



The global cost **of not breastfeeding**

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The importance of investing in breastfeeding promotion

The global economic cost of not breastfeeding is substantial and estimated at approximately USD \$1 billion per day.

Exclusive breastfeeding (EBF) is a cornerstone of child survival and health, providing essential, irreplaceable nutrition for a child's growth, resilience and development. It serves as a child's first immunization, providing protection from respiratory infections, diarrheal disease and other potentially life-threatening ailments, and prevents obesity. The World Health Organization (WHO) recommends early initiation of breastfeeding, exclusive breastfeeding for the first six months of life and continued breastfeeding for up to two years or beyond, together with appropriate, adequate and safe complementary foods.¹

Globally, an estimated 47% of infants under six months of age were exclusively breastfed in 2025¹ which represents an increase of 11% from 2012. Progress is real but uneven: of 106 countries with updated data between 2017 and 2024, 75 improved and 23 gained more than 10 percentage points. But 29 countries reported decline in breastfeeding rates, with six of them recording a decrease of more than 10 percentage points.²

At present, 21 countries report rates at or above the more ambitious 2030 World Health Assembly (WHA) target of 60%.¹ While encouraging, this trajectory still falls short of global aspirations. Achieving this target will require increased and sustained investment in breastfeeding support.

The Nutrition International Cost of Not Breastfeeding Tool³ is an evidence-based modelling tool that uses open-access data to estimate the health and economic costs of not protecting, promoting and supporting breastfeeding. The 2026 version of the tool contains updated datasets and online access to the results for more than 150 countries. This brief outlines the key findings from this updated version of the tool, as well as highlights results for a few selected countries.

Key findings from the Cost of Not Breastfeeding Tool

In 2021, 44% of infants under six months of age were exclusively breastfed according to WHO recommendations. Updated data indicate that this figure has increased to 47% in 2025.ⁱ While this represents some progress, more than half of infants worldwide are still not exclusively breastfed, highlighting the need for continued investment in breastfeeding support policies and services. Data from the Cost of Not Breastfeeding Tool shows that breastfeeding according to WHO recommendations has the potential to:

- Prevent USD \$339 billion in global economic losses, an average of 0.32% of gross national incomeⁱⁱ
- These economic losses include USD \$317 billion in costs due to cognitive losses, USD \$20.3 billion due to mortality costs, and USD \$1.83 billion in healthcare treatment costs
- Prevent more than 520,000 deaths, including more than 383,000 child deaths from diarrhea and pneumonia and almost 138,000 maternal deaths from breast and ovarian cancers and type 2 diabetes
- Prevent over 1 million cases of childhood obesity per year
- Prevent almost 168 million IQ points being lost in children per year



FIGURE 1. Country level progress towards achieving the WHA global nutrition target on breastfeeding (EBF prevalence)



ⁱ Out of 194 countries with standardized EBF data in the Cost of Not Breastfeeding Tool.

ⁱⁱ The 2026 updated estimate is different than the 2022 estimates (\$574B, 0.7% of gross national income) due to (1) country level progress in improving exclusive breastfeeding rates; (2) better data availability resulting in the addition of more countries; (3) better input parameters, including a change in relative risk ratios for diarrhea attributable deaths; and (4) updated population and economic data

The health, human capital and economic costs of not breastfeeding



Increased vulnerability to disease resulting in high morbidity and mortality

Children and mothers have increased vulnerability due to not breastfeeding for recommended duration. This includes an increased risk of diarrhea and pneumonia, two leading causes of childhood death worldwide, as well as childhood obesity, and maternal breast and ovarian cancer. These preventable diseases cost more than USD \$1.81 billion in health system treatments per year. Globally, improved breastfeeding practices could save the lives of more than 383,000 children and 138,000 mothers and prevent more than 1 million cases of childhood obesity each year (Fig 2).



