to deliver rapid, predictable, and comprehensive support to Member States in terms of prevention, risk reduction, preparedness, surveillance, response, and early recovery in case of any threat to human health, including outbreaks or disasters caused by natural phenomena, human activities or conflicts.
The Department’s work in health emergency prevention, preparedness, assessment and response is articulated according to six main units of work: infectious hazard management (IHM), country health emergency preparedness and the International Health Regulations (CPI), health emergency information and risk assessment (HIM), emergency operations (EMO), and disaster risk reduction and special projects; all supported by PHE’s emergency core services (HEO).

Responding to new challenges and demands

2017 marked the first full year of operation of the new PAHO Health Emergencies Department following the implementation of WHO’s global reform on health emergencies, in an effort to improve the operational and time response capacity of the Organization with regards to health threats. During that year, PHE focused on the establishment of its programme and began the development and review of processes, protocols and manuals to respond and support countries addressing major and complex public health emergencies.

Challenges faced during this first year included the necessity of increasing coordination, knowledge and resources to gather evidence and conduct research on newly emerging and re-emerging diseases, as illustrated by the Zika outbreak; the impact of back-to-back destructive natural disasters, which stretched available human resources for emergency response and highlighted the critical importance of building rosters of health personnel to serve as surge capacity during multiple emergencies; the reaffirmation of the importance to only accept the deployment of self-sufficient Emergency Medical Teams (EMTs) in major emergencies, where food, water and other vital supplies are scarce. Other challenges resulting from the integration of the program units included the alignment of processes, integration of administration and logistical support, and developing a consolidated preparedness and response strategy.

The new department encompasses a wider and more integrated approach to health emergencies to effectively structure PAHO’s prevention, preparedness, risk reduction and response efforts to disasters and public health emergencies, as reflected in the updated PAHO’s Strategic Plan 2014-2019.

Some key milestones achieved by PHE over the year include:

- Strengthening health sector country capacities and improving health sector’s resilience.
- Transitioning from the Safe Hospital Initiative adopted in 2005 in alignment with the Hyogo Framework, to the Smart Hospital Initiative launched in 2012 and the wider concept of Resilient Hospitals.
• Establishing PAHO’s Emergency Operations Center (EOC), created in 2012, as the lead in the coordination and support to health-related emergency response activities requiring sub-regional and regional support.

• Launching and obtaining countries engagement for the creation Emergency Management Teams (EMT) according with the WHO’s minimal quality standards since 2015.

• Extending the framework for disaster risk reduction by integrating the component of resilience and building back better to the preparedness component, following the Sendai framework of Action.

• Building partnerships with new strategic and stand-by partners from humanitarian organizations and private sector.

• Maintaining a 24/7/365 capacity to detect, assess, verify and respond to events of public health interest in support to its Member States.

**PHE at a glance**

<table>
<thead>
<tr>
<th>Staff Members</th>
<th>Regional Headquarter</th>
<th>Sub-regional Offices</th>
<th>Country Offices with PHE Focal Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>158</td>
<td>1</td>
<td>3</td>
<td>28</td>
</tr>
</tbody>
</table>
The first objective of PAHO’s Strategic Plan for Disaster Risk Management is to ensure that the Ministries of Health in Member States embrace a national culture of disaster prevention and adopt a multi-hazard approach to emergency risk management. To achieve this objective, PAHO focuses on two expected results: 1) national health disaster programs that function according to established criteria; and 2) health services resilient and functioning after a disaster.

In September 2017, PAHO’s new Health Emergencies Department was fully and formally adopted by PAHO’s Governing Bodies. Its priority is to deliver rapid, predictable, and comprehensive support to Member States in terms of prevention, risk reduction, preparedness, surveillance, response, and early recovery in case of any threat to human health, including outbreaks or disasters caused by natural phenomena, human activities or conflicts.

Through this new structure, PAHO will respond, as it has always done, to the needs of Member States in the Americas, such as management of infectious threats, country preparedness measures for health emergencies and International Health Regulations, information on health emergencies and risk assessment, emergency operations, and disaster risk reduction and special programs.

There have been significant advances in the institutionalization of disaster programs within Ministries of Health in Latin America and the Caribbean. By 2017, almost all countries had integrated disaster management functions into their health systems and agencies. Many countries of the Region have also been implementing efforts towards achieving minimum capacity to effectively prevent and manage public health risks associated with emergencies through the strengthening of countries’ national core capacities as defined in the IHR. Building on those efforts, PAHO continued to work with the countries of the Americas to develop strategies, guidelines, and contingency and action plans to prepare for the most effective response to disasters.
A Renewed Commitment of the Americas to Disaster Risk Reduction in Health

In September 2016, the Plan of Action for Disaster Risk Reduction (DRR) 2016-2021 was approved by the Ministers of Health of the Americas. This new framework is the result of the lessons learned from the implementation of the Plan of Action on Safe Hospitals 2010-2015 and a compendium of priorities identified in a consultation process during the regional meeting of health disaster coordinators in Managua, Nicaragua in October 2015. It is aligned with key recent international instruments including the 2030 Agenda for Sustainable Development, the Paris Agreement on Climate Change and the Sendai framework for Disaster Risk reduction 2015-2030. The new plan establishes the need to continue to drive the Safe Hospitals initiative to ensure that health facilities’ operational capacity is maintained in emergencies and disasters, as part of integrated health services networks. It also highlights the importance to boost public and private investment in financial and innovation terms by incorporating measures to address climate change through both adaptations and mitigation actions in the structural, non-structural and functional safety components.

The purpose of the plan is to continue strengthening disaster risk reduction in order to prevent deaths, diseases, disabilities, and the psychosocial impact of emergencies and disasters through people-centered actions and cross-cutting approaches. The plan aims to improve the safety of integrated health services networks through the application of safe hospital criteria and approaches to climate change in planning, design, construction and operation of such services.

In 2016, PAHO actively promoted and disseminated the new Plan of Action among its Member States during the annual meeting of Health Disaster Coordinators, which took place in Bogota in November 2016. A monitoring and evaluation framework was developed jointly with the countries to assess progress against the set indicators.

The commitment of the Member States to reduce the effects of adverse events was demonstrated by establishing a comprehensive framework of action along four strategic lines of work for the health sector:
Recognizing disaster risks
involves the use of evidence-based technical and scientific information for decision-making; promoting partnerships with the private sector and academia to disseminate and share relevant information that would help reduce disaster risks in the health sector.

Promoting safe and smart hospitals
Promotes the Safe Hospital initiative to ensure that the health service network can maintain its operating capacity during emergencies and disasters; and strengthening the actions needed to ensure that structural, nonstructural, and organizational/functional safety components meet the demands of climate change mitigation and adaptation.

Strengthening governance of disaster risk management
Involves the incorporation of disaster risk management within the health sector, with the necessary human and financial resources, and clearly defining decision-making structures, flows, and/or mechanisms at the different levels of authority, responsibility, and coordination.

Strengthening the sector’s capacity for emergency and disaster preparedness, response, and recovery
Adequate interaction between decision-making and actions; ongoing practical training of the emergency and disaster teams should be ensured; and that emergency medical teams must meet basic quality standards, including the capacity for clinical management and the integration of national and international coordination and information management mechanisms.

“The new [Plan of Action for Disaster Risk Reduction] builds on our work with PAHO member countries to reduce risks in the health sector and to strengthen their capacity to ensure full operation of the health system and services in times of emergencies or disasters.”

Ciro Ugarte, Director of PAHO’s Department of Health Emergencies (PHE), September 2016
The new Plan of Action builds on the substantial progress already made throughout the Region, first and foremost, through the implementation of the Safe Hospitals initiative, launched in 2005, and the widespread application of the Hospital Safety Index (HSI). The HSI is a low-cost and easy-to-use tool that estimates the probability that a health facility will remain operational during and after a destructive event, and offers quantified data on the estimated risk, as well as a clear and objective perspective on critical and priority actions for authorities. It is currently applied in 32 countries and four territories of the Americas that have developed their own hospital safety evaluation teams. Most countries have also taken steps to correct deficiencies revealed through the application of the HSI. By the end of 2017, the following progress was made:

1. **Number of countries that have evaluated disaster risk in the health sector:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline</th>
<th>Target</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>9 evaluated</td>
<td>35 evaluated</td>
<td>20%</td>
</tr>
<tr>
<td>2017</td>
<td>7 evaluated</td>
<td>16 in progress</td>
<td>50%</td>
</tr>
<tr>
<td>2021</td>
<td>35 evaluated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. **Number of countries with full-time staff assigned to disaster risk reduction:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline</th>
<th>Target</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>15 evaluated</td>
<td>30 evaluated</td>
<td>50%</td>
</tr>
<tr>
<td>2017</td>
<td>15 evaluated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>30 evaluated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. **Number of countries that have a sectoral mechanism for coordination, implementation, and monitoring of disaster risk management for health:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline</th>
<th>Target</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>9 evaluated</td>
<td>35 evaluated</td>
<td>127%</td>
</tr>
<tr>
<td>2017</td>
<td>19 evaluated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>35 evaluated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Number of countries that include safe hospital criteria in the planning, design, construction, and operation of health services:

- **2016 Baseline**: 28 evaluated
- **2017**: 29 evaluated (83% progress)
- **2021 Target**: 35 evaluated

5. Number of countries that include criteria for disaster mitigation and for adaptation to climate change in the planning, design, construction, and operation of health services:

- **2016 Baseline**: 2 evaluated
- **2017**: 13 evaluated (87% progress)
- **2021 Target**: 15 evaluated

6. Number of countries that have tested plans and procedures for emergency and disaster response and early recovery:

- **2016 Baseline**: 6 evaluated
- **2017**: 28 evaluated (80% progress)
- **2021 Target**: 35 evaluated
From Safe to Resilient Hospitals

The ability to continue delivering health services in the wake of disasters is a key objective of PAHO’s disaster preparedness and risk reduction efforts. The Hospital Safety Index, which provides an overview of the level of safety in health facilities, is now widely used throughout the Americas producing important results, which can now be easily tracked using a regional database. Many countries are taking measures to correct the at-risk areas of their health facilities, so they can continue to function when they are most needed. Building on the positive experiences of the Safe Hospital Initiative, and the commitment of the countries of the Americas towards disaster risk mitigation, PAHO launched the Smart Hospitals initiative in the Caribbean, with the financial support of the UK Government.

**Smart (safe & green) healthcare facilities**

The Smart Hospitals initiative began in 2012, promoting a shift away from the traditional disaster response model to one that proactively seeks to minimize the health impact of disasters through climate adaptation, mitigation measures, and preparedness; reduce the carbon footprint of the health sector, one of the largest consumers of energy; and improve disaster resiliency. ‘Smart’ health care facilities have structural and operational safety by means of environmentally friendly interventions, at a reasonable cost-to-benefit ratio. An impressive body of material has been developed to aid hospital administrators, health disaster coordinators, architects, engineers and maintenance staff to make their health facilities ‘smart’ by conserving resources, cutting costs, increasing efficiency in operations and reducing carbon emissions. In 2017, 12 countries and territories of the Caribbean subregion were actively implementing Smart (Safe & Green) interventions, while interest in the rest of the Region – and outside – has grown exponentially. By December 2017, 362 health facilities had already been assessed according to safe and green standards using the HSI and green checklist and 12 facilities were ongoing the retrofitting process.

**More secure health services**

In a continuous effort to further increase the resilience of health infrastructures and networks, more recently, PAHO has been integrating considerations about security aspects within health facilities to strengthen the safety and care delivery capacities of health facilities located in violence-prone areas. The objective of this initiative, piloted in El Salvador and Honduras since 2016, is to diagnose the impact of excessive violence (collective and/or community) on health services and health care demand and professionals, and strengthen the functional and non-structural component of hospital safety. To do so, with the financial support of the European Commission, PAHO facilitated the translation into Spanish and application of a Rapid Preparedness Assessment for Health Care Facilities (RPA) tool developed by the ICRC to...
assess specific vulnerabilities and security threats and identify safety measures to protect health care delivery in the context of violence.

The situational analysis conducted in both Central American countries clearly evidenced the negative consequences of violence that directly affect the provision of services, limits access to healthcare of the general population, deteriorates the quality of the care provided, and affects the mental health of personnel working in health facilities. Yet, the everyday exposure of health workers to events of violence has generated a normalization of the situation, to the point where it is no longer identified as a threat. This lack of awareness creates a heightened threat of exposure due to the lack of precautious and protective behavior. The pilot action helped better understand the exposure and vulnerabilities of health facilities and their staff and develop a series of operational and strategic tools as well as targeted rapid corrective measure to raise awareness and better protect individuals within the health facility or their access to its services. A second phase of this pilot initiative which will include a third country, Guatemala, is planned for 2018. PAHO's work is part of similar global initiatives aimed at better equipping and protecting health professionals operating in dangerous context of social violence and armed conflicts, such as the "Healthcare in danger" program led by the IFRC or, more recently, the #NotATarget campaign promoted by the United Nations for their commemoration of World Humanitarian Day.

Disability-inclusive hospitals

The latest addition to the hospital resilience toolkit developed by PAHO to assist its Member States in mitigating, reducing, adapting to and preparing for all type of hazards, is looking at improving the inclusive management of emergency risk at hospital level with respect to individuals with disability of all sorts (sensory, physical, mental). In 2017, PAHO worked with experts of the region to develop a simple, practical and result-oriented methodology to assess and help improve the level of inclusiveness of a health facility with regards to people with disabilities. Through a face-to-face workshop held in Quito, in which participated experts of the Ministry of Health of Ecuador in the area of hospital emergency planning, disaster risk management and disability inclusion, and representatives of the civil society and of individuals with disabilities, the first draft of the methodology for the Inclusive Management of Disaster Risk in Hospitals (INGRID-H from its acronym in Spanish) was developed.

INGRID-H is an "evaluation – action" type of methodology that aims at improving the level of inclusion and participation of individuals with disabilities in the management of disaster risks for health, particularly in hospital preparedness for and response to emergencies and disasters. This methodology is carried out through an Index that bears the same name and establishes a baseline on the current level of inclusion of persons with disabilities in hospital emergency preparedness, allowing
to identify priority areas of works and to develop a plan of action for the continuous improvement of inclusive emergency risk management at hospital level.

This Index was first piloted at the Elderly Adult hospital in Quito, Ecuador in October 2017 through a training workshop in the practical application of the methodology in which participated 32 persons comprised of disaster risk management experts of the Ministry of Health, IESS, Armed Forces, National Police, as well as representatives of the National Council on Disabilities and the Secretariat for Disaster Risk Management. Participants were trained in the principal elements of the methodology and the use of the assessment database/Index; participated in the direct application of the evaluation tool in the hospital and issued recommendations to improve both the conceptual basis of the methodology as well as the practical tool for its implementation. Based on this first test, INGRID-H was reviewed and adjusted to address the proposed recommendations and identified limitations. The methodology was further piloted in 3 additional hospitals in Ecuador where more than 70 individuals of the health sector working in emergency risk management, and professionals of public and private hospitals at the local, subnational or national level were trained in the innovative methodology. The developed tools will be further applied in Chile and Mexico in 2018.

**DID YOU KNOW?**

The Hospital Safety Index (HSI) is a practical tool developed by PAHO to gauge the probability that a hospital or health facility will continue to function in emergency situations, based on structural, nonstructural and functional factors, including the environment and the health services network to which it belongs. It is based on a Safe Hospitals Checklist, which evaluates the level of safety of 145 areas of a hospital. The final safety index score places a health facility into one of three categories of safety (A, B or C) according to a hospital’s ability to withstand a disaster; helping authorities prioritize the interventions most urgently needed.

