

2015

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Recommended Citation

Perera, Y., Hernandez, L., Ugarte, C., John-Baptiste, A. (2015). Health Operations in Emergencies (HOPE). in: Speechley, M., & Terry, A.L. [eds] Western Public Health Casebook 2015. London, ON: Public Health Casebook Publishing.

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CASE 12

Health Operations in Emergencies (HOPE)¹

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BACKGROUND

Dr. Harry Leonardo was managing a roster of experts in his office during an emergency at the Pan American Health Organization (PAHO) headquarters in Washington D.C. He thought to himself that he needed to create an up-to-date roster of experts ready for deployment. However, he would also need to incorporate different technical areas to share the necessary information, so that one deployed expert may have the advantage of being informed by other experts in order to complement the response to a crisis. This was the birth of an idea that would revolutionize the way information would be handled and shared during a disaster response in the region.

INTRODUCTION

As the oldest international public health agency, the PAHO has fathered much of the public health platform in the Americas. As part of the United Nations system, PAHO serves as the Regional Office for the Americas for the World Health Organization (WHO). The Organization's mission is:

"...to lead strategic collaborative efforts among Member States and other partners to promote equity in health, to combat disease and to improve the quality of, and lengthen the lives of the peoples of the Americas."

– Pan American Health Organization, 2011

As a technical co-operation agency, PAHO does not finance programs. It assists countries in the region with sharing technical information and mobilizing health resources. PAHO perceives

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Technical Cooperation among Countries² (TCC) as a powerful instrument. TCC is understood to be an experience where there is both implementation of and participation in various projects between countries. This experience encompasses a sharing of knowledge, resources, and technical capacities, which at times may require external assistance and financial support. This resonates with the mission of the PAHO. Countries may use TCC to develop consensus-based policies and concrete actions to address health challenges together.

The Emergency Operations Center (EOC) is housed in PAHO's headquarters in Washington D.C. and is part of the Emergency Preparedness and Disaster Relief Department (PED) at PAHO. The purpose of the EOC is to monitor and respond to disasters³ in the region. The Emergency Preparedness and Disaster Relief Department of PAHO came into inception in 1976, after earthquakes in the region demanded a systematic organizational response. The department has three principle actions:

1. To provide technical cooperation (in the form of reports, guidelines, and lessons learned);
2. To mobilize experts (reinforce the capacity of local ministries of health or PAHO country offices); and
3. To present projects that cover gaps in action plans prepared by local ministries of health.

PAHO holds three regional offices: one in Central America, one in South America, and one in the Caribbean. The strategic placements of these offices provide political advocacy to reinforce the development of health services. Their regional presence allows them to better "sense" the bilateral movements and the geopolitical environment in order to ensure equitable provision of resources.

This increased situational awareness helps effectively regulate the disaster response. On the other hand, at PAHO headquarters in Washington D.C., the situation is much less complex. However, there is a need to reinforce contact with partners and donors regardless of the geographical obstacles. There is also a need to enhance the relationship between the Emergency Preparedness Departments within PAHO and between this organization and various other sources of information.

The solution to these issues was fashioned through the concept of "HOPE".

WHEN A DISASTER STRIKES

Natural phenomena such as volcanic eruptions, floods, and tropical storms affect communities every single day. However, they are not disasters until they overwhelm the local capacity to respond. Based on the severity level of the disaster and the ability of the local community to respond, the degree to which the international community must become involved is established.

² "Technical Cooperation among Countries (TCC) is essentially a process whereby two or more countries work together to develop individual or collective capacity through cooperative exchanges of knowledge, skills, resources, and technologies. Ideally, TCC activities should be initiated, organized, and managed by the countries themselves, under the direction of the respective governments and with the participation of public and private institutions and organizations" (PAHO, 2012).

³ "Disasters combine two elements: events and vulnerable people. A disaster occurs when a disaster agent (the event) exposes the vulnerability of individuals and communities in such a way that their lives are directly threatened or sufficient harm has been done to their community's economic and social structures to undermine their ability to survive. A disaster is fundamentally a socio-economic phenomenon. It is an extreme but not necessarily abnormal state of everyday life in which the continuity of community structures and processes temporarily fails. Social disruption may typify a disaster but not social disintegration" (IFRC, 1993).

