

Global investment case for improved breastfeeding

Report for the Global Breastfeeding Collective

July 30, 2026



Table of Contents

ACKNOWLEDGEMENTS	2
KEY MESSAGES	3
BACKGROUND	4
ANALYTICAL APPROACH	5
I. Estimation of the current annual health, human capital and economic consequences of not breastfeeding according to recommendations	5
II. Literature review of evidence on breastfeeding interventions	5
III. Estimation of the health, human capital, and economic benefits of scaling up breastfeeding support	10
RESULTS: THE INVESTMENT CASE	13
I. The Global Cost of Not Breastfeeding	13
II. Projected effect of scaling up of investments in breastfeeding intervention coverage on breastfeeding practices	13
III. Projected health, human capital and economic impact of scaling up of investments in breastfeeding intervention	14
IV. Investment needs to reach 75% intervention coverage	15
V. Cost-benefit analysis	19
DISCUSSION	21
Limitations	22
Conclusion	22
REFERENCES	23
APPENDIX	26
Supplementary appendix 1: Rapid literature review findings	26
Supplementary appendix 2: Regional estimates	29
Supplementary appendix 3: Sensitivity analysis	35
Supplementary appendix 4: Sample national-level results	37



ACKNOWLEDGEMENTS

This Global Investment Case for Improved Breastfeeding was developed by Nutrition International in collaboration with the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) for the Global Breastfeeding Collective.

This investment case analysis was conducted and authored by Dr. Michael Nnachebe Onah, Sameen Ahsan, Sakshi Jain and Dr. Dylan Walters of Nutrition International's Health Economics and Nutrition Financing unit.

We would also like to thank Larry Grummer-Strawn of the WHO and Fatmata Fatima Sesay of UNICEF for their major contributions to the design, development and review of the investment case.

In addition, we'd like to thank Valerie Friesen, Taylor Morrison and Amirhossein Yarpavar for their review and feedback on the investment case. We are grateful for additional support from other Nutrition International teams including advocacy teams and the communications team for their input and guidance.

This investment case was made possible with the financial support of the WHO, UNICEF (with support from the United States Government) and from Nutrition International (with support from the Government of Canada).

The Global Investment Case for Improved Breastfeeding is intended as a strategic resource to guide evidence-informed advocacy, policy development and investment to accelerate progress toward improved nutrition outcomes globally.

Recommended Citation: *Nutrition International, United Nations Children's Fund, and World Health Organization (2026). Global Investment Case for Improved Breastfeeding. Nutrition International.*



KEY MESSAGES

- Scaling up breastfeeding protection, support and promotion is a high-value investment that strengthens economies by improving child survival, health and human capital development.
- Greater investment is urgently needed. Worldwide, only 47% of children under six months of age are exclusively breastfed (EBF) and 50% of children 12–23 months continue breastfeeding for two years, contributing to 383,000 premature child deaths every year and annual economic losses of \$339 billion or 0.32% of global gross national income.
- New global targets call for faster progress: the World Health Assembly (WHA) aims for 60% EBF by 2030, which could be exceeded by 2035.
- Reaching these targets will require scaling investment in key evidence-based interventions: community- and facility-based breastfeeding counselling and education (BCE), Baby-Friendly Hospital Initiative (BFHI) implementation in maternity facilities, national mass media breastfeeding promotion campaigns (NMM), enforcement of the International Code of Marketing of Breast-milk Substitutes (Code), paid maternity leave (paid ML), and workplace breastfeeding support and policies (WSP).
- To inform investment decisions, interventions were grouped into three packages:
 - A Core health system support package including community- and facility-based BCE and implementation of BFHI (Core health system support)
 - A Core plus policy and behaviour change communications package that includes the Core health system support package plus enforcement of the Code and NMM (Core plus policy and BCC)
 - A Full system support including maternity protection package that includes the Core plus policy and BCC package plus paid ML and WSP (Full system support).
- Scaling all three packages gradually to 75% coverage over a 10-year period until 2035 in high-burden countries generates significant increases in breastfeeding practices as well as lifesaving, cognitive development and economic benefits:
 - The **Core health system support package** is projected to avert 224,133 child deaths, loss of 308 million IQ points, 107 million education years, and \$276 billion in economic losses over 10 years. The package would require \$4.6 Billion in investment, and is expected to generate a return of \$59.4 for every \$1 invested over the same time period.
 - The **Core plus policy and BCC package** is projected to avert 253,520 child deaths, loss of 359 million IQ points, 125 million education years, and \$324 billion in economic losses over 10 years. The package would require \$6.3 Billion in investment, and is expected to generate a return of \$51.6 for every \$1 invested over the same time period.
 - The **Full system support including maternity protection package** is projected to avert 263,038 child deaths, loss of 382 million IQ points, 133 million education years, and \$357 billion in economic losses over 10 years. The package would require \$13.3 Billion in investment, and is expected to generate a return of \$26.8 for every \$1 invested over the same time period.
- Scaling the Core plus policy and BCC and Full system support packages to at least 75% coverage by 2035 would enable focus countries to meet or exceed the WHA target of 60% EBF rate, while the Core health system support package would fall short. Scaling up all packages would result in a 70% EBF rate being achieved by 2035 while generating strong economic returns on investment.



BACKGROUND

Breastfeeding is one of the most effective ways to improve child survival, development and maternal health.¹ Yet breastfeeding rates remain low: only 47% of infants under six months are exclusively breastfed (EBF) and 50% of children 12–23 months continue breastfeeding (CBF).² Global EBF rates rose from 37% in 2012 to 47% in 2022, with 23 countries across Africa, Asia, Europe and Oceania increasing by more than 10 percentage points during the periods of the Millennium Development Goals (2000–2015) and Sustainable Development Goals (2016–2030). Even so, more than 60 million children worldwide are still not exclusively breastfed for at least the first six months of life, which contributes to preventable deaths, poorer cognitive outcomes and major economic losses.³

The Global Breastfeeding Collective (GBC), led by the World Health Organization (WHO) and United Nations Children's Fund (UNICEF), was created to strengthen investment and accountability for protecting, promoting and supporting breastfeeding worldwide. Its first Global Investment Case for Breastfeeding (2017)⁴, which built on the Cost of Not Breastfeeding (CONBF) tool⁵, helped mobilize global attention and resources by demonstrating that breastfeeding is one of the best investments in global health, while highlighting the relatively modest investments required to achieve global breastfeeding targets. The GBC later expanded its seven policy actions recommended to governments, philanthropies, international organizations and civil society to invest in breastfeeding through stronger implementation of the International Code of Marketing of Breast-milk Substitutes (BMS) (hereby referred to as the Code), paid family leave and workplace policies, the Baby-Friendly Hospital Initiative (BFHI), skilled breastfeeding counselling with community linkages, and monitoring systems to track progress toward national and global targets.⁶

Since then, the policy landscape has changed significantly. The World Bank's 2024 Investment Framework for Nutrition produced new global estimates for the cost and impact of scaling up breastfeeding support interventions, namely kangaroo mother care and breastfeeding counselling. However, it did not include several other critical policies and program levers that are included in the GBC's seven policy actions. Furthermore, the World Health Assembly has increased its global nutrition target for EBF to 60% by 2030.²

To support efforts towards achieving these important goals, the GBC aimed to generate policy-relevant health, human capital and economic evidence to build the case for investing in the protection, support and promotion of breastfeeding around the world. The objectives of this investment case include:

- To estimate the current annual health, human capital and economic costs of not breastfeeding globally
- To estimate the potential health and human capital impacts and economic returns of scaling up priority breastfeeding interventions and policies
- To estimate the investment needs to scale up interventions and policies



ANALYTICAL APPROACH

In this section, an overview of the methodology for various components of the investment case analysis is provided.

I. Estimation of the current annual health, human capital and economic consequences of not breastfeeding according to recommendations

Since 2019, the CONBF tool has been used in advocacy for the GBC's investment case globally, as well as at the country level to support advocacy for policy changes and increase investments in maternal and child nutrition. In 2022, Nutrition International updated and developed the second version of the tool in partnership with Alive & Thrive, with funding from the Government of Canada.⁷ This version of the tool updated datasets, added new indicators, added a new function to calculate results for different scenarios or targets, and provided online access to the results for more than 100 countries. To ensure that the tool continues to reflect the latest available data, Nutrition International undertook a further revision in 2026.

In 2026, Nutrition International updated the CONBF tool again with several adjustments to the underlying methodology and data sources, and calculations were made to improve the accuracy and consistency of the estimates. These included updating breastfeeding, health and demographic data, as well as the price of breastmilk substitutes and economic datasets; revising selected model parameters and assumptions based on the latest available evidence; and correcting calculation and aggregation methods. More information on the methodology, data sources and related publications^{5,7} can be found on the Nutrition International CONBF tool site at: <https://nutritionintl.org/learning-resource/the-cost-of-not-breastfeeding-tool/>.

To support the global investment case for breastfeeding, the updated CONBF tool was applied to estimate the standard set of indicators on current annual health, human capital and economic consequences of not breastfeeding. These indicators include the number of preventable maternal and child deaths, lost education years and IQ points, excess health systems spending and economic losses.

II. Literature review of evidence on breastfeeding interventions

The design of the global investment case for breastfeeding was informed by a rapid literature review. The review found that many breastfeeding protection, support and promotion interventions have been evaluated for effectiveness in improving breastfeeding rates, as well as for cost-effectiveness.⁴ Six breastfeeding interventions that align with the GBC policy actions were selected for inclusion in the investment case analysis. These interventions support mothers and their children at various stages across the life course from pregnancy through birth, the postpartum period, infancy, early childhood, and when women return to work.

The evidence on the effect sizes, unit cost data and other data drawn from the literature for these proposed interventions is summarized in Table 1 and in more detail in Table S1. We selected evidence from systematic reviews and meta-analyses over single-country studies since there are noted variations in the delivery and content of proposed interventions across studies and contexts. These interventions are among the WHO Essential Nutrition Actions and the World Bank Investment Framework for Nutrition (2017) package for breastfeeding.⁸ Our review found stronger evidence on the impact of interventions on EBF than on CBF. Estimates of intervention effects on CBF were available only for two interventions.

For each identified intervention, current coverage levels were sourced from literature or published data. Coverage levels from 2025 were considered baseline for this analysis. The implementation unit cost estimates are from the provider perspective and costs are borne by either employers, government (including social security) or health systems. Hence, the cost of each intervention is not assumed to be borne by the mother or child.



