



They Die of Bombs, We Die of Need



Impact of Collapsing Public Health Systems in Yemen

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Yemen

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FACTS

- 9.3 million Yemenis denied their right life-saving health services under international law.
- 79% of the Yemeni population require humanitarian aid.
- Only half of health facilities in Yemen are operational in government-controlled areas of the country.
- More than 2/3^{ds} (68%) of the population lacks access to basic health care.
- 2.9 million children and pregnant/lactating women are acutely malnourished.
- A child under the age of 5 dies in Yemen every 10 minutes from preventable causes.
- An estimated 45 per cent of deaths among children under five attributable to malnutrition.
- More than half of the population in Yemen lacks access to clean water as a result of the conflict.
- 11.6 million people require urgent assistance to ensure access to safe drinking water and sanitation.
- Lack of access to safe water and sanitation has resulted in more than 1 million suspected cases of cholera and more than 2,192 associated deaths in 2017 alone.
- Saudi Arabia is estimated to be spending up to 200 million USD per day on the war, three days of Saudi war efforts would cover the projected health budget from the Government of Yemen in 2018.

Cover Photo: IRC mobile health team staff treat a severely malnourished child in Lahj, Yemen. Kellie Ryan/IRC

EXECUTIVE SUMMARY

The right to critical life-saving health services of 9.8 million Yemenis caught in the intractable civil war that is in its fourth year has not received adequate policy and media attention leading to dire humanitarian crisis especially for mothers and children. While more people have died and continue to suffer starvation and from preventable diseases because of deprivation of basic goods and services than from the actual conduct of war, human rights and humanitarian law violations not directly linked to the conduct of war attracts less attention than those stemming from air strikes and other military action.

The Saudi-led coalition's (SLC) de facto blockade of the Red Sea ports since Nov. 6, 2017 has led to significant shortages of basic medical supplies for communicable and non-communicable diseases in state-run primary care and emergency medical facilities. The war has further destroyed much of the public water distribution infrastructure, and what remains is in disrepair due to the state's inability to meet the repair and maintenance cost. Because of the blockade, the cost of water provision has increased significantly due to the rising cost of petroleum needed to pump or deliver water. Parties to the conflict have also depleted the country's currency reserves. The SLC has not shored up Yemen's basic public systems even in the south where it has nominal control despite commitments to support the Government of Yemen.

The Central Bank of Yemen (CBY) has been unable to pay salaries of civil servants who provide life-saving services in health facilities and centers because the civil war has destroyed Yemen's economic mainstay. Staff shortages extend to administrators and managers who are required to oversee and coordinate service delivery, thus undermining regional and national health responses. Across most health interventions, humanitarian organizations are forced to use cash incentives to attract and retain public-sector health workers.

As a result, at least 9.8 million people across Yemen are acutely in need of health services, but only 50 percent of health facilities are operational. The situation is worse in conflict-affected governorates such as Hodeidah, Taizz, Ibb, Hajjah, Amanat al Asimah, and Sa'ada. This has given rise to the largest cholera outbreaks in history, with more than 1 million suspected cases and over 2,000 associated deaths as of January 2018.

Yemen's maternal mortality remains among the highest in the world. According to the latest reliable data, it is 385 deaths per 100,000 live births; Every 10 minutes a child under the age of 5 dies from preventable causes. While, there are no credible public sources on the number of maternal and child deaths attributable to the effects of the conflict (excess mortality), there is however overwhelming evidence that children and women have borne the brunt of the lack of health services.

In 2017, health, water and sanitation sector accounted for 16.9 percent (USD 1.715 billion) of total humanitarian aid to Yemen. The World Bank has invested a further USD 1.3 billion to bridge the gap between immediate humanitarian and longer-term development needs. Donor engagement is required to address longer-term development needs. Humanitarians alone cannot fill this gap. Scaling up support for international development along the lines of the World Bank is a major opportunity. Absent of robust International Humanitarian Laws, these investments will go to waste.

At the national level, parties to the conflict must be encouraged to agree to a cessation of hostilities which must include safeguards for health, water and sanitation facilities. In their ongoing inquiry, U.N.'s Eminent Experts on Yemen (appointed by the Human Rights Council in December 2017) should include the targeting of civilian objects including, health, and water and sanitation facilities, with the goal of remedy for victims. At the international level, a new U.N. Security Council resolution is required to enforce IHL by removing humanitarian access impediments and to direct the peace process.

The international community should establish collective humanitarian and development outcomes on the basis of obligations under international human rights law. The Government of Yemen should make public the details of the recently announced national budget (USD 3 billion), with adequate appropriations for public health services, particularly for planned expenditure on salaries for health workers and maintenance of health and water sanitation and facilities. As a part of the internationally led peace process, the Government of Yemen and Ansar Allah authorities should urgently agree to establish a comprehensive national health response plan in partnership with humanitarian and development actors and donors based on humanitarian principles of impartiality and aimed at providing lifesaving services in all governorates.

International donors and development partners should reaffirm their commitment to the "New Ways of Working" as agreed upon at the 2016 World Humanitarian Summit when they meet in April 2018. Such a commitment calls for investment of resources beyond the Humanitarian Response Plan and would require the establishment of "collective outcomes" involving both humanitarian and development actors. The World Bank's "humanitarian plus" model may be replicated to ensure longer-term development of water, health and sanitation infrastructure, including reconstruction and expansion of public health services, even as emergency needs are addressed.

IRC in Yemen

The IRC's mission is to help people whose lives and livelihoods are shattered by conflict and disaster to survive, recover and gain control of their future. We first began assisting people in Yemen in 2012, providing clean water and emergency aid to villages in the south of the country. Today we work across the 29 districts across 7 governorates with programs in health, nutrition, economic recovery and women's protection and empowerment. Between 2015 and 2017, IRC provided 96,142 children and mothers with nutrition services and treated 1,398,668 patients.



