



Ministry of Planning  
& International Cooperation  
Economic Studies & Forecasting Sector

# YEMEN

## SOCIO-ECONOMIC

### UPDATE



Issue (79) April - 2023

## The Health Sector in Yemen

### Health Sector Recovery A Priority for Future Comprehensive Development



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### Introduction

Health is a fundamental pillar of comprehensive development across the social, economic, and human spheres. The health sector is widely recognized as one of the sectors influencing human life and existence most, while serving as foundation for citizens to enjoy socially and economically productive lives, and achieve human development.

The exceptional circumstances in Yemen and the mounting pressure on the health sector calls for more actions, since improving the precarious health conditions and providing the best possible level of protection and care for the population of Yemen is considered a priority. This is especially pivotal in the context of achieving Goal # 3 of the 2030 Sustainable Development Agenda, which aims to ensure healthy lives and promote well-being for all at all ages.

Provision of minimum standard health services by the health sector requires robust and sustained support by regional and international partners, with priority to be given to facilitating access to healthcare services, particularly primary healthcare services, to the vulnerable groups, especially those living in remote and affected areas in Yemen, where healthcare services are most needed. Despite the funding allocated for the health sector in Yemen, yet reduced funding is feared to trigger a state of instability, as will be explained later in this issue.

Advocating for stronger political and financial commitment to health, raising awareness around problems facing the health sector, including maternal and child health issues, deaths, as well as the social, economic and developmental consequences for the current and future generations in Yemen vis-à-vis Yemen's commitment to the 2030 SDGs, and improve Yemen's human development, this Bulletin also includes an analysis of the key health and development indicators in Yemen, such as life expectancy at birth, infant mortality rates, reproductive health, and another analysis about service delivery indicators and economic variables of the health sector in Yemen, focusing on comprehensive coverage in healthcare services, healthcare facilities, healthcare workforce, and healthcare spending. Besides, this issue sheds some light on a host of major challenges facing Yemen's health sector across the institutional, legislative, and regulatory dimensions, with more elaboration on development and economic challenges. The objective is to come up with a set of priorities that would reshape the future of healthcare services in Yemen.

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## Life expectancy at birth

**63.75 years**

the life expectancy at birth index (**for both sexes**) in Yemen, compared to **70.9 and 71.4** years for Arab region and globally, respectively, (HDI 2021/ 2022)



## Mortality rates

**62.12**

the U5MR (**per 1,000 live births**) in Yemen in 2022 compared to **58.8** in 2014

**28.31**

the NMR (**per 1,000 live births**) in Yemen in 2021 compared to **11.96** in the Middle East and North Africa and **17.55** in world

**183**

the MMR (**100,000 live births**) in Yemen in 2020 compared to **354** in LDCs and **223** in world



## Maternal and reproductive health

**59.8%**

the percentage of pregnant women receiving antenatal care in Yemen in 2013 compared to **82.4%** (2019) in LDCs and **87.6%** (2019) in world

**44.7%**

the percentage of deliveries that took place under skilled birth attendance in Yemen in 2013 compared to **72.9%** (2022) in LDCs and **82.2%** (2022) in world



## Health sector infrastructure

**< 6 beds**

**/10,000 population**, which is less than **50%** of the WHO standard threshold

**47.6%**

of health facilities (including hospitals, health centers, and health units) stopped functioning partially or completely due to exceptional circumstances (conflict and war)



## Universal health coverage

**44%**

the universal health coverage rate in Yemen in 2019, compared to highest in the Arab region (**78%**) in UAE and (**75%**) in Algeria



## Spending and financing for the health sector

**3.1%**

the average percentage of spending on the health sector to total public expenditure of the state during the period (2011 - 2015), comparing to **6.5%** and **3.7%** during the period (2001 - 2005) and (2006 - 2010) respectively

**15.83%**

the percentage of Yemeni population incurred catastrophic and impoverishing out-of-pocket health spending exceeding **10%** in 2014 of the total household expenditure or income, while **4.16%** of the population had their health spending exceeding **25%** of the total household expenditure or income



## I: Analysis of key health development indicators in Yemen

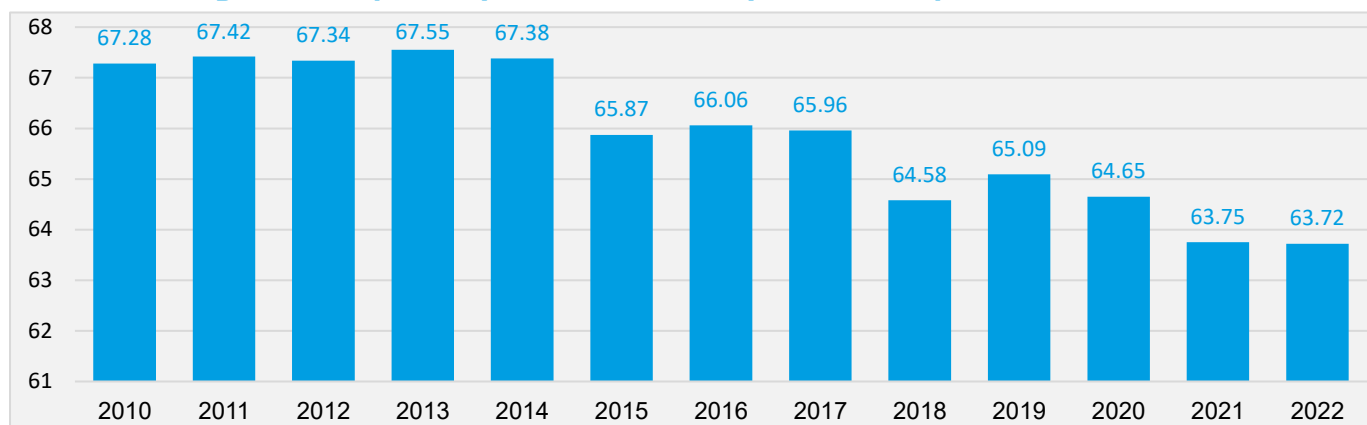
Analyzing key health indicators is greatly important in the context of social and economic development expressed in life expectancy at birth, infant mortality rates, reproductive health and morbidity indicators, which reflect the overall health status for the population, and maternal and newborn health in particular. Evolution of these indicators can be analyzed as follows:

### Life Expectancy at Birth

Life expectancy at birth is an indicator of health status, and it refers to the average number of years a person can expect to live based on current mortality (death) rates.

Life expectancy at birth measures the average length of life from birth to death. Life expectancy is also important as it shows that high life expectancy rates indicate that individuals in that population have better physical and mental health, as well as better access to healthcare services. On the other hand, lower life expectancies can be indicative of poorer physical and mental health, as well as less access to healthcare<sup>1</sup>. Data indicates an increase in the life expectancy in Yemen from 67.28 years in 2010 to 67.55 years in 2013. Since 2014, it has decreased to reach 63.72 years in 2022 (Figure 1).

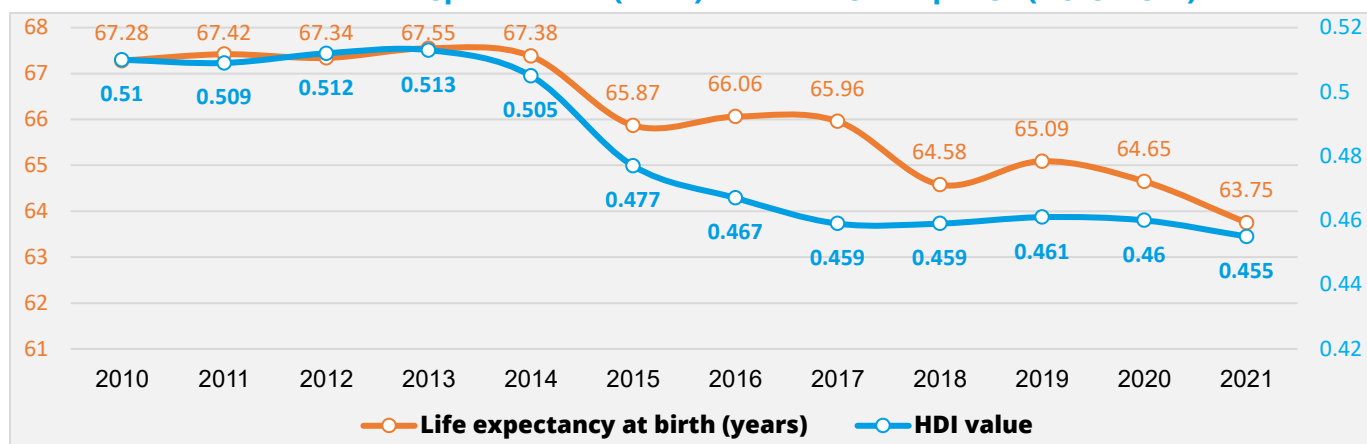
**Fig (1): Life Expectancy at Birth in Yemen (years) for the period (2010-2022)**



Source: Life expectancy at birth for both sexes combined (years), 2022. <http://data.un.org/Data.aspx?q=yemen&d=PopDiv&f=variableID%3A68%3BcrID%3A887>

**Life expectancy at birth highlights whether or not a high human development progress is made**, and expansion level in the health services coverage. Figure (2) below shows a positive association between life expectancy and the human development index in Yemen during the period (2010-2021), given the fact that better human development index in the period (2010-2013) was clearly linked to improved life expectancy, among other things, like health factors such as infant mortality rates, which result in a higher life expectancy. During the period (2014-2021), however, lower life expectancy caused the human development index to decline.

**Fig (2): Association between life expectancy at birth (years) and human development index (value) in Yemen for the period (2010-2021)**



Source:  
 - World Human Development Report 2021/2022.  
 - Figure (1).

<sup>1</sup> Economics of Public Health, Health Inequalities Explained· December 14, 2022. <https://www.economicsbydesign.com/ar/health-inequalities-explained/>

## Life expectancy at birth by gender and HDI group

The life expectancy at birth index is linked to the human development groups according to their ranking in the HDI, which varies between (63.75) for both sexes, (60.6) for males, and (67.1) years for females in Yemen as one of the Low HDI countries. These values achieved by Yemen remain below the global and Arab average, and even those of other LDCs (except the value for females), as shown in Table (1).

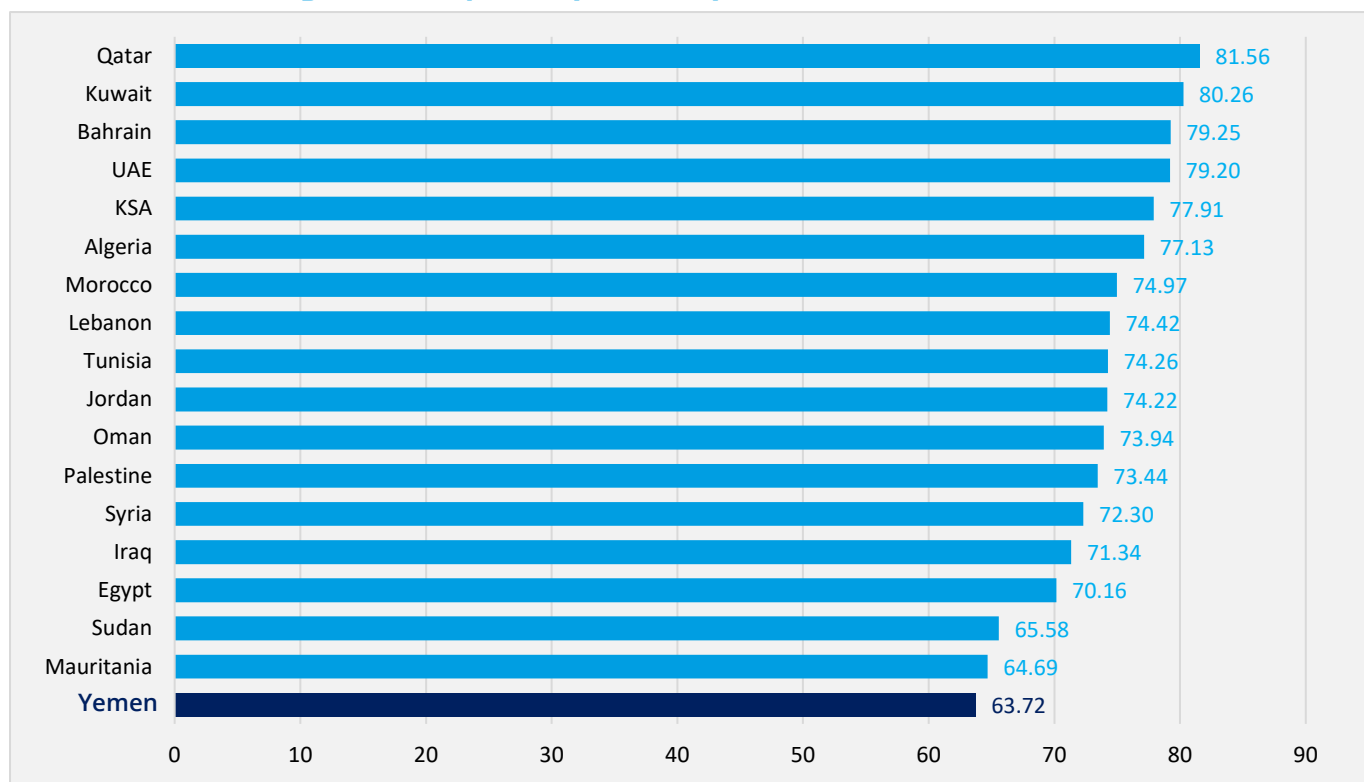
**Table (1): Life expectancy at birth (years) by gender, HDI groups and Human Development Index 2021**

HDI Groups	Life expectancy at birth (years)			Human Development Index (HDI)
	Both Sexes	Males	Females	Value
Very high HDI countries	78.5	75.6	81.6	0.896
high HDI countries	74.7	71.9	77.7	0.754
Medium HDI countries	67.4	65.6	69.4	0.636
Low HDI countries	61.3	59.3	63.4	0.518
Developing countries	69.9	67.6	72.3	0.685
Arab countries	70.9	68.9	73.1	0.708
LDCs	64.2	61.9	66.6	0.540
World	71.4	68.9	74.0	0.732
<b>Yemen</b>	<b>63.75</b>	<b>60.6</b>	<b>67.1</b>	<b>0.455</b>

Source: Human Development Report 2021/2022.

**Healthy life expectancy varies by income.** Healthy life expectancy at birth in Qatar and Kuwait is estimated at 81.56 years and 80.26 years, respectively, compared to 63.72 years in Yemen, some 16.54-17.84 years difference. This difference is less compared to middle-income and low-income countries, as shown in Figure (3).

**Fig (3): Life expectancy at birth (years) in the Arab states 2022**



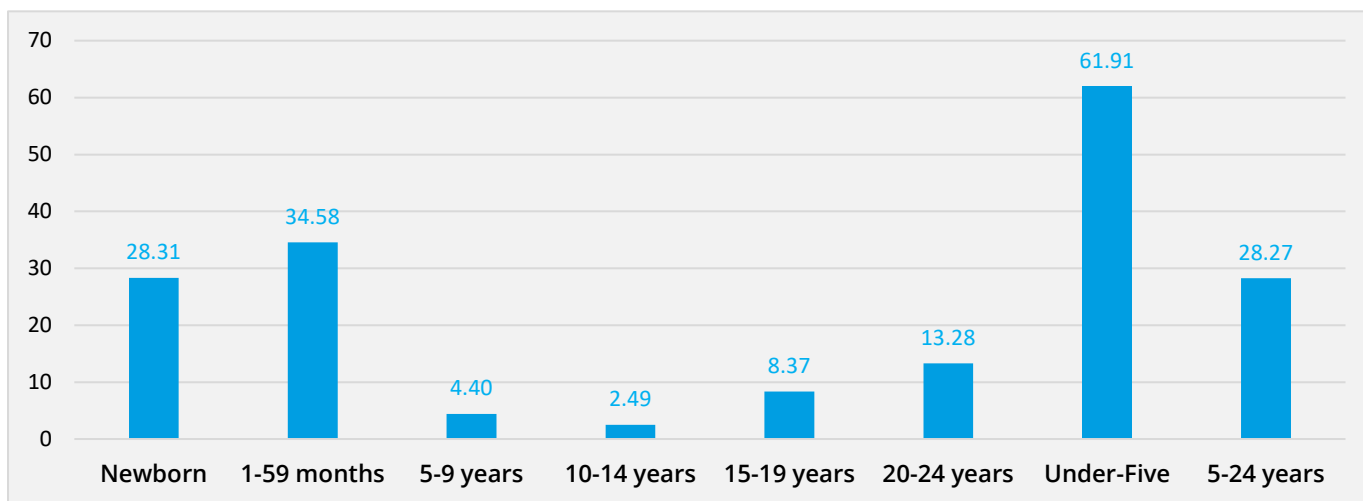
Source: Life expectancy at birth for both sexes combined (years), 2022. <http://data.un.org/Data.aspx?q=yemen&d=PopDiv&f=variableID%3A68%3BcrID%3A887>

Hence; expanding health services coverage and access by all citizens is an important factor in healthy longer life expectancy, and mitigating the social, economic and development consequences for the current and future generations in Yemen, as well as improving Yemen's HDI ranking.

### Mortality rate by age

Data in Figure (4) indicate a clear disparity in mortality rates across age groups, with the highest among the group of children under five years (61.91 deaths per 1000 live births), followed by the infant mortality(1-59 months) with 34.58 deaths, then newborn mortality at 28.31 deaths. This rate is even less among the rest age groups.

Fig (4): Mortality rate by age per 1,000 live births in Yemen, 2021



Source: United Nations Inter-agency Group for Child Mortality Estimation 2023. <https://childmortality.org/profile>

### Child Mortality indicators

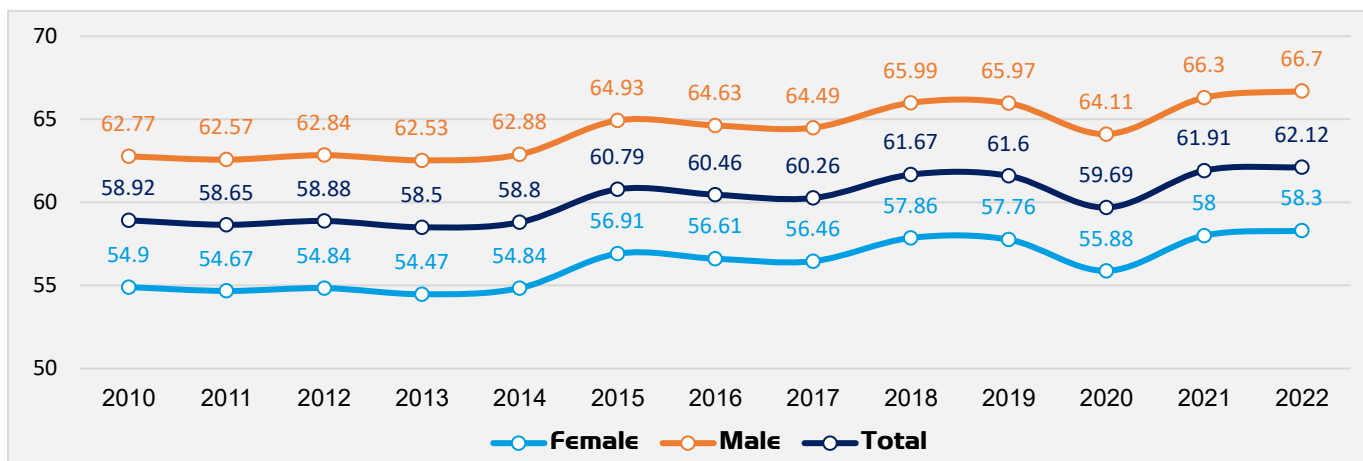
Child mortality indicators are very important as they give a broad picture about the status of the health sector in a country. Key child mortality indicators include: Under-five mortality rate, neonatal mortality rate, and stillbirth rate, which have much to do with the development in providing health services, and the resulting drop child mortality rates, better control over diseases, and malnutrition cases often blamed for most deaths. Improving the child's chances of survival remains a pressing challenge.

