



# The Global Cost of Not Breastfeeding

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## THE IMPORTANCE OF INVESTING IN BREASTFEEDING PROMOTION

### Globally, not breastfeeding leads to economic losses of US **\$1.5 billion** per day

Exclusive breastfeeding 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, diarrhoeal 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.<sup>1</sup>

Despite its importance, breastfeeding rates remain below recommended targets. In 2012, the World Health Assembly (WHA) set a global nutrition target to increase the rate of exclusive breastfeeding in the first six months up to at least 50% by 2025. As of 2021, the global rate of exclusive breastfeeding is 44%<sup>2</sup> and only 35 countries were on course to meet the global target.

Not breastfeeding has significant health and economic impacts. The Cost of Not Breastfeeding Tool 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. First launched in 2019, the tool was the first-of-its-kind and used by organizations around the world to develop guidelines and make recommendations to increase breastfeeding rates globally.

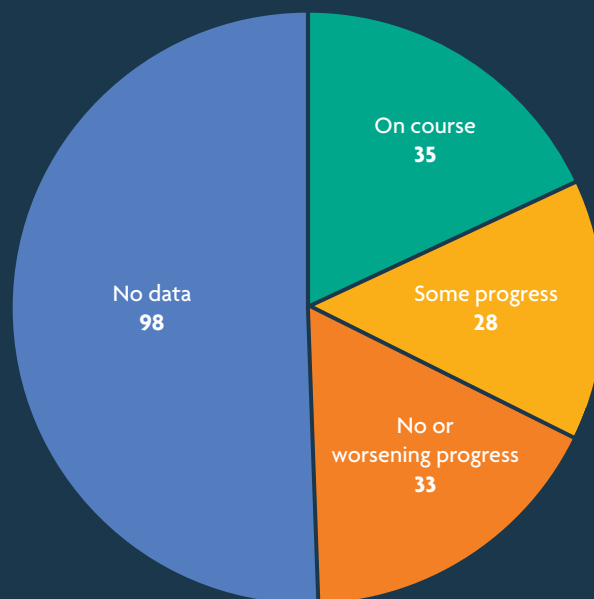
A new and updated version of the tool, available on both the Nutrition International and Alive & Thrive websites, contains updated datasets, new indicators, a new function to calculate results for different scenarios or targets, and online access to the results for more than 180 countries. This brief outlines the key findings from this updated tool, as well as highlights results for a few selected countries.

## KEY FINDINGS FROM THE COST OF NOT BREASTFEEDING TOOL

Every year, lack of protection, promotion and support for breastfeeding results in significant economic losses. Data from the Cost of Not Breastfeeding Tool shows that breastfeeding according to WHO recommendations has the potential to:

- Prevent US **\$574 billion** in global economic losses, an average of 0.7% of gross national income
  - US **\$530 billion** in costs due to cognitive losses
  - US **\$18 billion** in costs due to child mortality
  - US **\$2 billion** in costs due to maternal mortality
  - US **\$23 billion** in healthcare treatment costs
- Prevent more than **510,000** deaths
  - More than **420,000** child deaths from diarrhoea and pneumonia
  - More than **90,000** maternal deaths from breast and ovarian cancers and type 2 diabetes
- Prevent **4.58 million** cases of childhood obesity per year
- Prevent **200 million** IQ points being lost per year
- Save families more than **10%** of their household's wages by not having to purchase infant formula

### COUNTRY-LEVEL PROGRESS TOWARDS ACHIEVING THE WHA GLOBAL NUTRITION TARGET ON BREASTFEEDING



## THE HEALTH, HUMAN CAPITAL AND ECONOMIC COSTS OF NOT BREASTFEEDING



### Increased vulnerability to disease resulting in high morbidity and mortality

Children and mothers suffer enormously when recommended breastfeeding rates are not met. Children who are not exclusively breastfed for the first six months, or don't continue to receive breastmilk up to two years, are more susceptible to diarrhoea and pneumonia, two leading causes of childhood death worldwide, as well as childhood obesity. These preventable diseases cost more than US \$23 billion in health system treatments per year. Globally, improved breastfeeding practices could save the lives of more than 420,000 children and 90,000 mothers and prevent more than 4.6 million cases of childhood obesity each year.