For example, when a disaster strikes a locality, aid workers in the immediate region flood the area. They collect and analyze data that is ultimately processed into assessments with the aim of acquiring funds for relief efforts. Multiple agencies and organizations with their own assessors produce subsequent reports with the hope of accomplishing the same goal. This process is followed by meetings intended to prioritize needs and to select which programs will be granted funding. This process is complex and time-sensitive and is based on a collaborative effort to provide a comprehensive response to the emergency. Different organizations lead the various sectors of activity:

- WFP (United Nations World Food Programme) – Logistics
- UNICEF (United Nations Children’s Fund) – Water/Sanitation
- UNHCR (United Nations High Commissioner for Refugees) + IFRC (International Federation of Red Cross), Convener – Emergency Shelter
- WHO – Health

These Health Clusters⁴ are all under the direction of the United Nations. The need for continuous communication amongst all actors is imperative in avoiding duplicated efforts and producing a unified response.

THE IDEA

With many years of experience in the field of emergency preparedness and disaster relief, Dr. Leonardo continuously dealt with the conundrum of information management during a disaster or emergency situation. In the field of emergency preparedness and disaster relief, one must understand that in the wake of a major disaster there is a substantial loss of life. In the ensuing hours after the event, the death toll may rise dramatically as a result of the unhealthy post-disaster environment. This includes environments that reflect issues of poor sanitation and waste management, potentially acute fatal injuries and the creation of a fragile socioeconomic infrastructure. Therefore, information is key; information saves lives and the faster a group or organization has access to such information, the more efficient the disaster relief efforts can be.

Dr. Leonardo grappled with a number of issues regarding information management:

- First, there can always be a better way of managing information in any given context. The consequence of failing to admit this could be the loss of lives post-disaster;
- Second, the health sector is complicated and has gaps with regard to the provision of services;
- Third, different humanitarian and relief actors work separately with little communication amongst them, often within the organization itself (amongst NGOs) or within the country (amongst various departments); and
- Fourth, informed decision making is critical in emergency situations. This has to be supported by well-guided collaboration through a dedicated platform to sustain a disaster response effort.

Post-disaster, the assessments and project formulation by humanitarian actors typically command a five day deadline, leading to a very competitive process. Information needs to be of

⁴ What is a Health Cluster? “A cluster is a group of agencies, organizations and/or institutions interconnected by their respective mandates that works together towards common objectives. The purpose of the clusters is to foster timeliness, effectiveness and predictability while improving accountability and leadership. Globally, the Humanitarian Reform has identified 11 clusters.” In 2005, the UN Inter-Agency Standing Committee (IASC) designated the WHO as the Global Cluster Lead for Health, leading over 30 partners in this sector (World Health Organization, 2015).

high-quality, rapidly accessible and it needs to make a difference. Currently, the informational products⁵ produced in this industry are beset with a few issues:

- Often, the information is not available to all actors involved in the response in real-time;
- Reports have a tendency to carry little or too much detail; and
- The analysis is difficult as the products are not always tailored to specific audiences.

With multiple sources of information, such as the Department of Civil Defense, private and public media corporations, and Non-Governmental Organizations (NGO), various information products are readily available. These products are of different quality and often fall within quite different categories. There are no references or standard guidelines to which they can be compared, which lead to difficulty in managing the information. Given this issue, one is at risk of dealing with a “high quantity” of information and/or receiving much “poor quality” information.

HEALTH OPERATIONS IN EMERGENCIES

Health Operations in Emergencies or HOPE (Exhibits 1 and 2 depict HOPE’s current Home Page) is an information sharing platform with the following objectives:

- Support the country’s action plan and health sector response in the wake of a disaster;
- Strengthen the coordination of the response to a disaster;
- Provide a multi-user, user-friendly, easy to access platform for compartmentalized information sharing; an interface that avoids duplication of information, permits information flow amongst different entities and promotes a collaborative and complementary environment for real-time information sharing;
- Respond to the user’s needs (various actors involved in the response, including response teams, ministries of health, NGOs etc.); and
- Use actions or processes to fuel the assessments that are critical to obtain resources from donors for relief efforts.

DEFINING HOPE

Health Operations in Emergencies (HOPE) is an online interface whose purpose is to facilitate information sharing amongst the relevant humanitarian actors involved in a disaster response. Four public sectors are targeted within this platform in order to better mobilize response efforts as well as gather and analyze hazard information. However, the priority is to increase the efficiency of emergency operations support (emergency projects, technical advice and guidelines or technical expertise mobilization) with the ultimate goal of supporting the local healthcare system. This task is accomplished by sharing information about both the impact on public health (local/province/federal healthcare system) and the subsequent needs in emergency situations.