A young girl is treated for cholera by hospital and IRC staff at Radfan hospital in Lahj, Yemen. Kellie Ryan/IRC

CONTEXT

An intractable civil war

Yemen's civil war is entering its fourth year with no sign of abating. Even before this conflict began, the country was one of the least developed in the world, partly due to weak governance, corruption, political instability and armed conflict, all of which have intensified since the war began.¹ Most of the population was unable to realize basic needs, with 15.9 million people requiring some form of humanitarian assistance in 2015.² That number has increased to 22.2 million, with 11.3 million in acute need.³ The civil war has taken a heavy toll on almost the entire population, affecting 21 of the country's 22 governorates.⁴

The central conflict in Yemen pits forces loyal to the internationally recognized government of Abdrabbuh Mansour Hadi against forces allied with Ansar Allah and former President Saleh. The pro-government forces, comprising a Saudi-led coalition of nine Arab countries (SLC) and supported by the U.S. and U.K., control Yemen's south; the Ansar Allah/Saleh alliance controls the north.⁵ In 2015, pro-government forces and tribesmen with support from Saudi Arabia and United Arab Emirates (UAE) prevented a complete Ansar Allah/Saleh takeover of the country by repelling Ansar Allah forces in a four-month battle that pushed Ansar Allah forces out of eight governorates in the south. Since then, however, the main military frontlines have remained largely static despite sustained aerial bombardment of Ansar Allah-controlled territory by the SLC.

The civil war has metastasized into a complex amalgam of local battles and power struggles. Parties to the conflict have fragmented, including the Hadi government and the SLC.⁶ In the south, the Government of Yemen is now under increasing pressure from a southern separatist movement, the Southern Transitional Council (STC), which is backed militarily and financially by the UAE.⁷ As a result of fighting in Aden in February 2018, the STC flag flies at all check points in southern Yemen, indicating the STC is at least partly in control. This complicated the narrative of a simple struggle between Hadi and Ansar Allah forces.

Yemen is also significant in the long-standing geopolitical rivalry between Iran and Saudi Arabia. In 2017, these tensions spiked with Saudi Arabia accusing Iran of supporting Ansar Allah in its ballistic-missile attack upon its territory, a claim that Iran has denied. Saudi Arabia has responded with increased bombardment of Ansar Allah positions and a tightening of their *de facto* blockade of Ansar Allah-controlled areas of Yemen, including the critical Red Sea ports of Hodeidah and Saleef.

Al-Qaeda of the Arabian Peninsula (AQAP) and extremist movements such as the Islamic State (ISIS) have taken advantage of the conflict-fueled chaos in Yemen, further complicating the security situation. The U.S. has conducted at least 297 drone strikes on reported terrorist sites in Yemen since 2009.⁸ The U.S. and its partners have increased the pace and intensity of their counterterror campaign, with the U.S. more than tripling the number of air strikes to 120 in 2017.⁹

Despite the civil war, Yemen remains a conduit for refugees and migrants escaping protracted violence and economic instability in the Horn of Africa. The country is also strategically important to oil-producing neighbors Saudi Arabia, Oman and the UAE, who seek regional stability to sustain exports and control of strategic shipping lanes.

1 United Nations Development Programme. Human Development Index (2014)

2 United Nations Office for the Coordination of Humanitarian Affairs. Yemen Humanitarian Response Plan. 2017. https://reliefweb.int/sites/reliefweb.int/files/resources/YEMEN%202017%20HNO_Final.pdf

3 United Nations Office for the Coordination of Humanitarian Affairs. *Humanitarian needs overview 2018*. https://reliefweb.int/sites/reliefweb.int/files/resources/yemen_humanitarian_needs_overview_hno_2018_20171204_0.pdf

4 World Food Program. *Yemen Food Security Situation Update*. (2015).

5 President Saleh was killed on December 4, 2017.

6 Salisbury, Peter. "Yemen National Chaos, Local Order" Chatham House Middle East and North Africa Programme, December 2017.

7 Middle East Policy Council <http://www.mepec.org/journal/southern-transitional-council-implications-yemens-peace-process>

8 The Bureau of Investigative Journalism. https://docs.google.com/spreadsheets/d/1lb1hEYJ_oml8lSe33izwS2a2lbygsOhTp2Al_Kz5KQ/edit#gid=323032473

9 Middle East Eye, U.S. tripled number of air strikes on Yemen in 2017 <http://www.middleeasteye.net/news/us-tripled-number-air-strikes-yemen-2017-809615374>



Abdul Ghafar plays with his son, Abudullah, outside their home in Lahj, Yemen. IRC mobile health team staff treated three-year-old Abdullah for cholera and malnutrition. Kellie Ryan/IRC

Scarcity of lifesaving health services

The civil war in Yemen has become notorious for rampant attacks against civilians and civilian infrastructure, provoking international calls for accountability. These demands resulted in the appointment of Eminent Experts on Yemen by the Human Rights Council in December 2017 to investigate what may amount to war crimes and crimes against humanity.¹⁰ The experts are tasked with investigating IHL violations and abuses of human rights in Yemen, including the widespread recruitment and use of child soldiers; arbitrary arrests and detention; and denial of humanitarian access and attacks on civilians and civilian objects such as medical facilities, water treatment facilities and schools.¹¹ The atrocities under investigation account for 8,673 deaths, 49,963 injuries, and the forcible displacement of nearly two million. More than 10 percent of the population has been displaced in the last 30 months.¹²

Human rights violations not directly linked to the conduct of hostilities have not received adequate attention, yet more people have died from the deprivation of basic goods and services than from fighting. Acute deprivation is responsible for high rates of malnutrition, disease epidemics and preventable death and suffering. In 2017, international advocacy focused on ending the SLC's de facto blockade and lifting bureaucratic impediments. While these efforts are important to improve humanitarian conditions, they are not sufficient. Similar efforts are required to promote the restoration of lifesaving public services.¹³

Lack of funds for public services

The disruptions caused by civil war has devastated Yemen's economy. Before the start of the conflict, the economy drew 70 percent of its GDP from oil exports, but fighting has destroyed key oil infrastructure, decreased investor confidence and suppressed oil production, leading to the near halt of oil exports.¹⁴ Amidst the governance vacuum, the country continues to experience substantial economic shocks and disruptions, with export revenue declining by at least 53.7 percent and domestic revenue by 19 percent as of 2015.¹⁵ The country's GDP has contracted 40 percent as of 2017.¹⁶ These conditions have severely eroded the capacity of the government to meet its financial obligations.