### Cognitive and IQ point losses result in lost wages for individuals

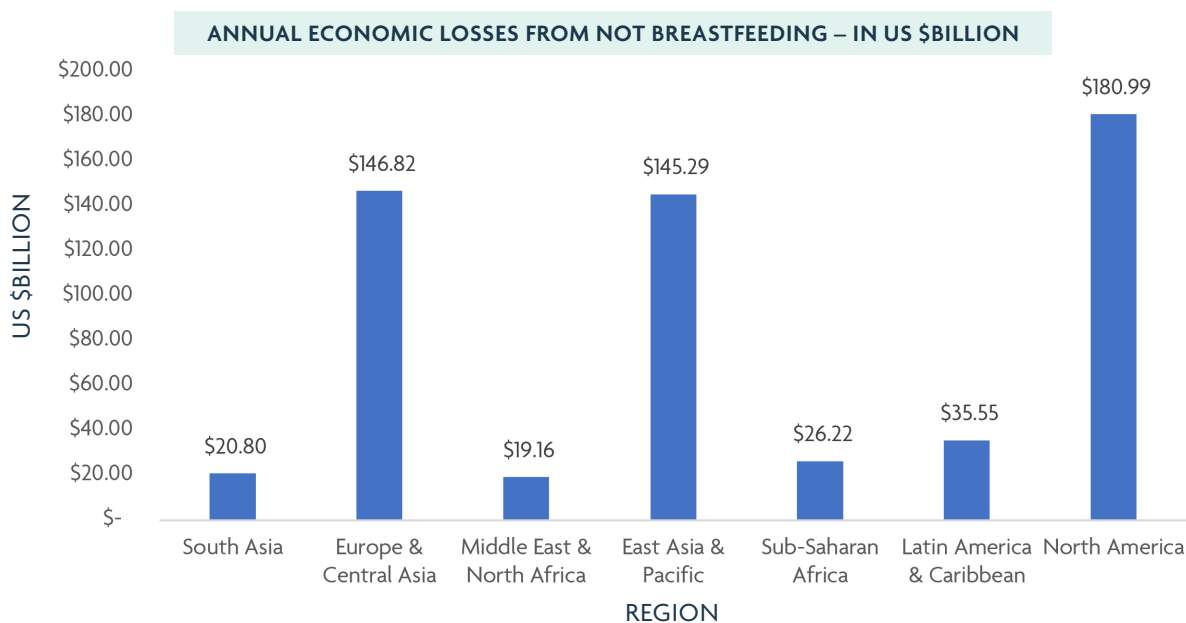
Inadequate breastfeeding impacts a child's cognitive ability and capacity to learn. Grade repetitions and loss of schooling years consequently hinder their future earning potential. It is estimated that breastfeeding according to recommendations is associated with 2.6 additional IQ points and 0.9 additional years of education compared to children 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 (i.e. infant formula) can also be very expensive and unaffordable for households, even though it does not provide the benefits of breastfeeding. For example, breastmilk substitutes can cost on average more than 5% (Latin America) to 23% (Sub-Saharan Africa) of average households income depending on the region.

## How much does not breastfeeding cost each region annually?



Globally, the total economic losses are highest for North America, due to the high gross national income of the region. The total economic losses in Sub-Saharan Africa are the highest in relation to gross national income. Sub-Saharan Africa also experiences the highest burden of child mortality that is preventable

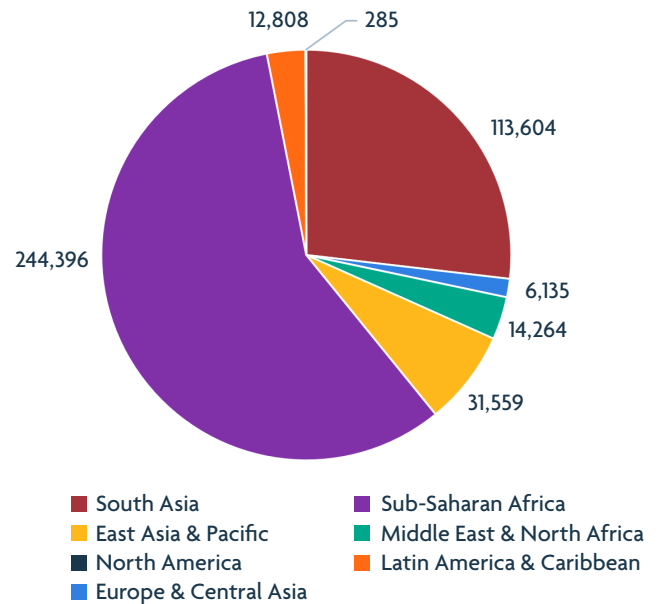
with breastfeeding, resulting in 244,000 child deaths and 9,500 maternal deaths annually. Not breastfeeding also leads to US \$557 million in additional health sector costs, over 19 million years of education and 55 million IQ points lost, and total future costs of approximately US \$26 billion in the region.