It is important to note that HOPE is not simply a tool; it is the process that is imperative to an effective response. The personnel implementing this platform and those using it will have the capacity to introduce it to the regional disaster response arena (bigger audience). It is a situation room, coordination operations center, and response team communication channel, all housed in one virtual platform with the objective of facilitating informed decision making.

⁵ By informational products, the author of the case is referring to products that complement the disaster response efforts. These include hazard maps and maps that outline the location of ongoing assessments, locations of clinics as well as situational assessments and needs assessments etc.

Currently, HOPE is in its infancy of implementation, but the process is gaining more momentum. The intention behind HOPE is to reduce the number of channels that the information must travel through and provide a common hosting platform from which to obtain crude data. In order to be successful, the platform must be accessible to all actors involved in the response, not only professionals within PAHO. In addition, the process or mechanism of information sharing within this platform must be standardized, ensuring a universal understanding of the process and the software. The instructional component for HOPE will need to be produced by the organization hosting this platform.

HOPE aims to:

- Define the level, category and parameters of the information to be shared; and
- Establish a degree of safety of the given information; and establish guidelines for information documents and products to be shared during emergencies.

These goals will help define the real measures of the information required and strengthen the relationship between PAHO's political response and the response of other parties.

The Structure of HOPE

HOPE acts as a resource for four respective partners or groups within the action of response in emergency preparedness and disaster relief (Exhibits 3 and 4 portray this process):

- PAHO personnel;
- The health ministries within the respective countries;
- The Regional Response Team; and,
- Partners and other health agencies.

Each of these actors will partner in feeding information to HOPE (Exhibit 5).

WHAT IF?

HOPE holds great potential through real-time information sharing and the impact it will have on vulnerable or high needs populations is immense. Imagine yourself at a Cholera Treatment Center (CTC) in Haiti post-earthquake in 2010; the logistical needs are numerous. From Oral Rehydration Salts to Water Purification Tablets, the logistical requirements are growing as *Vibrio Cholerae* continues to claim lives. The needs of various centers are different and the response capabilities of the involved humanitarian actors in the locality may vary. The reality of meeting the logistical needs in Haiti at the time is demonstrated in Exhibit 6. The process of requesting and subsequently meeting these needs would still consume a sufficient amount of time. One may assume that making a phone call and requesting the necessary products is simple. Unfortunately, it is not. There is much chaos in the form of disorganized relief efforts following a disaster. There is fractured communication due primarily to the damaged infrastructure and the procedures for meeting the logistical needs of the situation can be quite tedious. Some relief workers say that at times it comes down to whether they have the right paperwork or whether the stationed personnel at the warehouse were previously informed.

If a CTC was in urgent need of water purification tablets and UNICEF was able to provide such resources, HOPE would provide both these humanitarian actors timely access to this information. HOPE offers a means of enhanced situation awareness. With established guidelines, dedicated networks, and devices, a relief worker could use a short message service

through satellite phones to obtain coordinates of the closest UNICEF hub in the area. This is important information that is easily accessible. Workers are thereby bypassing the hassle of undertaking a more time consuming process to meet these dire needs in an emergency situation. The potential to delete one of the middle steps in the process is high, thereby saving time. By saving time, responders are, in fact, saving lives. This form of vital information would be provided to them and hence support the opportunity for an efficient response in the given situation.

Consider “Country A”, which became partly ravaged by an earthquake and is expecting a sizable tsunami post-earthquake. Given considerable integration of the HOPE platform throughout the region, the information will start flowing in, almost immediately. With satellite phones and mobile technology, whether it is simple texts or informative multimedia messages, HOPE could immediately begin housing and sharing this information real time.

