



Explanatory note on interpretation and use of LiST estimates of indirect child and maternal deaths resulting from service disruptions during the COVID-19 pandemic

Prepared by Data and Analytics Section, Division of Data, Analytics, Planning and Monitoring, May 2020, New York HQ, UNICEF

For questions, please contact childmortality@unicef.org

The Lives Saved Tool (LiST)

The Lives Saved Tool (LiST) is a model that estimates the impact of changes in intervention coverage on child and maternal mortality in low- and middle-income countries. LiST can give researchers and policy makers critical information to assess the potential impact of health intervention policy or programs. Data on intervention coverage come from large scale household surveys, including the UNICEF-supported Multiple Indicator Cluster Surveys (MICS) and USAID-supported Demographic and Health Surveys (DHS), as well as the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP). Baseline mortality is from country-level estimates from the United Nations Inter-agency Group for Child Mortality Estimation (UN IGME) and the UN Maternal Mortality Estimation Inter-agency Group (MMEIG).

LiST was developed by the Institute for International Programs at Johns Hopkins Bloomberg School of Public Health and funded by the Bill & Melinda Gates Foundation. More information about LiST can be found at <https://www.livessavedtool.org/>.

Early estimates of indirect under-5 and maternal deaths from service disruptions during COVID-19

While the direct mortality impact of COVID-19 on children and women of reproductive age appears to be limited, if the provision and utilization of health services are disrupted, the indirect increase in child and maternal deaths could be devastating.

In [a recent study](#)¹, researchers used LiST to estimate the potential additional maternal and under-5 deaths in 118 low- and middle-income countries (LMICs) under three scenarios in which coverage of basic lifesaving interventions is reduced to different extents (10-50 per

cent) and for different durations (3, 6, and 12 months) using assumptions based on emerging reports of the supply side and demand side effects of the pandemic. Over a six-month horizon with 40-50 per cent coverage reduction in basic life-saving interventions like antenatal care, childbirth delivery care, postnatal care, vaccinations, and early childhood preventative and curative services, over 1 million additional children under 5 years of age could lose their lives.

Limitations of these estimates

- These estimates are based on **tentative assumptions** and represent a wide range of scenario-based outcomes. **They are not intended to be projections.** If countries are successful in minimizing disruptions to health systems and maintaining services and interventions, the number of additional deaths may be smaller than what is estimated here.
- The scenarios assume a proportional reduction in coverage of interventions and **the same proportional reduction is applied to all countries studied.**
- The scenarios of varying intervention coverage reduction are **hypothetical futures**, and we may not know the true disruption, if any, to services for some time. At current, there are no reliable empirical data for the effect of the pandemic on health service provision or utilization available. **The real impact on child deaths could greatly differ from the study results** if the assumptions on disruptions in health services vary substantially from the true disruption.
- These results are intended as a tool for understanding the potential *magnitude* of the impact on deaths due to disruption in health services based on the specific scenarios, **not to offer exact or even approximate numbers.**
- **This study considers the mortality impact of changes in intervention coverage and wasting prevalence. Other effects** such as those from economic downturns, job and income loss, increased poverty, violence, reduced air pollution, and less vehicle traffic **were not considered and may exacerbate or mitigate the mortality impact to varying degrees.**
- The analysis **does not consider certain interventions or factors that are known to be effective** such as those related to breastfeeding or water and sanitation.
- The understanding of possible pandemic responses is **based largely on experience in high-income countries**; the effects of the pandemic and response to it in LMICs will likely be different.
- The study reports deaths due to reduced intervention coverage and risk factors only; **it does not report deaths arising from an increase in population size from increased fertility driven by reduced contraceptive prevalence** (although the study authors do expect these effects in the long term).

What these estimates can tell you

- **Continued provision of life-saving interventions and services is critical**—substantial reductions in intervention coverage can result in very large numbers of additional child and maternal deaths from preventable and treatable conditions.
- One may get a sense of the **relative importance of various intervention disruptions** in a country-specific context based on the scenarios used in the study, i.e. these results show the specific interventions with the largest impact on under-5 deaths and maternal deaths, according to this model. However, as stated above, these results are not meant to convey an exact or approximate number of deaths. They indicate the relative importance of the interventions considered by this model in a country-specific context.
- **Timing is critical—longer service disruptions will result in far more deaths.** Once the pandemic is over, health systems must recover quickly to minimize the lasting impact of temporary disruptions. Likewise, longer restrictions on services may break care-seeking patterns, which may be difficult to reinstate.

How to use these estimates

Although the results from the LiST study could not be used to convey an exact or even approximate number of additional deaths that could occur, these estimates can serve as an advocacy tool to:

- Raise awareness on the importance of maintaining key lifesaving interventions for women and children
- Ensure continuous investments in service provisions
- Ensure service providers and receivers are protected
- Encourage women and children to seek health services with proper protection
- Advocate for monitoring of intervention coverage during the pandemic in order to act if coverage decreases.

Reference

1. Roberton T, Carter ED, Chou VB, Stegmuller A, Jackson BD, Tam Y, Sawadogo-Lewis T, Walker N. 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: May 12, 2020. DOI: [https://doi.org/10.1016/S2214-109X\(20\)30229-1](https://doi.org/10.1016/S2214-109X(20)30229-1)