INTERVENTION I: BREASTFEEDING COUNSELLING & EDUCATION (BCE): COMMUNITY- AND FACILITY-BASED

BCE is a comprehensive breastfeeding support program designed to guide the local adaptation, design, planning, and implementation of breastfeeding counselling and support services at health facilities and in communities. A systematic review observed heterogeneity in the content and delivery of BCE; hence, the intervention is most effective when delivered through multiple channels including at pre- and postnatal care^{9,10}. BCE was found to increase EBF rates by 66% when delivered through health systems, 58% through homes and families, and 61% through community groups.⁹ Because we could not identify pooled estimates for BCE delivered in combined settings including facilities, communities, homes, and families, we used the lower-bound estimate of a 58% increase in EBF for our modelling. We selected this estimate because it was based on the largest number of studies and provided a more conservative effect size. Pooled estimates across 6 studies found that CBF rates increased by 34%.¹¹

Disaggregated cost estimates indicate that the mother-baby pair unit cost for delivering BCE through health facilities and households ranges between \$2.72 to \$74 based on country and region of implementation, with costs lowest in South Asia and highest in Europe and Central Asia (Table 1).¹⁰ Intervention baseline (2025) coverage levels were extracted from the Optima Nutrition Tool and the LiST tool.^{12,13}

INTERVENTION II: BABY-FRIENDLY HOSPITAL INITIATIVE (BFHI): TEN STEPS TO SUCCESSFUL BREASTFEEDING IN MATERNITY FACILITIES

BFHI was established to encourage health facilities worldwide to better support breastfeeding. The initiative developed the Ten Steps to Successful Breastfeeding to promote optimal clinical care for new mothers and their infants. There is substantial evidence that implementing the Ten Steps significantly improves breastfeeding rates. Effectiveness studies involving 15,059 newborns found that implementation of BFHI led to a 45% increase in EBF rates at six months¹⁴ and 26% increase in CBF.¹¹ A global costing study estimated the per mother-baby unit cost of \$16.¹⁰ BFHI coverage is still below global standards in many countries.

According to the 2017 WHO National Implementation Plan for BFHI, only 10% of births occur in BFHI facilities and there are broad differences across regions: 4% in Africa, 13% in the Americas, 17% the Eastern Mediterranean, 36% in Europe, 3% in South Asia, and 11% in the Western Pacific.¹⁵ Women's access to institutional delivery is therefore critical to the uptake of this intervention. We used these coverage levels for modelling of baseline intervention coverage.

INTERVENTION III: NATIONAL MASS MEDIA BREASTFEEDING PROMOTION CAMPAIGN (NMM)

The WHO highlights the implementation of NMM through the mass media at scale, including social media, local events, campaigns and community activities as an important tool for increasing breastfeeding practices. Women's access to mass media is therefore critical to the uptake of this intervention. For the investment case, we assume an average exposure duration of 12 months to align costs with published estimates. A systematic review of 16 studies, including nine from Low- and Middle-income Countries (LMIC), found that media interventions integrated with counselling and community mobilization increased EBF by 17%¹¹, at an estimated unit cost of \$2.28.⁸ This effect size is based on pooled data from five studies and is measured based on an integrated approach where NMM is combined with counselling and community mobilization.⁹ To avoid possible overestimation due to combined impact, we assume that only 50% of the effectiveness is attributable to NMM. Since this is a national campaign, we assumed baseline coverage of 0% and national roll-out at 100% coverage starting in year 1. We assume that cost is incurred annually, however the incremental impact on EBF is incurred once and sustained over the 10-year time horizon.



INTERVENTION IV: IMPLEMENTATION AND ENFORCEMENT OF THE INTERNATIONAL CODE OF MARKETING OF BREAST-MILK SUBSTITUTES (CODE)

Implementing and enforcing the International Code of Marketing of Breast-milk Substitutes (Code) involves regulating breastmilk substitute (BMS) marketing, including bans on advertising, free samples and direct contact between marketing personnel and mothers. The Code was adopted by the WHA and is implemented through national legal measures. This intervention targets a broad set of actors across the breastfeeding and BMS landscape, including manufacturers and marketers of BMS, policymakers, as well as mothers and health workers who provide breastfeeding support in health facilities. As of 2026, 37 countries had measures substantially aligned with the Code, an increase from 25 countries in 2020.¹⁶ This level of Code alignment means that approximately 45% of annual births globally receive strong protections that support EBF. Enforcement is essential to reduce violations and achieve impact, yet only 19 countries have clearly designated authorities and continuous monitoring systems in place.

Quantifiable evidence on the effectiveness of this intervention in improving breastfeeding rates has not yet been published. Evidence consistently shows that exposure to BMS influences breastfeeding decisions, while stronger implementation of the Code reduces such exposure and is associated with higher breastfeeding rates.¹⁶ The rate of exclusive breastfeeding in the first six months is more than twice as high in countries substantially aligned with the Code (54%) relative to countries with no Code legislation (24%). Therefore, it is plausible that the Code is associated with improved breastfeeding outcomes by limiting harmful marketing and creating a more supportive environment. A global study estimated the per mother-child cost of the Code enforcement at \$0.58.⁸ To be conservative, we assumed a baseline coverage of 0%, and we assumed a national rollout at 100% coverage and enforcement of the Code every 5 years.

INTERVENTION V: PAID MATERNITY LEAVE (PAID ML)

Paid ML supports sustained mother-baby bonding and breastfeeding after birth and hospital discharge.⁸ Most countries provide some form of paid ML, but the duration and level of compensation vary widely. Coverage is also concentrated among women employed in the formal sector.^{9,10} For this analysis, the benefits of the intervention are modelled for employed women who work in the formal sector. A systematic review found that paid ML —across different durations, payment levels and mandates — was associated with a 52% increase in EBF.⁹ In addition, it provides other benefits beyond the public health benefits including improved maternal wellbeing, gender equality and retention in the labour force.

A systematic review of costing studies estimated that the cost to provide six months of paid maternity leave either through cash transfer or wage replacement costs about \$103 per mother globally.¹⁰ According to the International Labour Organization, only about 10% of women in Africa and Asia are effectively protected by maternity leave cash benefits, and about 18% are covered by law.¹⁷ We therefore assumed a 10% baseline coverage level.

INTERVENTION VI: WORKPLACE BREASTFEEDING SUPPORT AND POLICIES (WSP)

Upon returning to work after birth and/or maternity leave, workplace support facilities and policies are critical to support new mothers in extracting breastmilk and exclusively breastfeeding. Workplace breastfeeding support and policies include accommodations that allow for nursing breaks, private rooms made available to breastfeeding mothers to express breastmilk, and flexible work schedules to allow for the mother-baby bonding associated with breastfeeding.¹⁸ In their systematic review, Rollins et al. found that WSP increased breastfeeding by 8%. Evidence on the effectiveness of WSP policies remains limited, with estimates varying widely across contexts. For example, a study in Kenya, where WSP was implemented to women employed in the agrarian sector, found that women who received the intervention were approximately 3.78 times more likely to breastfeed than those who did not.¹⁹ However, because this intervention is available only to mothers employed in the formal sector, we limited the analysis to this subgroup using female labour force participation rates and the share of formal employment.

Coverage data for this intervention is limited. Only 20% of companies provide lactation rooms in South Africa²⁰, 9% in Nigeria²¹, and 18.9% in South Asia²². We assume an average of 15% baseline coverage of workplaces across countries included in the investment case. The unit cost to establish a lactation room and to provide breaks for lactation per woman was \$146.¹⁹

Table 1. Sample intervention effectiveness, cost and coverage parameters

Intervention	Effectiveness data	Cost data	Baseline Coverage
1 Breastfeeding counselling & education: community- and facility-based	RR 1.58 (95% CI 1.39 – 1.80); pooled from 38 studies ⁹ CBF: RR 1.34 (95% CI 1.01–1.81) pooled from 6 studies ¹¹	EAP: \$4.54 per mother-baby pair ECA: \$74 per mother-baby pair LAC: \$9.14 per mother-baby pair SA: \$2.72 per mother-baby pair SSA: \$8.0 per mother-baby pair MENA: N/A (global number \$10.92 ¹⁰ used as proxy)	Country-specific baseline coverage data extracted from the Optima Nutrition tool and the LiST tool ¹³
2 Baby-Friendly Hospital Initiative: 10 steps to successful breastfeeding	EBF: RR 1.45 (95% CI: 1.28–1.65); pooled from 27 studies ¹⁴ CBF: RR 1.26 (95% CI 1.05 – 1.50) pooled from two studies ¹¹	No country or regional estimates available Global: \$16 per mother-baby pair ¹⁰	Region-specific baseline coverage; only 4% of births in Africa are at BFHI facilities, 13% in the Americas, 17% Eastern Mediterranean, 36% in Europe, 3% in South Asia, and 11% in the Western Pacific ¹⁵
3 National mass media breastfeeding promotion campaign	Media intervention integrated with counselling and community mobilization are associated with an increase in EBF (RR 1.17; 95% CI 1.01–1.14) ¹¹	No country or regional estimates available Global: \$2.28 per mother-child pair, cost incurred annually ⁸	We assumed baseline coverage of 0% and national roll-out at 100% coverage starting in year 1 adjusted for women's access to mass media ^{23,24}

	Intervention	Effectiveness data	Cost data	Baseline Coverage
4	International Code of Marketing of BMS: implementation and enforcement	No published effectiveness data available, however plausible public health nutrition effectiveness given higher EBF rates in countries fully aligned with the Code	No country or regional estimates available Global: \$0.58 per mother-child pair, ⁸ enforcement cost incurred every 5 years	We assumed baseline coverage of 0% and national roll-out at 100% coverage and enforcement every five years
5	Paid maternity leave	At all durations and levels, paid maternity leave is associated with a 52% increase EBF (95% CI 1.03 – 2.23) ⁹	Regional estimates ¹⁰ available: EAP: \$110 per mother Global estimates used for LAC, SSA, SA and MENA: \$103 per mother	Only about 10% of women are effectively protected with maternity leave cash benefits in Africa and Asia and about 18% are covered by law ¹ We assumed 10% baseline coverage
6	Workplace breastfeeding support and policies	EBF: RR 1.08 (95% CI: 0.74-1.60) ⁹ ; pooled from two studies	No pooled or regional estimates available Single country estimate: \$146 per beneficiary ¹⁹	We assumed a 15% current baseline coverage

¹ [Maternity protection: making it work in Africa](#)

III. Estimation of the health, human capital, and economic benefits of scaling up breastfeeding support

This section provides an overview of the methodology for investment case analysis, which included costing, health impact and cost-benefit analyses.

INTERVENTION PACKAGES

The identified interventions protect, support and promote breastfeeding at different points in the care and policy pathway, including pregnancy, birth, the postpartum period, women's return to work, and national policy and campaign efforts. The identified interventions were grouped into three packages to offer a practical approach for the investment case and show the comparative impact of different levels of investment. We propose three packages: a **Core health system support** package that supports women during pregnancy, birth and the postpartum period; a **Core plus policy and BCC** package that adds national policies and campaigns to the Core health system support package; and a **Full system support** package that includes all Core plus policy and BCC package interventions plus employment-related support for mothers (Table 2).