Cognitive and IQ point losses result in lost wages for individuals

Suboptimal breastfeeding negatively impacts a child's cognitive development and capacity to learn which results in grade repetitions and loss of schooling years. These effects persist into adulthood, ultimately reducing earning potential. It is estimated that children who are breastfed according to recommended breastfeeding practices gain 2.62 IQ points and 0.91 years of education compared to children who are not breastfed according to the recommendations. Over time and across whole populations, these cognitive losses contribute to billions of dollars lost globally in potential future economic productivity.



Cost of household breastmilk substitutes can be a significant portion of a family's total income

The cost of purchasing breastmilk substitutes (BMS), such as infant formula, can be very expensive for many households, despite not providing the full range of health, developmental and economic benefits associated with breastfeeding.

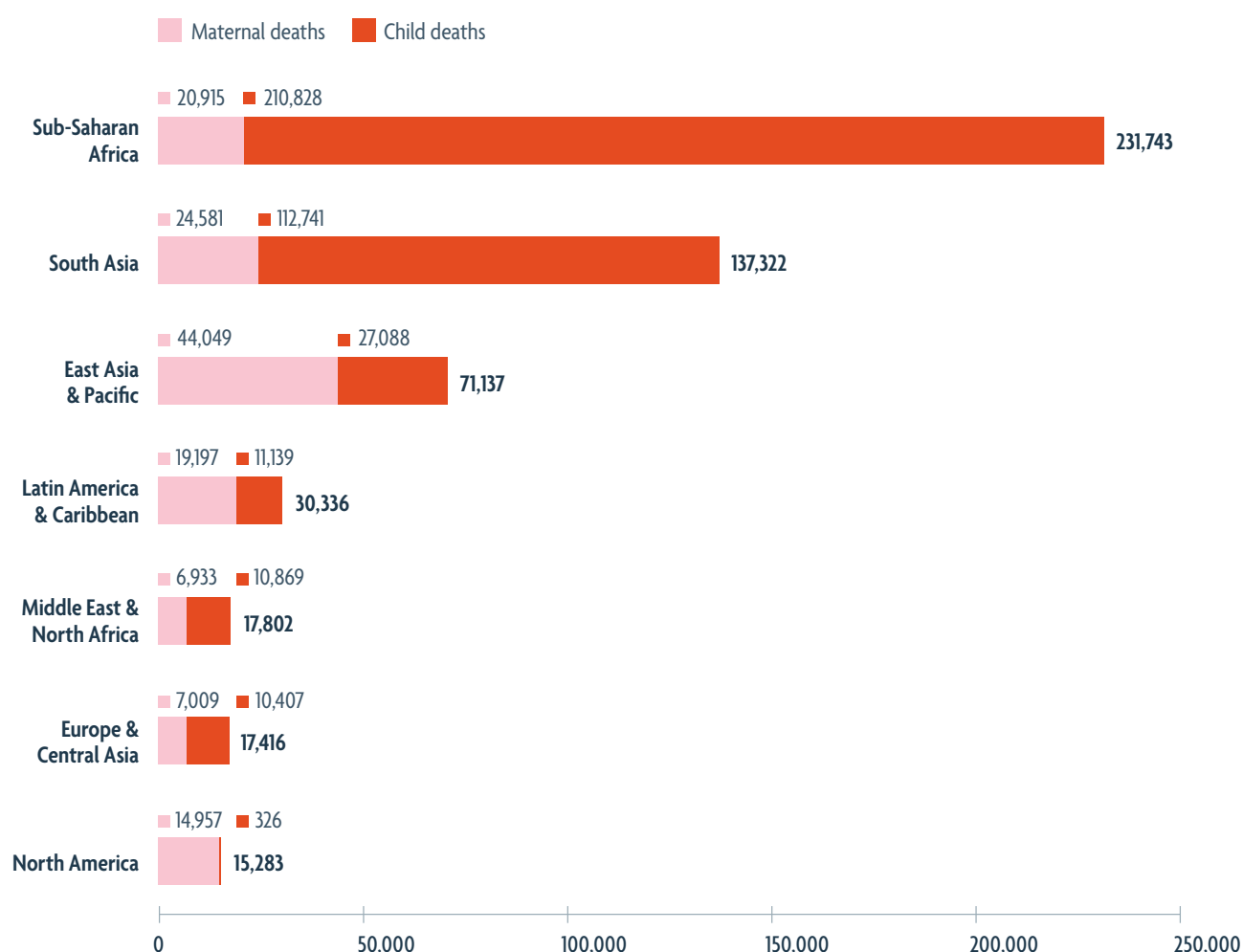
In households where breastfeeding is suboptimal, the cost of BMS can range from approximately 5% of a caregiver's income in Barbados to as much as 74% in Kenya. In some countries (such as Ethiopia and Rwanda), this burden is even greater, with BMS costs reaching up to 140% of a caregiver's income. Such costs are clearly unaffordable for most families and may indicate that households are relying on multiple income earners to purchase formula, purchasing less than the recommended amount, or substituting formula with other foods or liquids. These coping strategies can compromise infant nutrition and health, underscoring the significant economic and public health advantages of breastfeeding.