THE ROAD AHEAD

HOPE is operated and primarily used by EOC Staff, who are constantly involved in its development on the local organization network. It currently provides a platform for sharing real-time emergency updates on events taking place in the North and South American continents. This is simply one part of the project. HOPE will eventually incorporate four additional components:

- A reporting platform for events, which would primarily cater to the health ministries for incident reporting;
- A Regional Response Team interface that would house groups and online discussion forums in a format that closely resembles a Social Media chat room. Members of the Response Team would aid in establishing and fortifying communications amongst all individuals at the site of a disaster. It will allow professionals to converse and brainstorm ideas on response efforts; from the establishment of guidelines to the incorporation of Evidence-Based Medicine. This pooling of information by different experts helps reinforce or redirect the response accordingly;
- A pilot program targeting donors and other stakeholders in order to prioritize resources and enhance the coordination amongst members of the Health Cluster; and
- Communication amongst different actors and donors involved in the response ensuring increased transparency and subsequently enhancing the reputation and credibility of an information sharing platform such as HOPE.

THE FORESEEABLE ISSUES

“The development of HOPE is complex; it is not a product but a process. The software is of little importance, it is the sharing of information, procedures and education with donors and other counterparts that is crucial to disaster response.”

– D.L. Hernandez, personal communication, June 12, 2014

The establishment of such an information sharing hub is not easy. It requires global acceptance and dedicated use by its participants. The term “global” implies the need to have all stakeholders on board with such an endeavour. Why? Disaster response cannot succeed through one organization. The needs of vulnerable communities within a disaster are complex

and require a collaborative approach. Thus, access to this hub should be universal, regularly monitored, and protected.

Ideally, a better host website will be implemented for the deployment of HOPE. The platform needs to be designed appropriately to create a user-friendly interface. Once this is done, the platform would allow information sharing for all involved participants from all affected countries. Continued feedback and use will reinforce the capacity of HOPE to endure. It is important to note that there is much potential for this online platform to prosper. PAHO is already experiencing much organizational change from within. These changes coincide with the attempt to introduce HOPE as a revolutionary tool. This tool's introduction will attempt to change the very culture of disaster response.

Different aspects of HOPE are already functional and ready to run live. HOPE requires a network in which it can be housed to provide universal access to all humanitarian actors. These components are currently distributed between different platforms and networks, requiring individual access to each component. One central interface will soon reorganize these components and attempt to provide universal access to each. HOPE will revolutionize the way information is shared in an emergency. It will empower the local health care system as well as the actors involved in the local response efforts with information in order to ensure a dedicated and fortified response.

