

[Haiti Cholera Medical Response]
MPTF OFFICE GENERIC FINAL PROGRAMME¹ NARRATIVE REPORT
REPORTING PERIOD: FROM 06.2017 TO 03.2018

<p align="center">Programme Title & Project Number</p> <ul style="list-style-type: none"> Programme Title: Haiti Cholera Medical Response Programme Number (if applicable) MPTF Office Project Reference Number:³ 00105773 	<p align="center">Country, Locality(s), Priority Area(s) / Strategic Results²</p> <p><i>Country/Region:</i> Haiti, Entire Country with focus on Artibonite, Center, North and West of Haiti</p> <p><i>Priority area/ strategic results:</i> Reinforcement of epidemiological and laboratory surveillance and medical case management to reduce cholera incidence and deaths due to cholera</p>
<p align="center">Participating Organization(s)</p> <ul style="list-style-type: none"> Pan American Health Organization/World Health Organization (PAHO/WHO) 	<p align="center">Implementing Partners</p> <ul style="list-style-type: none"> Ministry of Public Health and Population of Haiti and French Red Cross
<p align="center">Programme/Project Cost (US\$)</p> <p>Total approved budget as per project document: MPTF /JP Contribution⁴: \$1,500,00.00</p> <ul style="list-style-type: none"> by Agency (if applicable) Agency Contribution by Agency (if applicable) \$891,408 USD Through the MSPP and PAHO/WHO, the World Bank contributed to procurement of supplies and part of the cost for coordination and quality of care <p>Government Contribution (if applicable)</p> <p>Other Contributions (donors) <i>Government of Canada:</i> 190,000.00 USD</p> <p>TOTAL: 2,581,408</p>	<p align="center">Programme Duration</p> <p>Overall Duration (months) 10 months Start Date⁵ (01.06.2017)</p> <p>Original End Date⁶ (31.03.2018)</p> <p>Actual End date⁷(31.03.2018)</p> <p>Have agency(ies) operationally closed the Programme in its(their) system? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Expected Financial Closure date⁸:</p>
<p align="center">Programme Assessment/Review/Mid-Term Eval.</p> <p>Evaluation Completed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Date: dd.mm.yyyy</p> <p>Evaluation Report - Attached <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Date: dd.mm.yyyy</p>	<p align="center">Report Submitted By</p> <ul style="list-style-type: none"> Name: <u>Dr. Luis Codina</u> Title: Representative, head of agency Participating Organization (Lead): PAHO/WHO Email address: <u>codinalu2@paho.org</u>

¹ The term “programme” is used for programmes, joint programmes and projects.

² Strategic Results, as formulated in the Strategic UN Planning Framework (e.g. UNDAF) or project document;

³ The MPTF Office Project Reference Number is the same number as the one on the Notification message. It is also referred to as “Project ID” on the project’s factsheet page on the [MPTF Office GATEWAY](#).

⁴ The MPTF/JP Contribution is the amount transferred to the Participating UN Organizations – see [MPTF Office GATEWAY](#)

⁵ The start date is the date of the first transfer of the funds from the MPTF Office as Administrative Agent. Transfer date is available on the [MPTF Office GATEWAY](#)

⁶ As per approval of the original project document by the relevant decision-making body/Steering Committee.

⁷ If there has been an extension, then the revised, approved end date should be reflected here. If there has been no extension approved, then the current end date is the same as the original end date. The end date is the same as the operational closure date which is when all activities for which a Participating Organization is responsible under an approved MPTF / JP have been completed. As per the MOU, agencies are to notify the MPTF Office when a programme completes its operational activities. Please see [MPTF Office Closure Guidelines](#).

⁸ Financial Closure requires the return of unspent balances and submission of the [Certified Final Financial Statement and Report](#).

(DELETE BEFORE SUBMISSION)

Guidelines:

The Final Programme Report template is based on the UNDG 2003 template, which is currently under review and is in line with the [UNDG Results Based Management Handbook \(October 2011\)](#). The Final Programme Report should be provided after the completion of the activities in the approved programmatic document and provide information on the overall results of the programme including the final year of the activities.

Building on continued efforts made in the UN system to produce results-based reports, the report should demonstrate how the outputs collectively **contributed to the achievement of the agreed upon outcomes** of the applicable Strategic (UN) Planning Framework guiding the operations of the Fund.

In support of the individual programme reports, please attach any additional relevant information and photographs, assessments, evaluations and studies undertaken or published.

Where available, the information contained in the Programme Summaries, Quarterly and/or Semi-Annual Updates and Annual Progress Reports prepared by the Participating Organizations may be useful in the preparation of the Final Narrative Programme Report. These Summaries, Updates and Reports where applicable, are available in the respective Fund sections of the MPTF Office GATEWAY (<http://mptf.undp.org/>).

Formatting Instructions:

- The report should be between 10-15 pages. Include a list of the main abbreviations and acronyms that are used in the report.
- Number all pages, sections and paragraphs as indicated below.
- Format the entire document using the following font: 12point _ Times New Roman and do not use colours.
- The report should be submitted in one single Word or PDF file.
- Annexes can be added to the report but need to be clearly referenced, using footnotes or endnotes within the body of the narrative.
- Do not change the Names and Numbers of the Sections below.

