

WHO ANNUAL REPORT 2017



YEMEN



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WHO Annual Report 2017

Y E M E N

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Credit: Sadeq Al-Wesabi

Foreword

Dr Nevio Zagaria
WHO Representative in Yemen



As the war rages on in Yemen, it is the people of Yemen who suffer.

The scale of this crisis is unimaginable. Almost three years of conflict have led to the world's largest food crisis, the world's worst cholera epidemic and the near collapse of the nation's health and social systems. The humanitarian situation is catastrophic and continues to deteriorate.

This report presents the work done by WHO to support the delivery of preventive and curative health services in Yemen during 2017, in partnership with the Health Cluster and other partners.

At the beginning of the year, WHO generated a vulnerability matrix at district levels to identify areas with the highest priority needs. The vulnerability matrix presented in detail in this report, was updated October 2017, following the revised Clusters' indicators. The matrix was used to generate the health section of the Humanitarian Needs Overview (HNO). The trend analysis showed a serious deterioration of the situation between the beginning and the end of 2017, with an increase of districts categorized with "very high" and "high" vulnerabilities.

A deteriorating situation, an innovative approach

The situation on the ground has deteriorated across 2017 in terms of accessibility, commercial and humanitarian blockades in accessing the country, bureaucratic impediments in the importation of medical supplies, and in the logistics of their distribution across the country, difficult dialogue with the health authorities and other authorities at national and sub-national levels.

In summary, it has been a very difficult year resulting in an increased number of Yemenis suffering, increased morbidity, disabilities, and mortality, particularly among the most vulnerable.



Displaced people in Ibb governorate.

Credit: Christine Cool



Dr Zagaria, visits a WHO-supported diarrhoea treatment centre in Sana'a, Yemen

Credit: Sadeq Al-Wesabi

As WHO, during 2017, we did everything possible to address the health needs of the affected population, coordinating the Health Cluster partners in the scaling up of the health sector response.

While continuing the preventive health interventions and the support to the tertiary hospitals at governorate levels, WHO developed, in consultation with health authorities and Health Cluster partners, a Minimum Service Package (MSP) to prioritize and standardize the health services on which to focus the scale up of the coverage at both primary (i.e. health centres and health units), and secondary (i.e. district hospitals) levels of care.

We increased two and a half times over the funds utilized in 2017 as compared to 2016, and we have formulated the plan for a further substantial expansion in 2018, in order to match the increased health needs of the people of Yemen. All this has been possible thanks to the generous support provided by many donors and partners.

Valuable health partnerships

In this context, the innovative partnership signed with the World Bank by WHO and UNICEF in February 2017, and the following additional financial agreements focused on malnutrition and cholera responses, as well as the important financial resources made available

for a three year period (2017 – 2019), catalyzed a new way of working. Medium-term planning in a protracted humanitarian context, has made it possible to bridge the delivery of life saving interventions, with the delivery of basic health needs. In addition to this, noncommunicable diseases, which continue to plague Yemen, cannot remain neglected in a protracted crisis, in a country with a collapsing health system.

Traditional humanitarian response operations alone will not be enough to alleviate the suffering and neither will the classic developmental approach. What started in 2017, is an embryonic new way of delivering health services in a protracted humanitarian crisis, that aligns the different funding streams based on one comprehensive strategic framework. At the center of this are humanitarian life-saving interventions, and the basic health services needed as part of the population's "right to health".

As the WHO Representative in Yemen, I would like to continue to work during 2018 to further increase the support of the delivery of health services across Yemen, hoping the peace process can move forward. Only peace will bring a halt to the enormous suffering that the people of Yemen are experiencing. We will do all we can to relieve the suffering in this country and work towards peace.

Executive summary

The World Health Organization (WHO) is leading the health response, ensuring access to life-saving health services. This report covers the WHO and health partners' response to this humanitarian crisis from January to December 2017, and spans five crucial parts: the Health Cluster, the Minimum Service Package (MSP), the cholera and diphtheria outbreaks, managing the treatment of endemic and noncommunicable diseases and financial priority needs and gaps.

Part 1: WHO supports health authorities and the Health Cluster

Nearly 16.4 million people lack access to basic healthcare. To respond to this massive need, WHO, Health Cluster partners and other health sector actors are delivering health services to the people of Yemen despite the critical security situation, logistical difficulties and the collapsing health system. WHO and Health Cluster partners have scaled-up their presence to meet rising health needs, reaching 9.5 million beneficiaries in 2017 with preventive and curative interventions in 1 708 health facilities and with 239 emergency medical mobile teams (EMMTs) out of a target set in the 2017 Humanitarian Response Plan of 10.4 million people.

Part 2: The Minimum Service Package (MSP): Lifeline for a rapidly collapsing health system

Far from the spotlight, thousands of people are dying as infectious and noncommunicable diseases continue to spread. More women are dying in childbirth. Those injured cannot receive appropriate surgical care due to lack of skilled surgeons in district hospitals. People with chronic diseases cannot access the treatment they need to stay alive. The Minimum Service Package (MSP), ensures access to basic health services, and covers priority services across the 8 health care components: general services and trauma care, reproductive/maternal and newborn health, child care, mental health and psychosocial support, nutrition, noncommunicable diseases, communicable diseases and environmental health in health facilities.

Part 3: Outbreak alert and response: Cholera and Diphtheria and other communicable diseases

WHO and partners' scaled up the overall operational response to infectious disease outbreaks. This section illustrates the immediate upsurge in outbreak response activities. At the peak of the cholera outbreak, there were 229 Diarrhoea Treatment Centres (DTCs) with in-patient capacities, and 1 095 Oral Rehydration Corners (ORCs) for early detection, treatment and referral of severe cholera cases. WHO supported the technical and operational work of the response, to contain outbreaks and build local capacity at governorate and district level health facilities and community levels. In particular, during this cholera outbreak response the establishment of rapid response teams (RRTs) across all 333 districts in Yemen took place, in order to be able to detect, assess, alert and respond to cholera and all other potential infectious disease outbreaks.

For vector-borne diseases, WHO distributed 1 137 of basic and supplementary malaria kits that can test 941 600 patients for malaria and treat an estimated 402 110 cases. 1.5 million bed nets were delivered to 76 districts in Yemen. In the area of neglected tropical diseases (NTDs), a treatment plan for onchocerciasis was devised for approximately more than half a million people eliminate the disease in affected areas and identify populations requiring treatment. For Leishmaniasis, WHO provided national health authorities with 20 000 vials of stibogluconate (leishmaniasis drug) and 9 600 leishmaniasis laboratory tests (i.e. rapid diagnostic tests). While for the treatment of Rabies, 25 000 rabies vaccines were procured.

Part 4: Managing the treatment of endemic and noncommunicable diseases

There are 30 000 new expected cancer patients per year out of which 10 000 patients received some form of cancer treatment in 2017. The percentage of full treatment out of

WHO's work
in numbers

1500



tonnes of medicines and supplies delivered

76



million litres of clean water provided to more than 100 health facilities

4.4



million litres of fuel provided for health facility generators and ambulances

49



Health Cluster partners coordinated as part of emergency response

these 10 000 patients, increased from 30% to 60% of full treatments, thanks to the donation of cancer treatment drugs from WHO in 2017 as compared to 2016.

Part 5: Financial overview, priority needs and gaps

The full list of our valued partners are located in the financial overview of this annual report. All of our generous donors have provided much of the financial resources needed by WHO to carry out health response activities in 2017. Acknowledging the magnitude and scale of this emergency as well as its associated vulnerabilities, the Humanitarian Country Team (HCT) launched the 2018 Yemen Humanitarian Response Plan (YHRP) to prioritize life-saving and protection response across the country, which include a targeted set of "humanitarian-plus" activities to ensure the delivery of essential services and livelihoods in the most affected areas in-country.

The 2018 YHRP aims to assist 13.1 million people across the country and is seeking US\$2.96 billion, a

considerable increase from the US\$2.2 billion sought after in 2017, which is a key indicator that the needs are still monumental even after 2017. In spite of serious challenges such as access restrictions by all parties to the conflict, including bureaucratic impediments, partners provided assistance that saved or improved the lives of more than 10 million people in 2017. With the continued support from our donors, the response to the crisis in 2017 will be even more robust in 2018.

New ways of working and humanitarian access

In light of the current economic crisis in Yemen, the commitment and support needed to find innovative and sustainable solutions for the payment of health workers and other civil servants is desperately needed. Without these real-life heroes, timely health service delivery would be impossible. The attacks on health facilities, patients and personnel must also be stopped. WHO has made a commitment to support the strengthening of Yemen's health system as part of rehabilitation and recovery efforts, for years to come.



Credit: Sadeq Al-Wesabi

13



emergency mobile medical teams in 3 governorates

43



fixed health teams in 13 governorates

41



surgical teams in 14 conflict-affected governorates

20



therapeutic feeding centres in 10 priority governorates



Key facts on health in Yemen

16.4

million people lack access
to health services

62 000

people have been injured
or killed in the conflict

278

health facilities have
been partially damaged
or destroyed



50% of mortality is caused by communicable diseases, maternal, and poor nutritional conditions

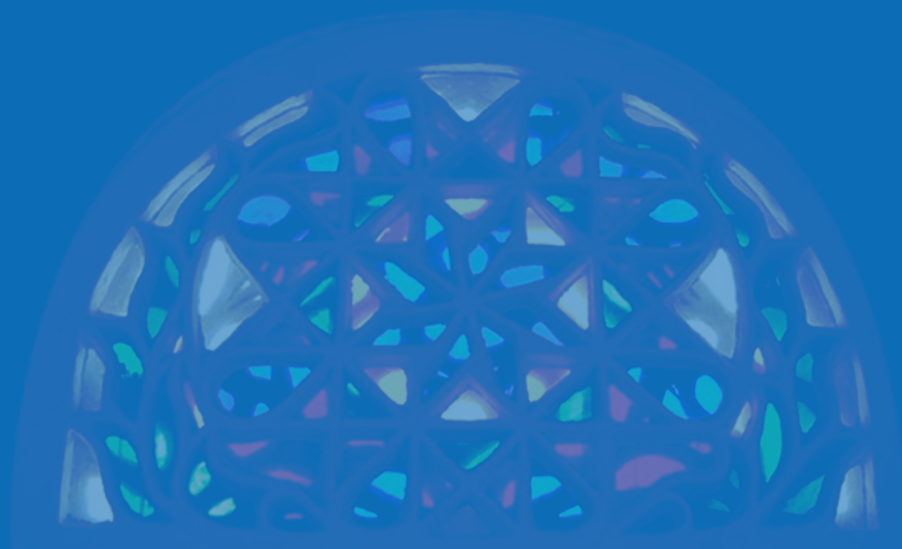
39% of mortality caused by noncommunicable diseases

50% of health facilities are closed or only partially functioning

350 out of every 100 000 expected mothers die in childbirth

Part I:

The Health Cluster



Leading the response to rising health needs in Yemen

In emergencies, coordination is paramount. No one organization can respond to a health crisis alone. This is why the Health Cluster approach was used in Yemen to ensure effective emergency coordination since the very beginning of the crisis. The World Health Organization (WHO) is the Cluster Lead Agency supporting health authorities at central and at hub, and governorate levels by coordinating the efforts of all health response partners, which include international organizations (INGOs), national non-governmental organizations (NNGOs), affected communities, specialized agencies, academic and training institutes, and UN agencies.