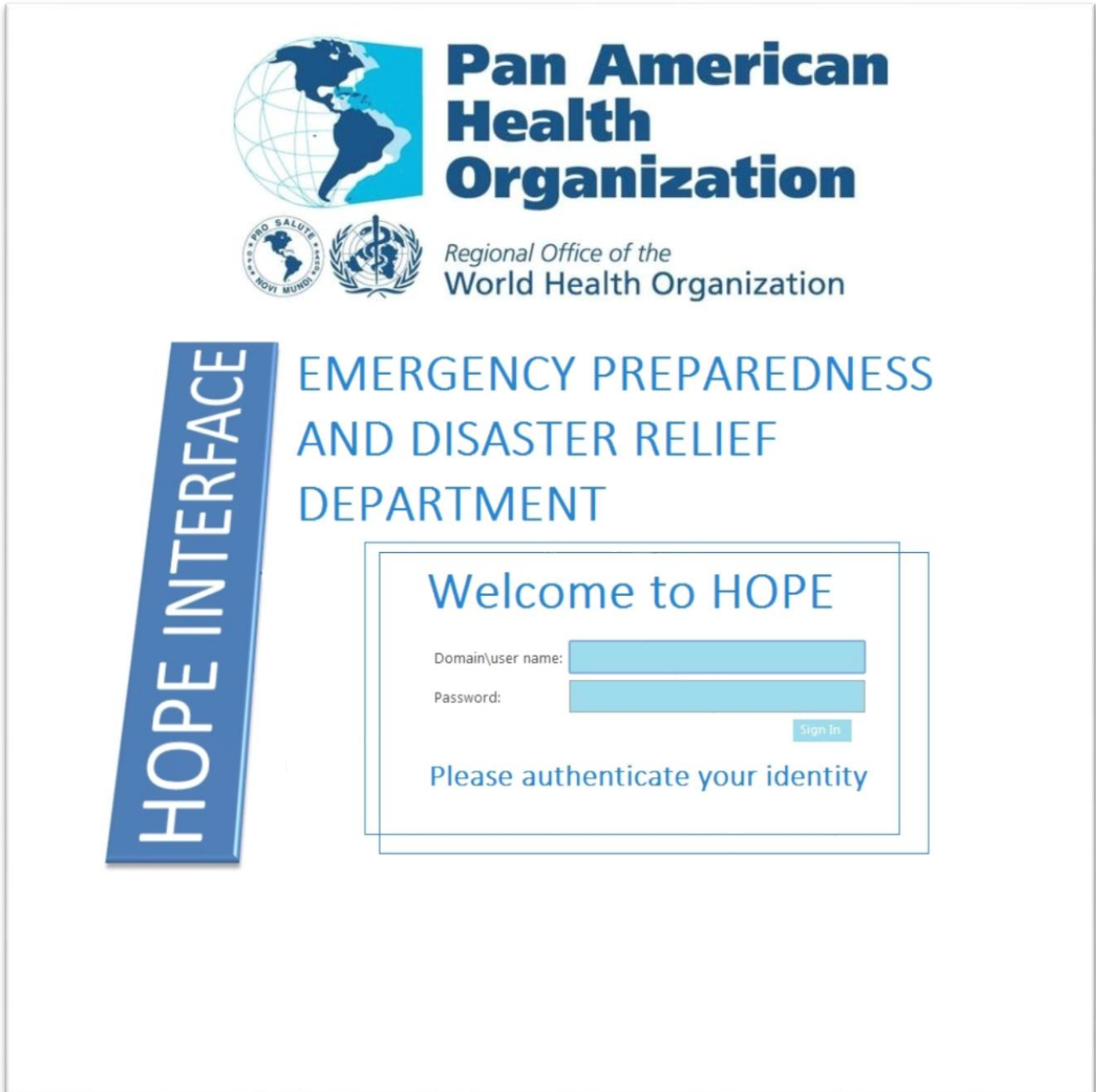
Communicating an idea is quite difficult; however the HOPE interface has been partly operational for quite some time. It is not just an idea as components of this platform have been operational since the Haiti earthquake. It was used to produce informational products for the response effort post-earthquake for Haiti in 2010 (R. Argueta, personal communication, July 1, 2014). HOPE is in its final strides of completion. With most of its components nearing operational completion, HOPE will soon be ready for implementation on its intended scale, which is across the North and South American continents. Communicating its potential and its ability to further develop the specialty of emergency response is central to its success. Dr. Leonardo must now formulate a plan to introduce HOPE to all members within the PED and PAHO as well. He must combat any reservations toward its implementation with evidence to the contrary.

HOPE is an innovative product that has both the potential to revolutionize an industry or simply fail. It is not the first of its kind as there are similar interfaces for other aid organizations. HOPE wishes to act as a universal product, with far greater accessibility and allow for more diverse operability (more functions) as well. It is important to get all members within the department on the same page. This means communicating to all internal stakeholders the process for information management.

There will be resistance and hesitation as some individuals will be reluctant to change the culture of response. Some may require more evidence to be swayed while others may follow the status quo (A. Cayon, personal communication, June 20, 2014). At the moment, HOPE is principally produced and developed within the organization. In order to effectively enhance its use amongst its partners, it will be important to obtain more stakeholder buy-in. Without such collaboration, the chance that gaps may not be addressed is quite high. HOPE is an interface that will only succeed through its increased use amongst the actors involved in this specialty of public health. It requires a trusting pool of users to establish its reputation from the ground up. Once PAHO, the local health ministries, donors, and other humanitarian actors are fully behind HOPE and its ability to innovate, only then can information management be further evolved.

EXHIBIT 1

HOPE's Home Page: *Login Portal (fictional)*



The image shows a fictional login portal for the Pan American Health Organization (PAHO). At the top left is a globe icon with the Americas highlighted. To its right is the text "Pan American Health Organization" in a large, bold, blue font. Below the globe are two smaller circular logos: the PAHO logo with the motto "PRO SALUTE NOVI MUNDO" and the WHO logo with a caduceus. To the right of these logos is the text "Regional Office of the World Health Organization". On the left side, a vertical blue banner contains the text "HOPE INTERFACE" in white, bold, uppercase letters. In the center, the text "EMERGENCY PREPAREDNESS AND DISASTER RELIEF DEPARTMENT" is displayed in blue, uppercase letters. Below this is a login form with a light blue border. The form contains the heading "Welcome to HOPE", a "Domain\user name:" label with a text input field, a "Password:" label with a text input field, and a "Sign In" button. At the bottom of the form, it says "Please authenticate your identity".

Source: Created by author.