Lack of funds at the CBY has had a direct impact on civil servants whose salaries account for a significant portion (37 percent) of the government's recurrent expenditure.¹⁷ Historically, the civil service has suffered from poor governance, low capacity and weak coordination, and was bloated by patronage networks under successive governments.¹⁸ Nevertheless, it has remained the cornerstone of basic services, particularly in health, water and sanitation, as well as an economic driver as the income source for 1.2 million civil servants and their approximately 7 million dependents.¹⁹

The current crisis at the CBY can be traced back to 2014, just before the start of the war, when anti-government protesters overran key government institutions in Sana'a, including the CBY. One of the immediate effects was tampering with the public service payroll. The Government of Yemen has claimed the payroll was inflated to accommodate salaries for Ansar Allah and Saleh forces.²⁰ It is currently estimated that there are 450,000 soldiers

10 United Nations Office of the High Commissioner for Human Rights <http://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=22483>

11 UNOHCHR *Yemen: Zeid appoints group of eminent international and regional experts* <http://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=22483>

12 UNOCHA *Humanitarian Needs Overview 2018* https://reliefweb.int/sites/reliefweb.int/files/resources/yemen_humanitarian_needs_overview_hno_2018_20171204_0.pdf

13 UNOCHA. *Humanitarian Needs Overview 2018*

14 Al-Muslimi, Farea and Mansour Rageh. *Yemen's economic collapse* (October 2015) and <https://tradingeconomics.com/yemen/crude-oil-production>

15 HUMANITARIAN FORESIGHT THINK TANK *Yemen Six Month Economic Analysis / January 2017* <http://www.iris-france.org/wp-content/uploads/2017/04/IARAN-YEMEN-6-month-analysis-REPORT-1.pdf>

16 World Bank, *Yemen's Economic Outlook April 2017*, <http://www.worldbank.org/en/country/yemen/publication/economic-outlook-april-2017>

17 Al-Absi, Ministry of Healthamed (January 2014), Detailed study on the 'catastrophe' of the general state budget for the year 2014, Ministry of Healthamed al-Absi blog

18 HUMANITARIAN FORESIGHT THINK TANK *Yemen Six Month Economic Analysis / January 2017* <http://www.iris-france.org/wp-content/uploads/2017/04/IARAN-YEMEN-6-month-analysis-REPORT-1.pdf>

19 Government of Yemen. *Situation Report: Yemen's Public Salary Disbursement Efforts* <http://www.yemenembassy.org/wp-content/uploads/2017/03/salaries-Paper-1.pdf>

20 The National *Yemen's central bank becomes the latest front line in the civil war* <https://www.thenational.ae/world/yemen-s-central-bank-becomes-latest-front-line-in-civil-war-1.208640>

on both sides of the conflict that are on the payroll at the cost of USD 100 million monthly; many are assumed to be "ghost workers" added by military commanders after 2014.²¹

After failed attempts to regain full control of the CBY, the Government of Yemen moved it from Sana'a to Aden in September 2016. In March 2017, the government appealed to the international community for a foreign exchange grant to enable it to pay public service salaries. The government also appealed for Ansar Allah and Saleh forces to give up control of its central bank in Sana'a, and for the international community to provide technical assistance to CBY and the Ministry of Finance.

In January 2018, the Government of Yemen announced its first budget in four years in anticipation of USD 2 billion promised by Saudi Arabia to the CBY. The national budget reportedly set aside 20 percent of the 3 billion USD budget for the Ministry of Health.²² At the time of writing this report, there was no indication that the Government of Yemen had received the funds from Saudi Arabia²³, nor had produced a budget detailing what funds would be invested in public services. In March 2018, it was announced that the CBY would move to Jordan.²⁴ Soon afterward the UAE appeared to block 170 million Yemeni riyals being brought into Aden to pay civil servants for nearly a week due to political concerns with the Government of Yemen and SLC.²⁵

Failure to provide basic medical supplies

Yemen relies on imports for 85 percent of its medical supplies,²⁶ and the de facto blockade enforced by the SLC has worsened this shortage. State-run primary care and emergency medical facilities report a significant shortage of basic medical supplies for communicable and non-communicable diseases. Humanitarian organizations continue to play a critical role in stocking essential supplies at some public facilities. For the past three years, the International Rescue Committee (IRC) has implemented a large-scale multisector procurement program; however, at least 60 percent of all procurement consists of drugs and medical supplies, illustrating the degree to which humanitarian partners such as IRC are subsidizing state-run services. Unsurprisingly, humanitarian organizations are experiencing significant challenges in procuring and importing these critical supplies with the ongoing de facto blockade.

Hodeidah, the preferred port for the importation of medical supplies, had been targeted by the SLC even before the de facto blockade. The coalition uses the Evacuation and Humanitarian Operations Committee (EHOC) as a shadow inspection regime, redundantly providing clearance and significantly slowing the entry of goods in addition to the U.N.-mandated UNVIM-inspection mechanism for Red Sea ports (Saleef as well as Hodiedah). Hodeidah has the necessary physical infrastructure and long-established ground handling capacity for large consignments. The de facto blockade has forced importers, including the IRC, to use the port of Aden, which lacks adequate capacity and is in a state of disrepair. Before the start of the conflict, there were 15 container vehicles at the port of Aden, which are used to offload sea vessels; today, there is only one. Other equipment, such as X-ray machines required for port screening, are few and unreliable. Additionally, there is an acute shortage of warehouses for drugs and medical equipment in Aden, driving up the cost for humanitarian organizations and forcing some to improvise by using tents to store supplies and goods.