The Health Cluster exists to relieve suffering and save lives in humanitarian emergencies, while advancing the well-being and dignity of affected populations. In Yemen, the health authorities, supported by the Cluster, coordinated the efforts of 20 International Non-Governmental (INGOs), 34 National Non-Governmental (NNGOs) and 7 UN agencies, who have been involved in the implementation of the health activities outlined in 2017 according to the health section of Yemen Humanitarian Response Plan (YHRP).

Health Cluster partners were represented in 237 districts within all 22 governorates across Yemen. To ensure close and effective coordination of health activities across Yemen, subnational cluster coordination systems were established in five hubs: Aden, Hudaydah, Ibb, Sa'ada and San'a, with dedicated subnational cluster coordinators.

By the end of December 2017, Health Cluster partners had successfully delivered health services benefitting 9.5 million people. In cooperation with health authorities, WHO reprioritized the response in the



beginning of 2017, focusing on ensuring access to life-saving health services in the most vulnerable districts, and scaling up the adoption of the Minimum Service Package (MSP), including the prevention and treatment of noncommunicable diseases.

In 2017, the number of health facilities operated/supported by Health Cluster partners across all 22 governorates was 1 708. This included 88 governorate and authority hospitals as well as specialized hospitals, 247 district hospitals, 642 health centres and 731 health units, comprising a large volume of healthcare



In 2017, Health Cluster partners delivered health services benefiting 9.5 million people

Credit: Sadeq Al-Wesabi


provision given that year. At least 239 mobile teams (170 Emergency Mobile Medical Teams and 69 Mobile Team – Nutrition) were also supported by partners.

More help needed to reach those in need


To support Health Cluster partners in prioritizing their interventions, WHO carried out an in-depth analysis to determine, down to the district level, where needs were the greatest, generating a vulnerability matrix presented in the dedicated chapter of this report.

In 2017, the Health Cluster aimed to reach 10.4 million people with life-saving health services. WHO is supporting its health partners in this endeavor, providing them with technical guidance, epidemiological data and medical supplies. However, many of the Organization's partners were constrained by a lack of funding. The Health Cluster received only 35.6% of total funds requested under the Yemen Humanitarian Response Plan for 2017. More resources are desperately needed to sustain the response to this ongoing crisis moving forward.

WHO's work in numbers

1 715 873 

consultations provided by WHO and partners

130 572 

disease alerts detected and investigated

30 967 

surgical interventions conducted by surgical teams

9.5 

million people reached by the Health Cluster

Yemen's most vulnerable

Disaster risk refers to the “complex interaction between a hazard and the characteristics that make people and places vulnerable and exposed; and is affected by risk drivers such as poverty and inequality, urban and regional development, climate change and environmental degradation” (UNISDR, 2015). An important aspect of understanding disaster risk is by “acknowledging that a disaster is also an indicator of development failures” (UNISDR, 2015).

In the beginning of 2017, the World Health Organization (WHO) Country Office in Yemen generated the vulnerability matrix using the available data at district level from the following: hazards, the impact of these hazards on the exposed populations, health system capacities, morbidity of selected communicable diseases and other conditions, WASH, nutrition, and food security key clusters' indicators, as well as social determinants and health outcomes.

The vulnerability matrix has been used to identify districts with higher vulnerabilities and the main drivers of such local vulnerabilities, in order to prioritize both geographical areas, and health and non-health interventions. The table on the following page illustrates the differences in terms of the number of districts in the four categories of vulnerability, between the beginning and the end of 2017. Clearly the number of districts with higher vulnerabilities increased, as well the exposed populations, challenging the humanitarian response to cover larger geographical areas and higher number of beneficiaries. The vulnerability matrix also highlights the need of a multi-sectoral approach in delivering humanitarian interventions.



*UNISDR (United Nations International Strategy for Disaster Reduction), 2015. Global Assessment Report on Disaster Risk Reduction 2015.

11.4 million people live in 39 extremely and 86 highly vulnerable districts > (6 and 4,5 on the vulnerability scale).

14.7 million live in 158 moderately vulnerable districts > (2,3 on the vulnerability scale).

2.3 million people live in 50 districts that are deemed stable. > (0,1 on the vulnerability scale).

4.78



million children vaccinated against polio

4430



severely malnourished children received treatment at WHO supported therapeutic feeding centres

1 million



people treated for suspected cholera

99.7%



of people with suspected cholera who are able to access treatment are surviving

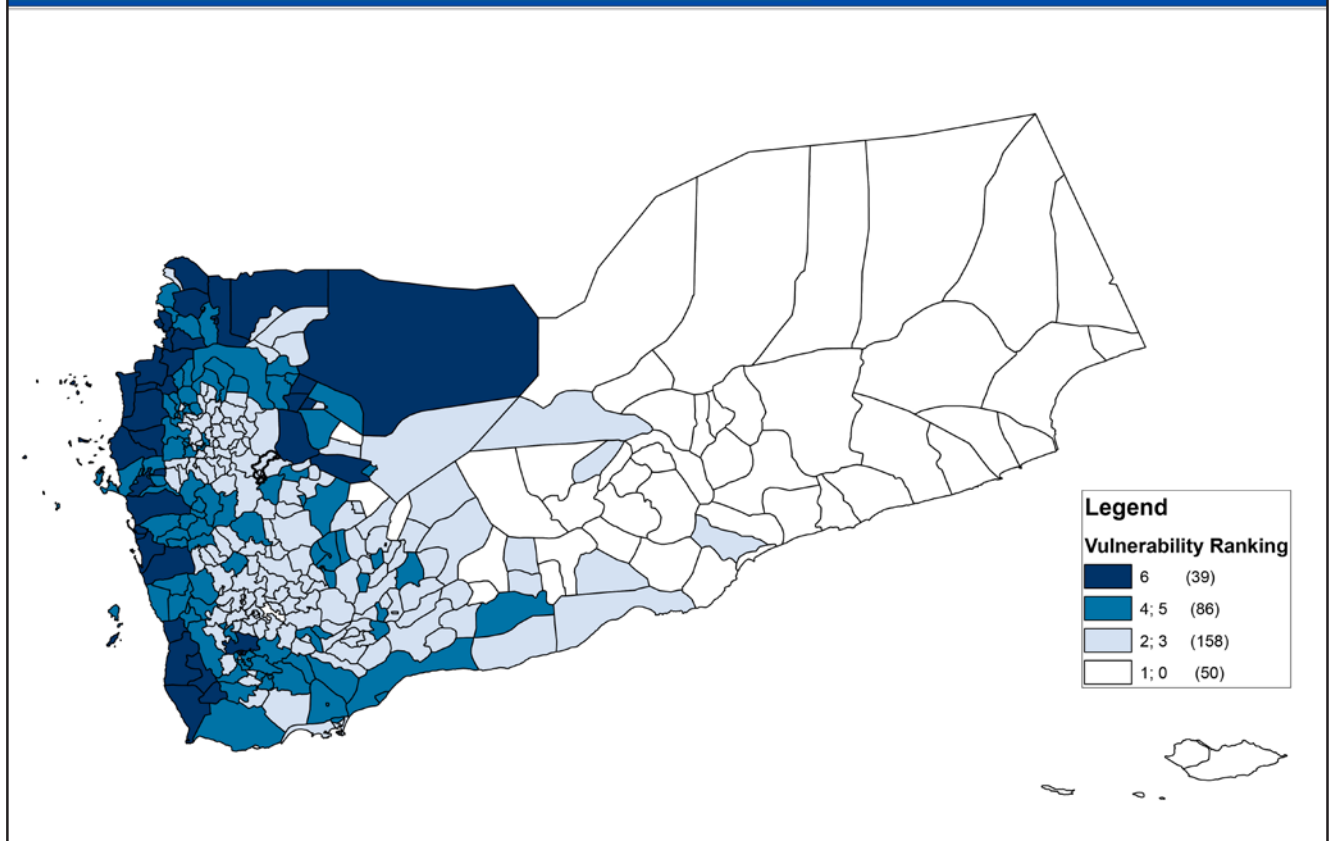
This table illustrates the trends of the vulnerability matrix in terms of number of districts and their population across the 4 levels of vulnerability. Between February and November 2017, Yemen faced an important deterioration of the situation highlighted by the 21.3% increase of number of population leaving in the 125 districts with very high or high vulnerabilities.

Vulnerability level	February 2017		November 2017	
	# Districts	# Population 2017	# Districts	# Population 2017
Very high (6)	20	1 298 332	39	3 690 847
High (5,4)	65	6 786 667	86	7 665 071
Moderate (3,2)	175	16 353 990	158	14 749 459
Low (1,0)	73	3 958 196	50	2 266 552
Total	333	28 397 185	333	28 371 929