The HSI does not replace costly and detailed vulnerability studies. However, because it is relatively inexpensive and easy to apply, it is an important first step toward prioritizing a country’s investments in hospital safety. Since its first publication in 2008, the HSI has been translated into over 10 languages and applied in more than 90 countries globally. To this date, it is one of the most practical and cost-efficient tool to support disaster risk reduction in critical infrastructures.
Protecting Healthcare Delivery in Violence-prone Areas in Central America

The area known as the Central American Northern Triangle (TNCA) is considered one of the most violent non-conflict regions of the world due to the epidemic homicide rates, according to the levels established by the World Health Organization. The causes of violence mainly lie in factors such as conflict between maras and gangs for territorial control and recruitment of young people; social intolerance; family violence or feminicides. Honduras and El Salvador are facing phenomena of violence perpetrated by armed groups and organized gangs or drug traffickers, that result, in some areas, in humanitarian situations identical to armed conflicts.

Acts of violence and control of territories have had direct and indirect negative impacts on the health of the people (physical, mental, sexual and reproductive) and the well-being of communities, especially those with high levels of violence and limited access to medical services due to movement restrictions. This impact is compounded by structural weaknesses in national health systems. Overall, the endemic violence in those countries has exacerbated institutional vulnerabilities of national health systems, such as the limited availability of health human resources, lack of knowledge of treatment protocols of violence-related injuries (knife and gunshot wounds), absence of national protocol for assistance to victims of sexual abuse, shortages in hospital pharmacies, limited amount of beds for patients, as well as the hospital materials in deteriorating state due to excessive demand for health services as a consequence of violence.

With the financial support of the European Commission, through its Directorate for European Civil Protection and Humanitarian Aid Operations (ECHO), PAHO has been implementing a pilot initiative in Honduras and El Salvador since 2016 to assess and analyze the impact of violence on public health and healthcare delivery capacity at community and institutional levels and to strengthen the capacity of health facilities to adequately face increased demand of care as a result of violence while better protecting health workers and patients.
As a result of this pilot project, PAHO’s interventions significantly strengthened the capacities of the six hospitals faced with security and safety issues due to their location in highly violent areas and improved the care quality and capacity of these facilities. This was achieved through the training of physicians and nurses in specific physical and psychological health issues linked to violent trauma such as advanced trauma life support, management of injuries caused by firearms and sharp weapons, basic life support and the creation of a pool of 48 national instructors in advanced life support in cardiology and severe trauma. Hospital personnel from emergency services as well as surgery and directors of the hospitals valued such training, which allowed better directing the care to the urgent needs of the patients, therefore improving their chances of survival and reduce long term health impact. Similarly, surveys conducted at the end of the project revealed that safety improvement measures taken were beneficial as health personnel noticed a reduction in the number of certain violent acts such as robberies, entry with weapons, etc. following the installation of more dissuasive security and video camera systems and access control mechanisms. Particular attention was also placed on improving access to mental health services for both health personnel exposed to violent acts and victims of violence. PAHO developed psychosocial support guide, which were disseminated to the hospital personnel and which allowed to establish protocols and concrete procedures through action flows to attend the needs of patients, visitors and health personnel, in case of violent situations within the hospital. This is a positive first step towards further improving safe environment and processes for health personnel to request and receive psychosocial and mental health support.
Smart Healthcare Facilities at the Forefront of Climate-Smart Adaptation Strategies

Building on PAHO’s flagship initiative on Safe Hospitals, national stakeholders in the Caribbean have rallied around a new initiative to make hospitals ‘smart,’ shifting away from a traditional disaster response model to one that proactively incorporates climate adaptation, mitigation measures, and preparedness to reduce the impact of disasters on health. At the same time, the health sector, one of the heaviest consumers of energy, is striving to reduce its environmental footprint. Healthcare facilities are ‘smart’ when they link their structural and operational safety with green interventions.

Since 2012, under the umbrella of a DFID-funded project, PAHO has developed several instruments to guide countries as they prepare to tackle the challenge of making their hospitals environmentally friendly.

A Smart Hospitals Toolkit for hospital administrators, health disaster coordinators, health facility designers, engineers and maintenance staff was developed to help assess disaster safety levels and energy consumption and provide recommendations and action plans for the implementation of interventions aimed at improving resilience, conserving resources, cutting energy costs and dependency, increasing energy efficiency in operations, and reducing carbon emissions. This Toolkit, created by PAHO as part of a pilot project implemented in Saint Vincent and the Grenadines and Saint Kitts and Nevis, was updated in 2017 to integrate lessons learned and newly identified needs from past retrofitting. The Toolkit is comprised of:

- The Hospital Safety Index (HSI)
- A Smart Hospital Baseline Assessment Tool (BAT)
- A Green Checklist
- A methodology for a cost/benefit analysis, to help decision makers make informed decisions about whether to invest in measures to make their health facilities ‘smart’
- A model policy for the incorporation of climate smart standards into national norms and regulations. This model policy aims to guide the health sector in developing its own policy on smart health facilities, a policy that forms an integral part of the health agenda of PAHO’s Member States
- A model annex to accompany national building standards and codes that focuses on sustainable construction of new health facilities

Did You Know?

The Green Checklist is a tool for the assessment of health facilities safety and carbon footprint, and for the selection of facilities for retrofitting. The tool was adapted from existing green building rating systems to the Caribbean context, which covers both the building itself and the facility’s operations. In order to obtain the Green score, health facilities need to obtain 70% as the minimum acceptable score, which is called the “A70 standard”. By the end of 2017, 30 countries and 2 territories had established national teams to evaluate the hospital safety index and the “green” checklist.
The initiative is largely financed by UK DFID, which invested £38.3 million through PAHO to build capacity, knowledge and public awareness and implement mitigation and measures in critical health infrastructure to enhance disaster risk reduction and climate change adaptations in seven island states (Grenada, St. Lucia, St. Vincent and the Grenadines, Dominica, Belize, Guyana and Jamaica).

During the year 2017 only, PAHO trained 121 professionals (engineers, architects, health disaster officers, etc.) from 15 countries and territories in the application of the Smart Hospital Toolkit, assessed over 210 health facilities using the HSI, Green checklist and BAT, and initiated retrofitting works in four demonstration facilities.

As explained by the DFID Climate and Environmental Advisor, Simone Banister: “[through this action], it is expected that by 2020, a total of 50 health facilities in these countries will be safer and greener, and more than 600 will be assessed, with the findings documented for future improvements in an online database. The bulk of the UK funds will be used for refurbishment work to ensure that health facilities across the seven Caribbean countries are better able to withstand multiple natural disasters and climate variability.”

Boosted by the innovation and positive results of the health sector, many stakeholders have recognized the value of this ground-breaking initiative. The Government of Canada provided additional support to PAHO to scale-up climate-smart adaptations in the health sector in five additional Caribbean countries, through the implementation of Smart standards and measures, while PAHO’s Member States for other subregions have also expressed interest in boarding the train of climate-smart adaptations for critical infrastructures such as hospitals. Under the leadership of PAHO, and with the commitment of the countries, this initiative has definitely gained momentum during the year 2017 and is already being replicated in the education and tourism sectors.

“Health is being impacted by climate change in many ways, and although SIDS have made a small contribution to global emissions of Greenhouse Gases, [Caribbean] islands are at the forefront of climate change impact.”

Carissa Etienne, Director of PAHO, at the Third Global Conference on Health and Climate Change
Measuring the health sector’s preparedness and response capacity

The 2016 Regional Health Disaster Coordinators held in Bogota, Colombia on 16-18 November of the same year convened thirty-two national experts in disaster risk management (DRM) of Ministries of Health (MoH) to discuss and define the priority of the Region with regards to health emergency management. At this occasion, a survey on disaster risk management capacity in the health sector was rolled out to assess the progress made by the countries of the Americas to strengthen core capacities for all-hazards disaster and emergency risk reduction for health.

The results of this survey, published by PAHO in early 2017, provide an overview of the state of emergency and disaster risk management in the health sector in LAC. It presented the findings, conclusions, and recommendations of the survey, as well as the key issues identified, and recommendation made at the meeting.

Results of the survey revealed the following picture of disaster risk management in the LAC Region, by the end of 2017:

- In terms of institutionalization of DRM, in 2017, 15 countries (47%) had an officially established coordination office or unit with a budget and full-time staff, while 6 countries (19%) had officially established offices or units, but without full-time staff or the necessary resources for operation. 3 countries (9%) had an office or unit responsible for other matters that was also assigned responsibilities in this area; and 6 countries (19%) had a designated person, ad hoc committee, or coordinator.

- Multi-hazard response plans that are updated, approved, and tested are necessary for effective and efficient response and recovery from emergencies and disasters. In 2017, 15 countries (47%) had a finalized National Response Plan, while 8 (25%) reported that their plan was in preparation, and seven (22%) did not have a finalized national plan.

- Emergency Operations Centers are key establishments to coordinate the implementation of response activities and support decision making within the health sector in times of emergencies and disasters in order to save lives and reduce the risk to the population. In 2017, an EOC for health emergencies was present within the MoH of 22 countries (69%), within another health agency in one country (3%) and in another ministry in four countries (13%).
Multidisciplinary emergency response teams are the frontline, first responders when an emergency or disaster occurs. In 2017, 8 Member States (25%) had established EMTs, 13 countries (41%) were creating their national EMTs, while 10 countries (31%) had none.

These results highlight the important variation of capacities and level of integration of emergency risk management within the health sector across the countries of the region. This is likely due to differing contextual factors as well as availability of resources between countries. Context drives needs for how health emergency risk management is governed in the health sector. For instance, the number of human resources for health emergency risk management that is sufficient for one country may be insufficient for another. Risk, vulnerabilities and response capacities differ greatly from one country to the next. Yet, strengthening Member States capacity to effectively and efficiently manage health emergency risks, taking into consideration the varying context and needs of each country, is key to build a safer and more resilient health sector in the Americas.

**DID YOU KNOW?**

PAHO, in partnership with the Global Facility for Disaster Reduction and Recovery (GFDRR) and International Recovery Platform (IRP), developed a Guidance Note for Post-Disaster Health Sector Recovery to provide action-oriented guidance to local and central government health sector officials who face post-disaster challenges related to health sector recovery. This Note, published in June 2017, was developed by an inter-institutional working group of experts in disaster recovery, with a specific focus on health. It lays out the policy, planning, financial, and implementation decisions and activities that go into developing and putting into effect a Health Sector Recovery Plan.

Following its publication, the Guidance Note was disseminated to Member States and key stakeholders through PAHO Country Offices and other partner agencies. The Note is currently available in English and will be soon translated into Spanish and French for wider dissemination and use within the Region.
Strengthening response capacity of pre-hospital emergency management networks in transborder areas in Haiti and Dominican Republic

Haiti and Dominican Republic are disaster-prone countries with similar exposure to natural disaster risks, as they share a common geographical space - the Hispaniola Island – and similar health issues. Yet, they have different coping capacity and limited bilateral initiatives to jointly address those challenges. Over the last 15 years, several bilateral cooperation agreements on public health issues were established between the two governments, including topics such as malaria, TB, immunization, HIV/AIDS and cholera elimination. The area of disaster response and health emergency management, however, has never been integrated in a bilateral initiative. In an effort to remedy to this gap, PAHO supported the decentralized health authorities of the north-eastern department of Haiti and north-western provinces of the Dominican Republic to better integrate emergency care delivery and health emergencies management within border health service networks of both country.

Evidence show that health facilities are a critical link in the chain of disaster response and are assuming increased importance as advanced pre-hospital care capabilities lead to improved survival rate. Hospitals and health workers are often among the first responders to a disaster, along with community survivors and other local civil protection actors. With the financial support of the European Commission, PAHO implemented interventions to strengthen the pre-hospital medical chain and guarantee timely and quality care delivery to the victims of an emergency at pre-hospital and hospital level. Five pre-hospital emergency response and medical regulation teams were created - two in Haiti, based of the two hospitals of Fort Liberte and Ouanaminthe, and three in the Dominican republic, physically operating from the medical regulation centers established in each of the provincial hospital.

The teams, comprised of health staff and ambulance crews, were trained in common emergency care protocols on both side of the border to facilitate trans-border management of future health and medical emergencies; and integrated with the local Civil Protection Directorate to improve response activities. Trained personnel were equipped with essential emergency health response supplies, focusing on stabilization equipment such as stretchers, splints, braces, and now operate under a similar model of medical regulation integrating the community, pre-hospital and hospital levels.

A total of 476 procedures and protocols for health emergency management were elaborated and/or updated. These protocols establish a common conceptual model of extra-hospital medical and health emergencies care for both countries, targeting specific topics such as trauma management, cardiovascular events, mass casualty management, triage, among others. They were developed for both countries and
adapted according to the local/national normative scheme. In Dominican Republic, these protocols have now become mandatory and have been integrated in the national emergency management system as well as the curriculum of the Public University. In Haiti, this model of medical regulation is in the process of being replicated at national scale to be applied in all 10 departments.

Complementary to the strengthening of pre-hospital medical chain, PAHO supported the development and update of hospital emergency response plans and the establishment of hospital emergency committees. Hospital staff were trained in the application of the plans and simulation exercises were carried out to evaluate the proper application of the plans.

Through these efforts, PAHO contributed to strengthening the continuum of care for Haitian and Dominican patients faced with a medical emergency by improving the medical emergency management, coordination and response capacities of key actors at community, pre-hospital and hospital levels on both side of the border. While capacities and context are specific to each country, PAHO supported the establishment of a common model of medical regulation and health emergency response on both sides of the border, creating similar systems and capacities for medical emergency management. This cross-border initiative also helped further strengthen the standardization of the organization of emergency care in a third department in Haiti, after Grand'Anse and the North, leading the way towards an expansion of the strategy at national level. In the Dominican Republic, the training materials developed and processes established were integrated into large-scale initiatives of the National Government and the Ministry of Health such as the Emergency and Safety System 9.1.1, as well as within the National Plan for the strengthening and expansion of the Emergency Regulation Centers (CRUED in Spanish Acronym). Similarly, the provincial regulation centers created, and their trained personnel, were integrated into the operational plans of the National Health Service, ensuring sustainability of the capacity developed.
Caribbean nations are particularly vulnerable to natural hazards. Their vulnerability to disasters is heightened by their geography, small size, limited resources, dense populations, and exposure to weather-related and seismic events. The region is at risk for hurricanes, floods, and tsunamis, and faces constant seismic and volcanic activity. While hurricanes represent the single most recurrent hazard in the region, and despite the relatively stable situation of the Caribbean, internal conflicts, riots and violence are not uncommon. Over the years, the countries have developed significant readiness and response experience in small scale emergencies, particularly related to natural hazards. However, it is recognized that some countries still lack the capacity to respond to moderate events without international support, as in the case of Hurricane Irene in the Bahamas (2011) and the 2013 Christmas trough in Saint Lucia and St Vincent.

With the financial support of the Government of Canada, PAHO is implementing a four-year initiative which seeks to improve disaster risk management within the Caribbean health sector and to increase the capacity of regional organizations, national governments and local communities in the Caribbean to respond to and better manage all-hazards, including hurricanes and floods and to reduce their impact on the people of the region. In 2017, a total of 764 new professionals from twelve Caribbean countries and territories benefitted from training of their senior health staff in various courses for health disaster risk management such as the establishment and operations of Health Emergency Operations Center (EOC), as well as Mass Casualty Management, Emergency Care and Treatment in Disasters, and Incident Command System. Since the beginning of the project in 2016, a cumulative total of 1,165 professionals (M=609 (52%)/ F=556(48%)) have increased knowledge and skills in disaster risk management and reduction. National capacities for the management of health emergencies and disaster risks were further enhanced through the introduction of senior health team members, including the Health Disaster Coordinators, to the coordination of Emergency Medical Teams (EMT) and the use of the Medical Information and Coordination Cell (CICOM in Spanish).