Table 2. Intervention packages for modelling

INTERVENTION	Core health system support	Core plus policy and BCC package	Full system support package
1. Breastfeeding counselling and education: community- and facility-based	✓	✓	✓
2. Baby-Friendly Hospital Initiative: 10 steps to successful breastfeeding	✓	✓	✓
3. National mass media breastfeeding promotion campaign		✓	✓
4. International Code of Marketing of BMS: implementation and enforcement		✓	✓
5. Paid maternity leave			✓
6. Workplace breastfeeding support and policies			✓

SAMPLE COUNTRIES

The investment case analysis included a selection of 88 high-burden sample countries, defined as countries with EBF rates below 50% based on the most recent UNICEF data plus five countries with the largest absolute numbers of non-breastfed children (Bangladesh, Cambodia, India, Indonesia, and Laos).²⁵ Together, these countries account for approximately 80% of children aged 0–23 months in the world. By WHO region, the sample includes 24 countries in sub-Saharan Africa (SSA), 12 in East Asia and the Pacific (EAP), 16 in Europe and Central Asia (ECA), 20 in Latin America and the Caribbean (LAC), 13 in the Middle East and North Africa (MENA) and 3 in South Asia (SA). By income group, the sample includes 5 high-income countries, 38 upper-middle-income countries, 35 lower-middle-income countries and 10 low-income countries. We excluded high-income countries in Europe and North America due to data limitations in standardized parameters including EBF rates, historical trends, and morbidity and mortality data. Historical trends and coverage scenarios



HISTORICAL TRENDS AND COVERAGE SCENARIOS

Historical breastfeeding data show that some countries have made progress in raising EBF rates over time (see UNICEF breastfeeding data²⁵). The GBC scorecard identified 16 countries with increases of more than 5 percentage points in EBF between 2015–2019 and 2020–2024.² Our internal review of 10-year trends in EBF from the UNICEF data found an average annual increase of about 1.08% (ranging from 0.15% to 2.85%) in EBF rates among the countries included in the analysis. We assume that the historical trend of increasing EBF will continue at the same rate over the next 10 years with the current (baseline) investment in breastfeeding interventions. These adjusted EBF rates form the base scenario (or reference case) of the investment case.

Scaling up coverage of these interventions would increase the share of children who are breastfed. This investment case explores the minimum scale-up coverage required to achieve the WHA global nutrition target of 60% EBF by 2030 and through to 2035. These scale-up scenarios therefore represent the counterfactual to the cost of inaction under the status quo (the base scenario).

To do so, we modelled the additional costs and benefits of scaling up the coverage of these interventions to 75% by 2035, which seemed plausible, over the 10-year period of the investment case. We assume countries will gradually increase coverage of interventions each year, reaching 75% by 2035. Annual investment needs would vary by each country's current intervention coverage. For example, an intervention with 10% baseline coverage would need to increase by about 6.5 percentage points per year, reaching 43% by 2030 and 75% by 2035. Interventions with higher baseline coverage would require smaller annual scale up increases, while interventions already at or above the proposed coverage level would need sustained investment to maintain coverage.

Population-based interventions, including BCE, were scaled to the number of mother-child pairs. Facility-based interventions were scaled by facility coverage, with a focus on institutional deliveries — that is, births occurring in health facilities. For national campaigns and policy interventions such as NMM and the Code we assumed baseline coverage of 0%, since there is no evidence of current investments at baseline, and national roll-out at 100% coverage starting in year 1. Employment-based interventions were scaled to employed mother-child pairs in each country, factoring in female labour force participation rates and share of formal employment.

Improvements in EBF were estimated from the change between baseline and endline rates under both scenarios for each of the proposed intervention packages. Baseline breastfeeding rates were drawn from the UNICEF Global Database on breastfeeding published by the UN Population Council.²⁵ For the purposes of comparison, we also estimated the results for a higher intervention scale up coverage of 95% being achieved by 2035 in the sensitivity analysis (Supplementary Appendix 3).

Since each intervention has different current investment levels and baseline coverage, we used a phased approach in estimating the effect of the interventions packages on EBF rates. We estimated that countries that have reached recommended scale up coverage for any intervention within a package should maintain coverage levels for said intervention while scaling up coverage of other lower-coverage interventions. For instance, a country that has reached 75% coverage for BCE should maintain coverage while scaling up coverage of other interventions within the package.



The extent to which the same intervention effects from studies can be realized depends on key implementation factors such as feasibility, policy enforcement, adherence, monitoring and supervision. Several interventions, including BFHI, paid ML and enforcement of the Code, require strong implementation and enforcement to achieve their full effect.²⁶ Given this uncertainty, we also conducted a sensitivity analysis (Supplementary Appendix 3) using a conservative assumption that only 75% of expected benefits accrue (or an adjustment of a 25% reduction in effect) because implementation quality and delivery success vary across countries, which aligns with previous cost-effectiveness analysis studies in global health.²

INTERVENTION COSTING ANALYSIS

We estimated the additional annual and total investment required to scale up each intervention separately and cumulatively from baseline coverage to the target coverage for each scenario over the 5- and 10-year periods. For the prioritized interventions, including BCE, implementation costs were estimated only for the population in need (mother-child pairs). Unit cost estimates drawn from the literature were converted to 2025 United States dollars (USD \$) where necessary. Future costs were inflated using regional inflation multipliers from the International Monetary Fund³ and discounted to 2025 US dollars at a 5% rate. An Excel-based model was used to estimate the costs of the intervention packages and their effects on breastfeeding outcomes at the national, regional and global levels.

HEALTH IMPACT AND COST-BENEFIT ANALYSIS

The investment case analysis methodology for the estimation of the health, human capital and economic losses averted through improvements in EBF and CBF (where available) attributable to the intervention packages for each scenario were modelled using the CONBF model.⁵ Averted losses were calculated as the difference between losses under the status quo (base case scenario with no new investment) and losses after implementing the intervention package at scale (counterfactual scenario). The investment case model calculates the impact of averted child and maternal deaths, diseases, cognitive losses, education years lost and economic losses. The benefits within each package were treated as additive, so total package benefits reflect the cumulative effects of the individual interventions. This assumption is supported by systematic reviews and meta-analyses showing that breastfeeding interventions are often more effective when delivered as packages.⁹ To avoid double-counting effectiveness and overlapping interventions, we applied outcome-specific, progressive and multiplicative reductions to the non-EBF population. Because all interventions target the same outcome — increased EBF rates — we used the principle of diminishing returns: each subsequent intervention applies only to the remaining non-EBF population, rather than the original baseline population. For the **Core health system support** package, for example, if BCE increases EBF by 58% and is applied to target population with 7% annual scale-up, only an additional 7% of the non-EBF population receives BCE in year one. BFHI is then applied to the remaining non-EBF population to further increase the EBF rate. This approach is consistent with LiST impact modelling.¹² We estimated the national, regional and global level benefit-cost ratios (BCRs) for the scaled-up intervention packages by first calculating the net present value (NPV) of averted health, human capital and economic losses using a 5% discount rate. The BCRs for each sample country were then calculated by dividing cumulative discounted benefits by the cumulative discounted intervention scale-up coverage costs over the same periods.

² [GiveWell - Breastfeeding Promotion Programs](#)

³ [IMF Data Map](#)

RESULTS: THE INVESTMENT CASE

I. The Global Cost of Not Breastfeeding

The cost of not breastfeeding remains high due to low rates of breastfeeding globally. Across the world, only about 47% of children under six months are exclusively breastfed. The updated CONBF tool estimates that for the cohort of children in 150 countries, the annual cost of not breastfeeding is estimated at \$339 billion, or 0.32% of global Gross National Income (GNI).

This is a result of the losses associated with the 383,000 avoidable child deaths, 138,000 avoidable maternal deaths, 58 million years of lost education and about 168 million unrealized IQ points each year (Table 3). These losses reflect foregone earnings from premature deaths, reduced income associated with poorer cognitive development and fewer years of schooling, and higher health system costs.

Table 3. Annual health, human capital and economic losses attributable to not breastfeeding

	IQ points lost	Education years lost	Child deaths	Maternal deaths	Health system cost	Total economic loss
Losses	167.6 million	58.2 million	383,000	138,000		
Costs	\$317 billion		\$17 billion	\$2.8 billion	\$1.8 billion	\$339 billion

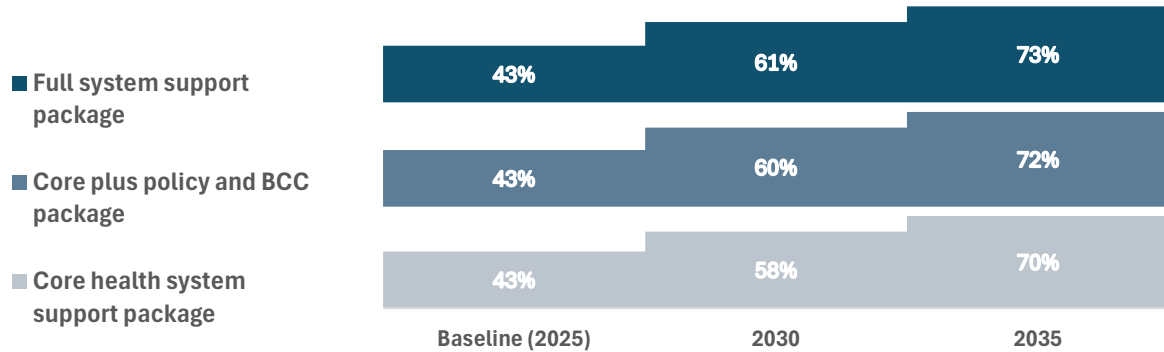
Without stronger investment in breastfeeding protection, support and promotion, the economic losses are likely to remain high or rise further. Current investments are producing only marginal gains in EBF rates.

II. Projected effect of scaling up of investments in breastfeeding intervention coverage on breastfeeding practices

Expanding coverage of proven breastfeeding protection, support and promotion interventions is essential to accelerate gains in EBF and CBF. Across the 88-sample high-burden countries included in the analysis, the average EBF rate in 2025 (baseline) was 43% (48% for CBF).

Scaling up the **Core health system support** package of interventions to 75% coverage by 2035 is projected to increase EBF rate to 58% by 2030 and 70% by 2035 — an improvement, but still short of the WHA target by 2030 (Figure 1). Scaling the **Core plus policy and BCC** package, however, to the same coverage levels would increase EBF to 60% by 2030 and 72% by 2035, meeting the 2030 WHA target. Furthermore, scaling the **Full system support** package would raise EBF more to 61% by 2030 and 73% by 2035, surpassing the WHA target and further accelerating increases in EBF rate (Table 4).

