

Preparedness and Mitigation in the Americas

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Management of information on health emergencies is a strategic activity of ministries of health

Information management and risk assessment in ministries of health

The management of information on health emergencies is a strategic activity which, along with risk assessment, enables ministries of health to provide an efficient response to the different emergencies that may occur in each country.

Amoricas

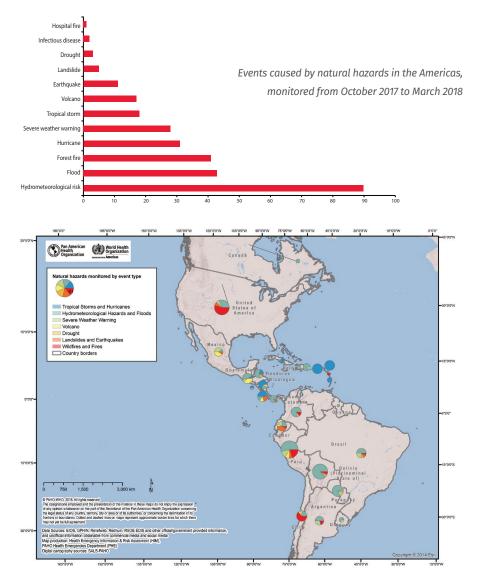
Determining in advance the socioeconomic and environmental damages and losses that will occur in an adverse event is a major challenge, given all the uncertainties. It is usually impossible to accurately predict the time, magnitude, intensity, and duration of hazards, the segments of society that will be affected, and the impact on public health. Nevertheless, risk assessment and monitoring is essential to designing the best response.

The assessment of risk and information about health emergencies is one of the strategic areas of PAHO/WHO's work in support of the countries. It entails collecting and disseminating the critical information needed to safeguard global warning systems, as well as early detection and risk assessment reporting for a rapid response at the local, regional, and central levels.

Health sector advances the Sendai Framework for **Disaster Risk Reduction** 2015-2030

he VI Regional Platform for Disaster Risk Reduction in the Americas will be held 20-22 June 2018 in Cartagena, Colombia. It is an opportunity for Member States, the private sector, civil society, and international cooperation agencies, among others, to share knowledge and discuss progress

Information management and risk assessment in health ministries



PAHO/WHO's Department of Health Emergencies, in coordination with the countries, evaluates within a period of 12 hours, all signs of events and/or emergencies with public health consequences that are detected or reported to PAHO/WHO.

The main purpose of the monitoring is to identify current events and hazards that could jeopardize public health or potentially affect public health in the near future.

The number of events included in this report is limited. It states the likelihood of each event occurring (for example, the chances that a volcano eruption would cause respiratory illnesses to spike), and provides an assessment of national response capacities (for example, the number of health services in the area).

How does the monitoring system work?

- electronic review of international and regional information sources specializing in health, humanitarian information, emergencies, and disasters
- selection of relevant content
- consolidation in a draft that contains a list of events
- distribution to an internal email list for remarks or corrections

 distribution of the end product (monitoring) to PAHO/WHO emergency personnel in country offices and to disaster coordinators at the ministries of health

What criteria are used to select an event for inclusion in daily monitoring?

- A present or potential substantial impact on the morbidity and mortality of the affected population.
- Has damaged or severely limited access to health centers.
- Has affected infrastructure (shelters, roads, bridges, etc.) so that the basic needs of the population cannot be met in the short term.
- Has created a health hazard for the affected population.
- Has exceeded the national ability to respond. The affected Member State requires external intervention.

How is this information useful to the ministries of health of the Region?

This information could be useful to the Region's ministries of health in several aspects:

- identifying priorities and actions to be taken for the management of an emergency or disaster;
- helping to anticipate possible needs for international assistance;
- adopting measures to protect health services infrastructure (for example, in the event of a hurricane);
- establishing early recovery mechanisms in advance.

Health sector advances in the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030

and challenges in the implementation of the Sendai Framework for Disaster Risk Reduction in the Americas 2015-2030.

