

# HEALTH CLUSTER BULLETIN

CHOLERA AND POST-EARTHQUAKE RESPONSE IN HAITI – 21 DECEMBER 2011 – #30

## Highlights

- There are currently 30 CTCs, 169 CTUs, and 766 ORPs functioning in-country.
- The end of the rainy season contributes to a considerable drop in cholera cases. Currently, an average of 300 cases per day has been observed all over the country, in comparison to 500 cases per day last month. The department currently reporting the highest mortality rates is the West.
- The number of cholera cases is stable or decreasing in the departments of North, North-East, Artibonite, Center, West, South-East, South and Grand Anse, whereas cases in the North-West, are increasing and in Nippes department, the situation can be described as unstable with small peaks.
- With the approaching of the end of the year, short-term cholera funding is coming to an end while some long-term funding is not yet available. More and more NGOs are withdrawing from their intervention area for lack of funding. This will pose further threats and limitations to the cholera response.

Dear health partners,

As 2011 is coming to an end, we would like to thank all partners and actors who have been active in cholera prevention and response for their relentless efforts and continued support. We hope to be able to count on you next year as well. Happy – cholera free – holidays.

Health Cluster Coordination



A boy from Cité Soleil reads cholera prevention materials



The Ministère de la Santé Publique et de la Population (MSPP) and PAHO, the Regional Office of the World Health Organization (WHO) for the Americas, coordinate the Health Cluster. **MSPP Cluster Contacts:** Dr. Claude Surena; Dr. Jean Hugues Henrys; **PAHO/WHO Contacts:** Dr. Juan Carlos Gustavo Alonso and Esther van der Woerd.

Health Cluster partners are asked to contribute to this bulletin with information on needs and activities as well as corrections to content, by emailing [hai.clustersante@paho.org](mailto:hai.clustersante@paho.org) (subject heading: Health Cluster Bulletin). For useful information on meetings, guidelines, and CTC, CTU, and health facility locations, visit: <http://haiti.humanitarianresponse.info>.

## SITUATION OVERVIEW

- Currently we observe an average of 300 cholera cases per day with significant variations between departments. These can be actual differences, but are sometimes the result of under reporting in certain communes or treatment of other diarrhea-like illnesses at health structures. This is a significant decrease from last month, when an average of 500 cholera cases was observed.
- The symptoms of less severe cholera cases resemble other watery diarrhea symptoms. Therefore, a clinical distinction is impossible in that case, and a stool testing should be performed. The national laboratory does not receive sufficient samples to perform cholera testing. Partners who are managing CTCs and CTUs are requested to send samples of every 10<sup>th</sup> patient received to the laboratory.
- The epidemiological tendency of cholera has seen outbreaks in highly populated urban areas that have spread to rural zones. This epidemic tendency is likely to continue for the next 2-3 years, though with smaller outbreaks, until it reaches a stabilized endemic phase.
- Ongoing monitoring and assessment of the development of cholera is required in order to adequately adapt the response. However the current cholera response is facing a withdrawal of partners owing to lack of funding and consequential closure of cholera treatment structures, this also poses serious difficulties for the long-term institutional response.
- Case fatality rates have decreased since the beginning of the epidemic, apart from in the South-East, where institutional case fatality rates increased from 2.2% to 2.4% between January and November 2011.
- Also within PAHO/WHO, emergency cholera funding is running out. This will entail that overall coordination personnel will be reduced, both in the field as at Port-au-Prince level.

### Functional cholera treatments structures in Haiti\*

OPERATIONAL STRUCTURE	10 Jan	16 Jan	23 Jan	30 Jan	6 Feb	13 Feb	16 Mar	26 April	16 May	18 July	5 Aug	20 Sept	27 Oct	7 Dec
Cholera Treatment Center (CTC)	81	85	101	101	100	98	98	56	48	38	37	37	29	28
Cholera Treatment Unit (CTU)	156	129	165	185	188	215	214	226	210	191	206	269	163	167
Oral Rehydration Post (ORP)	s/o	298	786	778	774	642	692	760	810	863	847	766	766	766

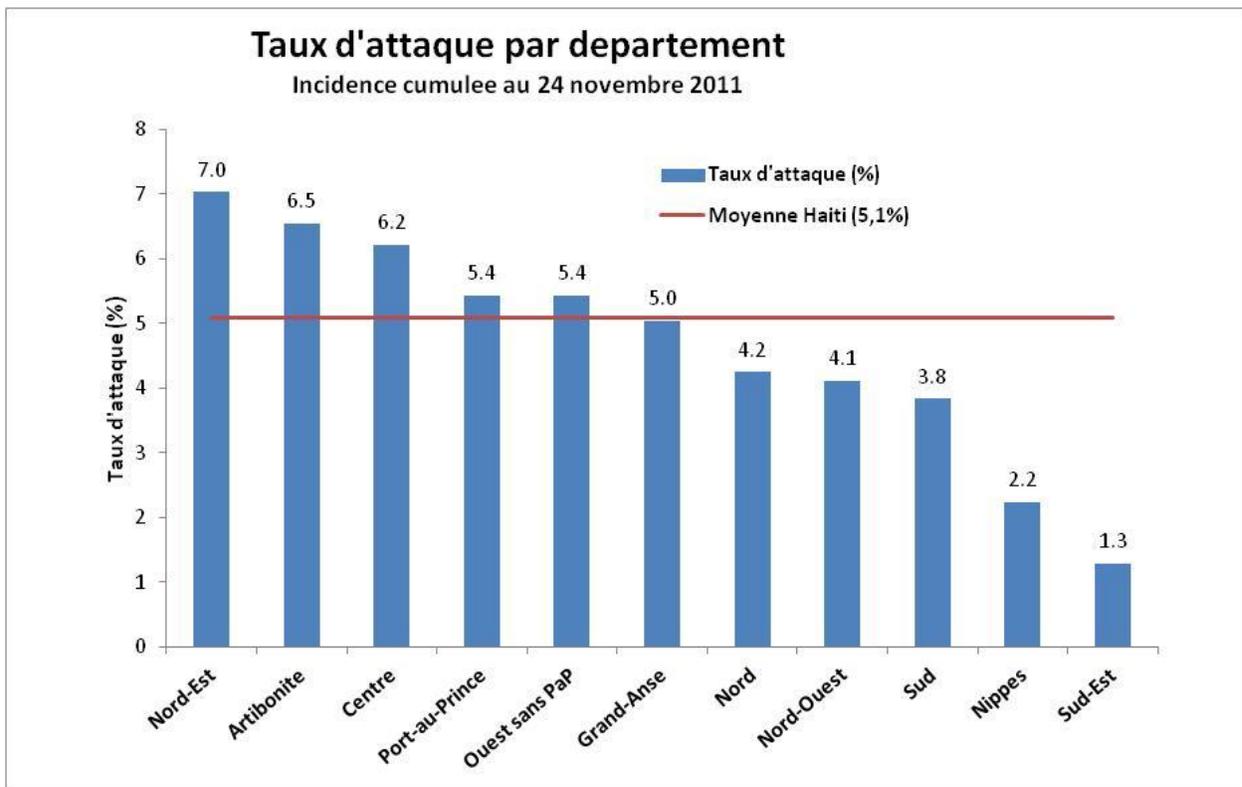
Source: MSPP, national and international partners, PAHO/WHO

\* Please note the CTC/UTC/ORP data base is presently undergoing a thorough revision.