Figure 1. Projected impact of intervention packages on exclusive breastfeeding rate – 88 high burden countries

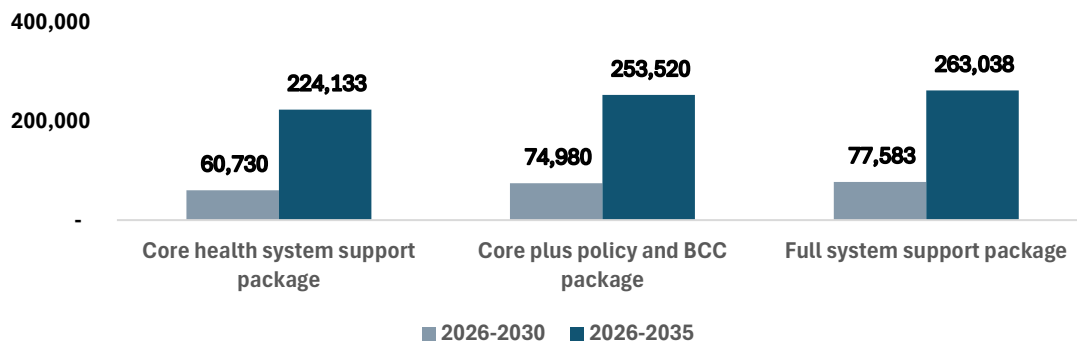


Additional projections for the EBF rate over the 10-year period by region are provided in Supplementary Appendix 2. Scaling up coverage of the Core health system support package interventions to 75% coverage by 2035 is projected to increase CBF rate to 55% by 2030 and 61% by 2035. Due to data limitations, the impact of interventions on CBF is only available for BCE and BFHI (that is, Core health system support package).

III. Projected health, human capital and economic impact of scaling up of investments in breastfeeding intervention

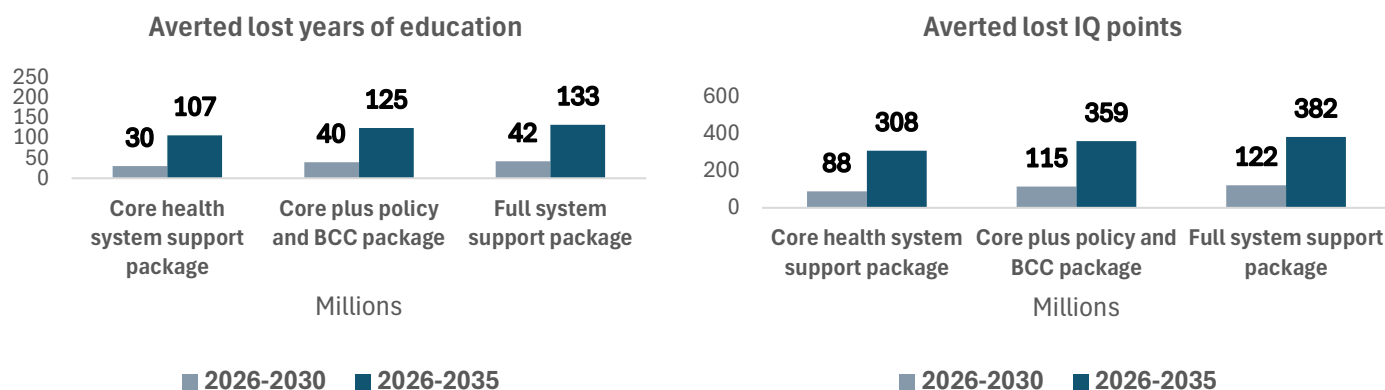
The accelerated gains in breastfeeding rates would lead to reductions in health, human capital and economic losses. Scaling the Core health system support package of breastfeeding interventions to 75% coverage by 2035 across the 88 high burden countries is projected to avert about 224,000 child deaths (Figure 2), 107 million lost years of education and 308 million lost IQ points over 10 years (Figure 3).

Figure 2. Projected cumulative number of averted child deaths by scaling up breastfeeding intervention packages to 75% coverage across 88 countries



Scaling the Core plus policy and BCC package in the same coverage scenario would generate larger economic gains, averting about 253,000 child deaths, 125 million lost years of education and 359 million lost IQ points by 2035. Scaling the Full system support package would generate a higher impact, including averting about 263,000 child deaths, 133 million lost years of education and 382 million lost IQ points by 2035. Each of the three packages is also projected to avert approximately 160,000 maternal deaths over the 10-year period. Both of the latter packages would meet the 2030 WHA target for EBF and exceed 70% by 2035.

Figure 3. Projected cumulative savings in lost education years and IQ points at 75% intervention scale up coverage over 5 and 10 years, millions



IV. Investment needs to reach 75% intervention coverage

We estimated the current, additional and total cumulative investment required for each breastfeeding protection, support and promotion intervention to reach 75% coverage (Table 4) over the 5- and 10-year periods across the 88 high-burden countries. Current (2025) investment in BCE based on baseline coverage levels of intervention is estimated to be \$270 million annually (\$2.7 billion over 10 years) and would need to increase by

\$1.24 billion to \$3.94 billion over 10 years to reach 75% coverage by 2035. Current spending on BFHI based on baseline coverage is estimated to be \$90 million annually (\$900 million over 10 years) and would need to increase by \$3.40 billion to \$4.4 billion over 10 years by 2035. We assume that NMM campaigns at scale do not exist at baseline, and hence there is no associated baseline spending. Scaling coverage of NMM campaigns nationally would require about \$152 million per year or \$1.52 billion over 10 years. The Code implementation and enforcement costs are assumed to occur every five years and are estimated at about \$13 million over the next decade. Current spending on paid maternity leave for new mothers employed in the formal sector is estimated to be

\$110 million annually (\$1.1 billion over 10 years), and governments and firms would need to increase investment by \$3.1 billion between 2026 and 2035. Current investment in workplace breastfeeding support policies and facilities is about \$230 million per annum (\$2.3 billion over 10 years), and an additional \$3.9 billion would be needed over 10 years to reach 75% coverage among breastfeeding women employed in the formal sector. Coordinating these interventions into integrated support packages across the breastfeeding cycle is essential to accelerate gains in EBF.

Table 4. 10-year investment needs to reach 75% coverage per intervention

Interventions	Estimated baseline financing over 10 years (US\$ B)	Additional cost to scale-up to 75% coverage over 10 years (US\$ B)	Total investment needs (US\$ B)
Breastfeeding counselling & education: community- and facility-based	\$2.7	\$1.2	\$3.9
Baby-Friendly Hospital Initiative: 10 steps to successful breastfeeding	\$1	\$3.4	\$4.4
National mass media breastfeeding promotion campaign	\$0	\$1.6	\$1.6
International Code of Marketing of BMS: Implementation and enforcement	\$0	\$0.1	\$0.1
Paid maternity leave	\$1.1	\$3.1	\$4.2
Workplace breastfeeding support and policies	\$2.3	\$3.9	\$6.2

To scale up coverage of the **Core health system support** package to 75% coverage for 88 high-burden countries by 2035, the investment needs would be about \$1.4 billion over five years (2026–2030) and \$4.6 billion over 10 years (2026–2035) (Figure 4) with about 73% of costs attributed to the BFHI intervention (Table 5). To scale up coverage of the **Core plus policy and BCC** package to 75%, the investment needs increase to about \$2.4 billion over five years (2026–2030) and \$6.3 billion over 10 years (2026–2035). This total cost is very similar to the cost of the breastfeeding package recommended in the 2017 World Bank Investment Framework for Nutrition.⁸ The majority of the investments would be attributed to BFHI (54%), NMM (24%) and BCE (20%) interventions over 10 years (2026–2035). To achieve 75% coverage of the **Full system support** package, it would cost about \$4.6 billion over five years and \$13.3 billion over 10 years, with WSP (30%), BFHI (25%), paid ML (23%) and WSP (29%) constituting the majority of required investments.

Figure 4. Projected annual investment needs to scale up coverage to 75% over 10 years per intervention package – undiscounted costs (US\$ B)

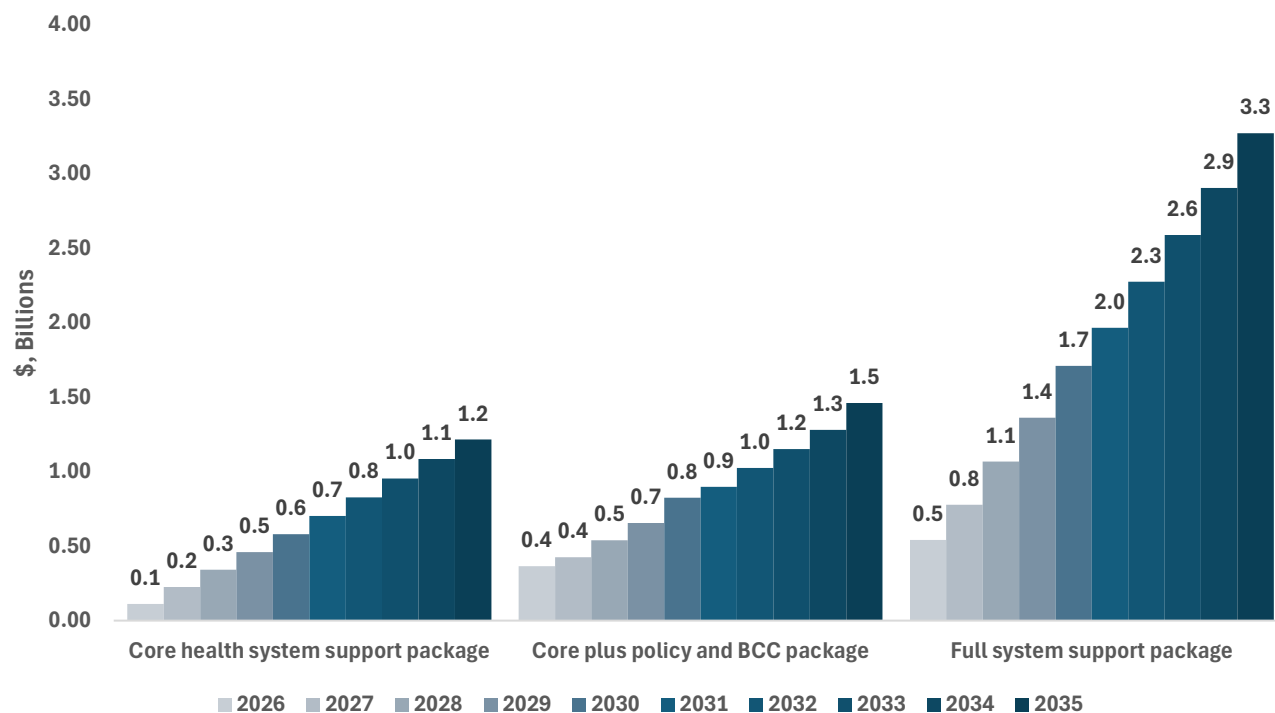


Table 5. Projected investment needs to scale up breastfeeding interventions to 75% coverage targets

Package			Intervention	Cost per beneficiary	5 years (2026–2030) additional scale up investment	Share of total cost	10 years (2026–2035) additional scale up investment	Share of total cost
Full system support	Core health system support	Core plus policy and BCC	1. Community- and Facility-based BCE	\$2.7–\$74 per child	Core health system support package: \$1.4 billion	BCE (25.5%); BFHI (74.5%)	Core health system support package: \$4.6 billion	BCE (26.6%); BFHI (73.4%)
			2. BFHI	\$16 per child				
	Core plus policy and BCC	Core plus policy and BCC	3. NMM	\$2.28 per child	Core plus policy and BCC package: \$2.4 billion	BCE (19.2%); BFHI (56.1%); NMM (24.7%); Code (6.2%)	Core plus policy and BCC package: \$6.3 billion	BCE (20%); BFHI (54%); NMM (24%); Code (2%)
			4. Code implementation and enforcement	\$0.53 per child				
	Core plus policy and BCC	Core plus policy and BCC	5. Paid ML	\$110 per beneficiary	Full system support package: \$4.6 billion	BCE (8.7%); BFHI (24.3%); NMM (10.5%); Code (0.5%); Paid ML (25%); WSP (31%)	Full system support package: \$13.3 billion	BCE (9%); BFHI (25%); NMM (11%); Code (1%); Paid ML (23%); WSP (29%)
			6. WSP	\$146 per beneficiary				

V. Cost-benefit analysis

Our preliminary estimates show that suboptimal breastfeeding imposes large economic costs, while higher breastfeeding rates can generate substantial economic benefits.