### Under-Five Mortality Rate

Under-five mortality rate (U5MR) is the probability of dying before age of 5 years **per 1,000 live births**. In Yemen, the U5MR for both sexes decreased from 58.92 deaths per 1,000 live births in 2010 to 58.5 deaths in 2013, but rose again during the period 2014-2022 from 58.8 deaths per 1,000 live births to 62.12 deaths.

Data in Figure 5 shows that U5MR among male children are higher than females by about 8 deaths, with 66.7 deaths per 1,000 live births for males, compared to 58.3 deaths for females in 2022.

Fig (5): U5MR in Yemen (per 1000 live births), during the period (2010-2022)



Source:

- United Nations Inter-agency Group for Child Mortality Estimation 2023. <https://childmortality.org/data/Yemen>

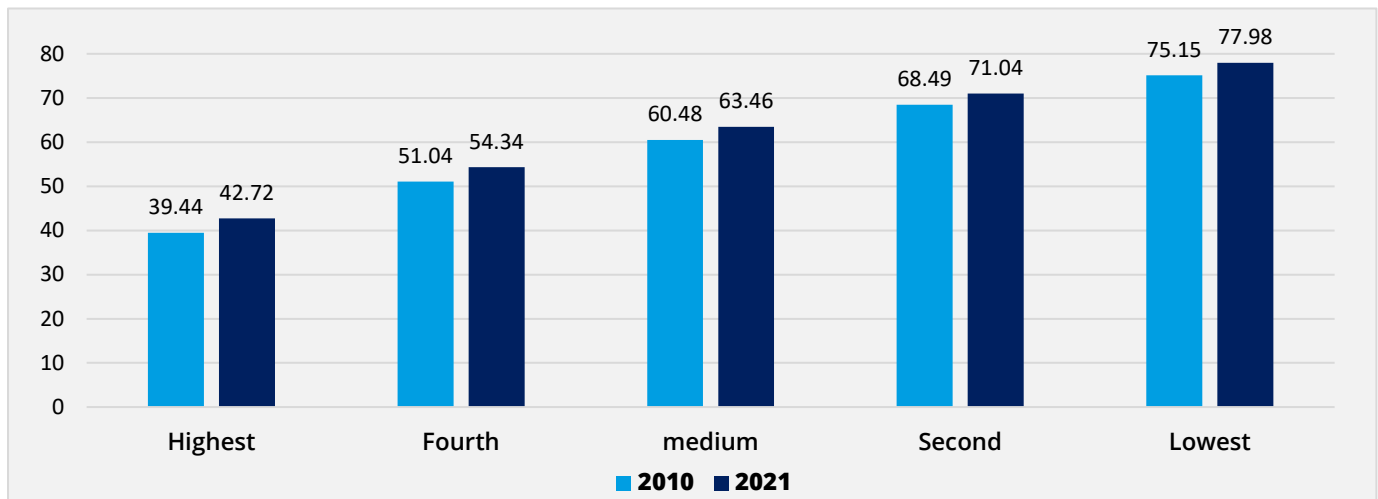
- United Nations Statistics Division, Under-five mortality, for both sexes combined (deaths under age five per 1,000 live births). Last update in UN data: 10/07/2022.

<http://data.un.org/Data.aspx?q=Mortality+under+age+5&d=PopDiv&f=variableID%3a80>

### U5MR by wealth quintile

This indicator investigates the relationship between the household socio-economic state and under-five mortality<sup>2</sup>. It should also be indicated that the major challenge to continue remarkable progress in child health indicators is equitable distribution of services among the poor, vulnerable and disadvantage groups. Figure (6) shows high U5MR among the poorest wealth quintiles, reaching its highest among the poorest wealth quintile (77.98 deaths per 1,000 live births) in 2021 compared to (42.72 deaths) among the wealthiest (least poor quintile). Children in the poorest quintile were nearly twice as likely to die before their fifth birthday as children from the least poor families during 2010 and 2021. That is, the higher the wealth quintile index is, the less mortality rates we have.

Fig (6): U5MR by wealth quintile (per 1000 live births), 2010 and 2021



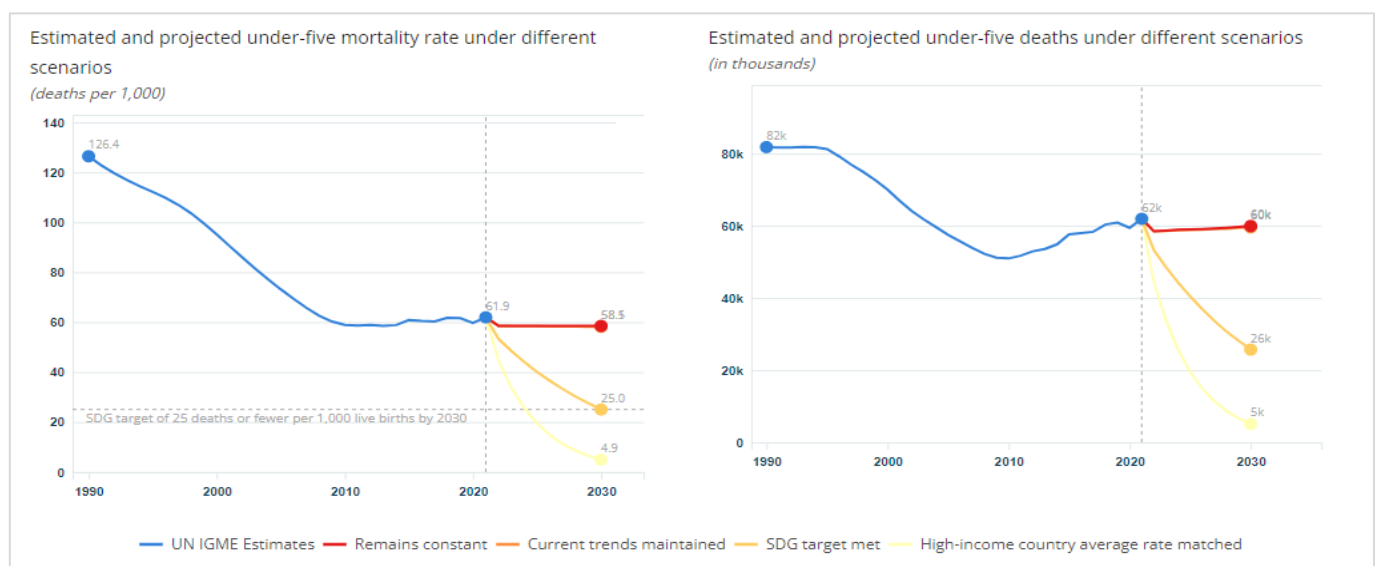
Source: United Nations Inter-agency Group for Child Mortality Estimation 2023. <https://childmortality.org/profile>

### U5MR – Yemen and 2030 SDGs

Under Goal # 3 of the Sustainable development Goals (Target 3-2-1): by 2030, reduce Under-Five Mortality Rate to at least as low as 25 per 1,000 live births. Considering the trends in U5MR changes in Yemen at 62.1 deaths per 1,000 live births in 2022 (Fig 5) versus 25 deaths per 1,000 live births in 2030, Yemen, is therefore, required to achieve 59.8% reduction between 2022 and 2030, or at least 4.64% per annum.

With the current pace of change in the under-five mortality rate, it will be difficult for Yemen to achieve SDGs related to U5MR. Projections indicate that U5MR in Yemen will remain 58.1 deaths per 1,000 live births by 2030, and that this Goal can only be achieved sometime after 2050 (See Figure 7).

Fig (7): Estimated and projected U5MR in Yemen



Source: United Nations Inter-agency Group for Child Mortality Estimation 2023. <https://childmortality.org/profile>

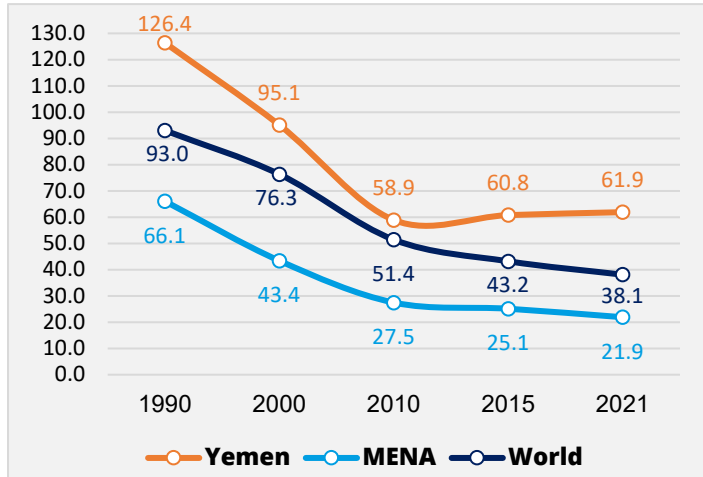
<sup>2</sup> Relationship between household socio-economic status and under-five mortality in Rufiji DSS, Tanzania. 2013. <https://www.tandfonline.com/doi/full/10.3402/gha.v6i0.19278>



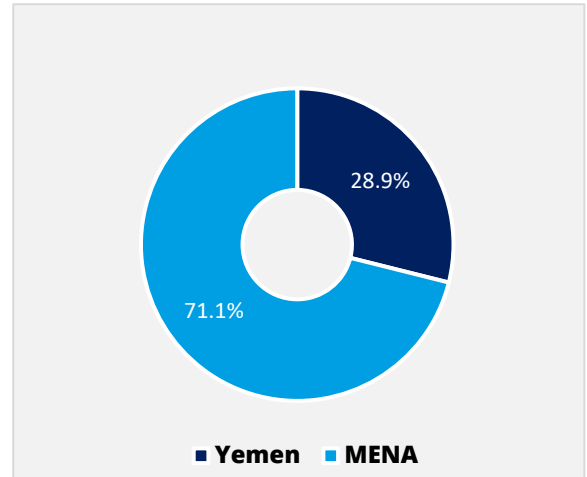
### U5MR: Yemen vs. the region and the world

Yemen is still among the countries with the highest U5MR with 61.9 deaths per 1,000 live births. This is 2.8 times higher than MENA countries, and 1.6 times higher than the global average (Figure 8).

**Fig (8): U5MR in Yemen per 1000 live births; during the period (1990-2021)**



**Fig (9): Share of Yemen from U5MR compared to other MENA countries in 2021; (%)**



Source: United Nations Inter-agency Group for Child Mortality Estimation 2023. <https://childmortality.org/profile>

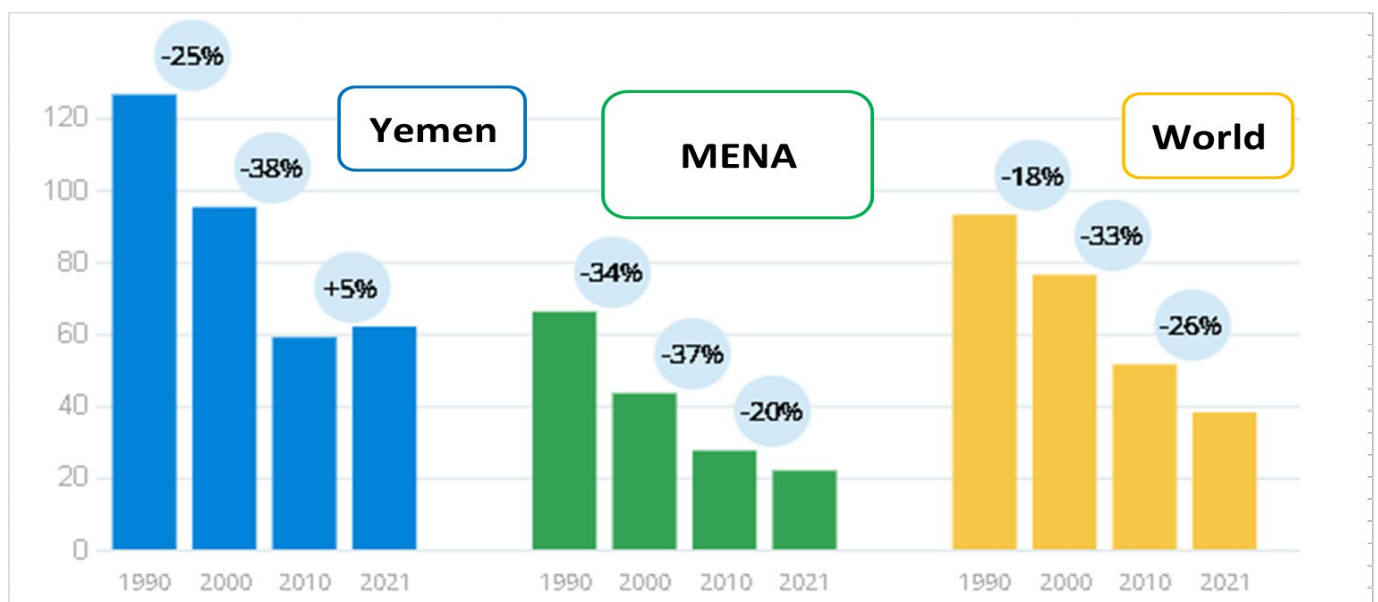
Figure (9) shows the increase in Yemen's share of under-five deaths at the regional level in 2021, as the under-five deaths in Yemen constitute about 28.9% of the under-five deaths in the Middle East and North Africa.

### Changing patterns of U5MR

Figure 10 shows that the world has achieved remarkable progress in the average child survival rate between 2010 and 2021. The average U5MR fell by over 26 per cent to reach 38.1 deaths per 1000 live births in 2021. In the MENA region, too, the U5MR decreased by more than 20 per cent to 21.9 deaths per 1000 live births in 2021. In Yemen, the rate kept trending up by an average of more than 5 per cent to reach 61.9 deaths per 1000 live births in 2021.

This demonstrates that Yemen will remain off-track of SDGs agenda, should the current trends persist, which calls for more accelerated progress to reduce child mortality, and achieve the SDG Goal # 3: "Good health and well-being" by 2030.

**Fig (10): Percentile change in U5MR**



Source: United Nations Inter-agency Group for Child Mortality Estimation 2023. <https://childmortality.org/profile>

## Newborn mortality rate

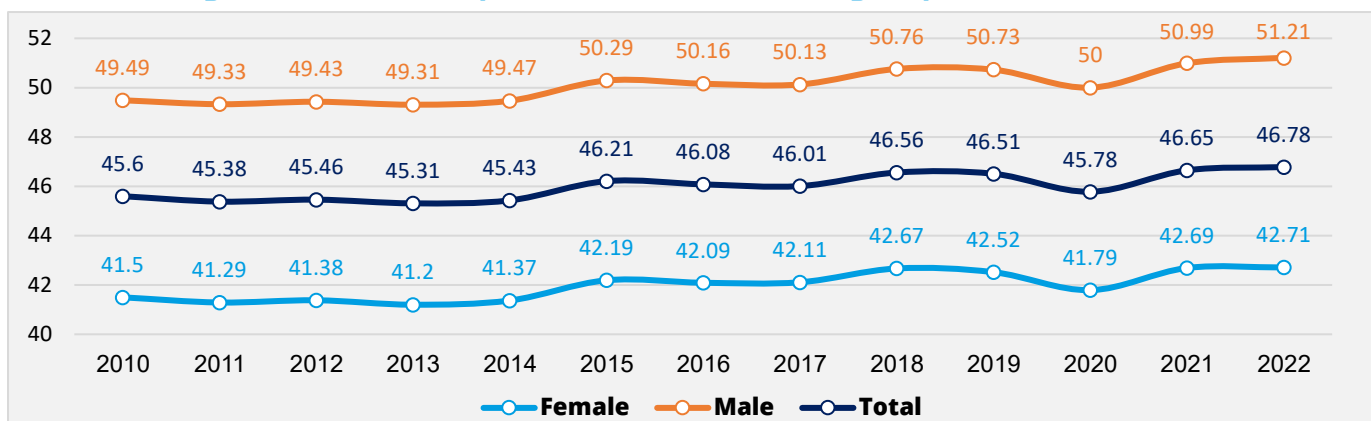
The newborn mortality rate comprises several indicators, mainly: the infant mortality rate and the neonatal mortality rate.

### Infant mortality rate (IMR)

IMR is the probability of dying between birth and 11 months **per 1,000 live births**. Infant mortality represents an important component of under-five mortality. Like under-five mortality, IMRs measure child survival. They also reflect the social, economic and environmental conditions in which children (and others in society) live, including their health care. Since data on the incidence and prevalence of diseases (morbidity data) frequently are unavailable, mortality rates are often used to identify vulnerable populations. The IMR is an MDG indicator<sup>3</sup>.

Figure (11) shows a slight increase in the IMR for both sexes in Yemen, from 45.6 deaths per 1,000 live births in 2010 to 46.78 deaths in 2022. Data also indicates that IMR among males is higher than among females by about 9 deaths, recording 51.21 deaths per 1,000 live births for males compared to 42.71 deaths among females in 2022.

**Fig (11): IMR in Yemen (per 1,000 live births); during the period (2010-2022)**



Source:

- United Nations Inter-agency Group for Child Mortality Estimation 2023. <https://childmortality.org/data/Yemen>

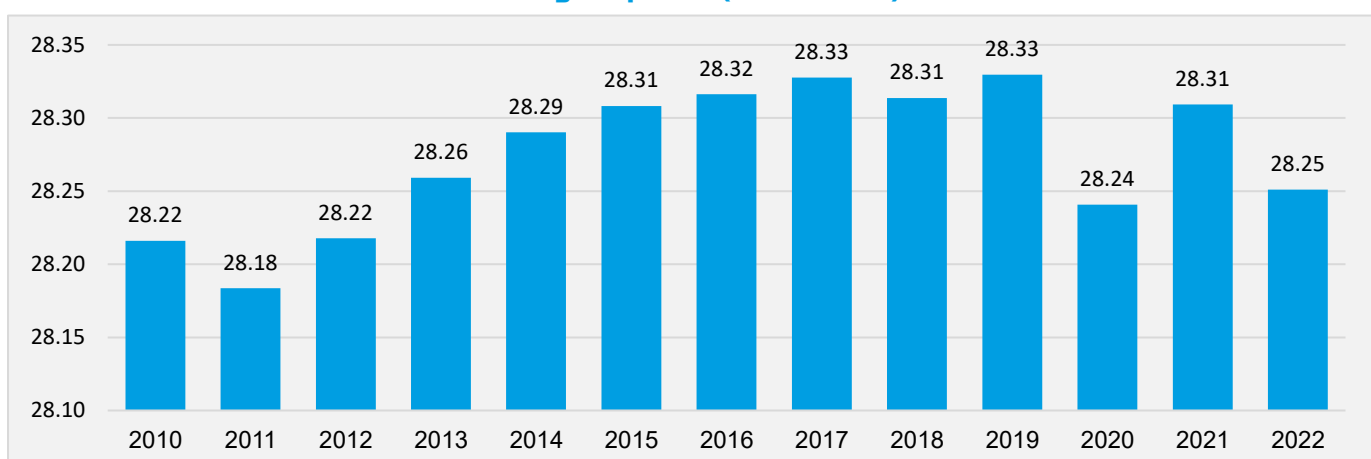
- United Nations Statistics Division, Under-five mortality, for both sexes combined (deaths under age five per 1,000 live births). Last update in UN data: 10/07/2022.

<http://data.un.org/Data.aspx?q=Mortality+under+age+5&d=PopDiv&f=variableID%3a80>

### Neonatal mortality rate (NMR)

Figure (12) shows that neonatal mortality rate reached 28.25 deaths per 1,000 live births in 2022, and 28.31 deaths in 2021. In 2010, meanwhile, it reached 28.22 deaths per 1,000 live births.