FINAL PROGRAMME REPORT FORMAT

EXECUTIVE SUMMARY

During the period of June 2017 to March 2018, PAHO/WHO provided intensified technical cooperation to national and decentralized health authorities in order to improve epidemiological surveillance, laboratory capacity, medical case management and vaccination to reduce the incidence and deaths due to cholera in Haiti. The two specific objectives of this project were to (1) strengthen the national epidemiological and laboratory surveillance systems to detect cholera cases and mount a rapid response to cholera alerts; and (2) to improve cholera medical case management in acute diarrheal treatment centers (CTDAs) to save lives. The first indicator was the percentage of cholera alerts that received a coordinated rapid response from MSPP, PAHO, and partners. The target was 90% and the result was 100%. The second indicator was the percentage of evaluated CTDAs that scored over 75% in terms of quality assurance. The target was 80% and the result was 59% at the national level. Although the national objective was not achieved, if the analysis is restricted to Artibonite and Centre (which reported 65% of the cases nationally and concentrated 70% of the CTDAs with more than two evaluations), the objective was achieved with 83% of CTDAs scoring above 75%.

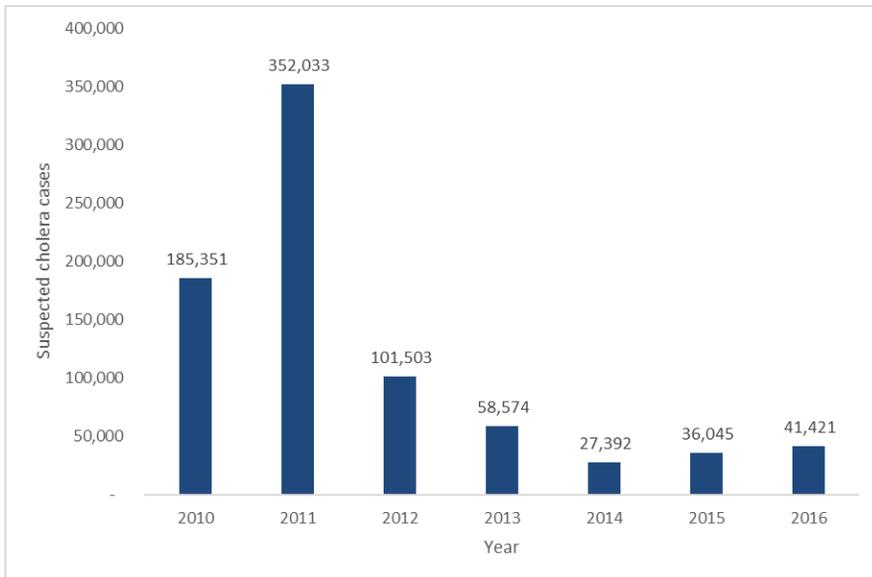
These improvements are, in part, due to the actions on the ground by the MSPP, with the support of PAHO/WHO and its implementing partner, the French Red Cross. For epidemiological surveillance, PAHO/WHO put in place assistant epidemiologists in 5 of the 10 departmental health directorates (DHD) to support epidemiological investigations in the field and the evaluation epidemiological surveillance tools (i.e. cholera registries), and to analyze data to inform decision-making. For laboratory capacity, the labo-moto nurses were put in place in the DHDs of Artibonite, Centre, and West to ensure that a) there was a sufficient supply of Cary Blair (cholera sampling material) in every CTDA, b) every suspected case of cholera was sampled, and c) every sample was transported to a laboratory in a timely manner. Thanks to these newly established mechanisms, the sampling percentage increased from 32% in December 2017 to 81% in March 2018. For medical case management, improvements in the evaluation score was noted in most CTDAs, particularly among those in Artibonite and Centre. In addition, three oral cholera vaccine (OCV) vaccination campaigns took place during this reporting period: one in the national prison (Aug. 2017) and two in the commune of Mirebalais in the Center department (Nov. - Dec. 2017). In Mirebalais, a total of 69,905 people was vaccinated with two doses. In the national prison, 3,973 prisoners were vaccinated. The combined efforts of all of these activities contributed to the decline in cases and deaths reported between June 2017 and March 2018. The strategy implemented and mechanisms put in place require continued support to ensure that these downward trends persist, and that Haiti achieves cholera elimination by 2022, as outlined in the National Plan for the Elimination of Cholera.

I. Purpose

The purpose of this project was to support the efforts of the Ministry of Public Health and Population (MSPP) to eliminate cholera in Haiti based on their National Plan for the Elimination of Cholera (2013-2022). Specifically, PAHO/WHO supported the Strategic Objective 2: “Improve health and reduce mortality” of the UN approach to cholera in Haiti by (1) strengthening the national epidemiological and laboratory surveillance systems to detect cholera cases and mount a rapid response to cholera alerts; and (2) improving cholera medical case management in acute diarrheal treatment centers (CTDAs) to save lives.