Estimating the gains from scaling up investment is therefore critical to demonstrate the economic value of breastfeeding protection, support and promotion. Table 6 shows the projected 10-year economic impact of each intervention package by component and combined under different benefit measures. While the health system savings and mortality losses averted due to increased child survival are significant by their own measure, the cognitive gains represent the majority share of the total economic gains.

The health impacts from scaling coverage of the Core health system support package to 75% coverage results in \$694 million in health systems savings, \$8.8 billion in averted costs from premature maternal and child mortality and \$266 billion in morbidity costs from poor cognitive development, which results in a total of \$276 billion in averted economic losses by 2035. The health impacts from scaling coverage of the Core plus policy and BCC package to 75% coverage are expected to lead to \$723 million in health systems savings, \$10.1 billion in averted costs from premature mortality and \$314 billion in morbidity (cognitive) costs, which results in a total of \$324 billion in averted economic losses by 2035. Scaling coverage of the Full system support package to 75% coverage is expected to lead to \$736 million in health systems savings, \$10.7 billion in averted costs from premature mortality and \$346 billion in morbidity (cognitive) costs, which results in a total of \$357 billion in averted economic losses by 2035.

The relative economic impact of the Full system support and Core plus policy and BCC packages appears much larger than the Core package in part because the NMM intervention was scaled up to 100% in year 1. As a result, the estimated gains in EBF during the first year were: 5.6 points for the Core plus policy and BCC package, and 5.8 points for the Full system support package, which is significantly higher than the 3.1 percentage points for the Core health system support package. In subsequent years, annual EBF gains were similar across the three packages, ranging from 2.3% to 3.1%. The significant difference in economic impact between packages starting in year 1 accumulates over the 10-year period, resulting in greater cumulative savings for both the Full system support and Core plus policy and BCC packages.

Table 6. The projected economic impact scaling up breastfeeding interventions to 75% coverage over 10 years

Packages	Health systems savings (US\$ B)	Mortality losses averted (US\$ B)	Cognitive losses averted (US\$ B)	Total averted economic losses (US\$ B)
Core health system support package	\$0.69	\$8.8	\$266	\$276
Core plus policy and BCC package	\$0.72	\$10.1	\$314	\$324
Full system support package	\$0.74	\$10.7	\$346	\$357

The projected economic returns from all three breastfeeding intervention packages exceed their scale-up costs. In fact, we estimate that scaling up the **Core health system support** package would generate approximately \$59 for every \$1 invested (Table 7). While it is the least expensive option, it is also the least comprehensive, reaching fewer women and children because it does not include national policies, campaigns or support for employed women. As a result, it would not raise EBF rates enough to meet the 2030 WHA target.

Table 7 The economic benefits and returns from scaling up breastfeeding interventions to 75% coverage over 10 years

Packages	Total costs (US\$ B)	Total economic gains (US\$ B)	Benefit-Cost Ratio (BCR)
Core health system support package	\$4.6	\$276	59.4:1
Core plus policy and BCC package	\$6.3	\$324	51.6:1
Full system support package	\$13.3	\$357	26.8:1

Scaling up the **Core plus policy and BCC** package to 75% coverage by 2035 would generate economic returns of \$52 for every \$1 invested. Although it costs \$0.95 billion more than the Core health system support package over five years and \$1.64 billion more over 10 years, the additional gains in breastfeeding and reductions in economic losses produce returns that justify the added investment. This package would be sufficient to meet the 2030 WHA target.

Scaling up the **Full system support** package to 75% coverage would generate about \$26 for every \$1 invested. This is the most comprehensive package, supporting women through birth, postpartum care, maternity leave and return to work. This package would further increase EBF rates to meet the WHA target of 60% EBF by 2030 and exceed it by 2035. Expanding from the Core plus policy and BCC to the Full system support package would require about \$2.2 billion over five years and \$7 billion over 10 years. Despite its higher cost, the package projects excellent value for money. Regional estimates and sample national-level results for the 88 sample countries are provided in Supplementary Appendix 2 and 4.



DISCUSSION

This global investment case for breastfeeding analysis illustrates that each proposed intervention package is good value for money in improving breastfeeding, improving child survival, and generating a positive and high return on investment globally.

The impact of scaling up these packaged interventions to at least 75% coverage by 2035 can be viewed in two ways: (1) the **Core plus policy and BCC** and **Full system support** intervention packages result in the WHA target being met by 2030 whereas the **Core health system support** intervention package falls short of this target. However, over the 10-year period, all packages lead to higher EBF rates than the WHA targets; (2) Investing in scaling up coverage of the **Core health system support** intervention package yields the lowest cost and highest returns per \$1 invested. The Core plus policy and BCC package also produces very high return on investment, whereas the Full system support intervention package produces the lowest return on investment but still delivers a positive and substantial return. Further, the Full system support package is the most comprehensive, supporting women across multiple stages of the breastfeeding cycle, and would yield additional social and gender equity benefits from scaling paid maternity leave that are not captured in the public health benefits included in this analysis.

The feasibility of gradually scaling up investments to reach 75% coverage by 2035 depends on each country's context, including its challenges and enabling conditions, such as nutrition governance, financing and quality program implementation. Effective implementation of facility-based interventions requires strong, well-functioning health systems, which are not always available at the primary care level in many LMICs. Implementation of national campaigns and policies, including the Code, also faces challenges, and impact will depend on the extent of local adaptation and strict enforcement.

Employment-based interventions must account for the type and nature of women's employment, as implementation and enforcement may differ across public and private sectors and between formal and informal work. Countries with a higher share of women in formal employment are likely to benefit more from modelled employment-based interventions. As formal employment opportunities for women expand, these interventions may offer greater potential to improve EBF rates.

Many countries have demonstrated political will to improve breastfeeding rates through plans and actions, including multisectoral nutrition actions plans that include breastfeeding support. However, whether this political will translates into increased domestic financing or external funding for breastfeeding support will be critical to improving infant feeding practices. Countries should prioritize the proposed breastfeeding support packages based on their needs, financing constraints, expected economic returns and potential impact on EBF. Scaling up the Core health system support package is the lowest cost option and is expected to generate the greatest benefits per \$1 invested, partly because stronger data is available for its interventions. Countries with limited budgets should therefore consider starting with this package.

However, the Core health system support package alone is unlikely to raise EBF rates enough to meet the WHA global target. To achieve further gains, countries should scale from the Core health system support package to the Core plus policy and BCC package, which adds low-cost national campaigns and policy enforcement (NMM and the Code) interventions to BCE and BFHI. Expanding coverage of the Core plus policy and BCC package would enable countries to reach EBF levels consistent with the WHA 60% target by 2030. Countries whose primary goal is to maximize EBF gains and that can afford employment-related supports such as universal paid maternity leave and workplace breastfeeding policies, should consider the Full system support including maternity protection package. This package would reach more women and help countries exceed the WHA 2030 target, with global EBF projected to reach 73% by 2035.



Limitations

This investment case analysis follows the logic and methodology of previous similar analyses; however, we made several adjustments to strengthen the analysis, and there are some limitations. Some of the proposed interventions, including BCE and NMM, have been evaluated across multiple settings, allowing more robust pooled estimates of effectiveness and cost. By contrast, other interventions such as WSP and paid ML have more limited evidence on their direct effectiveness in improving breastfeeding outcomes. We identified intervention effectiveness for CBF improvements only for BCE and BFHI, which partly explains the higher BCRs for the Core health system support package compared with the other packages.

Furthermore, while the 2025 GBC scorecard suggests that stronger alignment with Code implementation and enforcement is associated with higher EBF rates, underscoring the plausible public health effectiveness and benefits of expanding these breastfeeding support interventions, we also lack an effect size from a systematic review of studies on the Code. As more evidence becomes available, effectiveness estimates may improve.

With respect to costing, we assume that all costs in the model are borne by the public sector; however, in reality the costs may be borne by a mix of public and private sector institutions.

As a global analysis, our estimates may not fully reflect country-level context; they may understate or overstate country-level results. To address the uncertainty in the estimates projecting future earnings, we used conservative assumptions for effect sizes, inflation adjustments, discount rates and historical country-level trends in annual EBF growth. If these assumptions are relaxed, the projected benefits of scaling up coverage would likely be higher.

Conclusion

The global health, human capital and economic consequences of not breastfeeding remains substantial, with cumulative economic losses estimated to exceed \$3 trillion over the next decade if no action is taken. Readily available evidence-based, cost-effective interventions have been shown to increase EBF rates and can contribute to reversing future losses and represent excellent value for money in the development sector.

This global investment case for breastfeeding provides a strong motivation for packaging and scaling up coverage of these known breastfeeding protection, support and promotion interventions in countries with low breastfeeding rates. These interventions target different opportunities for investments in supporting women throughout their breastfeeding cycle — from birth through postpartum care, maternity leave and return to work. Together, the countries of the GBC can advocate for the adoption of pro-breastfeeding social policies and investment in the most cost-effective interventions to collectively achieve and exceed the WHA targets for breastfeeding. Equipped with budget considerations, countries can use the findings from this investment case to inform resource allocation where impact is greatest and economic returns are significant.