**Fig (12): Neonatal mortality rate (0 – 27 days) per 1,000 live births in Yemen; during the period (2010-2022)**



Source: United Nations Inter-agency Group for Child Mortality Estimation 2023. <https://childmortality.org/data/Yemen>

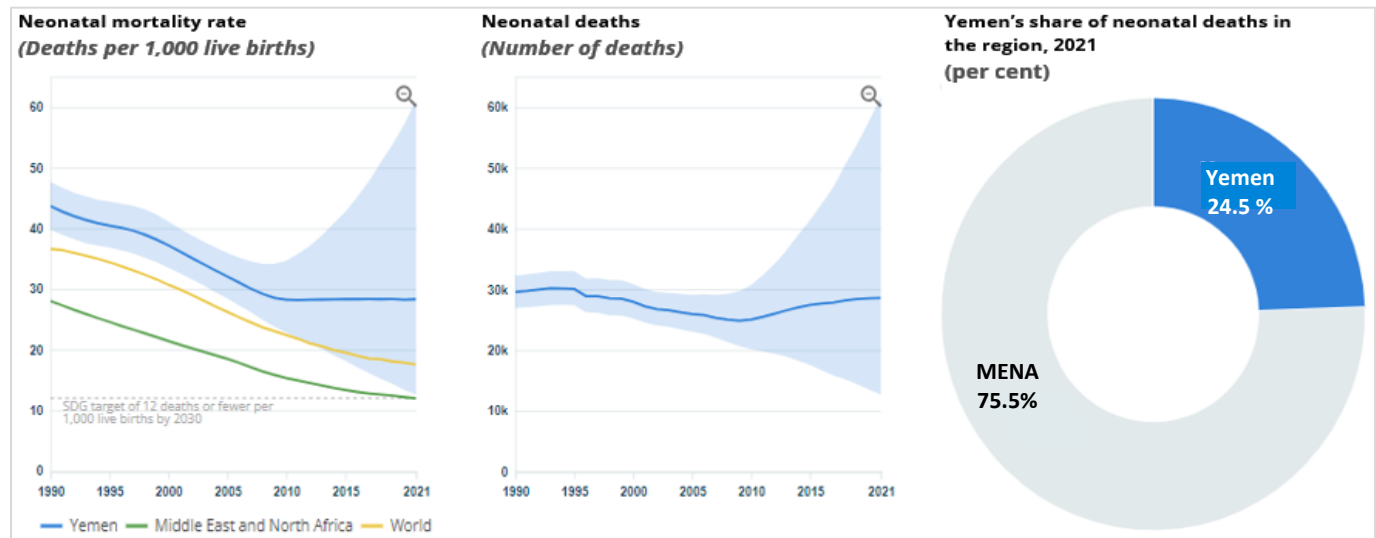
<sup>3</sup> THE GLOBAL HEALTH OBSERVATORY. 2023 WHO <https://www.who.int/data/gho/indicator-metadata-registry/imr-details/1>



## Neonatal mortality rate: Yemen vs. the region and world

Figure (13) shows that the NMR in Yemen reached 28.31 deaths in 2021, compared to an average of 17.55 deaths in the world and an average of 11.96 deaths in the Middle East and North Africa. The share of Yemen from NMR related deaths compared to the MENA region was high at about 24.5% deaths in 2021.

Fig (13): NMR: Yemen vs. the region and world



Source: United Nations Inter-agency Group for Child Mortality Estimation 2023. <https://childmortality.org/profile>

## Neonatal mortality rate: Yemen and the 2030 Sustainable Development

### Goals

Newborn deaths represent a significant portion of under-five deaths, and is considered an indicator reflecting the health and care provided to mothers and newborns<sup>4</sup>. SDG # 3 of the Sustainable development Agenda (Indicators 3-2-2) provides for “by 2030, reduce Neonatal Mortality Rate to at least as low as 12 per 1,000 live births. Considering the trends in NMR changes in Yemen at 28.25 deaths per 1,000 live births in 2022 (Fig 12) compared to a target of 12 deaths per 1,000 live births in 2030, Yemen is, therefore, required to achieve 57.5% reduction between 2022 and 2030, or at least 2.09% per annum. With the current pace of change in the under-five mortality rate, Yemen wouldn't be able to achieve SDGs related to NMR. If progress is halted; Projections indicate that U5MR in Yemen will remain 28.25 deaths per 1,000 live births by 2030, and that this Goal can only be achieved sometime after 2050<sup>5</sup>.

This underscores that investing more in reproductive health and child health is a prerequisite in Yemen to delve into a better future, given that child mortality rate remains a sensitive indicator for development, and an evidence of the country's priorities and values, because this indicator comprises a wide array of inputs (nutritional status, healthcare level, vaccination, food, drinking water, and environmental sanitation). Therefore, supporting Yemen in order to accelerate the pace towards achieving this SDG by 2030 is unquestionable.

## Maternal health and reproductive health indicators

Indicators related to maternal and reproductive health are essential for any health sector, since mothers are considered among the most vulnerable groups in Yemen. Therefore, this section will be addressing indicators related to maternal health, mainly the following:

### STILLBIRTH (SBR)

**Stillbirth** is the birth of a baby who does not show signs of life after a certain period of pregnancy has passed. SBR is defined as the average number children born without any sign of life or after 28 weeks of gestation per 1000 total births<sup>6</sup>.

SBR is an indication of the mother's health and the quality of healthcare mothers receive during and around gestation period. Ending preventable stillbirths is one of the core goals of the United Nations Global Strategy for

<sup>4</sup> THE GLOBAL HEALTH OBSERVATORY. 2023 WHO. <https://www.who.int/data/gho/data/themes/topics/sdg-target-3-2-newborn-and-child-mortality>

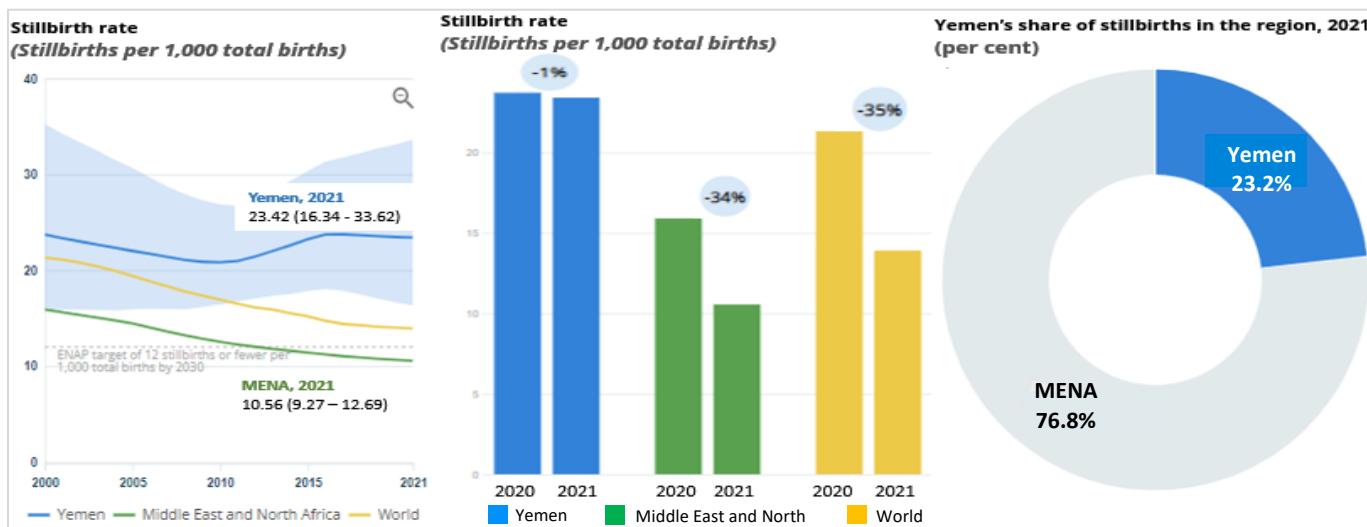
<sup>5</sup> United Nations Inter-agency Group for Child Mortality Estimation 2023. <https://childmortality.org/profile>

<sup>6</sup> Trends in Stillbirth Country Consultation Explanatory Note 2021, United Nations Interagency Agency Task Force on Child Mortality Estimation, August 2022. [https://childmortality.org/wp-content/uploads/2023/01/Stillbirth\\_country\\_consultation\\_explanatory\\_note\\_AR.pdf](https://childmortality.org/wp-content/uploads/2023/01/Stillbirth_country_consultation_explanatory_note_AR.pdf)

Women, Children and Adolescent Health (2016-2030). Such global initiatives aim to reduce the stillbirth rate to 12 or less per 1,000 births during the third-trimester of pregnancy in all countries by 2030<sup>7</sup>.

**Stillbirths: Yemen vs. the region and the world:** data in Figure (14) indicate that the SBR in Yemen reached 23.42 stillbirths per 1,000 total births in 2021. And this rate may be much higher given lack of regular registration of most cases, especially rural areas, and poor prenatal care. This is a high rate compared to the Middle East and North Africa at 10.56 deaths, and the world at 13.91 deaths. The stillbirth rate in Yemen has fallen during the period (2000-2020), not exceeding 1 percent, while it decreased by 34% in the MENA region and 39% in the world, over the same period. Yet, Yemen's share of stillbirths in the Middle East and North Africa region constitutes about 23.2% of the total cases in the region.

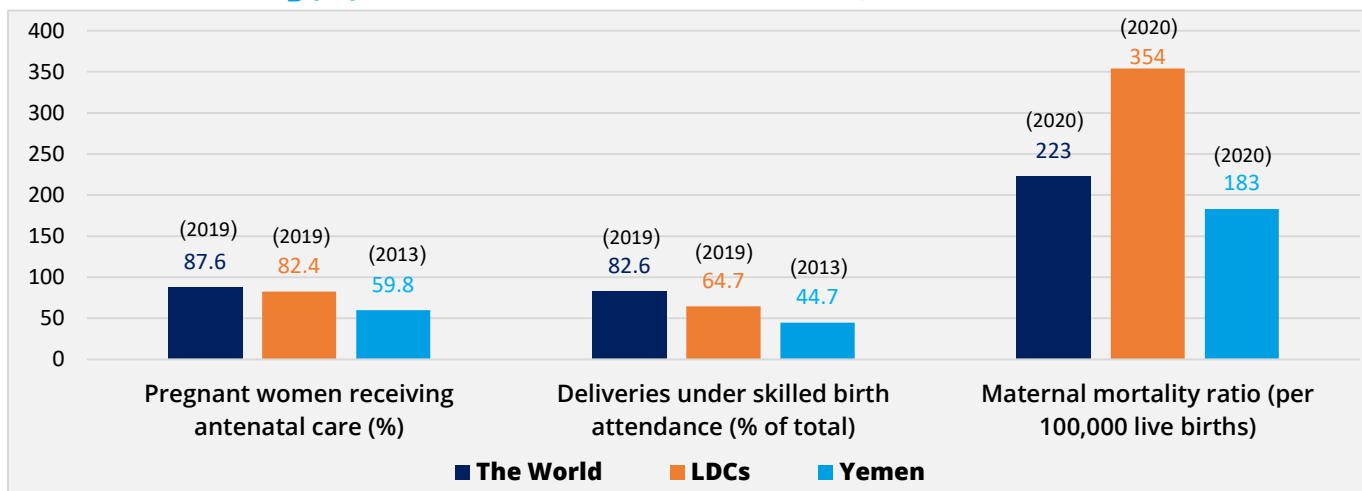
**Fig (14): SBR Indicators for Yemen, MENA and the world (per 1000 total births)**



Source: United Nations Inter-agency Group for Child Mortality Estimation (2023). (<https://childmortality.org/profile>)

**Maternal health:** Maternal health indicators cover many health indicators, and below are the most important ones:

**Fig (15): Maternal health indicators in Yemen, LDCs and the world**



Source: World Bank Database, (<https://data.albankaldawli.org/indicator/SH.STA>)

### % of pregnant women receiving antenatal care<sup>8</sup>

As Figure (15) indicates that the percentage of pregnant women receiving antenatal care in Yemen amounted to 59.8% (2013 data), It is expected that this ratio will be much lower during the conflict and war, as compared to 82.4 percent and 87.6 percent in the LDCs and world, respectively.

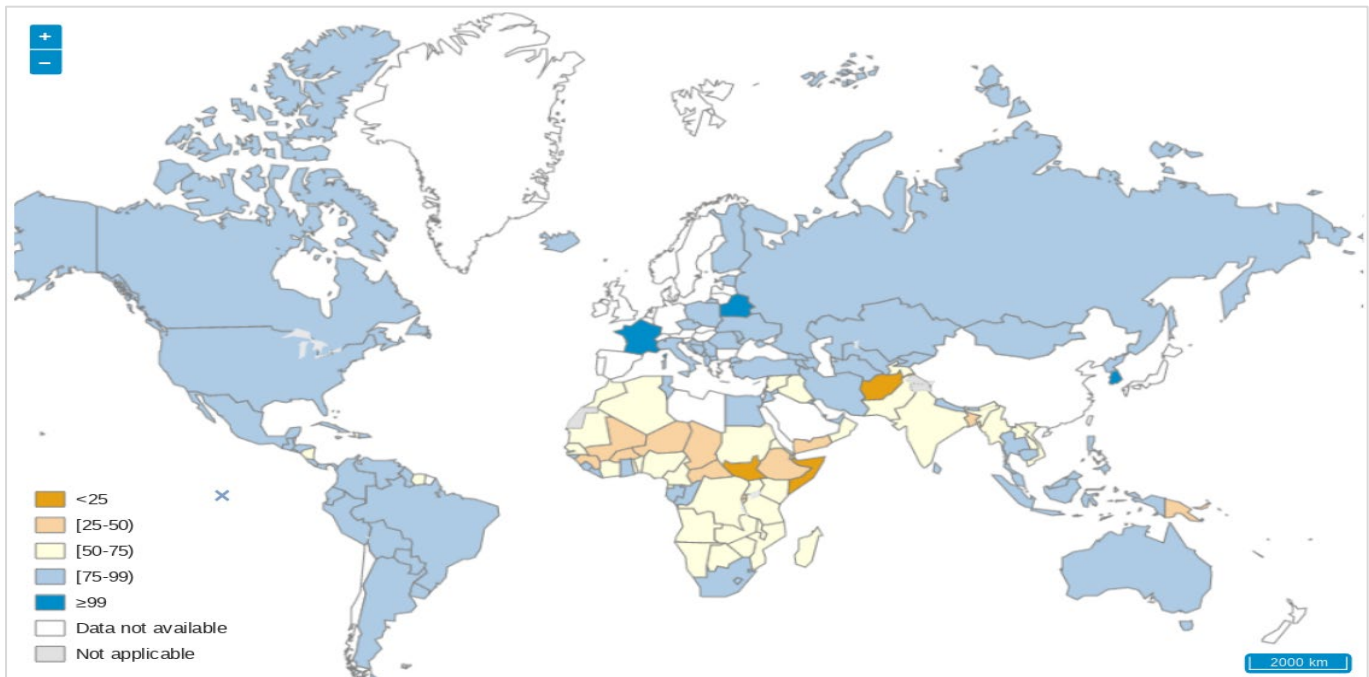
. The map database in Figure (16) shows that the ANC coverage in Yemen, i.e. minimum of four scheduled visits, does not exceed 25.1 percent

<sup>7</sup> Joint Technical Brief on Stillbirth Situation and Way Forward. December. 2021.

<https://www.unicef.org/mena/media/14981/file/joint%20Technical%20Brief%20on%20Stillbirth%20Situation%20and%20Way%20Forward.pdf>

<sup>8</sup> Please refer to the Annex for the definitions of these terms.

**Fig (16): Antenatal care coverage – at least four visits (%)**  
(According to the latest data published WHO)

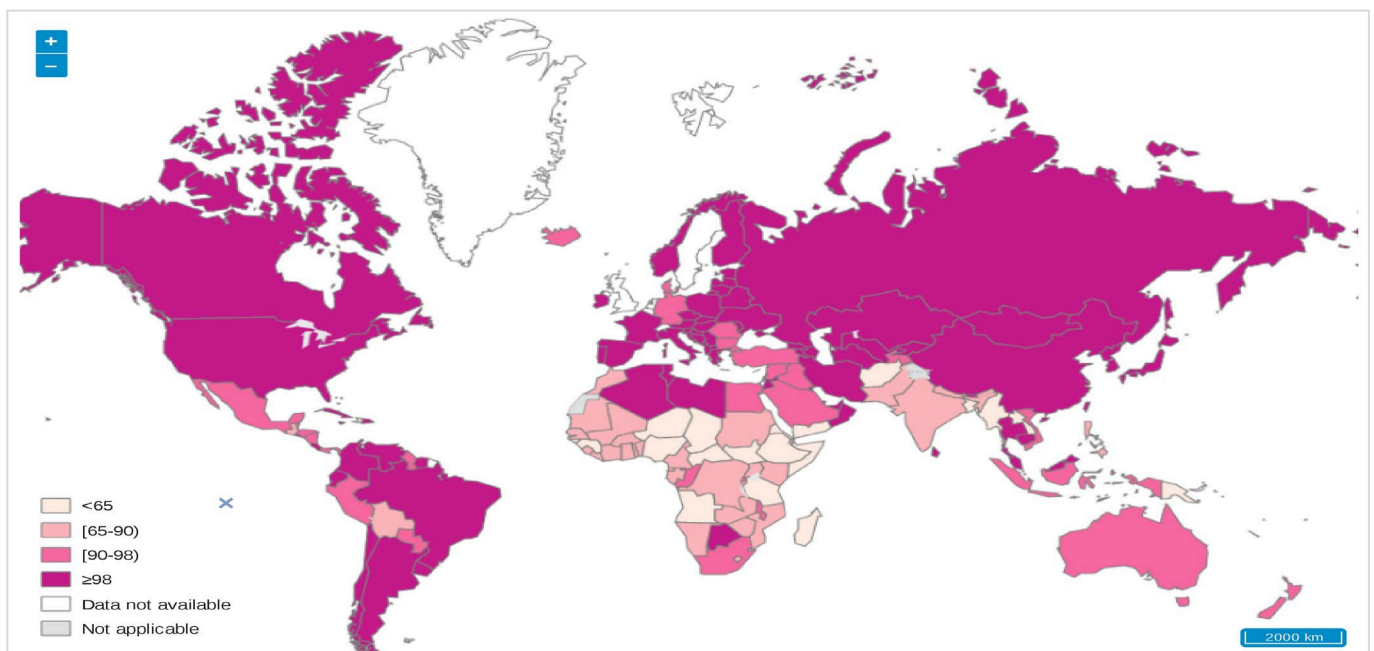


Source: THE GLOBAL HEALTH OBSERVATORY. Antenatal care coverage - at least four visits (%). 2023 WHO.  
<https://www.who.int/data/gho/data/indicators/indicator-details/GHO/antenatal-care-coverage-at-least-four-visits>

### Deliveries under skilled birth attendance (SBA)

The map in Figure (17) demonstrates that Yemen remains among the countries with low number of deliveries under SBA. Back to the database<sup>9</sup> in Fig (17) above shows the percentage of deliveries that take place under skilled birth attendance in Yemen make up for 44.7% (2013), compared to 72.9% and 82.2% (2022) for LDCs and the world, respectively.

**Fig (17): Deliveries under SBA (%) (According to the latest data published by WHO)**



Source: Births attended by skilled health personnel (%), THE GLOBAL HEALTH OBSERVATORY. 2023 WHO.  
[https://www.who.int/data/gho/data/indicators/indicator-details/GHO/births-attended-by-skilled-health-personnel\(-\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/births-attended-by-skilled-health-personnel(-))

Although updated data on health and demographic directions are scant, yet the analysis of trends for the pre crisis period shown that the system health in Yemen is weak, especially with regard to the mother and child health<sup>10</sup>.

<sup>9</sup> [https://www.who.int/data/gho/data/indicators/indicator-details/GHO/births-attended-by-skilled-health-personnel\(-\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/births-attended-by-skilled-health-personnel(-))

<sup>10</sup> World Bank, health sector in Yemen policy note, September 2021.

