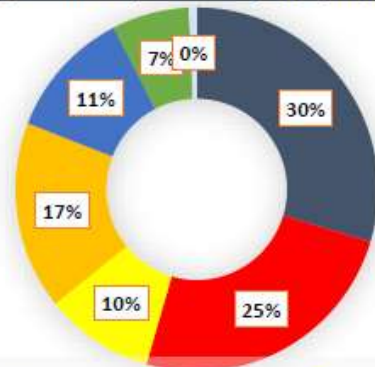


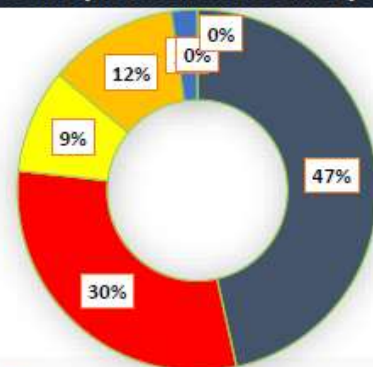
## 1.1 Diphtheria Highlights

- According to MoPHP (10 February 2018), there are 1,032 probable diphtheria cases, including 64 associated deaths, in 161 districts among 20 governorates.
- The most affected governorates are Ibb (407) and Al Hudaydah (133) Case Fatality Ratio (CFR) is 6.1%. Children under the 5 years of age represent 30 % of probable cases and 47 % of deaths.
- Contacts traced by district RRTs in 10 governorates: 517 (up to week 52), and 2,010 (weeks 1-5).
- Weekly admissions to Diphtheria Isolation Units (DIUs): 566 (up to week 52), 86 (week 1), and 67 (week 2), 52 (week 3), 125 (week 4), 84 (week 5).
- Diphtheria Anti-Toxin (DAT) distributed per governorate: 1000 doses received in country (December 2017), with an additional 300 doses (January 2018).
- Laboratory: Training on laboratory diagnosis; WHO brought reagents for culture; 18 samples were tested for culture, 2 were positive.
- Penta/Td vaccination campaign strategy: Thirty-eight (38) districts with more than one case in the last 4 weeks are considered 1st priority; with a targeted number of 1,444,595 (between 6 weeks of age and 7 years of age to be vaccinated with Penta) and 1,265,771 (between > 7 years of age and 15 years of age to be vaccinated with Td) beneficiaries. (as of 27 January 2018).

% of probable Diph cases by age groups



% of Diph Associated deaths by age groups



■ > 5 ■ 5Y-9Y ■ 10Y-14Y ■ 15Y-24Y ■ 24Y-34Y ■ 35Y-50Y ■ > 50Y

## 1.2 Diphtheria Outbreak Response:

### 1.2.1 Vaccination:

#### Vaccination (Penta), November 2017

- 8,500 children (between 6 weeks of age and < 5 years of age) in the 3 most affected villages of Saddah and Yarim districts of Ibb Governorate.
- 119,009 children (between 6 weeks of age and < 1 year of age) in 15 of 23 Governorates during Integrated Outreach Round (IOR) 4.

#### Proposed Penta/Td vaccination strategy

- WHO, UNICEF and MoPHP have developed a strategic fixed site vaccination campaign taking into account availability of vaccines and access.
- The campaign is planned to take place on 24-29 February
- As part of the 1<sup>st</sup> priority 38 districts have been targeted.
- Prioritization of districts has been undertaken according to available epidemiological data and 3 priority levels are as follows:
  - Priority 1: Districts reported more than 1 case in the last 4 weeks
  - Priority 2: Districts reported 1 case in the last 4 weeks (37 districts).
  - Priority 3: Districts that are neighboring infected districts and or at risk due to other factors (119)
- Targeted age groups:
  - PENTA for children 6 weeks of age to 7 years of age; and Td for >7 years of age -25 years of age
- Phases/rounds; 3 rounds for Penta and Td vaccine
  - Round 1: 24-29 February
  - Round 2: 4 weeks after round 1
  - Round 3: 6 months after round 2