REFERENCES

1. Hansen K. Breastfeeding: a smart investment in people and in economies. *Lancet*. 2016;387(10017):416. [https://doi.org/10.1016/S0140-6736\(16\)00012-X](https://doi.org/10.1016/S0140-6736(16)00012-X)
2. WHO. *Global Breastfeeding Scorecard, 2025: Breastfeeding Rates Are Increasing but Improved Support Is Needed*. World Health Organization; 2025. [https://www.globalbreastfeedingcollective.org/media/3306/file/Breastfeeding Scorecard 2025 \(Updated\).pdf](https://www.globalbreastfeedingcollective.org/media/3306/file/Breastfeeding%20Scorecard%2025%20(Updated).pdf)
3. Jiang B, Lin K, Buys N, Zhang B, Qi Y, Sun J. Trend and burden of suboptimal breastfeeding in children under five years of age in 1990–2021: a systematic analysis for the global burden of disease study 2021. *Nutrients*. 2025;17(7):1134. <https://doi.org/10.3390/nu17071134>
4. Global Breastfeeding Collective. *Nurturing the Health and Wealth of Nations: The Investment Case for Breastfeeding*. 2017. <https://cdn.who.int/media/docs/default-source/breastfeeding/global-breastfeeding-collective/global-bf-collective-investmentcase.pdf>
5. Walters DD, Phan LTH, Mathisen R. The cost of not breastfeeding: global results from a new tool. *Health Policy and Planning*. 2019;34(6):407–417. <https://doi.org/10.1093/heapol/czz050>
6. Global Breastfeeding Collective. *Global Breastfeeding Collective: A Call to Action*. 2020. <https://www.globalbreastfeedingcollective.org/>
7. Nutrition International & Alive & Thrive. (2022). *The Cost of Not Breastfeeding Tool*. Nutrition International. <https://nutritionintl.org/learning-resource/the-cost-of-not-breastfeeding-tool/>
8. Shekar M, Kakietek J, Dayton Eberwein J, Walters D. *An Investment Framework for Nutrition: Reaching the Global Targets for Stunting, Anemia, Breastfeeding, and Wasting*. The World Bank; 2017. <https://doi.org/10.1596/978-1-4648-1010-7>
9. Rollins NC, Bhandari N, Hajeebhoy N, et al. Why invest, and what it will take to improve breastfeeding practices? *Lancet*. 2016;387(10017):491–504. [https://doi.org/10.1016/S0140-6736\(15\)01044-2](https://doi.org/10.1016/S0140-6736(15)01044-2)
10. Carroll G, Safon C, Buccini G, Vilar-Compte M, Teruel G, Perez-Escamilla R. A systematic review of costing studies for implementing and scaling-up breastfeeding interventions: what do we know and what are the gaps? *Health Policy and Planning*. 2020;35(4):461–501. <https://doi.org/10.1093/heapol/czaa005>
11. Sinha B, Chowdhury R, Sankar MJ, et al. Interventions to improve breastfeeding outcomes: A systematic review and meta-analysis. *Acta Paediatrica*. 2015;104:114–134. <https://doi.org/10.1111/apa.13127>
12. Walker N, Tam Y, Friberg IK. Overview of the lives saved tool (LiST). *BMC Public Health*. 2013;13(Suppl 3):S1. <https://doi.org/10.1186/1471-2458-13-S3-S1>
13. Pearson R, Killedar M, Petravic J, et al. Optima Nutrition: an allocative efficiency tool to reduce childhood stunting by better targeting of nutrition-related interventions. *BMC Public Health*. 2018;18(1):384. <https://doi.org/10.1186/s12889-018-5294-z>
14. Habte MB, Abdulahi M, Plusquin M, Cosmans C. Effectiveness of Baby-Friendly hospital initiative on early initiation and exclusive breastfeeding practice: systematic review and meta-analysis. *Nutrients*. 2025;17(14):2283. <https://doi.org/10.3390/nu17142283>
15. World Health Organization. *National Implementation of the Baby-Friendly Hospital Initiative*. World Health Organization; 2017. <https://www.who.int/publications/i/item/9789241512381>

- 
16. World Health Organization, UNICEF, IBFAN. *Marketing of Breast-milk Substitutes: National Implementation of the International Code, Status Report*. <https://knowledge.unicef.org/resource/marketing-breast-milk-substitutes-national-implementation-international-code-status-report>
 17. International Labour Organization (ILO). *Closing the Gender Gap in Paid Parental Leaves*. Geneva: International Labour Organization; 2025. <https://www.ilo.org/sites/default/files/2025-10/Closing%20the%20gender%20gap%20in%20paid%20parental%20leaves.pdf>
 18. Vilar-Compte M, Hernández-Cordero S, Ancira-Moreno M, et al. Breastfeeding at the workplace: a systematic review of interventions to improve workplace environments to facilitate breastfeeding among working women. *International Journal for Equity in Health*. 2021;20(1):110. <https://doi.org/10.1186/s12939-021-01432-3>
 19. Kimani-Murage EW, Wilunda C, Macharia TN, et al. Effect of a baby-friendly workplace support intervention on exclusive breastfeeding in Kenya. *Maternal & Child Nutrition*. 2021;17(4):e13191. <https://doi.org/10.1111/mcn.13191>
 20. Pretorius CE, Asare H, Genuneit J, Kruger HS, Ricci C. Impact of breastfeeding on mortality in sub-Saharan Africa: a systematic review, meta-analysis, and cost-evaluation. *European Journal of Pediatrics*. 2020;179(8):1213-1225. <https://doi.org/10.1007/s00431-020-03721-5>
 21. Pretorius CE, Asare H, Kruger HS, Genuneit J, Siziba LP, Ricci C. Exclusive breastfeeding, child mortality, and economic cost in Sub-Saharan Africa. *Pediatrics*. 2021;147(3):e2020030643. <https://doi.org/10.1542/peds.2020-030643>
 22. Shrestha M, Adhikari S, Shrestha N, Budha Magar G, Pokhrel BR. Breastfeeding and workplace support in Nepal. *PLOS Glob Public Health*. 2025;5(8): e0005059. <https://doi.org/10.1371/journal.pgph.0005059>
 23. Sanghvi TG, Homan R, Forissier T, et al. The financial costs of mass media interventions used for improving breastfeeding practices in Bangladesh, Burkina Faso, Nigeria, and Vietnam. *International Journal of Environmental Research and Public Health*. 2022;19(24):16923. <https://doi.org/10.3390/ijerph192416923>
 24. Chau MM, Burgermaster M, Mamykina L. The use of social media in nutrition interventions for adolescents and young adults—A systematic review. *International Journal of Medical Informatics*. 2018;120:77-91. <https://doi.org/10.1016/j.ijmedinf.2018.10.001>
 25. UNICEF Division of Data, Analytics, Planning and Monitoring. *Global UNICEF Global Databases: Infant and Young Child Feeding: Exclusive Breastfeeding*. Published 2025. <https://data.unicef.org/topic/nutrition/breastfeeding/>
 26. Mok EA, Gostin LO, Gupta M Das, Levin M. Implementing public health regulations in developing countries: lessons from the OECD countries. *Journal of Law, Medicine & Ethics, Med Ethics*. 2010;38(3):508-519. <https://doi.org/10.1111/j.1748-720x.2010.00509.x>
 27. Lassi ZS, Rind F, Irfan O, Hadi R, Das JK, Bhutta ZA. Impact of infant and young child feeding (IYCF) nutrition interventions on breastfeeding practices, growth and mortality in low-and middle-income countries: systematic review. *Nutrients*. 2020;12(3):722. <https://doi.org/10.3390/nu12030722>
 28. Haroon S, Das JK, Salam RA, Imdad A, Bhutta ZA. Breastfeeding promotion interventions and breastfeeding practices: a systematic review. *BMC Public Health*. 2013;13(Suppl 3):S20. <https://doi.org/10.1186/1471-2458-13-S3-S20>
 29. Fan YW, Fan HSL, Shing JSY, Ip HL, Fong DYT, Lok KYW. Impact of baby-friendly hospital initiatives on breastfeeding outcomes: Systematic review and meta-analysis. *Women and Birth*. 2025;38(2):101881. <https://doi.org/10.1016/j.wombi.2025.101881>

- 
- 
30. Chai Y, Nandi A, Heymann J. Does extending the duration of legislated paid maternity leave improve breastfeeding practices? Evidence from 38 low-income and middle-income countries. *BMJ Global Health*. 2018;3(5). <https://doi.org/10.1136/bmjgh-2018-001032>
 31. Tang X, Patterson P, MacKenzie-Shalders K, et al. Workplace programmes for supporting breast-feeding: a systematic review and meta-analysis. *Public Health Nutrition*. 2021;24(6):1501-1513. <https://doi.org/10.1017/s1368980020004012>
 32. Fan Y, Li J, Wong JYH, Fong DYT, Wang KMP, Lok KYW. Text messaging interventions for breastfeeding outcomes: A systematic review and meta-analysis. *Int J Nurs Stud*. 2024;150:104647. <https://doi.org/10.1016/j.ijnurstu.2023.104647>



APPENDIX

Supplementary appendix 1: Rapid literature review findings

Table S1. Summary of evidence of interventions impact from systematic reviews and meta-analysis

Intervention	Settings	Findings	Source
Breastfeeding counselling & education: community- and facility-based	19 studies (LMICs)	Intervention delivered through any single or combination of settings increased EBF by 53% (RR1.53 1.47-1.58; n= 13926)	Lassi et al., 2020 ²⁷
	28 studies from HICs and LMICs	Pooled estimate showed that BCE increased EBF rates whether delivered in health system setting (RR 1.66, 95% CI 1.43–1.92)	Sinha et al., 2015 ¹¹
	110 studies (76 HICs; 34 LMICs)	BCE given either in prenatal, postnatal or combined prenatal and postnatal periods in LMICs increased EBF by 88% (RR: 1.88, 95% CI 1.11- 3.93)	Haroon et al., 2013 ²⁸
	38 Studies in LMICs and HICs	BCE when given through family and community setting increased EBF by 58% (RR 1.58, 95% CI 1.39-1.80)	Rollins et al., 2016 ⁹
	One study in LMIC	BCE was given through group counseling and education, and increased EBF by 61% (RR 1.61, 95% CI 0.95-2.71)	Rollins et al., 2016 ⁹
	6 studies in LMICs and HICs	BCE when given through facilities and home setting increased CBF by 34% (RR 1.34, 95% CI 1.01-1.81)	Sinha et al., 2015 ¹¹
Baby-Friendly Hospital Initiative: 10 steps to successful breastfeeding	30 studies (15 HICs and 15 LMICs)	45% increase in EBF at 6 months (76% increase in EBF in LMICs and 26% increase in EBF for HICs)	Habte et al., 2025 ¹⁴
	18 studies incl HICs and LMICs	Infants born in Baby-Friendly hospitals were more likely to be exclusively breastfed for 3–6 months (OR= 1.82; 95 % CI: 1.26–2.61)	Fan et al., 2025 ²⁹
	Global	Mode of delivery of BFHI varies (individual- or group-based counselling, immediate breastfeeding support at delivery and lactation management); collectively they have been shown to increase EBF by 49% (95% CI 33–68)	Rollins et al., 2016 ⁹
	3 studies in LMICs and HICs	Pooled estimate shows that BFHI increased CBF by 26% (RR 1.26, 95% CI 0.90-1.64)	Rollins et al., 2016 ⁹