## EPIDEMIOLOGICAL SURVEILLANCE

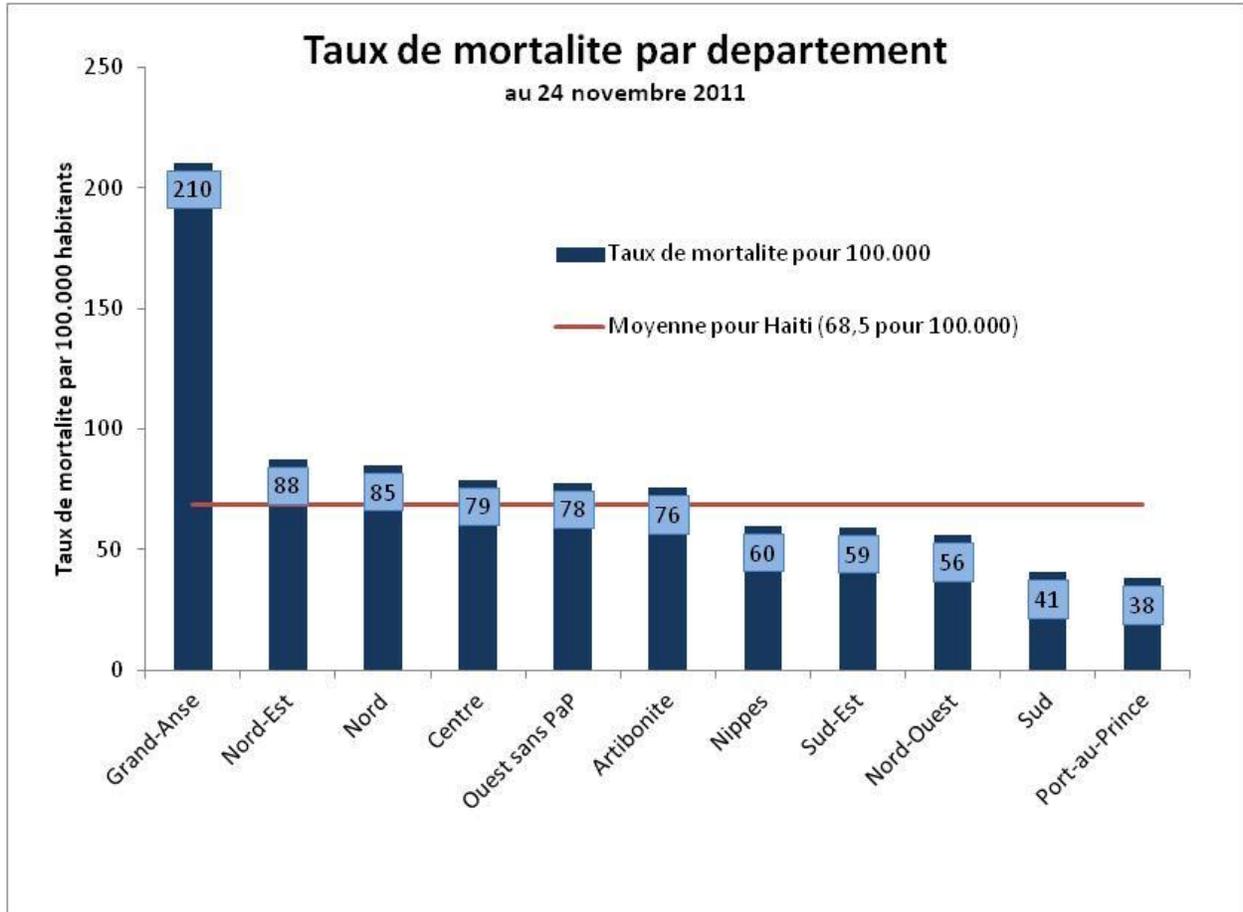
- As of 30 November 2011, the cumulative number of reported cholera cases was 515,699, of which 279,077 (54%) were hospitalized and 6.942 persons had died.
- The global attack rate is 5.1%, with 7.0% in North-East and 1.3% in South East (November 24).
- Overall mortality rate for Haiti since the start of the epidemic is 68 per 100,000 inhabitants, with important variations between departments as shown below (figure 2).
- Surveillance information and graphs are available at the Ministry of Health and Population (MSPP) <http://mspp.gouv.ht/site/index.php>

**Figure 1: Cumulative attack rate as of 24 November 2011**



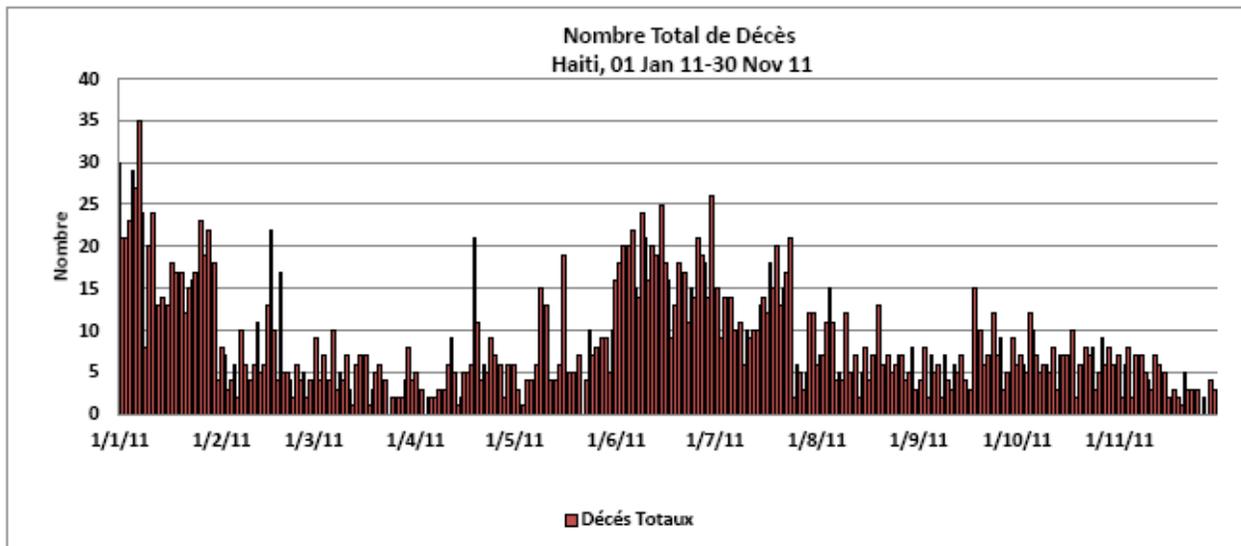
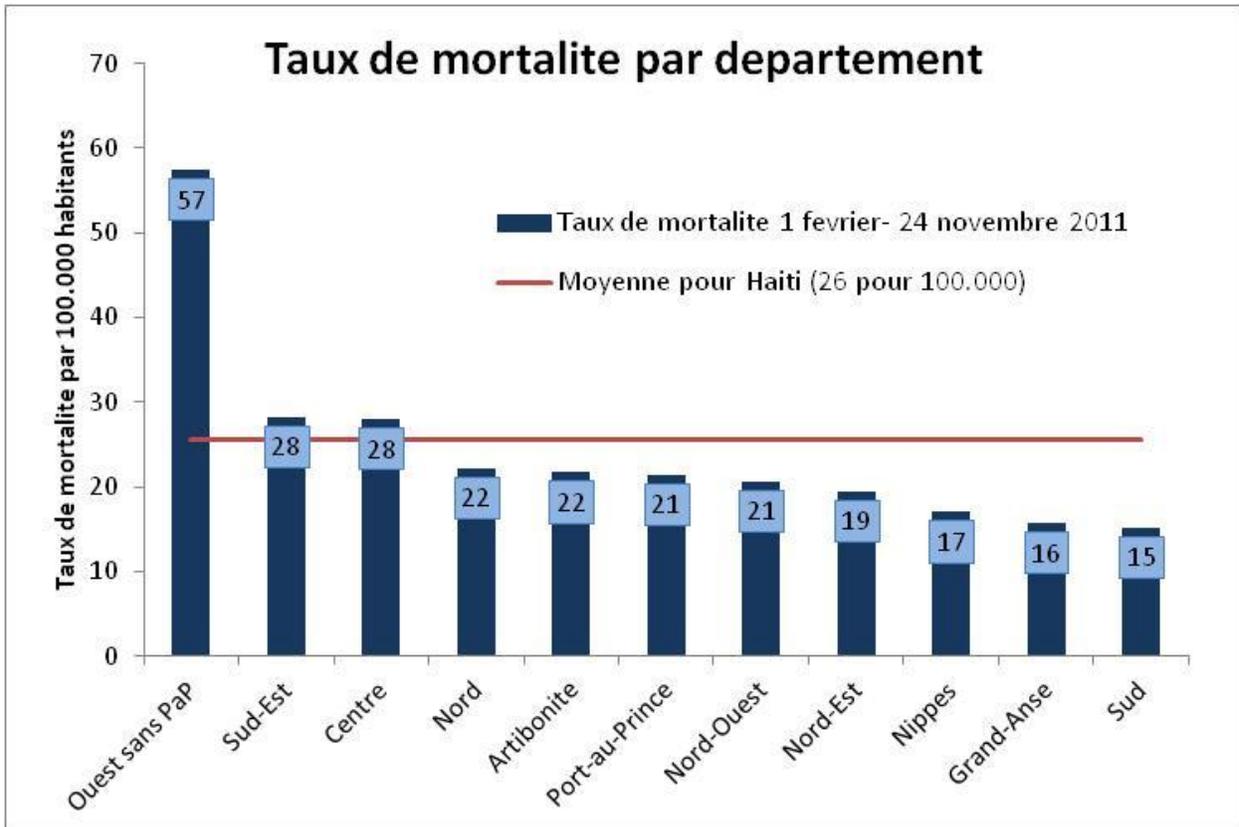
Source: Ministry of Public Health and Population (MSPP)