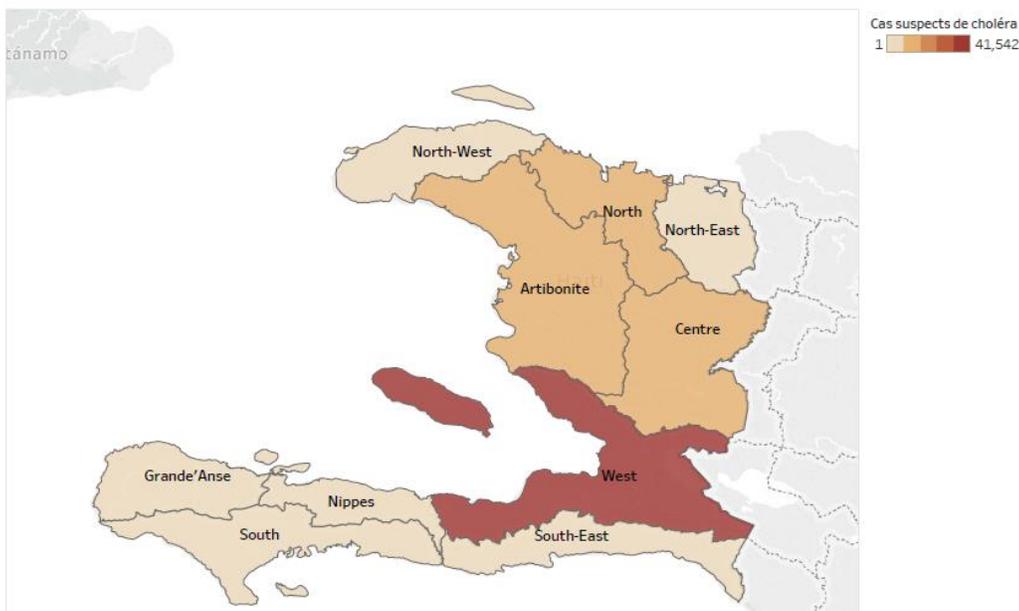
This project aimed to support the MSPP during the medium-term phase (2016-2018) of the National Plan for the Elimination of Cholera. Although the cholera epidemic has reduced in magnitude since its peak in 2011, the epidemiological trends in recent years were concerning: the annual number of suspected cases increased by more than 50% (from 27,392 cases in 2014 to 41,421 cases in 2016) (**Figure 1**); and the annual case fatality rate in CTDAs also increased (from 0.75% in 2015 to 0.91% in 2016).

Figure 1. Annual number of suspected cholera cases in Haiti, 2010-2016



These figures suggested that the foci of transmission were spreading and that improvements to medical case management were needed to prevent deaths. From 2014-2016, the highest number of suspected cholera cases were reported in the four priority departments of Artibonite, Center, North and West (**Figure 2**).

Figure 2. Cumulative number of suspected cholera cases by department, 2014-16



Following Hurricane Matthew in late 2016, systematic evaluations of cholera treatment facilities (including cholera treatment centers or CTCs, as well as acute diarrheal treatment centers or CTDA – which are CTCs located within the confines of a health facility) showed that the quality of care provided was not adequate to reduce transmission of the disease. While PAHO/WHO’s quality assurance teams responded immediately to prevent cholera transmission within the health facilities and to save lives, work remained to strengthen the quality and safety of medical care long-term. In addition, the hurricane disrupted the timeliness of cholera

alerts generated by the surveillance system, which delayed teams to carry out epidemiological investigations to identify sources of infection and coordinate response activities.

II. Assessment of Programme Results

i) Narrative reporting on results:

In 2017, a total of 13,681 suspected cholera cases were reported nationally, which represented the lowest annual number of cases since the beginning of the outbreak and a 67% decrease compared to 2016. The majority of cases (86%) were reported in the four priority departments of Artibonite, Centre, and North, and West. During the UN MPTF funding period between June 2017 and March 2018, a total of 7,741 suspected cases were reported nationally, which is a 66% decrease compared to the same period the previous year.⁹ The majority of the cases were reported in the four priority departments of Artibonite (44%), Centre (22%), West (19%), and North (6%) (**Figure 3**). West and North experienced decreases of over 80% in the number of suspected cholera cases, while Centre and Artibonite experienced decreases of 60% and 26%, respectively.

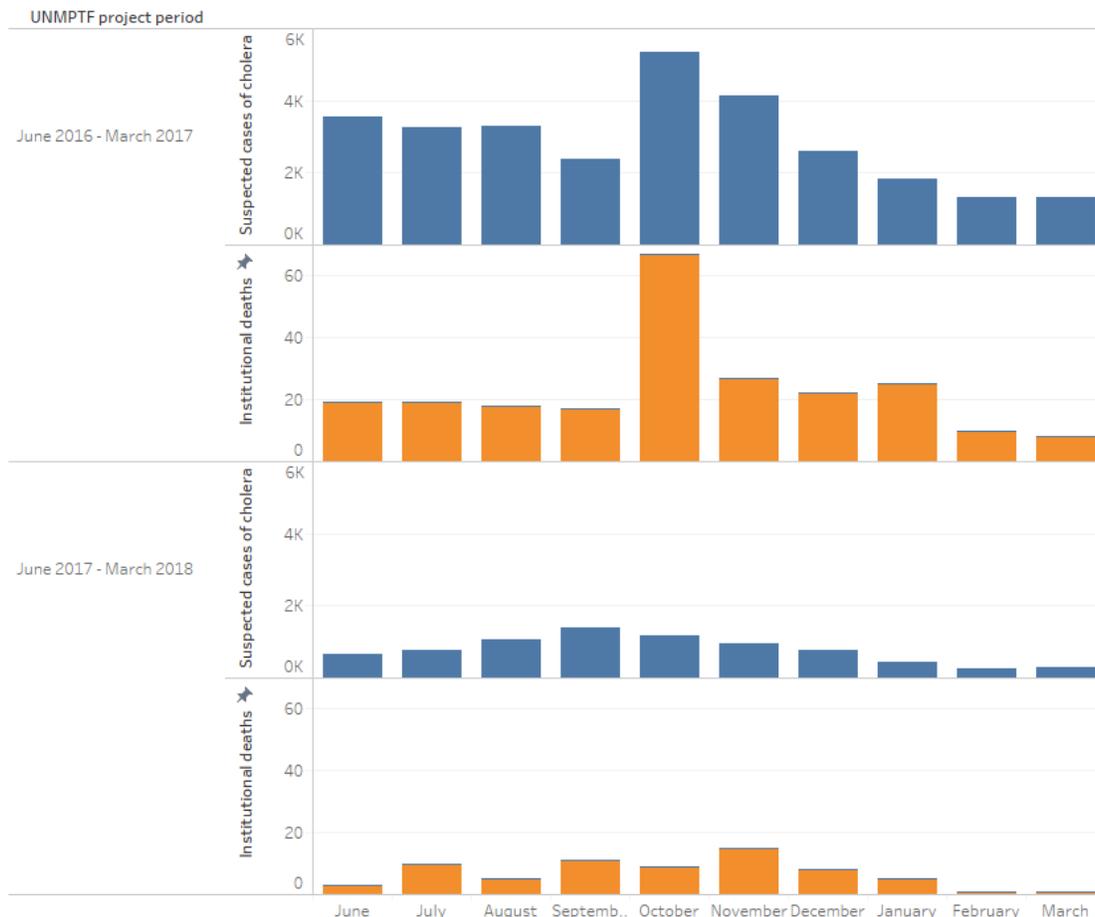
Figure 3. Number of suspected cases by department during project period compared to the previous year