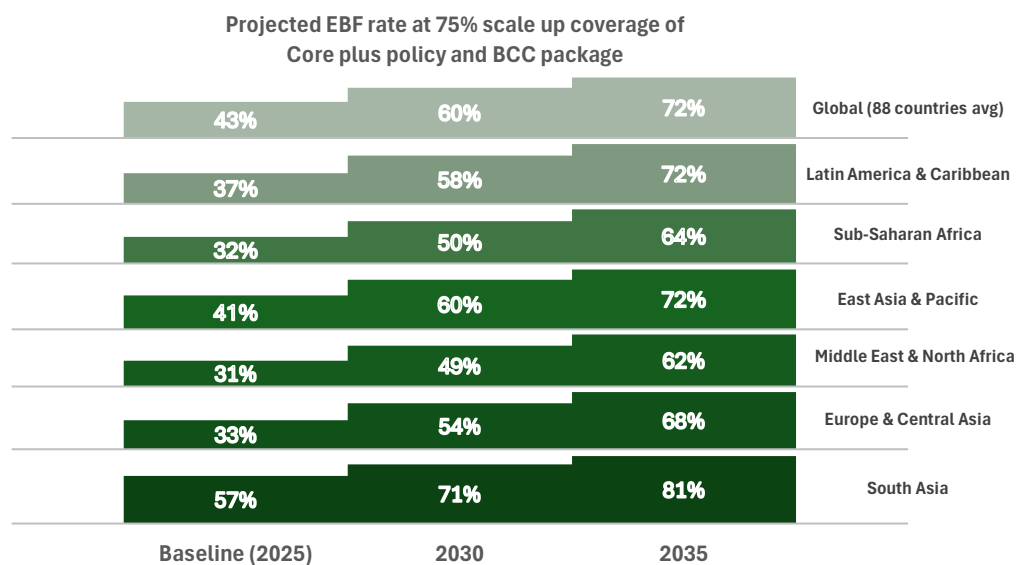
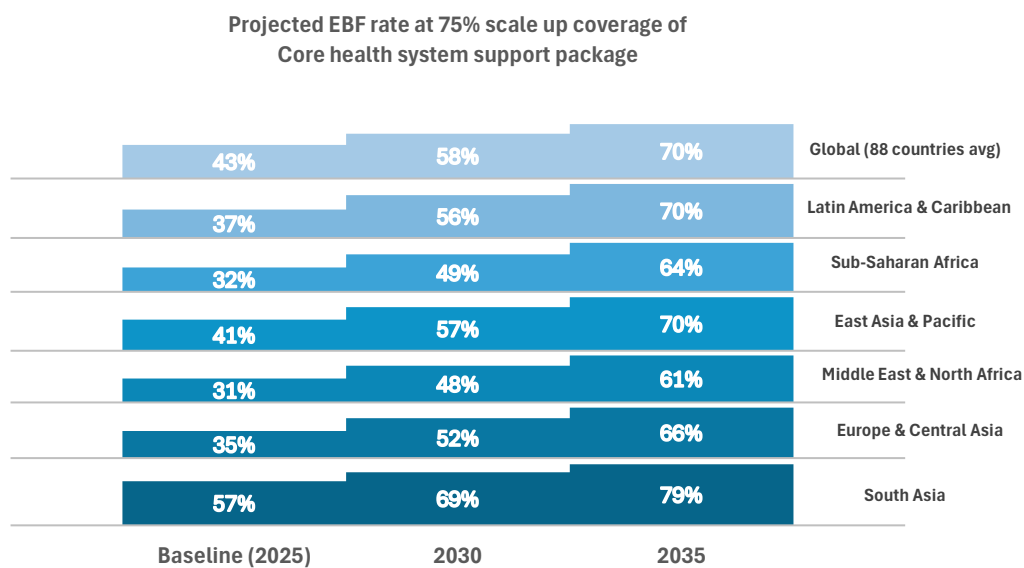
Intervention	Settings	Findings	Source
National mass media breastfeeding promotion campaign	16 studies (7 HICs; 9 in LMICs)	Text messaging interventions could improve EBF rate at 6 months by 66% (OR:1.66; 95 % CI: 1.18–2.33) Text messaging interventions that cover antenatal and postnatal periods, delivered weekly are most effective in improving the EBF rate	Fan et al., 2024 ³²
	5 studies from HICs and LMICs	Support services with media intervention integrated with counselling and community mobilization are associated with a 17% increase in EBF rates [RR1.17(95% CI 1.01–1.14)]	Sinha et al. 2015 ¹¹
International Code of Marketing of BMS: Implementation and enforcement	Global	As of 2025, only 33 countries have measures substantially aligned with the Code and only 17% globally despite an increase of eight countries since 2020. Enforcement matters: violations must be routinely sanctioned; yet only 19% of countries have clearly designated authorities and continuous monitoring systems in place	GBC Scorecard 2025 ²
	Global	Countries whose laws moderately and substantially align with the Code report EBF rates of 45% and 54%, respectively, and CBF rates of 49% and 55%, respectively, which are noticeably higher relative to countries that have adopted none or only a few of its provisions.	WHO Code status report ¹⁶
	Global	National policies, legislation and monitoring and enforcement determine country level effectiveness. Penalties for the Code violations must be enforced, otherwise it will have a limited effect on creating an enabling breastfeeding environment	Rollins et al., 2016 ⁹
Paid maternity leave	Longitudinal study (38 LMICs)	A 1-month increase in the legislated duration of paid maternity leave associated with a 7.4%-point increase (95% CI 3.2 to 11.7) in the prevalence of early initiation of breastfeeding, a 5.9%-point increase (95% CI 2.0 to 9.8) in the prevalence of exclusive breastfeeding and a 2.2-month increase (95% CI 1.1 to 3.4) in breastfeeding duration	Chai et al., 2018 ³⁰
	Global	Only 98 of 185 countries (53%) meet the International Labour Organization's 14-week minimal standard and only 42 (23%) meet or exceed the recommendation of 18 weeks leave. As of 2022, only 10% of countries meet this recommended standard. Maternity leave policies are effective at increasing exclusive breastfeeding (RR 1.52 [1.03–2.23])	Rollins et al., 2016 ⁹



Intervention	Settings	Findings	Source
Workplace breastfeeding support and policies	14 studies incl HICs and LMICs	The pooled OR for EBF at 3 or 6 months for participants v. non-participants of three non-randomized controlled studies was 3.21 (95 % CI 1.70, 6.06, I ² = 22 %)	Tang et al., 2021 ³¹
	2 studies in LMIC and HIC	Workplace breastfeeding support and policies increases EBF by 8% (RR 1.08, 95% CI 0.74-1.60)	Rollins et al., 2016 ⁹
	Global	Lactation rooms and breaks to express breastmilk can increase any breastfeeding up to 6 months by 25% (95% CI 9–43)	Rollins et al., 2016 ⁹
	Kenya	Prevalence of EBF was higher in the treated group (80.8%) than in the nontreated group (20.2%), corresponding to a fourfold increased probability of EBF [RR3.90; 95% I:2.95–5.15]	Kimani-Murage et al., 2021 ¹⁹

Supplementary appendix 2: Regional estimates

Figure S1. Projected impact of intervention packages on EBF – regional estimates



Projected EBF rate at 75% scale up coverage of
Full system support package

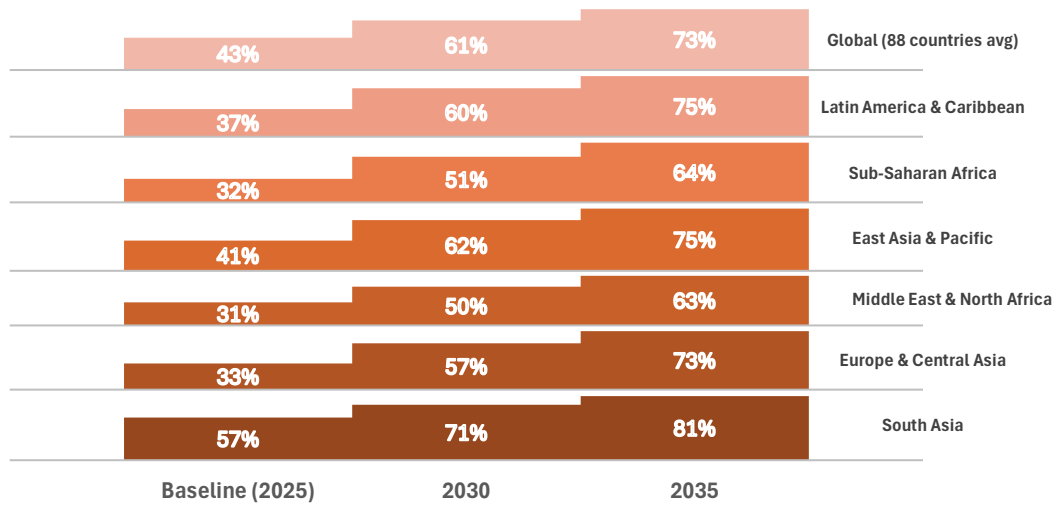




Table S2. Projected cumulative impact of intervention packages at 75% scale up over 10 years

	EBF projections		10 years cumulative impact			10 years cumulative averted costs (US\$ M)			
CORE HEALTH SYSTEM SUPPORT PACKAGE	Baseline (2025)	2035	Averted child deaths	Averted lost education years (millions)	Averted lost IQ points (millions)	Health system savings	Mortality costs	Morbidity costs	Total economic cost
South Asia	57%	79%	59,372	23.9	68.9	\$ 53.5	\$ 2,345	\$ 26,769	\$ 29,168
Europe & Central Asia	33%	65%	11,049	5.2	15.0	\$ 42.8	\$ 673	\$ 14,114	\$ 14,830
Middle East & North Africa	31%	61%	7,319	13.7	39.4	\$ 51.9	\$ 358	\$ 18,849	\$ 19,259
East Asia & Pacific	41%	70%	12,370	23.5	67.7	\$ 244.8	\$ 1,803	\$ 135,667	\$ 137,715
Sub-Saharan Africa	32%	62%	125,538	28.7	82.7	\$ 112.0	\$ 2,407	\$ 20,669	\$ 23,188
Latin America & Caribbean	37%	70%	8,485	11.8	34.0	\$ 188.6	\$ 1,231	\$ 49,961	\$ 51,381
Global (88 countries avg)	43%	70%	224,133	106.8	307.6	\$ 693.5	\$ 8,817	\$ 266,029	\$ 275,540





	EBF projections		10 years cumulative impact			10 years cumulative averted costs (US\$ M)			
	Baseline (2025)	2035	Averted child deaths	Averted lost education years (millions)	Averted lost IQ points (millions)	Health system savings	Mortality costs	Morbidity costs	Total economic cost
CORE PLUS POLICY AND BCC PACKAGE									
South Asia	57%	81%	72,254	29.9	86.1	\$62.6	\$2,891	\$34,078	\$37,032
Europe & Central Asia	33%	68%	13,056	6.4	18.3	\$46.1	\$786	\$17,985	\$18,817
Middle East & North Africa	31%	62%	8,056	15.1	43.6	\$53.2	\$392	\$20,879	\$21,324
East Asia & Pacific	41%	72%	14,766	28.2	81.2	\$251.5	\$2,093	\$161,099	\$163,443
Sub-Saharan Africa	32%	64%	135,939	31.9	91.9	\$119.2	\$2,599	\$23,105	\$25,823
Latin America & Caribbean	37%	72%	9,449	13.3	38.1	\$190.3	\$1,327	\$56,453	\$57,971
Global (88 Countries avg)	43%	72%	253,520	124.8	359.3	\$722.9	\$10,088	\$313,599	\$324,410



