



### PEOPLE AFFECTED

**2.1 million** affected

**750,000** in need of humanitarian assistance

**175,509** in 224 temporary shelters

**473** deaths

### HEALTH SECTOR

**75%** of assessed cholera treatment facilities damaged or destroyed in the two most affected departments

**50%** of assessed health facilities suffered physical damages in Grand' Anse

**477\*** suspected cases of cholera reported in the Southern Peninsula in 4 days

\*Non-official sources – reports from PAHO/WHO field teams

### FUNDING REQUIREMENTS

#### Health Sector

**US\$ 9 million** requested for the first 3 months (Flash Appeal)

#### PAHO/WHO

**US\$ 9.05 million** requested for the first 3 months

*(US\$ 3.55 million for Flash Appeal + US\$ 5.5 million for emergency cholera vaccination campaign)*

**US\$ 11.5 million** requested for the first 6 months response operations



### Highlights

- Hurricane Matthew, considered the largest humanitarian crisis in Haiti since the 2010 earthquake, has severely affected the Sud and Grand'Anse Departments, particularly in the communes of Les Cayes and Jérémie
- Post-hurricane conditions are favorable to a significant spike in the number of new cholera cases in affected areas, as well as outbreaks of vector-, water- and food-borne diseases
- A 50% increase in cholera cases already reported in Grand'Anse and South departments, with 477 new cases since 7 October
- Priorities are focused on providing access to essential health care including cholera treatment, strengthening epidemiological surveillance, vector-control and health promotion interventions, in addition to recovery and reinforcement of health services and coordination of the health humanitarian response
- Security issues and logistics impediments, mainly difficulty of access to rural affected areas, have hampered the rapid delivery of the humanitarian assistance
- While there has been a sharp increase in suspected cholera cases in the most affected areas, the complete elimination of cholera from Haiti requires a long term intervention. The medium term phase of the National Plan for the Elimination of Cholera July 2016-December 2018 has a total cost of US\$178 million

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### Situation update

Hurricane Matthew hit the Southern Peninsula of Haiti as a Category 5 hurricane on 04 October 2016, causing enormous damage to the Grand'Anse and the South Departments, both in terms of material goods and in terms of population loss and injury. This disaster is considered the largest humanitarian crisis in the country since the 2010 earthquake. As of 12 October 2016, the National Emergency Operations Center and partners reported 473 deaths, 754 missing persons, and 175,509 persons displaced in 224 temporary shelters.

Initial assessments suggest that up to 90 per cent of houses and other infrastructure including schools and public facilities are destroyed in the worst affected areas. Health facilities have suffered important physical damages, hampering the rapid delivery of critical emergency care assistance. The main road connecting the southern part of Haiti to the rest of the country has been compromised, affecting the rapid delivery of humanitarian assistance.

Water distribution systems have almost entirely collapsed in the main affected cities of the southern area, particularly in Jérémie and Les Cayes. The impact of the hurricane has increased the already high risk of waterborne diseases, particularly cholera, which was already present in several of the most affected areas before Hurricane Matthew hit. Natural water sources, particularly in the southern departments, have been contaminated by storm water and sewage overflow and cholera cases are expected to surge as a result of Hurricane Matthew.

### Public health concerns

The capacity of the healthcare delivery system has been dramatically impacted by Hurricane Matthew. Over 50% of assessed health facilities (30% so far) at all levels (departmental, health centers and dispensaries) have sustained important physical damage (e.g. by loss of roof, flooding, fallen trees on the building) with loss of cold chain equipment, destruction of equipment for emergency maternal and newborn care, unavailable stock of vaccines and medications, including stocks of HIV supplies. Access to sexual and reproductive health care in the affected departments was already poor and has been worsened by the Hurricane.

Out of the 36 facilities providing emergency obstetric care (EmOC) services, only 33% were functional before the Hurricane, and only 35 midwives were available and providing services. Critical reproductive health procedures such



*Shelter for individuals with disabilities in les Cayes, following hurricane Matthew*

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### Key public health concerns

- Continuity of essential healthcare delivery to the most vulnerable groups, including children and pregnant women, is a concern due to damages to health infrastructure and interruption of cold chain
- Risk of drastic increases in the number of cholera cases in the affected Southern Peninsula as well as spread of cases to other part of the country
- Severe risk of outbreaks of mosquito-borne diseases, including malaria, Chikungunya and Zika
- Potential increased incidence of other infectious and vector-borne diseases due to degrading environmental and sanitary conditions
- Logistics difficulties to ensure effective and timely distribution of relief items outside of main urban centers
- Strengthening of health human resources available and proper rotation of healthcare worker is critical to ensure proper clinical case management
- Restoring and strengthening epidemiological surveillance

as caesarian sections have dropped by 90% in Jérémie for instance, reducing from 20 weekly C-sections carried out weekly to only two performed since the storm due to emergency conditions. Shortage of trained health human resources or essential medical and health supplies is further affecting the capacity to provide adequate health coverage in the affected areas. Departmental stocks of medical supplies have suffered damages, and need to be quickly replaced to ensure timely emergency care delivery at hospital, health centers and mobile clinics level. The rapid recuperation of health services and healthcare delivery capacity is a priority to ensure timely and efficient medical attention to victims of the disasters as well as continuity of basic services for pregnant women, children and individuals with chronic diseases.