Department.	June 2016 - March 2017	June 2017 - March 2018
Artibonite	4,571	3,378
Centre	4,253	1,704
Grand'Anse	2,913	7
Nippes	708	2
Nord	2,604	426
Nord-Est	662	25
Nord-Ouest	854	425
Ouest	8,918	1,497
Sud	3,123	256
Sud-Est	413	21
Grand Total	29,019	7,741

In June 2017, 650 suspected cases of cholera were reported nationally. By September of the same year, the monthly number of cases had increased to 1,403, followed by a decrease to 290 by March 2018. This trend with a peak in September corresponds to the rainy season during which cholera transmission increases. However, compared to the previous year, the monthly number of cases reported during the project period were consistently lower (**Figure 4**). 2018 also marked the first time since the beginning of the cholera outbreak when, for multiple consecutive weeks, less than 100 cases were reported weekly nationwide. During the project period, less deaths in CTDA were also reported, with 68 deaths, representing a 71% decrease compared to the previous year. Additionally, a consistent decrease in institutional lethality was observed from November 2017 to March 2018, with only one death reported in the last month. Between June 2017 and March 2018, the institutional case fatality rate was 1%, which is identical to what was reported during the same period the previous year. The objective has been to maintain a case fatality rate of $\leq 1\%$, which was achieved.

⁹ Comparison of the project period to the same period during the previous year is necessary to account for the seasonality of cholera.

Figure 4. Monthly cases and deaths during UNMPTF project period compared to previous year

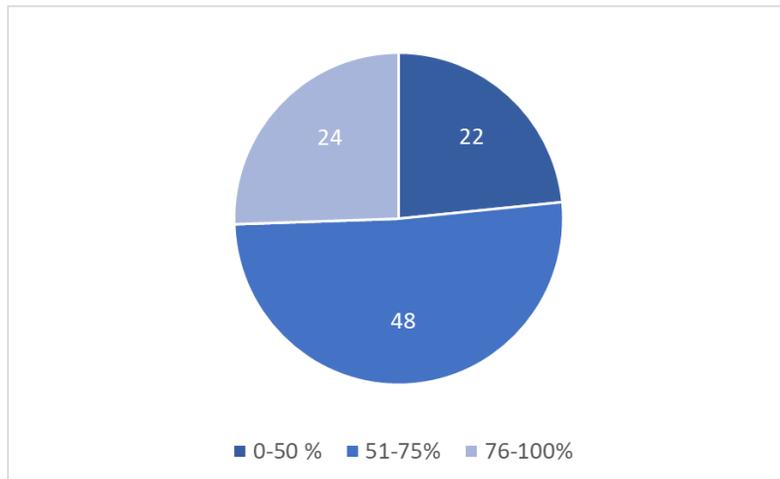


Improvement of cholera medical case management in CTDA (Acute Diarrhea Treatment Centers):

100% of CTDA in ten (10) departments of Haiti were evaluated. In total, 94 functional CTDA were evaluated between June 2017 and March 2018 using an evaluation tool that considers medical management and Water, Sanitation and Hygiene (WaSH) aspects, including the number of beds, number of staff, accessibility to supplies and clean water, etc. 67 additional CTDA were evaluated through previous projects funded by USAID/OFDA and Canada. For the very first time since the beginning of the cholera outbreak in Haiti, an inventory of all CTDA in the country was published, including their evaluation score and recommendations for improvement to orient decision-making.

As shown in **Figure 5**, 48 (51%) CTDA presented an initial score between 51% and 75%; 24 (26%) received a score equal to or above 76%; and 22 (23%) received a score inferior to 51%. Most CTDA with a score inferior to 51% were located in departments that did not notify many cases of cholera during the project period, such as the North-East (7 CTDA), Nippes (6), and North-West (2). The remaining CTDA that received low scores were located mainly in remote areas difficult to access in the following departments: Center (3), West (2), North (2).