#### The quantity of vaccines available in Yemen are as follows:

- 2.5M doses of Penta
- 3M doses of Td

District identifier	Priority	Districts	6 weeks - 7 years To be vaccinated with Penta vaccine	>7 to 15 Years To be vaccinated with TD vaccine
Districts with more than one case in the last 4 weeks	1	38	1,446,595	1,265,771
Districts with one case in the last 4 weeks	2	37	1,316,852	1,152,245
Total	-	75	2,763,447	2,418,016

### 1.2.2 Surveillance:

#### Strengthening surveillance and case detection

- A training on the re-activation and strengthening of reporting for rapid response teams (RRTs) were conducted for 23 field workers involved in RRTs. The objective of the training was to ensure subsequent and regular reporting of RRTs using the newly revised and validated standard reporting form.
- Training of district RRTs is still under consideration.
- Training on all aspect of diphtheria outbreak of 13 governorates surveillance officers is being planned.
- Standard case definition is approved and shared with all facilities.

#### Improvement of data collection and managementt

- The importance of data collection, using the newly revised and validated line lists, that would allow more detailed analysis of the outbreak, and development of appropriate control measures was emphasized.

#### Strengthen contact tracing and treatment protocols

- Contact tracing was prioritized, all contacts related to probable cases are being identified, and given prophylaxis. This resulted to a significant increase in the percentage of vaccination of contacts and an uptake of prophylaxis administered as shown below: (See the table)

#### The Contact Identified by Governorate

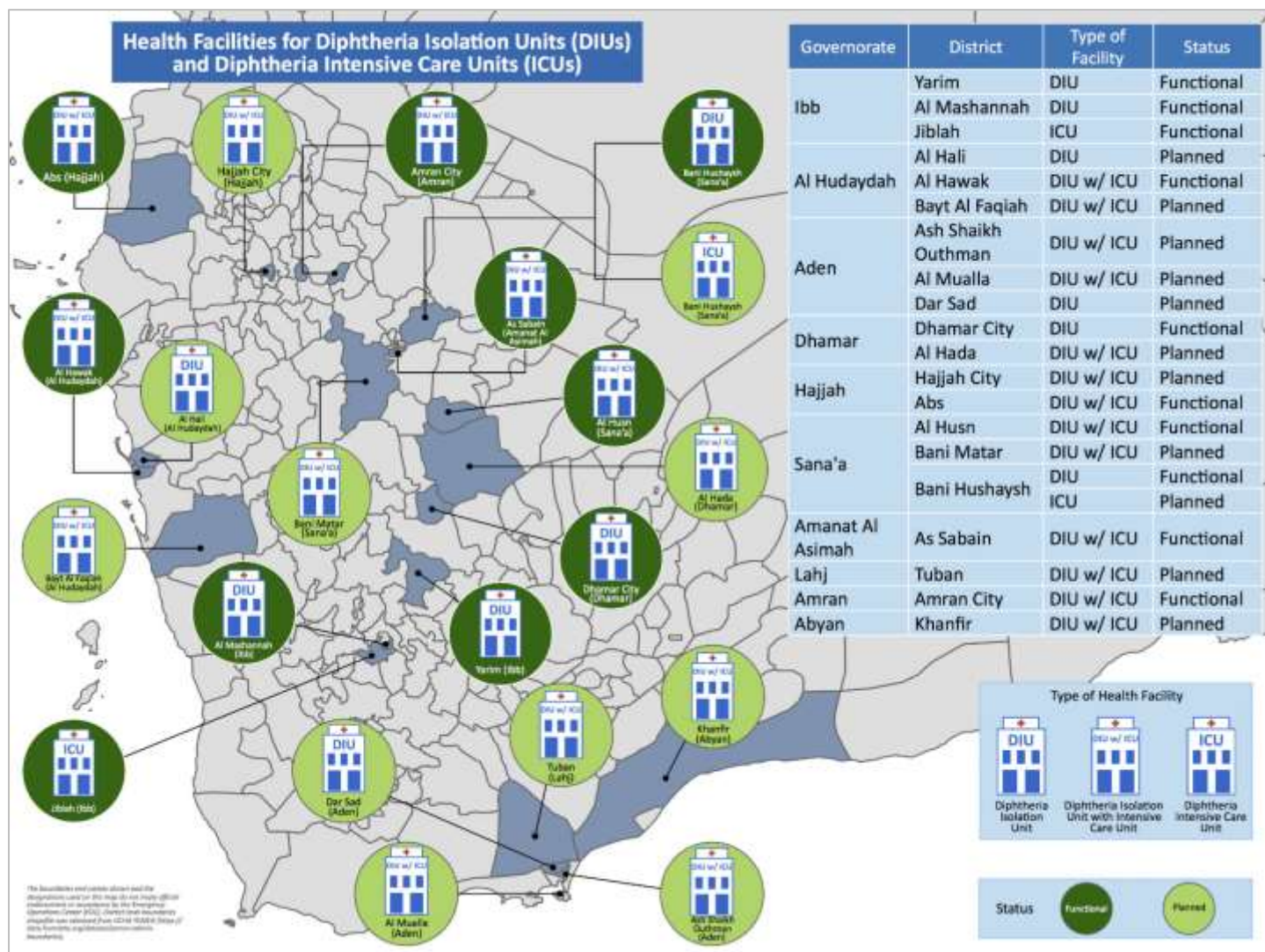
Governorate	Number of contacts up to 31 Dec.	Number of contacts during Jan. 2018	up to 5 <sup>th</sup> February
Ibb	576	596	19
Amant Al-Asema	99	30	11
Al Hudaydah	90	138	24
Al-Mahweet	35	96	32
Taiz	33	44	7
Hajjah	65	89	30
Dhamar	31	26	31
Raymah	7	8	7
Sana'a	55	522	93
Amran	102	185	22
Grand	1093	1734	276