How much does not breastfeeding cost each region annually?

Globally, the total annual economic losses from not breastfeeding are highest for North America, due to the high gross national income of the region. Sub-Saharan Africa experiences the highest economic losses in relation to gross national income (1.06% of GNI). Sub-Saharan Africa also experiences the highest burden of preventable child mortality globally, resulting in 210,000 child deaths and 20,915 maternal deaths annually. Not breastfeeding leads to USD \$283 million in additional health sector costs, over 19 million years of education and 55 million IQ points lost, and total future costs of approximately USD \$20 billion in the region.

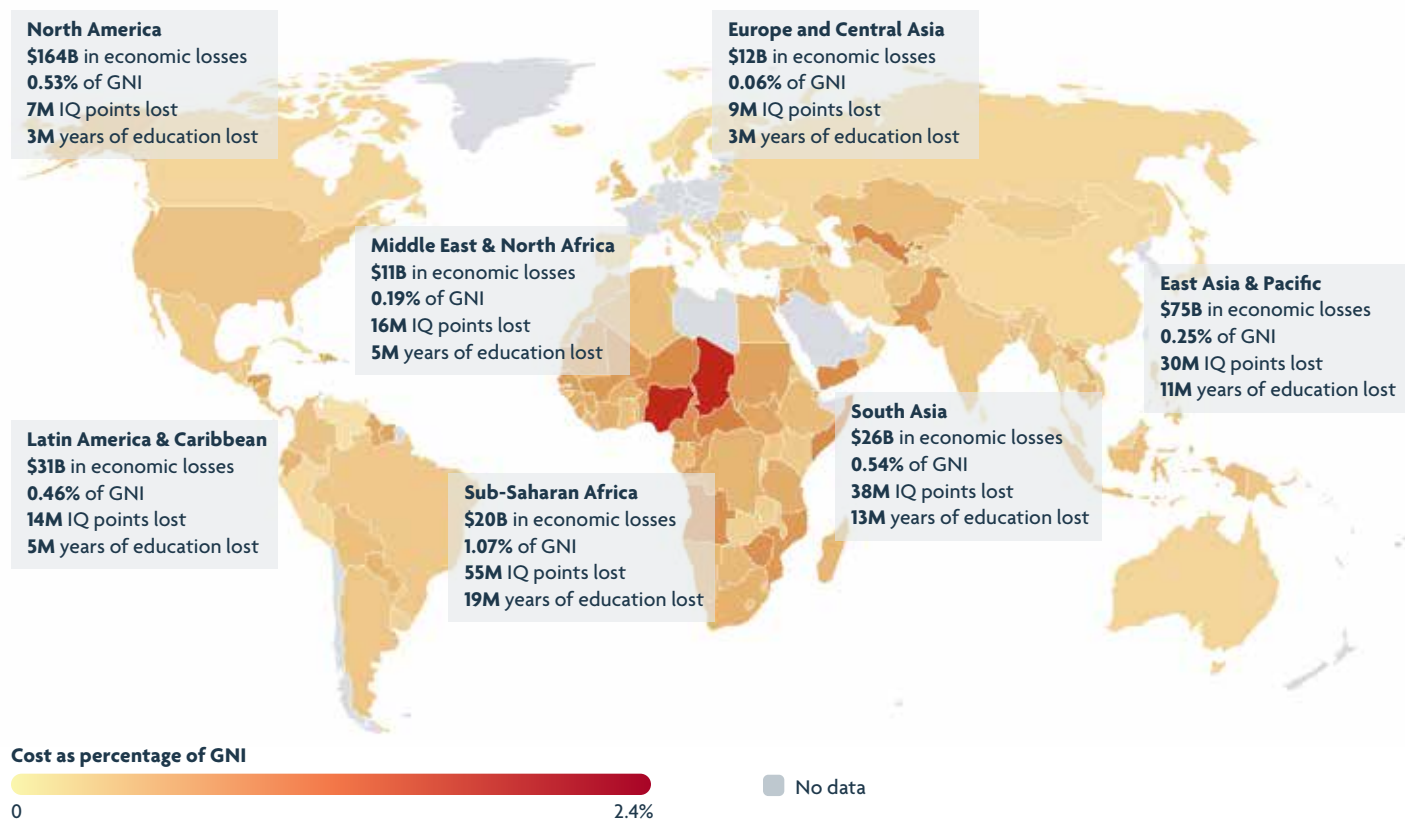
In South Asia, not breastfeeding results in 112,000 child deaths and 24,500 maternal deaths each year, while also leading to USD \$67 million in additional health sector costs and approximately USD \$26 billion in total economic losses. Notably, it is estimated that 84,000 cases of childhood obesity could also be averted with adequate breastfeeding. In East Asia and Pacific, not breastfeeding results in 27,000 child deaths and 44,000 maternal deaths annually. Not breastfeeding also results in more than USD \$214 million in additional health sector costs, over 10 million years of education and 30 million IQ points lost, and total future costs of approximately USD \$75 billion.