Health is a key element of the Sendai Framework for Disaster Risk Reduction 2015-2030, since it emphasizes the need to ensure access to the integrated health services network after disasters and expands the scope of disaster risk management by including both natural and man-made hazards, with special reference to environmental, technological, and biological risks. In addition, four of the seven global targets are health-related.¹

For this reason, the ministers of health of the Americas approved the Plan of Action for Disaster Risk Reduction 2016-2021 in September 2016.

This plan contains four strategic lines of action that are consistent with the Sendai Framework: recognizing disaster risk in the health sector; governance of disaster risk management in the health sector; safe, smart hospitals; and health sector capacity for emergency and disaster preparedness, response, and recovery.

Within the framework of the VI Platform, the countries will report on their progress with the Safe Hospitals initiative. Nineteen countries already have a national Safe Hospitals policy. In 28 countries, the Hospital Safety Index (HSI) is being applied to evaluate the safety of structural, nonstructural, and functional components of hospitals. In addition, 13 countries and two territories have established national Hospital Safety Index and "green checklist" evaluation teams.

With the support of the United Kingdom's Department for International Development (DFID), the Caribbean region is going a step further with the Smart Hospitals initiative, an innovative project and the first of its kind in the region. The hospitals targeted by interventions to make them "smart" will incorporate measures to cope with climate change in terms of both adaptation and mitigation in the planning, design, building, and operation of health facilities. Seven Caribbean countries are already implementing these measures.

With respect to the coordination of humanitarian assistance in the health sector, significant progress has been made in the strategic lines of the corresponding plan of action approved in 2014 and reviewed in 2017: strategic partnerships; cooperation among countries and international agreements; emergency medical teams; and leadership, coordination, and accountability.

The multilateral agreement of the Union of South American Nations (UNA-SUR) recognized the need to support the principles and basic standards of emergency medical teams (EMTs) at the national and regional levels, and 12 of its member countries joined the Inter-American Emergency Health Network.

Twenty-three countries in the Region have trained 78 national experts as EMT coordinators. Training workshops have been held in 17 countries on procedures



to coordinate the sending and receiving of EMTs, and five of those countries are currently integrating those procedures into their national mechanisms. In addition, EMTs in Costa Rica and Ecuador received verification of WHO Global Classification.

The health sector faces significant challenges on the road to implementing the Sendai Framework. The ministries of health should continue to strengthen their emergency health programs with staffing and financing. In terms of recognizing disaster risk, tools should be developed and disseminated for disaster risk assessment in the health sector. Furthermore, the state of emergency and disaster preparedness should be evaluated and response plans should be prepared with a multi-hazard approach, as well as post-disaster recovery plans. It is also necessary to validate and implement disaster risk management initiatives for indigenous populations and persons with disabilities. 🕏

http://www.unisdr.org/files/46621_healthinsendaiframeworkfactsheet.pdf



The Region of the Americas hosted the Second Regional Meeting of Emergency Medical Teams (EMTs)

More than one hundred experts from the Americas participated in the Second Regional EMT Meeting held in Quito (Ecuador) to consolidate best practices in EMT preparedness and response, and to discuss challenges and regional priorities for the 2018-2019 biennium.

Organized by the Ministry of Health of Ecuador and PAHO last November, this meeting was attended for the first time by 23 officially designated focal points from 23 PAHO Member States. Other participants included regional experts and 17 representatives from NGOs in the Americas that supply EMTs.

The meeting involved strategic discussions on the stages of implementation of the EMT initiative: guaranteeing EMT preparedness, addressing the challenges of deployment, and ensuring proper coordination and post-deployment follow-up. The meeting was also important in fostering coordination among all the stakeholders.

In-depth discussions were held in working groups, and practical recommendations were offered on subjects such as the development of technical standards by EMTs, how to deal with recruitment challenges, administrative rules and considerations regarding the deployment of EMTs, national mechanisms for the registry of EMTs, and the Medical Information and Coordination Cell (CICOM). Consensus was reached on subregional priorities (Central America, South America, and the Caribbean) that have been incorporated into the work plan for the 2018-2019 biennium.