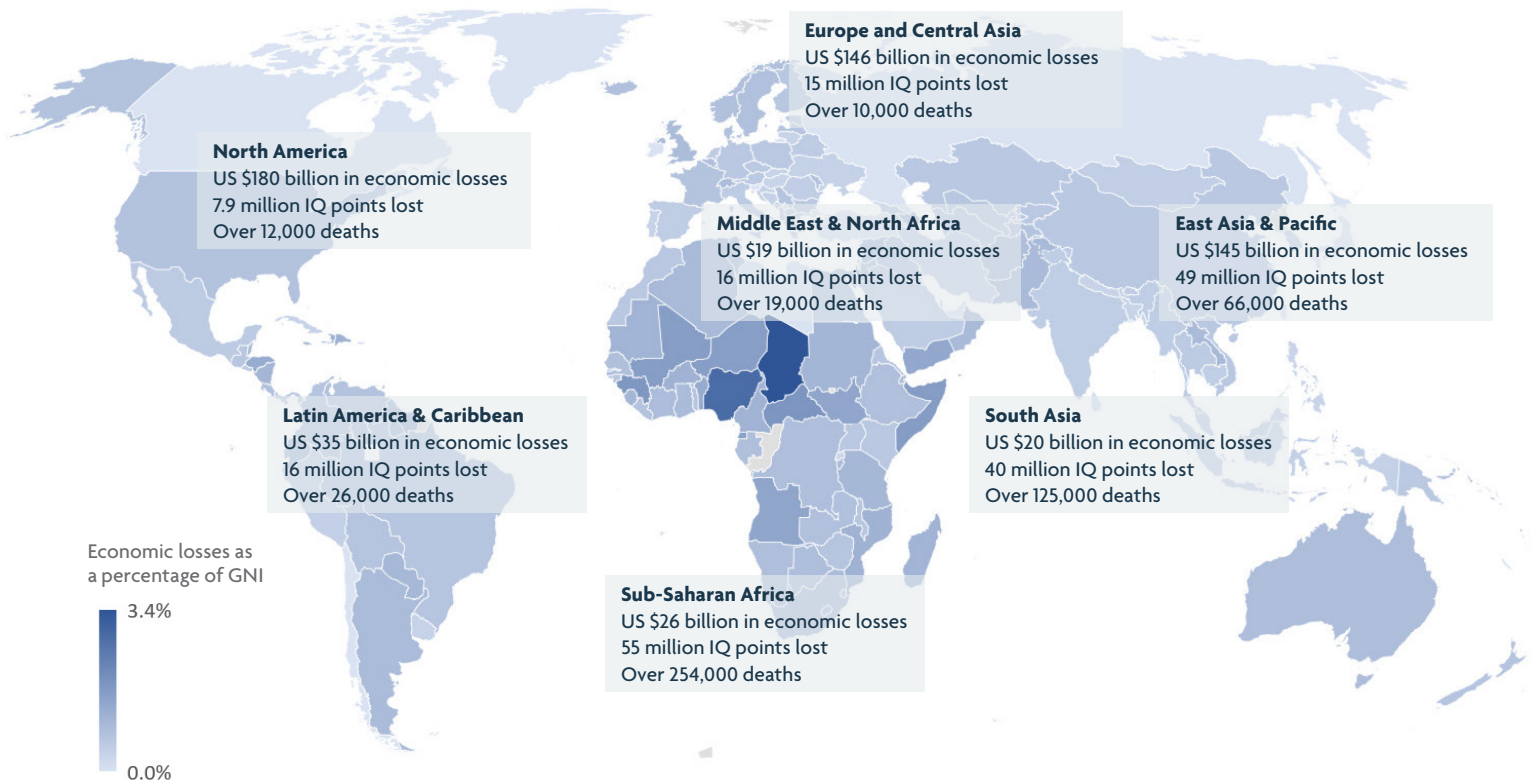
In South Asia, not breastfeeding results in 113,000 child deaths and 11,000 maternal deaths each year, while also leading to US \$161 million in additional health sector costs and approximately US \$20 billion in total economic losses. Notably, it is estimated that 222,000 cases of childhood obesity could also be averted with breastfeeding. In East Asia and Pacific, not breastfeeding results in 31,000 child deaths and 35,000 maternal deaths annually. Not breastfeeding also results in more than US \$2 billion in additional health sector costs, over 17 million years of education and 49 million IQ points lost, and total future costs of approximately US \$145 billion.