**Figure 2: Mortality rate by department per 100,000 persons at 24 November 2011 since beginning of the epidemic.**



Source: PAHO/WHO based on MSPP statistics

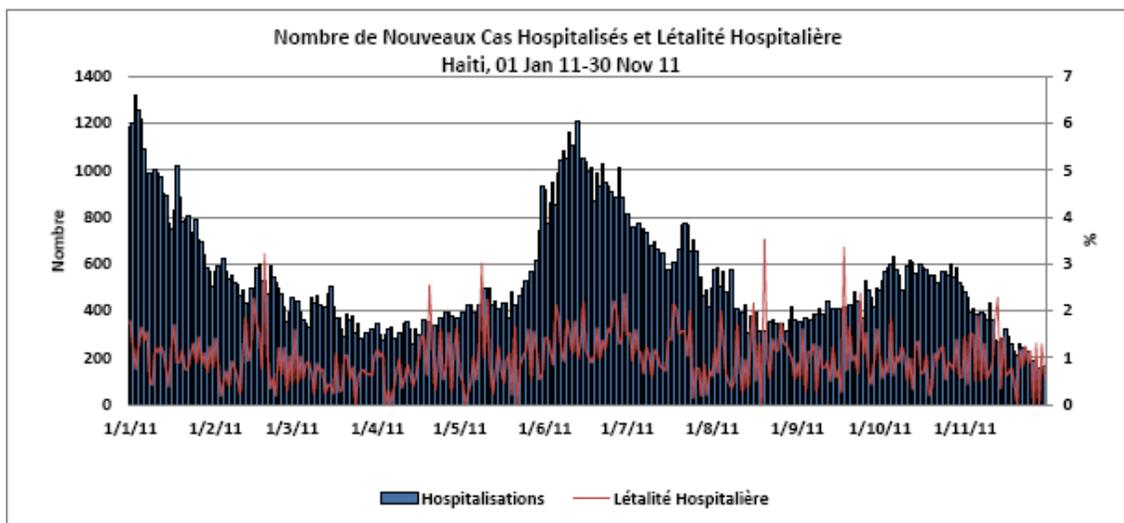
The graph above shows very important mortality rates in Grande Anse. However, the graph below shows that this mortality rate drops significantly from February onwards, whereas the West department is now observing the highest mortality rate.



**Figure 3: Number of total deaths in Haiti between January 1<sup>st</sup>, 2011 – 30November 2011**

Source: Ministry of Public Health and Population (MSPP)

**Figure 4: Cumulative number of hospitalized cholera cases by day  
1 January 2011 – 30 November 2011**



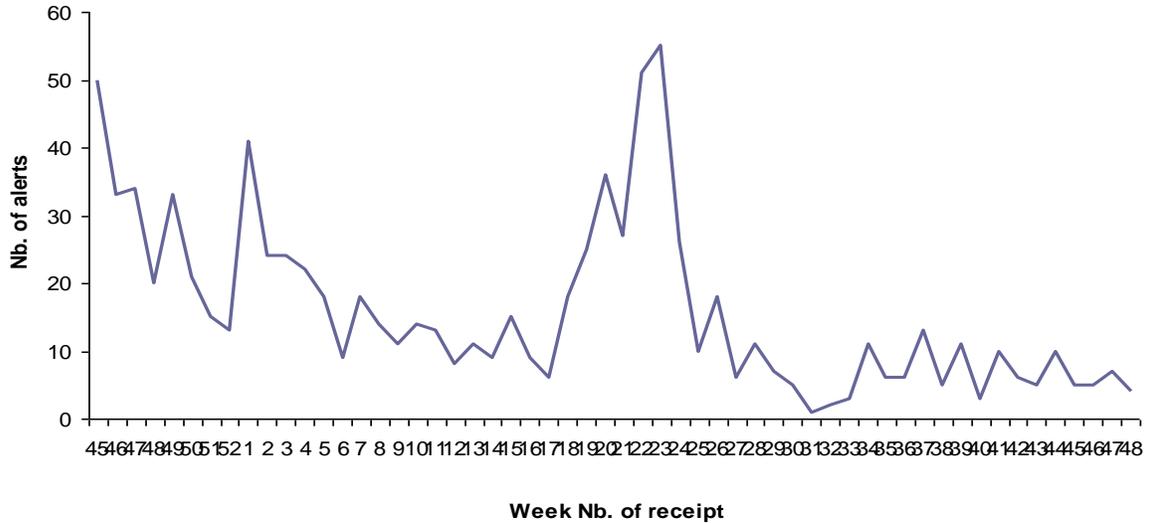
Source: PAHO/WHO based on Ministry of Public Health and Population (MSPP) statistics

## EVENT-BASED COMPONENT (ALERTS)

- From 8 November 2010 to 6 December 2011, 893 alerts were received by the MSPP-PAHO/WHO Alert and Response System. The alerts, reported mainly from NGOs in the field, were related to an increase in cases, deaths, lack of supplies (medical and/or WASH), lack of human resources, and/or prevention activities.
- Alerts also reflect the phasing out of Cholera Treatment Centers (CTCs) and Cholera Treatment Units (CTUs); the existence of other health threats such as rabies, acute flaccid paralysis; and hazards other than cholera such as riots, strikes, etc. In addition, they reflect calls by health authorities and partners active in surveillance for a heightened attention at health care facilities and in communities.
- Peaks in the number of alerts were observed in November 2010 (establishment of the alert system); early January 2011 and between week 20 to 23, when an important outbreak hit Port au Prince and metropolitan area.

