



## Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality

Research snapshot<sup>1</sup>

Social distancing and hand sanitising at a primary health centre in Baria Taluka, Gujarat, India, 2020.

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The COVID-19 pandemic will likely increase the risk of all forms of malnutrition as a result of rapid changes to the availability, accessibility and affordability of nutritious foods, declines in household incomes, and interruptions to health, nutrition and social protection services. The Standing Together for Nutrition consortium, a multidisciplinary consortium of researchers in the fields of nutrition, economics, food and health systems, is working to estimate the scale of malnutrition challenges related to COVID-19. Three modelling approaches have been used, analysing macroeconomic projections of impacts per capita on gross national income (GNI), microeconomic estimates of how predicted GNI shocks impact child wasting (using data on 1.26 million children from Demographic and Health Surveys conducted between 1990-2018), and the Lives Saved Tool

estimates of health service disruptions and predicted increases in child mortality.

Initial findings suggest that even short-duration lockdown measures, combined with severe mobility disruptions and comparatively moderate food system disruptions, result in an estimated average 7.9% decrease in GNI per capita in low- and middle-income countries relative to pre-COVID-19 projections. It is estimated that this will result in a 14.3% increase in moderate or severe wasting prevalence in children under five years of age, which translates to an additional 6.7 million children with wasting in 2020, predominately in south Asia and sub-Saharan Africa. Coverage of nutrition and health services, however, is estimated to reduce by an average of 25% due to COVID-19 impacts. Without adequate treatment, there could be 128,605 (estimated range

between 111,193 to 178,510) additional deaths in children under five years old during 2020. These projections emphasise the urgent need for adequate and timely action.

As a result of these worrying estimates and predictions, leaders of the four United Nations (UN) agencies responsible for child nutrition issued a commentary entitled *Child Malnutrition and COVID-19: the time to act is now*,<sup>2</sup> which calls for action in five areas:

1. Safeguarding and promoting access to nutritious, safe and affordable diets;
2. Investing in improving maternal and child nutrition through pregnancy, infancy and early childhood;
3. Reactivating and scaling up early detection and treatment of wasting services;
4. Maintaining provision of school meals for vulnerable children; and
5. Expanding social protection to safeguard access to nutritious diets and essential services.

The UN agencies estimate that a minimum of US\$2.4 billion is needed to protect vulnerable children, prevent and treat malnutrition, and avoid child deaths due to the impact of COVID-19. Critically, agencies call for a swift response, with investments from governments, donors, the private sector and the UN to enable sustained action.

<sup>1</sup> Headley, D. et al. (2020). Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality. *The Lancet*. Online. Published 27 July 2020. [https://doi.org/10.1016/S0140-6736\(20\)31647-0](https://doi.org/10.1016/S0140-6736(20)31647-0)

<sup>2</sup> Fore, H.H., Dongyu, Q., Beasley, D.M. & Ghebreyesus, T.A. (2020). *Child malnutrition and COVID-19: the time to act is now*. *The Lancet*. Online. Published 27 July 2020. [https://doi.org/10.1016/S0140-6736\(20\)31648-2](https://doi.org/10.1016/S0140-6736(20)31648-2)

## Causes and consequences of child growth failure in low- and middle-income countries

Research snapshot<sup>1</sup>

Wasting and stunting contribute to child mortality, adult morbidity, poor cognitive outcomes and negative adult economic outcomes. Current estimates attribute > 250,000 deaths annually to stunting and > 1 million deaths annually to wasting. Despite extensive recognition of the importance of improving growth outcomes for public health benefits, preventative interventions have shown only limited success. This may point to an incomplete understanding of the optimal time and ways to intervene to prevent wasting and stunting. Understanding the relationships between child, parental and household characteristics and causes and timing of child growth failure may offer insights into how to improve interventions and which higher risk children might benefit most. In this study the authors analysed 35 longitudinal cohorts (108,336 children aged 0 to 24 months) from South Asia, Africa, Latin America and Eastern Europe to quantify the effect of early growth

failure on severe outcomes in children. Cohorts were assembled as part of the Knowledge Integration (ki) initiative of the Bill & Melinda 220 Gates Foundation.

Maternal and child characteristics at birth accounted for the largest attributable differences in growth. Maternal anthropometry was a key predictor for early childhood growth failure, particularly when growth faltering began at birth. Yet, postnatal growth failure was larger than differences at birth, and characteristics of the child's household environment were additional determinants of growth failure after age 6 months. Children who experienced early ponderal or linear growth failure were at much higher risk of persistent growth failure and were 2.0 to 4.8 times more likely to die by age 24 months. Longer length of child at birth, higher maternal weight, earlier child birth order, higher maternal education level and more rooms in the household were five of the top population-level predictors of higher

length-for-age and weight-for-length at 24 months. The dry season of the year was an important predictor of higher child weight for length and taller height in mothers was important for higher child length for age. In older infants and children a key predictor was previous growth failure (before six months of age). All measures of early growth failure were significantly associated with later, more serious growth failure, with wasting indicators among the strongest of predictors.

High attributable risk from prenatal causes, and severe consequences for children who experienced early growth failure, support a focus on pre-conception and pregnancy as key opportunities for new preventive interventions. Targeting postnatal interventions by season or population subgroup (defined by risk characteristics) could reduce the persistent burden of postnatal growth failure. The results also suggest that broad improvements in wellbeing will be necessary to eliminate growth failure in low resource settings, but that screening based on weight could help identify children at highest risk of death before age 24 months.

<sup>1</sup> Mertens, A., et al. (2020). Causes and consequences of child growth failure in low- and middle-income countries. *medRxiv*: 2020.2006.2009.20127100. [www.medrxiv.org/content/10.1101/2020.06.09.20127100v1](http://www.medrxiv.org/content/10.1101/2020.06.09.20127100v1)