In Latin America and the Caribbean, not breastfeeding results in 12,000 child deaths and 13,000 maternal deaths annually. It also leads to US \$2 billion in additional health sector costs and total economic losses of approximately US \$35 billion. Notably, it is estimated that 488,000 cases of childhood obesity could also be averted with breastfeeding.

NUMBER OF ANNUAL CHILD DEATHS, BY REGION



REGIONAL COSTS OF NOT BREASTFEEDING





## 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, and the potential benefits of achieving the WHA target rate, of 50% and an extended target scenario of 70%.<sup>3</sup>

Country	At current exclusive breastfeeding (EBF) rate (latest survey)				Scenario 1: At 50% EBF rate			Scenario 2: At 70% EBF rate		
	EBF rate (%)	Total child deaths	Total costs (US \$)	Total costs (% gross national income)	EBF Rate	Total child deaths averted	Total economic losses averted (US \$)	EBF rate	Total child deaths averted	Total economic losses averted (US \$)
<b>China</b>	21	8,907	105.9 billion	0.63	50%	1,151	37.4 billion	70%	2,457	63.3 billion
<b>India</b>	58	71,388	15.5 billion	0.51	Exceeding target			70%	5,037	3.7 billion
<b>Indonesia</b>	51	8,039	4.9 billion	0.43	Exceeding target			70%	492	1.7 billion
<b>Mexico</b>	27	1,742	7.2 billion	0.59	50%	182	2 billion	70%	435	3.9 billion
<b>Nigeria</b>	23	93,883	12.7 billion	2.86	50%	9,094	3.2 billion	70%	18,620	5.7 billion

*Note: These countries together contain 53% of the population of all developing countries and were selected because of their strategic importance for achieving the Sustainable Development Goals.*

These economies bear disproportionate repercussions from inadequate breastfeeding and a growing double-burden of malnutrition from both under- and over-nutrition. At the same time, they also have the most to gain from investing in corrective policies and interventions. It is important to note that each country's case should be studied with context. Of these countries, the cost of not breastfeeding in China is the highest at US \$91 billion, with more than 8,000 child deaths annually. However, child deaths in Nigeria are more than 10 times higher than China at over 90,000 per year, which contributes to a total economic cost of US \$12 billion and approximately 3% of Nigeria's gross national income. Each country's drivers of socio-economic conditions are different, and for country or regional comparisons, economic indicators should be interpreted with caution.





## CONCLUSION

Breastfeeding is a smart investment in the health and human capital of a country, laying the foundation for good health in newborns and young children. This ultimately benefits economies by assuring 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. With 2025 on the horizon, civil society, policymakers, governments, implementers and donors all have a key role to play in enabling policy change to support breastfeeding.

The [Global Breastfeeding Collective](#) recommends seven policy actions, 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 Bill & Melinda 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 new version of the tool contains updated datasets, new indicators, a new function to calculate results for different scenarios or targets and online access to the results for more than 100 countries.

### User toolkit

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

### Related links for breastfeeding advocacy:

- [WHO Breastfeeding Scorecard](#)
- [Global Breastfeeding Collective \(GBC\) Policy Actions](#)
- [WBG Investment Framework for Nutrition chapter on breastfeeding](#)

For more information or support in using the tool, please contact [healthecon@nutritionintl.org](mailto:healthecon@nutritionintl.org)



## ENDNOTES

- 1 WHO, Breastfeeding, 2022. Retrieved from [https://www.who.int/health-topics/breastfeeding#tab=tab\\_2](https://www.who.int/health-topics/breastfeeding#tab=tab_2)
- 2 UNICEF, Breastfeeding, 2021. Retrieved from <https://data.unicef.org/topic/nutrition/breastfeeding/>
- 3 WHO and UNICEF, 2019. Discussion paper: The extension of the 2025 maternal, infant and young child nutrition targets to 2030. <https://data.unicef.org/resources/who-unicef-discussion-paper-nutrition-targets/>