World Health Organization

YEMEN : District Vulnerability Ranking as of November 2017



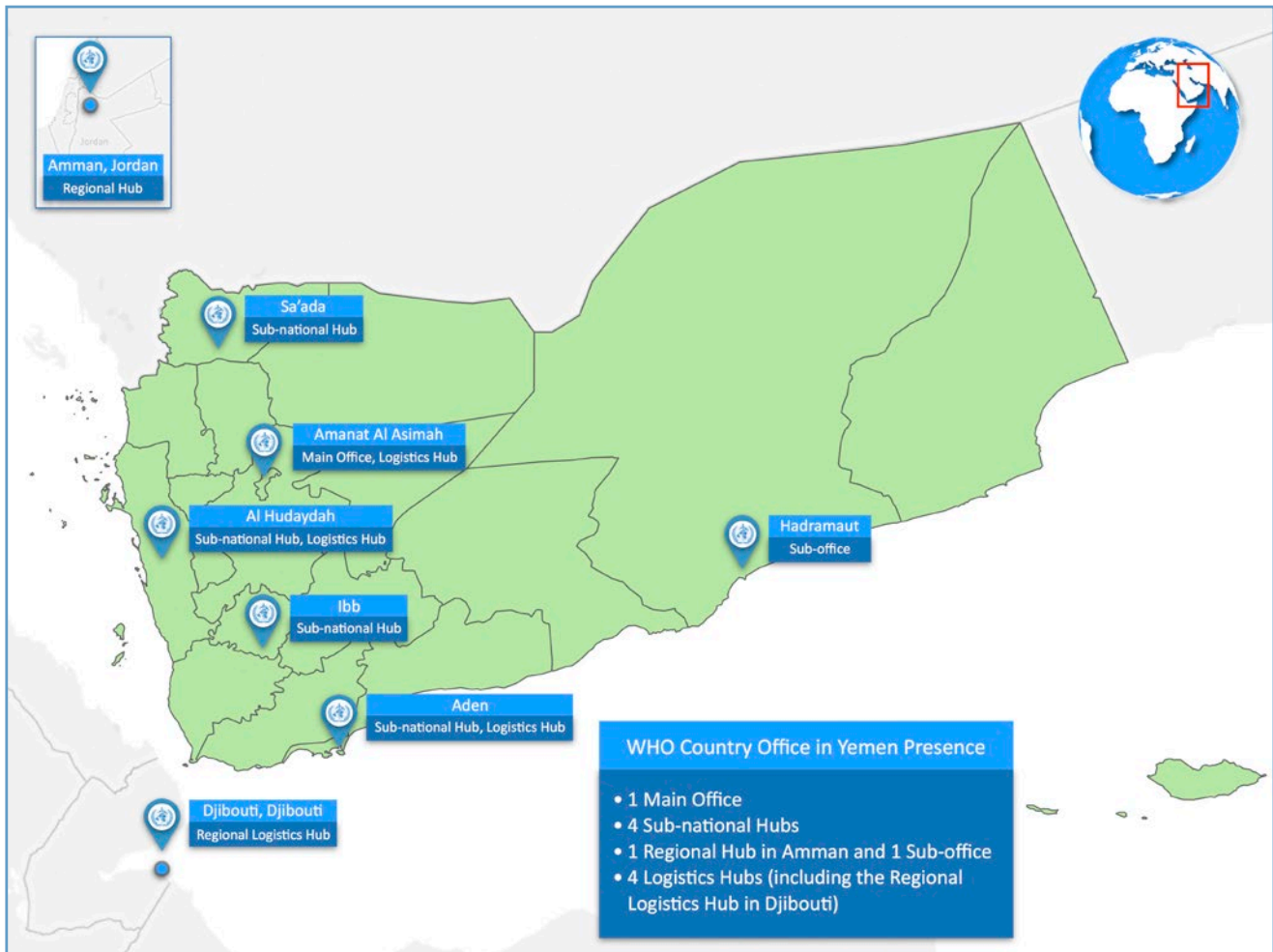
Legend

Vulnerability Ranking

Dark Blue	6	(39)
Medium Blue	4; 5	(86)
Light Blue	2; 3	(158)
White	1; 0	(50)

Strengthening WHO's presence and support across Yemen

The Health Cluster response, though robust, is not enough for a crisis of this magnitude. As complement WHO strengthened its presence in Yemen in 2017.



Surge capacity--no regrets

Compared to 64 staff at the end of 2016, the Organization had 204 staff, comprised of consultants, international experts and national staff dedicated to the Yemen response across various locations (i.e. one sub-office, three hubs and two regional hubs in Amman and Djibouti) by the end of 2017, as part of a "no-regrets" policy under the WHO's Emergency Response Framework. In addition, staff from

WHO's Eastern Mediterranean Regional Office and Headquarters Office also deployed on surge missions to support the country office, providing much needed capacity in response to cholera and malnutrition.

Four sub-national hubs: Aden, Ibb, Hudaydah and Sa'ada were established, and a logistics hub was set-up to manage incoming medicines and supplies for the response, with warehouses in key areas: Aden, Sana'a and Hudaydah. The expansion of the

WHO Yemen team, especially the scale-up of the Organization's presence at the sub-national level, is in line with continued reforms taking place since the establishment of the WHO Health Emergencies Programme (WHE).

This expansion allows WHO to be closer to communities,

faster in detecting and responding to needs on the ground, better able to manage the distribution of life saving supplies through a decentralized model/approach and support partners and counterparts delivering on the ground, including those present in the sub-offices of other UN agencies, for greater technical and institutional dialogue.



Creating an efficient response network

The situation in Yemen is unfolding amidst the backdrop of a civil war. WHO established the Aden office to support Yemen health authorities in the southern part of the country and setting-up three hubs scattered across key areas in Yemen to ensure the implementation of critical health activities. Establishing a sub-office and sub-national hubs creates an operational response network that makes emergency coordination, in a country as large as Yemen, possible-- ensuring closer coordination of health activities at governorate and district levels. The potential risks to the staff safety and security

is always a primary consideration when setting up a field office. Nonetheless, the health needs in the country were so great, that WHO needed to ensure that both the northern and southern parts of Yemen were covered. Strengthening WHO sub-offices and hubs is not just a matter of hiring additional people. Rather, considerable improvements had to be made to each of these locations, to enhance security, including the creation of safe areas and the installation of CCTV and secure access control in some instances.

Building local capacity while supporting health facilities



WHO supports emergency mobile medical teams, providing them with financial incentives, medicines and capacity building through regular trainings for health care workers

Credit: WHO

The Aden sub-office and established hubs were responsible for carrying out key health interventions in areas in need of critical humanitarian support.

WHO supported mobile and fixed teams in seven district trainings where armed clashes were heaviest (i.e. Majz, Sahar, Haydan, Rezah, Baqim, Shada, Dhahar), providing them with incentives, medicines/supplies and capacity building through regular trainings for health care workers.

In the context of noncommunicable diseases, WHO hubs also facilitated the importation of dialysis supplies for an entire year for local hospitals, such as Al Jumori hospital. Cancer centers were also provided with supportive drugs for cancer patients and supplies to implement 500 renal dialysis sessions.

In Al Hudaydah alone, which had over 12,000 confirmed malaria cases, 135 malaria kits were distributed to governorate health offices (GHOs) sufficient to treat 52,650 patients. Mental health and psychosocial support activities were also supported in this hospital through an already established psychiatric unit.



Yemeni doctors continue saving lives amidst a “suffocating” crisis

Dr. Abdul-Kareem Qasem, a pediatric surgeon in Al Sabeen Hospital in Sana’a, vividly remembers the moment when his head was bleeding following a blast that damaged the hospital where he was working.

Since 2003, Dr. Qasem has worked with sick and injured children at the Al Sabeen Hospital, but he never expected he would be injured while working at the hospital.

“At that moment, I realized what it meant to be injured,” he recalled. “I felt as if it was an earthquake when a bomb hit a house just near the hospital 2 years ago. Glass from the building flew to my head and my face was covered with blood.”

For 14 years, Dr. Qasem worked under difficult circumstances, but the current situation is becoming “unbearable.”

“We were already under suffocating crisis but this one is totally different. We are not only working under a shortage of medicines and lack of regular salaries, but the security problems have also added a heavy burden on us,” he explained.

Since March 2015, the security situation has further deteriorated in Yemen. Several doctors, could not leave the country to find work elsewhere.

For his part, Dr Qasem says “I will not leave my country under any circumstances. I studied medicine for 15 years outside Yemen to return to my country and dedicate my expertise to save my people. I will not allow any wound to prevent me from doing my job and serving them.”

In addition to his main work in the hospital, Dr. Qasem responds to distress calls made by public hospitals during mass casualty incidents. “We cannot see the injured in need while we stand silent. If we don’t help our people

and serve the country during these exceptional conditions, then when will we?”

Over the last two and a half years, Dr. Qasem has noticed the gradual deterioration of the financial situation of patients. Some ask to be exempted from even the very low, almost token, fees for the health services provided.

“Our living conditions as doctors are also worsening. We’ve not received our salaries for one year and I cannot even pay for the rent of my apartment,” he says.

Al Sabeen Hospital in Sana’a is just one of over 350 health facilities that have been partially or fully damaged by the conflict.

“Unfortunately, the health facilities and medical personnel in Yemen have fallen victims to this war. My message to the national and international warring parties is to respect medical workers and health facilities. They must know that we provide health services to all people regardless of political and geographical considerations.”



Around 40,000 health workers have not received their salaries in over a year

Credit: Sadeq Al-Wesabi

Ensuring access to priority health services



country's health system is crumbling under the weight of almost three years of intense conflict

Credit: WHO

Cholera and diphtheria are not the only health issues facing Yemen. According to the Health Cluster's analysis, the main causes of avoidable deaths in Yemen are communicable diseases, maternal, perinatal and poor nutritional conditions, accounting for 50% of mortality and noncommunicable diseases (NCDs), accounting for 39% of mortality, while remaining mortality percentages are from casualties of war.

The country's health system is crumbling under the weight of almost three years of intense conflict. Only 50% of health facilities in Yemen are fully functioning. To further assess the functionality and health service availability,

the Health Resources and Services Availability Monitoring System (HeRAMS) is currently being implemented. A HeRAMS workshop was conducted for district health officers and data managers of Sana'a Governorate in December 2017. The workshop will be conducted for other governorates in 2018.

WHO is working with partners, including United Nation Children's Fund (UNICEF) and the World Bank, through the Emergency Health and Nutrition Project (EHNP) to meet emergency health needs related to the current humanitarian crisis, while at the same time strengthening the national health system for the future.

Negotiating access to populations in need

WHO is committed to reaching all people-in-need of health care across Yemen, regardless of their geographical location, ethnic background, religion, political affiliation or any other consideration. This is a direct reflection of the Organization's core principles and mandate.

In practice, this requires that the Organization negotiates access to affected populations, with the support of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA). In March, for example, WHO negotiated the safe passage of a truck carrying more than eight tonnes

of essential medicines and medical supplies to the Taiz enclave, where more than 350 000 people were in need of health services. This was the first delivery of essential medicines and medical supplies to cross conflict lines since the beginning of the conflict.

WHO continues to call on parties to the conflict to allow for the free movement of health workers, medical supplies and other humanitarian assistance to reach those in need.

Providing the essentials to keep health facilities running



In 2017, WHO delivered 40 fully-equipped ambulances to main hospitals in Yemen with the support of the UAE Red Crescent

Credit: WHO

In major emergencies, people who die due to lack of health care can far outnumber those reported as immediate casualties. The conflict in Yemen has taken a severe toll on the health system. An estimated 278 health facilities were partially damaged and 72 health facilities fully damaged, with many more forced to close due to a lack of operational costs, medicines and staff.

WHO is working to keep priority health facilities running across Yemen. This includes the provision of more than 1500 tonnes of medicines and supplies, 76 million litres of clean water to more than 100 health facilities and 4.4 million litres of fuel to 147 hospitals and clinics to run generators. When necessary, the Organization is also providing direct financial support, travel costs and overtime for health personnel.