Figure 5. Number of CTDAs evaluated grouped by evaluation score (%)

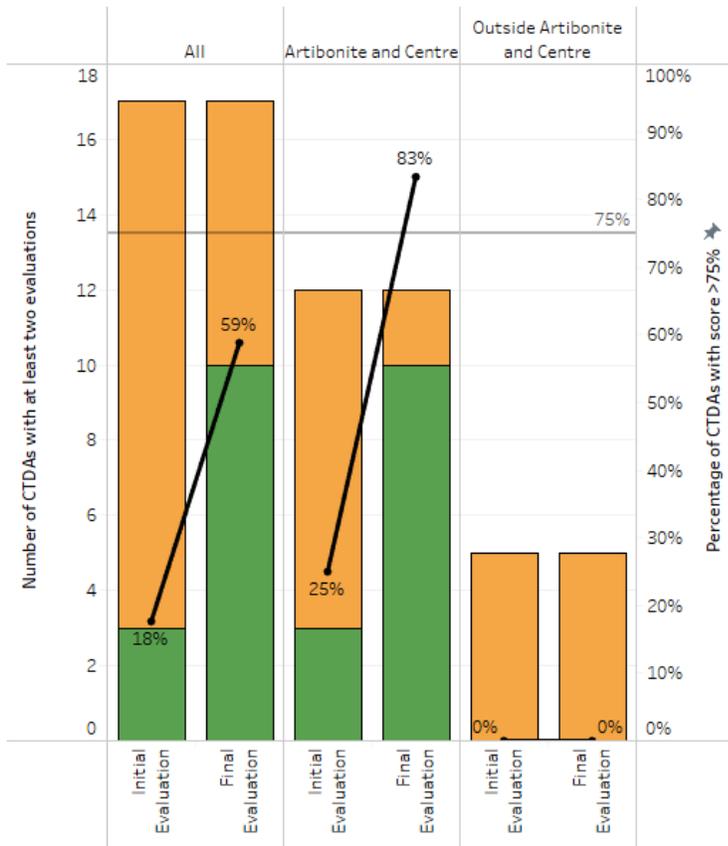


During the implementation period of this project, through a Letter of Agreement (LOA) signed with the French Red Cross, PAHO/WHO was able to respond to 17 outbreaks in the following departments: Artibonite (9), Center (5), and West (3). The three sites in the West and two sites in the Centre departments were not CTDAAs but were temporary treatment sites that were put in place due to outbreaks in areas located far from the nearest CTDAAs. This reduced the risk of further transmission of cholera due to cases travelling to seek care. PAHO/WHO exclusively intervened in CTDAAs outside these three departments.

Out of the 94 CTDAAs in the country, 17 of them received at least two evaluations and an intervention in between to improve medical case management during the UNMPTF project period. The interventions were adapted to specific needs identified during the first evaluation and could include: installation of new temporary sites, reinforcement of human resources, small renovations to ensure CTDAAs comply with standards to prevent cholera transmission within the CTDA, provision of medical and WaSH supplies and materials, as well as refresher trainings on medical case management and infection prevention and control (IPC) norms.

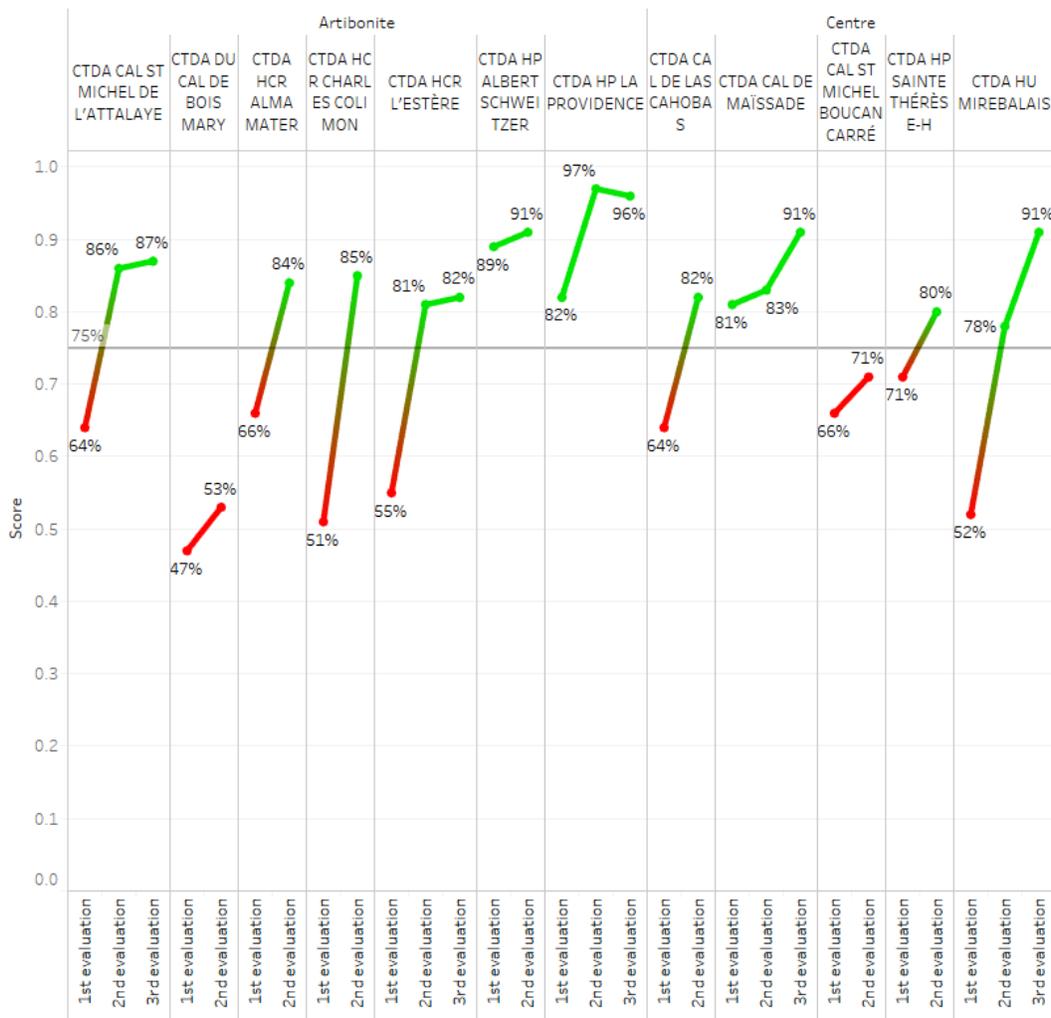
Of these 17 CTDAAs, only 3 (18%) had an initial evaluation score above 75%. After receiving the interventions to improve medical case management, 10 (59%) reached a score above 75%. Although this is short of the objective of 80%, the improvement is significant. Additionally, if the analysis is limited to Artibonite and Centre, which reported 65% of the cases nationally and had 70% of the CTDAAs that received interventions, the percentage of CTDAAs with a score above 75% increased from a baseline of 25% to 83% by the end of this project period. It should also be noted that, although certain CTDAAs did not reach a score of 75% in their second evaluation, 100% of the intervened CTDAAs improved their score between the first and second evaluation, showing improvement in the quality of medical cholera case management post-interventions.