**Figure 6: Number of Alerts**

**Number of alerts related to public health events by week of receipt (N= 893)  
Haiti, 8 Novembre 2010 - 6 December 2011**



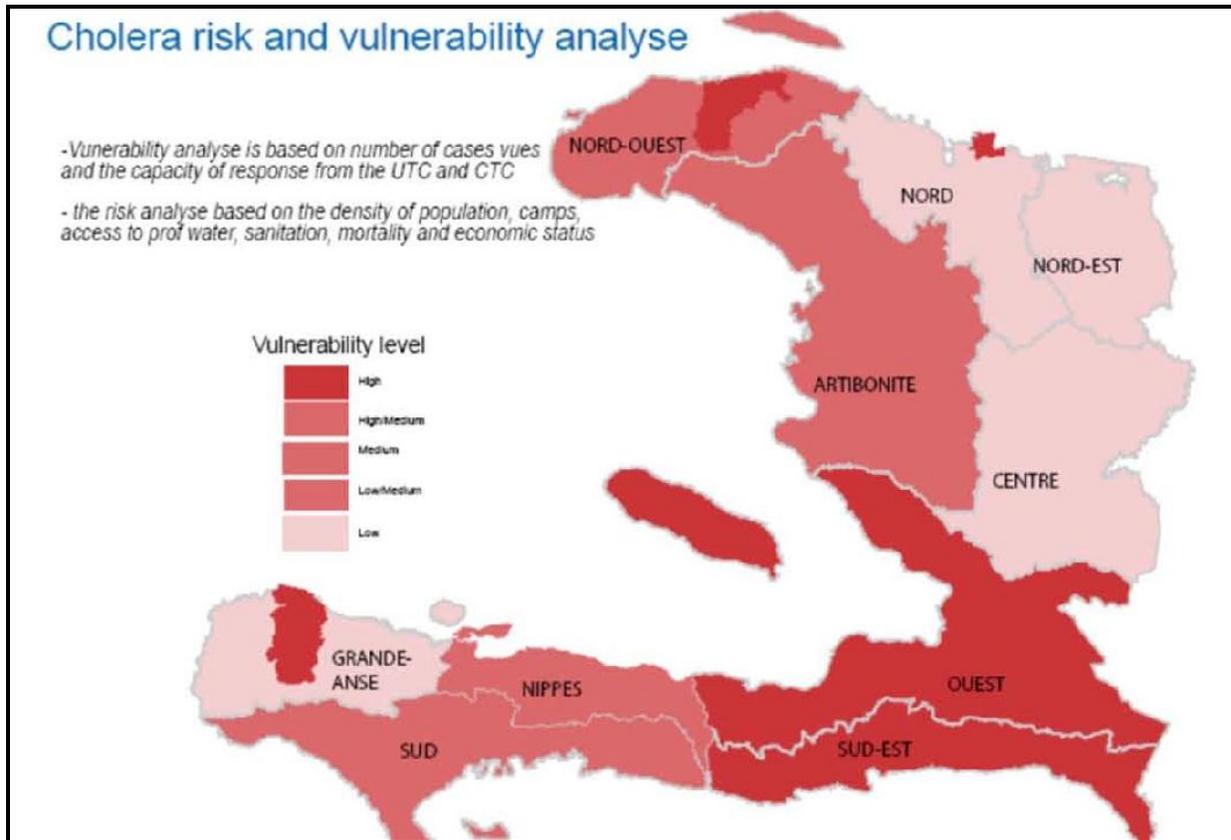
Source: PAHO/WHO

## SITUATION BY DEPARTMENT

This section contains the following information:

- (i) trends of the cholera epidemic (number of reported hospitalized cholera cases by week of reporting, from 8 November 2010 to 30 November 2011);
- (ii) trends and figures provided by the PAHO/WHO teams at the departmental level; and
- (iii) alerts regarding public health events received since the publication of Issue 29 of the Health Cluster Bulletin on 7 November 2011.

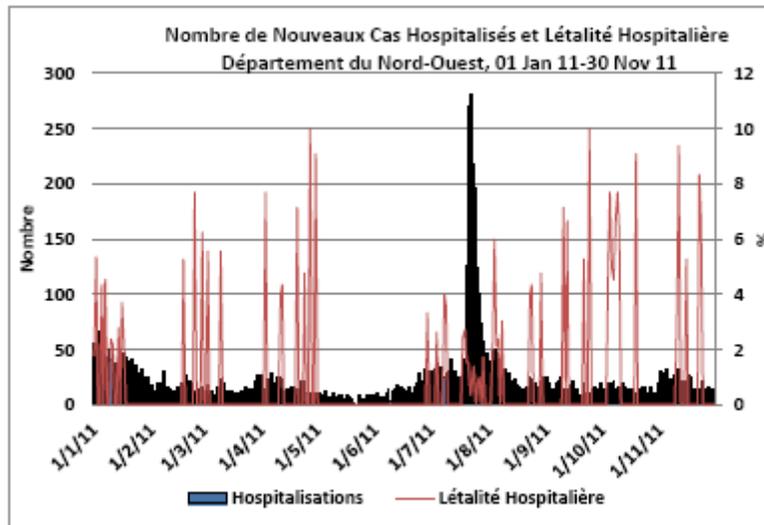
**Figure 7: Cholera risk and vulnerability across Haiti**



Source: Ministry of Public Health and Population (MSPP)

**Northwest Department**

**Figure 8: Number of new hospitalizations and recorded deaths**



Source: Ministry of Public Health and Population (MSPP)

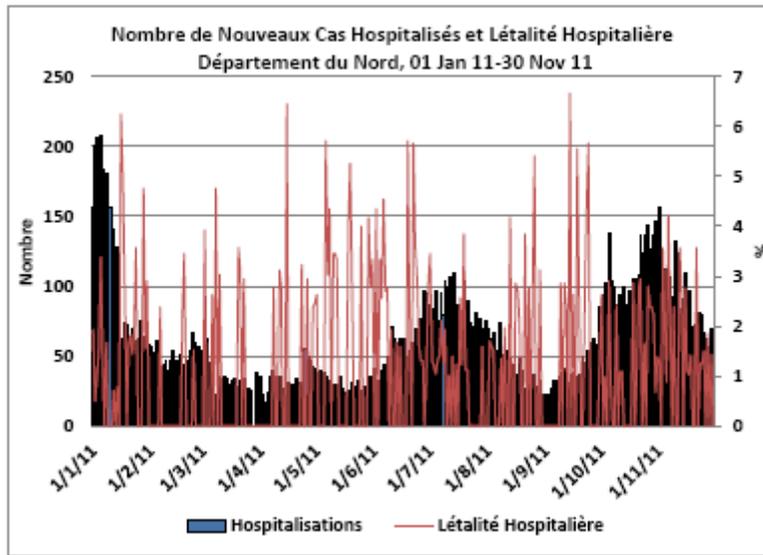
The overall trend of cholera activity in the department has been increasing over the past month but is slowly stabilizing.