During the meeting, the NGO Advisory Group was also consolidated within the structure of the Regional EMT Group to exchange NGO best practices and operational capacities.

At the conclusion of the meeting, Ecuador was officially des-

ignated as the Chair of the Americas Regional EMT Group. Costa Rica and Panama were named First and Second Chairs respectively.

The meeting received contributions from the Spanish Agency for International Development Cooperation (AECID), the United States Department of Health and Human Services (HHS), and the Special Administrative Region of Macao.

Regional priorities for implementation of the EMT Initiative in the 2018-2019 biennium

1. Training

- Establish collaborative working groups to strengthen the standards of the Initiative and evaluate the benefits obtained.
- Participate in the global review of EMT standards in order to contribute the regional perspective.
- Develop a tool that provides data analysis and the exchange of best practices and lessons learned.

2. Human resources

• Update and maintain the roster of EMT coordinators.

3. Logistics

- Establish bilateral and multilateral cooperation mechanisms for sending and receiving EMTs.
- Strengthen training on logistical issues, and better define health logistics coordination standards.

4. Deployment of EMTs

- Develop mechanisms for the temporary validation of medical licenses and insurance in disaster situations.
- Develop flexible registration mechanisms with consent forms prior to disasters.
- Establish a quick-reference repository on deployment requirements for each country.

5. CICOM

Incorporate the CICOM into existing national structures.



Bolivia PAHO/WHO support in the national flood emergency

Since early 2018, Bolivia has sustained a number of heavy precipitation events, especially in the Beni, in the north-central part of the country, and in the departments of Potosi and Tarija, in the south. The rains have also affected other departments such as Cochabamba, La Paz, and Chuquisaca. The emergency resulted in eight deaths, and has affected some 17,000 households. More than 1,100 families have been displaced, and over 400 homes have been destroyed.

On 7 February, the government declared a state of national emergency. The Ministry of Health activated the Health EOC, which mobilized drugs and medical supplies and deployed health brigades in the most critical areas, as well as multidisciplinary teams to help organize the health response in the Departmental Health Services (SEDES) and in the municipal health services network.

The Ministry of Health has led the response to the emergency with the support of PAHO/WHO, which has participated with the Regional Response Team in the field missions to the municipality of Tiquipaya (Cochabamba), Department of El Beni, and Palca (La Paz) in order to strengthen information management and the quality monitoring of water and sanitation.

Risk communication has also been strengthened through the delivery of information, education, and communication (IEC) materials, training of key stakeholders, and preparation of important messages for disease prevention and safe water management in emergencies.

Chile Ministry of Health and Ministry of Defense sign cooperation agreement on disaster response

The objective of the Agreement is to establish guidelines for cooperation and reciprocal coordination of training, research, and education on emergencies, disasters, and catastrophes.

Facilitated by the PAHO/WHO Representative Office in Chile, the Agreement will make it possible to help develop and strengthen the Armed Forces' capacity to contribute effectively and efficiently to areas of the Ministry of Health's work. In this regard, the Ministry of Defense agrees to support training exercises for emergencies and catastrophes, as well as all matters concerning the National Civil Defense System, in the areas within its purview.

In turn, the Ministry of Health will help develop the capacities of Armed Forces (Navy, Army, and Air Force) health care organizations and health facilities, in accordance with international standards for Emergency Medical Teams (EMTs) and the Medical Information and Coordination Cell (CICOM), through joint training sessions for health response. It will also help develop coordination processes to request and utilize Armed Forces resources at the national and local levels.

During 2017, the PAHO/WHO Representative Office in Chile developed lines of cooperation with Armed Forces health teams, mainly in the area of emergencies, leading to the signature of the Framework Agreement for Cooperation between the two ministries.



Signature of the Framework Agreement for Cooperation between the Ministry of Health and the Ministry of Defense

Caribbean

Recovery continues after a very active hurricane season

In 2017, the Caribbean experienced one of the most active hurricane seasons to date. Hurricane Irma, a category 5 storm, brought strong winds and rains to the Caribbean islands of Anguilla, Barbuda, the British Virgin Islands, Sint Maarten, and Turks and Caicos, before making its way toward the northern coast of Cuba. Less than two weeks later, Hurricane Maria caused major destruction in Dominica.

