

## THE POTENTIAL IMPACT OF HEALTH CARE DISRUPTION ON CHILD MORTALITY IN THE MIDDLE EAST AND NORTH AFRICA DUE TO COVID-19

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### ABSTRACT

*This technical brief summarizes the results for the MENA/EMRO region, of a global study by the John Hopkins University on the potential impact on child mortality and nutrition of health care disruptions due to the COVID-19 crisis.*

*The study adopts the LiST tool to model three impact scenarios of COVID-19. In the most severe scenario, the number of deaths of children under the age of five could increase by nearly 40 per cent, compared with a baseline scenario without the COVID-19 virus. This corresponds to around 51,000 additional child deaths over a period of six months. This potential impact is the result of a combination of a protracted reduction in the supply and demand of primary health care services, including case management of neonatal and childhood infections, child nutrition, essential care in the antenatal period and at birth and immunization.*

*To prevent these avoidable child deaths, the immediate resumption of essential health and nutrition services for children, pregnant women and mothers should be prioritized along with a package of measures for infection prevention in health facilities and engagement with communities to restore trust in the health system and appropriate health-seeking behaviours among the communities.*

### The potential impact of Health care disruption on child mortality in the Middle East and North Africa due to COVID-19

The COVID-19 pandemic is hitting hard on economies in the Middle East and North Africa. Health systems are under stress, and in some cases, the provision of primary health care services has either been interrupted or decreased.

While available global evidence indicates child mortality attributable directly to COVID-19 to be very limited, the impact stemming from strained health systems, loss of household income, and disruption in access to care-seeking and preventative interventions is potentially substantial and widespread.

This brief presents and discusses the MENA/EMRO region results of the global study “Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries”, conducted by the Bloomberg School of Public Health, Johns Hopkins University (JHU) and published in *The Lancet Global Health* in May 2020<sup>1</sup>.

The study provides indications on the potential magnitude of the impact on child and maternal deaths in developing countries, if essential health services are disrupted and malnutrition increases as a result of COVID-19. The analysis is based on a model referring to hypothetical impact scenarios, but reflecting real-world situations, as coming from emerging reports of the supply and demand side effects of the pandemic in different parts of the world, including in MENA/EMRO.

The objective of this analysis is to raise awareness on the possible consequences that the unfolding COVID-19 crisis can have on child survival in case of protracted negative impacts on health care services, investigate the relative importance of the different health services disruptions in a specific country/region context, and provide evidence to advocacy for monitoring the coverage of health care interventions and mobilize resources to protect them from disruption in such critical times.

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<sup>1</sup> Robertson T. et al (2020) “Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries: a modelling study”, *The Lancet Global Health*, published on line on 12 May 2020 - [https://doi.org/10.1016/S2214-109X\(20\)30229-1](https://doi.org/10.1016/S2214-109X(20)30229-1) . The detailed results by countries and regions are available in a dashboard format at <https://data.unicef.org/topic/child-survival/covid-19/> , with other resources, data and analysis on COVID-19 and child mortality. While the study covers both maternal and child mortality, this brief focuses on the results of the analysis on under-5 mortality.

# BACKGROUND

Ten MENA/EMRO countries are covered in the study including Algeria, Djibouti, Egypt, Iraq, Jordan, Morocco, Syria, Sudan, Tunisia and Yemen. The population of children under the age of five in these ten countries totals to approximately 41 million. (nearly 75 per cent of the total population of children under the age of five in the MENA/EMRO region).

Table 1 reports recent estimates on some key indicators, on live births and child mortality, used as baseline (pre-COVID19) for the analysis.

**TABLE 1**  
**Key child survival indicators in MENA/EMRO**

*Note: \*Data refer to the 10 countries included in the JHU study.*

*Source: UN Population Division and UN Inter-Agency Group for Child Mortality Estimation*

INDICATOR	ESTIMATES *	YEAR
Population of children under-5	41.0 million	2020
Total number of live births	8.5 million	2020
Neonatal mortality rate	17 per 1000 live births	2018
Infant mortality rate	25 per 1000 live births	2018
Under-5 mortality rate	32 per 1000 live births	2018

The study adopts the Live Saved Tool (LiST)<sup>2</sup> a mathematical modelling tool which allows to estimate the likely impacts on child and maternal mortality of simultaneous changes in health care coverage, for example simulating the potential effects of health care supply and demand's shocks, policy and programme changes etc. The reference baseline scenario uses existing country specific data from the most recent available survey and administrative sources on fertility, access and use of health care services, nutrition and mortality.