With the aim of operationalizing mechanisms and capacities to effectively manage emergencies and coordinate response operations and actors in case of a disaster, PAHO provided technical assistance to the Ministries of Health of Anguilla, Antigua and Barbuda, Barbados, British Virgin Islands, Grenada, Jamaica, Montserrat, Sint Maarten, St. Kitts and Nevis, St. Vincent and the Grenadines and Trinidad and Tobago to strengthen their Health Disaster Management Program, support the development of national all-hazard health disaster management plans, establish and manage Health EOCs, and develop health facility contingency plans. Nine (9) countries and territories - Anguilla, Antigua and Barbuda, Barbados, Belize, Grenada, Guyana, Montserrat St. Kitts and Nevis and Sint Maarten – have now developed their national All-Hazard Health Disaster Management plan. These plans will guide readiness and response operations in case of emergencies, identify the key stakeholders and their respective roles and responsibilities according to established procedures for emergency response and coordination.

Historically, the Government of Canada has supported Disaster Risk Management (DRM) in the Caribbean by responding to natural disasters and by contributing to the building of disaster risk reduction capacity. PAHO and Canada have worked closely over the last three decades to support the national and regional efforts towards strengthening disaster preparedness and mitigation. The work carried out under this project is critical to preserve and enhance the Caribbean’s achievements in disaster preparedness and mitigation; address continuing gaps, challenges and new emerging priorities and build long-term risk reduction processed throughout the health sector.
Advancing in the strengthening of national core capacities of the International Health Regulation (IHR)

The International Health Regulations 2005 (IHR) constitute the legal framework that guides countries to define national core capacities, including points of entry, for the management of public health events of potential or actual national and international concern. States Parties submit Annual Reports to the World Health Assembly every year on their progresses to fully achieve IHR Core Capacities. In 2017, 32 States Parties submitted their Annual reports to the Seventieth World Health Assembly representing a response rate of 91%; a 40 percentage points increase from the 51% reported in the World Health Assembly in 2011. This report revealed the continuous trend of an overall improvement in all core capacities detailed in Annex 1 of the IHR observed since 2011. However, the status of core capacities differs among the subregions, with the lowest scores reported in the Caribbean, particularly in relation to the capacities to respond to chemical and radiation-related hazards.

In 2017, PAHO continued working with States Parties to guarantee national, regional, and global health security, fulfilling the 24/7 functions of WHO IHR Contact Point in the Americas for the management of public health events of potential international concern. This area of work aims to ensure that all States Parties in the Region have the national core capacities in place as specified in Annex 1 of the Regulations. These national core capacities, which are further detailed in the WHO document IHR Core Capacity Monitoring Framework: Checklist and Indicators for Monitoring Progress in the Development of IHR Core Capacities in States Parties, include legislation, policy, financing, coordination and communication with national focal points (NFPs), surveillance, response, preparedness, risk communication, human resources, laboratory, points of entry, zoonotic events, food safety events, chemical events, and radiation emergencies. Furthermore, according to Conclusion 1 of the IHR Review Committee on Second Extensions for Establishing National Public Health Capacities and on IHR Implementation, all countries are expected to keep in mind that “the work to develop, strengthen, and maintain the core capacities under the IHR should be viewed as a continuing process.”

PAHO’s 55th Directing Council adopted the decision CD55(D5) “Implementation of the International Health Regulations (IHR)” supporting the recommendations and conclusions formulated by States Parties during the Formal Regional Consultation on the “Draft WHO Global Implementation Plan for the Recommendations of the Review Committee on the Role of the International Health Regulations (2005) in the Ebola Outbreak and Response”, held in Miami FL, United States, from 1 to 3 August 2016, demonstrating an increased ownership of the IHR and willingness to be mutually accountable. Three messages emerged from the Formal Regional Con-
While the State Party Annual Reports of the 14 States Parties in the Caribbean sub-Region submitted to the World Health Assembly over the seven-year period 2011-2017 – corresponding to the 64th to 70th World Health Assemblies – have demonstrated steady improvement or plateauing in all core IHR capacities, radiation-related emergencies (40%) and chemical emergencies (59%) remain the most challenging areas to be addressed by national authorities.

To address these gaps, PAHO joined forces with the IAEA and the WHO Collaborating Center for the Public Health Management of Chemical Exposures (which is hosted by Public Health England) to support two of its main initiatives: “Establishing and Strengthening Sustainable National Regulatory Infrastructure” and “Strengthening Cradle-to-Grave Control of Radioactive Sources.” On 1 June 2017, a second practical Arrangement was signed between PAHO and the IAEA, proof of the strong relationship between the two organizations. Shortly after, on 6-7 June 2017, a workshop on radiation emergency preparedness and response was jointly organized with the participation of 34 national decision makers managing radiation-related emergencies, national coordinators for preparedness and emergency response, and a representative from the Caribbean Disaster Emergency Agency (CDEMA). The workshop help identify and guide concrete actions for implementation by the countries to improve their capacity to manage radiation and chemical emergencies. As a result of those joint efforts, of the 14 States Parties in the Caribbean, 12 of them now have IAEA membership (Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago). The IAEA-PAHO collaboration is recognized as a model worldwide.

The regional consultations have demonstrated that there is a strong commitment of States Parties in the Region in implementing IHR provisions at Points of Entry. To further foster countries’ sense of ownership of the IHR, PAHO actively promoted the engagement and participation of States Parties in PAHO and WHO Governing Bodies’ processes related to the IHR Monitoring and Evaluation framework and the development of a draft five-year global strategic plan to improve public health preparedness and response. States Parties from the Americas provided significant contributions during face-to-face and virtual consultations, including a regional consultation held in Brazil in July 2017. Throughout the formal consultative processes from 2015 to 2018, PAHO’s Member States have increasingly highlighted the need to frame the application and implementation of the IHR within the context of health system strengthening.

Bridging radiation emergency preparedness and response in CARICOM Member States

While the State Party Annual Reports of the 14 States Parties in the Caribbean sub-Region submitted to the World Health Assembly over the seven-year period 2011-2017 – corresponding to the 64th to 70th World Health Assemblies – have demonstrated steady improvement or plateauing in all core IHR capacities, radiation-related emergencies (40%) and chemical emergencies (59%) remain the most challenging areas to be addressed by national authorities.

To address these gaps, PAHO joined forces with the IAEA and the WHO Collaborating Center for the Public Health Management of Chemical Exposures (which is hosted by Public Health England) to support two of its main initiatives: “Establishing and Strengthening Sustainable National Regulatory Infrastructure” and “Strengthening Cradle-to-Grave Control of Radioactive Sources.” On 1 June 2017, a second practical Arrangement was signed between PAHO and the IAEA, proof of the strong relationship between the two organizations. Shortly after, on 6-7 June 2017, a workshop on radiation emergency preparedness and response was jointly organized with the participation of 34 national decision makers managing radiation-related emergencies, national coordinators for preparedness and emergency response, and a representative from the Caribbean Disaster Emergency Agency (CDEMA). The workshop help identify and guide concrete actions for implementation by the countries to improve their capacity to manage radiation and chemical emergencies. As a result of those joint efforts, of the 14 States Parties in the Caribbean, 12 of them now have IAEA membership (Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago). The IAEA-PAHO collaboration is recognized as a model worldwide.
PAHO supports the detection, prevention and control of pandemic and epidemic threats

Emerging health emergencies, such as the Zika virus epidemic which exposed more than 500 million people in the LAC region, represent new threats to public health and demand a broader scope for preparedness and response. To meet the needs and demands of countries in the Region, PAHO ensures the continued surveillance, prevention, and control of high-risk diseases of pandemic and epidemic potential (e.g., viral Hemorrhagic fevers, influenza and coronaviruses, etc), with the responsibility to forecast, characterize diseases and infectious risks, and develop evidence-based strategies to predict, prevent, detect, and respond to infectious hazards. PAHO also assist in the development and support of prevention and control strategies for high-threat infectious hazards through the establishment and maintenance of expert networks and provide technical support under the Pandemic Influenza Preparedness (PIP) Framework.

In 2017, preparedness interventions were mainly oriented towards yellow fever and zika, as many countries in the region have been implementing efforts towards achieving minimum capacity to effectively manage public health risks associated with emergencies; PAHO’s interventions to develop national and subnational capacities in 2017 included the establishment and training of health response teams on emerging risks and diseases, the integration of emergency and disaster risk management with the health sector’s programming and planning, the development of local capacity of health networks in the coordination and management of health emergencies, among others.

A major effort for the Organization during 2017 was to maintain the support to member states after the Zika virus (ZIKV) outbreak and associated complications and providing technical cooperation to enhance their readiness for ZIKV as part of a larger preparedness strategy for outbreaks and other crises. While this emergency brought many challenges, it also provided an opportunity to advance on many aspects of the program of work related to preparedness, surveillance, and response. Among the preparedness activities were the organization of 20 regional and subregional workshops on various technical topics; and the publication of 15 new or revised WHO/PAHO technical guidelines to orientate health services in Member States on ZIKV and its complications.

PAHO also continued to support the strengthening of laboratory diagnosis and detection capacities to respond to emerging and re-emerging viral pathogens throughout the Region. All LAC countries are part of at least one formally established regional laboratory network: RINS UNASUR-SALUD, REDLAB, Cari-PHLN, RELDA (Arbovirus) and SARINET (as part of the Global Influenza Surveillance and Response System, GISRS). Thirty-five National Laboratories in 27 Member Countries
In May 2016, PAHO, Cartoon Network Latin America and (UNICEF) launched a joint campaign to educate children in the region about how to prevent the propagation of Zika virus. After completing a successful first phase of the campaign “Mission Zika”, phase two was aired in 2017. It teaches kids how to eliminate the sites where mosquitoes reproduce by motivating them to change their habits at home and at school.

PAHO’s efforts to support its Member States in strengthening their capacities to prevent, detect and control high-threat pathogens, enhancing surveillance and response to epidemic diseases and working through networks to contribute to global mechanisms and processes, in accordance with IHR provisions, are key to ensure the adequate management of highly infectious hazards and to maintain global health security.

**in FOCUS**

Cartoon Network, PAHO and UNICEF launch second phase of the campaign to educate children about Zika prevention

In May 2016, PAHO, Cartoon Network Latin America and (UNICEF) launched a joint campaign to educate children in the region about how to prevent the propagation of Zika virus. After completing a successful first phase of the campaign “Mission Zika”, phase two was aired in 2017. It teaches kids how to eliminate the sites where mosquitoes reproduce by motivating them to change their habits at home and at school.

The advertisements were broadcasted by Cartoon Network Latin America in Spanish, Portuguese and English.

Dr. Carissa Etienne shed light upon the importance of this joint campaign by pointing out that our “main tool to combat Zika – as well as dengue and chikungunya - is the control of Aedes mosquitoes that live around houses and sting people. As children become informed thanks to the Cartoon Network campaign, they can contribute to the efforts of reducing the mosquito population and thus, prevent diseases and save lives.”
It is necessary to continue strengthening sectoral capacities for timely and adequate response to the population in emergencies.

Carlos Soto Menegazzo, Minister of Health of Guatemala
Chapter 2

Readiness and Response

The LAC Region is exposed annually to a wide and diverse range of hazards and disasters of increasing severity and frequency. These phenomena have a negative impact on the health of populations and therefore constitute a challenge to countries’ goal of achieving the highest attainable standards of health for their citizens. For this reason, it is necessary for countries in the Region to develop an all-hazards model, to efficiently and effectively prioritize health emergency readiness and response and be able to protect the most lives.

Over the past few years, there has been a substantial increase in knowledge about disaster situations and faster access to information through a wide variety of communication technologies and social media. The availability of resources and knowledge reinforced the expectations of a rapid and life-saving response to disasters. At the same time, this progress was instrumental in ensuring that PAHO Member States’ health sectors are resilient enough to protect the physical, mental, and social well-being of its population, while allowing a rapid disaster recovery.

The recent years brought intensified outbreaks and health emergencies caused by natural disasters and vector proliferation which have tested and challenged the national response capacities established and highlighted some of their limitations. The zika and microcephaly outbreaks, yellow fever epidemic in Brazil, and health emergencies related to natural events like Hurricanes Maria and Irma in Central America and Caribbean; and flooding in South America are only a few examples of the disasters that exceeded the capacity of the countries affected, requiring a direct support of PAHO and the international community.

The past year also evidenced the value of the methodologies, tools, and mechanisms developed by PAHO in consultation with Member States, Ministries of Health, which are currently under implementation at the country level. PAHO’s continuous support to Member States for the development of national teams’ capacity in the event of a disaster was pivotal for the rapid response and recovery of affected communities during emergency events.
In addition to providing a progress report on the efforts made towards enhancing readiness among PAHO Member States, this chapter also looks at the major events in which PAHO supported response operations, including:

- **Natural disasters** such as the low-level trough system that brought severe rains (hurricanes: Irma, and Maria) and high winds to three Eastern Caribbean islands: El Nino phenomenon and its impact in South America.

- **Public health** crises such as to epidemics caused by the Zika virus, Yellow Fever, and cholera which required a strengthened surveillance system, vector control interventions and capacity building efforts for national health staff.
Readiness

The year 2017 marked the mid-point of the implementation of the 2014-2019 Plan of Action for the Coordination of Humanitarian Assistance, approved by PAHO’s Member States during the 53rd Directing Council in October 2014. This Plan of Action has been one of the pillars of PAHO’s work towards strengthening its Member States in their ability to effectively and efficiently improve coordination of health-related humanitarian assistance in emergencies and disasters.

Within this framework, PAHO has worked towards building up readiness among its Member States, with the ultimate purpose of saving the greatest possible number of lives and protecting the health of the affected population. PAHO’s activities from January to December 2017 have been articulated around three strategic lines of the Plan of Action:

1) strengthening strategic alliances among countries and current international agreements;

2) strengthening the Emergency Medical Teams (EMT) strategy;

3) emphasize leadership, coordination and accountability.

The Americas, pioneering the implementation of the EMT initiative

PAHO operates in a region made up of 49 Member States, which are exposed to a wide variety of emergencies and disasters of increasing scale and frequency. In 2017, 335 natural disasters affected over 95.6 million people worldwide, out of which 93 took place in the Americas region. Specifically, for the African and American continents, the 2017 mortality was higher than the 10 years average due to the occurrence of landslides, earthquakes, and hurricanes. The Americas had a greater proportion of people affected in 2017 than the yearly average.

In terms of disaster events reported, 2017 was characterized by a record hurricane season with heavy losses, both economic and human, with at least 340 dead or missing for the 3 main hurricanes: Irma, Maria, and Harvey. In addition to hurricanes, losses of lives were also seen as a result of a major earthquake in September in Mexico with 369 fatalities.

---

[Available at: https://cred.be/sites/default/files/adar_2017.pdf]
During natural disasters, local populations are directly affected, with reduced access to essential health care with higher vulnerability in chronic patients, patients with disabilities, pregnant and lactating women, elderly, and children.

In response to these challenges, the Region of the Americas has played a pioneering role in the introduction of the EMT initiative within the coordination mechanisms of humanitarian assistance in health, both nationally and internationally. The Initiative assists organizations and Member States to build capacity and strengthen health systems by coordinating the deployment of quality assured medical teams in emergencies who ensure surge capacity of health services when the local systems are overwhelmed. In 2014, the newly approved Plan of Action for the Coordination of Humanitarian Assistance in the Americas set out the regional framework for the implementation of response procedures and flexible national registration mechanisms for EMT. The Plan of Action for Disaster Risk Reduction 2016-2021, which was subsequently approved, urged the Member States to strengthen national-level efforts to develop and update the knowledge and procedures of emergency and disaster response teams. Both resolutions constitute the context within which the EMT initiative is being implemented in the Americas.