The de facto blockade has also increased the risks and costs associated with shipping medical supplies to Yemen. After the announcement of the de facto blockade by the SLC on Nov. 5, 2017, international medical-supply companies ceased making direct deliveries to Yemen. Consequently, humanitarian organizations have been forced to make complicated logistical arrangements that involve transshipping cargo through Djibouti, where the cargo is repackaged in smaller consignments and delivered to Aden or Hodeidah using dhows, which are not subject to UNVIM inspection.

21 Embassy of the Republic of Yemen in Washington, D.C. <http://www.yemenembassy.org/wp-content/uploads/2017/03/salaries-Paper-1.pdf>

22 IRC Interview conducted in February 2018

23 Several new organizations reported on the signing of an agreement between Saudi Arabia and the CBY on 15 March 2018. However, the actual transfer of funds had not yet taken place as of the writing of this report.

24 <https://aawsat.com/english/home/article/1192716/yemens-central-bank-denies-postponement-saudi-deposit>

25 Ahmed Al-Haj, "Yemen officials say UAE barring ships with government cash". The Washington Post. https://www.washingtonpost.com/world/middle-east/yemen-officials-say-uae-barring-ships-with-government-cash/2018/03/07/5ca3977a-21ec-11e8-946c-9420060cb7bd_story.html?utm_term=.81c57a519a60

26 All Party Parliamentary Group for Yemen. *Civil war in Yemen: The Forgotten Crisis*. (2015).

Between November and December 2017, when the de facto blockade intensified, it took up to 30 days to obtain custom clearance for a cargo container, a process that normally took two weeks. At the same time, the logistics costs of a container of medical supplies increased from USD 5,000 to USD 19,000. A vessel containing 1,300 metric tons of health supplies, including 2,500 pallets of nutrition supplements, was denied access to Hodeidah and rerouted to Aden. In addition to time lost in sea transit, further significant delays were added by the complex logistical arrangements for the supplies to be transported overland to intended destinations in the north.

A further constraint to the availability of medical supplies is the emergence of the informal economy in the ports of Yemen. To overcome delays, port users have to rely on “fixers” to navigate the bureaucracy and obtain preferential treatment. These “fixers” present a significant challenge to importers of humanitarian goods because their added and extralegal charges are inconsistent with the values of most humanitarian agencies and unacceptable to donors. Before the start of the civil war, medical supplies imported by NGOs and U.N. agencies passed through ports without restrictions; today, similar goods attract both formal and informal charges. These costs are three times more in Aden than other ports. For example, a 40-foot container costs between USD 2,000-4,000 to clear in Aden but only USD 1,000 in Mukhalla, a port in the southeast of the country.

Importation by air is not a viable alternative. The SLC maintains tight control of Yemeni airspace with rigid guidelines on operational windows guaranteeing the safety of aircraft. Conditions are unpredictable and therefore unfavorable for commercial flights. In any case, the SLC closed Sana’a airport to all commercial flights in August 2016. The only viable option is humanitarian aircraft, which are subject to clearance from the SLC. Such clearance is granted arbitrarily and often revoked on short notice. Restrictions on Yemeni airspace, particularly the closure of Sana’a airport is responsible for more than 10,000 preventable deaths from conditions for which medical treatment may have been obtained from abroad.²⁷

Failure to pay salaries to health workers

“The NGOs bring us medicine, equipment and support regularly, but it is not enough. It is only the government, based in the communities all the time, that can make sure people get the care that they need.”²⁸ —nurse in government-controlled Yemen

The financial crisis has led to the inability of the Government of Yemen to retain health workers or provide basic administration and coordination in the health sector. Most health workers in the public sector are unable or unwilling to offer services because their salaries have not been paid for months, while a significant number volunteer their services at the expense of their own subsistence needs. The staff shortages extend to administrators and managers and who are required to oversee and coordinate effective service delivery, a factor that undermines regional and national health responses.

“The salary for a doctor is capped at USD 150 per month or about 75,000 riyals, while nurses are paid about USD 70-100.²⁹ In Aden at least 25 percent of a doctor’s salary would be used just for transport to and from work, leaving about 112 USD for all other expenses like food, rent and electricity.³⁰ Such low pay and ever-increasing cost of living make people abandon government positions and move to NGOs, private hospitals or other work. This is made worse by the fact that when doctors and nurses go to work in public hospitals they lack the resources to provide basic care.” —Ministry of Health official in Aden.

The conflict has physically divided the country between areas controlled by Ansar Allah and the SLC-backed Hadi government, which in turn has led to disparities in the distribution of human resources across the board, but particularly in the health sector. Before the conflict, a disproportional number of qualified medical staff originated from the north. As the conflict intensified, many of those practitioners fled the country and have not been replaced, in part due to low remuneration and insufficient supplies and equipment. As a consequence, health services across the country are severely understaffed; salaries are not being paid to workers in the north.

²⁷ Norwegian Refugee Council Yemen airport closure killed more people than airstrikes <https://www.nrc.no/news/2017/august/yemen-airport-closure-killed-more-people-than-airstrikes/>

²⁸ IRC interview conducted in March 2018.

²⁹ Exchange rate at the time of writing was 500 riyals to 1 USD, but the rate changes on a nearly daily basis.

³⁰ According to IRC staff, the cost for their round trips within Aden from home to the IRC office is about 900 riyals per day.