Figure 6. Number and percentage of CTDA with an evaluation score above 75% during initial and final evaluation



An explanation for why all CTDA improvements took place in Centre and Artibonite may be explained by the fact that most cases were reported in these departments. Given that supervision and trainings are an integral part of the interventions, it is possible that only those CTDA that observed and admitted suspected cholera cases were able to put into practice the knowledge learned during the interventions. Additionally, there was a prioritization of CTDA in Artibonite and Centre, where localized cholera outbreaks occurred more frequently. Among the CTDA evaluated twice in Artibonite and Centre, 3 (25%) remained above 75%, 7 (58%) moved from below to above 75% and 2 (17%) remained below 75% (**Figure 6**). As mentioned previously, regardless of their final status, all these CTDA showed improvements in their evaluation scores over time.

Figure 6. Evaluation scores of CTDA for which an intervention was implemented by the French Red Cross (implementing partner of PAHO/WHO), Artibonite and Centre, June 2017 - March 2018



Through the agreement signed with the French Red Cross, CTDA in the following departments were provided with the human resources necessary to comply with the cholera case management protocol during outbreaks when capacity was surpassed: Artibonite (8), Center (2), and West (3). In total, 1 doctor, 31 nurses, 5 auxiliaries, 41 hygienists, 5 ASCP/VCRH workers and 2 other workers were deployed to select CTDA to support and improve medical case management (**Figure 7**).

Figure 7. Staff deployed through French Red Cross (implementing partner of PAHO/WHO) to support staff in CTDA

Dept. and commune	Total HR	Doctors	Nurses	Auxiliaries	Hygienists	ASCP and VCRH	Others
Artibonite	64	1	25	5	28	5	0
CAL de Bois Mary	0	0	0	0	0	0	0
CAL Saint Michel de L'Attalaye	4	0	2	0	2	0	0

Dispensaire de Medor	9	0	2	4	3	0	0
HCR Alma Mater	4	0	2	0	2	0	0
HCR Charles Colimon	3	0	3	0	0	0	0
HCR de L'Estere	11	0	3	1	4	3	0
Hopital Albert Schweitzer	13	1	6	0	6	0	0
Hopital la Providence	14	0	5	0	9	0	0
PRO+ Goyavier	6	0	2	0	2	2	0
Centre	9	0	2	0	5	0	2
Bouilli	7	0	2	0	5	0	0
CAL ST Michel Boucan Carre	2	0	0	0	0	0	2
Hopital Sainte Therese Hinche	0	0	0	0	0	0	0
Hopital Universitaire de Mirebalais	0	0	0	0	0	0	0
Prison Civile Hinche	0	0	0	0	0	0	0
Ouest	12	0	4	0	8	0	0
Crouyot	3	0	0	0	3	0	0
Kay Matheux La Colline	6	0	4	0	2	0	0
OSAPO	3	0	0	0	3	0	0
Grand Total	85	1	31	5	41	5	2

By request of the MSPP, Mobile Rapid Response Teams (EMIRA) from 9 departments, Polyvalent Community Health Agents (ASCP), and healthcare personnel of CTDA received refresher training on the cholera case management protocol through on-site trainings and group trainings, depending on the needs. In total, 452 people were trained.

Support to epidemiological and laboratory systems

In September 2017, PAHO/WHO put in place assistant epidemiologists in 5 of the 10 DHDs (Artibonite, Centre, West, South, and Grand'Anse¹⁰) to support epidemiological surveillance. It was proposed that the assistant epidemiologists be integrated members of the work structure of the DHDs in order to improve coordination and collaboration within the DHD, and between PAHO/WHO and the DHD. The epidemiologists supported field epidemiological investigations of localized cholera outbreaks and deaths in CTDA and in the community. Additionally, epidemiologists from the PAHO/WHO office in Port-au-Prince were deployed to the field to support investigations. The assistant epidemiologists in the DHD supported the evaluation of epidemiological surveillance tools, primarily the cholera registry in CTDA, by verifying that clinical diagnosis was appropriate according to the reported symptomology in patient files. The cholera registry is a case record registry in each CTDA where information is entered for each patient according to predetermined variables (place of residence, treatment plan, etc.). In addition, the epidemiologists ensured that there was no missing information in the cholera registry. If lack of data or incorrect use of the cholera registry was observed, the assistant epidemiologists led training sessions to strengthen understanding of standardized procedures related to cholera surveillance. The epidemiologists also supported the DHD to analyze epidemiological data in order to inform decision making.