Since its inception in 2012, the EMT initiative has rapidly gained adherence within the LAC Region, under the leadership and guidance of PAHO, and is increasingly adopted by Governments and national authorities (civil and military), regional organizations and teams themselves. The EMT Initiative places the focus of the capacity strengthening and response at the local and national levels, supporting national health authorities in their leadership role, and leverages countries’ national capacities to support each other. The majority of PAHO’s work thus far has been focused on the introduction of the initiative within the Region, the development of operational tools and mechanisms for the coordination of medical assistance, and the strengthening of the logistics and operational capacities of EMTs. By the end of 2017, 20 countries of the LAC region had officially introduced the EMT Initiative at national level and were actively being supported by PAHO to building national and local capacity in the area of health emergency management and create their own national EMTs. Overall, more than 500 health emergency management personnel from 39 countries of the LAC Region had been sensitized and trained in EMT coordination mechanisms to support the implementation of the initiative in their own countries. Additionally, three editions of the Regional Course for EMT Coordinators held in Panama (2015), Costa Rica (2016) Chile (2017), contributed to the establishment of a regional roster of 78 trained EMT coordinators from 19 countries, including NGOs from USA and Canada, ready for deployment regionally and globally to support the coordination of emergency medical assistance. Two EMTs of the region received the WHO global classifica-

"The probability of being harmed during medical care is 1 in 300 patients. During emergencies and disasters, complying with EMT standards matters."

Luis de la Fuente, PAHO Regional EMT Advisor
tion in 2017 and an additional 22 teams were enrolled in a mentoring process to achieve the WHO global classification. Finally, five countries were actively implementing policies and procedures for the request and deployment of EMTs during sudden onset disasters, as well as working on the implementation of Medical Coordination and Information Cell (CICOM) with the support of PAHO: Chile, Costa Rica, Colombia, Ecuador, and Peru.

Strong of those achievements, in 2017, the Regional Framework for the implementation of the EMT Initiative in the Americas, developed by the Regional EMT Secretariat, was shared with the Regional EMT Advisory Group, comprised of national EMT focal points designated by each of PAHO’s Member States. The framework was reviewed by the Advisory Group, which made recommendations and contributions that were included in the final document. In 2017, the Ministry of Health of Ecuador was elected as chair of the Regional Group, and 23 countries of the Americas had designated focal points.

For the upcoming years, the Region will continue its progress toward full implementation of the EMT Initiative, consolidating itself as the world’s leading region in implementation. The work plan approved for the Region of the Americas consists of the following key points:

1. Establish a regional mechanism for registration of EMTs
2. Establish a Regional Advisory Group for EMTs in the Americas
3. Boost and strengthen implementation of the EMT Initiative in the Americas
4. Strengthen the integration of CICOM with national mechanisms for coordination and management of Health EOCs

---

**DID YOU KNOW?**

Emergency Medical Teams are teams of health professionals that provide direct clinical care to people affected by emergencies and disasters, and support local health systems. EMT can be from both governmental (civil and military teams) and non-governmental organizations and their response can be national or international.
PAHO hosts the Secretariat of the EMT Initiative for the region of the Americas, while WHO assumes the Secretariat functions for the other regions as well as the global level. The work of the regional secretariat entails the development of tools and coordination frameworks for the identification, registry, mentoring, strengthening and classification of local and national EMTs and the adoption of the initiative’s global standards. The Regional EMT Secretariat of the Americas is supported by two structures:

1. A EMT Regional Group, which is comprised of a) the regional presidency – assumed by Ecuador in 2017, with Costa Rica and Panama as First and Second Vice-presidents respectively; b) a regional advisory committee; c) ad hoc working groups and d) a NGO Advisory Group (NAG). The NAG, chaired by Massachusetts General Hospital and co-chaired by Americares and Direct Relief, include over 30 NGOs from the LAC Region involved in humanitarian health assistance. The goal of this advisory group is to share and examine good practices, technical concepts, and operational issues in EMT development and response to improve the initiative at the regional level, maintain the map of leaders and NGO EMT capabilities up to date and collaborate in the regional events and activities of the EMT initiative.

2. A focal points network of the Member States, with focal and operational points who serve as references for implementation within the country.

The Figure below illustrate the structure of the implementation of the EMT initiative in the Americas:
“No less than the best”: Ensuring standards and quality assurance through the WHO Global classification

Analysis of the health response to the 2010 earthquake in Haiti, where 30 of 49 hospitals were damaged or destroyed, and health workers were insufficient, demonstrated the need to develop principles, criteria, and standards for medical team response in emergencies and disasters. Based on this analysis, PAHO brought together a group of experts, in December 2010 in Cuba, to lay the groundwork of the WHO’s global initiative on Emergency Medical Teams.

In clinical care, “good intentions” are not enough to provide quality and life-saving interventions to people affected by a humanitarian crisis. In every country, healthcare workers particularly those providing clinical care, must be licensed, trained and use appropriate medications and equipment.

Building on that premise, the mission of the EMT initiative aims at enhancing emergency preparedness and promoting the rapid and efficient deployment of national and international teams that will provide clinical care that meets a set of minimum standards. One key component of the initiative to ensure such standards and quality assurance is the global classification and verification process. WHO coordinates a mentorship and classification process for EMTs that involves a mentorship and peer review system using experts from other EMTs. The purpose of classification is to have a global roster of medical teams that meet WHO’s minimum standards for EMTs and that can be deployed to emergencies in the shortest possible time. National accreditation of EMTs is also supported by the same mechanisms, providing tools and support to member states seeking to develop their own accreditation system for their national teams.

In the region of the Americas, thanks to the mentorship of PAHO, two EMT achieved the WHO classification in 2017: the Costa Rican Social Security Fund (CCSS) EMT Type 1 and the Ecuadorian Ministry of Health EMT Type 2. Costa Rica became the first LAC country to develop national medical teams in line with EMT standards. In February 2017, after a rigorous verification process, an international expert mission confirmed that the EMT of the CCSS met the standards and principles established by WHO and was ready for international deployment to emergencies and disasters. On 26 May 2017, the CCSS was officially granted the global EMT classification. Costa Rica was the seventh country in the world to be added to the global roster, and the first in the Region of the Americas. It was joined shortly after by Ecuador, whose EMT Type 2 received the WHO global classification in September 2017. Globally, over 80 EMT were undergoing the mentorship and classification process at the end of 2017, out of which about one-third were in the Americas.
Over fifteen countries in the LAC region have already benefitted or indicated their interest in organizing national workshop to update their national procedures for the receipt, acceptance and coordination of EMTs. PAHO also mentored EMTs from Barbados, Canada, Colombia, Costa Rica, Ecuador, and the United States of America to prepare for WHO International EMT classification. In 2017, 29% (22) of all EMT that had applied for the WHO Global Certification were from the Americas. PAHO has been mentoring the following EMT to support their application to the Global Certification:

- Ecuador: 2 EMT level 2, and 2 surgical teams from the Ministry of Health.
- Costa Rica: 1 EMT level 1 from the Costa Rican Department of Social Security.
- Barbados: 1 surgical team.
- United States: 1 EMT level 1 from NYC Medics, and 1 EMT level 1 from Medical Team International.

Costa Rica & Ecuador: First countries in the Americas to receive Global EMT classification

On 26 May 2017, the Costa Rican Social Security Fund (CCSS) was granted the global EMT classification within the framework of an initiative to compile a global roster of medical teams that comply with a set of minimum standards and that can be deployed to emergencies affecting any part of the Region in the shortest possible time.

The CCSS's type 1 EMT can serve at least 100 people per day on an outpatient basis, in addition to stabilizing patients who need to be transferred to higher-level services. This EMT is self-sufficient for at least two weeks, the minimum expected mobilization period.

Costa Rica was the seventh country in the world to be added to the WHO global roster, and the first in the Region of the Americas.

Following a similar process, in September 2017, the emergency medical team of the Ministry of Public Health of Ecuador was the second in the Americas region to receive verification from the World Health Organization (WHO), as part of its Emergency Medical Team (EMT) initiative.

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.

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.

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.
EMT initiative implemented within preparedness in Colombia

In Colombia, the EMT Initiative is being implemented within preparedness and integrated response program that includes emergency preparedness and strengthening of response capacity. Colombia has four technical documents to support emergency preparedness on the subjects of: health standards for Colombia’s humanitarian assistance; technical guidelines for health management and preparedness for events involving mass movement of people; hospital guidelines for disaster risk prevention (Ministry of Health and Social Protection); and proposed guidelines for the creation and operation of health teams for disaster response. Regarding response capacity, implementation of the Safe Hospitals program is a noteworthy achievement.

In June 2017, the municipality of Mocoa, department of Putumayo, suffered severe landslides and floods which left 398 injured and 332 dead, with significant economic losses and infrastructure damage. As part of the response, resources, transportation, and supplies were mobilized, with permanent coordination at the national and local levels through the Health EOC and CICOM. To support the growing demand for health services in the affected communities, the national EMTs of the Armed Forces, National Police, Colombian Red Cross, Colombian Civil Air Patrol, María Luisa de Moreno Foundation, and EPS, among others, were deployed. The national EMTs played an important role in providing comprehensive care in shelters and responding to outbreaks and epidemics.

One lesson learned by the Colombian government within the framework of implementing this initiative is the value of national EMTs not only during emergencies, but also as a preventive measure during major events. One example of the use of EMTs outside of emergency situations was the visit of Pope Francis to Colombia. This event was attended by approximately 4 million people, during which 5,000 support staff and 247 ambulances were deployed at 200 stations. In total, 1,964 patient encounters and 96 transfers were recorded.

Colombia is now working on addressing the main challenges of the EMT program implementation. These challenges include: harmonizing the EMT program with the Safe Hospitals program, strengthening Medical Teams to respond local contingencies as well as emergencies and disasters, developing national mechanism for EMT’s registration and authorization and securing funding to ensure the EMT initiative implementation sustainability.
Developing Health EOCs and Emergency coordination mechanisms

In preparing the health sector of LAC countries for the next public health emergency, PAHO supported the strengthening of health emergency response and coordination mechanisms at local, national and regional level through training of national response teams and the provision of technical guidance towards the establishment and/or the reinforcement of health emergency coordination centers better articulated with regional, subregional and international humanitarian assistance frameworks.

As such, in 2017, PAHO worked on the development of a model guide for the establishment and operations of health Emergency Operations Centers directly within the Ministries of Health of Member States to ensure more effective coordination and management of health emergencies operations. The guide aims to define the physical structure of national health EOCs, as well as operating procedures and decision-making processes to ensure good governance in emergency situation. It also will integrate materials from the Health EOC network initiative implemented at global level to ensure alignment and harmonization of tools and standards with the WHO initiative. This guide was developed through a consultation process with experts in emergency operations and based on pilot experiences at country level in Jamaica. It is currently available in draft in Spanish. A regional validation workshop was conducted in December of 2017 in PAHO Headquarters in Washington, D.C. The workshop convened a dozen of health emergency experts from the Region to review and validate the guide. Once finalized, the guide will be published in English and Spanish and disseminated to PAHO’s Member States for application.
To further improve the operational capabilities of national health systems, PAHO developed a standardized kit for the rapid establishment and operations of situation rooms to be deployed to disaster-affected areas to support the management and coordination of emergency operations. The kit focuses primarily on improving information management capacity for timely and effective decision-making in the field. The toolkit consists of a series of wall panels that aid 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. It is expected to help operational data collection and analysis systems withstand the technological challenges that arise during emergencies, to provide better support for responses designed to meet the needs of affected populations.

At national level, PAHO provided technical assistance to several countries of the Region for the creation of decentralized emergency coordination cells/EOCs. In Haiti for instance, PAHO worked closely with the departments of Grande Anse and North East to establish departmental EOCs capable of responding quickly and efficiently to medical and public health emergencies. The role of the EOCs includes: the analysis of an emergency situation or incident, the activation of appropriate response plans; the mobilization of staff and means to respond, the coordination of responders and information management to inform authorities and the population of the evolution of the situation. The scope of intervention of the EOCs includes trauma-medical emergencies, epidemics with a high attack rate, as well as natural disasters. Emergency management kits comprised of copies of the response plans; a telephone directory of key actors in the area; information monitoring and administrative management tools, as well as coupons to cover fuel expenses, cash and telephone cards were procured to the EOCs to support swift operations.
Throughout 2017, PAHO provided technical cooperation and expertise to national authorities in the implementation and use of the Medical Information and Coordination Cell (CICOM) and the coordination of health humanitarian actors involved in health response and recovery operations following a disaster and the onset of an outbreak.

The CICOM supports and advises the EOC on decision-making regarding EMTs, facilitates management of information on EMTs, simplifies case management and patient transfers, and monitors compliance with EMT principles and standards. It is an adaptable structure that is established at the national level as a flexible mechanism, affiliated with the Health EOC, for registration and accreditation of EMTs.

The CICOM’s roles and functions are organized around the phases of health sector preparedness and response to emergencies and disasters. During the preparedness phase, the CICOM registers, verifies, and carries out a nationwide mapping of EMTs. When responding to emergencies and disasters, the CICOM takes on the role of a contact center, which facilitates coordination through technical support, operations support, and information management.

The value added by the CICOM to the EMT Initiative lies in the fact that, while accreditation follows a process that results in confirmation that minimum standards have been met, the registration process allows the identification of specific capabilities in each EMT. This translates into a more timely and efficient response while improving coordination mechanisms, strengthening information management for decision-making, and facilitating support of international EMTs.

**Strengthening timely referral of patients in Haiti**

In Haiti, PAHO helped develop a model of medical regulation using simple tools such as a double-entry booklet listing health emergency services capacities for the Grand Nord according to main trauma and health emergency procedures to support coordinated medical regulation by the National Ambulance Center (CAN).

To facilitate quick referral of patients between health facilities, PAHO secured from one of the two main phone network operators in Haiti – Digicel – 10 free emergency hotline for 10 strategic health establishment in the North and Northeast departments of Haiti, along with emergency telephones dedicated to receiving emergency calls. Those new phonelines helped connect the CAN of with emergency specialists from the target health institutions, thus reducing considerably transportation delays and gaining quality and efficiency of the response. The phone numbers were assigned in a sequential fashion and given with a telephone plan, allowing the emergency specialists the freedom to discuss between themselves when a referral was envisaged. The Government of Haiti has expressed its interest to expand the tool for medical regulation developed for the CAN to all 10 departments in the near future.
Medical regulation saves lives: developing 911 systems in Ecuador and the Dominican Republic

In an emergency, response time is vital. Prompt arrival at the scene of the event and patient transfer to health services is essential for reducing morbidity and preventing disabilities. Since February 2017, the Integrated Safety Service (ISS) ECU 911—Ecuador’s emergency management system that consolidates all the agencies responsible for emergency care—has a tool to manage information on adverse events. This tool is named SISMED the Unified Emergency and Disaster System. It’s a free software that facilitates the timely delivery of services to people affected by an adverse situation, monitors resources and their availability, and coordinates the various participating components and entities. The software can be easily modified to the country’s needs and requirements. This tool was originally developed in the Dominican Republic, where it is already fully operational, to support efficient medical regulation and timely patient referral throughout the national territory. The idea is to subsequently expand its use to other countries of the Region, as it was the case with Ecuador.

The system developed by PAHO has four modular components that can act on a case in tandem and concurrently: the Pre-hospital medical regulation module, the referral/counter-referral module, the health emergencies and disasters module, and the hospital availability and care module. It receives notice of events (emergencies and referrals), early warnings, and availability, which can be entered by an external entity like a hospital or by the system’s control personnel. It also generates records and reports that provide access to data. SISMED also has a mobile application system to capture information from a patient care record on a mobile device.

