

An Investment Framework for the Treatment of Severe Wasting

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Key Messages

- Given that there is little evidence on strategies to prevent wasting (also known as acute malnutrition), it is impossible to estimate the costs of reaching the global wasting target. Developing the evidence base and policy and intervention guidelines rapidly is imperative if the world is to meet this target.
- Scaling up proven life-saving therapies for treating severe acute malnutrition to cover 90 percent of children who need it in low- and middle-income countries will require about \$9.1 billion over 10 years. The costs of not investing would be 91 million children left untreated and an additional 860,000 child deaths.
- The scale-up of treatment of severe acute malnutrition for children would result in at least \$25 billion in increases in economic productivity over the productive lifetimes of those children. Each dollar invested in treatment would result in about \$4 in economic returns.



WASTING TARGET

REDUCE AND MAINTAIN
CHILDHOOD WASTING TO
LESS THAN 5% BY 2025.

Wasting (low weight-for-height) occurs when children lose weight rapidly, generally from low caloric intake and/or repeated infections; it is an indicator of acute undernutrition. In 2012, the World Health Assembly agreed to a global target to reduce and maintain childhood wasting to less than 5 percent by 2025 (WHO 2012); this target was incorporated into Sustainable Development Goal 2 (United Nations 2015a).¹ The target focuses on reducing the prevalence of wasting and, consequently, on preventing and treating wasting. However, to date, evidence of how to prevent wasting is limited and inconclusive, making it impossible to estimate the costs of reaching the global wasting target. In order to reach the target, effective strategies are needed to treat current cases and to prevent future cases of wasting.

Wasting and Its Effects

Wasting, also known as *acute malnutrition*, is typically classified as either severe or moderate.² In 2014, 50 million children globally were wasted (UNICEF, WHO, and World Bank 2015), one third of whom were severely wasted. About 34 million children who suffer from wasting live in South

Note: This summary is based on Shekar, Meera, Jakub Kakietek, Julia Dayton Eberwein, and Dylan Walters. 2017. *An Investment Framework for Nutrition: Reaching the Global Targets for Stunting, Anemia, Breastfeeding, and Wasting*. Directions in Development. Washington, DC: World Bank. doi:10.1596/978-1-4648-1010-7, available at <https://tinyurl.com/InvestmentFrameworkNutrition>. Suggested citation for this brief is: Kakietek, Jakub, Michelle Mehta, and Meera Shekar. 2017. *An Investment Framework for the Treatment of Severe Wasting*. Washington, DC: World Bank Group. All dollar amounts are U.S. dollars.

¹ The SDG target is: “By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons” (United Nations 2015b).

² Severe acute malnutrition is defined as severe wasting (weight-for-height ≤ 3 standard deviations below norm) and/or mid-upper arm circumference < 115 millimeters and/or bilateral pitting edema. Moderate acute malnutrition is defined as moderate wasting (weight-for-height ≤ 2 standard deviations below norm) and/or mid-upper arm circumference ≥ 115 millimeters and ≤ 125 millimeters (WHO 2014).

Asia and about 14 million in Sub-Saharan Africa.³ Wasting prevalence has remained steady at 8 percent globally, although there has been a recent minimal decline to 7.5 percent (UNICEF, WHO, and World Bank 2015)—but during emergencies, such as lean seasons and food crises, the burden of wasting can increase rapidly.

Wasting can result from food insecurity in resource-poor settings involving insufficient diet in terms of quantity, quality, and diversity; suboptimal breastfeeding; and recurrent episodes of illness—for example, diarrhea. Wasting and infection create a vicious cycle, whereby acute malnutrition leads to lower immune function, which increases susceptibility to infections and subsequently results in decreased appetite, nutrient malabsorption, elevated metabolic requirements, and acute undernutrition (WHO 2014). Severely wasted children have an 11-fold increase in mortality risk when compared with healthy children (McDonald et al. 2013). Children living through humanitarian crises, such as famines or complex emergencies, are particularly vulnerable to acute malnutrition.