### 1.2.3 Clinical Case Management

#### Functioning and planned Diphtheria Isolation Units (DIU):

- **Mild/Moderate cases:** 4 DIUs are fully functional (including those in Ibb 2, Dhamar 1, Sana'a 1) and 2 DIU planned (Al-Hodeidah 1, Aden 1).
- **Severe cases:** 5 DIUs with Intensive care units (ICUs) are fully functional (Al-Hodeidah 1, Hajjah 1, Sana'a 1, Amanat Al Asimah 1, Amran 1) and 8 DIUs with ICU are planned (Al-Hodeidah 1, Aden 2, Dhamar 1, Hajjah 1, Sanaa 1, Lahj 1, Abyan 1).
- There are also 1 diphtheria intensive care unit (ICU) fully functional in Ibb, and 1 planned in Sana'a.

Health Facility for DTCs and ICUS, as of 10 February 2018



### 1.2.4 Diphtheria anti toxin (DAT) and distribution:

- **Availability and distribution of DAT:** DAT is key to save lives of severe cases. It should be administered by experienced health professionals in designated units within health facilities (HFs).
- Despite a global shortage and high demand, Yemen has succeeded to bring in 1000 doses of DAT and initial distribution by governorate is given in the table below. The table also includes an additional 300 doses of DAT which had arrived recently.
- An additional 700 doses of DAT is in the pipeline set to arrive in Yemen in February.

### 1.2.5 Antibiotics Distribution:

- **Diphtheria specific treatment antibiotics:** Targeting a population of 30 000 have been procured and distributed
- Antibiotics included: Erythromycin 527,850 packs of tablets and 34,155 bottles of syrup; Azithromycin 13,196 packs of tablets and 8,280 bottles of syrup; and Penicillin 34,500 vials.

**DAT distribution per governorate**

No	Gov.	Distributed
1	Amanat Alsimah	60
2	Amran	50
3	Ibb	400
4	Hajjah	30
5	Hudeida	110
6	Aden (warehouse)	420
7	Taiz	50
8	Dhamar	50
9	Sa'ada	20
10	Sana'a (warehouse)	110
Total		<b>1,300</b>

### 1.2.6 Strengthening laboratory functions for sample collection and testing:

- An initial training was held in Al-Hodeidah for 31 health workers.
- In early January, a training course was held in Aden, for 33 laboratory technicians on microbiologic, epidemiologic, and laboratory methods used for the diagnosis of diphtheria.
- Some key lab reagents and transport media were brought into the country to upgrade the Central Public Health Laboratories (CPHL) in Sana'a and Aden, to enable the diagnosis and confirmation of probable diphtheria cases.
- Based on the availability of required lab reagents and culture, three probable cases were confirmed following a culture that yielded corynebacterium diphtheria at CPHL Sana'a.
- Both cases are from Sana'a; one of the cases is 7 years of age while the other is 22 years of age.
- Training for 32 NGOs at the WHO country office from 22-23 January; They have been trained on the proper sampling, transportation and shipment of samples for diphtheria, as well as methods used for the diagnosis of diphtheria.