December and January brings the most rains to the North West department in Haiti. DSNO is reinforcing contingency stocks at the vulnerable regions of the department including areas with difficult access or likely to flood.

- Port-de-Paix has seen a continuous rise in cases over the past month. The Immaculate Conception Hospital has reported 37 new cases by the first week of November, surpassing the capacity of the CTC. In the second week, 83 cases of cholera were hospitalized forcing the hospital to open an additional tent to reinforce the capacity. In the third week, the hospital reported 27 cases of which 21 were hospitalized and 8 were less than 5 years old. The cases mostly originated from the town of Port-de-Paix, especially from Lacombe. By the end of the month, the number of cases decreased with 63 cases in the last week of November. **Action:** Outreach activities have been intensified to meet the rise of the alerts and prevent spread of cholera. 12 ORPs have been upgraded temporarily to CTUs including 3 in La Tortue, 1 in Bassin Bleu, 3 in Chansolme, and 1 in Demareaux to meet different alerts received from late October to mid-November. DSNO has distributed PAHO/WHO materials to local shelters. The DSNO is looking into possibilities to adopt new strategies to respond to the increased number of cases in Port-de-Paix.
- On 7 November, several localities including Dame Marie, Mole Saint Nicolas, La Tortue, Jean Rebel, and Anse à Foleur reported new cases following rains. Although the numbers of cases were not excessive, the rapid increase of cases showed the fragility of the WASH system in the department since cases were caused by contamination of water sources. **Action:** distribution of water treatment products by DINEPA, hygiene promotion, strengthening of ORP staff and establishment of an additional ORP in Tortue.
- On 10 November, Immaculate Conception Hospital in Port-de-Paix reported 6 patients who were bitten by a dog that exhibited behavior consistent with rabies. Currently there are no rabies vaccinations available in Port-de-Paix. **Action:** PROMESS has supplied vaccines, but there are no more vaccines and immunoglobulines in stock at headquarters.
- On 28 November, various cholera centers reported increase in number of cases, especially in Locombe and Gombo. DSNO is working with PAHO/WHO field teams to visit the commune and assess the situation. PAHO/WHO has sent 10 cholera beds and decontamination equipment to cholera centers in the region to reinforce bed capacity.
- On 29 November, an increase of cholera cases was registered in Chansolme, especially in the last two weeks of November. The CTU that was closed is being rehabilitated; in the meanwhile patients in serious condition are being transferred to the CTC in Port-de-Paix. PAHO/WHO field teams, in coordination from DSNO are providing beds, medical supplies and decontamination equipment to three ORPs in the municipality that are managing the mild cases.

## North Department

**Figure 9: Number of new hospitalizations and recorded deaths**



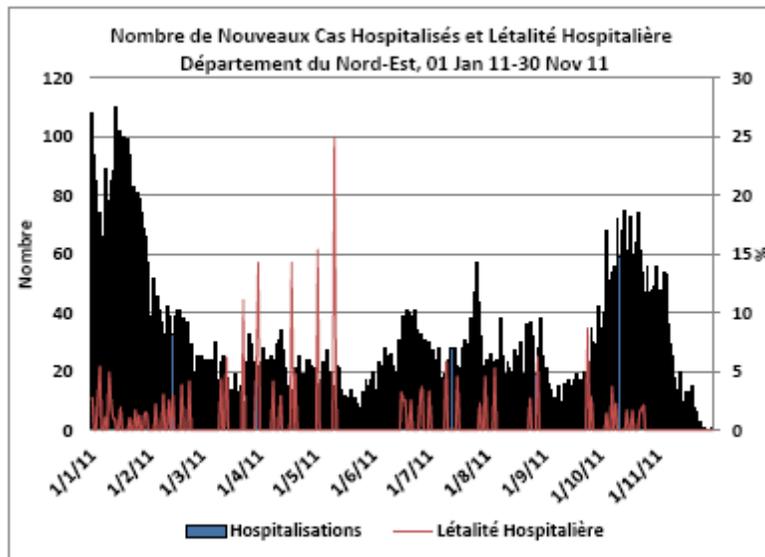
Source: Ministry of Public Health and Population (MSPP)

The overall trend of cholera activity in the department has been decreasing over the past month.

- In Haut Limbe on 16 November, 42 students contracted cholera through a contaminated juice. **Action:** MSPP has sent a team to reinforce the medical staff and supplies at the Ebenezer Clinic where patients were treated. Currently the emergency has been addressed.

## Northeast Department

**Figure 10: Number of new hospitalizations and recorded deaths**



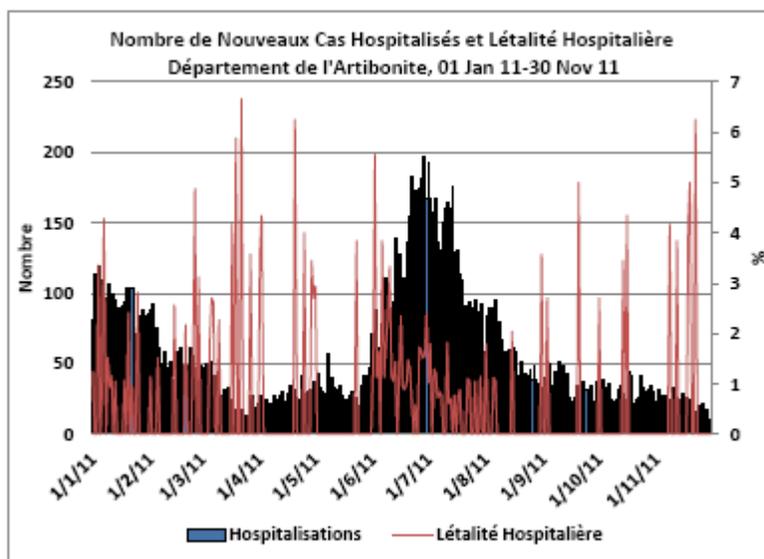
Source: Ministry of Public Health and Population (MSPP)

- No hotspots have been reported in the Department.

The overall trend of cholera activity in the department has been decreasing over the past month.

## Artibonite Department

**Figure 11: Number of new hospitalizations and recorded deaths**



Source: Ministry of Public Health and Population (MSPP)

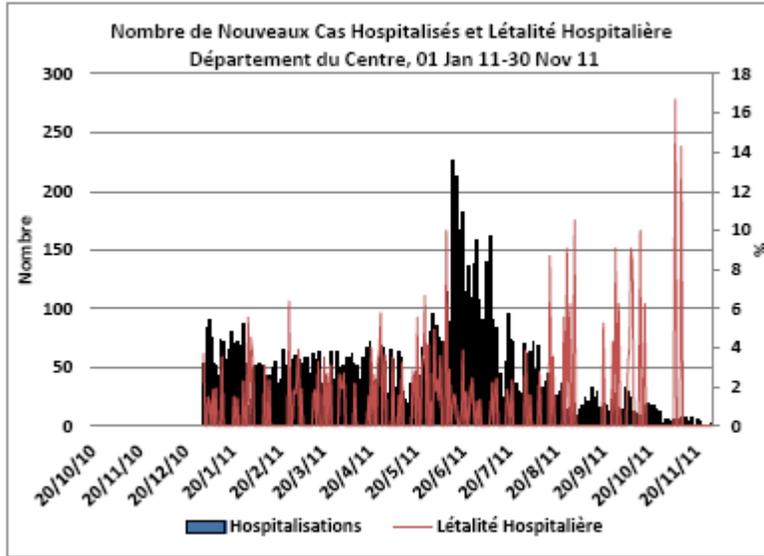
The overall trend of cholera activity in the department has been slowly decreasing over the past month.