As a result of massive flooding and damages to the water and sanitation and health infrastructure, there is a significant risk of increases in waterborne and vector-borne disease transmission following the hurricane, particularly cholera and mosquito-borne diseases such as malaria and Zika. Malaria is endemic in Haiti and outbreaks often occur after the rainy seasons. Based on the latest information from the country, 6,974 (40%) of the 17,583 malaria cases reported in 2015 were from Grand'Anse; 62% of which were concentrated in the communes of Jérémie, Dame Marie, and Roseaux. Pockets of malaria outbreaks could be expected in the coming weeks following the heavy rain and flooding brought by Hurricane Matthew. Other malaria receptive areas in the country could also experience increase in cases due to movement of displaced populations.

In the context of flooding and potential contamination of drinking water by faecal sludge, the main concern is the further increase in cholera cases, particularly at this time of the year, considering the usual surge in reported cases between November and January. Cholera incidence rates prior to the hurricane had already surpassed those of the previous years and cholera cases were already reported in the affected areas prior to the passage of the storm. Over 75% of already assessed Acute Diarrhea Treatment Centers (CTDA) in the two most affected departments have been destroyed or severely damaged, while a 50% increase of cholera cases has already been reported in those areas. Though cholera was an important issue in Haiti prior to the storm, it now poses a serious threat to vulnerable populations as the overcrowding of shelters, the rapid deterioration of sanitary conditions and the displacement of affected populations can facilitate the transmission of disease within the areas as well as its spread to other parts of the country. This situation is compounded by the reduced health care delivery capacity to treat cases due to significant loss of medical items and physical damages to the health

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**Emergency medical care provided to injured individuals at Hospital Immaculate Conception in Les Cayes**

infrastructure, especially cholera treatment services, as a result of the disaster. Three clusters of cholera case are to be expected in the next few months: the first one in southern peninsula directly hit by the hurricane (Grand Anse, Nippes, and Ouest), a second cluster in the area of Artibonite/Centre and the third cluster in the Nord and Nord-Ouest area. With the lack of access to cholera-specific care, there is also a risk of institutional contamination as cholera patients will search for health assistance at traditional health facilities which are not equipped with isolated diarrheal treatment services.

Unfortunately, the epidemiological surveillance system has been directly impacted by the passage of Hurricane Matthew. Clinical surveillance of vector transmitted diseases in Haiti is based on a network of sentinel sites. Its effectiveness has been significantly affected by the general loss of power and communication outlets and the difficulties to access remote areas that remain isolated due to roadblocks and flooding. This situation also reduces the capacity to identify the origin of cholera cases, making cholera outbreaks difficult to control. The presence of prevalent diseases in the affected areas as well as the rapidly deteriorating environmental conditions in the most affected areas increases the importance of strengthening local epidemiological surveillance and laboratory capacity in the impacted areas to monitor epidemic curves of infectious diseases and support early detection outbreaks.

Epidemiological surveillance measures must be complemented by the intensification of the integrated vector control management strategy in affected areas to prevent the proliferation of mosquitoes, and associated vector-borne diseases. With reduced access to health services, poor sanitation and lack of potable water supply, there are potential risks for transmission of vector- and water-borne diseases. Promotion of preventive measures and good practices and dissemination of clear public health messages are also critical to reduce the risk of transmission of communicable diseases including diarrheal diseases, respiratory infections, skin diseases, vector-borne diseases, among others.

Access to the worst-affected areas, namely Grand'Anse and Sud Department, has been severely compromised by flooding and the destruction of key road infrastructure. Transport by air and by boat have facilitated early damage assessment and needs evaluations, but access to affected rural areas outside of the main urban centers remains a huge challenge. This situation is slowing down the provision of critical health assistance and supplies to vulnerable population and causing security issues as the population is anxiously waiting for the much needed assistance.