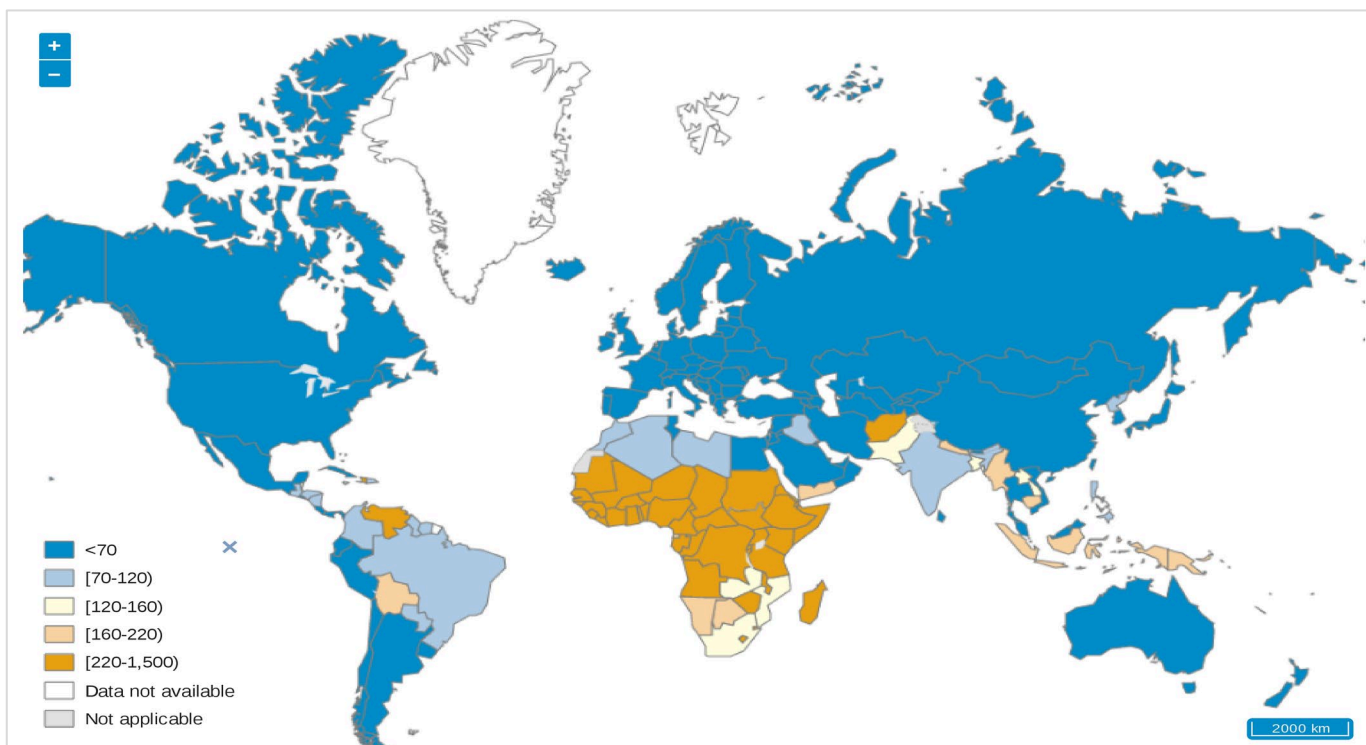
<https://thedocs.worldbank.org/en/doc/24c916282e1d9826812a4f6bbbed06464-0280012021/original/ARA-Yemen-Health-Policy-Note-Sep2021.pdf>

## Maternal mortality ratio MMR (100,000 live births)

The database in Figure (18) shows that the MMR (100,000 live births) in Yemen reached 183 deaths in 2020, making it one of 9 countries classified in -2020 according to the Fragile States Index - to be of “very high alert” or “high alert” in the burden of maternal mortality<sup>11</sup>.

The map in Figure (18) shows Yemen among countries with high maternal mortality ratio in the world. Every two hours, one Yemeni woman dies during childbirth because of causes that can be prevented. Moreover, some 8.1 million women of reproductive age require assistance to access reproductive health services, including antenatal care, safe delivery, postnatal care, family planning, emergency obstetric and new-born care. It is estimated that 1.3 million women will deliver in 2022; about 195,000 will require assistance to access emergency cesarean operations to save their lives and that of their newborns<sup>12</sup>.

**Fig (18): maternal mortality ratio (per 100,000 live births)**  
(According to the latest data published by WHO)



Source: THE GLOBAL HEALTH OBSERVATORY. Maternal mortality ratio (per 100 000 live births). 2023 WHO.

[https://www.who.int/data/gho/data/indicators/indicator-details/GHO/maternal-mortality-ratio-\(per-100-000-live-births\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/maternal-mortality-ratio-(per-100-000-live-births))

## Maternal health and sustainable development goals

In the context SDGs, Goal # 3 includes an ambitious vision as SDG target 1-3 calls for: **Reducing the global MMR to less than 70 per 100,000 live births by 2030**. In 2021, the MMR in Yemen reached 183 maternal deaths per 100,000 live births, a gap needs to be reduced by 113 maternal deaths by the end of 2030. For Yemen to achieve an MMR of less than 70 per 100,000 live births by 2030, it is required to make an annual reduction of 11.3% through 2021 to 2030, a rate that seems to be far from being achieved at national level.

It is not clear that Yemen will be able to achieve this goal. According to accounts by women interviewed during a qualitative study on health services in Sana'a, Taiz and Aden, home births are also on the rise. They reported that because families are getting poorer by the day, an increasing number of women are opting to have their babies at home, and only seek medical care if they experience complications.<sup>13</sup> This calls for ensuring an integrated package of maternal, newborn and child health services across all levels of the health system, improving access to quality of obstetric and newborn care and other reproductive health services before, during pregnancy, during and after childbirth, increasing the coverage of basic interventions for newborn care, and activating community participation and volunteering in improving the mother and child health, which is one of the key health priorities in Yemen, and ensuring decent maternal care being a universal human right for every pregnant woman at all levels of health service delivery.

<sup>11</sup> Maternal mortality. 22 February 2023. <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>

<sup>12</sup> OCHA, Yemen Humanitarian Needs Overview 2022 (April 2022). <https://reliefweb.int/report/yemen/yemen-humanitarian-needs-overview-2022-april-2022>

<sup>13</sup> UNICEF, Yemen: Parenting in a War Zone, The conflict in Yemen has a mounting cost to the lives of mothers and newborns. June 2019. <https://www.unicef.org/mena/reports/yemen-parenting-war-zone>





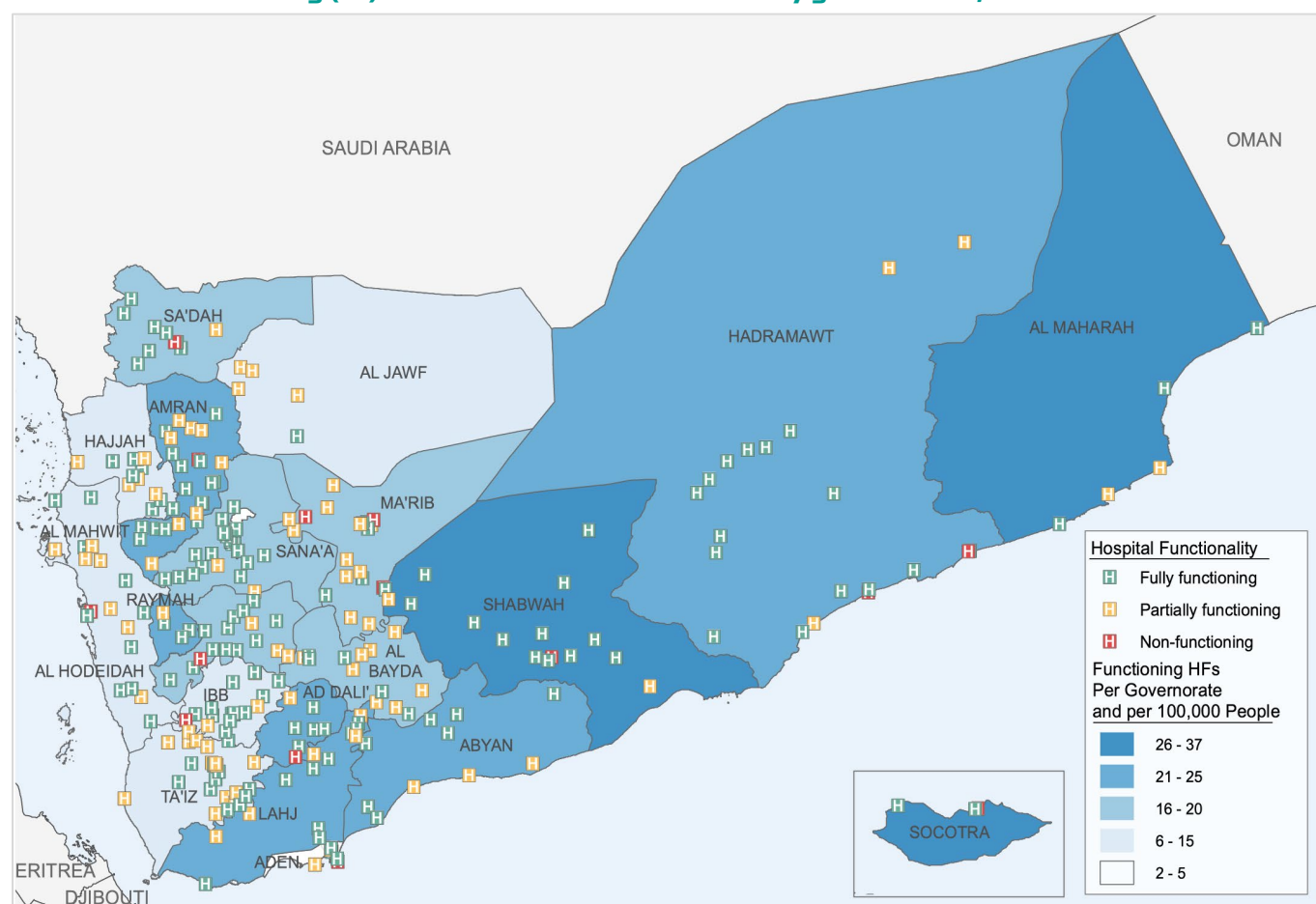
## II: Analysis of HS infrastructure and coverage indicators in Yemen

Infrastructure indicators can be analyzed from the lens of universal coverage in health care services, health facilities, the medical workforce health personnel, as well as aspects of health spending<sup>14</sup>.

### Infrastructure indicators for the health sector

The public health sector in Yemen is divided into four levels<sup>15</sup>: the first level consists of primary health care units and health centers at the community level, in addition to outreach campaigns; the second level consists of district hospitals; while the third level consists of general hospitals; while the fourth level consists of a number of referral hospitals. Improving and developing the efficiency of the performance of health facilities and services they provide represents a strategic pillar for the sector recovery and reconstruction in Yemen, including greater access and coverage of health services to citizens at all levels with an acceptable quality.

Fig (19): Indicators on health facilities by governorate; 2020



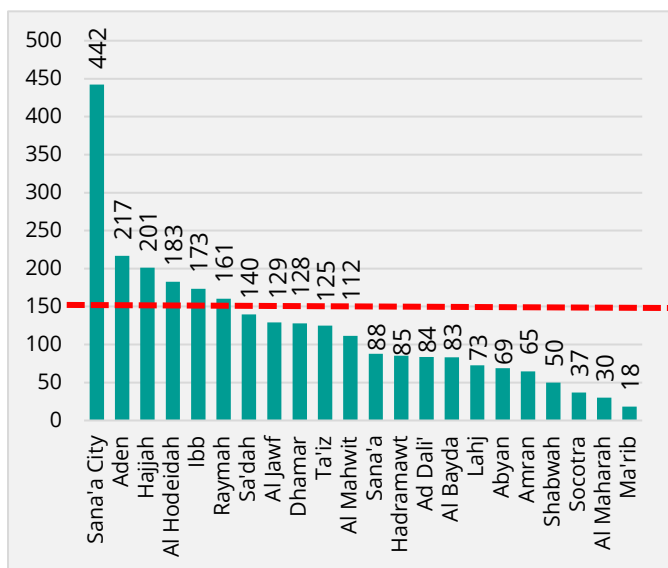
Source: HeRAMS report, 2020 Health resources and services availability monitoring system World Health Organization 2020.  
<https://applications.emro.who.int/docs/WHOEMYEM031E-eng.pdf?ua=1>

**Hospitals in the governorates:** data in Figure (20) indicate that 6 governorates in Yemen have recorded high ratios of population per hospital, exceeding 150 thousand people per hospital, the highest in Sana'a city with 442 thousand people/hospital, and 217 thousand in Aden, 201 thousand in Hajjah, 183 thousand in Al Hodeidah, and 173 thousand in Ibb, in addition to 161 thousand in Raymah. These data show the need for all hospitals in the governorates to provide the same standard set of services, and to expand their geographic coverage.

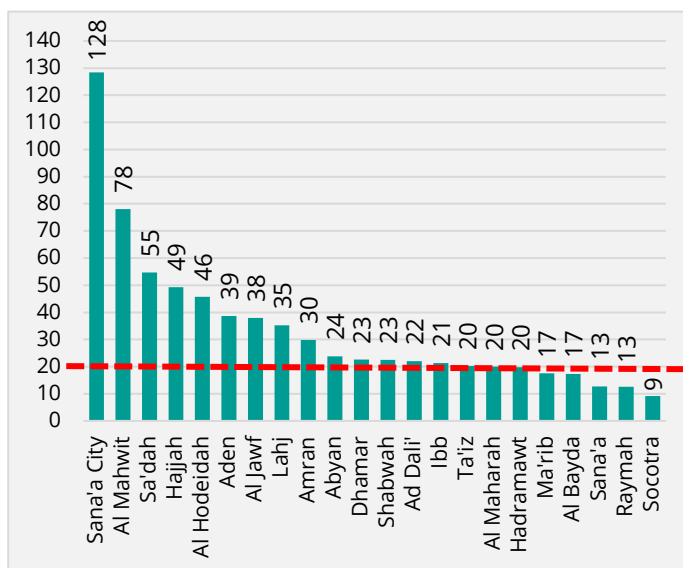
<sup>14</sup> Health Economics, World Health Organization, Regional Office for the Eastern Mediterranean, Feb 1980. <https://apps.who.int/iris/handle/10665/1349?locale-attribute=de&>

<sup>15</sup> Annual Statistical Book, Ministry of public Health 2011. World Bank, health sector in Yemen policy note, September 2021.

**Fig (20): # of population per hospital (000)**  
**by governorate; 2022**



**Fig (21): # of population per HC (000)**  
**by governorate; 2022**



Source: Data base:

- For Population; Population Projections (2002-2025), Central Statistical Organization 2006.

- For Hospitals and Health Centers; World Health Organization,

<https://app.powerbi.com/view?r=eyJrIjoiOTY2NDNhZjZlYjA0My00Zjc3LTgzYjYjOTY2Q3YzI3YmU2NWRLliwidCI6ImY2MTBjMGJlLWJkMjQzNGlzOS04MTBiLTNkYzI4MGFmYjU5MCI6ImMiOjI0>

As for the district level, about 117 out of 333 districts (35%) have no hospitals, leaving people without secondary health care<sup>16</sup>.

**Health centers in the governorates:** Figure (21) shows that only limited health centers exist in the governorates, which complicates access to health services. In 14 governorates; the health center serves between 20,000 to 128,000 people, and this ratio varies substantially between urban and rural areas.

Primary health care is considered the main entry point for providing health for all. This level includes HUs and HCs. Given their geographical outreach at the district level, they are supposed to provide a basic package of health services, and the doorway to interventions on reproductive health, newborn and child health, as well as preventive and curative interventions, before referral to higher level in the system. So, a strategic direction to address requirements by the health units and centers is an urgent need.

### Analyzing the availability health facilities beds indicators

Nationally, there are less than 6 inpatient and maternity beds/ 10,000 population, which is half of the WHO threshold. Of the total 22 governorates, 19 governorates suffer from severe shortage in such beds<sup>17</sup>.

At the hospital level, Figure (22) shows that Yemen is still among the countries with very low hospital beds coverage and less than the threshold of 18 beds/10,000 population. In Yemen, the ratio is only 7 beds/10,000 population<sup>18</sup>.

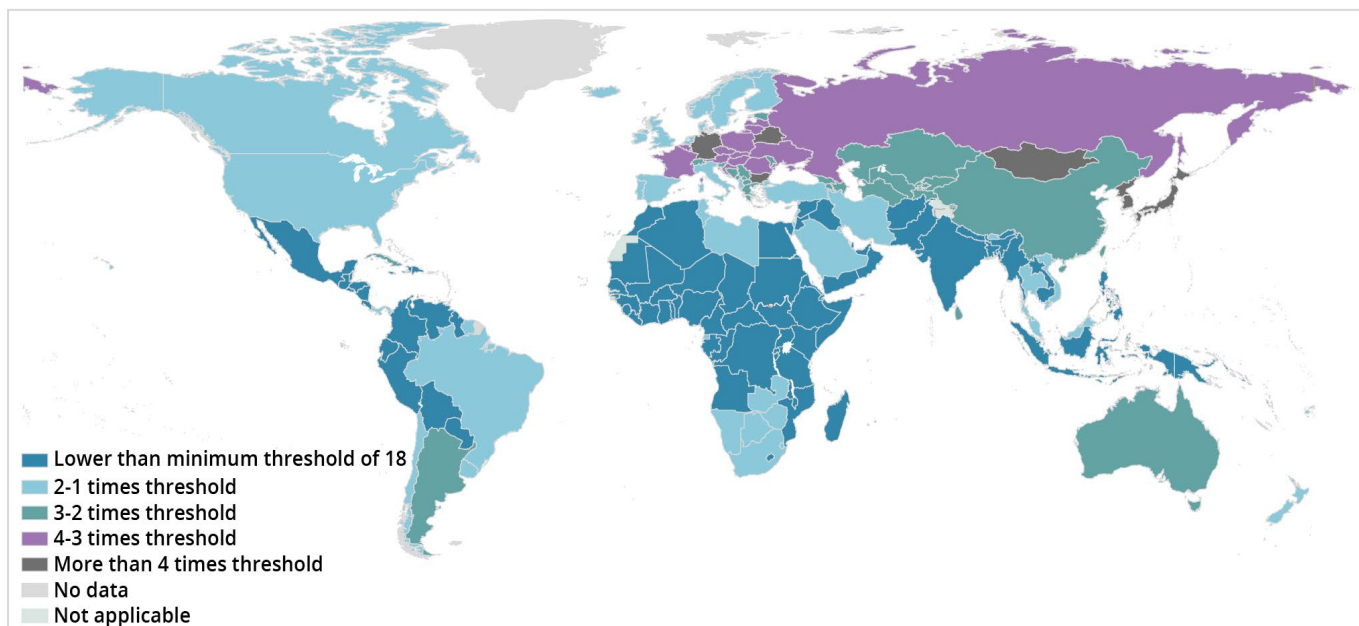
<sup>16</sup> OCHA, Yemen Humanitarian Needs Overview 2023, December 2022. p56

<sup>17</sup> OCHA, Yemen Humanitarian Needs Overview 2023, December 2022.

<sup>18</sup> WHO global service coverage database, 2023 update. [Hospital beds \(per 10 000 population\) \(who.int\)](https://www.who.int/data/directory/04102023/hospital-beds-per-10000-population)



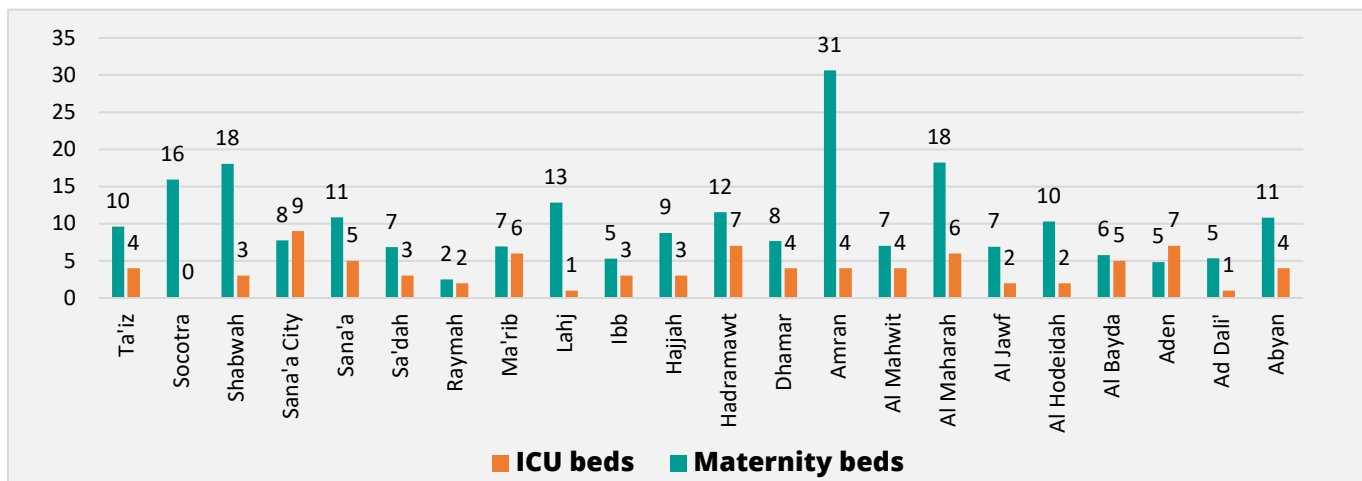
Fig (22): Hospital beds density per 10,000 population by country in 2020, the latest available year



Source: World health statistics 2022 - Monitoring health for the SDGs 19 May 2022. P69. <https://apps.who.int/iris/rest/bitstreams/1435584/retrieve>  
 Note: the threshold of 18 beds/10,000 population corresponds to the minimum observed for OECD members of 20 beds/10,000 population (based on the 2015 edition of the OECD Health Statistics database). This threshold translates to an inpatient hospitalization rate of approximately 5% of the total population annually.