In this specific application, LiST is used to simulate the potential increase in the number of deaths of children under the age of five caused by the reduction in coverage of health services and the decrease in food access, according to three scenarios of impact of the COVID-19 crisis, summarized in table 2.

The scenarios are based on assumptions on how the COVID-19 can impact the coverage of health care in terms of provision (availability of health care workers, supplies and equipment) and utilization of health services (demand and access to health services). The scenarios take account of an increase in wasting.

**TABLE 2**  
**Summary of the assumptions used for the COVID-19 impact scenarios**

*Note: \*including assumptions on reductions on health workforce and supplies, demand for and access to health services.*

*Source: Robertson et al (2020), p.4*

	Decrease in coverage of maternal and child health services* compared with the baseline	Increase in wasting
Least severe scenario (1)	9.8% to 18.5%	10%
Intermediate scenario (2)	18.8% to 26.9%	20%
Most severe scenario (3)	39.3% to 51.9%	50%

<sup>2</sup> See <https://www.livessavedtool.org/>

# RESULTS of the analysis for the Middle East and North Africa:

## A potential increase in child deaths due to the impact of the COVID-19 pandemic on health care services and child malnutrition

The JHU study estimates that the reduction in coverage of health care services, compounded by the increase in prevalence of wasting, might result in a growth in the total number of child deaths in MENA/EMRO ranging between 11,000 (in scenario 1) to 51,000 (in scenario 3) over a period of six months. In relative terms, these correspond to an increase in the number of child deaths ranging between eight per cent and 39 per cent compared with the pre-COVID-19 baseline (Figure 1 and Table 3). Under the most severe scenario, the total number of child deaths in the 10 countries covered by the study, would be going back to the figures the region had in the early 2000s.



FIGURE 1: Baseline and additional child deaths (under the age of five) by COVID-19 impact scenarios (over a 6-month period)

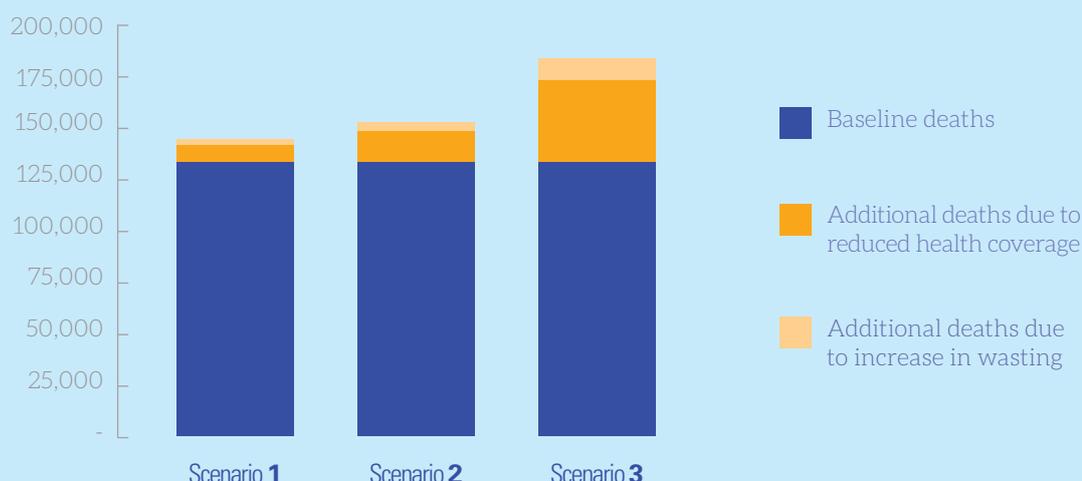


TABLE 3

Estimated additional deaths of children under the age of five over six months, by COVID-19 impact scenario

ADDITIONAL DEATHS OF CHILDREN UNDER-5:	Due to reduced health coverage	Due to increase in wasting	Total additional deaths	% Increase in under-5 deaths due to COVID-19 compared with the baseline
Scenario 1	9,072	2,034	<b>11,106</b>	8%
Scenario 2	15,426	4,228	<b>19,654</b>	15%
Scenario 3	39,762	11,697	<b>51,459</b>	39%