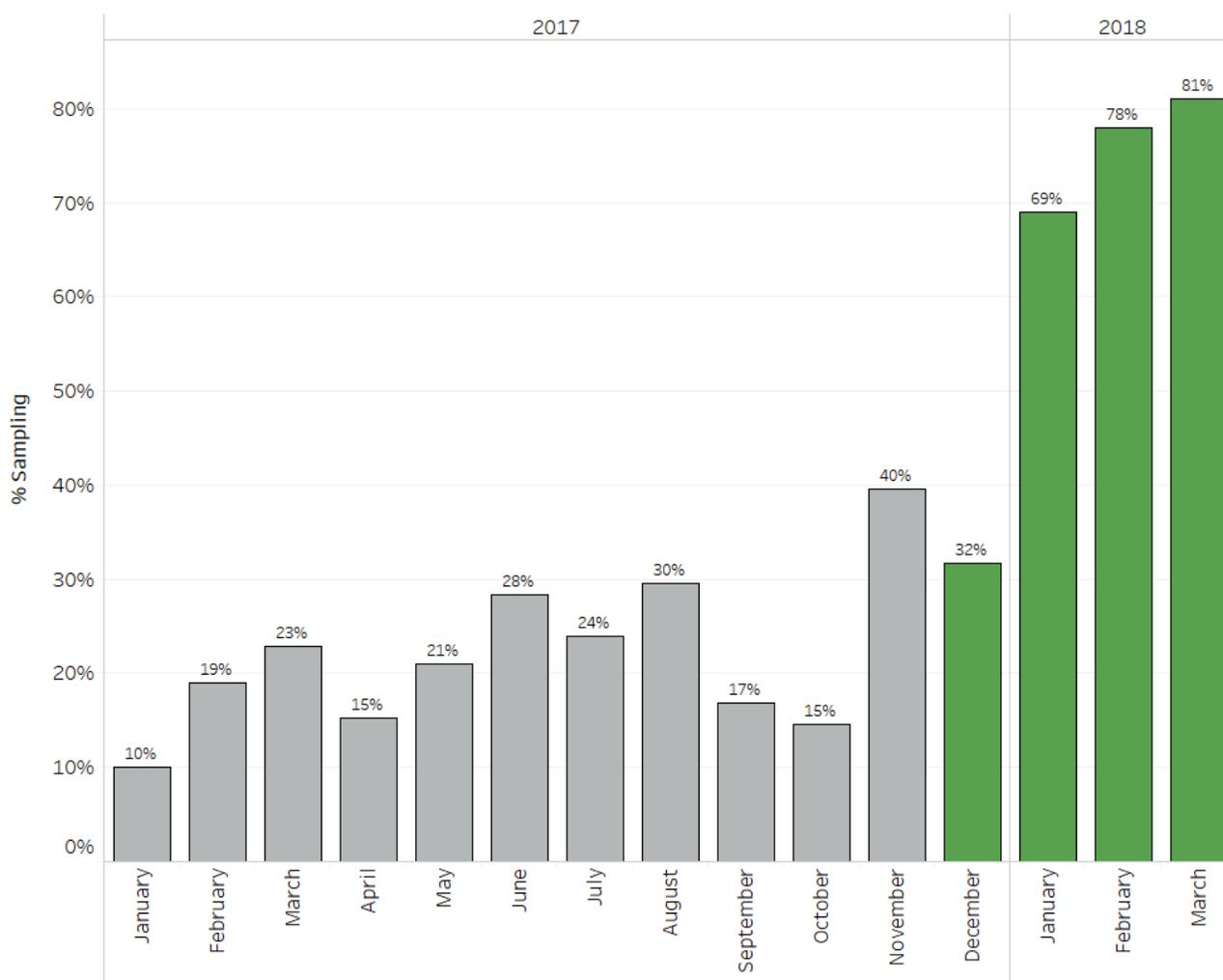
PAHO/WHO supported the Directorate of Epidemiology, Laboratory, and Research (DELR) of the MSPP in numerous missions to strengthen the use of the cholera line lists and to verify data. The cholera line list is a database with individual level data from the cholera registry, which allows for more accurate and reliable data analysis to inform decision making and to orient interventions. However, in

¹⁰ Post Hurricane Matthew, field epidemiologists were placed in affected departments, specifically South and Grand'Anse. With this project, PAHO/WHO supported the continuation of their activities.

some departments, the line lists were not being used systematically and often aggregated data was used, which provide only a general understanding of the epidemic. In the departments of West, Artibonite and North, multiple-day missions took place to recover cholera registries from CTDA, verify data in the registry (e.g. verify if the clinical diagnosis is coherent with the treatment plan and duration of illness), and enter the data into the database. In the department of South-East, a mission was undertaken to address the large discrepancy in data between the cholera registry and the line listing. Therefore, data verification in the existing line list was performed.

In 2017, the sampling percentage among suspected cases of cholera for laboratory testing was low, often due to stock shortages in Cary Blair, the transport medium for cholera samples. Additionally, some cholera samples were not being systematically transported to the laboratory. Laboratory testing informs decision-making by health care workers regarding the appropriate treatment plan for the case, equips epidemiologists with more accurate information on the evolution of the outbreak and allows to assess the capacity of health personnel in certain CTDA to be able to clinically diagnose a case. In order to address the stock shortages of Cary Blair and low sampling rate, 12,000 Cary Blair were purchased, received and transferred to the DELR. Additionally, in December 2017, four lab-moto nurses were put in place in three priority departments (Artibonite, Center, and West) to ensure that there was a sufficient supply of Cary Blair in every CTDA, that every suspected case of cholera was sampled, and that every sample was transported to a laboratory in a timely manner. Thanks to these mechanisms, sampling percentage increased from 32% in December 2017 to 81% in March 2018 (**Figure 6**).