At the governorate level, Figure (23) shows that Amran governorate has 31 maternity beds per 100,000 people (highest), compared to 2 beds in Raymah governorate. As for ICU beds, Sana'a Ciity reported 9 beds per 100,000, followed by Aden and Hadramawt with 7 beds , the highest among all governorates, compared to only 1 bed in each of Ad Dali' and Lahj (lowest governorates).

Fig (23): Availability of maternity and ICU beds, per 100,000 population; 2022



Source: - Data from WHO: <https://app.powerbi.com/view?r=eyJrIjojOTY2NDNhZjQyYjA0My00Zjc3LTgzYjQyQ3YzI3YmU2NWRLiwiidCI6ImY2MTBjMGJlWjwkJmJjQmNGizOS04MTBiLTNkYzI4MGFmYjU5MCIsmMiOj9>  
 - Data from MoPHP: [https://moh-ye.org/?page\\_id=7294](https://moh-ye.org/?page_id=7294)

## Sector damage quantification, needs assessment and functionality status of health facilities

The health system capacity is crippled by infrastructure damage and lack of service delivery. Overall, the cost of infrastructure reconstruction and service delivery restoration of war and conflict-afflicted health facilities in the 16 cities is estimated to range between US\$1.3 billion and US\$1.6 billion. For a cost-effective reconstruction process, investments should be based on the demographic and epidemiological profile of the population to guarantee primary and secondary health care service delivery at feasible levels<sup>19</sup>.

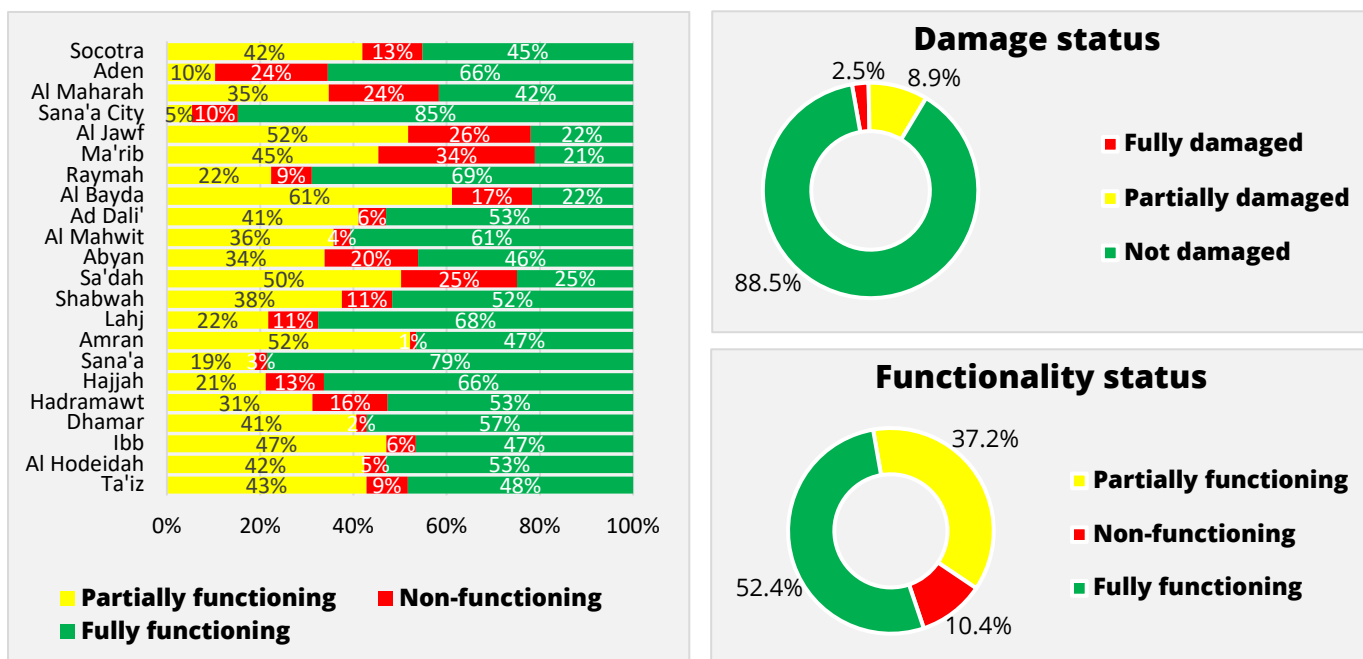
<sup>19</sup> Yemen Dynamic Needs Assessment: Phase 3. 2020 The World Bank. P73

The number of health facilities that were completely or partially damaged as a result of the war and conflict reached 594 out of a total of 5,291 HFs in the country. This means about 11% of the health facilities need to be rebuilt or rehabilitated.<sup>20</sup>

### Functionality status of health facilities per governorate

According to the data<sup>21</sup> of the Health Resources and Services Availability Monitoring System; 52.4% of the health facilities are fully Functional, but with deficiencies in some medical services. As for the rest of the health facilities: (47.6%) are either partially functioning or not working at all. This is due to several reasons, including shortages in the health staff, deficiencies in medical equipment and supplies, as well as poor qualification and training, and insufficient operational costs. It should be noted that 24.8% of the health facilities have full access to power, while 42.9% partial powered, and the rest (32.3%) have no power at all.

Fig (24): HFs functionality and damage status by governorate, 2022



Source:  
 - Data from WHO: <https://app.powerbi.com/view?r=eyJrIjojOTY2NDNhZjQyYjA0My00Zjc3LTgzYjYjOTY2O3YzI3YmU2NWRLiwiidCI6ImY2MTBjMGI3LWJkMjQ0NGIzOS04MTBiLTNkYzI4MGFmYjU5MCIslmMiOjh9>  
 - Data from MoPHP: [https://moh-ye.org/?page\\_id=7294](https://moh-ye.org/?page_id=7294)

Data in Figure (24) indicates that 4 governorates reported the lowest percentage health facilities operating at full capacity: Marib, Al-Jawf, Al-Baida and Sa'dah, While the governorates of Ma'rib, Al-Jawf, Sa'dah, Aden, and Al-Mahra have the highest percentage of non-functioning health facilities.

It is estimated that 91% to 93% of the HFs lack standard medical equipment, and those in operation rely on outdated equipment. Also, 76% of health facilities in Yemen have no MIS, and this ratio rises to 87% for health centers<sup>22</sup>.

### Coverage by health personnel in all governorates

Nationally, there are only 18.8 health workers available per 10,000 people, which is less than the WHO standard threshold of 22 health workers per 10,000 people. Meanwhile, more than 37% of functioning hospitals in Yemen were without a specialist<sup>23</sup>. Figure (25) shows a variation across governorates, and that the coverage indicator remains a challenge for 17 governorates.

<sup>20</sup> - WHO Database : <https://app.powerbi.com/view?r=eyJrIjojOTY2NDNhZjQyYjA0My00Zjc3LTgzYjYjOTY2O3YzI3YmU2NWRLiwiidCI6ImY2MTBjMGI3LWJkMjQ0NGIzOS04MTBiLTNkYzI4MGFmYjU5MCIslmMiOjh9>  
[https://moh-ye.org/?page\\_id=7294](https://moh-ye.org/?page_id=7294)

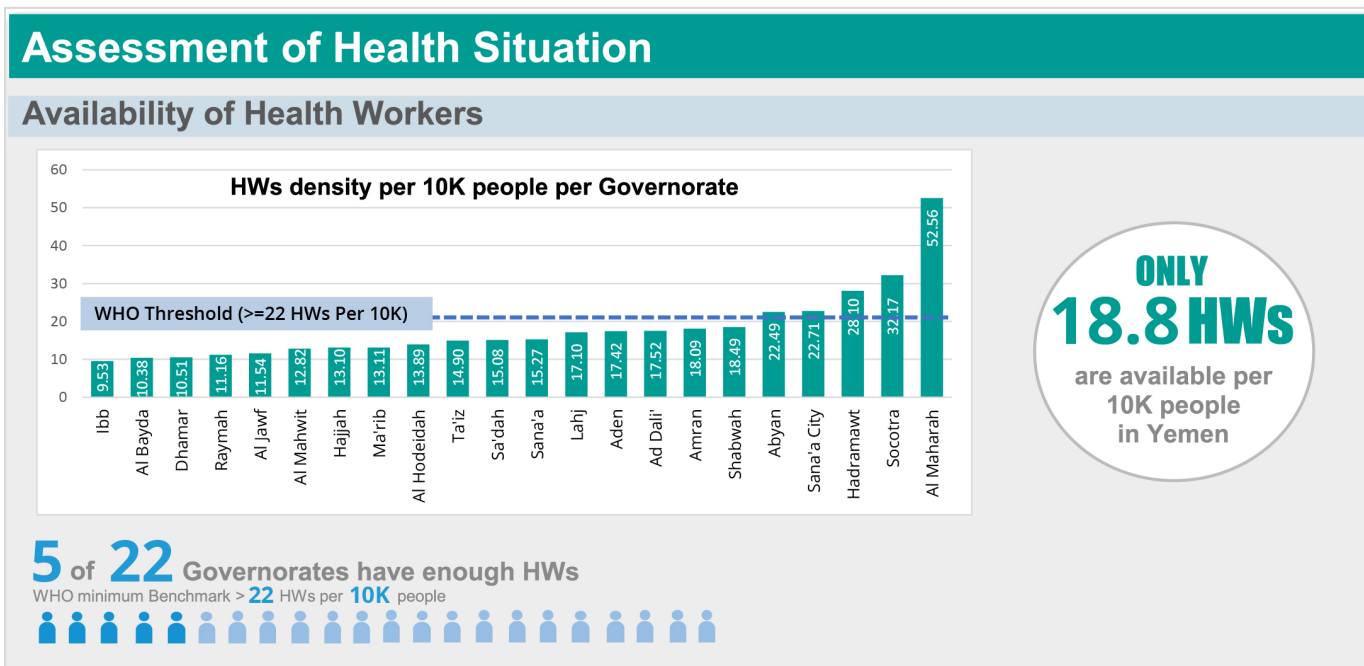
- MoPHP Database: [https://moh-ye.org/?page\\_id=7294](https://moh-ye.org/?page_id=7294)

<sup>21</sup>Ibid

<sup>22</sup> Health resources and services availability indicators - Ministry of Health ([moh-ye.org](https://moh-ye.org)).

<sup>23</sup> OCHA, Yemen Humanitarian Needs Overview 2023, December 2022. p56.

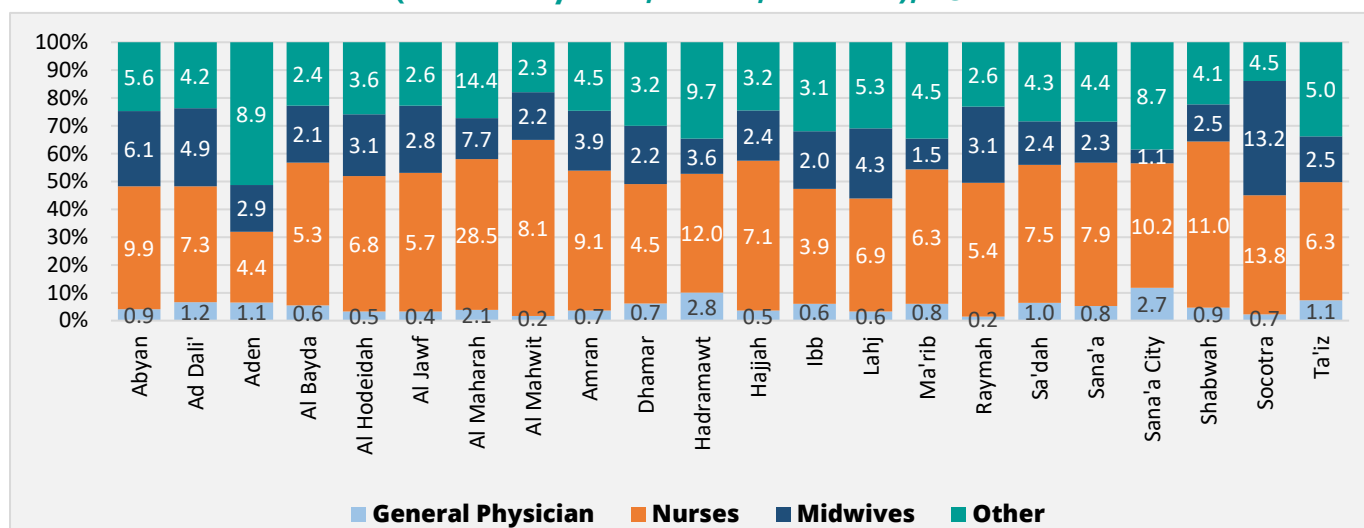
Fig (25): Health resources per 10,000 people by governorate, 2022



Source:  
 - Data from WHO: <https://app.powerbi.com/view?r=eyJrIjojOTY2NDNDhZjQyYjA0My00Zjc3LTgzYjQyY2Q3YzI3YmU2NWRLliwidCI6ImY2MTBjMGI3LWJkMjQ0NGlZOS04MTBiLTNkYzI4MGFmYjU5MCIslmMiOj9>  
 - Data from MoPHP: [https://moh-ye.org/?page\\_id=7294](https://moh-ye.org/?page_id=7294)

Figure (26) about health resources indicators show degree of variation across governorates. As for General Physician/10,000 people indicator, Hadramawt, and Sana'a City come on top with 2.8, and 2.7, respectively, during 2022. While Raymah, and AlMahwit reported less than 0.2 General Physician per 10,000 people. Regarding Nurses/10,000 people indicator, we see a steep variation across governorates, reaching (28.5) in Al Mahrah, followed by Socotra (13.8), Hadramawt (12), Shabwah (11) and Sana'a City (10.2). In the rest of governorates, it is less, reaching its lowest in Ibb (3.9) and Aden (4.4) Nurses/10,000 people. The midwives per 10,000 people indicator also varies, and is much better in Al Mahrah, Socotra, and Hadramawt than the rest of the governorates.

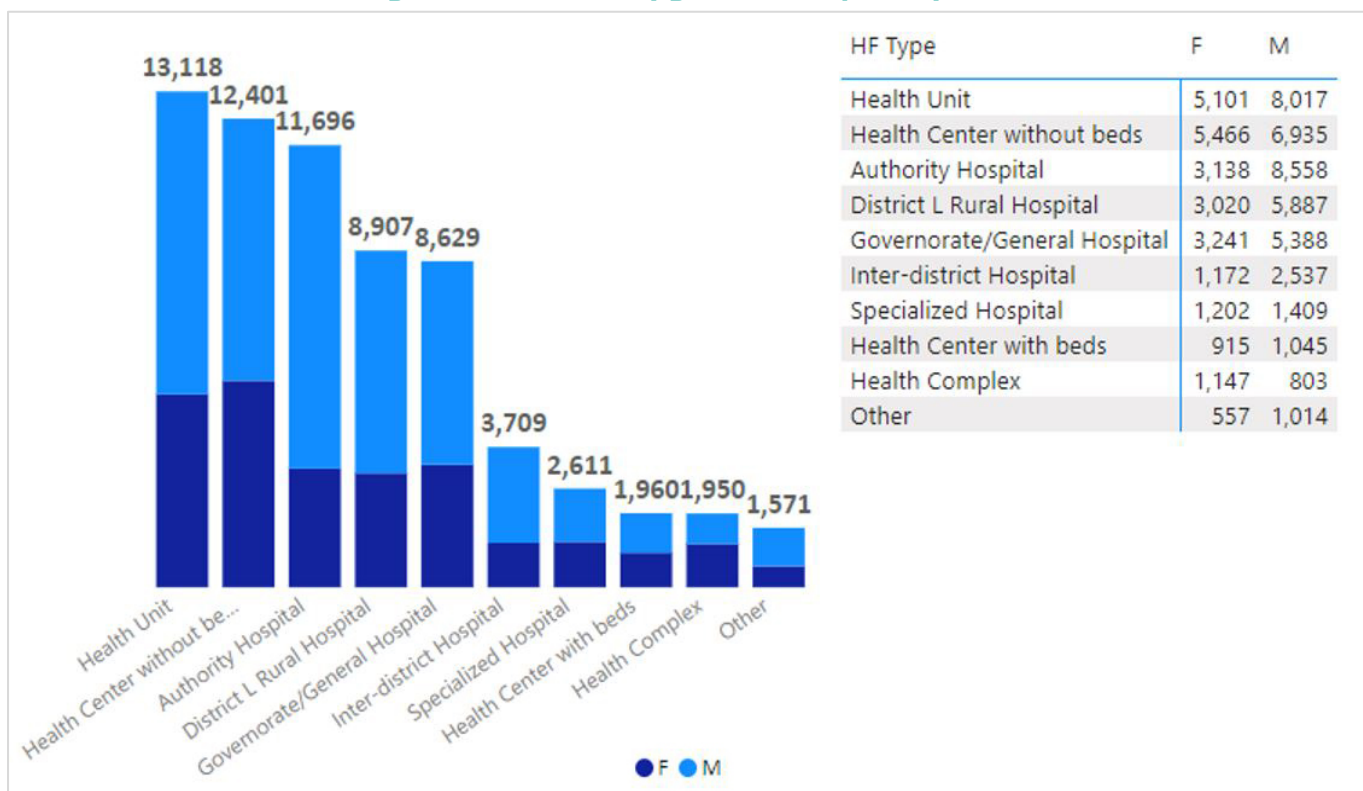
Fig (26): Health staff density per 10k Population by governorate (General Physician, Nurses, Midwives); 2022



Source:  
 - Data from WHO: <https://app.powerbi.com/view?r=eyJrIjojOTY2NDNDhZjQyYjA0My00Zjc3LTgzYjQyY2Q3YzI3YmU2NWRLliwidCI6ImY2MTBjMGI3LWJkMjQ0NGlZOS04MTBiLTNkYzI4MGFmYjU5MCIslmMiOj9>  
 - Data from MoPHP: [https://moh-ye.org/?page\\_id=7294](https://moh-ye.org/?page_id=7294)

With regard to females, Figure (27) shows a clear shortage in female HWs across the various health facilities compared to males, as female HWs in all types of health facilities amount to 24,959 compared to 41,593 males, or just 37.5% of the total health workers.

Fig (27): HWs ratio by gender and specialty, 2022



Source:

- Data from WHO:

<https://app.powerbi.com/view?r=eyJrIjoiOTY2NDNhZjQyYjA0My00Zjc3LTgzYjQyY2Q3YzI3YmU2NWRRlliwidCI6ImY2MTBjMGi3LWJkMjQyNGl3OS04MTBiLTNkYzI4MGFmYjU5MCI6ImMiOj9>

- Data from MoPHP: [https://moh-ye.org/?page\\_id=7294](https://moh-ye.org/?page_id=7294)

Hence; additional health resources (doctors and nurses) have to be made available, including outputs from the medical colleges and health institutes, with further training and qualifying of health staff in various specialties, and opening nursing schools at hospitals to meet standard needs, and provide efficient and sufficient health to the people.