An excreta collection truck coming from a nearby CTC broke down near the river Bourg, causing a leak in the 4,000 gallon tank. The river is located in St. Michel de l'Attelaye, 10 minutes away from a nearby CTC, leading to the town of Maissade. **Action:** Surveillance has been enhanced in case there are increased cases in the area. Following the potential spill, several partners took protective measures to prevent spills into the river and cholera spreads. PAHO/WHO has assessed the situation.

- On 25 November, the CTC in Ennery that is run by MSF has reported an increase in number of cases. In the second week of November, there were 6 cases compared to 43 cases in the third week, 38 of which came from Puilhboreau. **Action:** WASH cluster is planning activities to identify homes, support existing chlorination points at distribution sites, and create new ones where necessary.
- The number of cases reported by the CTC in Gonaives has stabilized after the peak in the second week of November when 32 cases were seen. In the third week, only 15 cases were reported.
- On 18 November, the CTC of Marmelade reported two deaths, one from Crête à Pins and one from Bassin ou Billier.

## Center Department

**Figure 12: Number of new hospitalizations and recorded deaths**



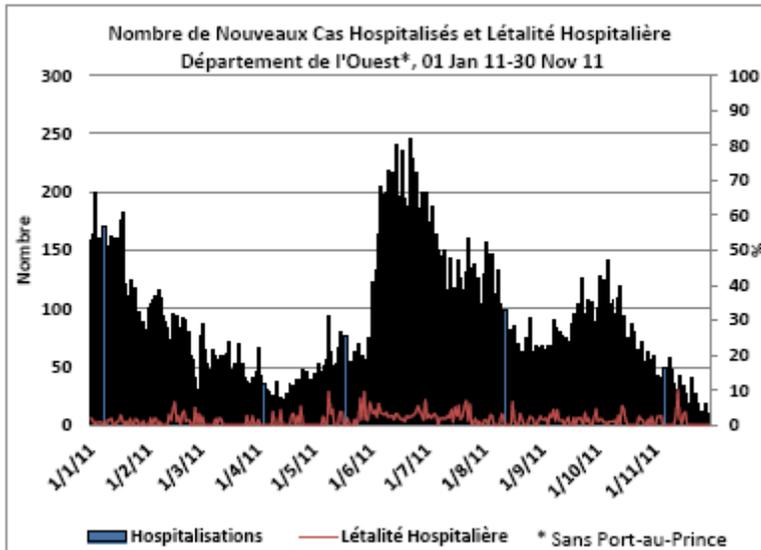
Source: Ministry of Public Health and Population (MSPP)

- No hotspots have been reported in the Department.

The overall trend of cholera activity in the department has been decreasing over the past month.

## West Department

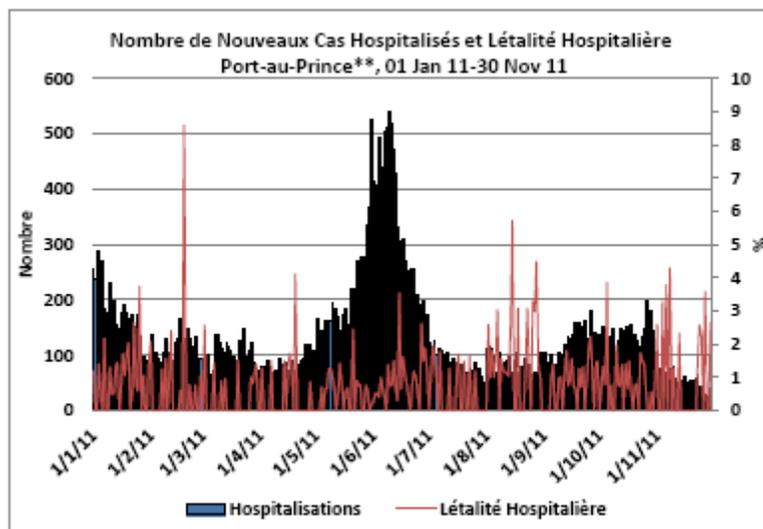
**Figure 13: Number of new hospitalizations and recorded deaths**



Source: Ministry of Public Health and Population (MSPP)

Port-au-Prince

**Figure 14: Number of new hospitalizations and recorded deaths**



\*\* Port-au-Prince: Carrefour, Cité Soleil, Delmas, Kenscoff, Pétion Ville, Port-au-Prince, et Tabarre

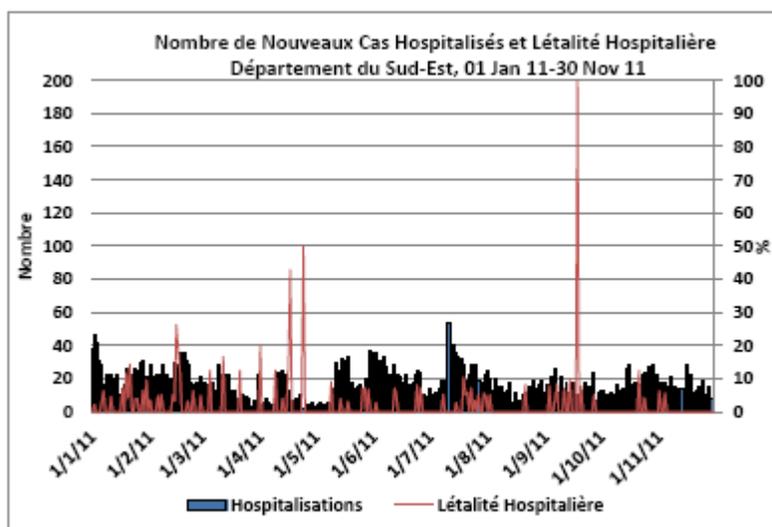
Source: Ministry of Public Health and Population (MSPP)

The overall trend of cholera activity in the department has been decreasing over the past month.

- On 16 November, the CTC in Rousseau health center, managed by OSAPO, received 12 patients from Ivoire in less than 48 hours. This coincides with cessation of awareness raising activities and distribution of prevention items in the zone due to the end of funding for the program. **Action:** German Red Cross has delivered Ringer’s Lactate to the CTC and PAHO/WHO field team was deployed to evaluate and provide support.
- On 22 November, there was a reported death of a 15 year old bitten by a suspected rabid animal. The child had begun treatment but died likely due to lack of post-exposure prophylaxis. Another child had also died after a similar episode in the same region. Rabies vaccines were sent to reinforce the stock with DSO receiving 10 doses, Hospital de Eléazar Germain 10, Center of Portail Leogane 10, and Aurore du Belaire 5.

## Southeast Department

**Figure 15: Number of new hospitalizations and recorded deaths**



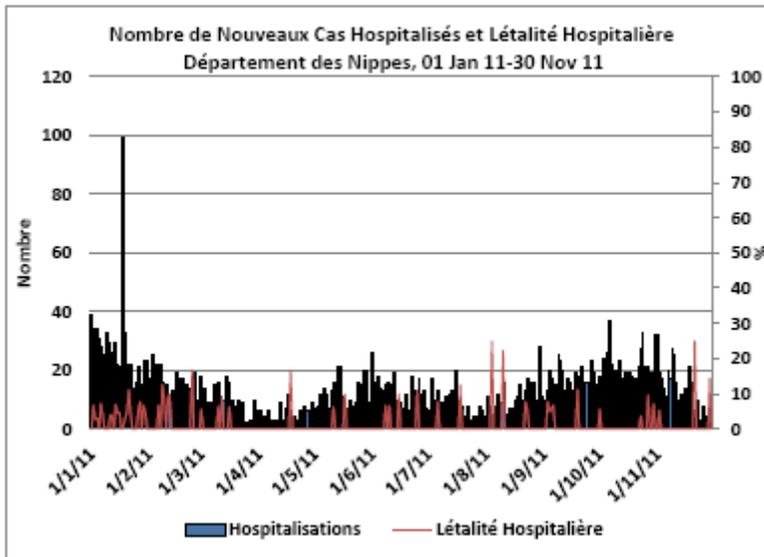
Source: Ministry of Public Health and Population (MSPP)

The number of cholera cases in the South East department is stabilizing with the exception of few hotspots.