Figure 6. Sampling percentage among suspected cholera cases, by epidemiological week, 2017-18¹¹



¹¹ Highlighted in green is the period during which the labo-moto nurses were active in Haiti

In addition, tools were developed for the DELR and the DHDs to efficiently monitor the stock of Cary Blair at the national, departmental and CTDA level to foresee stock shortages and to monitor transfer of Cary Blair between different levels.

Furthermore, Rapid Diagnostic Tests (RDTs), specifically SMARTTM tests, were temporarily reintroduced into case investigations to be used complementarily to Cary Blair sampling. These rapid tests were used to determine if an outbreak of cholera was occurring in a community while awaiting the test results by culture from the laboratory. These activities were discontinued in the end of 2017 due to the improvement of case sampling, sample transportation and laboratory testing.

In addition, environmental sampling and testing of water quality was introduced into field investigations by testing water sources using the DelAgua kits.

Although this project did not include a vaccination component, due to urgent outbreaks, some reactive cholera vaccination activities were undertaken supported, in part, by this project. Between June 2017 and March 2018, three oral cholera vaccine (OCV) vaccination campaigns took place: one in the national prison (Aug. 2017), two in the commune of Mirebalais in the Center department (Nov. - Dec. 2017). During the vaccination campaign in Mirebalais, 88,378 people were vaccinated during the first campaign and 85,112 people in the second campaign. In total, 69,905 people were vaccinated with two doses. In the national prison, 3,973 prisoners were vaccinated, representing vaccination coverage of 83.4%. In addition, a study on the OCV vaccination coverage in the departments of South and Grand' Anse is currently in progress, based on the vaccination campaigns that occurred in Nov. 2016 after Hurricane Matthew.

ii) Indicator Based Performance Assessment:

Using the **Programme Results Framework from the Project Document / AWP**s - provide details of the achievement of indicators at both the output and outcome level in the table below. Where it has not been possible to collect data on indicators, clear explanation should be given explaining why.

	<u>Achieved</u> Indicator Targets	Reasons for Variance with Planned Target (if any)	Source of Verification
Outcome 1¹² Indicator: Baseline: Planned Target:			
Output 1.1: Percentage of evaluated cholera treatment facilities that score over 75% in terms of quality assurance (green) Indicator 1.1.1 Baseline: 18% Planned Target: 80%	<p>59% (national)</p> <p>83% (Artibonite and Centre, which reported 65% of cases)</p>	<p>This indicator was calculated for all CTDA's where the French Red Cross and/or PAHO/WHO intervened to improve medical case management of cholera cases. When considering only the departments of Artibonite and Centre, which reported 65% of the cases nationally and had 70% of the CTDA's, the baseline was 25% and the result was 83%. Given that supervision and training of staff was an integral part of the interventions, it is possible that staff in departments with fewer reported cases has less opportunity to put into practice the knowledge and concepts learned, thus not significantly improving the evaluation score.</p>	<p>Evaluation scores of CTDA's conducted by PAHO/WHO</p>
Indicator 1.1.2: Percentage of cholera alerts that received a coordinated rapid response from MSPP, PAHO, and Partners Baseline: N/A Planned Target: 90%	<p>100%</p>	<p>None.</p>	<p>Alerts database</p>

¹² Note: Outcomes, outputs, indicators and targets should be as outlines in the Project Document so that you report on your actual achievements against planned targets. Add rows as required for Outcome 2, 3 etc.

iii) Evaluation, Best Practices and Lessons Learned

During the implementation of this project, many best practices and lessons were learned. Firstly, the integration of some workers contracted by PAHO/WHO directly within the work structure of the DHDs proved to be effective and provided ease for coordination of activities. For example, the assistant epidemiologists and the labo-moto nurses were able to build close professional relationships within the MSPP and better understand the needs to tailor their activities. Similarly, the integration of the labo-moto nurses within the national transport system for laboratory samples was essential to avoid creating a parallel system to the one the MSPP already had in place. It is important that these systems work complementarily to support the national system. Another best practice is the use of data and evaluations to orient activities on the ground. Particularly for medical case management, CTDA in areas with active cholera transmission were evaluated multiple times to ensure that quality of care remained high and to identify needs and orient activities to improve care, if need be. Additionally, since CTDA are not expected to be functional long-term due to decreasing incidence in cholera, it is important that the epidemiological situation guide how limited resources are used, to avoid unnecessary use of funds.

iv) A Specific Story (Optional)

In 2017, the MSPP, with technical guidance and support of PAHO/WHO, created, for the first time since the beginning of the cholera outbreak in October 2010, an inventory of all the CTDA present in Haiti and evaluated their performance. Information was collected during field missions conjointly led by MSPP and PAHO/WHO. The inventory provided an overview of the capacity of each CTDA to respond to cholera cases and recommended actions in order to improve standard quality of care to prevent deaths and transmission within the treatment center. Based on the results of the initial evaluation of these CTDA and the cholera epidemiological situation, interventions to improve medical case management were implemented by the French Red Cross and/or PAHO/WHO. Due to these actions, improvements in the evaluation score was observed in the majority of CTDA, particularly in CTDA with higher cholera transmission during the project period (Artibonite and Centre) (**Figure 6**). Moving forward, it would prove to be useful to continue evaluations of these CTDA to ensure that limited resources are being used strategically by identifying CTDA that require support.