A neglected wing of Al Saddaqa hospital in Aden, Yemen. Sterling Roop/IRC

In order to bridge the gap in human resources, donors and humanitarian agencies have adopted a partnership model to fund organizations that are rehabilitating public health facilities. Humanitarian organizations have also adopted the use of mobile health clinics in order to reach remote communities where public services have been damaged or destroyed. Humanitarian organizations are also using cash incentives to attract and retain public health workers, most of whom are current or former government employees. Alternative arrangements involve direct partnership with local governments and de facto authorities at the governorate level. While the national government maintains that such approaches undermine its capacity, it has not provided viable alternatives.

"We work with the governorates because they are more capable and organized than Ministry of Health in Aden. We have basically given up on the central government for anything beyond our basic salaries. We never get support from the government to rehabilitate or furnish clinics, nor do we get essential drugs or equipment. That is why we prefer to work with international organizations. Many wait for Wednesday (for the IRC mobile clinic) because there is no support from the government." —health center manager in a government-controlled governorate ³¹

Weak state capacity severely affects disease control measures, particularly vaccination programs against polio, diphtheria and measles. While vaccines, equipment, and funds are directly supplied by humanitarian agencies to authorities in the governorates (legitimate and de facto depending on location), some of the program administrative resources are diverted to meet other competing health needs; as a result, some vaccination initiatives have failed to reach their targets, contributing to disease outbreaks.

"After conducting an assessment in one district, in Lahj governorate, we discovered that vaccination coverage was just 10%, yet the authorities had reported to us that vaccines had been administered to 30% more children than actually lived in the district. In another district we have had 250 cases of measles between January and March 2018, of which three were fatal and four cases of diphtheria of which two were fatal. We do not think that the gap in vaccination coverage was because of corruption or diversion of funds to individuals, but rather to cover the basic needs of the governorate health office and provide broader services." ³² —IRC health coordinator in Aden

Fuel scarcity and water supply

Owing to the natural scarcity of water in Yemen, one of the most water-stressed countries in the world, provision is largely dependent on diesel pumps and piped supply. Much of the public water distribution infrastructure has been destroyed by the war or has fallen into disrepair. As such, the cost of water provision has increased significantly in response to the cost of petroleum.

In Yemen, as in many parts of the world, women are responsible for water collection from wells, springs or other water points. The civil war has amplified this burden; the impact on women and girls is devastating, as they are forced to travel further with heavier loads.

"I have had two miscarriages because of carrying heavy amounts of water for long distances just because the well in our community is dry." —a woman in Okiba, Lahj. ³³

"The World Bank funded the water well in our community, but it does not work anymore. The problem is that it is 21 meters deep but that the water is now much further down and it needs to be 70 meters deep. Even if we were to make it deeper, we cannot afford the fuel to pump the water... We are ready to sell our goats, sheep and whatever just to get reliable water." ³⁴ —community leader in Okiba, Lahj.

With the increasing scarcity of water, a significant proportion of the population now depends on water tankers. The trucking of water to communities accounts for a significant portion of humanitarian budgets. Prior to the conflict, humanitarian organizations only needed to support the poorest communities with water trucking; now, almost the entire population of Yemen is in need, and the costs are rising. Before the de facto blockade a budget of USD 50,000 would cover the cost of trucking water to a community for 90 days; the same amount can now covers only 20 days.

³¹ IRC interview conducted in March 2018.
³² IRC interview conducted in March 2018.
³³ IRC interview conducted in March 2018.
³⁴ IRC interview conducted in March 2018.

Petroleum is a major farming expense as most agriculture requires fuel-pumped irrigation. The scarcity of fuel, due to both the ongoing SLC de facto blockade and hoarding of supplies by profiteers, has doubled the household expenditure on water.

"Our community has remained united, but even so, we are feeling the impact of the war and of the lack of government services and support. Our well, which serves three villages, was drilled in 1989 by the then-government of South Yemen. By 2012, drought and increased population had reduced the level of the well and it required deepening. We deepened it with the support of humanitarian organizations because the government could not. Our deepened and improved well requires diesel fuel to pump the water, so we had to increase our contributions from 1,000 riyals per month to 2,000 riyals today." ³⁵ —community leader in Abyan.

Despite the critical role of petroleum, it remains a key target of the SLC de facto blockade, ostensibly due to its potential for "dual use"—for military as well as peaceful activity. The SLC has restricted fuel imports into Yemen through the main port of Hodeidah for this reason. ³⁶

"Not having access to clean water means nearly 400 households are exposed to diseases like cholera, and as we told you there are no workers at our clinics, only volunteers. This community struggles with both access to water and health. It demonstrates the lack of the basic services by the government, as well as how connected health is to water and sanitation" ³⁷ —community leader in Al-Qaida Rusia, Aden

³⁵ IRC interview conducted in March 2018.
³⁶ World Food Program Logistics Cluster Yemen Snapshot, January 2017
³⁷ IRC interview conducted in February 2018.



Samira and her son stand in front of their temporary home in Ras Imran, Yemen. Samira and her son fled their home in Taizz due to fighting and air strikes. Kellie Ryan/IRC

IMPACT ON THE PUBLIC HEALTH SERVICES

At least 9.8 million people across Yemen are acutely in need of health services, but only 50 percent of health facilities are operational.³⁸ Even before the civil war, the public health system was significantly strained, with only three doctors per 10,000 people and 0.7 hospital beds per 1,000 people in 2010.³⁹ WHO recommends a minimum of 23 doctors, nurses and midwives per 10,000 population to deliver essential maternal and child health services. The civil war has left an estimated 16.37 million people without access to basic health care, including 12.3 million who live in 125 districts severely affected by the crisis. More than 1,900 out of 3,507 health facilities in 16 governorates are either offline or only partially functional.⁴⁰ The dire situation of health service delivery is worse in the war-affected governorates, including Taizz, Sa'ada and Al Dhale'e (where 30 percent of health facilities are operational), and Marib, Al Jawaf and Al Bayda (where only 20 percent are operational). With the majority of the population living in poor rural areas, a significant proportion of the population is cut off from health services, rendering it even more vulnerable.