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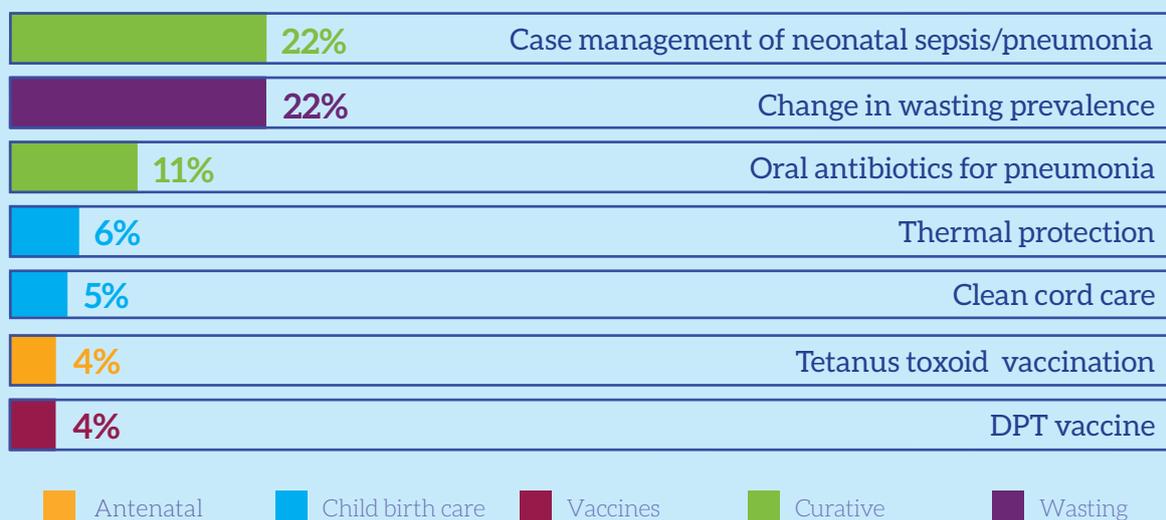
## Main contributors to the increase in childhood mortality

The JHU study includes over 70 types of health and nutrition interventions, which COVID-19 induced disruption may lead to increases in childhood mortality. These interventions are related to care during antenatal and childbirth periods, immunization, preventive and curative care, in addition to child malnutrition.

Figure 2 displays the top seven most critical health care interventions that – if disrupted – would contribute to an increase of 75 per cent in child deaths (according to the scenario 2)<sup>3</sup>.



**FIGURE 2: % of additional child deaths attributable to the disruption of specific health care interventions and the increase in wasting. Top seven contributors. Scenario 2.**



For the MENA/EMRO region, a decline in case management of neonatal and childhood infections account for one third of additional deaths, while an increase in wasting prevalence is the cause for one out of five additional deaths. The other top contributing factors are related to the disruption of essential care at birth and immunization. This potential impact is due to a combination of reduction in the supply and in the demand of health services, the latter due to physical and financial barriers to access to health care and fear of contracting the virus at health facilities.

<sup>3</sup> The results are based on country specific baselines coverage of the individual health care intervention, by the assumed coverage reduction in the relevant scenario and by the strength of each intervention on averting mortality.

# CONCLUSIONS

The JHU study estimates what could the impact of COVID-19 crisis be on child mortality under scenarios of different severity and duration. In the MENA/EMRO region, the potential consequences of the crisis could be substantial and reverse progress made in child survival in the last two decades. However, an increase in the number of children not able to celebrate their fifth birthday is avoidable- that is , if countries immediately act to prevent disruption of, and revitalize demand and access to essential and routine child health and nutrition services.

In support of essential services including newborn care, immunization, treatment for malnutrition, and case management of neonatal/ childhood illness, countries should prioritize the following:

- › Access to these services for every child and especially the most vulnerable with availability of health personnel and supplies.
- › Facilities and community outreach teams throughout the health system meet minimum requirements for infection prevention and control (IPC) including the implementation of standard precautions and availability of personal protective equipment.
- › Invest in effective public communication and community engagement strategies to maintain trust in public health authorities and promote appropriate care-seeking behaviours by families.

The COVID-19 crisis is imposing unprecedented challenges on health systems around the world and in the MENA/EMRO region. The response to this challenge presents an opportunity to build more robust health systems, remove bottlenecks to access to services and promote appropriate health seeking behaviours for children's health and well-being at all times. As the Astana Declaration<sup>4</sup> envisioned "primary health care and health services that are high quality, safe, comprehensive, integrated, accessible, available and affordable for everyone and everywhere, provided with compassion, respect and dignity by health professionals who are well-trained, skilled, motivated and committed". These are now needed more than ever.

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## FOR MORE INFORMATION

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<sup>4</sup> <https://www.who.int/docs/default-source/primary-health/declaration/gcphc-declaration.pdf>