At the same time, WHO is working with UNICEF and partners to conduct integrated outreach activities in remote areas of the country. Five rounds of outreach activities have taken place in 2017, during which 92 871 children under the age of one were immunized with routine vaccines. Vulnerable communities were also provided with reproductive health and nutrition services, as well as treatment for common conditions such as high blood pressure.

Similarly, 13 emergency mobile medical teams provided 113 000 consultations to communities living in Al Hudaydah, Hajjah, and Sa'ada. These teams provided reproductive health, routine immunization and nutrition services. In addition, 43 fixed health facility-based teams in 13 governorates provided 176 776 primary health care consultations during 2017.

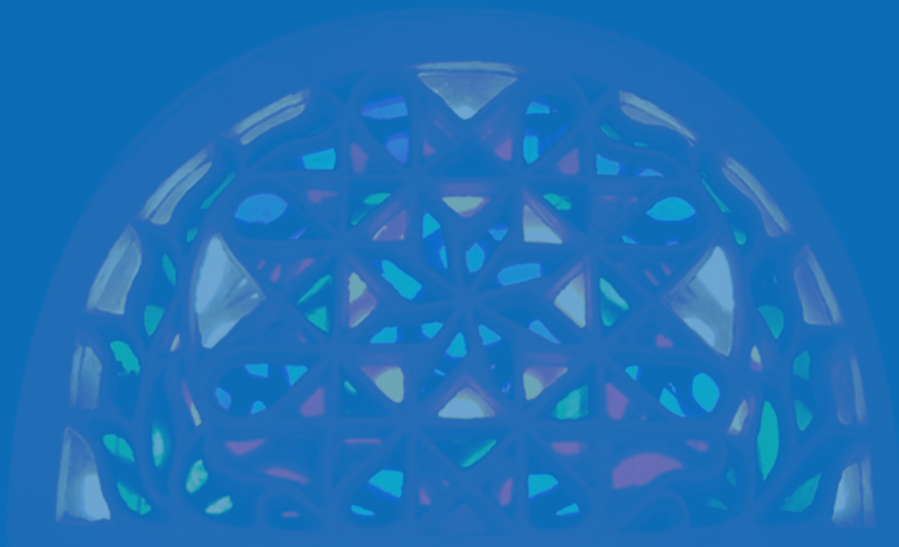


More than 1500 tonnes of medicines and medical supplies were delivered by WHO in 2017

Credit: Sadeq Al-Wesabi

Part II:

The Minimum Service Package (MSP): Lifeline for a rapidly collapsing health system





WHO and the World Bank have partnered to equip 72 hospitals with a suite of essential life-saving health services, better known as the Minimum Service Package (MSP)

Credit: Sadeq Al-Wesabi

Meeting a country's health needs through solid partnership

Currently, 16.4 million Yemenis desperately require assistance to access essential healthcare. Over the course of almost three years of conflict, WHO has moved proactively to save lives through multiple emergency interventions. As the situation continues to evolve, the crisis has shifted from an acute emergency to a complex and protracted humanitarian crisis. This means that a traditional humanitarian approach alone cannot meet the health needs of the affected population.

Without access to health care, many more Yemenis are dying from conditions that would be easily treatable within the context of an effective and functioning health system. Solid health systems tailored to specific needs is, therefore, a must for saving lives.

WHO and the World Bank have partnered to equip 72 hospitals with a suite of essential life-saving health services, better known as the Minimum Service Package (MSP). The two organizations are also working with UNICEF to strengthen the referral system from the

primary to the tertiary level. The Emergency Health and Nutrition Project (EHNP), is the cross-cutting response framework designed specifically to meet all acute health needs and support the national health system in the middle of this ongoing conflict.

The MSP is the delivery mechanism for the EHNP, and aims to deliver health services even in situations of extreme stress, addressing major health threats. These priority health interventions fall within 8 major areas and are to be implemented within the country's District Health System to ensure maximum impact.

This enormous but essential undertaking requires partnerships with health facilities in local districts, as well as with national and international health partners.

This is the "lifeline" needed by the people of Yemen to ensure accessible and targeted health service delivery amidst the volatile backdrop of civil war.



The crucial components of WHO health interventions are:

General services and trauma care	Childcare at all levels	Non-communicable diseases
Reproductive, Maternal and Newborn Health	Mental health and psychosocial support	Communicable diseases
	Nutrition	Environmental health

About



of deaths caused by communicable diseases, maternal, perinatal and nutritional conditions could have been avoided

more than

40 000

health workers have not received their salaries regularly in almost a year





Credit: Sadeq Al-Wesabi

Laying the foundation for innovative and tailored health service delivery

In 2017, this work focused on providing health facilities with essential drugs, supplies and equipment including clean water, generators and fuel. During the final quarter of the year, transitional work had begun, linking the major disease outbreak response to district level health service delivery, strengthening readiness and resilience to future outbreaks.

Intensive district level health planning ensured that scarce resources went towards the most urgent needs, beginning with the Al Thawra Hospital in Al Hudaydah. This is where a pilot programme for results-based approaches to supporting tertiary hospitals serving the most vulnerable were conducted.

This lay the groundwork for a roll-out of MSP over the course of 2018. These partnerships allow for the adaptation and expansion of the tertiary hospitals' support to secondary and primary levels and the support to inter-district hospitals. With sufficient resources, this work will then be expanded over 2019, with the goal of stabilizing the national health system.



Only



of health facilities are fully functioning

At least

278



health facilities have been partially damaged in the violence, while 72 health facilities were fully damaged



Over 4018 children under the age of five suffering from severe acute malnutrition with medical complications received treatment at WHO-supported therapeutic feeding centres in 2017

Credit: Abdullah Al-Halabi

Managing severe acute malnutrition with medical complications

An estimated 17 million people (almost 60% of the total Yemeni population) are food insecure and require urgent humanitarian assistance.

WHO plays a special role in responding to malnutrition, by providing life-saving treatment for severely acute malnourished (SAM) children with medical complications. Children with SAM are nine times at higher risk of death compared with normal or moderately malnourished children, and WHO supports specialized care for these children, the majority of whom would die without it. This is a complementary role to those played by partners such as WFP and UNICEF. In 2017, WHO trained 164 health workers at Stabilization Centres (SCs) in 10 priority governorates in Yemen on the medical management of SAM with complications.

Given the sheer scale of the need for nutrition services in Yemen, WHO has stepped in as the provider of last resort. The Organization has established 26 SCs across the country, which admitted around 5000 SAM cases. There are plans to establish a further 25 centres in 2018. This entails the physical rehabilitation of existing health facility structures to make them suitable SCs, and the provision of furniture, equipment and kits containing supplies for the medical management SAM. WHO has procured 120 SAM kits to

distribute to all therapeutic feeding centres (TFCs) in the country, whether established by WHO or another partners.

From January to December 2017, more than 4430 children under the age of five suffering from severe acute malnutrition with medical complications received treatment at WHO-supported stabilization centres. Treatment in the centres is free-of-charge, including provision of therapeutic feeding and medicines, meals to the caregivers, as well as health education for parents and relatives attending the facility.

To help ensure quality of care, WHO conducts regular supervision and on-the-job training, using its strengths as a technical agency to provide guidance on how best to treat malnutrition with medical complications, updating related guidelines, and tailoring them to the local context.

In addition, the Organization is working with local health authorities and partners to pilot a nutrition surveillance system. In April alone, 55 sentinel sites in 6 governorates were opened out of 100 planned in pilot districts in 10 priority governorates. Training was provided to 220 health workers on surveillance and data collection. Nutrition surveillance reporting in these governorates commenced in May 2017.

Zahraa's story

Three-month-old Zahraa was admitted to a WHO-supported therapeutic feeding centre at Al-Thawra Hospital in Hudaydah governorate suffering from severe acute malnutrition

After receiving intensive treatment, Zahraa fully recovered and was discharged. Since the beginning of the year, the centre has treated more than 450 children.

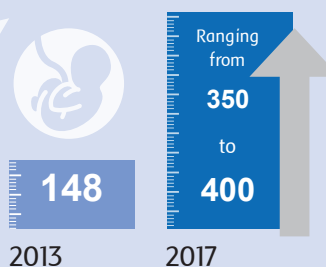


Maternal, newborn, child and adolescent health



When health systems collapse in protracted emergencies, the consequences for mothers and infants are dire. Reductions in the maternal mortality ratio, achieved by Yemen prior to the escalation of the conflict, have been reversed as expectant mothers face increasing difficulties in accessing life-saving emergency obstetric care.

Maternal mortality rate per 100,000 live births



WHO, together with the World Bank and UNICEF, under the Health and Population Project (HPP) prepared a major scale-up of support to emergency obstetric care capacities across the country. This was done through in-kind contributions of supplies and fuel, capacity building through training and direct support to health workers, resulting in the support of 73 health facilities in 6 governorates.

WHO has worked with the local health authorities and other UN agencies, UNICEF and UNFPA, to update the National Reproductive Health Strategy for Maternal Health, Newborn, Advocacy and BCC for 2017-2021. The strategy is in line with both the Sustainable Development Goals (SDGs) and global guidelines, but is designed to address these within the context of the current protracted crisis and ongoing humanitarian response needs.

This strategy was implemented, starting with building the capacity of 52 general practitioners from 12 governorates on Emergency Maternal, Newborn Obstetric Care (EmONC), in order for them to pass on their knowledge to colleagues. Sixteen general practitioners from 12 governorates, 13 anaesthesia technicians, and 160 midwives across 6 governorates were also trained on EmONC.

WHO Yemen worked closely with UNICEF to update the national community based maternal and newborn health care guidelines for community midwives. Similarly, national guidelines for the integrated management of childhood illnesses (IMCI) have been updated, and 479 health workers have received training on IMCI.



Combating communicable diseases: Detection, prevention and control in Yemen

WHO remains vigilant in the detection, prevention and control communicable diseases

Surveillance



Rapid detection is key to bringing outbreaks to a halt. Through the support of the WHO, an estimated 1982 sentinel sites are now reporting regularly resulting in more than 130 572 disease alerts that have been detected and investigated in 2017. WHO continues to support the strengthening of Yemen's disease surveillance system capacities with 1655 health workers from all 23 governorates already trained on rapid response, disease surveillance and data collection this year.