Hurricane Irma had sustained winds of 185 miles per hour for a record-breaking 37 hours,² causing five deaths in Anguilla, Barbuda, the British Virgin Islands, and injuring 83 people in Anguilla and 125 in the British Virgin Islands.³ Some of the islands suffered massive destruction.

Primary health care facilities sustained widespread damage. In the British Virgin Islands, the health sector reported estimated losses of US\$1.5 million. 13 health centers, two nursing homes, and 10 district clinics were damaged. On the island of Barbuda, the only existing health care facility, the Hanna Thomas Hospital, was reported inoperative; most of the facility's roof was damaged, its water tanks were contaminated, and it lost power.⁴

Total damage to the health sector in Antigua and Barbuda



Installation of concrete ceiling in the La Plaine Clinic in Dominica

has been assessed at US\$1.8 million, while the estimated needs for recovery, including reconstruction, amount to US\$7.3 million.⁵ Approximately 99% of the structures on the island of Barbuda reported some damage as a result of Hurricane Irma.⁶

The health infrastructure of Dominica also suffered enormously from the impact of Hurricane Maria. In September 2017, health sector losses were estimated at US\$10.9 million, and assessed needs totaled US\$22.14 million.⁷ The hurricane left 31 people dead and 34 missing.

In collaboration with the ministries of health, and with the support of Rescue Global, PAHO/WHO provided immediate support with the mobilization of regional response teams and the shipment of medical and humanitarian supplies.

The most urgent needs were prioritized, a damage assessment and needs analysis was conducted, and support was provided to the Ministry of Health for environmental health requirements and for water and sanitation. With the collaboration of the Government of the Dominican Republic, 47 patients were evacuated.

Medical supplies and equipment were purchased with financial support from the United Kingdom's Department for International Development (DFID), the Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO), Global Affairs Canada (GAC), and the Office of U.S. Foreign Disaster Assistance (OFDA).

Recovery efforts in the region are still underway. In the British Virgin Islands, the roofs of the Adina Donovan and Virgin Gorda nursing homes are being repaired. The national authorities of Dominica, jointly with PAHO, are closely collaborating with the NGOs Americares and International Medical Corps (IMC) to repair different health centers. Solar water pumps will also be provided to three health centers.

https://webcms.colostate.edu/tropical/media/sites/111/2017/09/Hurricane-Irma-Records.pdf by Phil Klotzbach, hurricane expert from Colorado State University.

- Caribbean Disaster Emergency Management Agency (CDEMA). Updated December 2017.
- Hanna Thomas Hospital and Hanna Thomas Health Center Assessment Report (PAHO).
- Needs Assessment for Recovery from Hurricane Irma, Report of the Government of Antigua and Barbuda.
- PAHO Response to Hurricane Irma.
- Post-Disaster Needs Assessment (PDNA). September 2017.





Meeting at the La Plaine Clinic in Dominica with representatives of the Ministry of Health, PAHO/WHO, and the contractor to ensure quality control.

Smart Hospital Project: an opportunity to build back better

Hurricanes Irma and Maria have demonstrated the importance of disaster preparedness efforts. In this regard, the Smart Health Facilities Project being developed by ministries of health with PAHO support is spearheading efforts to rebuild in a way that prevents vulnerability and ensures that the health services infrastructure can resist future disasters and continue to offer an essential public service.

Financed by the United Kingdom's Department for International Development (DFID), it is an innovative project and the first of its kind in the Region.

It has been more than two years since the second phase of implementation of this project began in the Lesser Antilles (Dominica, Grenada, Saint Lucia, and Saint Vincent and the Grenadines), Belize, Guyana, and Jamaica. During this time, nearly 350 health care facilities have been evaluated in these seven countries using PAHO's Hospital Safety Index (HSI) and the "green checklist" developed by the project. Furthermore, it is estimated that interventions will be carried out at some 50 health centers in these seven countries.