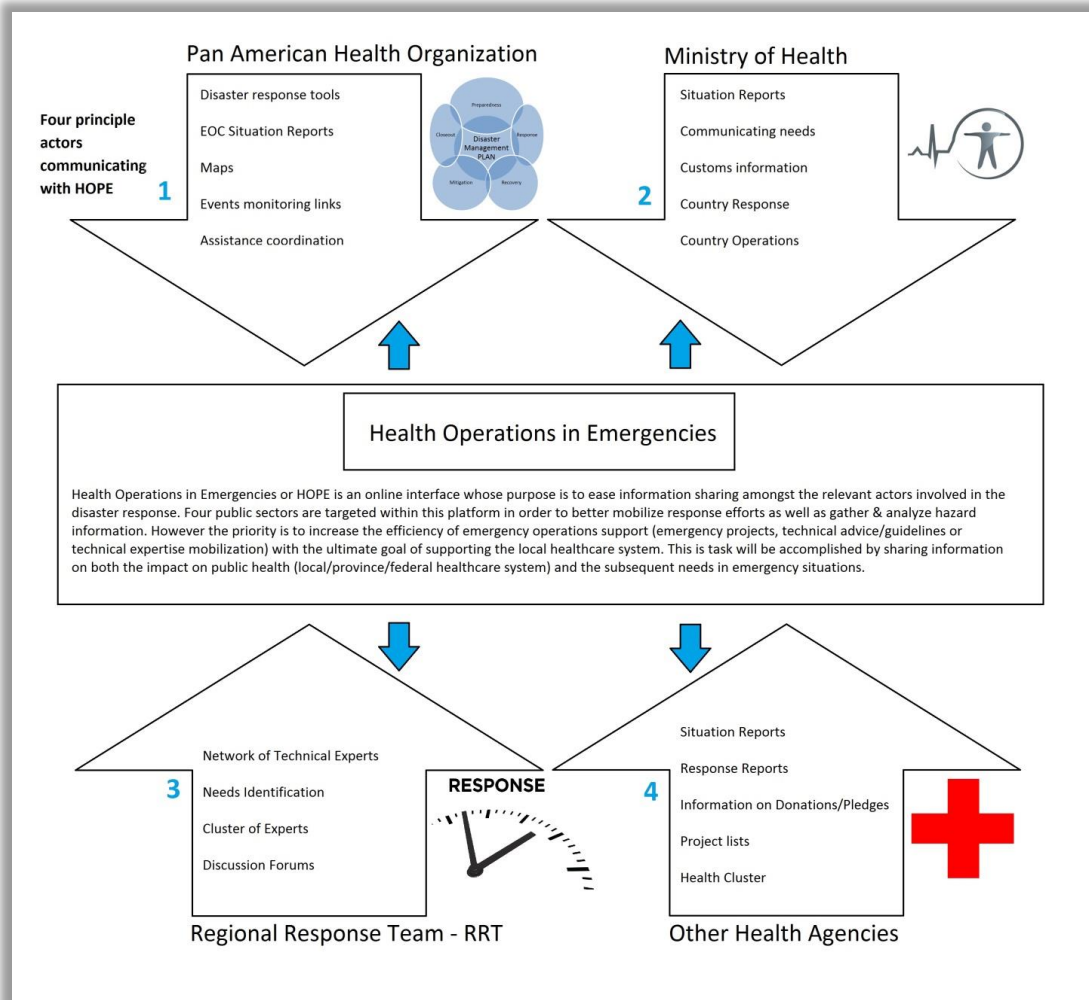
EXHIBIT 2 One of the Components of HOPE: The EOC Daily Monitoring (below is an image of its Home Page)

The screenshot shows the user interface of the HOPE EOC Daily Monitoring system. At the top left is the Pan American Health Organization logo. The main header reads "Health Operations in Emergencies > Events" and includes contact information: "Emergency Lines: 202-974-3399 - FAX 202-974-3333 - eoc@paho.org - Beta Version". Below the header is a navigation bar with "Health Operations in Emergencies" and "Control Panel" tabs, and a dropdown menu for "All Sites". The main content area is titled "Active emergencies" and features a table with columns for "Level of Activation" and "Body".