### Universal Health Coverage (UHC)

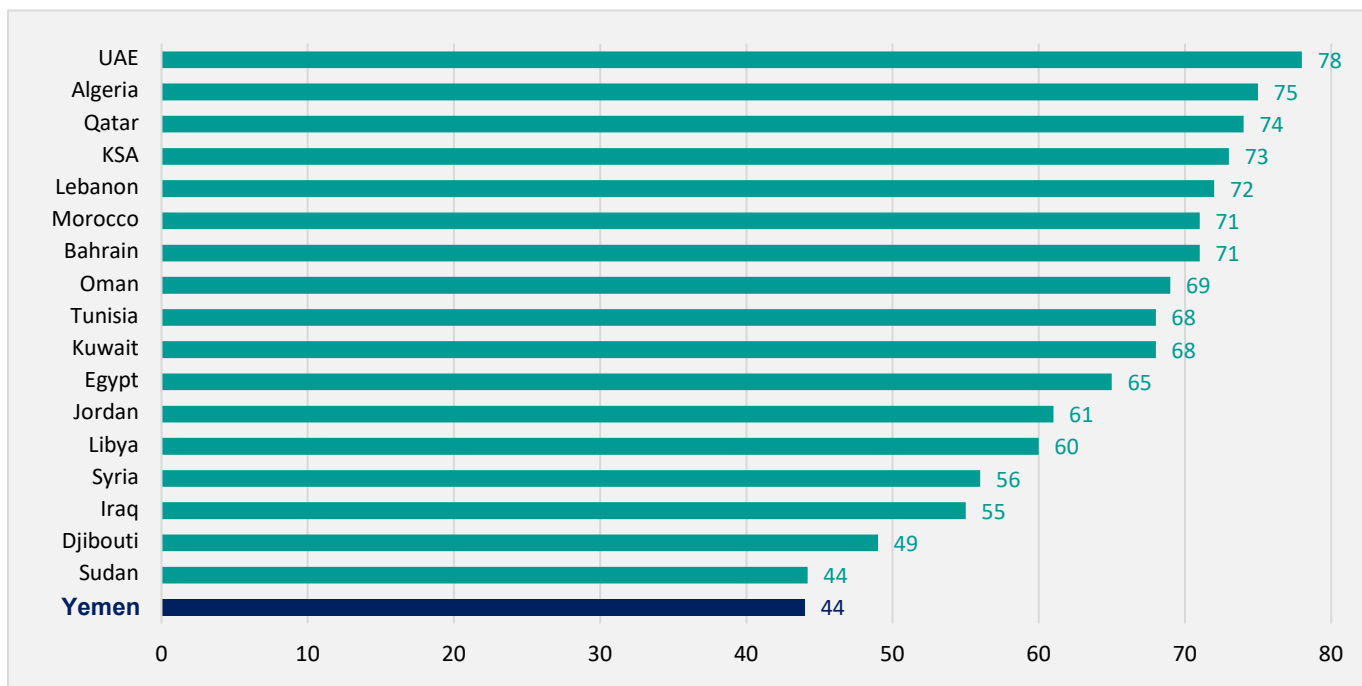
Universal health coverage (UHC) means that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship. This includes the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation, and palliative care<sup>24</sup>.

The construction of the UHC service coverage index (SCI) to monitor SDG indicator 3.8.1 is based on 14 indicators extracted from various sources and organized into four broad categories of service coverage, namely; a) reproductive, b) maternal, newborn and child health (RMNCH), c) infectious diseases, d) noncommunicable diseases, and service capacity and access. These indicators are meant to be indicative of service coverage and should not be interpreted as a complete or exhaustive list of the health services or interventions that are required to achieve UHC<sup>25</sup>. In 2019, the UHC SCI ranged from highest of 78% and 75% in UAE and Algeria, and lowest of 44% in Yemen and Sudan, see Figure 28.

<sup>24</sup> Universal health coverage (UHC). 12 December 2022. 2023 WHO. [https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc))

<sup>25</sup> Coverage of essential health services (SDG 3.8.1). 2023 WHO. <https://www.who.int/data/gho/data/themes/topics/service-coverage>

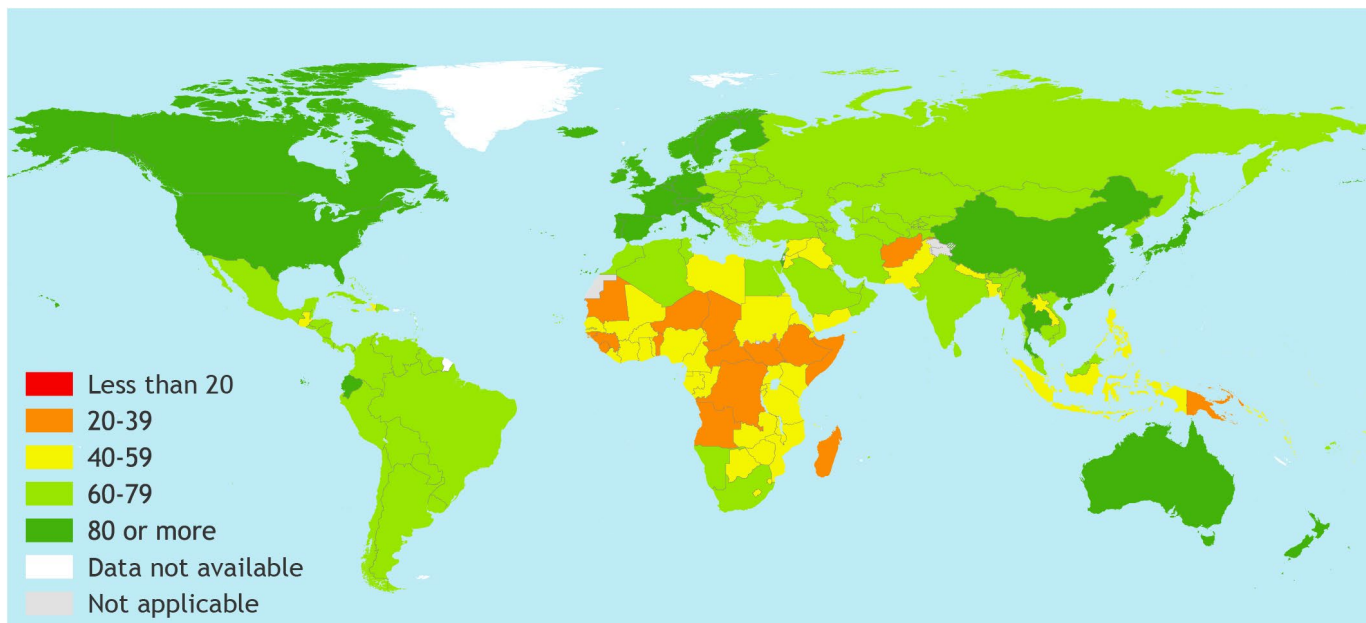
Fig (28): UHC SCI for Arab countries (SDG indicator 3-8-1), 2019; (%)



Source: Global Health Observatory data repository. WHO, SDG Target 3.8 | Achieve universal health coverage (UHC), including financial risk protection. Last updated: 04-12-2023. <https://apps.who.int/gho/data/node.main.SDG38?lang=en>

Globally, the UHC rate ranged from 27% to 89% in 194 countries that are members of the World Health Organization in 2019. Of them, 31 countries had very high service coverage (index 80 or greater), 93 countries had high coverage (Index 60 and 79), while 54 countries had medium coverage (index between 40 and 59), and 16 countries had low coverage (index between 20 and 39). No country has coverage so low (the index is less than 20), see Figure (29).

Fig (29): UHC SCI at the global level, 2019



Source: Tracking Universal Health Coverage: 2021 Global monitoring report. June 27, 2022. <https://www.who.int/publications/i/item/9789240040618>

The UHC SCI is highly correlated with life expectancy at birth, reflecting the potential impact of high coverage of essential health services. As UHC rate goes up, so does the average life expectancy at birth. Comprehensive coverage of essential health services care could improve health outcomes, including reduced mortality, especially in low-resource settings where socioeconomic factors lag behind<sup>26</sup>.

<sup>26</sup> Tracking Universal Health Coverage: 2021 global monitoring report. Geneva: World Health Organization and International Bank for Reconstruction and Development / World Bank; 2021. 27 June 2022. <https://www.who.int/publications/i/item/9789240040618>



**UHC also allows countries to make the most of their human capital being** their strongest asset. Supporting health is vital investment in human capital and economic growth; and good health enables children to go to school and adults to work. Universal health coverage is also one of the largest sectors in the global economy, and provides 50 million jobs, including for women<sup>27</sup>.

## UHC and Sustainable Development Goals

Achieving universal health coverage is one of the goals set by countries around the world when they adopted the 2030 Sustainable Development Goals in 2015. Countries reaffirmed at the high-level meeting of the United Nations General Assembly on UHC in 2019 that health is a prerequisite for achieving sustainable development, with its social, economic and environmental dimensions being its outcome and indicator; further specified under (SDG indicators 3-8-1) on universal health coverage <sup>28</sup>.

In Yemen, despite the improvements made in the coverage of universal health coverage across various types of service, and given the increase in the UHC index from 31% in 2000 to 44% in 2019, on average, as previously indicated. However, achieving UHC SCI (indicator 3-8-1 of the SDGs) remains a major challenge for Yemen. In order to build back better, 90% of key health interventions should be redirected to universal health coverage under primary health services.<sup>29</sup>

In addition, SDG # 1 which calls for “Ending poverty in all its forms everywhere,” may be in jeopardy if universal health coverage is not activated, given the fact that 80% of the population in Yemen are poor due to several factors and reasons, mainly low UHC rate. In Yemen, health services targeting noncommunicable diseases in rural areas are very much lacking, although noncommunicable diseases such as diabetes, cardiovascular diseases, cancer, kidney diseases, epilepsy, asthma, mental illnesses, and others pose a significant pathological burden.

## The private sector's role in health sector

The private sector contributes to the health system by investing in private health facilities and utilities. The private health sector has expanded since the early 1990s, encouraged by the government. Now, it has health services and health personnel competing with the public sector<sup>30</sup>. It runs its own health facilities including hospitals, clinics, medical centers, general practitioners' clinics, specialized clinics, dental clinics, dental labs, laboratories, x-ray clinics, first aid clinics, obstetric clinics, pharmacies and drug stores. In view of the importance and momentum of health institutions due to mounting needs, it has become necessary and vital to expand cooperation prospects with the private sector using an appropriate approach, considering the private sector as a partner in drawing, implementing and following up on health policies in Yemen. Hence, encouraging and supporting the private sector to invest in the health sector is of paramount importance for this vital sector to develop and grow, as well as to provide quality services to the patients in Yemen. This includes providing the necessary incentives and facilities to encourage the private sector invest more and actively contribute to health services at reasonable prices, and to produce, manufacture and import medicines. And preparing a framework for health partnership between the public and private sectors, including involving the private sector in drawing up health policies, setting governance behaviors for private sector engagement in health care value chains and public policy.<sup>31</sup>

<sup>27</sup> <https://www.worldbank.org/en/topic/universalhealthcoverage>

<sup>28</sup> Universal health coverage (UHC). 12 December 2022. 2023 WHO. [https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc))

<sup>29</sup> Ibid

<sup>30</sup> World Bank, health sector in Yemen policy note, September, 2021. P 8.

<sup>31</sup> Towards better engagement of the private sector in health service delivery, World Health Organization, 2022





### III: Analysis of spending and financing indicators for Yemen's health sector

#### Public spending and personal (household) spending on health

Leveraging health spending is one of SDGs (SDG 3.c). Data on health spending levels and trends reveals key issues such as strengths and weaknesses and potential areas of investment, e.g. additional health facilities, better health MIS, or highly-trained human resources.

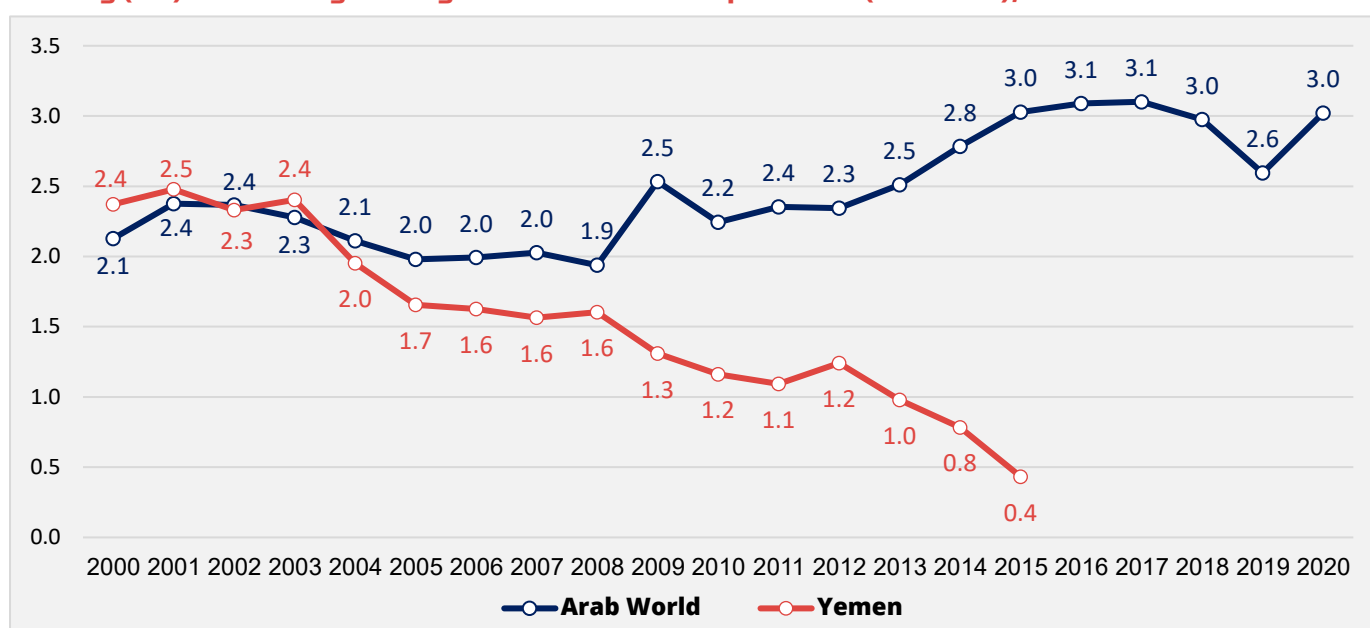
Health spending is also crucial to achieving UHC, including reducing financial hardship (Goal 3 Target 8). Meanwhile, data on personal spending is considered a key indicator on financial protection, and therefore, progress towards universal health coverage<sup>32</sup>. Spending on maternal and child health is also of substantial economic and social benefits to ensure a safe and productive life.

In this context, we will be focusing on two indicators: general government spending levels on health as a proportion of GDP, as well as catastrophic and impoverishing out-of-pocket health spending.

#### Government spending on health % GDP in Yemen

General government health spending in Yemen (public spending on health from local sources as a percentage of the economy weighted by GDP) reached 0.4% in 2015. The highest value over the past fifteen years reached 2.5% and that was in 2001. In the Arab region, this same indicator averaged 3% in 2015, and 3.1% (highest) in 2017.

**Fig (30): Domestic general government health expenditure (% of GDP); Yemen and Arab World**



Source: World Bank Database, <https://data.worldbank.org/indicator/SH.XPD.GHED.GD.ZS?locations=1A-YE>

Between (2009-2014); government spending on health as a percentage of GDP averaged about 1.4%, and 4.2% as averaged to total state public spending during the same period<sup>33</sup>. This indicates that government spending on the health was low compared to some Arab countries such as Tunisia and Jordan, with about 3% and 5.4%, respectively, and less than the standard percentage recommended by the World Health Organization estimated at about 5% of GDP<sup>34</sup>.

<sup>32</sup> WHO, Global Health Expenditure Database, Last update: April 25, 2023. <https://apps.who.int/nha/database>

<sup>33</sup> UNICEF, Child Budget Analysis in Yemen, 2014.

<sup>34</sup> UNDP, Human Development Report, 2013.

## Catastrophic and impoverishing out-of-pocket health spending vs. SDGs

Catastrophic spending health (**SDG indicator 3- 8- 2**) is defined as out-of-pocket health spending exceeding 10% or 25% of the total household expenditure or income.<sup>35</sup>

Table (2) shows that 15.83% of the population in Yemen incurred catastrophic health spending in 2014, or 10% of the HH budget, while the percentage of the population whose health spending exceeded 25% reached 4.16%. This is a high percentage compared to many countries and the global average.

**Table (2): Catastrophic health spending indicator (SDG indicator 3- 8- 2);**  
**% of population incurred out-of-pocket health spending**

	Latest year	At 10% of household total expenditure or income			At 25% of household total expenditure or income		
		Total	Urban	Rural	Total	Urban	Rural
Qatar	2017	1.3			0.1		
KSA	2018	1.31			0.58		
Sudan	2014	12.46	10.87	13.32	1.75	1.61	1.83
<b>Yemen</b>	<b>2014</b>	<b>15.83</b>	<b>12.35</b>	<b>17.32</b>	<b>4.16</b>	<b>3.36</b>	<b>4.5</b>
Morocco	2019	8.2	7.9	8.6	0.9	0.8	1.1
Mauritania	2014	11.66	6.92	16.09	2.95	1.21	4.57
Jordan	2018	6.36			1.25		
Djibouti	2017	1.47	1.43	1.65	0.26	0.25	0.32
Bahrain	2015	4.88			1.4		
Ethiopia	2018	3.48	4.64	3.06	0.57	0.76	0.5
Pakistan	2018	5.39	3.76	6.32	1.02	0.82	1.13
World	2015	12.7			2.9		

Source: Global Health Observatory data repository. WHO, SDG Target 3.8 | Achieve universal health coverage (UHC), including financial risk protection. Last updated: 04-12-2023. <https://apps.who.int/gho/data/node.main.SDG38?lang=en>

Trends in catastrophic health spending by country, as tracked by SDG indicators, show impoverishment due to out-of-pocket health spending at the \$1.9 a day in Yemen reached 3.5% in 2014. This means this much of the population impoverished due to out-of-pocket health spending, contributes to increasing the poverty rate in Yemen. Thus, it constitutes a major challenge to achieving SDG # 1 "end poverty in all its forms everywhere".<sup>36</sup>

Specialized, general, and governorate hospitals teem with patients because no referral system exists. Yet, it was possible to deal with their cases at primary health care facilities (health centers and units), community health workers or community volunteers. Establishing a referral system linking all levels of the health system in Yemen and supporting the provision of specialized medical services at health centers and units, will contribute to reducing out-of-pocket health spending, especially in rural areas, reducing transportation costs, reducing the caseload on main hospitals, and contributing to achieving financial and administrative efficiency for all health system facilities.