Andrés Sandoval, Director-General of ECU 911, noted that this tool, which will be used by developers from his institution in conjunction with the Ministry of Public Health, the fire department, and the Red Cross, “will offer better service to the public” and make it possible to compile accurate statistics.
PAHO’s Responses to emergencies
2017 in Action

PAHO directly and actively responded to 5 health emergencies in 14 countries and territories of Latin America and the Caribbean. Other emergencies were actively monitored by PAHO throughout the year, by maintaining communication with the country office, receiving official reports from health authorities and staying alert, but no direct action was requested/needed. PAHO also provided technical and logistical support to other emergency response operations in 2 countries outside of the LAC Region, addressing the unique needs of the most vulnerable people.
Response

The frequent and intense emergencies and disasters that affect the LAC Region every year have a strong impact on the health of populations and constitute an important challenge for the countries of the region that must protect the health of their communities.

In a study on disasters from 1900 to the present day, 2017 is considered the second most costly year in both human lives and economic losses, reflected in the impact of three hurricanes - Harvey, Irma, and Maria - affecting the United States and the Caribbean. Each year these numbers grow, posing serious threats to public health and countries’ development. In 2017, in addition to the far-reaching health consequences caused by Hurricanes Irma and Maria in most of the Caribbean Islands, Cuba, and Puerto Rico, over 500 million persons in the Region of the Americas were exposed to epidemics caused by the Zika virus, yellow fever, and cholera. In the last trimester of 2017, a reported resurgence of diphtheria infections and a re-emergence of measles and malaria has also exacerbating the already serious health crisis caused by massive migration from Venezuela to the rest of the Region.

There was a total of 4 acute graded emergencies (one grade 1 and three grade 2) and 1 ungraded emergency to which the Organization responded during the year 2017, affecting thirteen countries of the region. PAHO actively mobilized national and international resources for operations in all these emergencies. The following section of the report highlights the work of PAHO in the area of humanitarian assistance to the countries of the Americas, through its Regional Health Response Team, Emergency Operation Center, Emergency Task Forces and Country Offices, and with the support of strategic partners.

---

PAHO in Action: Active support to emergency response operations

Yellow Fever: Outbreak in Brazil (January 2017)

In January 2017, a sudden increase in cases of sylvatic yellow fever and their spread to areas with low vaccination coverage were reported in southeast Brazil. As a result, PAHO rapidly intensified its epidemic surveillance for epizootic and human cases of yellow fever and activated its Incident Management System (IMS) along with EOCs at the country and regional levels to support Brazil’s Ministry of Health in responding to the outbreak. PAHO immediately deployed technical experts in laboratory diagnosis, clinical management, epidemiological surveillance, and vector control to support national authorities and provide direct technical cooperation to states affected by the outbreak. Three field operation teams were assigned in the affected states of Minas Gerais, Espirito Santo, and Rio de Janeiro. During the event, PAHO placed strong emphasis on the characterization of the outbreak for early detection of possible urban yellow fever human cases.

PAHO collaborated with the WHO Scientific and Technical Advisory Group on Geographic Yellow Fever Risk Mapping (GRYF) and with the International Coordinating Group on Vaccine Provision for Yellow Fever to enable mass vaccination campaigns targeting the affected states and newly defined risk areas. The Organization also supported the Ministry of Health of Brazil to update its emergency response plan for yellow fever through the introduction of the use of fractional doses in specific situations, as recommended by the WHO Strategic Advisory Group of Experts on Immunization (SAGE); procure vaccines and supplies through the PAHO Revolving Fund; strengthen surveillance of adverse events following immunization; and develop a comprehensive and updated vaccination plan that includes vaccine production and risk communication.
Peru: Severe floods, El Niño phenomena (March 2017)

Between mid-February and end of March 2017, persistent rainfall and floods associated with the coastal “El Niño” severely affected many Peruvian departments including Tumbes, Piura, Lambayeque, La Libertad, and Ancash. Overflowing rivers damaged crops, transportation routes, and residential areas. Extensive peri-urban areas were flooded on the Peruvian coast, Lima’s metropolitan area, and the district of Chosica. The flooding resulted in the collapse of 9 health facilities, affected more than 300 others, and caused increases in reported cases of leptospirosis, dengue, Zika, and chikungunya, among other diseases.

As of 1 June 2017, Peru’s National Civil Defense Institute (INDECI) reported more than 1.2 million people affected by this large scale event, including 443 injuries and 147 deaths due to the emergency. Affected communities – Tumbes, Lambayeque, Piura, La Libertad, Ancash, and Ica departments – remained difficult to reach for an extended period of time due to the collapse of transportation and communications infrastructure, further complicating damage assessments and response operations.

In support of the national response to the emergency, PAHO deployed 15 national and 7 international experts, in Tumbes, Chiclayo, Trujillo, Piura, Ica, and Lima, to increase surge capacity in coordination, health services, water and sanitation, epidemiology, mental health, communication and infectious diseases surveillance in the most affected areas.

In coordination with the Ministry of Health, PAHO mobilized around $930,000 from USAID/OFDA and the Central Emergency Relief Fund (CERF) to facilitate the recovery of health care delivery capacity and access to health services, including mental health care; increased epidemiological surveillance for early detection and timely management of disease outbreaks; access to safe water, emergency sanitation measures, and vector control and efficient information coordination and management to effectively address the most pressing humanitarian needs.
Mexico: Earthquake in Puebla (September 2017)

On 7 and 19 September 2017, Mexico suffered significant human and material losses because of two earthquakes that primarily impacted Morelos, Oaxaca, Chiapas, and Mexico City.

In response to the events, the National Contingency Plan (Plan MX) was activated and the Ministry of Health did what it could to increase the capacity for care at health facilities and to facilitate access to health services in the affected areas.

The Federal Government responded with the relocation of patients from damaged health facilities; medical care in national health system hospitals was provided to everyone, and emergency care was prioritized.

To support the health sector and the population, PAHO activated its Regional Health Response Team (RRT) and coordinated the deployment of medical teams to support medical facilities in the affected areas while conducting structural assessments of health infrastructures. An emergency was declared in 16 boroughs of Mexico City, 33 municipalities in the state of Morelos, 112 municipalities in Puebla, and 5 municipalities in Guerrero.

By 21 September 134 health units had been evaluated: 90 were functioning, 31 were functioning only partially, and 13 were non-functional.

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.

Using the Humanitarian Supply Management System (LSS/SUMA) PAHO supported the management of health supply in warehouses and trained workers from the government of Mexico City and the Ministry of Health of Morelos state in the inventory and efficient distribution of drugs and donated health supplies through LSS/SUMA.
Hurricanes Irma & Maria (September 2017)

Category 5 Hurricanes Irma and Maria were back-to-back destructive events that impacted several Caribbean islands in September 2017. The most severely affected islands were Antigua and Barbuda, British Virgin Islands, Cuba, Dominica, Puerto Rico, Saint Martin, Sint Maarten, Turks and Caicos Islands, and the United States Virgin Islands. With a total population of the islands that is 37.2 million people. Thirty-nine fatalities were directly linked to the two hurricanes, 31 of them in Dominica. Some islands lost over 80% of their housing stock and faced serious challenges in restoring access to electricity and clean water. In Dominica, more than 90% of the island’s infrastructure was destroyed, including severe damage to the drinking water, electricity, and telecommunications services. Over two million people were estimated to be living in areas that were exposed to intense rainfall and winds (120 kilometers/hour).

PAHO mobilized over US$ 5 million from the Governments of Canada, USA, UK as well as the CERF and the European Commission to support national authorities in their response and recovery efforts. In most of the affected islands, PAHO was the first international organization on the ground, providing immediate support to promote and protect the health of all affected people by focusing on four main lines of action: 1) restoring health care delivery capacity and access to health services, including mental health care; 2) increasing epidemiological surveillance to support early detection and timely management of disease outbreaks; 3) ensuring access to safe water, emergency sanitation measures, and vector control; and 4) ensuring efficient coordination and management of information to effectively address the most urgent humanitarian needs.

PAHO activated its IMS at central and subregional level in Barbados to support the effective management of the multicountry response to both disasters. In the first month following the passage of the hurricanes, over 50 PAHO expert missions were conducted to provide assistance to 11 countries and territories: Anguilla, Antigua and Barbuda, The Bahamas, Barbados, British Virgin Islands, Cuba, Dominica, Haiti, Saint Martin, Sint Maarten, and Turks and Caicos Islands. PAHO’s support included damage and needs assessments in Anguilla, British Virgin Islands, Sint Maarten, and Turks and Caicos Islands, and provision of medicines, vaccines, other medical supplies, equipment, and insecticides, sent from PAHO’s strategic warehouse in Panama or procured from local and regional suppliers. The goods were transported with support from the International Medical Corps, Direct Relief, the Royal Netherlands Navy, Americares, and other partners.
In response to urgent requests from the British Virgin Islands and Dominica, PAHO coordinated emergency donations of vaccines and medical supplies from Barbados, Haiti, Jamaica, and Trinidad and Tobago and also made vaccine purchases through the PAHO Revolving Fund for Vaccines. PAHO’s work and impact on the ground was strengthened through the intensification and rationalization of the activities of various networks and partnerships, exemplified by coordination with the Royal Netherlands Army to repair the water plant at Dominica’s hospital. The Medical Information and Coordination Cell (CICOM) was also activated for the coordination and monitoring of emergency medical teams (EMTs). Twelve EMTs were coordinated through, and reported on their activities to the CICOM during their deployment in Dominica.

Hurricanes Irma and Maria convincingly demonstrated the importance of disaster preparedness. The health sector’s efforts facilitated an improved response, reflected in the relatively low number of deaths and affected health facilities, despite the destructive capacity of both events. Continued support from the international community will be vital for the islands’ recovery.
Zika: follow up activities in 2017

Over the past years, many countries of the Region have been implementing efforts towards achieving minimum capacity to effectively manage public health risks associated with infectious hazards. These efforts were reinforced with the emerging health emergencies of Ebola and Zika. Between 2014 and 2016, PAHO provided dynamic leadership and timely technical support and guidance to Member States to prepare for a potential importation of Ebola virus to the Americas, and to actively prevent and manage the ZIKV outbreak and associated complications and mitigate the socio-economic consequences. The Organization deployed over 90 multidisciplinary technical field missions to 30 countries and territories, involving the mobilization of over 175 staff and external experts, including through the Global Outbreak Alert and Response Network (GOARN) and WHO collaborating centers to support Member States in the areas of antenatal care, clinical management, entomology and vector control, epidemiology, health and laboratory services, neonatology, neurology, public health, radiology services, and risk communication. Similarly, PAHO conducted eight regional meetings (on bioethics, clinical surveillance, congenital syndrome associated with Zika virus infection, pregnancy management, public health entomology, research, reproductive and sexual health, and risk communications), and 14 sub-regional workshops on vector control and surveillance, pregnancy management, surveillance, response management, laboratory, clinical management of severe neurological complications associated with Zika virus infections, and risk communications.

Building on those efforts and the integration of the detection and clinical management of Zika virus and its associated complication, in 2017, PAHO’s support focused on moving the research agenda to better target national responses to the disease. A total of 17 new research on Zika started to be conducted in Latin America and the Caribbean along the year in order to identify solutions to address this virus whose infection during pregnancy is a cause of congenital cerebral anomalies, and a trigger of the syndrome Guillain-Barré in some infected people.

DID YOU KNOW?

The goal of the WHO Zika Virus Research Agenda is to support the generation of evidence needed to strengthen essential public health guidance and actions to prevent and limit the impact of Zika virus and its complications. The Research Agenda identifies critical areas of research where WHO is uniquely placed to implement or coordinate global activities. Research and evidence are the foundation for sound health policies.
The researches range from the identification of transmission risk factors to the evaluation of diagnostic tools and the review of the use of prenatal counseling and contraceptives, are part of a joint initiative between PAHO and two WHO programs: The Special Program for research and Training in Tropical diseases (TDR) and the Special Program for Research, development and training in Research in Human Reproduction (HRP). Research were carried out by researchers from important academic institutions and non-governmental organizations in Brazil (7 investigations), Colombia (4), Honduras (1), Jamaica (1), Mexico (1), Peru (2) and Venezuela (1). Each research project received up to 20,000 dollars from the WHO Small Grants program. These research projects, qualified as “crucial” by the former PAHO Assistant Director, Dr. Francisco Becerra, aimed to improve our understanding of Zika’s epidemic dynamics and possible public health solutions.

With the consent of the affected country and according to the origin and magnitude of the disaster, Cuba activates its national procedure for mobilization of emergency medical brigades.

Due to several events of great public health impact that occurred both in the Caribbean and worldwide, Cuba participated in disaster response in 2017, deploying 4 medical brigades: to Peru in response to floods and heavy rains (23 team members), to Dominica in response to the effects of Hurricane Maria (42 team members), to Mexico in support of earthquake response (40 team members), and to Sierra Leone in response to landslides (10 team members). The last brigade is still active, at the request of the health authorities of Sierra Leone.

These brigades treated 49,439 patients, 8,736 of which in the field; performed 172 surgical operations (including 129 major surgeries); 11,370 nursing procedures; and 23,275 educational activities aimed at promotion and prevention to mitigate the risk of outbreaks of infectious diseases.
Supporting WHO Health Emergency Response at Global Level

As PAHO serves as the Regional Office of WHO for the Americas, PAHO personnel is sometimes called to participate in and support WHO’s response efforts at global level. During the year 2017, two PAHO staff were deployed outside of the region to scale-up WHO’s emergency operations to Grade 3 emergencies in Somalia (cholera and measles outbreaks in a famine context) and Bangladesh (mass migration of Rohingyas from Myanmar). Personnel was deployed for a cumulative 12 weeks to support information management and health emergency coordination functions in collaboration with national authorities and active partners on the ground.

Continued efforts towards the elimination of Cholera in Haiti

For the last 7 years, since the beginning of the outbreak in October 2010, cholera has been an ongoing burden to the Haitian population. In 2017, a total of 13,681 suspected cases of cholera were reported, which represented the lowest annual number of cases since 2010. Building on previous interventions aimed at strengthening epidemiological surveillance and laboratory capacity and improving cholera case management, PAHO continued to support the Ministry of Public Health and Population (MSPP)’s efforts towards the elimination of cholera in Haiti as defined in the National Plan for Cholera elimination 2013-2022. PAHO’s technical cooperation focused on two main components: ensuring quality and timely medical case management to adequately treat suspected cholera cases in Acute Diarrhea Treatment Centers (CTDA) and; supporting the epidemiological system to better respond to cholera alerts.

Throughout the year 2017, PAHO’s decentralized teams, jointly with departmental health authorities, facilitated the evaluation of the quality of care and application of water and sanitation protocols for cholera case management. Using a simple evaluation checklist, PAHO assessed over 110 CTDAs in all ten departments of Haiti and provided recommendations for short-term corrective measures to improve case management of cholera patients. Immediate improvement actions, including procurement of medicines, essential health supplies for cholera treatment as well as WASH supplies for proper sanitation and waste management, on-site refresher training on treatment and sanitation protocols, and rapid repairs of treatment infrastructures, were also implemented in CTDAs with patients at the time of the evaluation.

Using the data collected through this extensive evaluation work, PAHO developed and published, for the first time since the beginning of the outbreak, the 2017 inventory of CTDA in Haiti. The inventory provides basic but practical information
on the resources and capacities of each of the 158 existing CTDA in Haiti and indicates, for each of them, the recommended actions to improve quality of care to guide all partners’ future interventions. The inventory was disseminated to national health authorities, decision-makers and partners involved in the fight against cholera to support more effective and efficient outbreak response and the improvement of quality of cholera services within existing structures.