Despite the significant impact of Hurricane Maria in Dominica, construction work at the La Plaine Clinic has continued, as well as at the Princess Alicia Hospital in Grenada and the Chateaubelair Hospital in Saint Vincent and the Grenadines. Belize, Guyana, and Jamaica were incorporated into the project a year after it began, and are now in the process of selecting the companies that will be in charge of the design and inspection of the construction work.

Two health centers participated in the first phase of this project: the Georgetown Hospital in Saint Vincent and the Grenadines and the Pogson Hospital in Saint Kitts and Nevis. The lessons learned from this initial phase are being taken into account in the execution of the current phase. In the case of the Georgetown Hospital, they were documented.

One of the project's key outcomes is a 60% reduction in energy consumption, which has reduced operating costs at the Georgetown Hospital during the first year of implementation of the improvements. In addition, the installed water storage system was useful not only for the center but also for the community, especially during recent flooding.

The ministries of health of the seven countries participating in the project are committed to its success, which will ensure that communities receive the best possible medical care while environmental sustainability is also promoted. The project will continue to make significant progress toward the creation of safer, greener, and smarter health centers in the Caribbean.



Lessons learned from the Smart Hospital Project in the Caribbean

- Secure a very detailed cost estimate for all construction work in the second phase of the project;
- Ensure the use of good quality materials and maintenance so that the interventions are long-lasting;
- Provide operation and maintenance manuals to the health centers (a maintenance guide has been prepared and made available to the ministries of health);
- Train medical center employees on the correct use of the equipment (a course developed for support staff will be offered soon);
- Ensure that all health centers selected for the second phase of the project have their own water meter so they can document the reduction in their water consumption as a part of the project.

Signing of the agreement between PAHO/WHO and ECU 911 for the use of the Unified Emergency and Disaster System (SISMED).

Ecuador

The Unified Emergency and Disaster System (SISMED)

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.

As of this past February, 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 SISMED--the Unified Emergency and Disaster System. It is 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.

SISMED will be implemented in Ecuador and can be modified to the country's needs and requirements. The idea is to subsequently expand its use to other countries of the Region, as in the case of the Dominican Republic, where it is already fully operational.

The system 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.

When signing the agreement between PAHO/WHO and ECU 911, 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.



The PAHO/WHO Representative in Ecuador, Gina Tambini, highlighted the country's emergency care model, which provides a single emergency number for coordinated health care resources and ambulances with professional medical and paramedical staff. "Coordination with hospital-based health services is also essential for the prompt admission of victims and subsequent treatment," she added.

The system that PAHO has developed 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.

Guatemala

CISDUSAC: over 15 years of providing information on health and disasters

Guatemala has had a Health and Disasters Information Center for more than 15 years, located in the Dr. Julio de León Méndez Library and Documentation Center of the School of Medicine at the University of San Carlos of Guatemala (USAC).

Its main objective is to provide information on the subject of health and disasters to help strengthen a culture of prevention.

The library participates in international networks such as the Virtual Health Library (VHL), and has been a member of the Latin American Network of Disaster Health Information (LANDHI) since 2004.

Services it offers:

- collection of printed material on disasters
- virtual catalog with a national document database in digital format
- computer lab for information searches and courses
- reference to national and international information sources such as the NLM and PAHO/WHO

For more information: <u>http://desastres.usac.edu.gt</u>



A mobile application and risk prevention guides in the Kakchiquel language, are the center's most innovative products

The LANDHI mobile app is the result of the library's participation in several projects proposed by the United States National Library of Medicine (NLM). It is used for the dissemination of LANDHI Network news.

Also notable are the risk prevention guides translated from Spanish into Kakchiquel, a Mayan language.



The Ministry of Health fights diphtheria in Haiti

Haití

Ministry of Health fights diphtheria in Haiti

The Haitian Ministry of Health has stepped up efforts to combat diphtheria with PAHO/WHO support. So far this year, 75 probable cases have been reported.