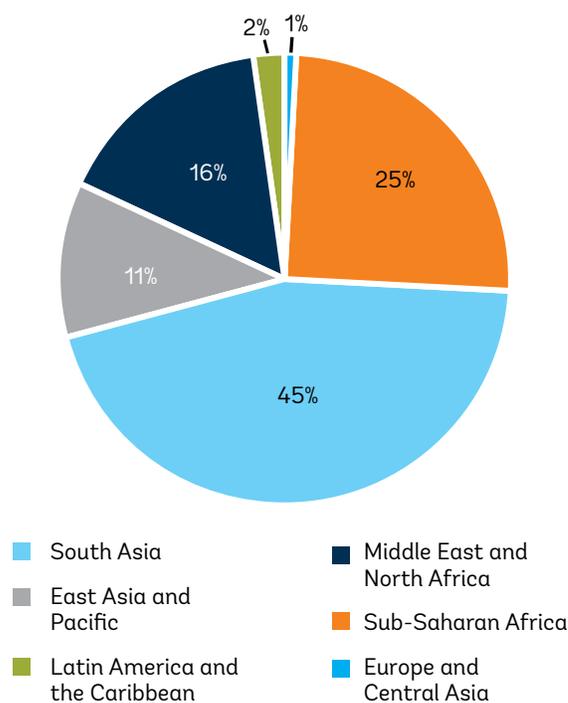
Investing in Proven Interventions to Treat Severe Acute Wasting

This summary focuses on estimating the costs of treating severe wasting and mitigating its impacts. It does not include the costs or impacts of treating moderate wasting since the evidence base and World Health Organization (WHO) guidelines for treatment are lacking.

The WHO recommends outpatient treatment of children with uncomplicated severe acute malnutrition (85 to 90 percent of cases) using ready-to-use therapeutic foods and a seven-day preventive course of antibiotics (WHO 2013). This treatment has been shown to reduce mortality and lead to recovery in about 80 percent of cases (Hossain et al. 2009; Khanum, Ashworth, and Huttly 1994, 1998; Lenters et al. 2013). Although the treatment of severe acute malnutrition has been proven to be highly effective in reducing mortality, the scale-up of these interventions is limited: only about 15 percent of children with severe acute malnutrition have access to treatment (WHO 2014) and one of the reasons for low access to treatment is its relatively high cost (see, for example, Bhutta et al. 2013; Horton et al. 2010).

Scaling up the treatment of severe acute malnutrition for children in low- and middle-income countries would require about \$9.1 billion over 10 years. Of this amount, about \$8.1 billion would be required for direct service provision with an additional 12 percent of the direct services costs (\$971 million) for capacity strengthening; for developing the necessary policies, protocol, and guidelines; and for monitoring and evaluation of treatment programs. These estimates assume that, over time, ready-to-use therapeutic food prices will decline and the efficiency of service delivery will improve. When considered by region, about 45 percent of the total costs would be needed to expand the coverage of the treatment of severe acute malnutrition in South Asia (see the pie chart).

Ten-Year Total Financing Needs for the Treatment of Severe Acute Malnutrition, by Region



³All epidemiological data are taken from 2014 data sources.

The Impact of Scaling Up the Treatment of Severe Acute Malnutrition

The scale-up of the treatment of severe acute malnutrition for children in all low- and middle-income countries over 10 years would allow treatment for an additional 91 million of cases of severe acute malnutrition and prevent about 860,000 deaths in children under five years of age. About 49 percent of those deaths would be averted in Sub-Saharan Africa, 44 percent in South Asia, and the remaining 7 percent in other regions.

Investing in the treatment of severe acute malnutrition is a good economic investment. The scale-up of this intervention would result in at least \$25 billion in increases in economic productivity over the productive lifetimes of children who benefited from the program. Each dollar invested in treatment would result in at least \$4 in economic returns.

These are conservative estimates based only on mortality reductions. It is likely that wasting treatment has other benefits for child development (for example, reducing cognitive losses and physical disability). Such additional benefits, however, have yet to be quantified.

Call to Action

Given the current state of evidence regarding the prevention of wasting, it is impossible to estimate the costs of reaching the global wasting target. Therefore the first major recommendation from this analysis is to scale up treatment for those currently affected and prioritize research on the prevention of wasting. Without such evidence, reaching the global wasting target will not be possible and more children will suffer from severe acute malnutrition and its potentially lethal consequences.

The treatment of severe acute malnutrition for children is a cost-effective intervention, especially in countries where risk factors such as infectious diseases and poor hygiene and sanitation are rampant. However, to better understand the benefits of investing in both the treatment and the prevention of acute malnutrition, more research is needed on the incidence of wasting; the number of acute malnutrition episodes an individual child may suffer; the relationship between wasting and stunting and other child health outcomes; and the short-, medium-, and long-term impacts of acute malnutrition on children's physical and cognitive development. Furthermore, despite high cost-effectiveness, treatment of severe acute malnutrition remains expensive (approximately \$90 to \$110 per wasting episode). Future research efforts must focus on finding strategies to prevent wasting more cost-effectively so as to reduce the number of children who need treatment, as well as finding more cost effective treatment options. Without a rapid investment in knowledge, it is not possible to build an effective global investment case for achieving the wasting target.

Acknowledgments

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For more information please see: <https://tinyurl.com/InvestmentFrameworkNutrition>

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