Support to epidemiological surveillance and diagnostic capacity was also key to contribute to the reduction of cholera incidence throughout 2017. PAHO helped scale-up the capacity of 5 priority Departmental Health Directorates (DHD) in Artibonite, Centre, West, South, and Grand’Anse through the provision of epidemiologists to support data collection, analysis and reporting. The epidemiologists were integrated members of the work structure of the DHD in order to improve coordination and collaboration within the DHD and between PAHO and the DHD. The epidemiologists supported field investigations of localized cholera outbreaks and deaths both at institutional and at community levels. They assisted with the evaluation of epidemiological surveillance tools, primarily the cholera registry in CTDA, by verifying that clinical diagnosis was appropriate according to the reported symptomatology in patient files. The cholera registry is a case record registry in each CTDA where information is entered for each patient according to predetermined variables (place of residence, treatment plan, etc.). Training sessions were conducted to further build national capacity and strengthen understanding of standardized procedures related to cholera surveillance.
Complementary to the reinforcement of epidemiological surveillance, PAHO supported more timely and systematic laboratory diagnostic of cholera cases. In 2017, PAHO experts noticed that the rate of sampling for laboratory testing among suspected cases of cholera was low, often due to stock shortages in Cary Blair, the transport medium for cholera samples. Laboratory testing informs decision making by health care workers with regard to the appropriate treatment plan for the case, equips epidemiologists with more accurate information on the evolution of the outbreak and allows to assess the capacity of health personnel in certain CTDAs to be able to clinically diagnose a case. In order to address the low sampling rate, PAHO facilitated the procurement of over 12,000 Cary Blair to the Epidemiology, laboratory and research Directorate (DELR) and the implementation of four lab-moto nurses in three priority departments (Artibonite, Center, and West) to ensure timely transportation of cholera samples to a laboratory. Environmental sampling and testing of water quality was also introduced into field investigations by testing water sources using rapid diagnostic tests (RDTs). These rapid tests were used in complement of Cary Blair sampling to determine if an outbreak of cholera was occurring in a community while awaiting the test results by culture from the laboratory.

The support provided by PAHO, in complement to efforts deployed by the national authorities and humanitarian and development partners, bear fruits in 2017 with the positive reduction of the incidence of cholera. Yet, cholera remains a reality in Haiti, and continued support for these activities is vital to foster the downward trend in the number of reported cases, avoid new outbreaks, and achieve cholera elimination in the near future.
"Our role [as PAHO] is to work with the Ministry of Health to help with the coordination of the health response."

Carissa Etienne,
post-Hurricane Maria in Dominica, Sept. 2017
Chapter 3

PAHO and Health Cluster Support in Disaster Situations

The LAC Region has been the scene of some of the deadliest disasters over the last decades, including the Haiti earthquake and cholera epidemic, and was the epicentre of a new type of crisis with the emergence of a new virus and the first pandemic under the International Health Regulation, 2005. In 2010 alone, the Region faced 94 disasters encompassing drought, earthquakes, epidemics, and floods. There are now two major needs. The first is to equip the region with the ability to complement the national response with very specialized and specific assistance for the small and medium disaster many countries can address. The second is to develop a capacity to respond at a new level of expectation to mega disasters such as the earthquake in Haiti, the pandemic influenza, or the cholera outbreak in Hispaniola.

The world of international humanitarian operations is also changing significantly, especially as a result of the United Nations Humanitarian Reform, WHO’s Reform and the Inter-Agency Standing Committee (IASC) Transformative Agenda. Member States and PAHO must increase their ability to contribute to these operations and implement their new responsibilities. Because disasters can strike anywhere and at any time, cooperation organizations and agencies, such as PAHO/WHO, are regularly called upon to engage in continuous actions to help prepare for, manage, and deliver humanitarian assistance. The UN Cluster approach and the multi-sectorial manner in which many emergencies, particularly large-scale disasters, are managed, make it necessary for Ministries of Health, and the health sector as a whole, to have access to more advanced systems and skills. PAHO/WHO must enhance its capacities to efficiently manage the Health Cluster and coordinate the increased number of humanitarian actors, while advocating for countries to better balance the desire of being independent from all international assistance while responding to the needs of its population which cannot be addressed with existing local human, technological or financial resources.
Enhanced Capacity of PAHO to Support Member States in Disasters

Building institutional response capacity

To ensure adequate response at all time, PAHO has worked over the years towards developing and standardizing appropriate skillsets across all levels of the Organization, to fulfill its critical function of leadership, information management, technical expertise, and core services when responding to emergencies with health consequences. The reform of the Organization’s work in emergencies, which resulted in the creation of the new Health Emergencies Department, called for a motivated, trained and strengthened global workforce of excellence to detect and manage health emergencies. Experience and lessons learned also highlighted the need to strengthen PAHO’s overall standing capacity at all three levels of the Organization and its surge capacity for response in all aspects of the emergency risk management cycle. In that regard, standard protocols and operating procedures and streamlined training content (for readiness, simulations, alerts, initiating action, surging and transitioning) are essential to promote transparent, consistent and efficient work across all levels of the Organization. WHO’s Emergency Response Framework (ERF) and PAHO’s Institutional Response to Emergency and Disasters (IRED) already establish a set of pre-planned and tested procedures to be activated and followed to enable immediate response to imminent crisis. These protocols and operating procedures have been updated considering the emergency reform. They now present a better dissemination through all levels of the Organization and adjustment to country contexts and the nature and severity of a hazard might be necessary.

During 2017, PAHO’s institutional capacity to support emergency response was reinforced through the identification and training of new human resources to improve its capacity to prepare for disasters and emergencies and efficiently assist Member States affected by public health hazards, when required. A series of face-to-face and virtual courses were carried out, including:

- A training workshop on the Incident Management System (IMS) and PAHO’s IRED, in which participated 15 PAHO professionals, including PAHO/WHO Representatives (PWR), technical advisors and administrative personnel. During the three-day course, participants reviewed PAHO’s institutional policy
for response to emergencies and disasters in light of the WHO reform on health emergencies; learned about the IMS as well as international mechanisms for the coordination of humanitarian assistance and the role of PAHO in leading the health response of the international community in support of health authorities. The course adopted a mixed methodology combining formal presentations and participatory session with active discussion, dynamic tabletop exercises and a practical simulation exercise to put the new acquired knowledge and concepts to the test. Participants acquired key theoretical and practical knowledge to strengthen their capacities to play the role of Incident and Deputy Incident Managers in future public health emergencies and natural disasters.

- Virtual training sessions with country emergency focal points, administrators and PWRs on specific aspects of emergency preparedness, coordination and response, including hurricane preparedness, internal administrative declaration of emergency, communication channels for emergency response, medicines and health supplies procurement in emergencies, etc.

- Revised action cards with all essential functions for institutional response were prepared in English and Spanish and disseminated to PAHO personnel.

To further improve organizational readiness for emergency response, PAHO advisors from the Health Emergencies Department worked closely with a series of PAHO/WHO Country Offices – Honduras, Guatemala, Mexico, Peru, Haiti, Dominican Republic – to train PAHO personnel in the application of the IRED, and update the Representations’ Business Continuity Plans (BCP) and emergency contingency plans. Simulation exercises were also conducted with the PAHO offices in Honduras, Guatemala, Haiti, Jamaica. In Guatemala, the two-day simulation exercise focus on an earthquake scenario in urban settings. PAHO personnel engaged actively in theoretical discussion and practical application of tools and procedures. The simulation tested the full spectrum of the initial response to an emergency, from the activation of the call chain, office evacuation, the establishment of an alternative office in a safe location, as well as the use of the administrative declaration of emergency, deployment of personnel, procurement of emergency items and the coordination and information management with the subregional and regional offices. In Honduras, the EOC supported a virtual exercise on information management and emergency coordination in response to a Hurricane scenario.

Simulation exercises are an effective way to disseminate, verify and train a variety of response processes, procedures and mechanisms to prepare PAHO personnel at national level establish links and reinforce working relationships that later facilitate a more dynamic and efficient response. Additional exercises are planned for the coming years to further strengthen institutional response capacity in all country offices.
PAHO’s Institutional Response to Emergencies and Disasters Policy and Internal guidelines and operating procedures updated

Since its formal creation in 2012 and following the publication of the IRED, which dictates the organizational policy for operations in emergency, PAHO’s EOC has developed a series of Standard Operating Procedures (SOP) to define the specific steps that the Organization follows when responding to an emergency. These SOPs, which are accessible to all PAHO personnel through the PAHO intranet and have been integrated in PAHO’s E-manual and procedures repository, include a series of charts, check lists and procedures for making decisions and respond effectively.

In order to maintain procedures for emergency response updated and strengthen relationships between the different response levels of the Organization, PAHO, through its EOC, provides regular direct support to PAHO/WHO countries offices to review and update their emergency contingency plans, in alignment with the protocols and procedures established by the IRED and the WHO ERF.

Similarly, PAHO contributed to the review and validation of the second version of WHO’s ERF, which was published in early 2017, while working towards the revision and update of its own policy document for emergency management. In July 2017, an inter-programmatic working group was convened at PAHO Headquarters to review and update PAHO’s IRED considering the new PHE structure and to align with the new WHO ERF. This group was responsible for the identification of the necessary adjustments to be made within the Organization’s policies and procedures as a result of the update of Chapter 17 of WHO’s E-manual related to Emergencies, following the creation of the new WHO Health Emergencies Program and the adoption of the new ERF. Version 2 of the IRED has been finalized but its release has been postponed due to continuous adjustments to be included. New capacity building activities for staff will then be conducted following the publication of the new Institutional Policy (IRED).
Ensuring uninterrupted 24/7 coverage of events of potential health impact

The Latin America and the Caribbean Region is exposed every year to multiple emergencies and disasters of various origin including both ad-hoc events and hazards of seasonal patterns. In addition, severe outbreaks due to emerging and re-emerging pathogens continue to threaten the world in the 21st century. In a tightly interconnected world, infectious disease outbreaks can adversely affect economic growth, trade, tourism, business and industry, and social stability as well as public and population health.

One of the key functions and added value of the Organization in the area of work of health emergency management is to ensure uninterrupted 24/7 support to its Member States to provide timely and authoritative situation analysis, risk assessment, and immediate response for all acute public health events and emergencies.

Epidemic intelligence to detect events of potential international public health interest is a shared responsibility carried out by both PAHO/WHO and its Member States. PAHO, WHO, public health authorities and researchers collect data from many sources including Ministries of health, national institutes of public health, WHO collaborating centres, civilian and military laboratories, academic institutes, and non-governmental organizations (NGOs), and analyze them together to detect, assess, characterize, monitor and respond to health conditions, as well as related risk factors. To ensure a comprehensive picture of threats and risks to global health security, WHO gathers information from a variety of sources, both formal and informal. Therefore, PAHO’s capacity to provide actionable information and technical advice to national authorities about public health events that could pose a threat to global health security depends on the timely notification by, and transparency of, Member States in sharing information with PAHO as well as on PAHO’s capacity to maintain communication 24/7 with the National Focal Points (NFPs).

Sustaining Epidemic Intelligence Capacity

What is known as Epidemic Intelligence (EI) is the cycle of organized and systematic collection, analysis and interpretation of information from all sources to detect, verify and investigate potential health risks. The activities captured through this cycle are core functions under the International Health Regulations (IHR). EI is a resource-intensive activity (24/7/365) that requires highly qualified and dedicated staff to implement an efficient global early warning system and network.
Through its Health Emergencies Department, PAHO monitors for signals of potential threats, and coordinate surveillance networks to establish early warning systems. For all signals involving high-threat pathogens or clusters of unexplained deaths in high vulnerability countries, the Organization aims to initiate an on-site risk assessment within 72 hours, while risk assessments from all public health events requiring publication for National IHR Focal Points on the Event Information Site are published within 48 hours of the completion of the assessment.

Once a public health risk has been detected, an effective management process is essential to continuously monitor and assess its status, share information and support response activities when and where needed. WHO’s Event Management System (EMS) is the central electronic system for entering, accessing and managing information for all potential and substantiated events. The EMS records each event's details, official communications, WHO assessments and risk analysis, and decisions.

The Detection, Verification and Assessment team (DVA) of PAHO’s Health Emergencies Department is the manager of the EMS for the LAC Region and has the responsibility to enter the information into the system for the Americas and to maintain the information stored up-to-date. It is also responsible for coordinating with country offices and WHO’s Headquarters to ensure that EMS meets the requirement for event management, according to the mandate of the WHO Health Emergencies Programme.

Annually, approximately 24,000 signals of potential events are screened by PAHO, with 5,000 of these further analyzed and 160 followed upon (3 per week on average). The EMS recorded 1,613 events for LAC from 2001 to 2016. In 2017 only, out of 404 events registered by WHO, 119 (27%) were monitored and reported by PAHO, making the Americas the region with the second highest number of events registered behind the African Region (142 events) and followed by the European Region (49), the South-east Asian Region (40) and the Eastern Mediterranean Region (15). Of the 119 events recorded in 2017 in the Americas, 58 substantiated events were registered in 22 State Parties and 2 territories in 2017. Of that number, 46 (79%) were due to infectious diseases, 4 (7%) were zoonotic/animal disease-related, 3 (5) were food safety-related, 2 (3%) were product-related, 1 (2%) was chemical-related, 1 (2%) was radionuclear, and 1 (2%) was undetermined.

**Risk Assessment and Epidemiological Alerts**

Throughout the process of gathering data and disseminating information, risk assessments are routinely carried out to establish the potential impact of an event on human health, the risk of spread and the related resource implications for mitigation. Risk assessments are essential for characterizing the data/information collected in the de-
tection phase. The assessment of the events takes into consideration the kind of hazard, the likelihood of further exposure and a contextual analysis, factoring in implications to the local, regional and global levels. Risk assessment supports and directs decision-making and documents how the level of risk is assessed, the recommended control measures, the key decisions and actions and their order of priority. Risk assessment also helps identify where improvements can be made and provides an evidence base for future risk assessments and responses to events.

One product of PAHO’s risk assessment and analysis functions is the publication of public epidemiological alerts and updates. A total of 43 Epidemiological Alerts and Updates were issued by PAHO from 1 January to 31 December 2017, including recommendations to address the events, such as public health measures necessary to minimize the risk of the events occurrence. As an example, between January to December 2017, PAHO/WHO disseminated 21 Epidemiological Alerts and Updates concerning yellow fever in the Region of the Americas. These periodically reported on changes in the circulation of the virus and updated the recommendations issued to Member States based on adjustments in the risk assessment. During 2017, PAHO/WHO also continued to issue Epidemiological Updates on Zika virus disease, including Guillain-Barré Syndrome (GBS) and congenital syndrome associated with Zika virus infection. At the beginning of the year, PAHO/WHO alerted Member States of the risk of outbreaks and the increase of malaria transmission in endemic areas, as well as the possible reintroduction of the disease in places where the transmission had previously been interrupted. Since May 2017, PAHO/WHO warned of the risk of imported cases and of the occurrence of measles outbreaks via successive Epidemiological Alerts and Updates. Similarly, outbreaks of diphtheria in the region and their progress were reported on, including recommendations for strengthening surveillance systems to detect suspected cases and initiate case and contact treatment immediately. Member States were also reminded of the need to ensure adequate supplies of diphtheria antitoxin, and the key role of adequate clinical management in reducing complications and the lethality of the disease was emphasized.