1982 Sentinel sites supported

130 572 Disease alerts detected and investigated

1655 health workers trained on rapid response

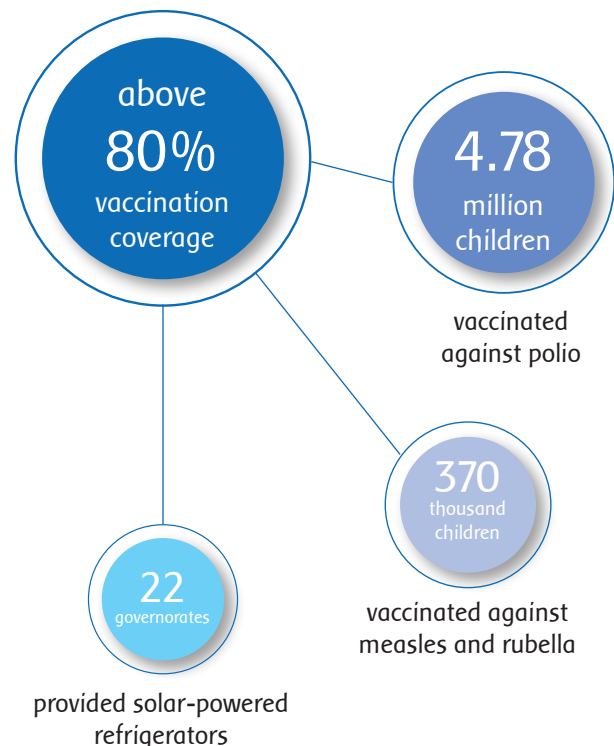
Vaccination



WHO and UNICEF are stepping up their long-term support to keep Yemen polio-free, ensuring that all children receive essential vaccinations. As a result, vaccination coverage remains high (above 80%). Despite the ongoing conflict, WHO, UNICEF and national health authorities successfully implemented two house-to-house polio vaccination campaigns in February and October 2017, reaching almost 4.87 million children under the age of 5.

Measles and rubella mop-up campaigns successfully reached 370 000 children in Amran and Sa'ada.

To protect the effectiveness of vaccines stored in a context where the electricity supply is often interrupted, solar power refrigerators were provided following a cold chain assessment conducted in 22 governorates. To help counter increasing reluctance to vaccinate in some areas of the country, a strategic plan for Information, Education and Communication (IEC) for the Expanded Programme on Immunization (EPI) has been developed for 2017-2020.





In Yemen, the strengthening of laboratory functions has been a priority especially with the ongoing outbreaks of cholera and diphtheria

Credit: Sadeq Al-Wesabi

Emergency risk communication

Here in Yemen, emergency risk communication (ERC) is a complement to UNICEF's Community Engagement and Awareness for Development Programme (C4D). For both cholera and diphtheria, as well as other disease outbreaks, ERC is a public health intervention that is instrumental in informing communities on how to protect themselves from disease, as well as training healthcare workers on how to effectively disseminate public health messages that carefully consider a community's knowledge, attitudes and practices (KAP). In every disease outbreak, WHO and UNICEF work hand-in-hand to ensure public health messages reach affected communities, since an effective emergency risk communications (ERC) system is part of the process of combating communicable diseases. For cholera alone, a nationwide awareness campaign conducted by WHO and UNICEF in August supported national health authorities, ensuring that cholera key messages reached an estimated 14 million people across all 22 governorates in Yemen.

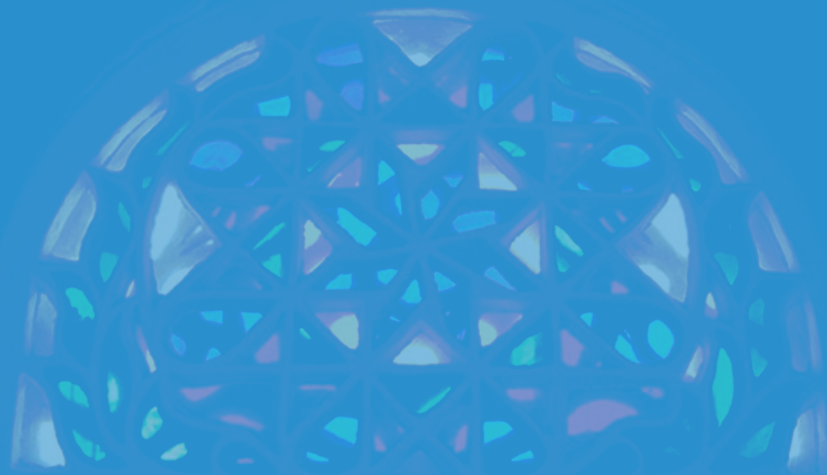
Laboratory diagnostics

Due to the collapsing health system in Yemen, laboratory strengthening is a critical priority, since lab diagnostics is an essential component of communicable disease surveillance, for routine confirmation of infections and the rapid identification of outbreaks and epidemics. In Yemen, the strengthening of laboratory functions has been a priority especially with the ongoing outbreaks of cholera and diphtheria. WHO has been actively involved in building laboratory capacity in-country through training, supplying reagents, culture and transport media to enable the diagnosis and confirmation of probable cases of diphtheria.

Under the International Health Regulations (IHR 2005), countries like Yemen, ideally, should have the capacity to provide support in response to a public health emergency of international concern (PHEIC) through specialized staff, laboratory analysis of samples (domestically or through collaborating centres) and logistical assistance (e.g. equipment, supplies and transport).

Part III:

Outbreak alert and response operations: Cholera and Diphtheria and other communicable diseases



Cholera

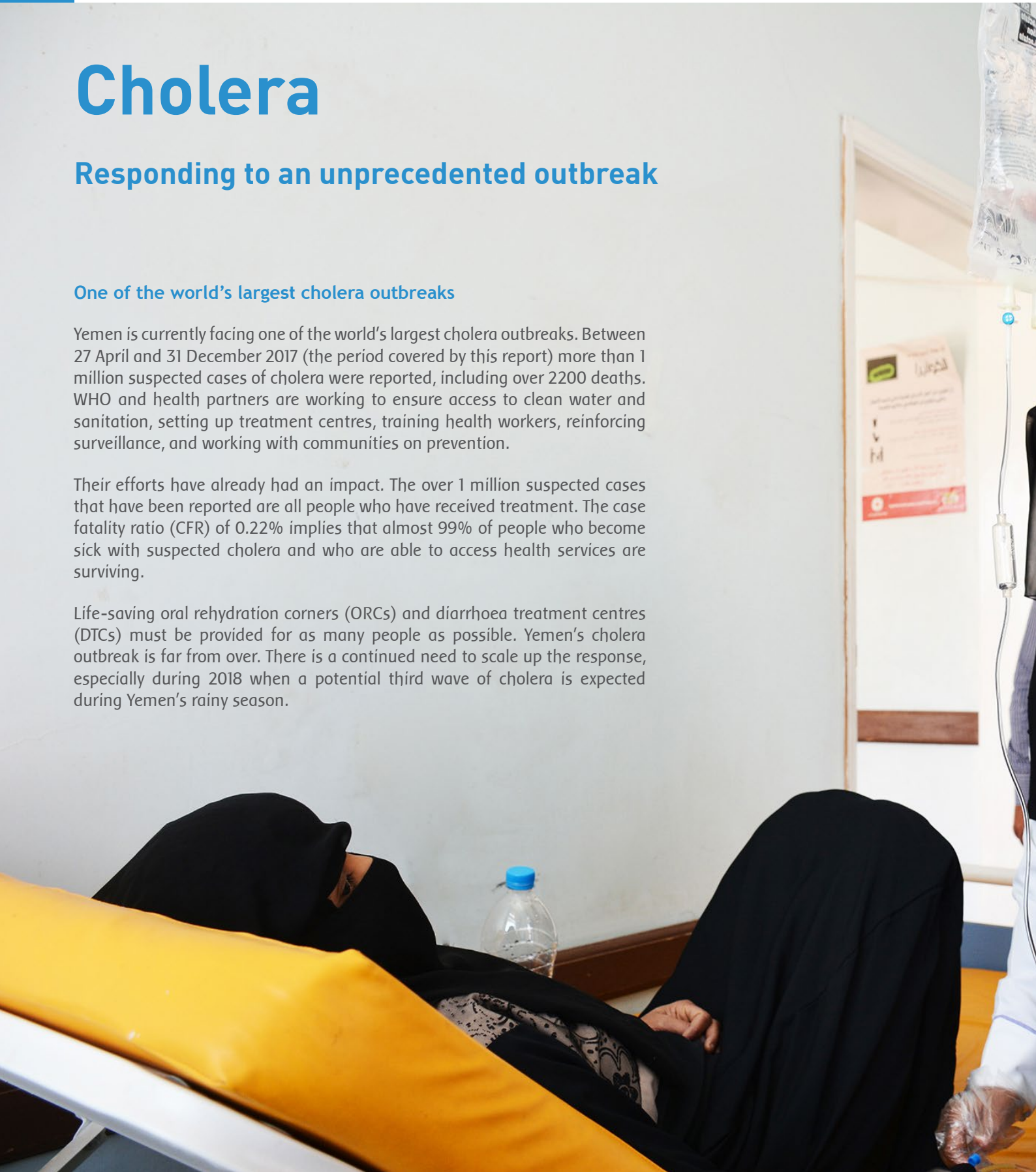
Responding to an unprecedented outbreak

One of the world's largest cholera outbreaks

Yemen is currently facing one of the world's largest cholera outbreaks. Between 27 April and 31 December 2017 (the period covered by this report) more than 1 million suspected cases of cholera were reported, including over 2200 deaths. WHO and health partners are working to ensure access to clean water and sanitation, setting up treatment centres, training health workers, reinforcing surveillance, and working with communities on prevention.

Their efforts have already had an impact. The over 1 million suspected cases that have been reported are all people who have received treatment. The case fatality ratio (CFR) of 0.22% implies that almost 99% of people who become sick with suspected cholera and who are able to access health services are surviving.

Life-saving oral rehydration corners (ORCs) and diarrhoea treatment centres (DTCs) must be provided for as many people as possible. Yemen's cholera outbreak is far from over. There is a continued need to scale up the response, especially during 2018 when a potential third wave of cholera is expected during Yemen's rainy season.





There is a continued need to scale up the response, especially during 2018 when a potential third wave of cholera is expected during Yemen's rainy season.

Credit: Sadeq Al-Wesabi

Guiding the WHO and partners' outbreak response activities

WHO and its health partners have responded quickly to the explosive situation, rapidly scaling up their support to local health authorities to tackle cholera in 305 (out of 333) of the most-affected districts in all 22 governorates. As of the end of 31 December 2017, Health Cluster partners were operating 3211 Diarrhoea Treatment Centre (DTCs) beds in 208 DTCs in addition to 906 Oral Rehydration Points (ORPs) in 20 Governorates and 232 affected districts in Yemen. They also engaged in health systems strengthening and preparedness with the initial integration of cholera treatment facilities into Yemen's health system.