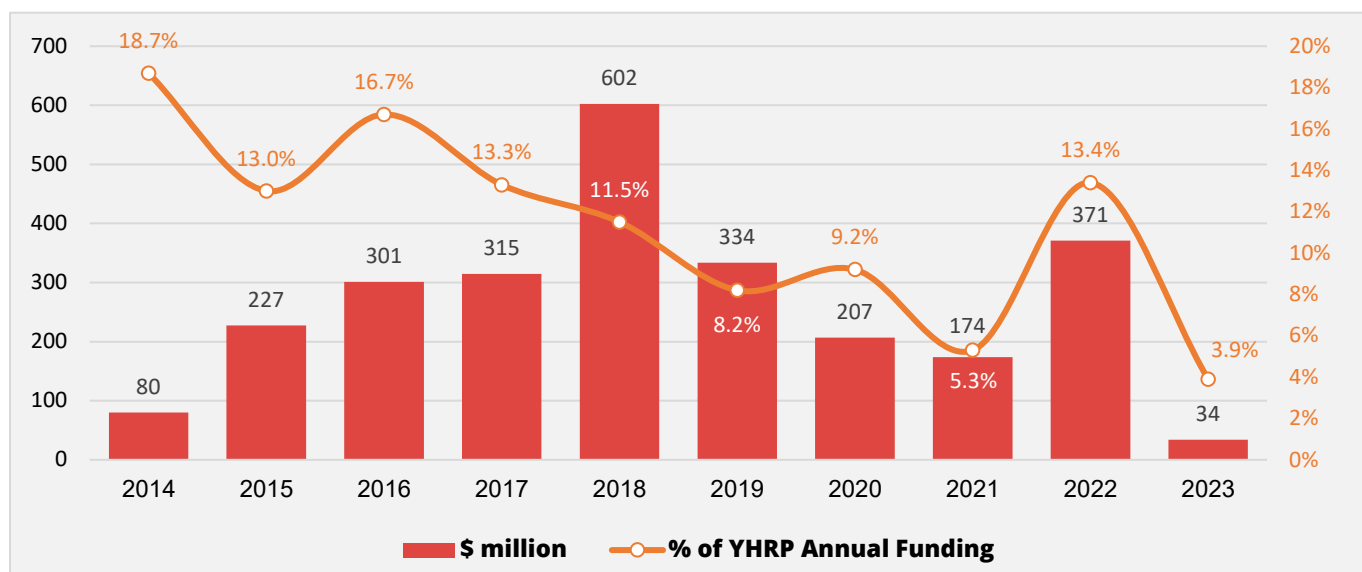
## Humanitarian health financing and external funding indicators

Latest data published end of April 2023 as in Figure (31) shows the actual funding provided to meet the humanitarian health needs during the period (2014-2023), and its relative importance as a share of the total volume of funds allocated for the Yemen Humanitarian Response Plan. External funding for health care increased steadily during the period (2014-2018), reaching its peak in 2018 at about \$602 million, which then declined during (2019-2021) to about \$174 million in 2021. In 2022, it reached about \$371 million. As of the end of April 2023, it amounted to about \$34 million; the highest in 2014 at 18.7%, and the lowest in 2023 at 3.9% (as of end of April 2023).

<sup>35</sup> Global Monitoring Report on Financial Protection in Health 2019, 2020

<sup>36</sup> Global Monitoring Report on Financial Protection in Health 2021

**Fig (31): Actual funding for humanitarian health needs in Yemen (\$ million) and ratio to the total annual funding (%)**



Source: Note: Includes all humanitarian funding reported for the country inside and outside the YHRP. Financial Tracking Service (FTS), Yemen 2023. data as of 04/29/2023 14:02 <https://fts.unocha.org/countries/248/summary/2023>

Donor funding for Yemen is on the decline for all sectors, mainly the health sector, which would negatively affect continued funding of health centers during the coming period, including staff incentives, operating costs, supplies, medicines, electricity, and equipment needed to provide essential life-saving health services to the Yemeni people.

Yemen’s health sector requires urgent and robust support from international and regional partners to deliver a minimum health service package that prioritizes access to primary health care services by vulnerable population groups, especially in remote and conflict-affected districts of Yemen where these services are most needed. Despite funding provided to the health sector, underfunding of the Health Cluster in Yemen (serving 4812 health facilities, 276 hospitals and specialized centers, 1199 health centers, and 3337 health units) in 2023<sup>37</sup>.

International reports indicate that decreased funding would trigger a state of instability regarding the future of health services in Yemen<sup>38</sup>. Meanwhile, health underfunding also compromises efforts to address humanitarian health needs in Yemen<sup>39</sup>. It is estimated that funding shortfalls could leave more than half a million people in Yemen without health services<sup>40</sup>.

Guaranteeing broader access to health services is key to achieving universal health coverage, yet it is not the only factor that must be considered. For a patient to receive care at the expense of family well-being, or at risk of falling into poverty, runs counter to the very idea of universal health coverage. Yet, financial risks protection, through government health spending, can increase universal health coverage and reduce chances of medical impoverishment<sup>41</sup>. This requires supporting the expansion of public health spending in Yemen, and increasing coverage of health services.

<sup>37</sup> Yemen’s health crisis: WHO calls for increased funding to save millions of Yemenis. Posted 27 Feb 2023. <https://reliefweb.int/report/yemen/yemens-health-crisis-who-calls-increased-funding-save-millions-yemenis>

<sup>38</sup> World Bank, health sector in Yemen policy note, September, 2021.

<sup>39</sup> USAID, USAID Yemen Health Factsheet, 2020. <https://www.usaid.gov/crisis/yemen>

<sup>40</sup> Shortfall in Funding Could Leave Over Half a Million People in Yemen Without Health Services. Posted 7 Apr 2023 <https://reliefweb.int/report/yemen/shortfall-funding-could-leave-over-half-million-people-yemen-without-health-services>

<sup>41</sup> Financing Global Health 2021. Global Health Priorities in a Time of Change. INSTITUTE FOR HEALTH METRICS AND EVALUATION UNIVERSITY OF WASHINGTON, IHME, 2023.



## IV: Major challenges facing Yemen's health sector

Nearly nine years of conflict and war have further buckled the already fragile health sector in Yemen, which has fueled the incidence of diseases, including the COVID-19. The exacerbating suffering of the Yemeni population, and growing health needs amid continued downsizing of spending and financing for health facilities means more and more challenges facing the health sector in Yemen.

### Health developmental challenges including health targets part of SDGs

The United Nations declares Yemen as one of the worst humanitarian crises in the world<sup>42</sup>. With nine years into conflict, millions of people continued to suffer compounded effects of disrupted health services, which led to an increase in humanitarian needs. Major health development challenges can be reviewed as follows:

#### First: Challenges due to Growing Humanitarian and Emergency Needs

According to Yemen Humanitarian Needs Overview 2023<sup>43</sup>, the rapidly collapsing health sector left:

- 20.3 million in need of health assistance, 90% of them are vulnerable groups, women, children and people with disabilities, including 12.9 million with acute need.
- Of the 333 districts, 226 (68 per cent) are with severe and extreme health needs (severity score 4 and 5).
- Approximately 5.2 million women need health support, including 3.2 million who require access to medical, reproductive, and other health support, with nearly 1.1 million pregnant women needing emergency obstetric care.
- Out of 333 districts, 117 (35 per cent) districts have no functioning district hospital, leaving people without secondary health care.
- Women of childbearing age, particularly pregnant and lactating women, have limited or no access to reproductive health (RH) services, including antenatal care, safe delivery, postnatal care, family planning and emergency obstetric and new-born care.
- Poor coverage, lack of specialized staff, inadequacy of essential medical supplies and a lack of female doctors, particularly at primary health care (PHC) facility level, affects three-quarters of rural women's access to maternal health services.
- Significant unaffordability among the population is a major obstacle for vulnerable households to receive quality health services.
- The key drivers of the high maternal mortality ratio in Yemen are the poor access to and utilization of lifesaving reproductive maternal and new-born health (RMNH) services.
- 49 per cent of health facilities are either partially functional or non-functional due to staff, fund and power shortages, as well as lack of medicines, supplies and equipment.

#### Second: challenges keeping Yemen lag behind the world in achieving SDG # 3 "Good health and well-being"

The challenges facing Yemen's health sector include the inability to achieve concrete progress towards Goal # 3 of the Global Sustainable Development Goals 2030, and Yemen's failure to ensure provision good health.

- Challenges related to health care, bottlenecked in infant mortality, reproductive health, maternal and child health services, low national life expectancy rate compared to the Arab and international average, and challenges to ensure universal health coverage.
- Wide scale disruption in basic health services, as Yemen's population faces greater financial constraints in accessing care due to out-of-pocket health spending, financial hardship is likely to get worse, especially for those who are already disadvantaged, triggering higher rate of impoverishment due to out-of-pocket health spending<sup>44</sup>.

In addition, urgent and concerted action by all national and international partners is needed to address challenges putting Yemen back on track towards achieving SDG 3. Efforts must include more attention and investment to improve health care for children and the most vulnerable groups.

<sup>42</sup> UNHCR: Funding gap of US\$295m in Yemen jeopardizes life-saving humanitarian aid, 27 February 2023. <https://www.unhcr.org/news/unhcr-funding-gap-us-295m-yemen-jeopardizes-life-saving-humanitarian-aid>

<sup>43</sup> OCHA, Yemen Humanitarian Needs Overview 2023, December 2022.

<sup>44</sup> SDGs Report 2022, United Nations, Department of Economic and Social Affairs.

## Health economics challenges

Analysis of health economic challenges in Yemen highlights further gaps in physical access to health facilities, investment, spending and health financing. Major health economic challenges can be reviewed as follows:

### First: Challenges of physical access to health facilities and access to health services

Challenges indicate urgent need for additional investment to alleviate the suffering of people in Yemen, facilitate access to health facilities and achieve access to basic health services.

Table (3) shows 30.6% of the population lived more than 30 minutes driving time from the nearest functional primary care facility, and more than 42.4% lived more than one hour from the nearest hospital. Most patients (83%) walk 1-2 hours to the nearest facility, but nearly half of the population is further than a 30 minute walk from a primary care facility.

**Table (3) Accessibility: % of the population living within specified travel time of the nearest health facility by type, 2020**

Travel time	Nearest PHC with		Nearest Hospital with	
	Vehicle	by foot	Vehicle	by foot
< 30 minutes	69.4%	55%	37.4%	17%
< 60 minutes	90.9%	82%	57.6%	32%
< 120 minutes	98.4%	97%	80.5%	52%

Source:

- Health Sector in Yemen Policy Note, World Bank. September 2021

- Estimating access to health care in Yemen, a complex humanitarian emergency setting: a descriptive applied geospatial analysis. 2022.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7561303/>

Findings in Table (4) on access to basic services, reveal that nearly 40% of the population live within a distance of more than two hours drive from the nearest comprehensive obstetrics care services or emergency surgery, and that one third of the population (32%) live within a distance of more than an hour drive from the nearest prenatal care facility, while about 70% of the population live within a distance of over half an hour drive from the nearest obstetric emergency health facility, and from the nearest comprehensive obstetrics health facility respectively, which poses a great health risk to mothers, newborns and children.

**Table (4): ACCESS TO SPECIFIC HEALTH SERVICES, BY DRIVE TIMES and Type Of Service, 2020 (%)**

Service	% of population with ACCESS TO SPECIFIC HEALTH SERVICES, BY DRIVE TIMES		
	Within 30 minutes	Within 60 minutes	Within 120 minutes
Antenatal Care	45.4%	68%	85.7%
Treatment of Under 5 illnesses	53.8%	77%	92%
Malnutrition treatment	62.5%	85.4%	95.4%
Immunizations	62.5%	85.1%	95.7%
Basic Emergency Obstetric Care	34.3%	53.1%	75.8%
Comprehensive Emergency Obstetric Care	29.2%	41.8%	62.3%
Emergency Surgery	27.6%	40.1%	61.5%

Source:

- Health Sector in Yemen Policy Note, World Bank. September 2021

- Estimating access to health care in Yemen, a complex humanitarian emergency setting: a descriptive applied geospatial analysis. 2022.

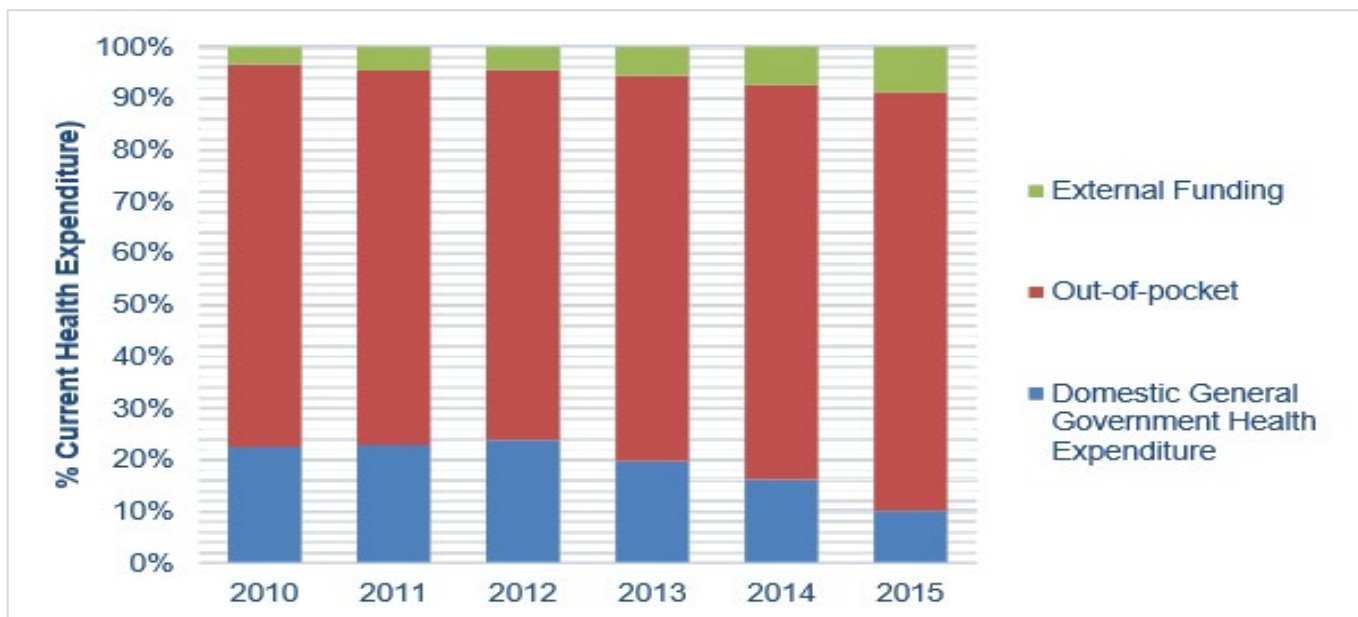
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7561303/>

### Second: Health spending and financing challenges

Three main aspects are highlighted here: general government health spending, private out-of-pocket spending, and reliance on external funding.

While no updated data are available, it is possible to infer from the available data an analysis of the challenges facing health spending. As Figure (32) shows that during the period (2010-2015) public health expenditures as a percentage of total health expenditure decreased from 22.5 percent to only 10.2 percent and OOP expenditures increased from 74 to 81 percent, and external (funding) rose from 3.5 per cent to 8.8 per cent.

Fig (32): % CURRENT HEALTH EXPENDITURE BY SOURCE (GOVERNMENT, OOP, EXTERNAL)



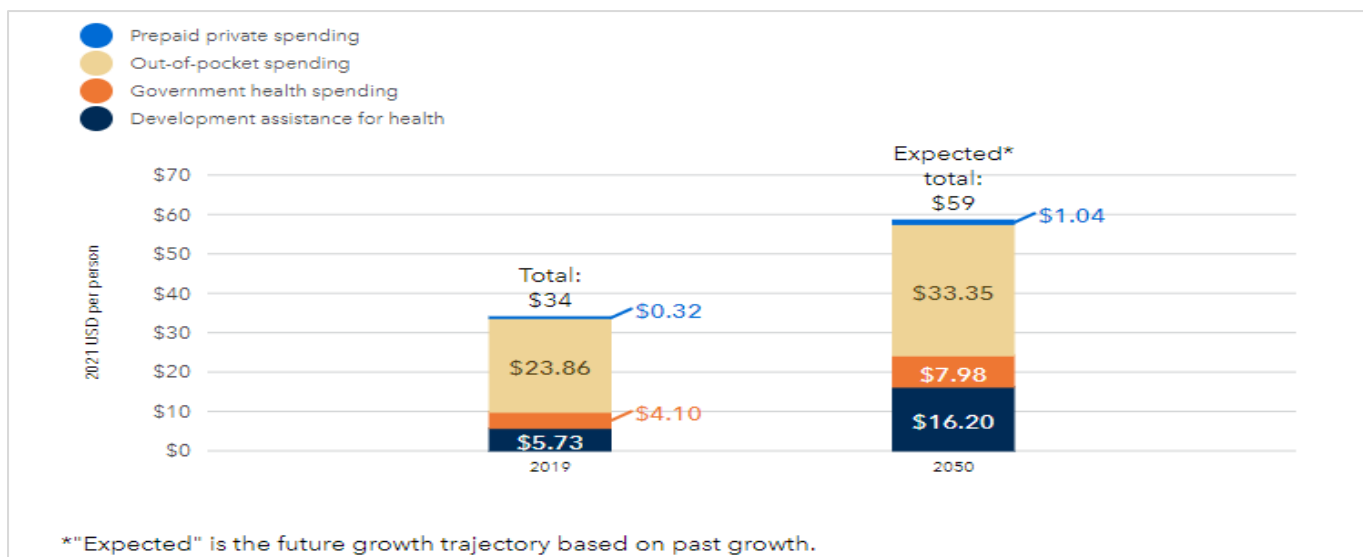
Source: Health Sector in Yemen Policy Note, World Bank. September 2021.

Main risks of challenges to health spending are as follows:

- Reduced general spending on the health compounded by the severe contraction in the Yemeni economy due to the repercussions of war and conflict; and scarcity of available funds due to the significant decline in state revenues from oil exports and tourism.
- Yemen's health system relies primarily on external funding to provide basic services, which makes it vulnerable to swings.
- The rise in direct OOP health spending risks widening poverty levels due to catastrophic and impoverishing OOP health spending.

According to data for Yemen issued by the Institute for Health Metrics and Evaluation (IHME) for 2020 and future projections, Figure (33) shows how much is spent on health - now and in the future - and from which sources? Where private OOP spending represents the highest source at \$23.86, or 70%, second is health assistance at \$5.73, or 17%, then government spending at \$4.1, or 12%. The high share of OOP spending is also attributed to the absence of a referral system across all levels of the health system in Yemen, meaning citizen have to bear the burden and cost of disease, the trouble of travel, and the cost of transportation in search of health service<sup>45</sup>.

Fig (33) Yemen: How much is spent on the health – now, and in the future - and from which sources?



\*"Expected" is the future growth trajectory based on past growth.

Source: Yemen, Institute for Health Metrics and Evaluation (IHME) 2023. <https://www.healthdata.org/yemen>

<sup>45</sup> Yemen: Abs hospital overwhelmed as medical needs surge. Posted 8 Mar 2023. <https://reliefweb.int/report/yemen/yemen-abs-hospital-overwhelmed-medical-needs-surge>



Yemen is currently facing a severe public health crisis due to years of armed conflict, political instability and other factors such as poverty and lack of access to clean water and sanitation. The COVID-19 pandemic has further compounded these challenges, and the country is struggling to provide adequate healthcare services to its population .

The public health financing issue in Yemen is reflected in the severe underfunding of the country's healthcare system, which is undermining the ability of the government and other healthcare providers to deliver essential health services to the population. The healthcare system in Yemen is severely under-resourced, with limited supplies, inadequate infrastructure, and a shortage of healthcare workers, including doctors and nurses. As a result, many Yemenis lack access to essential healthcare services, including maternal and child health services, vaccinations, and treatment for common illnesses such as malaria and tuberculosis.

The COVID-19 pandemic has further exacerbated the public health crisis in Yemen, with the country experiencing a surge in cases and limited resources to respond. The lack of funding for public health in Yemen has also impacted the ability of the healthcare system to respond to outbreaks of other infectious diseases, such as cholera, which has been a persistent problem in the country.

The Yemeni government, represented by the Ministry of Planning and International Cooperation, has reallocated funds from the Islamic Bank of \$20 million for the health sector to address the Covid-19 outbreak, together with other funds that Yemen obtained from different donors.<sup>46</sup>

The public health financing situation in Yemen is complex and multifaceted, with several bottlenecks contributing to the funding crisis. Some of the main bottlenecks in health financing in Yemen include:

1) Damage to health facilities, disruption of supply chains, and displacement of health workers, 2) Decline in government revenues, which had negatively affected Yemen's ability to finance public services, 3) Economic challenges: including inflation, currency devaluation, and rising food and fuel prices, and 4) Even before the conflict, health spending in Yemen was low relative to other countries, and the sector was not always a top priority for government spending. This has contributed to a lack of investment in health infrastructure and human resources.