Essential medical supplies to treat the disease have been acquired and distributed in six departments where cases were identified. In addition, personal protective equipment has been delivered to 14 medical facilities.

Together with the departmental health offices, PAHO/WHO has carried out various missions to investigate alerts of probable cases. These missions have included reactive vaccination and the training of medical staff. In eight departments, epidemiological surveillance has been strengthened at the local level. National guidelines for the treatment of the disease are also being reviewed.

To support the hospital referral system for diphtheria cases, PAHO/ WHO held a campaign to support the National Ambulance Center (CAN). Some 200 employees of the center have received training.

The response and preparedness capacity of hospitals designated to treat possible diphtheria cases in five departments is currently being assessed; 15 assessments have been completed.

In March and April, the Ministry of Health carried out a mass vaccination campaign with PAHO/WHO support, reaching more than two million children.

Receives technical assistance to improve the health sector's response capacity

Strengthening the capacity to respond to emergencies and disasters is one of the main areas of technical cooperation that the Pan American Health Organization (PAHO) offers to the Ministry of People's Power for Health (MPPS) in Venezuela.

Over the past two years, 31 international experts have been mobilized to support training for nearly 400 Venezuelan professionals in different technical areas, especially emergency response in the health sector. Training sessions in this area have focused on aspects such as the Emergency Operations Center (EOC) and decision-making, the health situation room, health situation analysis, logistics and emergency supply management, Emergency Medical Teams (EMTs), and the Hospital Safety Index (HSI). In addition, nine Venezuelan professionals have participated in foreign meetings on these topics.

During this period, joint work and collaboration have focused on the following core areas:

- Strengthening governance and management capacity: with the reactivation/ restructuring of the National Emergency and Disaster Risk Management Commission of the MPPS (which had not been operating since 2010), an emergency simulation, and the participation of Venezuelan representatives in subregional activities.
- Organization of the COE and decision-making: training in the use of tools and the development of standardized



functions and procedures.

- Logistics and emergency supply management capacity: refresher course on logistics and assistance in emergencies and disasters, which included training in the Humanitarian Supplies Management System (SUMA).
- Hospital safety and response: training on the Hospital Safety Index (HSI), preparation of the Plan of Action for Hospitals, and evaluation of 11 priority hospitals. Implementation of the HSI in these hospitals showed high or very high seismic risk in 10 of them, as a result of Venezuela's geological fault lines (Boconó, San Sebastián, and El Pilar).
- Strengthening the capacities of Venezuelan emergency medical teams: training

workshop that included aspects of clinical management of affected populations, procedures, operation, and mechanisms for coordination and operations in emergencies and disasters.

Finally, based on the determination of health needs, PAHO has helped procure and manage medicines and supplies for the prevention and management of infectious diseases, noncommunicable diseases, and maternal and child health, as well as high-cost drugs and medical kits for health emergencies. This support has been provided with the Organization's own resources, through the Strategic Fund and the Health Emergencies Department, and in collaboration with government agencies and other international institutions.

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Evidence Aid: Scientific evidence for the prevention and treatment of acute malnutrition

In 2017, the United Nations Children's Fund (UNICEF), the World Food Program (WFP), and other United Nations agencies estimated that more than 70 million people worldwide required food or other assistance because of disasters, conflict, population displacement, famine, or high levels of acute malnutrition.¹ In many cases, crises are socioeconomic, meaning that food is available but unaffordable.²

To help solve this problem, a consortium led by Evidence Aid, whose members include a number of major NGOs and organizations, has developed an initiative to ensure that the highest level of scientific evidence (systematic reviews) is employed in the prevention and treatment of severe malnutrition in emergencies and humanitarian crises.

The organizations involved in this initiative are Action Against Hunger, Cochrane, Cochrane Nutrition, Cochrane Switzerland, Emergency Nutrition Network (ENN), KEMRI/Wellcome Trust Research Programme, London School of Hygiene and Tropical Medicine, Doctors without Borders (MSF), Save the Children, Scaling up Nutrition (SUN), Movement Secretariat, Oxford University, and World Food Program (WFP), as well as a large group of volunteers. The purpose of this collection of systematic reviews is to increase the use of robust evidence to improve prevention and management of acute malnutrition in emergencies, and to inform decision-making on strategies and policies.