WHO implemented district and governorate level rapid response teams (RRTs) to tackle the epidemic. The aim of these RRTs is to detect, alert and respond to potential outbreaks of cholera. Ongoing support 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 have occurred, as well the use of rapid diagnostic tests (RDTs), 740 RDTs were conducted in the last week of December 2017, with 136 positive RDTs, 1094 have been confirmed by culture.

Empowering communities through sound public health messaging

An estimated 627 000 people were reached by partners with cholera key messages through household visits, and community and school events in 122 districts in 15 governorates. WHO and UNICEF worked side by side to support local health authorities in rolling out a nationwide house-to-house awareness campaign, reaching more than 14 million people in all 22 governorates. The campaign deployed over 40 000 volunteers working through 19 160 mobile teams, 2650 fixed teams and supported by 4795 supervisors. WHO has continued to advocate with local authorities for an oral cholera vaccination (OCV) campaign and worked with academics, health authorities and UNICEF to lessen the severity and spread of the expected third wave of this disease.

WHO is also supporting the coordination of day-to-day operations of the inter-sectoral response of health, WASH and risk communication partners hosted at Emergency Operations Centres (EOC).

Another key contribution WHO is making to the cholera response is the provision of timely data to guide partners' response activities. Epidemiological bulletins provide a weekly in-depth analysis of the progression of the outbreak, and epidemiological updates provide brief, daily overviews of the current situation. The underlying data is available through an online platform for partners who wish to conduct their own analysis. A recently developed web-based dashboard includes data on both the status of the outbreak and the latest data on the response activities of health and WASH partners.

Diphtheria

Responding to a long forgotten disease

Diphtheria is a real concern, since the overall prevention, treatment and control of the disease is more complex than that of cholera, requiring more resources. On 29 October 2017, the WHO team in Sana'a, Yemen received reports of suspected cases of diphtheria from Ibb governorate. From 13 August through 21 December 2017, a total of 333 probable cases including 35 deaths were reported from 20 out of 23 governorates. In the absence of laboratory-confirmation, the event was treated as an outbreak of probable diphtheria based on clinical diagnosis.

The last major diphtheria outbreak in Yemen was in 1982. Therefore, most clinicians had to be re-introduced on how to manage this deadly disease, affecting mainly adolescents and young children, over 60% of whom were not vaccinated. In early November and December almost 350,000 children under 7 years of age were vaccinated in the areas most affected by diphtheria.

On the 20th December, UNICEF brought in 2.5 million doses of Pentavalent vaccine, which protects against diphtheria, tetanus, whooping cough, pertussis, hepatitis B and haemophilus influenza type b. An estimated 3 million doses of Td vaccine, which protects against tetanus and diphtheria, were also brought in, with an additional 6 million doses of Td and 2.5 million of Penta in pipeline.



WHO response efforts focused on the following key outbreak surveillance, prevention and control activities:

- **Surveillance and detection:** WHO worked hard to strengthen surveillance and confirmation of cases through refinement of the standard case definition and complementary training activities to ensure this was implemented properly.
- **Laboratory:** WHO brought in lab reagents for the culture test to be conducted in-country.
- **Capacity building:** Healthcare workers (HCWs) were trained on the clinical case management of probable diphtheria cases; rapid response teams (RRT) in all 23 governorates and 333 districts level are fully activated

Despite a global supply shortage of diphtheria anti-toxin (DAT) in 2017, WHO managed to bring in 1000 doses of DAT for the lifesaving treatment of severe cases of diphtheria

Credit: Sadeq Al-Wesabi



Yaseen, 4, has been discharged from Al Sabeen Hospital in Sand'a, where he was receiving treatment for diphtheria.

Credit: Sadeq Al-Wesabi

and the ones in affected districts have been trained and received antibiotics to contact tracing and preventable antibiotics, in line with WHO guidelines.

- **Diphtheria antitoxin (DAT):** Despite a global supply shortage of DAT in 2017, as of December the supply of DAT worldwide was 5000 doses, WHO managed to bring in 1000 doses of DAT for the lifesaving treatment of severe cases of diphtheria.

- **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 8280 bottles of syrup; and Penicillin 34 500 vials.

- **Emergency risk communication (ERC):** Social mobilization for prevention and containment of the outbreak. UNICEF and WHO have developed key messages for communities about cases early symptoms, prevention, access to care and about vaccination. Training of the 9000 Yemeni Health Promotion/ Social mobilisation volunteers were 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.

The fight against the disease is far from over, the commitment of health authorities, vaccination, targeted outbreak control measures and community empowerment remain primary prevention and mitigation measures that can rapidly contain the spread of this deadly disease.

About diphtheria

Diphtheria is an infectious respiratory disease caused by a potent toxin produced by certain strains of the bacterium *Corynebacterium diphtheriae*. It spreads through air droplets by coughing or sneezing. Vaccination against diphtheria is safe and effective for prevention of the disease.

Vector-borne diseases

The triangle of war, poverty and disasters have led to further deterioration of the malaria situation. The current conflict has led to the displacement of 3 million people (2 million still in displacement and 1 million returned) at least 40% people are displaced and located in close proximity to malaria endemic areas. Limited access to clean water and sanitation has significantly increased the risk of vector-borne diseases. While malaria and dengue fever, for example, are endemic in parts of Yemen, a sudden upsurge in cases of both diseases was reported in 2015 and 2016. To maintain malaria control and prevention and avoid any deterioration, WHO increased its response to the needs of malaria control and prevention in Yemen to ensure the continuation of life-saving interventions such as case management, vector control and malaria surveillance. The support provided by the World Bank has enabled WHO to expand and improve its response to malaria and other vector-borne diseases in Yemen such as dengue and chikungunya.

In 2017, however, malaria and dengue fever have been

kept largely in check, although WHO remains vigilant given the imminent start to the malaria season. WHO distributed 1137 of basic and supplementary malaria kits which enables health facilities to test to 941 600 patients for malaria detection by rapid diagnostic tests and treat 402 110 cases. It facilitated the transportation of 1.5 million bednets to 76 districts in Yemen.

This activity contributed to the increase in coverage by bednets to 3 million people in 8 governorates. WHO supported the implementation of an indoor residual spraying campaign which provides protection to 1.3 million people against malaria. The planned vector control campaigns in 2018 will target 2 million people in Tehama region and Southern governorates. Almost 300 medical doctors and health workers were trained on the clinical management of malaria in 2017, and the national surveillance system known as eDEWs increased the number of sentinel surveillance sites from 442 to 1982, increasing the capacity to detect the disease early on.



Credit: WHO Yemen



Neglected tropical diseases (NTDs) are commonplace in IDP camps. More attention and funding are required to eliminate NTDs

Credit: Sadeq Al-Wesabi

Neglected tropical diseases

The conflict has also increased the spread of neglected tropical diseases (NTDs) including rabies and leishmaniasis, and has brought serious new challenges in implementing control measures. New strategies for control are needed in this context.

In early August, WHO in coordination with national health authorities, succeeded in bringing together 30 experts from across the entire country and drafted the National Neglected Tropical Diseases Master Plan (NTDs MP) within the context of the current crisis. This is a continuation of work over the past ten years to tackle the top neglected tropical diseases affecting the people of Yemen. Notably, implementation of mass treatment has reduced the prevalence of schistosomiasis from 19.4% in 2010 to 6.9% in 2017 where two treatment campaigns were conducted targeting 1.3 million and 0.8 million adults and children, respectively.

Leprosy elimination efforts are still conducted with full support from the WHO, focusing on areas where the disease is endemic, despite security threats and challenges in these areas, healthcare workers are still implementing active examination in the form of rapid skin surveys and contacts, adapting the situation and targeting more the contacts, hotspots, IDPs, capacity building, monitoring and supervision.

Deworming has reached 85% of the targeted areas and leprosy is on the verge of being eliminated. WHO regularly provides supplies for the treatment of NTDs. The Organization provided 25 000 doses of rabies vaccine and more than 7 million tablets (5 million praziquantel and 2.1 million albendazole tablets) for the treatment of schistosomiasis and other soil-transmitted parasitic diseases in 2017.

For the treatment of onchocerciasis a plan has been devised for approximately more than half a million people in western Yemen to eliminate onchocerciasis-affected areas and identify populations requiring treatment. For Leishmaniasis, WHO provided national health authorities with 20 000 vials of stibogluconate (leishmaniasis drug) and 9600 leishmaniasis laboratory tests (i.e. rapid diagnostic tests). While for the treatment of Rabies, WHO provided the country with 11,000 rabies vaccines and 5000 anti-sera.

Procured

25 000

doses of rabies vaccine

5

million tablets for the treatment of schistosomiasis and other parasitic disease



Emergency operations centres have been established in Yemen to ensure faster, more efficient and effective response to outbreaks and other health emergencies.

Credit: Sadeq Al-Wesabi

Emergency Operations Centres: Responding to health emergencies

A faster, more efficient and effective response to outbreaks and other health emergencies – this is the purpose of a network of Emergency Operation Centres (EOCs) established across Yemen by national health authorities, with the support of partners including WHO, UNICEF, UN OCHA, the World Bank, WFP and others.

Central EOCs in Aden and Sana'a will support governorate-level EOCs established in the governorates most affected by the cholera outbreak. Health, water, sanitation and risk communication partners, including UN agencies and partner NGOs, are not only collaborating, but working physically in the same place. This facilitates greater information-sharing and allows

the group to benefit from each agency's strengths. For example, WFP is taking on logistics for the partnership, while WHO continues to work with the local health authorities to analyse epidemiological data, and UNICEF coordinates efforts to expand access to safe water and sanitation facilities.

While the network is being strengthened to facilitate the response to the cholera outbreak, the EOCs will also provide the technological infrastructure for an incident command system for future health emergencies. At the central EOC in Sana'a, for example, an existing ambulance dispatch centre has been incorporated into the structure, and an emergency response telephone number has been reactivated.



WHO conducts on-the job training on cholera case management, infection and prevention control according to WHO guidelines and protocols.

Credit: Sadeq Al-Wesabi

Rapid detection: Risk assessment and response

WHO is providing technical and operational support to strengthen the national surveillance system to help meet the additional demands of the cholera outbreak.

Thirty-six disease surveillance and data entry personnel from 21 governorates have been trained on cholera data entry and analysis. Alongside other agencies, WHO has contributed to the provision of computers and other communications technology to strengthen the timely reporting of suspected cases of cholera.

Increasing numbers of rapid response teams are being

trained and deployed, with 98 teams comprised of 5 people per team trained in 2017, to ensure the timely and thorough investigation of potential cholera cases and to chlorinate wells and water sources. Each team is comprised of a district surveillance coordinator, an epidemiologist, health education officer, water and sanitation officer and the director of the district health office.

At the end of 2017, WHO was on track to have rapid response teams present in all of the country's 333 districts – ready and available to detect and respond rapidly to cholera and other future outbreaks.