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### Health Sector objectives:

- Provide immediate life-saving and life-sustaining health care to the people most affected by Hurricane Matthew
- Support restoration of health care delivery services in affected areas
- Reduce the risk of cholera and other waterborne and vector-borne diseases in flood-affected areas
- Strengthen the epidemiological surveillance in affected areas and increase the rapid response capacities to disease outbreaks
- Ensure urgent primary health care and reproductive health services for pregnant and lactating women and women of child-bearing age
- Provide logistical and technical support to the health authorities to ensure proper coordination of response partners

### PAHO/WHO priorities

Based on available information and current field assessment, the main health priorities identified are:

- 1. Restore health care delivery capacity and access to health services in the most affected areas**
  - Ensure timely delivery of emergency care and support continuity of healthcare delivery
  - Support the rapid recovery of damaged health structures and Acute Diarrhea Treatment Centers (CTDA)
  - Ensure availability of essential medicines and medical items
- 2. Increase epidemiological surveillance to support early detection and timely management of disease outbreaks**
  - Detect in a timely manner and effectively monitor cases of water- and food-borne as well as vector-borne diseases and other diseases under surveillance
  - Ensure availability of time-sensitive epidemiological information to guide response operations
- 3. Intensify vector-control and environmental health protective measures in impacted areas**
  - Reduce risks of transmission of infectious diseases through the promotion of good hygiene practice and other health prevention measures
  - Ensure water quality monitoring to prevent diarrheal diseases
- 4. Ensure rapid and effective response to cholera outbreaks in affected communities**
  - Ensure investigation and rapid response to alerts in under 24 hours in the most affected areas
  - Prevent increased mortality and morbidity from cholera through emergency cholera vaccination and WASH interventions
- 5. Support efficient coordination of humanitarian assistance and management of information to effectively address the most urgent humanitarian needs**
  - Ensure efficient and effective organization and coordination of emergency response efforts among health humanitarian actors as well as other sectors
  - Increase capacity to collect and produce timely and evidence-based information to facilitate decision-making

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### PAHO/WHO actions

#### Surge capacity

- Declared WHO Emergency Grade 2
- Emergency declaration and Standard Emergency Procedures by PAHO/WHO and emergency contingency plan and business continuity plans activated
- 35 team members in the PAHO/WHO Haiti office supporting hurricane operations
- 8 PAHO/WHO international staff deployed to Haiti; 11 experts in the pipeline to be deployed
- Two PAHO/WHO field offices established in Jérémie and Les Cayes, both fully staffed with technical personnel
- 75 health partners currently undertaking response actions in the affected areas
- Daily health sector coordination meeting chaired by the MSPP
- EMT Coordination cell activated by the MSPP with PAHO's support

Prior to Hurricane Matthew, PAHO/WHO activated its local emergency team in Haiti and pre-deployed experts in disaster coordination, emergency medical teams, logistics, and damage and needs assessment in the Southern peninsula to facilitate early damage assessment immediately following the passage of the storm. All 35 members of the PAHO/WHO office in Haiti were activated to support response operations while an additional eight (8) experts of the Regional Response Team were mobilized to Haiti to strengthen surge capacity and provide technical and logistical support to the response efforts of the Haitian health authorities.

Two field offices established in Jérémie and Les Cayes to support damage assessments and needs analysis and the rapid provision of essential supplies in the two most impacted departments which are Grand'Anse and Sud. Systematic evaluation of health facilities and cholera treatment structures are being carried out jointly by the Ministry of Health and PAHO/WHO field teams to assess real treatment capacity.

In an effort to quickly replenish the capacity to provide emergency care of health care facilities, PAHO/WHO deployed supplies, medicines and materials for emergency care management and cholera response to Les Cayes and Jérémie. Items were procured through the Program for Essential Medicines (PROMESS), the principal agency for the provision of essential medicines and medical supplies in the Republic of Haiti. PAHO/WHO is also providing tents and working with NGO partners and health authorities to re-established destroyed and collapsed cholera treatments in an effort to alleviate the increased demand for cholera treatment on traditional health infrastructures and limit risks of institutional contamination. 1 million oral cholera vaccines are being deployed to Haiti to conduct an emergency vaccination campaign to protect people in affected areas and prevent increased mortality.

PAHO/WHO is also assisting health authorities in coordinating the actions of all health partners undertaking response operations through daily health sector meetings. With PAHO/WHO's support, the Ministry of Health (MSPP) has established the Medical Information and Coordination Cell (CICOM). A coordinator of emergency medical teams (EMTs) was also deployed to support the government in ensuring the systematic registration and proper quality standards of health and medical teams entering the country to support response operations.

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### Funding requirements

PAHO/WHO funding requirement to support urgent health priorities highlighted above for the first three months of the response is estimated at US\$ 3.55 million (Flash Appeal). An additional US\$ 5.5 million is needed to implement emergency cholera vaccination campaign.

Funding requirement per priority is as follow:

<u>Urgent Priorities</u>	<u>Cost US\$</u>
Restore health care delivery capacity and access to health services in the most affected areas	630,000
Increase epidemiological surveillance to support early detection and timely management of disease outbreaks	190,000
Intensify vector-control and protective environmental health measures in impacted areas	1,200,000
Ensure rapid and effective response to cholera outbreaks in affected communities	6,600,000
Support efficient coordination of humanitarian assistance and management of information to effectively address the most urgent humanitarian needs	430,000
<b>Total</b>	<b>9,050,000</b>



*PAHO/WHO field teams delivering cleaning supplies in Les Cayes*



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