- On 9 November, it was reported that in Marbial area the situation is difficult with no appropriate dead body management procedures in place. Road access is difficult in the area, while there's also a lack of brigadiers, and only one nurse available for the entire population in the area. **Action:** PAHO/WHO field teams sent cholera materials and provided support for dead body management.
- On 22 November, an increase of cases was reported at Marigot and a small increase in Bainet and Belle Anse. **Action:** Partners will be notified in case there is further need for support.
- On 23 November in Côtes de Fer, an increase of cases was noted, with the Health Center in Villa reporting 12 new cases and St. Joseph Hospital reporting 7 patients from the locality of Cavalier. The health center in Villa is at full capacity and the tent is in bad condition. The cases are being transferred to Fonds des Blancs in the South department. In St. Joseph Hospital, currently only three cholera beds are available and it is already running at full capacity. **Action:** PAHO/WHO field team has discussed with other partners to find a strategy to respond to the situation. ACDIVOCAS has distributed soap and is promoting hygiene with their personnel in the field. Medair also decided on outreach activities and soap, aquatabs, and chlorine distribution. PAHO/WHO and OCHA sent more supplies to the hospitals and evaluated the needs to reopen the CTU in Côtes de Fer that has closed.

## Nippes Department

**Figure 16: Number of new hospitalizations and recorded deaths**



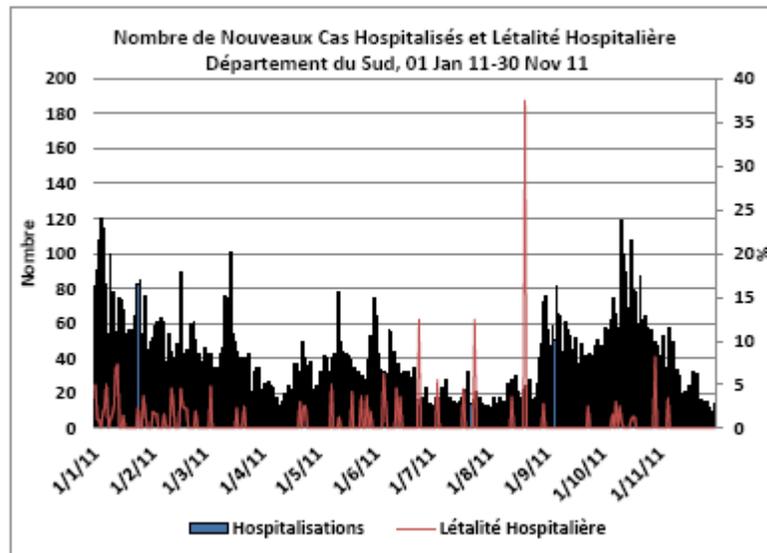
Source: Ministry of Public Health and Population (MSPP)

The overall trend of cholera activity in the department has been unstable with small peaks.

There has been an increase in the number of cases in Petit Trou with patients exceeding the capacity of the CTU. There were 85 patients between 20 and 31 October, of which 38 since 29 October. Two deaths were reported. Most of the patients came from Grande Ravine. DSNI has deployed 10 nurses to support the response at the CTU as well as providing transfer of patients, assessments, and distribution of water supplies and outreach materials. MSPP has decided to build an emergency CTU in Petit Trou where MDM Belgium will supply the materials.

## South Department

**Figure 17: Number of new hospitalizations and recorded deaths**



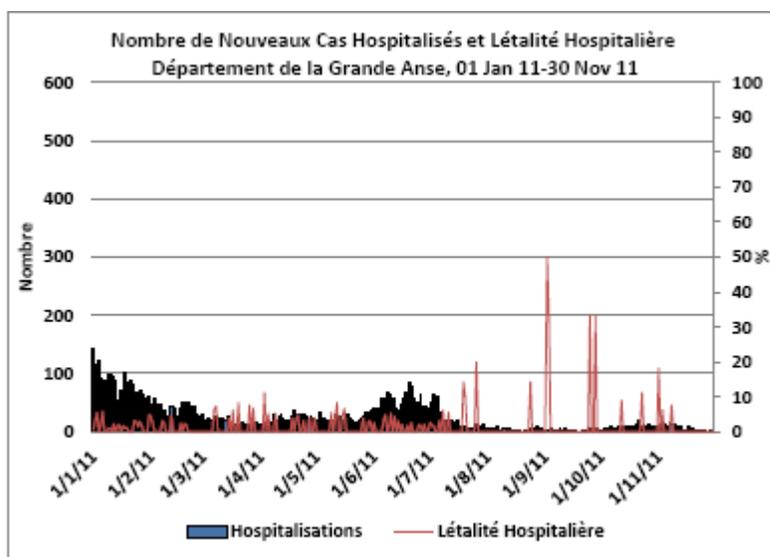
Source: Ministry of Public Health and Population (MSPP)

The overall trend of cholera activity in the department has been decreasing over the past month.

- On 16 November, PEPFAR concluded funding for 7 MSPP employees in the CTU. The DSS has asked to close the structure whereas cholera cases continued to be seen on the island with 44 cases in November including 3 hospitalizations and 1 death. **Action:** The Haitian Red Cross sent cholera supplies including chlorox, ORS, aquatabs, and soaps to reinforce supply stocks. The issue of salary for personnel and supply of materials has been addressed.

## Grande Anse Department

**Figure 18: Number of new hospitalizations and recorded deaths**



Source: Ministry of Public Health and Population (MSPP)

The overall trend of cholera activity in the department is stable with a little decrease over the past month.

- On November 7<sup>th</sup>, several cases were observed in Sourches-Chaudes, with one death and no CTU in the area. **Action:** PAHO/WHO has provided supplies.
- On 17 November: increase of cases in Moulines. **Action:** The DSGA has evaluated the situation, and has sent 2 nurses. PAHO/WHO and MDM, have provided beds and supplies. A stepping-up of awareness raising activities is planned with the DPC and Haitian Red Cross volunteers. On 21 November, a new CTU was opened to receive cases from Moulines/ Corail, Golbotine/ Roseaux, Gallette-Potonier/ Les Irois, whereby PAHO/WHO has provided beds and supplies.
- On 28 November, an increase of cases is observed in Anse à Maçon. There's no structure in the area and the only means to get to the nearest CTC, in Pestel, is by boat. **Action:** PAHO/WHO provided beds and supplies to Pestel CTC to better respond to the increased influx.