### 1.2.7 Emergency Risk Communication (ERC) and Community Engagement and Awareness (C4D):

- The C4D programme, in partnership with government and Civil Society Organizations (CSO), continue to support community engagement interventions promoting adoption of 14 key behaviours practices, emergency outbreak response and capacity building among care givers and decision-makers.
- During January 2018, approximately **325,454** people have been reached and engaged through various interpersonal activities responding to cholera and diphtheria outbreaks in addition to promote 14 life- saving behavior practices including vaccination, exclusive breastfeeding and proper infant and child feeding practices, handwashing with soap at critical moments and

household water safety, antenatal clinic attendance and safe delivery, and promotion of “back to school” initiatives, girls’ education and on-time enrolment. Approximately **5,163** Community mobilizers including **3,391** community volunteers, **747** religious leaders, **1025** school teachers have been involved in conducting community events and activities including **900** focus group discussions, **2100** counseling sessions, **1,100** community gathering and **24** festivals, **110** Friday's sermons, **120** school activities as well health education awareness sessions in **90** locations.

- Emergency Risk Communication (ERC) operational guidelines for the diphtheria response has been finalized with participation of UNICEF - C4D, WHO, HEC/MOH and Health cluster. The ERC guidelines include 4 important areas of the response including empowering communities through provision of key information and participation, providing key information for Health Care Workers, capacity building of community volunteers who will be conducting contact tracing and lastly key information and activities to address and manage rumours.
- **Results of the** rapid assessment on diphtheria outbreak conducted in 27 districts from nine governorates to assess risk factors and gaps in knowledge, attitudes and practices of people about been shared with all partners including Health, WASH and Education Clusters to inform C4D response plans. Education Cluster is currently disseminating key diphtheria messages in schools through **40** NGOs members.
- A national diphtheria awareness campaign for diphtheria response is underway in partnership with Ministry of Information. Mass media activities include working with **25** mass media outlets (14 public and private radio stations and six TV stations, and 5 main newspapers) to develop and broadcast public service announcements and programmes. An animated video on Diphtheria is broadcasting in five public TV channels reaching approximately **15** million people. In addition, public awareness messages are being disseminated through social media platforms, including Facebook, twitter and WhatsApp groups.
- New partnership agreement has been developed with local NGOs to strengthen C4D efforts in the high-risk districts with diphtheria outbreak especially in Ibb governorate.
- Over a million posters and brochures on diphtheria symptoms, transition, prevention and treatment have been distributed in **220** districts through UNICEF sub- offices and different Clusters; Health Cluster and Education Cluster and partners.

#### **ERC training conducted**

- 23 field workers responsible for Rapid Response Teams (RRTs) and 55 non-governmental (NGO) representatives received training on ERC key messages.
- Thematic key messages for Diphtheria included free treatment/free transport, isolation messaging, protection/prevention messaging, vaccination and contact tracing
- Key messages for Health Care Workers to deliver; This will cover the seriousness of disease, what to do if you experience symptoms, how to protect your family, explaining the possibility of adverse effects following immunization and importance of isolation and contact tracing
- Key messages for volunteers who will be conducting contact tracing; Addressing Rumors/Rumor management which will address rumors circulating in the community directly--this is critical if these rumors discourage health-seeking behaviors.
- UNICEF and WHO have developed key messages for communities about cases early symptoms, prevention, access to care and about vaccination; training of the 9,000 Yemeni Health Promotion/Social mobilization volunteers have been completed by UNICEF.

- Communities are being engaged through these mobilisers, religious leaders and community volunteers to actively participate in early case identification, referral, contact tracing and treatment to contain and halt the outbreak and creating community resilience.