Most of the Epidemiological Alerts and Updates issued refer to infectious agents, however they may be related to other factors such as contaminated goods, food safety, among other areas considered in the International Health Regulations (2005). The Epidemiological Alerts and Updates are additionally an important form through which PAHO shares with countries advice and recommendations on how to manage the concerned health event. The Alerts and Updates are also utilized to highlight events that are not frequent or that are novel to the Region of the Americas.
PAHO’s EOC at Headquarters functions as a centralized location for coordination and control of health-related emergency response activities in the Region. PAHO’s Organization-wide Disaster Task Force and the Epidemic Alert and Response Task Force operate through the EOC, which collects, analyzes, prioritizes, monitors, and disseminates information about health crises or disasters. This intelligence helps provide accurate and timely information on the health outcomes and response operations for all emergencies (ungraded, graded and protracted) and enables health authorities in Member States and the international community to make timely and effective decisions. In non-disaster situations, the EOC monitors and identifies other health crises that may require an international response. PAHO’s EOC also provides a data management, analytics and reporting platform to produce and disseminate timely standardized information products for all events, which includes updated situational analysis, risk assessment and mapping of available health resources and response capacities.

Between June and December 2017, which corresponds to the Region’s Hurricane season and the peak of natural disaster occurrence, PAHO’s EOC monitored and reported a total of 351 events of potential public health impact in the Latin American and Caribbean Region, of which 69.8% were classified as hydro-meteorological hazards. These include events such as drought, floods, hurricane, landslide, tropical storm, winter storm and severe weather. The tables below illustrate the public health events monitored by category during this period, and the monitored hydrometeorological events by sub-category. There was a total of 4 acute graded emergencies (one grade 1 and three grade 2) and one ungraded emergency to which the Organization responded between 1 January and 31 December 2017, affecting fifteen countries of the region. PAHO actively mobilized national and international resources for operations in all these emergencies.
## Table: Hazards/Disasters sub-types in the Americas, from January to December 2017

<table>
<thead>
<tr>
<th>2017 events</th>
<th>Number of events 2017</th>
<th>Total</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disaster sub-type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earthquake</td>
<td>11</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Fire at Hospital</td>
<td>1</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Wildfire</td>
<td>51</td>
<td>21.0</td>
<td></td>
</tr>
<tr>
<td>Volcano</td>
<td>22</td>
<td>9.1</td>
<td></td>
</tr>
<tr>
<td>Severe Weather Warning</td>
<td>25</td>
<td>10.3</td>
<td></td>
</tr>
<tr>
<td>Hydrometeorological Hazard</td>
<td>133</td>
<td>54.7</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>243</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hydrometeorological hazard</th>
<th>Number of events 2017</th>
<th>Total</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disaster sub-type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drought</td>
<td>15</td>
<td>11.3</td>
<td></td>
</tr>
<tr>
<td>Floods</td>
<td>46</td>
<td>34.6</td>
<td></td>
</tr>
<tr>
<td>Hurricane</td>
<td>43</td>
<td>32.3</td>
<td></td>
</tr>
<tr>
<td>Landslide</td>
<td>6</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Tropical storm</td>
<td>22</td>
<td>16.5</td>
<td></td>
</tr>
<tr>
<td>Winter storm</td>
<td>1</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>133</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

## Ensuring readiness and surge capacity at all levels of the Organization

The goal of the PAHO and WHO health emergencies programmes is to ensure all countries and partners are prepared for, and can prevent, detect and respond to, health emergencies in order to reduce the mortality and morbidity of affected populations. This includes PAHO/WHO’s own capacity to manage risks and respond to emergencies in a timely, predictable and effective manner. Headquarters, Regional and Country Offices all need to plan, well ahead of a crisis, for the appropriate resources, systems, policies, procedures and capacities to undertake effective risk mitigation and response preparedness operations in support and collaboration of ministries of health and other partners.

While the effects of hazards and events on PAHO’s operations cannot be fully predicted, understanding the risks which national populations as well as PAHO personnel and assets may be subjected to, and increasing the Organization’s readiness to mitigate their impact and to respond, can significantly save lives and preserve health and wellbeing.

To do so, in 2015 WHO developed a readiness checklist which aims to support all country offices in implementing the minimal operational requirements to be ready for emergencies from all hazards and to minimize the impact on the people. This check-
list, which was revised in 2017, specifies the elements that PAHO/WHO Country Office must have in place to predictably and effectively perform PAHO/WHO’s critical functions (leadership, coordination, information and planning, health operations and technical expertise, logistic and operational support and management and administration) during an emergency response and to deliver on the time bound performance standards as outlined in WHO’s ERF.

At the end of 2017, a global assessment of WHO’s readiness was conduct using the WHO readiness checklist. All 27 PAHO/WHO country offices (100%) completed the WHO readiness checklist survey. In total, 18 out of 27 PAHO/WHO Country Offices met at least 4 of the 5 WHO readiness checklist criteria, therefore complying with minimum readiness requirements. This represent a 28% increase compared to 2016.

The results of the assessment indicated that:

- 26 offices had identified a readiness focal point.
- 20 had conducted a strategic risk assessment and 8 are in progress.
- 23 had produced a business continuity plan and 5 are in progress.
- 17 had a response plan (RP) for preparing and addressing each of the major health threats identified by the risk analysis and 10 were in the process of developing their plan.
- 19 had a health early warning, alert and response system (EWARS) in place and 4 were in the process of developing one.

While the results of this evaluation show a positive trend towards the achievement of the minimal requirements for operation readiness at country level, they also revealed important gaps. In that sense, the intent of the checklist is exactly to help the country offices monitor their status of readiness and developed action plans to implement priority remedial actions to improve readiness and maintain proper resources and tools in place to protect their personnel and ensure the Organization’s ability to fulfil its responsibilities in case of an emergency.
Regional readiness with focus on surge capacity was supported during 2017, aimed at strengthening PAHO capacity to assist Member States in coordinating and responding to emergencies and disasters caused by any hazard and to maintain the Regional Response Team active and up to date.

The Health Cluster provides integral and timely emergency humanitarian assistance complementary to the institutions within the national health authorities and promotes the strengthening of health care capacities at all levels, including risk and protection management strategies and the promotion of principles and humanitarian standards to mitigate the impact of the conflict and/or disasters on the population.

From the very beginning of an emergency, the Health Cluster promotes recovery actions aimed at finding durable solutions, strives for visibility of the humanitarian situation, prioritizes access to basic health care services for the most vulnerable population, internally displaced persons, women, youth, children, people with disabilities and the elderly. It thus elevates the capacity of the humanitarian response to the specific needs of the different population groups and to service gaps that are identified.

As Health Cluster lead agency, PAHO/WHO continued promoting and disseminating Global Health Cluster guidelines and standards throughout the Region to assist countries and national staff in successfully and effectively participate in humanitarian coordination platforms. This is an ongoing activity which is pursued bilaterally with countries as well as during multi-lateral events.
Health cluster mechanisms promoted and implemented in countries

Only one official Health Cluster remained active in the LAC Region during the year 2017 – Colombia. The Health Cluster in Colombia was established following IASC reform in response to the five-decade long conflict that has causes over 5 million of internal displacements. Over the years, PAHO/WHO, as cluster-lead agency, has continuously ensured a close and intense cooperation with OCHA and other members of the Humanitarian Country Team. The Organization was part of the teams conducting Multi-Cluster Initial Rapid Assessments (MIRA) assessments, supported the review and prioritization of humanitarian projects to acute emergency and protracted crises, provided sectorial information to update monitoring instruments such as 4W, Dashboard and contingency plans. PAHO/WHO also participated in coordination spaces for sectorial information management, Intercluster coordination mechanism with the National Unit for Disaster Risk Management.

Finally, PAHO/WHO, jointly with OCHA and other humanitarian actors, supported the identification of risks, needs and humanitarian gaps as well as key strategies to address those needs following the signature of the peace Agreement and the start of the transition phase in Colombia. PAHO/WHO provided technical expertise to the Ministry of Health of Colombia in drafting the medium-term Plan of Action for the health sector for the post-conflict phase.

Other informal cluster-like coordination mechanisms were established or continue to function in several countries of the Region, such as Haiti, Guatemala and Peru, to support the coordination of response operations and partners following the occurrence of disasters. With the WHO emergency reform and the establishment of the new Health Emergencies Program, PAHO has also supported the implementation of the Country Business Model (CBM), strengthening human resources for disasters and health emergencies in its country offices according to the priority level of countries defined at global level. This CBM is still being rolled-out within the LAC region.

With the limited staff available, PAHO has managed to maintain a constant and prominent role in humanitarian health assistance in the two countries of the Region with protracted emergencies (Haiti and Colombia) in 2017, coordinating the development of sector-wide strategies and appeals, and promoting technical guidance to improve the quality of health care to the affected populations. Direct technical support to other countries with humanitarian coordination mechanisms was more ad-hoc and response-oriented.
Building rosters of health emergency coordinators

Building on the growing knowledge and capacity of its Member States, PAHO has been putting together a regional roster of health cluster coordinators (HCC) and response officers to support emergency coordination efforts at national and international level. As of 2017, the Roster of HCC comprised 63 trained professionals, including 9 individuals with the appropriate skills to support coordination cluster health at international level, 25 at national and 17 at sub-national level as well as 20 people to form part of the Regional Response in different technical areas of expertise.

Complementary to the HCC Roster, PAHO has worked on developing a pool of EMT Coordinators to accompany the rise of the implementation of this initiative in the Region. By the end of 2017, the Regional EMT Coordinators Roster comprised a total of 78 experts from 19 different countries who had been trained and deemed apt at being deployed during an emergency to assist national authorities in coordinating the request and reception of external medical assistance.

The proper use of international cooperation in emergencies is one of the greatest challenges faced during the response to major disasters. There is a critical need to support the sovereignty of countries and provide them with the adequate tools to directly manage resources and optimize cooperation. The training of response experts and decision-makers in those tools and concepts is critical in that sense and remains extremely valuable, despite the high rotation of national personnel, as these individuals carry the knowledge and skills with them in their new functions and remain useful even outside of the institutional systems. However, the high turnover of staff also makes it necessary to offer periodic and continuous training of all levels of the emergency response—at least every two years—to facilitate the coordination of response efforts from all actors and maximize the positive impact of humanitarian assistance.
“Health is the pillar of development in the Region and should be considered a human right [...]. If we are to ensure a healthy future for all, we must protect the most vulnerable.”

Néstor Méndez, Assistant Secretary General of the Organization of American States (OAS).
Chapter 4

Cross-Cutting Themes

Four cross-cutting themes underpin the approaches and objectives of PAHO’s 2013-2018 Strategic Plan on Disaster Risk Management: Gender, Ethnicity, Human Rights and Governance. PAHO continuously strives to integrate these themes in the technical expertise and support it provides to its Member States to enhance disaster risk management and emergency response capacity.

For all emergencies with potential risk or impact on health, a checklist has been applied to verify response procedures, including integration of cross-cutting issues. 100% of the emergencies response and appeals carried out by PAHO integrate an analysis of the risks and needs of the most vulnerable population, focusing particularly on children, women and ethnic groups. Training sessions of the PAHO Regional Response Team conducted over the past year systematically include topics on integrating gender, age, ethnicity and other cross-cutting considerations in disaster management and the development of disaster response plans. Following are examples of initiatives that have integrated these cross-cutting themes.
Integration of Indigenous Traditional Knowledge in Disaster Risk Reduction

The Region of the Americas is multiethnic and multicultural. It is comprised of many indigenous groups, communities and people that face disproportionate discrimination and exclusion from political and economic power and continue to be overrepresented among the poorest and most vulnerable segments of society. Indigenous people represent less than 8% of the population of Latin America; yet they constitute 17% of the population living in extreme poverty and bear the greatest inequalities in health and mortality of the Region.

Another factor that threatens indigenous communities is climate change. It is particularly important for indigenous communities because, in addition to jeopardizing access to safe and adequate water and food, it has a direct impact on the natural habitat of those ethnic groups, resulting in extreme climatic conditions, and increased vulnerability among these populations, due to reduced resources necessary for survival and often deprivation of traditional lands and territories.

In 2016, PAHO Member States incorporated ethnicity as a cross-cutting aspect of their 2016-2021 Plan of Action for Disaster Risk Reduction. This intends to provide a differential response to the specific vulnerabilities and greater inequalities in health and mortality that can be seen in indigenous and other ethnic groups. Building on this mandate, during 2017, PAHO implemented interventions which articulated two objectives to improve the integration of indigenous traditional knowledge in DRR:

- Promote the integration of indigenous traditional knowledge and scientific knowledge in DRR, through the creation of a dedicated network, trainings on traditional knowledge, the development of intercultural strategies for DRR, as well as research protocol on disaster risk management and indigenous populations with indigenous leadership and participation;
- Develop competencies in health personnel and other actors for the preparation for, response to and recovery from emergencies among indigenous populations.

PAHO worked with Mexico to develop culturally sensitive tools to better protect and improve health of indigenous populations and persons with disabilities in disasters. Interventions targeted the strengthening of capacities for prevention of disaster risks in collaboration with the Ministry of Public Education, Civil Protection and the Ministry of Health, providing training to indigenous leaders. As a result of this, educational materials with cultural relevance were developed and printed in Nahuatl.
Governance is the umbrella under which disaster risk reduction takes place. Public awareness, political will and enough human and financial capacity are key to making disaster risk reduction an underlying principle in all relevant development sectors.

Governance is the second priority for action of the Sendai Framework for Disaster Risk reduction 2015-2030: “Strengthening disaster risk governance to manage disaster risk”. Disaster risk governance at the national, regional and global levels is very important for prevention, mitigation, preparedness, response, recovery, and rehabilitation. It fosters collaboration and partnership. Governance includes institutional, policy and socio-economic factors that affect all aspects of disaster management – preparedness, disaster risk reduction, and response. The governance context influences the ability of countries, communities and their organizations to access resources, skills, technologies, and markets to influence policy, such as the adoption of livelihood centered approaches to DRR. Principles of good governance include broad participation, transparency, accountability, efficiency and responsiveness.

PAHO’s Strategic Plan for Disaster Risk Management 2013-2018 reflects governance as a cross-cutting theme in its various results, approaches, and outputs, through activities linked to policy directions, timely information management, capacity building, and advocacy.

**Institutionalizing disaster risk management in the Peruvian health sector**

In September 2017, Peru’s Ministry of Health approved the new National Policy on Hospitals Safe from Disasters, a mechanism that seeks to guarantee the functioning of hospitals with the maximum capacity and infrastructure, during and after emergencies and disasters. Along with the national policy, the Peruvian authorities approved the 2017-2021 Plan of Action for Safe Hospitals, which will be mandatory in public health facilities of the Ministry, as well as in establishments of EsSalud, regional governments, local governments, the National Police of Peru, the Armed Forces, and in private health facilities.

The new national Safe Hospitals Policy and five-year Plan of Action constitute the main framework for disaster risk management. They will provide additional sustainability to the ongoing efforts of the Peruvian government to reduce disaster risk in health facilities and ensure their operational continuity at maximum capacity, in the same facility, during and after disasters.
Documenting gender-based vulnerabilities in emergencies to better address them

Globally, countries are demonstrating progress in reducing deaths of women and children, thanks to improving a number of protective factors such as increasing immunization coverage rates or increasing access to good quality reproductive health care, including antenatal care, and having a skilled personnel present at birth. However, while women’s and children’s survival improved through the Millennium Development Goals (MDGs) and the UN Secretary-General’s 2010 global strategy for Every Women Every Child, more than 80% of the countries that did not achieve the goals endured a recent conflict, natural disaster or both. A desk review of existing evidence on global maternal and child health notes that “the worst rates of preventable mortality and morbidity among women, adolescents and children occur in humanitarian and other crises.”

It points out that women and children are 14 times more likely than men to die during a disaster. In the Americas, as in the rest of the world, women and children become vulnerable populations during natural disasters, disease outbreaks, and other humanitarian situations due to several reasons:

- Women are at higher risk during disease outbreaks. Gender roles, rather than biological differences, lead women to be exposed to more infected people as women are more often the paid and unpaid caregivers.