Mohannad: One of the 99% of patients who have survived suspected cholera



Credit: Sadeq Al-Wesabi

Eight-year-old Mohannad overcame cholera following three days of treatment in the diarrhoea treatment centre at Al Sabeen Hospital in Sana'a. Mohannad lost his mother and sister when a bomb went off near their home in Hajjah. He and his father have since fled to Sana'a.

"Mohannad is all I have in this life after my wife and daughter died. When he was infected with cholera I was very anxious that he would have the same fate as his mother and sister," said Mohannad's father.

Delivering medicines and supplies to support the joint cholera response

Since the 27th April, WHO has procured and distributed more than two million items for the cholera response, including 1.04 million bags of intravenous fluids, 1450 beds with cleaning supplies and 158 kits containing supplies for the treatment of cholera and diarrhoeal diseases.

While the majority of these items have been delivered to health facilities and to district health offices, 10 NGOs have also been provided with

WHO-procured cholera supplies.

WHO has established a partnership with the World Food Programme (WFP) and the Logistics Cluster to scale up logistics support for the cholera response. In addition to providing vessels and aircraft for the transportation of medical supplies, WFP is playing a prominent role in the establishment of treatment centres and emergency operations centres (EOCs).

Credit: Sadeq Al-Wesabi





A workshop was conducted in Sana'a to review and assess the epidemiological situation of NTDs in Yemen, discuss challenges, identify the key public-health interventions required to control and eliminate NTDs

Credit: OCHA

Communicating risk and engaging communities in the response to cholera

Every Yemeni has an important role to play in keeping themselves and their families safe from cholera. A key pillar of the cholera response is community engagement, which depends on easily understood and technically sound messaging on how to reduce risks and seek care.

WHO and UNICEF supported local health authorities to conduct a nationwide house-to-house awareness campaign from 15-30 August, reaching more than 14 million people in all 23 governorates.

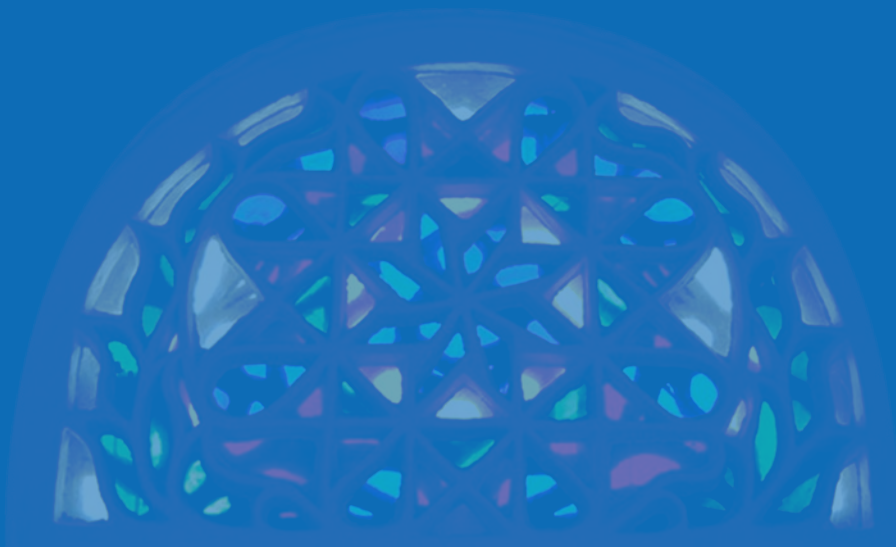
Throughout the campaign, individuals and communities were provided with life-saving information on proper handwashing, preparation of oral rehydration solution (ORS), and proper home care of the people with cholera, including referral to health facilities. The campaign deployed over

40 000 volunteers working through 19 160 mobile teams and 2650 fixed teams, supported by 4795 supervisors.

WHO is now working with UNICEF to analyse the effectiveness of the risk communications campaign. This information will be used to identify gaps and needs raised by communities and will help inform future activities. WHO will also link epidemiological and social data to refine messaging and strategies focusing on high risk districts.

Beyond the campaign, WHO continues to provide technical advice on the messages delivered by partners and has disseminated 38 000 brochures to NGOs, UN partners and health centres to ensure communities know how to keep themselves safe from cholera.

Part IV:
**Managing the treatment of endemic
and noncommunicable diseases**



The cancer care crisis in Yemen

In Yemen, more than 60 000 cancer patients (12% of whom are children) have received treatment at the National Oncology Centre in Sana'a since 2005. But the Centre, which treats patients from across the country, had its annual budget come to a grinding halt.

Before the crisis, the Government used to provide the centre with around USD 12 million a year, but the Centre has not received any funding for nearly two years, leaving it dependent on limited external support. Almost 6000 patients received cancer treatment at the Centre in 2017, however, challenges in cancer care still remain. An estimated 30 000 cancer patients are in need of active treatment (i.e. chemotherapy, radiation therapy, hormonal treatment or palliative treatment).

Keeping this lifeline alive

The Centre has been on the verge of closing several times, which would deprive thousands of patients from receiving life-saving chemotherapy and radiation therapy.

The challenges facing the centre are not only confined to shortages of medicines and lack of operational costs. Professional oncologists and other medical staff are leaving the country due to the ongoing conflict, unpaid health care worker salaries and the deteriorating economic situation.

"We try to do our best to keep functioning, but we don't have enough medicines, and we have no choice but to watch our patients die due to lack of treatment. Poor patients simply leave us and die at home because they cannot afford treatment," said Dr Ali Al-Ashwal, Director of the National Oncology Centre.



Life-saving support from donors



Akram, 8, and Ashjan, 7, a brother and sister, lie on one bed suffering from lymphoma and a brain tumour, respectively. Their father has brought them from Wesab District in Dhamar Governorate to receive treatment.

Credit: Sadeq Al-Wesabi

With support from the World Bank and Germany, WHO is in the process of providing the centre with USD 2.5 million worth of anti-cancer medicines and chemotherapy medications, sufficient for almost 30 000 patients. The anti-cancer drugs and chemotherapy medication have been procured and will be shipped to the country by early 2018. To fill the gap until the arrival of this precious cargo, WHO provided the National Oncology Centre in Sana'a with various cancer drugs and chemotherapy medications sufficient to treat 5000 patients for one month.

In 2017 alone, more than 10 000 cancer patients were

registered but only 40% of them received appropriate and complete treatment. This is a clear indication of the critical conditions these patients are in. The families of cancer patients in Yemen are suffering from the agony of watching their children endure the pain of this disease, or die due to lack of full treatment.

It is a tragedy that treatment for noncommunicable diseases such as cancer, diabetes and hypertension is available in only 20% of health facilities across Yemen. As a result, these chronic conditions are now killing more people than bullets or bombs, accounting for 39% of all reported deaths in 2017.

The silent impact of war in Yemen

Thirteen year-old Mohannad was playing with his friend and brother in Taiz City when a mortar shell landed nearby. Suddenly his carefree days were turned into days of pain. Previously cheerful and sociable Mohannad became an introvert, a shadow of his former self.

Mohannad lost his brother in this attack. His friend was blinded and lost his leg. Mohannad suffered extensive burns and was transferred to Sana'a for surgery. To support his recovery Mohannad was referred to the mental health and psychosocial care unit at Al Jumhuri hospital in Sana'a. These rehabilitation sessions are designed to help Mohannad cope with what happened. The 9 months of treatment was conducted by a WHO trained team.

The care started with psychological first aid two weeks after this traumatizing event. The psychological rehabilitation then moved to narrative exposure therapy, where Mohannad was able to tell his story and even to draw the events.

Mohannad's story represents one of a thousand others, who live with disturbing, psychological reminders of this ongoing war.

Dr Mohammed Al-Kholaidi, a mental health specialist, based in Sana'a, notes the increasing numbers of patients coming to him for mental health care. He reports seeing a population suffering from anxiety, depression, insomnia, and obsessive compulsive disorder. All of these are symptoms of post-traumatic stress disorder (PTSD).

For 12-year-old Dhia Khaled, the sound of massive explosions in the Faj Attan district of Sa'ana have left him inconsolable and suicidal. Yehia Al-Fatemi from Dhamar governorate was diagnosed with severe depression after



The ongoing conflict has left men, women and children traumatised and in need of mental health and psychosocial support in order to cope with this dire situation.

Credit: WHO

returning to his house to find the charred bodies of his wife, son and two daughters, killed by an airstrike. The people and their horrific stories are endless.

Mental health and psychosocial support is a crucial component of health service delivery, especially during a conflict that shows no signs of abating. WHO is leading the integration of mental health and psychosocial support into the Yemen primary health care system. WHO in cooperation with the Ministry of Public Health has conducted several workshop courses on providing psychosocial support for crisis victims. These workshops



trained around 200 psychologists and primary healthcare workers from conflict-affected governorates.

"We plan to build up professional human resource capacity by providing them with knowledge and practical management protocols to deal with the rising rate of people suffering from psychological stress," said Dr Nevio Zagaria, WHO Representative in Yemen.

There are undoubtedly huge needs for psychological support, a huge challenge being that Yemen has only forty psychiatrists, therefore alternative strategies

are needed.

"Mental health is usually ignored in terms of prioritizing health in a poor country. People with pre-existing mental problems become more vulnerable due to displacement, abandonment and lack of access to mental health services," said Dr Zagaria.

"WHO will keep utilizing the available community resources to become more active and reach a significant percent of population who are in need of psychosocial support."

Seham: Seeking dialysis in the midst of crisis

It is not only the kidney pain and gradual loss of vision that make 10-year-old Seham's life challenging.

"Because of this disease, I had to stop going to school," said Seham. "All I want is to be free from this disease and to go back to my studies."

Accessing dialysis has always been an issue in Yemen, the poorest country in the Middle East. But the conflict has created additional challenges, with health facilities facing a shortage of dialysis supplies and travel complicated by checkpoints and insecurity.

WHO is working to ensure that people in need of dialysis, like Seham, can access the treatment they need. In late August, the Organization helped to transport 100 tonnes of supplies provided through a private-public partnership to the dialysis centre she regularly attends at Al Jumhoori Hospital in Sa'ada. WHO's involvement helped to facilitate the shipment's swift and unhindered entry into the country and on to Sa'ada.

Health data indicates that more than 6000 chronic kidney disease patients are registered country-wide, and need regular haemodialysis sessions, in addition to 2500 kidney-transplant patients in continuous need of immunosuppressant drugs.



Scaling up access to treatment for noncommunicable diseases

As the health system crumbles, noncommunicable diseases – a category which includes highly treatable illnesses such as kidney disease, diabetes, high blood pressure, and many forms of cancer – are being left undetected and unmanaged.