FIGURE 2. Number of annual child and maternal deaths due to not breastfeeding, by region



In Latin America and the Caribbean, not breastfeeding results in 11,000 child deaths and 19,000 maternal deaths annually. It also leads to USD \$245 million in additional health sector costs and total economic losses of approximately USD \$30 billion. Notably, it is estimated that 118,000 cases of childhood obesity could also be averted with breastfeeding.

FIGURE 3. Annual costs of not breastfeeding as a percentage of GNI



In addition to the known human health, human capital and economic consequences of not breastfeeding according to recommendation, there is strong evidence on its impact on non-communicable diseases. A multi-country study found that scaling up exclusive breastfeeding coverage to 90% in 132 low-and-middle income could delay 0.17% of non-communicable disease related deaths across mother and child populations equivalent to 72,300 delayed deaths annually.⁴

Sub-optimal breastfeeding also has a high environmental impact. At 2025 breastfeeding rates across all low- and middle-income countries, 2.4 billion litres of milk are lost due to consumption of breastmilk substitutes, leading to about 5.9 million tons in carbon emissions from production.⁵



Case study countries: China, India, Indonesia, Mexico and Nigeria

The table below presents the annual mortality and economic costs of not breastfeeding for five large emerging economies at the current exclusive breastfeeding rate. Additional scenarios represent the potential benefits of achieving the WHA target rate of 60% and a hypothetical scenario of achieving 80% exclusive breastfeeding rate.

TABLE 1. Total cost of not breastfeeding by country, and economic gains of reaching EBF rates of 60% and 80%.