Impact on maternal and child health

There are no credible public sources on the number of maternal and child deaths attributable to the effects of the conflict (excess mortality), but there is overwhelming evidence that children and women have borne the brunt. Yemen is a patriarchal society, in which women and girls continue to face significant barriers to education, employment, reproductive health, politics and mobility, all of which have been exacerbated by the civil war.

The maternal mortality in Yemen remains among the highest in the world, the latest reliable data indicating 385 deaths per 100,000 live births in 2015.⁴¹ The situation was already worsening as the civil war began, having increased from 270 deaths per 100,000 live births in 2013.⁴² The number of births attended by skilled health staff comprised 47 percent of the total in 2017.⁴³ It is estimated that more than 520,000 pregnant women have no access to reproductive health services (with only 50 percent of health facilities, 35 percent of maternal and newborn health services, and 42 percent of child health and nutrition services fully functional)⁴⁴.⁴⁵ Additionally, an estimated 3 million children and pregnant or lactating women require treatment or preventive services for acute malnutrition.⁴⁶

"The state doesn't provide any medicine for women's health or obstetric and gynecological services. Gulf countries donate to hospitals, but it isn't what is needed by women except maybe the intravenous fluids.... We are being given bandages meant for war injuries, not what we need to provide basic care to women and kids here."⁴⁷ — hospital manager in Aden

Every 10 minutes, a child under age 5 dies in Yemen from preventable causes.⁴⁸ Child malnutrition rates are some of the highest in the world; with an estimated 45 percent of deaths among children under 5 attributable to malnutrition. Children under 5 die at a rate of 42 per 1,000 births, while the neonatal mortality rate (death within 28 days of birth) was 24 out of 1,000 births in 2015.⁴⁹ The situation is worse in rural areas, where the under-5 mortality rate is 52 per 1,000 births and the neonatal rate is 26 per 1,000.⁵⁰ Contributing factors to neonatal death include maternal malnutrition before and during pregnancy, lack of antenatal care, unsafe birthing practices (including birth at home without a skilled attendant), and poor breastfeeding uptake.

38 Ibid.

39 All Party Parliamentary Group for Yemen. *Civil War in Yemen: The Forgotten Crisis*. (2015).

40 World Health Organization (WHO) <http://www.emro.who.int/yem/yemen-news/health-services-decline-as-conflict-in-yemen-continues.html>

41 The World Bank. *Data Indicators: Yemen*. (2015).

42 National Health and Demographic Survey. *Preliminary Report: Yemen*. (2013).

43 UNICEF <https://data.unicef.org/country/yem/>

44 WHO HeRAMS (Health Services and Resources Availability Mapping System) report of Oct 2016,

45 UN Office for the Coordination of Humanitarian Affairs. *Yemen Humanitarian Response Plan*. (2016).

46 Ibid.

47 IRC interview conducted in March 2018.

48 U.N. Office for the Coordination of Humanitarian Affairs. *Yemen Humanitarian Needs Overview*. (2018).

49 The World Bank. *Data Indicators: Yemen*. (2015).

50 The World Bank. *Data Indicators: Yemen*. (2015).



A man is examined by an IRC mobile health team staff member in Lahj, Yemen, where IRC comes once a week to deliver integrated health and nutrition services to remote populations living in the mountains of Yemen. Kellie Ryan/IRC

Overall, about 2.9 million children and pregnant or lactating women are acutely malnourished. More than 400,000 children are suffering from Severe Acute Malnutrition (SAM), a nearly 200 percent increase since 2014. In addition, 1.7 million children and 1.1 million pregnant or lactating women are suffering from Moderate Acute Malnutrition (MAM), while Global Acute Malnutrition (GAM) rates are as high as 31 percent—more than twice the emergency threshold. One in three districts countrywide face a heightened risk of famine. The most pressing needs are concentrated in the conflict-affected regions of Al Hodeidah, Hajjah, Amanat al Asimah, Sa'ada, Taizz, Ibb, Dhamar, Hadramaut, Lahj and Aden. Four governorates—Taizz, Abyan, Al Hodeidah and Hadramaut—have GAM rates above 15 percent, the global emergency threshold. Additional communicable diseases threatening child health include dengue fever and malaria, with 8,000 cases of dengue fever reported by UNICEF in 2015 (likely to be an underestimation because monitoring and surveillance has been impeded by lack of resources and conflict).⁵¹

Impact on control of communicable diseases

Approximately 11.6 million people across 222 districts in Yemen require urgent assistance to ensure access to safe drinking water and sanitation.⁵² These conditions have given rise to the largest outbreak of cholera in history, with more than 1 million suspected cases and more than 2,252 associated deaths since April 2017.⁵³ The outbreak has affected 21 of the country's 22 governorates, and 305 of 333 districts.⁵⁴ In May 2017, a state of emergency was declared in parts of the country, indicating that the health system is unable to contain this unprecedented health and environmental disaster, with the highest cumulative suspected cases reported in Al Hodeidah, Amanat Al Asimah, Hajjah and Amran, which accounts for 41 percent of all suspected cholera cases.⁵⁵

Fresh water is a historical problem in Yemen, which has little surface water and rapidly depleting groundwater reserves. Even in the big cities like Sana'a, sewerage facilities are only partially operational, while solid waste collection largely has stopped. It is estimated that these conditions are placing between 1.8 million and 2.5 million children at risk of diarrhea and between 800,000 and 1.3 million children at risk of acute respiratory infection.⁵⁶ Open defecation is the only option for more than 20 percent of the population and appears to be higher for young children, and hygiene standards including proper hand washing remain weak.⁵⁷ The creation of millions of internally displaced persons (IDPs) throughout the country has caused further strain on WASH resources due to increased need at household levels and lack of sanitation in temporary shelters.