Basic treatment for noncommunicable diseases is available in an estimated 20% of health facilities. These chronic conditions already accounted for 39% of all mortality before the conflict, but now they are all the

more deadly, killing far more people than bullets, bombs or cholera.

The noncommunicable diseases medical supply pipelines dried out due to logistical constraints and a dramatic decline of both Ministry of Health budget and the purchasing power of Yemeni citizens. Chronic disease patients are less able to cope without access to adequate health service, medicines and nutrition due to financial hardship and serious shortage of essential medicines.

WHO is bolstering the availability of treatment for noncommunicable diseases in 2017

500 000
USD

urgent anti-cancer
drugs and lab
reagents

100 000
USD

of materials for
dialysis sessions

200 000
USD

of life-saving
drugs for kidney
transplant patients

1 250 000
USD


of insulin for
diabetic patients

Supporting trauma care and referral services for those caught in the crossfire

The conduct of hostilities in Yemen has been brutal. More than 8500 deaths and 48 800 injuries were registered between March 2015 and August 2017. But these figures are only based on health-facility reporting and are likely

to be an underestimate of the actual casualties resulting from the conflict. Many more people are estimated to have died before reaching one of the still functioning health facilities.

Conflict related-casualties 19 March 2015 - 31 December 2017

	Female	Children	Male	Total
 Deaths	647	744	7 854	9 245
Injuries	2 113	7 225	43 469	52 807
Total	2 760	7 969	51 323	62 052

Supporting trauma care and referral services

With the intensification of the conflict in several areas of Yemen, the need for emergency trauma care has increased. At the same time, the departure and displacement of specialized medical staff and a critical shortage of essential medicines and supplies is impeding the provision of life-saving care.

A substantial portion of trauma-related mortality occurs outside of the health system, when people die at or near the scene of their injuries. The second wave of mortality occurs after entry into the health system. This second wave is avoidable, and is the main target of WHO support.

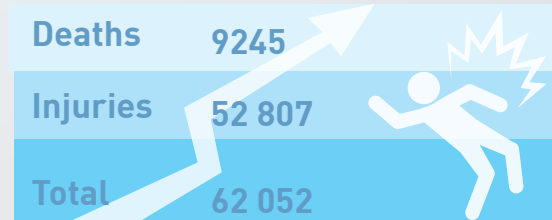
WHO is currently supporting 41 surgical teams in 14 governorates to provide emergency trauma care (Abyan, Al Hudaydah, Al Jawf, Al Mahweet, Amran, Hajjah, Marib, Sa'ada, Sana'a, Shabwa, Aden, Taiz, Ibb and Hadramout). In 2017, these teams provided more than 30 967 life-saving surgical interventions to people in conflict-affected areas. In comparison, 10 surgical teams delivered 15158 interventions throughout the whole of 2016. WHO has also supported major hospitals across the country with 55 emergency trauma kits, including medicines, surgical supplies, and dressings to meet the needs of 5500 patients requiring surgical care.

To increase access to pre-hospital care and referral services, WHO has procured and delivered 40 fully equipped ambulances through the support of Emirates Red Crescent: 20 delivered through the port in Al Hudaydah and 20 delivered through Aden. WHO also supports the central emergency control room with communications equipment and staff incentives. This control room monitors the hospital-based trauma surveillance system, identifies any needs and gaps in times of mass casualty incidents, manages pre-hospital care, and coordinates inter-hospital transfers.

Safe blood transfusion is a critical, life-saving intervention directly linked to mass casualty management and trauma care. WHO continues to support safe blood transfusion services and has provided 9000 triple blood bags, 12 000 single blood bags, testing kits and other supplies for blood collection, testing, processing and storage to the central blood bank. The blood cold chain is also being supported through the provision of fuel for generators. In parallel, WHO is supporting training on the safe administration of blood and blood products, and sharing standard operating procedures for bedside transfusion.

Conflict in Yemen

19 March 2015 - 31 December 2017





Part V: Priority needs and gaps

Increased financial support, increased response activities

Increased financial support during 2017 from traditional humanitarian donors in response to the Humanitarian Response Plan (HRP) and from new actors such as the World Bank, allowed WHO to have a two-pronged approach to deal with the challenges of the health sector in a protracted humanitarian crisis.

Activities such as, engaging in medium term planning and linking life-saving health interventions with the delivery of basic health services to cover communicable and noncommunicable diseases, and provide effective, quality preventive and curative interventions are top priorities.

This also includes:

- Expanding and enhancing key public health functions, such as epidemiological surveillance and outbreak rapid response teams (RRTs) across all 333 districts of the country,
- Increasing immunization activities in fixed posts in health facilities as well as outreach services for remote populations with no access to health care
- Undertaking communicable disease public health control activities, including the response to the massive cholera outbreak, in strong collaboration with UNICEF and Health Cluster partners; and
- Scaling-up and improving the provision of key inputs for the reactivation and sustaining of the health facility network in terms of fuel, water, oxygen, essential drugs and medical supplies and equipment, with priority to district hospitals to bridge the primary and tertiary levels of care.



Moving forward

In 2018, WHO will focus on scaling up the implementation of the Minimum Service Package (MSP) at primary and secondary levels of care, while continuing to support the tertiary governorate hospitals. However, in order to do this, WHO and the Health Cluster partners will continue the dialogue with the health authorities at central levels, and augment the technical and operational support to the Governorate Health Offices (GHOs) with fully functioning Emergency Operation Centres (EOCs) in all the 23 GHOs.

They will also work to strengthen the capacities of the District Health Offices (DHOs) starting from the most vulnerable districts, with technical and operational support, to identify gaps in service delivery and plan the use of available resources to target priority areas for national and

international NGOs interventions that are in line with the MSP guidelines.

New health financing mechanisms are needed to reduce "out-of-pocket" health expenditures, as well as the consistent and regular payment of incentives to health workers in the public health system. An overall transitional solution for public social services should be identified and implemented, to accommodate the protracted nature of the crisis and the high attrition rate of civil servants, most of them without salaries for more than a year. WHO continues to advocate for this, while discussing options with local health authorities and piloting mechanisms to provide health staff with forms of compensation that allow them to work, to be expanded in the very near future.

Financial overview

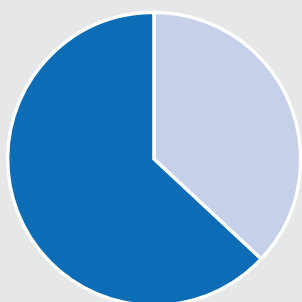
The overall revised request of the Health Cluster was 430.4 million USD, including the final cholera response plan of 108.8 million USD for HRP 2017.

In 2017, WHO and Health Cluster partners were in a relatively good position financially, thanks to the generosity of the contributors, however, the overall health sector humanitarian response remained underfunded.

The Health Cluster had a financial gap of 37% to carry out planned activities under the Yemen Humanitarian Response Plan (YHRP) 2017, as highlighted in the figure below, while WHO had a financial gap of 38%.

In 2017 WHO utilized 49.1 million USD for the health sector HRP 2017 activities response funded by the traditional humanitarian donors.

Health Cluster funding received in 2017 under HRP



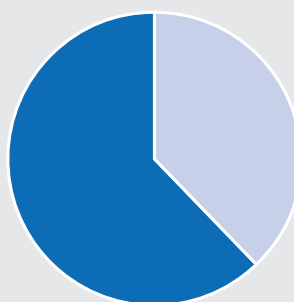
■ Received ■ Funding gap

USD 240.4 million requested by Health Cluster partners, without WHO, under the Yemen Humanitarian Response Plan (HRP) 2017

USD 153.2 million received in 2017, according to the Financial Tracking System

37% funding gap

WHO funding received in 2017 under HRP



■ Received ■ Funding gap

USD 190 million requested for WHO under the revised Yemen Humanitarian Response Plan (HRP) 2017, including USD 64 million for cholera

USD 118.5 million received

38% funding gap

In October 2016, WHO became a member of the International Aid Transparency Initiative (IATI). Funds allocated for the WHO Yemen response can therefore be traced back by programme area on the WHO website: <http://open.who.int/2016-17/iati>

Strong partnerships

WHO signed in February 2017 the Emergency Health and Nutrition Project (EHNP) for a total of 76 million USD and two additional financing arrangements to respond to the acute malnutrition and cholera for an additional 91 million USD. The timeframe for the implementation of the World Bank interventions is February 2017 to June 2020. Out of this funding 52.6 million USD was utilized during 2017.

WHO has been in the position to respond and scale up both humanitarian and non-humanitarian interventions considering the important financial contribution of the World Bank, and adopting a medium term planning cycle, as illustrated in previous sections of this report, particularly in the response to the cholera outbreak.

WHO has also implemented activities under the developmental umbrella for a total of 11.5 million USD

during 2017, for earmarked specific activities, such as the ones targeting Neglected Tropical Diseases (NTDs), malaria, and dengue.

WHO started in 2017 to develop one strategic agenda to tackle the health challenges in responding to the needs of a large-scale, protracted humanitarian crisis.

The convergence of different funding streams in supporting of one strategic approach in responding to the Yemen crisis started during 2017. For 2018 the overall needs to be addressed are going to be larger, while further efforts will be needed in enhancing complementarity and having a common strategic vision, prioritizing life saving interventions, and at the same time responding to basic health needs of the affected population in terms of preventive and curative care.

Humanitarian donor contribution to WHO received in 2017 (for the period of 2017-2019)

Donor	Amount received	Percentage
USAID	38 282 413	32.4
Saudi Arabia	31 432 997	26.6
United Arab Emirates	12 800 000	10.8
ECHO	5 899 080	5.0
OCHA	5 438 293	4.6
Oman	5 000 000	4.2
Germany	4 807 692	4.1
Japan	4 169 100	3.5
CERF	3 577 038	3.0
Kuwait	3 000 000	2.5
China	2 000 000	1.7
Norway	711 146	0.6
Republic of Korea	500 000	0.4
Canada - DFATD	375 940	0.3
Algeria	100 000	0.1
Total	118 093 699	100



"WHO would like to extend its sincerest thanks to all donors and partners for their generous support to this humanitarian response. Without your contributions we would not be able to help this country and its beautiful people. Our deepest thanks go out to all of you and we look forward to your continued and valued support."

How the international community can help?



In addition to ensuring that the health response to the humanitarian crisis in Yemen is fully funded, the international community can help the people of Yemen by advocating for the following:

A **peaceful**, political resolution to the conflict

A **solution** for the payment of health workers and other civil servants of the social sectors

An **end** to attacks on health care in Yemen

The **unimpeded** delivery of life-saving supplies to all affected areas

Long-term **investments** in Yemen's health system

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Front cover:

A child from an IDP camp in Ibb, Yemen

Credit: Christine Tiffany Cool



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