The collection will be periodically updated and the summaries will be translated into Spanish and French. <u>http://bit.ly/2HgVkjQ</u>

Educational resources of the United States National Library of Medicine (NLM)

- NEW Course for Disaster Information Specialists: Social Media Analysis during Disasters (in English). This course will help participants develop and implement a plan to monitor and analyze disaster information on social media: http://bit.ly/2J8Eq7x
- Webinar "Hospital Preparedness Program and the Centers for Medicare and Medicaid Services (CMS) Emergency Preparedness Rule." <u>http://bit.ly/2HPgqab</u>

Other online courses offered through the NLM's Disaster Information Management Research Center (DIMRC) are available at: <u>http://bit.ly/2F2Z8Dj</u>



Noteworthy resources from the Disaster Lit database:

- Stanford University Disaster Medicine Training. Provides a foundation of disaster medicine knowledge. http://bit.ly/2JnAsYC
- Prep Talks: The Next Pandemic; Lessons from the History of the Federal Emergency Management Agency (FEMA) of the United States. Presentation that offers lessons learned from the 1918 and 2009 influenza pandemics. http://bit.ly/2JpMxg1

 Texas Hospital Association Hurricane Harvey Analysis: Texas Hospitals' Preparation Strategies and Priorities for Future Disaster Response. This report analyzes Texas hospitals' disaster response before, during, and after Hurricane Harvey in 2017. <u>http://bit.ly/2JmaO6E</u>

For the complete list of materials, see: http://bit.ly/2HYlYiH

11

FAO, IFAD, UNICEF, WFP and WHO. 2017. The State of Food Security and Nutrition in the World 2017. Building resilience for peace and food security. Rome, FAO. https://uni.cf/2HNCEOX

World Economic Forum. 2017. 21st century famines have nothing to do with a lack of food. http://bit.ly/2F2jWuN

Pan American Health Organization Disasters: Preparedness and Mitigation in the Americas

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Preparedness and Mitigation in the Americas

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Africa Emergency Planning and Services Conference

June 28-29, 2018 / Accra, Ghana

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http://africa-emergency-conference.org The conference will allow for various emergency planning officials, practitioners,

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health

2018 Sub-regional Platform on Disaster Risk Reduction for Central Asia and South Caucasus countries

June 26-27, 2018 / Yerevan, Armenia

https://www.unisdr.org/conference/2018/casc This meeting of the sub-regional platform will reflect on the three years of the implementation of the Sendai Framework, focus on the next steps, and the strengthening

of coherent implementation of the 2030 Agenda for Sustainable Development.

http://eird.org/pr18 An opportunity for governments, the private sector, civil society, and other actors to exchange experiences in the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 in the Americas.

X International Congress on Disasters

Organized by the National General Staff of the Civil Defense of the Republic of Cuba, the congress has a scientific program that will address the different types of hazards, vulnerabilities, associated risks, and the impact of climate change on disaster situation.

movements, professionals and members of government agencies that carry out

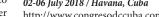
research and/or execute projects related to climate change in Eastern Europe.

consultants, NGOs, government departments, and others, to share their experiences

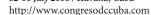
and best practices at the local, national and regional levels through workshops, pan-

els and roundtable discussions.

02-06 July 2018 / Havana, Cuba



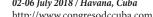


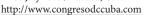


International Scientific Conference on Adaptation to Climate Change in Eastern Europe

https://www.haw-hamburg.de/en/ftz-nk/events/easterneurope2018.html This conference, which will focus on risk management and building resilience to climate change, is an interdisciplinary event that brings together academics, social

03-05 July 2018 / Banja Luka, Bosnia and Herzegovina





Sixth Regional Platform for the Disaster Risk Reduction in the Americas

20-22 June 2018/Cartagena, Colombia