Level of Activation	Body
ALERT	Sismo de 6.9 M el 7 julio en la frontera entre Guatemala y México causa 4 fallecidos, heridos y daños en viviendas, edificios públicos y carreteras. Mayores afectaciones en el Dpto. de San Marcos (Gut) y en el estado de Chiapas (Mex). Declaración de calamidad pública para 7 Departamentos en Guatemala y de emergencia para 30 municipios en el estado de Chiapas. No hay solicitud de apoyo internacional
LEVEL 1	Inundaciones en Paraguay afectan ya a 46,272 familias en Asunción y los Departamentos de Alto Paraguay, Presidente Hayes, Concepción, San Pedro, Alto Paraná, Central, Cordillera, Neembucú y Misiones, por el aumento de nivel de los ríos Paraguay y Paraná. El número de afectados podría incrementarse por la tendencia creciente de los ríos. Oficina de OPS ha declarado emergencia administrativa (1 Julio)
ALERT	Volcán Ubinas, Perú. Incremento de actividad con explosiones y caída de ceniza en localidades cercanas. Evacuación de dos localidades. Nivel de alerta naranja y declaración de emergencia para los distritos de Ubinas y San Juan de Tarucani.
ALERT	Erupción del Volcán Chaparrastique, Departamento de San Miguel. 19 Mayo. Incremento de actividad sísmica, alta probabilidad de erupción. Evacuaciones preventivas en un radio de 5 km. Se mantiene alerta naranja ; lluvias incrementan riesgo de deslizamientos

Source: Image is a screenshot of the LIVE platform.

EXHIBIT 3
Defining HOPE and Its Tasks



Source: Created by author.

EXHIBIT 4
Structure of HOPE

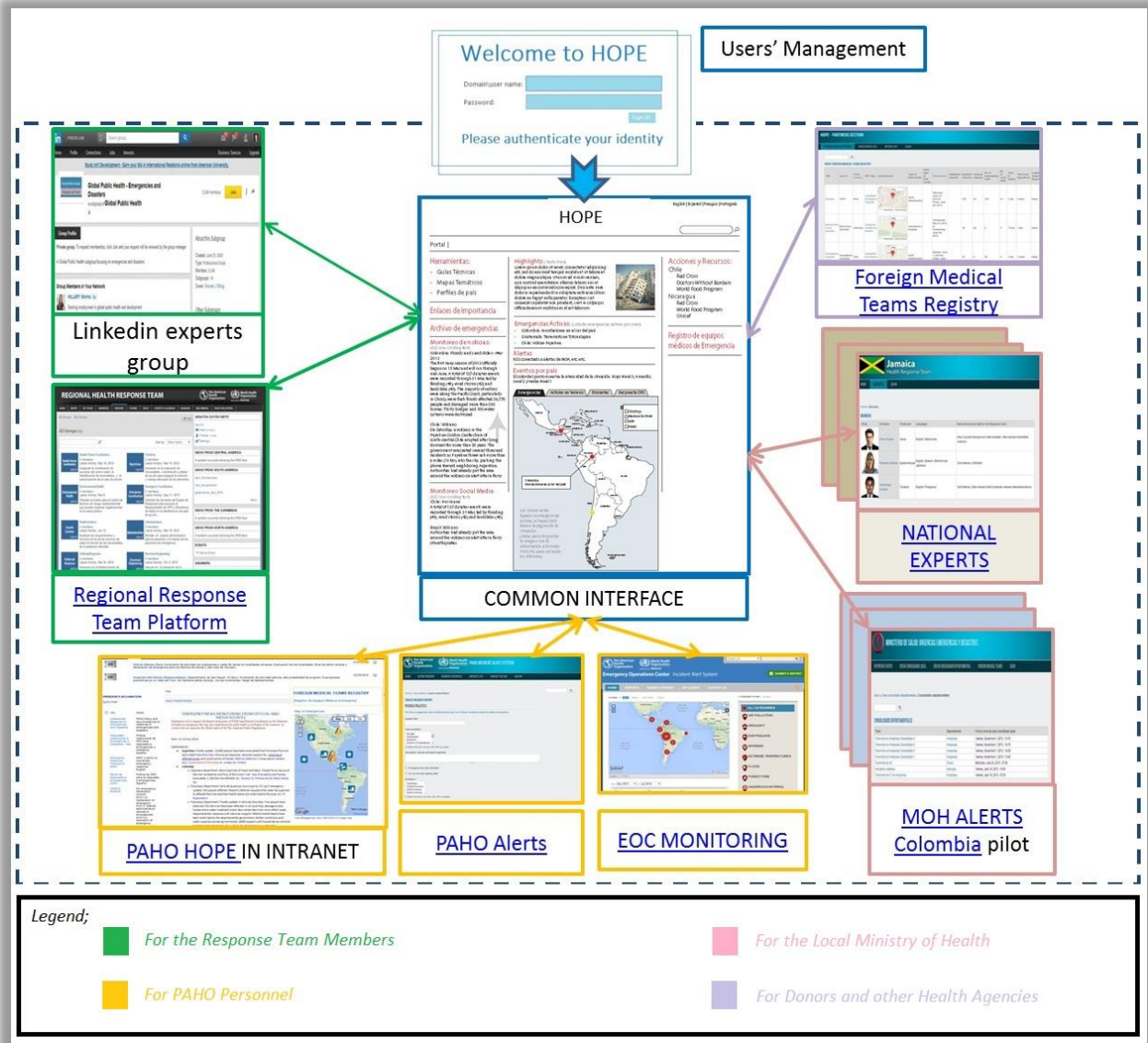
In reality this is one interface that connects FOUR platforms.
The platforms are tailored to meet the needs of the different actors involved in the response.