### **1.2.8 Health Partnership and Coordination:**

#### **Diphtheria Isolation Units (DIUs)**

- Health cluster partners operating different types of health facilities continue their activities to identify probable cases of diphtheria and referral and community awareness on diphtheria through their network of health promoters.
- Training of trainers (ToT) for health partners on case detection, referral, community awareness and contact tracing will take place next week for all organizations supporting health facilities so they can train their staff at the facility level.
- 6 HC partners are supporting MOPHP to operate Diphtheria Isolation units.

#### **Emergency risk communication and C4D**

- Health cluster conducted a meeting for health partners to discuss the risk communication and community awareness in relation to diphtheria. Experts from UNICEF presented their study on gaps in knowledge, attitude and practices (KAP) in relation to diphtheria. WHO expert presented key messages that were developed and tailored based on the result of the KAP study. Partners agreed to use the tailored key messages to enhance awareness of communities in relation to diphtheria.
- With support from WHO, two sessions of TOT were conducted this week for 55 Health staff from 36 UN and NGOs covering diphtheria case detection, referral, contact tracing and community awareness.
- Messages for community awareness shared with health partners. The ToTs from different organizations are expected to train all health staff working in facilities supported by health cluster partners on the above-mentioned topics.

## **1.3 Challenges and Concerns**

- There are over 16 million people who require assistance to ensure adequate access to healthcare
- There are over 1 million suspected cases of cholera and over 600 probable cases of diphtheria
- Restricted access is a major challenge to reaching those most in need
- DAT urgently needed by NGOs running Diphtheria ICUs
- Vaccination of HCWs is needed in DIUs and ICUs
- RRT training needs to be conducted immediately

## **2.1 Cholera Highlights**

- The cumulative total of suspected cholera cases reported since 27<sup>th</sup> April 2017 to 10<sup>th</sup> February 2018 is 1,058,288 and 2,256 associated deaths across the country.
- The overall case fatality ratio is 0.21%, and the national attack rate is 382.10 per 10,000 people. Children under 5 years of age represent 28.7% of total suspected cases.
- The weekly proportion of severe cases has significantly decreased representing now 10% of the admitted cases.
- So far, the outbreak has hit 22 out of 23 governorates (96%) and 305 out of 333 districts (92%).

## 2.2 Cholera Outbreak Response

### 2.2.1 Health Cluster Response:

- **Operating Diarrhoeal Treatment Centres (DTCs) and Oral Rehydration Corners (ORCs);** Health Cluster partners are currently operating 2,952 DTC beds in 196 DTCs in addition to 693 ORCs in 186 affected districts in 19 Governorates.
- **Health cluster partners engage in Health systems strengthening;** Initial integration of cholera treatment facilities into the health system is being considered. Sixteen recommendations have been developed covering DTCS and ORCs with an aim at efficient utilization of cholera resources, including finances. The recommendations will also support the preparedness in case of a new wave of cholera epidemic.
- **Health cluster partners continue to strengthen the Community-Based Surveillance;** Health surveillance officers / Rapid Response Teams (RRT) are planned to keep conducting field investigations and active case finding and rapidly report death from severe dehydration.
- Health Cluster to conduct a joint workshop with WASH cluster to discuss and ensure allocation and utilization of cholera response resources to strengthen the health system.

### 2.2.2 Alert and response systems strengthening:

- District and governorate level RRTs to tackle the epidemic are considered to play a key role, RRTs are expected to early detect, alert and respond to any potential outbreak
- Emergency operations centres (EOCs): EOCs are partially functional in Sana'a and Aden, while in other 6 governorates they are in the process of becoming functional.