- During natural disasters, women and children can often lose access to life-saving health care services (e.g. obstetric care, immunizations, infectious disease, etc.) as public infrastructure is destroyed, including health facilities.

- Massive population displacement, insecurity, and a collapse of social contract can lead to marginalization, violence and exploitation of women and children in particular.

Evidence collected by PAHO’s Health Emergency Department clearly shows that women and children are adversely impacted by both natural hazards and other events, including

---

3 BMJ 2015: Women’s, children’s, and adolescents’ health in humanitarian and other crises; Sarah Zeid, Kate Gilmore et al; Published 14 September 2015 [Available online: https://doi.org/10.1136/bmj.h4346]
infectious hazards such as disease epidemics. Twenty-five percent (25%) of the 482 natural hazards monitored and recorded between 5 October 2017 and 5 September 2018 in the Americas mentioned family, children, or women as the affected population. Children and women were most impacted by hydro meteorological events. Countries that registered the highest number of events that affected these vulnerable population are: Peru (22), Bolivia (20), Colombia (15), Paraguay (13). With regards to other types of events, PHE registered 95 events, which included 64 infectious hazards events. Thirty-three (33) events or 51% of these infectious hazard events mentioned family, children, or women as the affected population or case. It should also be noted that many of the infectious hazards detected and recorded in the region of the Americas were immune-preventable diseases, which adversely impact younger age-groups, particularly those under the age of five: measles, suspected polio, rubella, typhoid, pertussis, etc.

In recent years, PHE undertook risk assessments of other potential disease outbreaks which affect young population and women such as influenza, malaria, and Zika. The Zika virus is of concern as it is expected to continue to leave hundreds of infants with long-term developmental disabilities; but more evidence is needed to project future health, social and economic repercussions.

Accurate information, particularly during humanitarian situations or during evolving epidemics, can be very difficult to acquire. Indeed, major gaps recognized by the new Global Strategy for Women’s, Children’s and Adolescents’ Health include the need for better data and analysis on women’s, children’s and adolescents’ health needs; as well as strengthening capacities to anticipate and respond to emergencies.

To contribute to efforts addressing these risks, the work of PAHO’s Health Emergency Department focuses on strengthening the health sector’s capacities in prevention, risk reduction, preparedness, surveillance, response, and early recovery for emergencies and disasters related to any hazard (natural, man-made, biological, chemical, radiological and others) and, when national capacities are overwhelmed, to lead and coordinate the international health response to contain disasters, including outbreaks, and to provide effective relief and recovery to affected populations.

PAHO has been working directly with its Member States to improve all-hazards health emergency and disaster risk management capacities. Among areas of emphasis is identifying and implementing inclusive strategies to prevent, prepare and respond to emergencies and disasters, particularly for groups in situation of vulnerability, as well as ensuring the fundamental role and participation of both women and men. This involves measures to enhance the safety of health services and facilities to ensure that during emergencies and disasters all services, including for maternal and child health, can be continued un-interrupted. PAHO also helps to identify and predict the “how and when” health repercussions can impact women and children,
who become vulnerable populations when health emergencies arise. The constant monitoring of events can signal early onset of events with potential for devastating public health consequences. Without PAHO’s data and analyses, it is difficult to visualize possible and preventable morbidities, disabilities and deaths of mothers and children. This activity of identification of the vulnerable, marginalized populations at risk is key to design more efficient interventions to save lives.

PAHO is also playing a key role in better identifying and understanding the impact of health emergencies to inform the decision-making processes of the response and lead the health sector to address emerging needs. Updated health situation analyses are essential for the decision-making process for governments, UN Agencies and other health partners, particularly in times of natural disasters, epidemic outbreaks, and other humanitarian situations. As such, PAHO’s Health Emergency department ensures timely and authoritative situation analysis, risk assessment, and response monitoring for all acute public health events and emergencies. It provides a data management, analytics and reporting platform to produce and disseminate timely standardized information products for all events, which will include updated situational analysis, risk assessment and mapping of available health resources and response capacities.

Evidence show that women are more vulnerable to violence in post-emergency situations

Between 2016 and 2017, PAHO worked on a fact sheet to expose the evidence that violence against women and girls may increase in the aftermath of natural disasters and in conflict and post-conflict settings. Statistics about violence against women following natural disasters are even more limited than during conflicts. However, data from the United States and Canada shown spikes in crisis calls and reports of domestic violence following major floods, hurricanes and earthquakes. The limited studies available show the same trend in countries such as Haiti, Honduras and Nicaragua.

The fact sheet developed by PAHO explains how, following natural disasters, women and girls may be separated from their families and communities, living outdoors or in temporary, unsafe dwellings, which increases their risk of abuse.

While emergency responses must recognize and address women’s exacerbated vulnerabilities, they should not characterize women simply as victims. Women play a vital role as careers and agents of change in terms of management of resources and other aspects of humanitarian situations. In El Salvador, for example, women’s participation in opposition forces and dissatisfaction with discriminatory treatment following conflict launched a new sense of women’s empowerment and led to changes in legislation in relation to gender equality.
Zika | Addressing the disproportionate impact of an emerging infectious hazard on women

The Zika outbreak in the Americas, which started in 2015, demonstrated clearly that emerging infectious hazards can adversely affect vulnerable populations such as women and children. In 2017, around 26,066 suspected cases of Zika virus disease in pregnant women were reported, of which 11,546 were confirmed. The characteristics of Zika virus presented a difficult challenge, not only in terms of its rapid dissemination, but also in terms of the evolution of our understanding of the virus—its relationship to neurological anomalies and other complications among newborns and adults (including Guillain-Barré Syndrome) and the potential for sexual transmission of the virus.

While the medium and long-term consequences of this public health emergency were assessed in 2017 and will continue to be in the coming year, this outbreak highlighted the need for Member States to quickly and accurately detect new threats to prevent, limit and respond to epidemics, thus limiting the impact on human lives. PAHO worked closely with the countries of the Americas to strengthen their capacities for case detection and confirmation and for the implementation of strategies aimed at trying to reduce the vector, minimizing in this way the impact of the Zika virus on public health. To do so, gender-disaggregated data was collected and analyzed during the Zika outbreak in Brazil and the information was used to better target control strategies such as social mobilization aimed at mothers and women, and vaccination campaigns.

One important step towards ending preventable maternal, newborn and child deaths is to have an efficient early warning system capable of detecting health events that can affect those populations. A simple, flexible, sensible, regional surveillance system will allow for a timely initiation of prevention and control interventions to limit the spread of disease in vulnerable populations. Such early warning surveillance system will generate information to measure indicators related with the UN Sustainable Development Goals (SDGs) health-related targets for mothers, newborns and children, which countries have committed to achieving by 2030. This will also help measure progress towards universal health coverage (UHC) and towards achieving the goals of the "Every Woman Every Child" movement as well as the Global Strategy (2016-2030) for Women’s, Children’s and Adolescents’ Health. PAHO continues to support countries to establish such mechanism to improve early detection of emerging diseases to accurately analyze potential at-risk populations and implement measures to limit the impact of the diseases as soon as possible.
Building women engagement and capacity in Risk Communication

Since 2016, PAHO’s technical support in risk communication during the Zika outbreak focused on strengthening the capacities of the national teams to ensure timely communication with populations affected by ZIKV. By 2017, 20 Member States had received overall technical support from PAHO’s risk communications advisors, considering a multi-hazard approach. The ministries of health led the process, with multi-sectoral participation. This enabled the countries to advance or finalize risk communication strategies and to strengthen the capacity of their health personnel, institutions, and key actors such as women.

In order to reach this specific audience: women, public health nurses in Jamaica were trained to share information with other health workers and patients on the Zika virus and microcephaly. This informative campaign advised people, especially pregnant women, to take special precautions to avoid the bites of Aedes aegypti, the mosquito that transmits Zika. In Colombia, local women were trained to support the dissemination of good practices and preventative measures to other members of their communities. 12 community mothers visited families once a month to chat with them and make them aware of Zika, as well as understand their concerns. These mothers shared information on the mode of transmission of the Zika virus and how to prevent contracting the diseases and stressed the importance of vector-control measures such as keeping water tanks clean, so mosquitoes would not breed in them.

Other innovative means were used to reach a diverse audience and raise awareness. For example, in the Caribbean, Trinidadian singer-songwriter Darryl Gervais recorded a song about the need to fight Aedes aegypti. The song: Do Your Part, serves as a musical public service announcement set to an electro-Caribbean melody to target young women. It was and broadcast by 112 media outlets in 24 Caribbean countries from the end of 2016 to beginnings of 2017.
# Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAT</td>
<td>Baseline Assessment Tool</td>
</tr>
<tr>
<td>BCP</td>
<td>Business Continuity Plan</td>
</tr>
<tr>
<td>CAN</td>
<td>National Ambulance Center (French Acronym)</td>
</tr>
<tr>
<td>CBM</td>
<td>Country Business Model</td>
</tr>
<tr>
<td>CCSS</td>
<td>Costa Rican Social Security Fund</td>
</tr>
<tr>
<td>CDEMA</td>
<td>Caribbean Disaster Emergency Agency</td>
</tr>
<tr>
<td>CERF</td>
<td>Central Emergency Relief Fund</td>
</tr>
<tr>
<td>ChikV</td>
<td>Chikungunya Virus</td>
</tr>
<tr>
<td>CICOM</td>
<td>Medical Information and Coordination cell (Spanish Acronym)</td>
</tr>
<tr>
<td>CPI</td>
<td>Country Health Emergency Preparedness and the International Health Regulations</td>
</tr>
<tr>
<td>CRUED</td>
<td>Emergency and Disasters Regulation centers (Spanish Acronym)</td>
</tr>
<tr>
<td>CTDA</td>
<td>Acute Diarrhea Treatment Centers (French Acronym)</td>
</tr>
<tr>
<td>DELR</td>
<td>Epidemiology, Laboratory and Research Directorate (French Acronym)</td>
</tr>
<tr>
<td>DFID</td>
<td>UK’s Department for International Development</td>
</tr>
<tr>
<td>DRM</td>
<td>Disaster Risk Management</td>
</tr>
<tr>
<td>DVA</td>
<td>Detection, Verification and Assessment</td>
</tr>
<tr>
<td>ECHO</td>
<td>European Commission’s Civil Protection and Humanitarian Aid Operations</td>
</tr>
<tr>
<td>ECU 911</td>
<td>Ecuador’s emergency management system</td>
</tr>
<tr>
<td>EI</td>
<td>Epidemic Intelligence</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>EMO</td>
<td>Emergency Operations</td>
</tr>
<tr>
<td>EMS</td>
<td>Event Management System</td>
</tr>
<tr>
<td>EMT</td>
<td>Emergency Medical Teams</td>
</tr>
<tr>
<td>EOC</td>
<td>Emergency Operations Center</td>
</tr>
<tr>
<td>ERF</td>
<td>Emergency Response Framework</td>
</tr>
<tr>
<td>EWARS</td>
<td>Early Warning, Alert and Response System</td>
</tr>
<tr>
<td>GBS</td>
<td>Guillain-Barré Syndrome</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross domestic product</td>
</tr>
<tr>
<td>GFDRR</td>
<td>Global Facility for Disaster Reduction and Recovery</td>
</tr>
<tr>
<td>GISRS</td>
<td>Global Influenza Surveillance and Response System</td>
</tr>
<tr>
<td>GOARN</td>
<td>Global Outbreak Alert and Response Network</td>
</tr>
<tr>
<td>GRYF</td>
<td>Geographic Yellow Fever Risk Mapping</td>
</tr>
<tr>
<td>HCC</td>
<td>Health Cluster Coordinator</td>
</tr>
<tr>
<td>HEO</td>
<td>Emergency Core Services</td>
</tr>
<tr>
<td>HIM</td>
<td>Health Emergency Information and Risk Assessment</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>HOPE</td>
<td>Health Operations Platform for Emergencies</td>
</tr>
<tr>
<td>HSI</td>
<td>Hospital Safety index</td>
</tr>
<tr>
<td>IASC</td>
<td>Inter-Agency Standing Committee</td>
</tr>
<tr>
<td>IESS</td>
<td>Ecuadorian Institute of Social Security</td>
</tr>
<tr>
<td>IHM</td>
<td>Infectious Hazard Management</td>
</tr>
<tr>
<td>IHR</td>
<td>International Health Regulation</td>
</tr>
<tr>
<td>IMS</td>
<td>Incident Management System</td>
</tr>
<tr>
<td>INDECI</td>
<td>Peru’s National Civil Defense Institute</td>
</tr>
<tr>
<td>INGRID-H</td>
<td>Inclusive Management of Disaster Risk in Hospitals</td>
</tr>
<tr>
<td>IRED</td>
<td>Institutional Response to Emergency and Disasters</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>IRP</td>
<td>International Recovery Platform</td>
</tr>
<tr>
<td>ISS</td>
<td>Integrated Safety Service</td>
</tr>
<tr>
<td>ISSSTE</td>
<td>Institute of Safety and Social Services for State Workers</td>
</tr>
<tr>
<td>LAC</td>
<td>Latin America and Caribbean</td>
</tr>
<tr>
<td>LSS/SUMA</td>
<td>Logistic Support System/Humanitarian Supply Management System</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goal</td>
</tr>
<tr>
<td>MIRA</td>
<td>Multi-sectorial Initial Rapid Assessment</td>
</tr>
<tr>
<td>MoH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MSPP</td>
<td>Ministry of Public Health and Population (French Acronym)</td>
</tr>
<tr>
<td>MSSSI</td>
<td>Mexican Social Security Institute</td>
</tr>
<tr>
<td>NAG</td>
<td>NGO Advisory Group</td>
</tr>
<tr>
<td>NFP</td>
<td>National Focal Point</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental organization</td>
</tr>
<tr>
<td>OCHA</td>
<td>United Nations Office for the Coordination of Humanitarian Affairs</td>
</tr>
<tr>
<td>OFDA</td>
<td>Office of Foreign Disaster Assistance</td>
</tr>
<tr>
<td>PAHO</td>
<td>Pan American Health Organization</td>
</tr>
<tr>
<td>PHE</td>
<td>PAHO’s Health Emergency Department</td>
</tr>
<tr>
<td>PIP</td>
<td>Pandemic Influenza Preparedness</td>
</tr>
<tr>
<td>PoA</td>
<td>Plan of Action</td>
</tr>
<tr>
<td>PWR</td>
<td>PAHO/WHO Representative</td>
</tr>
<tr>
<td>RDT</td>
<td>Rapid Diagnostic Test</td>
</tr>
<tr>
<td>RP</td>
<td>Response Plan</td>
</tr>
<tr>
<td>RRT</td>
<td>Regional Health Response Team</td>
</tr>
<tr>
<td>SAGE</td>
<td>Strategic Advisory Group of Experts on Immunization</td>
</tr>
<tr>
<td>SDG</td>
<td>Sustainable Development Goals</td>
</tr>
<tr>
<td>SISMED</td>
<td>Unified Emergency and Disaster System (Spanish Acronym)</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>SOP</td>
<td>Standard Operating Procedures</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>TNCA</td>
<td>Central American Northern Triangle (Spanish Acronym)</td>
</tr>
<tr>
<td>UHC</td>
<td>Universal Health Coverage</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations International Children’s Emergency Fund</td>
</tr>
<tr>
<td>USAID</td>
<td>U.S. Agency for the International Development</td>
</tr>
<tr>
<td>VCE</td>
<td>Evaluation of Essential Conditions of Health Services (Spanish Acronym)</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>YFV</td>
<td>Yellow Fever Virus</td>
</tr>
<tr>
<td>ZIKV</td>
<td>Zika Virus</td>
</tr>
</tbody>
</table>
This page is left blank on purpose