A recent outbreak of diphtheria has infected at least 1,377 people, and cause the death of 76 children and young adults by March 18, 2018. The most affected governorates are Ibb (447) and Al Hodeidah (158) where children under the age of 5 years comprise 20 percent cases and 41 percent of deaths.⁵⁸ The current outbreak is peculiar for its high level of mortality, which has been attributed to conditions caused by the war.⁵⁹ Effective response to diphtheria is highly dependent on public health facilities from where to conduct strategic fixed vaccination centers. In addition, laboratories, Diphtheria Isolation Units (DIU) and Intensive Care Units (ICU) are required for treatment of moderate and severe cases, respectively. Diphtheria Anti Toxin (DAT), which is key to saving lives of severe cases, has to be administered by experienced health professionals in designated units within health facilities.

⁵¹ Ibid.

⁵² UN Office for the Coordination of Humanitarian Affairs. *Yemen Humanitarian Needs Overview*. (2018).

⁵³ Yemen: Cholera Response Weekly Epidemiological Bulletin: W4 2018. https://reliefweb.int/sites/reliefweb.int/files/resources/Yemen_Cholera_Response_-_Weekly_Epidemiological_Bulletin_-_W4_2018_Jan_22-28.pdf

⁵⁴ OCHA *Yemen Humanitarian Needs overview* 2018

⁵⁵ Ibid.

⁵⁶ Ibid.

⁵⁷ WHO. "Yemen." (2014)

⁵⁸ Yemen: Daily Diphtheria bulletin, March 18, 2018

⁵⁹ MEDECINS SANS FRONTIERES *Yemen: Diphtheria Spreads as War and Blockade Leave Health System in Tatters* <https://www.doctorswithoutborders.org/article/yemen-diphtheria-spreads-war-and-blockade-leave-health-system-tatters>



An eight-year-old girl is treated for cholera at IRC-supported Al Saddaqa Hospital in Aden, Yemen. Kellie Ryan/IRC

INTERNATIONAL RESPONSE

Yemen Humanitarian Response Plan

The start of the civil war triggered an increase in international aid for lifesaving assistance, primarily through the Yemen Humanitarian Response Plan (HRP). At the same time, funding for longer-term development projects reduced significantly. In 2017, international donors provided USD 1.715 billion, which was 73 percent of the HRP appeal for lifesaving support. The main contributors to the humanitarian appeal included the U.S. (28 percent), Saudi Arabia (12.9 percent), the U.K. (10.9 percent), UAE (8.6 percent) and Germany (8.6 percent). Health, water and sanitation accounted for 16.9 percent of total expenditure.⁶⁰

Humanitarian aid in the health sector continues to assume that there will be basic levels of public service.⁶¹ Moreover, humanitarian funding remains inadequate to longer-term health system needs—it largely concentrates on lifesaving response. However, a recent positive development is that donors and humanitarian organizations have widened the scope of operations to include “humanitarian plus” activities, or activities that enhance systemic support to public health facilities to ensure minimum functionality.

World Bank IDA, “Humanitarian Plus”

At the onset of civil war, the World Bank suspended all disbursements under International Development Association (IDA) financed projects and Recipient-Executed Trust Funds (RETFs) on the basis that it could not adequately supervise these operations and that the Government of Yemen could not meet its obligations in the context of civil war. However, in December 2015, amidst a worsening health crisis and the collapse of public service delivery, the World Bank lifted the suspension to allow UNICEF and WHO to procure and distribute essential drugs and medical supplies and conduct related activities. Through this initiative, more than USD 1.3 billion has been invested in multiyear humanitarian plus projects in Yemen. These funds have been funneled through the World Bank IDA, intended to bridge the gap between immediate humanitarian needs and longer-term development needs.

Resources from the World Bank are helping to maintain the capacity of the existing health system through the delivery of integrated health, water and sanitation services in highly affected areas and to address the cholera crisis, but the scale is relatively small. The funds have facilitated development solutions such as institutional strengthening to address systemic failures. In addition to expanding lifesaving health services, more than 3,000 health workers have been trained on critical health topics and interventions and 400 Disease Early Warning Systems have been established across the country.

The Government of Yemen has criticized the World Bank’s approach of channeling funds through U.N. agencies on grounds that it undermines the capacity of the state, while World Bank officials have argued that Government of Yemen does not have the capacity to undertake the projects, and that the overriding interest is saving lives and alleviating suffering through direct support for service provision.

Yemen Comprehensive Humanitarian Operations (YCHO)

In 2018, the SLC introduced the Yemen Comprehensive Humanitarian Operations (YCHO) with the stated objective of improving the Yemeni humanitarian situation by addressing immediate aid shortfalls while simultaneously building capacity for long-term improvement of humanitarian aid and the import of commercial goods to Yemen. Part of YCHO plan is to enhance the flow and delivery of humanitarian aid and commercial supplies, including fuel and medical supplies. The plan aims to increase imports in Yemen to 1.4 million metric tons per month (up from 1.1 million metric tons per month), while enhancing capabilities in Yemen to import 500,000 metric tons of fuel derivatives per month. YCHO undertakes to contribute USD 1.5 billion in new humanitarian funding, with money going to U.N. agencies to be spent on priorities determined by stakeholders, and to deposit USD 2 billion directly in the Yemeni Central Bank to promote economic stabilization.⁶²

“There is big propaganda on Gulf drugs, but on the ground they don’t exist.”⁶³ —hospital administrator in Aden.

YCHO, despite the “comprehensive” moniker, is short on detail and appears to create a parallel intervention to existing humanitarian and development aid efforts. The plan is also heavily skewed towards development of ports and logistics infrastructure in government-controlled areas. Although YCHO pledges funds to the Humanitarian Response Plan 2018 and promises “economic stabilization,” it ignores the salient challenge of the de facto blockade. Furthermore, YCHO fails to directly address the restoration of basic public services.