### 2.2.3 WASH Cluster response (January 2018):

- WASH Cluster partners are reporting cholera response activities in 180 districts of 19 governorates throughout the reporting period. Project owners reporting are ACF, ACTED, ADO, CARE, DRC, OXFAM, SCI, UNICEF and YFCA. Implementing partners are All Girls Foundation. Partners are working closely with local authorities including GARWSP EU, GHOs and DHOs and community volunteer networks.
- In the reporting period, monitoring of free residual chlorine continued in 3 districts in Al Mahwit, and Hajjah. More than 65,000 people received safe water through water trucking in 12 districts in 5 governorates. More than 660,000 people have received chlorine tablets for household water treatment in 157 districts in 15 governorates. Furthermore, water storage container distribution is ongoing in 2 districts in Amran and Hajjah.
- An estimated 760,000 people were reached by partners with cholera key messages through household visits, and community events in 160 districts in 15 governorates. WASH partners reached over 660,000 people with basic or consumable hygiene kits in 157 districts in 14 governorates.
- Waste water treatment plants are supported in Amanat Al Asimah with approximately 1.4 million people connected.



#### 2.2.4 Lab systems strengthening:

- Support is ongoing to strengthen laboratory sampling and diagnostics in-country (i.e. collection of stool samples for lab testing, transporting samples to lab and provision of operational costs), and availability of supplies and reagents.
- **Testing of samples:** WHO supported the use of rapid diagnostic test has increased since week 40, 740 RDTs were conducted in week 52 with 136 positive RDTs. As of week (52), there are 1094 have been confirmed by culture.

#### 2.2.5 Emergency risk communication:

- An estimated 627,000 people were reached by partners with cholera key messages via household visits, and community and school events in 122 districts of 15 governorates; WHO and UNICEF supported local health authorities to conduct a nationwide house-to-house awareness campaign, reaching more than 14 million people in all 23 governorates.
- Individuals received information on proper hand washing, preparation of oral rehydration solution, and proper home care of the people with cholera, including referral to health facilities; 40,000 volunteers worked through 19,160 mobile teams, 2,650 fixed teams and supported by 4,795 supervisors.

#### 2.2.6 Oral Cholera Vaccine (OCV) campaign plan status:

- A cholera risk assessment has been produced in collaboration with Epi center. Risk assessment has revealed high risk districts which could be targeted by OCV vaccination campaigns. The document has been shared with health authorities and partners for discussion and taking a decision.

### 2.3 Challenges and Concerns

#### 2.3.1 Quality of data:

- Case definition (CD) should be strictly observed, taking into account sensitivity and specificity.
- Weaknesses in monitoring that resulted in lack of adherence to case definition
- Lack of lab capacity and problems in sample transportation for early case confirmation
- Incentives are playing a role in case management. Concerns of health workers to lose incentives in case of reduction in cholera cases.
- Immediate deployment of RRTs and assuring the quality of their work.
- Data management; Lack of an electronic system to manage line lists at health facility level. Data entry errors at different levels as well as completeness and timeliness of data management.

#### 2.3.2 Access issues:

- Some WASH partners are facing challenges in accessing the most-affected communities due to security risks or because of bureaucratic impediments.
- Visa constraints continue to hinder some experts from coming into the country.
- Escalation of violence in Yemen affects many areas, limiting further access of health partners to provide health services to Yemeni people.

- Blockage of borders and the halt of delivery of humanitarian aid into Yemen have devastating effects on the response to cholera in country with probable lack of medical supplies needed to respond to the epidemic in the coming weeks.
- Currently the health cluster has enough medical supplies to respond to the epidemic for 6-8 weeks. Lack of medical supplies could result in a higher CFR--which is currently around .22% as of 22 Dec 2017, with more potentially associated deaths from cholera (note: that all recorded cases are currently suspected cholera cases as reflected in EWARS).

### **2.3.3 Health systems deterioration and misreporting:**

- The health system has been weakened by the ongoing conflict. More than 50% of all facilities either closed or partially functioning. WATSAN systems are disrupted and continued funding is required for the operation and maintenance of these systems, which is critical to outbreak control.
- Misreporting of suspected cholera cases in many health facilities accounts for a misleading increased case load observed in some governorates and districts. There is a lack of capacity and resources of some partners to conduct regular supervisory visits to DTCs and ORCs.
- Collecting stool samples for laboratory testing, transporting the samples to laboratory and provision of operational cost, and availability of supplies and reagents.