## OVERVIEW OTHER PAHO/WHO ACTIVITIES

### WASH (ENVIRONMENTAL HEALTH)

- PAHO/WHO is working with DINEPA and UNICEF to improve DINEPA's water quality surveillance system (SYSKLOR); efforts are also underway to introduce the system in the Dominican Republic.
- A technical committee including representatives from MSPP, DINEPA, PAHO/WHO, UNICEF, CDC and PEPA, has been established to oversee the implementation of WHO water quality standards in Haiti.
- Work to improve environmental health conditions in health centers was recently completed in several localities. Sanitation work included installation of water tanks, toilets, showers, clean water reservoirs and emptying of waste facilities.

### HEALTH PROMOTION

PAHO/WHO, in coordination with the Department of Health Promotion and Education of the MSPP, organized a "Workshop on the National Plan for Health Promotion" in Moulins sur Mer from 12 to 14 November, 2011. There are 21 health promotion teams for each department, 15 of which are officials from central management.

The main presentations and discussions concerned:

1. The National Politics of Health Promotion
2. The National Plan for Health Promotion: objectives, strategies, framework implementation of national and departmental priorities
3. The Strategic Plan for Hygiene Promotion: key notions and responsibilities for hygiene promotion by field teams

The working group focused on developing an outline of priorities for the 2012 Action Plan.

### HEALTH SERVICES

1. Strengthening available health care services in Haiti is an on-going commitment of the Pan American Health Organization/World Health Organization. To support the development of the Haitian health system and increase access to health care, PAHO/WHO with funding from the Government of Canada, is engaged in the execution of the project "Increasing Access to Health Services through Performance-Based Contracting for women, children and those displaced by the January 12, 2010 earthquake living in camps" (*Maman ak Timoun an Sante*). This initiative aims to increase access to health care services for pregnant women, newborns, children 0-5 years old and displaced people living in camps. The beneficiaries of the project will be up to three million people of whom around 70% will be pregnant women, newborns and children 0-5 years old.

The project is now in the phase of strengthening the dialogue with the MSPP (Unit for Support to the Decentralization of Health Services (UADSS) and preparations are made at the Health Departments and the health structures as well to ensure that public/non public health facilities will be able to respond to the expected higher demand for obstetric, neonatal and child health services. "*Maman ak Timoun an Sante*" will merge SOG and SIG (free obstetric and infant care) programs and besides promoting access to health care, will pay particular attention on to improving quality of health services by training health

personnel (general, paediatric, and obstetrical, nursing and auxiliaries) that serve in urban and rural areas, to enhance the effectiveness of the health system.

2. The MSPP has started the process of drafting the National Strategic Health Plan 2012-2022. The Unit of Planning and Evaluation (UPE) and the DG have leadership of the process. The working group organized by UPE has already produced two key documents:
  - 1) Guidelines for the process of elaboration of the National Health Policy & the National Health Plan ("Document cadre du processus")
  - 2) Guidelines for the discussion within the thematic groups ("Proposition Guide Discussions"). The thematic groups are: 1) Governance; 2) Provision of Health Services; 3) Health promotion; 4) Human Resources; 5) Financing; 6) Cooperation with the Dominican Republic.

The elaboration process comprises the organization of a Steering Committee to support and advocate for the process as well as the participation of all stakeholders and intersectoral partners through the thematic groups that will be organized in each Health Department.

The timeline for activities runs from November 29, 2011 to April 2012. It is expected that the National Strategic Health Plan will be published and disseminated to all partners by May 2012.

## IMMUNIZATION

For the month of November, the Epidemiology team drafted and submitted response conditions to GAVI for the introduction of new vaccines including pentavalent vaccine, vaccine against rotavirus and pneumococcus vaccine. The final draft for the campaign against measles, rubella and polio for March 2012 has been received. An evaluation workshop of all program activities will be held in December and will be followed by a training for managers on epidemiology management.

In March 2012, the MSPP, PAHO/WHO and other partners, will launch a country-wide vaccination catch-up campaign for polio targeting children from 0 – 9 years of age, as well as for measles and rubella targeting children from 9 months to 9 years of age.

## TUBERCULOSIS

### **Trainings carried out recently in the framework of the National Plan for the Fight against Tuberculosis**

As part of the implementation of the Global Fund TB project, the following courses were organized by the National Plan for the Fight against TB (NPFTB) and / or the UNDP:

- September 1, 2011: Training for private physicians in the metropolitan area of Port au Prince on Standards for screening, diagnosis and case management of tuberculosis and of co-infections TB / HIV
- October 2011: Training for pediatricians in Port au Prince on WHO standards for the diagnosis of tuberculosis in children.
- 5-6 September 2011. Capacity building workshop organized by UNDP on the use of Routine Data Quality Assessment tool (RDQA) for data assessment and for the monitoring and evaluation system of the TB, HIV/AIDS and malaria programmes.
- 9-10 November 2011: Fresh-up course for agents involved in TB control in the Artibonite Department
- 17-21 October 2011: Second International Course on TB infection control in health facilities organized by PAHO for the Americas Region

## ORAL HEALTH

### STRATEGIC WORKSHOP ON ORAL HEALTH

On November 10-11<sup>th</sup> 2011, the MSPP, with technical assistance of PAHO/WHO, organized a strategic thinking workshop on oral health. The workshop sought to provide an updated analysis of the oral health situation in Haiti and to identify intervention strategies for the improvement of oral health in the next 10 years.

The event was attended by the MSPP Director General and the representatives of 5 MSPP's Directions, 4 Departmental Health Directions, Dental Schools, Dental Association, Dental NGOs and 2 departmental dentists. It was the first time that under the MSPP leadership such an event, related to a much neglected aspect of the health system, brought together under the MSPP leadership a group of professionals with such diverse backgrounds.

Sessions of the workshop included presentations of: **the oral health situation in the Americas; oral health situation in Haiti; provision of oral health services at departmental level; governance issues related to oral health in Haiti.** The presentations were followed by roundtables on Strengths, Weaknesses, Opportunities, and Threats related to the oral health sector in Haiti along with a team working on vision and strategies for strengthening oral health in Haiti.

A writing committee (MSPP/OPS/OMS) has been constituted to move forward with the drafting of an oral health strategic plan as a contribution to the Haiti Health Strategic Plan being elaborated for 2012-2021.

### TRIPARTITE CUBA-BRAZIL-HAITI COOPERATION ACTIVITIES

From December 5-9<sup>th</sup>, 2011 two workshops were held under the tripartite cooperation. One of the workshops was realized to define the profile for Sanitary Officer (officier sanitaire). The other workshop provided training for future trainers of intermediate level health professionals.

## MENTAL HEALTH

- In Haiti, the total amount allocated to mental health services represents 1% of the health budget. Since the earthquake of 12 January 2010 an increasing number of people are in need of psychological support. From 12 January 2010 to 31 July 2011 in Haiti, MSPP, national and international mental health organizations carried out 50,875 individual psychological consultations for 28,490 people; another 114,359 individuals attended group therapy sessions. In addition, 20,000 sensitization sessions were held for 432,326 participants.
- Following the earthquake of 12 January 2010, mental health and psychosocial components have also been integrated into emergency response. This was the start of a big undertaking: the establishment of a national mental health system. The foundations and the basis for this system are now well in place.

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Surveillance information and graphs are available at the Ministry of Public Health and Population (MSPP) <http://mspp.gouv.ht/site/index.php> or <http://mspp.gouv.ht/site/downloads/Rapport%20journalier%20MSPP%20du%2014%20octobre%202011.p>

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A list of most frequently-used acronyms related to the response to cholera in Haiti is available at:  
[http://new.paho.org/hq/index.php?option=com\\_docman&task=doc\\_download&gid=11788&Itemid=](http://new.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=11788&Itemid=)

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