“All of this is only words; on the ground there is nothing.”⁶⁴ Ministry of Health official, Aden

⁶³ IRC interview conducted in February 2018.
⁶⁴ IRC interview conducted in February 2018.



A woman displaced by fighting speaks to IRC staff at an IRC-supported health clinic Abyan, Yemen. Kellie Ryan/IRC

⁶⁰ UNOCHA Financial Tracking System <https://fts.unocha.org/countries/248/summary/2017>

⁶¹ UNOCHA HRP 2018

⁶² Yemen Comprehensive Humanitarian Operations <https://yemenplan.org/>

RECOMMENDATIONS

"They are responsible for everything! They have started a war but now can't stop it."⁶⁵ –An internally displaced woman from Hodeidah in Abyan.

The Government of Yemen and Ansar Allah should agree to a cessation of hostilities and implement measures to restore lifesaving public services on the basis of IHL.

At the national level, an essential part of bringing the health crisis in Yemen under control involves reducing civilian casualties and fatalities and saving the remaining health infrastructure from destruction. It is critical to find ways to limit interference with the delivery of humanitarian goods and services by all parties to the conflict. Lastly, it is important that victims obtain remedy, particularly through reparations and compensation for loss of water, health and sanitation facilities caused by violations of international law.

Parties to the conflict must be pushed to agree on a cessation of hostilities and should immediately resume the Yemen peace process. The U.N. Security Council and U.N. Special Envoy should ensure parties to the civil war commit to international humanitarian law (IHL) to protect civilians and civilian objects, which includes safeguards for water, health and sanitation facilities. The Eminent Experts on Yemen established by the U.N. Human Rights Council should ensure their inquiry investigates violations involving the targeting of health, water and sanitation facilities, with the goal of remedy for victims.

As a part of the peace process, the Government of Yemen and Ansar Allah authorities should agree to establish a comprehensive national health response plan in partnership with humanitarian actors, development actors and donors based on humanitarian principles of impartiality and aimed at providing lifesaving services in all governorates. This effort needs to build on the existing U.N. HRP and the World Bank's "humanitarian plus" program with UNICEF and WHO. A critical step involves removal of combatants and ghost workers from the Ministry of Health payroll. Parties to the civil war should agree on the establishment of impartial national and regional coordination mechanisms with participation of local communities.

The Government of Yemen and the SLC should prioritize investment in public health services.

As member states of the United Nations, the Government of Yemen and its allies in the SLC have specific obligations to ensure the provision of lifesaving health services in Yemen, notwithstanding the civil war.⁶⁶ This duty cannot be abrogated.⁶⁷ The Government of Yemen and the SLC must restore the public health system through impartial and coordinated efforts with humanitarian and development partners to ensure equitable distribution of and access to health facilities, goods and services, especially to communities affected by civil war.⁶⁸

At a national level, the budget should prioritize investment in basic health, water and sanitation services to ensure basic levels of technical and administrative capacity at national, regional and local levels. The Government of Yemen should make public the details of the recently announced national budget (USD 3 billion), with clear indication of the proportion dedicated to health services and, particularly, the planned expenditure on salaries for health workers and the maintenance of health, water and sanitation facilities. For its part, the Government of Saudi Arabia should make public the terms of its announced offer of USD 2 billion to Yemen, specifically the proportion to be invested in health services. Yemen budget appropriations should reflect the gravity of the health crisis and desist from current skewed investment of public resources in the war effort.

The U.N. Security Council should adopt a resolution to enforce IHL by removing humanitarian access impediments and direct the peace process.

Resolution 2216 has been used to legitimize SLC actions that have contributed significantly to the current humanitarian situation at large, and to the public health crisis in particular. A resolution is required to create an environment in which importation of basic goods, including medical supplies, is unhindered. As such, a new UNSC resolution should: permanently open all ports, including Hodeidah and Saleef, to humanitarian and commercial traffic without restriction; streamline clearance of commercial vessels and end the shadow SLC inspection regime that is undermining UNVIM and creating unnecessary delays; and open Sana'a airport to commercial as well as humanitarian flights.

⁶⁵ IRC interview conducted in March 2018.

⁶⁶ https://www.aaas.org/sites/default/files/SRHRL/PDF/IHRDArticle15/Proclamation_of_Teheran_Eng.pdf

⁶⁷ U.N. Human Rights Council, The Nature of the General Legal Obligation Imposed on States Parties to the Covenant CCPR/C/21/Rev.1/Add. 13 26 May 2004

⁶⁸ U.N. Committee on Economic, Social and Cultural Rights, general comment No. 3 (1990) on the nature of States parties' obligations (art. 2 (1) of the Covenant), para. 10.



*An IRC mobile health team sets up to deliver integrated health and nutrition services to remote populations of Lahj, Yemen.
Sterling Roop/IRC*

In order to encourage a cessation of hostilities and a restart of peace negotiations, the U.N. Security Council can empower the newly appointed U.N. Special Envoy by providing a more realistic framework. The conflict has evolved and splintered such that the assumptions underpinning resolution 2216 no longer reflect the realities of the conflict.

Humanitarian and development partners and donors should enhance international aid by setting collective outcomes to support the state to deliver its obligation to provide core health services.

International donors and development partners, who plan to meet in April 2018, should reaffirm their commitment to the New Ways of Working as agreed upon at the 2016 World Humanitarian Summit. This calls for investment of resources beyond the HRP and requires the establishment of “collective outcomes” involving both humanitarian and development actors. The World Bank’s “humanitarian plus” model should be scaled up or replicated to ensure that longer-term development needs in water, health and sanitation are met, including reconstruction and expansion of public health services.

The International Rescue Committee responds to the world’s worst humanitarian crises, helping to restore health, safety, education, economic wellbeing, and power to people devastated by conflict and disaster. Founded in 1993 at the call of Albert Einstein, the IRC is at work in over 30 countries and 26 U.S. cities helping people to survive, reclaim control of their future and strengthen their communities.

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