### **2.3.4 Lessons learned:**

- Strengthening Early Warning, Alert and Response for preparedness
- Enhancing the capacity of district Rapid Response Teams (RRTs)
- Improving data management and assuring quality
- Upgrade health facilities to enable electronic data entry focusing surveillance on selected epidemic-prone diseases
- Increase the capacity of laboratories for testing
- Stockpiling of supplies such as cholera kits, rapid diagnostic tests (RDTs)
- Strengthening WASH activities.
- Limited WASH supplies, overstretched resources; WASH supplies such as household water treatment tablets and soap are of limited availability in the local market. The cholera response of WASH partners is competing with other WASH emergency response priorities, such as the provision of clean water and sanitation for displaced populations and the response to malnutrition.

### 3.1 ETC support in response to Cholera epidemic in Yemen

- The ETC team continues to support the World Health Organization (WHO) in the implementation of the Emergency Operations Centre (EOC) project to support the Cholera response across Yemen.
- Following a Service Level Agreement between WHO and WFP, the Emergency Telecommunications Cluster (ETC) team on the ground is given the responsibility of setting up 26 Emergency Operations Centres (EOCs) across the country in response to cholera outbreak.
- EOCs greatly contribute in reduction of Cholera epidemic by systematic registration of the cases being reported by the hospital in a single database, adequate process, management and dissemination of information to stakeholders.
- ETC service provision in the EOC includes but not limited to a large meeting table equipped with state of the art data management, video and teleconferencing capabilities. The EOC was supported by the ETC, one of the main partners in setting up of Cholera response centres.



“We, at WHO Emergency Operations Center, are truly impressed with the types of IT facilities and IT level of support provided by ETC. In response to public health emergency, this EOC has the capacity to coordinate with its field offices throughout the country in 21 governorates while also serving as an important hub of communication and coordination between ministries, humanitarian agencies and local partners.” photo credit: EOC staff

### 3.3 Challenges and Concerns

- The security situation remains extremely volatile across the country.
- Humanitarians face insecurity and movement restrictions. Access has been further limited following the intensification of conflict.
- Continuous restrictions on importation of IT and telecommunication equipment has significant impacts on the project operational plan.

## EOC dashboard progressing report 04.02.2018

Governorates	EOC dashboard progressing report 04.02.2018										
	Construction	Renovation pre-requisit	EOC site assessment	Electrical & Network infrastructure setup	Interent connectivity	PAPX	IT setup/instalation	Handover documentation	Recurring Sop/Contract	IT Outsourcing	Expected Delivering date to WHO
MoPH (Central EOC)	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	Delivered
Aden national	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	Delivered
WHO CO.					100%		100%	100%	100%	0%	Delivered
Amran	100%	100%	100%	100%	83%	100%	100%	88%	100%	0%	24/01/2018
Sana'a Gov	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	16/01/2018
Ibb	100%	100%	100%	100%	83%	100%	100%	100%	100%	0%	Delivered
Hodaydah	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	Delivered
Hajjah	100%	100%	100%	100%	83%	100%	100%	88%	100%	0%	24/01/2018
Aden Gov.	100%	100%	65%	0%	0%	0%	0%	0%	0%	0%	20/03/2018
Abyan	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	20/03/2018
Al Dalea	100%	100%	65%	0%	0%	0%	0%	0%	0%	0%	20/03/2018
Lahj	100%	100%	65%	0%	0%	0%	0%	0%	0%	0%	30/03/2018
Shabwah	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	30/03/2018
AIMukallah	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	30/03/2018
Al Mahara	90%	100%	65%	0%	0%	0%	0%	0%	0%	0%	04-10-18
Amanat AlAsema	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	04-10-18
Taiz Enclave	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	04-10-18
Marib	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	20/04/2018
Al Jawf	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	20/04/2018
Dhamar	100%	100%	65%	0%	0%	0%	0%	0%	0%	0%	20/04/2018
Al Mahweet	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	20/04/2018
Al Bayda	100%	100%	65%	0%	0%	0%	0%	0%	0%	0%	29/04/2018
Sa'da	100%	100%	65%	0%	0%	0%	0%	0%	0%	0%	29/04/2018
Raymah	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	29/04/2018
Sayoun	100%	100%	20%	0%	0%	0%	0%	0%	0%	0%	29/04/2018

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