	Current (2025) EBF* rate				SCENARIO 1: 60% target			SCENARIO 2: 80% target		
	EBF rate	Total child deaths	Total costs	Total costs % of GNI**	EBF rate	Total child deaths averted	Total averted costs	EBF rate	Total child deaths averted	Total averted costs
China	35.1%	2,554	57 B	0.30%	60%	908	21 B	80%	1,500	39 B
India	63.7%	75,284	19 B	0.50%	exceeded target			80%	16,964	7.5 B
Indonesia	50.7%	10,372	8.5 B	0.61%	60%	1,004	1.5 B	80%	2,996	4.6 B
Mexico	35.0%	2,029	7.8 B	0.47%	60%	665	2.93 B	80%	1,092	5.3 B
Nigeria	28.8%	62,083	6.9 B	2.37%	60%	14,508	2.6 B	80%	22,696	4.2 B

All amounts are in U.S. dollars (USD). *EBF: Exclusive breastfeeding; **GNI: Gross National Income

Note: These countries together contain 53% of the population of all developing countries and were selected because of their strategic importance for achieving the global breastfeeding targets.

These economies bear disproportionate repercussions from suboptimal breastfeeding and hence, have the most to gain from investing in breastfeeding support policies and interventions. It is important to note that each country's case should be studied within its own context. Of these countries, the cost of not breastfeeding in China is the highest at USD \$57 billion, with more than 2,500 child deaths annually. However, child deaths associated with not breastfeeding in Nigeria are more than 10 times higher than China at over 62,000 per year, which contributes to a total economic cost of USD \$6.9 billion and approximately 2.37% of Nigeria's gross national income. Each country has unique enablers and barriers to exclusive breastfeeding, and for country or regional comparisons, economic consequences of not breastfeeding should be interpreted with caution.





Conclusion

Breastfeeding remains a smart investment in the health and human capital of a country, laying the foundation for good health in newborns and young children. Investments could potentially improve the cognitive development of children which supports future achievements in education, and in their careers.

Progress towards achieving the WHA breastfeeding target is possible, but will require concerted efforts, informed programming, and conducive policies. Civil society, policymakers, governments, implementers and donors all have a key role to play in enabling policy change and increasing investments to support breastfeeding ahead of the 2030 breastfeeding targets.

The Global Breastfeeding Collective recommends seven policy actions to support breastfeeding, including:

- 1 Increasing funding to raise breastfeeding rates from birth through two years
- 2 Implementing the International Code of Marketing of Breastmilk Substitutes
- 3 Enacting paid leave and workplace breastfeeding practices
- 4 Implementing the ten steps to successful breastfeeding in maternity facilities
- 5 Improving access to skilled breastfeeding counselling
- 6 Strengthening links between health facilities and communities
- 7 Strengthening monitoring systems to track progress toward breastfeeding targets



About the Cost of Not Breastfeeding Tool

The Cost of Not Breastfeeding Tool was first developed between 2017 and 2019 by Dr. Dylan Walters and Alive & Thrive, with funding from the Gates Foundation. This tool was instrumental in advocacy at the global level being used for the Global Breastfeeding Collective's investment case and at the country level directly supporting efforts to advocate for policy changes and increase investments in maternal and child nutrition in numerous countries.

In 2022, Nutrition International updated and developed the second version of the tool in partnership with Alive & Thrive and Limestone Analytics, with funding from the Government of Canada. This second version incorporated updated datasets, new indicators, a new function to calculate results for different breastfeeding rate scenarios or targets, and online access to the results for more than 100 countries.

In 2026, Nutrition International updated the tool's underlying datasets, methodologies and country estimates. This latest version incorporates updated data and methods to improve the accuracy of estimates on the health and economic impacts of suboptimal breastfeeding and the benefits of increasing breastfeeding rates.

User toolkit

- [Nutrition International – The Cost of Not Breastfeeding Tool](#)
- [Global investment case for improved breastfeeding](#)
- [Original Manuscript \(2019\): The cost of not breastfeeding: Global results from a new tool](#)

Related links for breastfeeding advocacy

- [Global Breastfeeding Collective Advocacy Brief: Investing in breastfeeding saves lives and money](#)
- [Global Breastfeeding Collective Policy Actions](#)
- [Global Breastfeeding Collective Breastfeeding Scorecard](#)
- [WBG Investment Framework for Nutrition chapter on breastfeeding](#)

For more information or support in using the tool, please contact HealthEcon@NutritionIntl.org

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