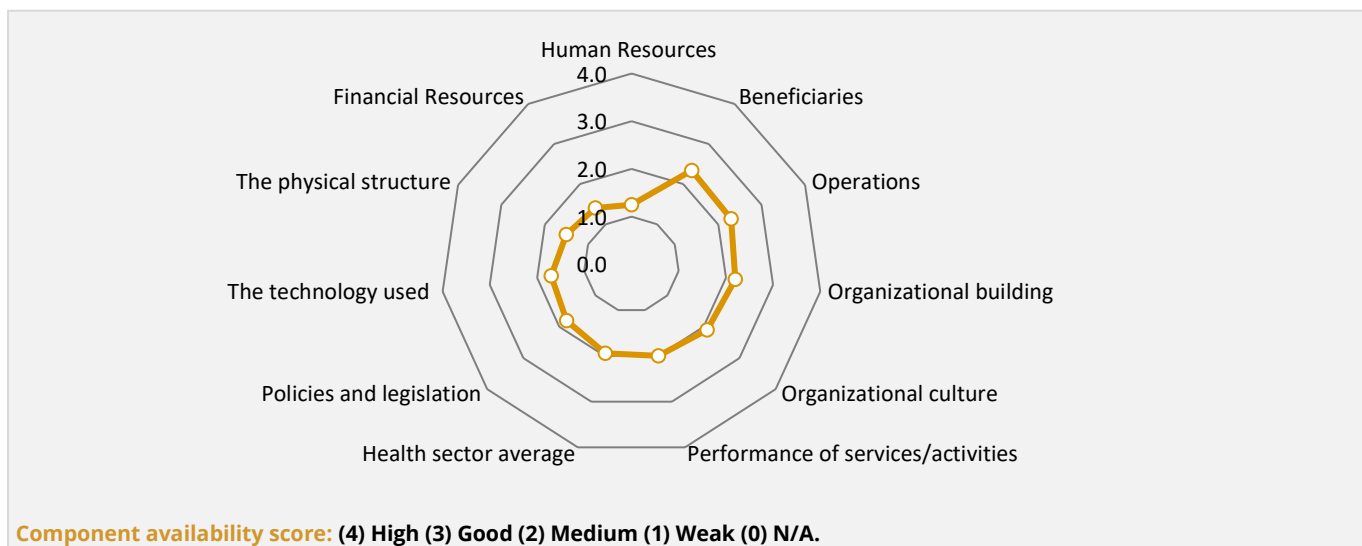
### Other health challenges (human resources, institutional, organizational)

Health care is guaranteed by the state of Yemen as a right to all citizens under the Yemeni constitution and has been historically overseen by the Ministry of Public Health and Population (MoPHP). The MoPHP was responsible for supervising delivery of health care across Yemen's 22 Governorates which held autonomy in managing local service delivery. Governorate health offices (GHOs) were responsible for health at Governorate level.

Figure (34) shows that ten institutional components for the health sector now recorded an average of 1.9 degrees out of 4 degrees. Financial resources were the biggest constraint facing the sector as it achieved the lowest score among all institutional components, with an average score of 1.2 out of 4. The financial side is projected to score the same degree given the conditions experienced by government institutions and the decline in financial resources. This calls for more actions to develop financial resources in order for the sector to deliver its functions, achieve its goals, and strengthen its infrastructure and material requirements. Ensuring that funding is available to cover the operating expenses of the necessary health services is also crucial to overcoming these challenges.

<sup>46</sup> For more details about these financings; Please refer to YSEU Bulletin, Issue (49), June 2020, pp. 6-7

Fig (34): Summary of the institutional setup of Yemen’s health sector, 2021



Source: based on:

- HeRAMS report, 2020 Health resources and services availability monitoring system World Health Organization 2020. <https://applications.emro.who.int/docs/WHOEMYEM031E-eng.pdf?ua=1>
- OCHA, Yemen Humanitarian Needs Overview Document, 2021, 2022, 2023.
- Health Sector in Yemen Policy Note, World Bank. September 2021.
- World Bank Group, “Yemen Dynamic Needs Assessment: Phase III” (DNA 2020), 2020, Available here. <https://reliefweb.int/sites/reliefweb.int/files/resources/Yemen-Dynamic-Needs-Assessment-Phase-3-2020-Update%20%281%29.pdf>
- Analysis of the current situation of the Ministry of Public Health and Population and its affiliated bodies in December 2020. Estimates include the institutional setup of these bodies at national level.
- Urban Profiling: Aden, Sana’a, Sa’ada, Zanzibar, Al-Houta, Hodeidah, Taiz, United Nations Human Settlements Program in Yemen (UN-Habitat), UNHABITAT, United Nations Educational, Scientific and Cultural Organization / UNESCO, 2020. <https://unhabitat.org/yemen>
- World Bank, Yemen: Urgent Priorities for Post-Conflict Recovery in the Health Sector, Inputs to Yemen Policy Note No. (4) on Comprehensive Service Delivery. March 2017.
- World Bank Group, “Towards a Plan for Recovery and Reconstruction in Yemen” (Draft for Discussion), October 2017.
- Yemen: Abs hospital overwhelmed as medical needs surge. Posted Mar 8, 2023. <https://reliefweb.int/report/yemen/yemen-abs-hospital-overwhelmed-medical-needs-surge>

The results indicate that the human resources component scored low, next to financial resources, at 1.4 out of 4, due to 3 important factors: 1) the lack of of medical and technical competencies and specializations linked to general and university education outputs, 2) brain drain, and 3) Yemen suffers chronic HR shortages in the public health sector, mainly due excessive concentration of human resources in urban and provincial centers, leaving rural areas in acute need, in addition to severe shortage of specialized staff in the area of maternity, child and newborn health care, mainly female staff. This calls for the need to develop education outputs, build capacities, rehabilitate and distribute them, including appropriate wage policies that balance between rights and duties, to retain qualified and most-needed human resources being the capital of the health sector.\

Findings also show that the health sector infrastructure has sustained significant material damages (1.5 out of 4 scores), which requires urgent actions to restore, reconstruct and rehabilitate the damaged health facilities, to enable them provide the full range of health all across the Republic of Yemen in line with national and international programs and guidelines, including the global commitment as part of the SDGs 2030 in general and Goal # 3 “good health and well-being” for all ages in particular. In addition, Sana’a, Aden, Hodeidah, and Taiz, with the largest population sizes (thus, more health needs), merit more attention to guarantee primary and secondary health care service delivery at feasible levels. To have at least one functioning general hospital per governorate and a convenient number of fully functional PHC facilities serving the catchment area is highly needed, to reduce the pathological burden of chronic and infectious diseases and outbreaks, and thereby reduce the burdens shouldered by citizens that can contribute to widening the cycle of poverty. Findings also indicated weak technology used (1.7 out of 4), making it imperative to developing the health information system in Yemen.

Meanwhile, results in Figure (34) show the health sector weakness across all components of institutional analysis: policies, legislation, organizational structure, service delivery, and organizational culture (between 2.2 to 2.4 out of 4), which are very low requires additional support for institutional recovery of HFs. Updating health legislation and strategies, developing appropriate policies and achieving integration, and more partnership and coordination are also among the needs. In addition to promoting health education and awareness, as a key element, together with developing a comprehensive national strategy for the health sector.

## Challenges caused by COVID-19 and mitigation efforts

COVID-19 a crisis on top of existing crises Yemen is grappling with such as war, famine, and other rampant communicable diseases like cholera, malaria, and dengue fever. With the addition of COVID-19, it was impossible for the health system to properly respond to the outbreak across the country, especially amid lack of money to pay for hospital staff and cover operation costs, very little PPE, and scant numbers of tests, making it impossible for everyone to know the real numbers of Covid-19 positive cases<sup>47</sup>.

The healthcare facilities in Yemen were unprepared and lack the most basic resources and capabilities to cope with or tackle COVID-19 pandemic. Widespread outbreak of COVID-19 in Yemen could have resulted in devastating consequences amid urgent need to provide support to the healthcare workers on the frontline against COVID-19<sup>48</sup>.

The COVID-19 pandemic has exacerbated the already existing pressures straining the national health system<sup>49</sup>. The pandemic has also limited health access to the people in need, in large areas of the country, due to many reasons including lack of testing facilities, delays in seeking treatment, stigma associated with being positive, difficulty accessing treatment centers, in addition to perceived risk of seeking treatment<sup>50</sup>. Furthermore, since the onset of COVID-19 and the resulting contraction of the global economy, major donors have reduced and suspended aid in northern Yemen which created great uncertainty for health service delivery<sup>51</sup>.

## Key actions to address the outbreak of the COVID-19 in Yemen

The Yemeni government, represented by the Ministry of Planning and International Cooperation, has made great efforts to mobilize external financing to confront the Covid-19 pandemic, including reallocating previous funds from the Islamic Bank of \$20 million to the health sector. Activities under this funding were implemented through the World Health Organization in Yemen. There were also financial contributions by several donor countries to confront the pandemic in Yemen, led by the Kingdom of Saudi Arabia, the United States of America, Japan, the European Union, and the United Kingdom, to implement a number of programs and activities by international organizations operating in the country<sup>52</sup>. The World Bank was the first to commit to support the COVID-19 response in Yemen through the Yemen COVID-19 Response Project (YCRP), which helps Yemen mitigate the risks associated with the outbreak. WHO and UNICEF have jointly implemented the project activities, while UNICEF supported the provision of water supply and waste management to isolation units, and timely coordination with national health authorities represented by the Ministry of Public Health and Population<sup>53</sup>.

World Bank support has focused on institutional strengthening through capacity building of healthcare workers, investments into a strong public health system (e.g. disease surveillance system) and information system (e.g. facility-based monitoring). In case of emergencies, use of existing infrastructure and capacity is critical to provide rapid response to meet surge needs. Thus, investing in institutions and its capacity remains high priority for a stronger health system for future pandemics and disasters<sup>54</sup>.

This is in addition to the humanitarian response efforts, including services to leverage the response to COVID-19 pandemic and integrated response interventions to address the outbreak<sup>55</sup>.

<sup>47</sup> Averting further devastation in Yemen through rapid socio-economic response. May 27, 2020. <https://www.undp.org/arab-states/blog/averting-further-devastation-yemen-through-rapid-socio-economic-response>

<sup>48</sup> Assessment of Healthcare System Capabilities and Preparedness in Yemen to Confront the Novel Coronavirus 2019 (COVID-19) Outbreak: A Perspective of Healthcare Workers. 2020. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7399068/>

<sup>49</sup> Yemen: 2021 Humanitarian Response Plan Periodic Monitoring Report, January - June 2021 (Issued October 2021). <https://yemen.un.org/en/156745-yemen-2021-humanitarian-response-plan-periodic-monitoring-report-january-june-2021-issued>

<sup>50</sup> Restoring Hope, Saving Lives: COVID-19 Response Project in Yemen. April 14, 2021. <https://www.worldbank.org/en/results/2021/04/14/restoring-hope-saving-lives-covid-19-response-project-in-yemen>

<sup>51</sup> Health Sector in Yemen Policy Note, World Bank, September 2021.

<sup>52</sup> For more details about these financings; Please refer USEU Bulletin, Issue (49), June 2020, pp. 6-7

<sup>53</sup> Restoring Hope, Saving Lives: COVID-19 Response Project in Yemen. April 14, 2021.

<sup>54</sup> Health Sector in Yemen Policy Note, World Bank, September 2021

<sup>55</sup> GLOBAL HUMANITARIAN RESPONSE PLAN COVID-19, UNITED NATIONS COORDINATED APPEAL APRIL - DECEMBER 2020. <https://www.rescue.org/sites/default/files/document/4693/covid-19-doubleemergency-april2020.pdf>



## V: Priorities for spurring future development of Yemen's health sector

Based on the comprehensive analysis of the health sector presented in this bulletin and the various indicators highlighted, it is possible to derive a number of priority actions to revive the health sector, develop health services, rehabilitate and develop the infrastructure and human resources in a way that contributes to achieving the sustainable development goal pertaining to the health system in Yemen. With an emphasis on the importance of mobilizing the necessary financial resources to support the health sector.

**The following proposed priorities are listed by area for developing the health sector:**

### Priorities for developing health services, infrastructure, health facilities and health coverage

The top priorities for the development health services, infrastructure, health facilities and health coverage, in a way that contributes to improving life, reducing mortality rates, and galvanizing Yemen's efforts to achieve SDGs include:

- Expanding health services coverage and access by all citizens as an important factor in healthy life expectancy, addressing maternal and child health mortality, and mitigating the social, economic and developmental consequences on the current and future generations in Yemen, in addition to shoring up the country's commitment towards the 2030 Sustainable Development Goals, and improving Yemen's HDI ranking.
- Investing more in the child and mother health is a prerequisite in Yemen, for it is the best way to delve into a better future, given that reducing the mortality rate as well as child and mother illness remains a top health priority in the scale of motherhood and childhood health to achieve the goals and targets of the 2030 SDGs Agenda pertaining to reproductive, maternal and child health.
- Reinstating closed health units, centers and facilities by providing medical supplies, equipment and health staff they need, together with addressing the related difficulties and constraints.
- Reducing the disease burden on the individual, the family and society alike, and improving the quality of life of individuals through quality and lifelong primary health care services for all ages.
- Increasing support to meet the humanitarian and developmental health needs, including capacity building of the national health system to ensure sustainability of health care services, and spur rapid reconstruction and recovery of the sector.
- Ensuring an integrated package of maternal, newborn and child health services across all levels of the health system
- Improving access to quality of obstetric and newborn care and other reproductive health services before, during pregnancy, during and after childbirth
- Increasing the coverage of emergency obstetric care and neonatal care through continuum of essential health services
- Ensuring decent maternal care being a universal human right for every pregnant woman at all levels of health service delivery.
- Continued funding for key rights-based reproductive health interventions along the continuum of care for all; including emergency obstetric care and neonatal care.
- Facilitating access to comprehensive health services by all segments of society, as needed.
- Increasing coverage of fixed routine immunization while maintaining outreach activities.
- Supporting the provision of specialized medical services as HFs and HUs to contain non-communicable diseases, especially rural areas, and thereby reduces the burden of diseases and the financial cost.
- Establishing an integrated referral system among all levels of the health system linking all health facilities.
- Prioritizing the needs of the HUs and HCs and their employees, in order to raise the operational status of these health facilities.
- Expanding primary health care services to ensure that citizens have access to all in-facility basic health services.
- Providing specialized medical services through field visits by specialists to rural areas based on continuous and graduated program starting with specific days in the month.
- Supporting and expanding primary health care services through the voluntary community component in remote areas.
- Supporting the provision of reproductive health services in areas that require humanitarian interventions, to enable vulnerable groups have access to the minimum package of primary services at the community and health levels, ensuring equal distribution.
- Supporting and expanding neonatal health interventions at the community level through community midwives.

## Priorities for increasing the health sector spending and financing

Providing the necessary funding and increasing spending by the health sector in Yemen is a priority to cope with underfunding issues based on the sector-specific challenges and priorities, mainly the following:

- Yemen needs urgent and substantial increase in funding and support from regional and international partners to avoid a potential actual collapse of its health system.
- Prioritizing funding for the health sector as part of the recovery and reconstruction agenda in Yemen, with sufficient funding for the rehabilitation and reconstruction of partially and completely damaged and destroyed health facilities, including operating costs so that primary health care services can be resumed.
- Sustained funding for the health sector to achieve UHC, including lifesaving basic health services for the Yemeni people.
- Providing the necessary funding for one of the most pressing challenges, i.e. severe understaffing, through regular payment of salaries for HWs and staff incentives.
- Providing support to finance key initiatives designed to improve access to and use of health services to contribute to reducing the suffering of poor and vulnerable families from catastrophic and impoverishing OOP health spending, to accelerate pace towards achieving SDG # 1 and 2.
- Financing the construction of HFs and labs that the Yemeni health system lacks, and setting outbreak surveillance system and health information management system.
- Financing the provision of medical equipment, supplies, training, and other needs by hospitals and health facilities.
- Addressing challenges related to health financing in Yemen through a holistic approach, including the political, economic and social factors, and also the underlying factors that exacerbate the financing crisis, including more external funding.
- Prioritizing health spending, and efforts meant to stabilize the Yemeni economy and political situation.

## Priorities for developing the medical personnel according to standards

HR development and capacity building come on top of the priorities for the health sector in Yemen, mainly the following:

- Developing the capacities and skills of health workers and staff via training and continuous learning programs.
- Increasing female medical staff at most health facilities.
- Providing permanent and performance-linked incentives to retain health staff and prevent their leakage outside the government sector, or overseas.
- Providing incentives for the health staff in rural areas.
- Capacity building and addressing shortage in primary health care providers and environmental sanitation staff.
- Raising the efficiency of HR structures and ensuring adequate density and distribution.
- Supporting and scaling up trainings for midwives in providing the package of reproductive health services, which contributes to improving the quality of the service and availability of midwives in each village, for both the public and private sectors.
- Developing a midwifery strategy complying with the International Confederation of Midwives/WHO guidelines.
- Ensuring equitable distribution and maintenance of reproductive and child health care facilities and at the level of districts, as well as remote and underserved areas.
- Support and expand training and qualification programs for community health workers to equip them with the knowledge and skills necessary to provide health care in remote rural areas and underserved areas.
- Implementing new initiatives to retain human resources such as performance-linked contracts to improve the delivery of services.
- Institutionalizing and incentivizing the rural service policy for newly graduated doctors and midwives in remote areas.
- Building the capacities of maternal and child health and reproductive health services providers.
- Encouraging and supporting the private sector to invest and engage actively in the health sector in the context of Universal Health Coverage.
- Providing the necessary incentives and facilities to encourage the private sector invest more and contribute effectively to health services at reasonable prices, as well as producing, manufacturing and importing of medicines.
- Preparing a framework for public-private partnership in the area of health, including the private sector involvement in health policy-making.
- Setting up governance principles and standards on private sector engagement in healthcare value chains.

## Institutional and organizational development priorities for the health sector

- Creating a health MIS in Yemen according to modern practices and approaches in order to promote management of the health system, and ensure beneficiaries can access to information they need to make sound decisions.
- Developing an electronic health information and data system for all central, intermediate and peripheral levels.
- Ensuring integration, partnership, coordination and continuous cooperation among all relevant sectors to improve the maternal, child and newborn health services.
- Raising community health education on maternal and newborn health issues by strengthening the role of government sectors and civil society organizations and community actors.
- Supporting and developing health education efforts given its pivotal role in raising awareness and promoting healthy behaviors for good health and well-being of the individual and society.
- Empowering families and community members on caring of newborns, and strengthening community mobilization and communication.
- Exploring an innovative approach to develop health education since health education and empowering parents, families and communities to improve demand for services, as well as home-based practices, represent the urgent and most-needed services by disadvantaged population groups.
- Enhancing a supportive umbrella of legislation, laws and policies where mothers, child and newborns enjoy their right health care.
- Eying to achieve the UHC, including maternal and child health, reproductive health, as part of the primary health care package.
- Formulating a comprehensive national strategy for the health sector.





## Annex: Terms and Definitions

Term	Definition
<b>Life Expectancy at Birth</b>	The average number of years a person can expect to live based on current mortality (death) rates.
<b>Human Development Index</b>	A composite statistic that measures three dimensions of human development: a long and healthy life, access to knowledge, and a decent standard of living <sup>56</sup>
<b>Under-five mortality rate</b>	the probability of dying before age of 5 years per 1,000 live births
<b>Infant mortality rate</b>	The number of deaths of infants under one year of age per 1,000 live births.
<b>Neonatal mortality rate</b>	The number of deaths of infants within the first 28 days of life per 1,000 live births
<b>Maternal mortality ratio</b>	The number of maternal deaths per 100,000 live births
<b>Maternal deaths</b>	The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental causes
<b>Primary healthcare</b>	Primary health care is a whole-of-society approach to health and well-being centred on the needs and preferences of individuals, families and communities. It addresses comprehensive and interrelated aspects of physical, mental and social health and wellbeing.
<b>Safe childbirth</b>	a birth that occurs by a qualified person (doctor - HW) without significant risk to the health of the mother or newborn
<b>Health care access</b>	Actual or perceived ability to access health services or facilities in terms of location, timeliness, and ease of approach
<b>Case management</b>	A proactive, community-oriented approach to care that includes case detection, evaluation, and care planning and coordination to integrate services around the needs of people at high risk who require complex care (often by multiple sites or providers of care), vulnerable people, or persons with complex social and health needs. Case manager coordinates patient care on continuum of care basis. What is meant here is: referring the patient from the health center or unit or the general practitioner's clinic to the hospital.

Source:

Latest Human Development composite indices tables. HUMAN DEVELOPMENT REPORT 2021-22.

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