EBF projections		10 years cumulative impact				10 years cumulative averted costs (US\$ M)			
FULL SYSTEM SUPPORT PACKAGE	Baseline (2025)	2035	Averted Child deaths	Averted lost education years (millions)	Averted lost IQ points (millions)	Health system savings	Mortality costs	Morbidity costs	Total economic cost
South Asia	57%	81%	73,546	30.5	87.7	\$63.4	\$2,944	\$34,721	\$37,729
Europe & Central Asia	33%	73%	15,183	7.4	21.2	\$50.3	\$905	\$21,207	\$22,162
Middle East & North Africa	31%	63%	8,366	15.7	45.1	\$54.0	\$408	\$21,869	\$22,331
East Asia & Pacific	41%	75%	16,116	31.5	90.7	\$254.2	\$2,307	\$180,844	\$183,405
Sub-Saharan Africa	32%	64%	139,425	33.0	95.0	\$122.3	\$2,677	\$24,418	\$27,218
Latin America & Caribbean	37%	75%	10,403	14.7	42.2	\$191.9	\$1,417	\$62,628	\$64,236
Global (88 Countries avg)	43%	73%	263,038	132.7	381.9	\$736.1	\$10,658	\$345,686	\$357,081



Table S3. The economic impact of scaling up intervention packages to 75% coverage over 10 years – regional estimates

	South Asia	Europe & Central Asia	Middle East & North Africa	East Asia & Pacific	Sub-Saharan Africa	Latin America & Caribbean	Global (avg. 88 countries)
CORE HEALTH SYSTEM SUPPORT PACKAGE							
Scale up investment (US\$ B)	\$1.4	\$0.6	\$0.5	\$0.8	\$0.9	\$0.4	\$4.6
Cumulative benefits (US\$ B)	\$29.2	\$14.8	\$19.3	\$137.7	\$23.2	\$51.4	\$275.5
BCR	20.3:1	26.7:1	36.2:1	173.2:1	25.8:1	120.6:1	59.4:1
CORE PLUS POLICY AND BCC PACKAGE							
Scale up investment (US\$ B)	\$1.6	\$0.8	\$0.8	\$1.1	\$1.3	\$0.7	\$6.3
Cumulative benefits (US\$ B)	\$37.0	\$18.8	\$21.3	\$163.4	\$25.8	\$58.0	\$324.4
BCR	23.0:1	23.6:1	28.6:1	148.7:1	19.9:1	79.1:1	51.6:1
FULL SYSTEM SUPPORT PACKAGE							
Scale up investment (US\$ B)	\$2.3	\$1.6	\$1.2	\$4.2	\$2.1	\$2.0	\$13.3
Cumulative benefits (US\$ B)	\$37.7	\$22.2	\$22.3	\$183.4	\$27.2	\$64.2	\$357.1
BCR	16.8:1	13.5:1	19.4:1	43.6:1	13.1:1	32.1:1	26.8:1

Supplementary appendix 3: Sensitivity analysis

We also explored an alternative scenario with higher intervention coverage of 95% to assess its effect on EBF rates and averted health, human capital and economic losses (Table S4). Our findings suggest that higher coverage of intervention packages would further improve EBF rates and generate greater economic gains.

In addition, given that investment cases are highly sensitive to key assumptions, including the share of benefits realized, the discount rate and the time horizon, we conducted a second sensitivity analysis by applying a 75% benefit-accrual assumption, consistent with previous studies, which is, in effect, a 25% downward adjustment on the effect of interventions on EBF rates. This results in lower health, human capital and economic benefits.

Table S4. Sensitivity analysis with varying intervention coverage levels (2026–2035)

	Projected EBF rate	Averted child deaths	Averted lost years of education (millions)	Averted lost IQ points (millions)	Total costs (US\$ B)	Averted economic loss (US\$ B)	Benefit-Cost Ratio (BCR)
High scale up coverage scenario (95% intervention coverage)							
Core health system support package	76%	311,410	141.3	406.7	\$6.3	\$357	57:1
Core plus policy and BCC package	78%	339,684	157.5	453.5	\$7.9	\$401	51:1
Full system support package	79%	351,630	166.4	479.0	\$17.2	\$439	26:1
75% of benefits accrued scenario (that is, adjustment of 25% reduced effect)							
Core health system support package	64%	151,048	75.2	216.6	\$4.6	\$199	43:1
Core plus policy and BCC package	66%	175,470	89.2	256.8	\$6.3	\$237	38:1
Full system support package	67%	182,541	95.7	275.5	\$13.3	\$264	20:1



While the health, human capital and economic gains in each sensitivity analysis scenario remain significant, the BCRs may be either the same or negatively affected. In the first scenario, attaining the increased intervention coverage would require significantly higher investment. In the second sensitivity analysis scenario, the costs would remain the same as the main scenario but the economic benefits would be much lower, resulting in lower BCRs, although still high and positive.

Supplementary appendix 4: Sample national-level results

Figure S2. Projected EBF rate of 75% scale up of breastfeeding support packages

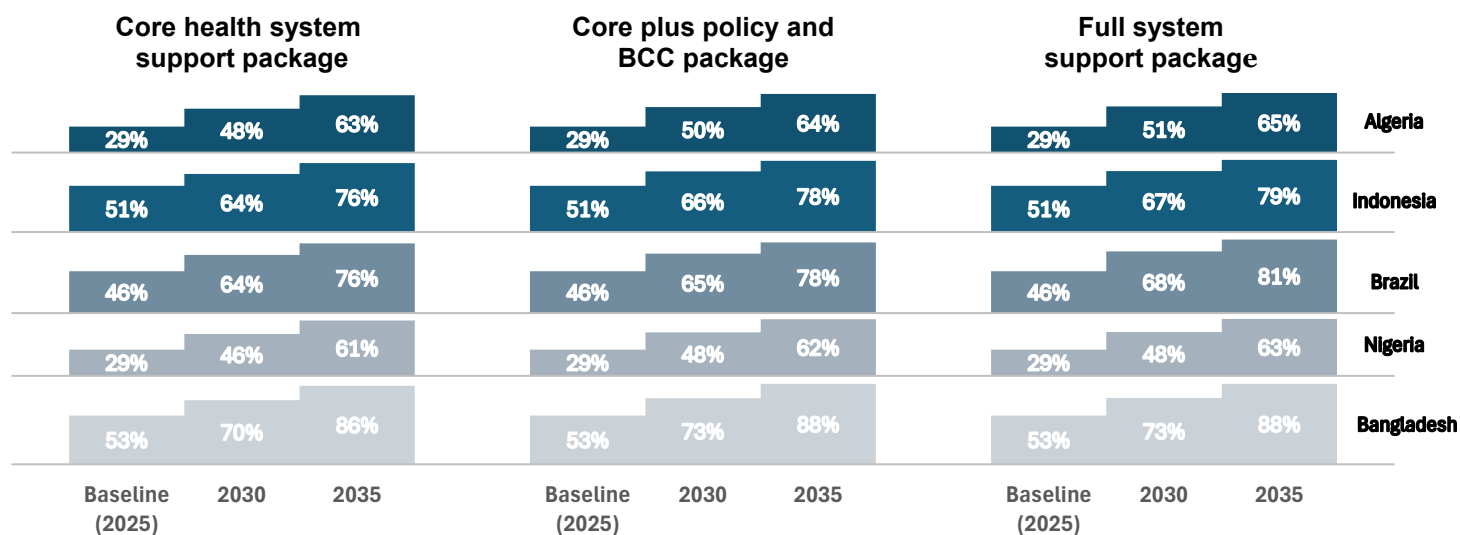


Figure S3. Table. Projected averted economic loss at 75% scale up of breastfeeding support package (US\$ B)

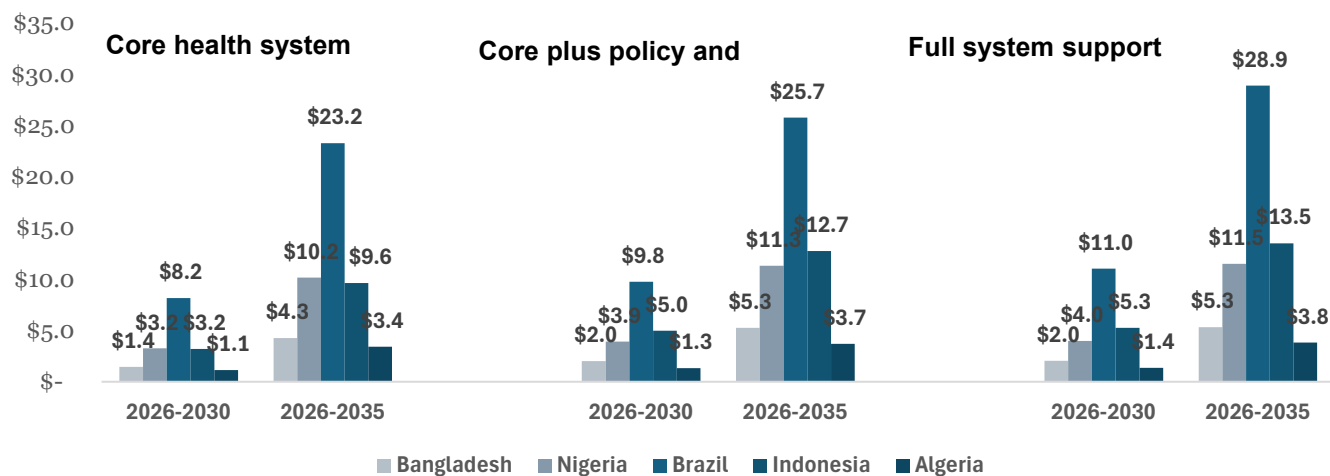


Table S6. Projected BCRs from investing in scale up coverage of breastfeeding support packages

	Bangladesh	Nigeria	Brazil	Indonesia	Algeria
CORE HEALTH SYSTEM SUPPORT PACKAGE					
2026-2030	36:1	32:1	154:1	63:1	54:1
2026-2035	33:1	30:1	139:1	59:1	50:1
CORE PLUS POLICY AND BCC PACKAGE					
2026-2030	34:1	32:1	135:1	56:1	41:1
2026-2035	32:1	31:1	128:1	55:1	42:1
FULL SYSTEM SUPPORT PACKAGE					
2026-2030	29:1	24:1	42:1	30:1	29:1
2026-2035	27:1	22:1	36:1	26:1	28:1



www.NutritionIntl.org