Source: Created by author.

EXHIBIT 5
Structure of HOPE

Detailed diagram highlighting all the components of HOPE. The colored arrows denote different users within the framework of HOPE.

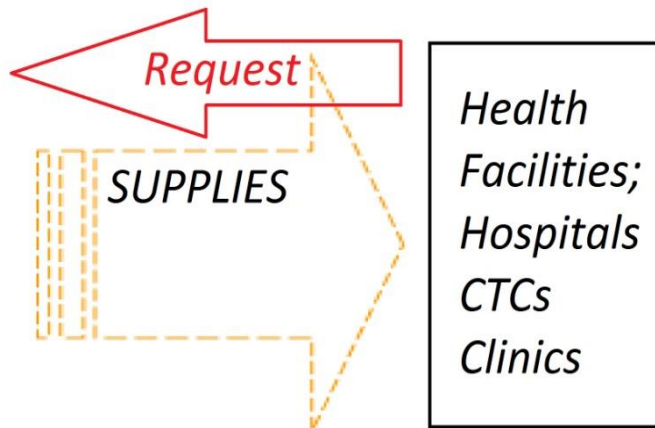


Source: Created by the author and personnel at PAHO.

EXHIBIT 6
Example of Logistics

Supplies/Sources; For example; WFP, UNICEF etc

Warehouses; WFP, NGO Warehouses



Source: Created by author.

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INSTRUCTOR GUIDANCE

Health Operations in Emergencies (HOPE)¹

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BACKGROUND

Dr. Harry Leonardo is the Manager of the Emergency Operations Center (EOC) at the Pan American Health Organization (PAHO) in Washington D.C. The EOC coordinates emergency relief efforts during disaster response in the PAHO region. Dr. Leonardo has developed an information-sharing platform, Health Operations in Emergencies (HOPE), to facilitate communication, enhance situational awareness, and promote collaboration amongst the stakeholders involved in disaster response. Professionals within the EOC and PAHO have reservations about HOPE. The platform has great potential, but it is unclear to what extent the relevant stakeholders have been involved in its development. Dr. Leonardo must make the best use of his resources to implement HOPE. He must formulate a strategy for testing and implementing the information-sharing platform within the organization and for introducing HOPE to all relevant stakeholders in the emergency response environment.

OBJECTIVES

1. Understand the complexities associated with communicating during a disaster, given the need for collaboration amongst aid organizations, local health systems, and the coordinating centre.
2. Appraise the operational readiness of an information-sharing platform intended to facilitate disaster response.
3. Suggest approaches for engaging stakeholders in the development of the information-sharing platform.
4. Discuss ways to ensure the usability of the communication system.
5. Apply knowledge of organizational change and communications to formulate a plan for the development, testing and implementation of the information-sharing platform, with timelines.

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DISCUSSION QUESTIONS

1. Describe the role of the EOC during disaster response in the PAHO region.
2. What are the potential benefits of an information-sharing platform during disaster response?
3. What are the challenges involved in implementing an information-sharing platform?
4. Formulate a strategy for addressing those challenges.

KEYWORDS

Emergency preparedness; information-sharing platform; disaster response; health communications; leadership; change management; stakeholder engagement; usability testing.