



**“If breastfeeding did not already exist, someone who invented it today would deserve a dual Nobel Prize in medicine and economics”.**

**—Keith Hansen, the World Bank, *The Lancet* 2016**

# Nurturing the Health and Wealth of Nations: The Investment Case for Breastfeeding

Global Breastfeeding Collective



# NURTURING THE HEALTH AND WEALTH OF NATIONS

## EXECUTIVE SUMMARY

- **Breastfeeding is not only an investment in improving children’s health and saving lives, but also an investment in human capital development that can benefit a country’s economy.**
- **Breastfeeding is one of the best investments in global health: every \$1 invested in breastfeeding generates \$35 in economic returns.**
- **In China, India, Nigeria, Mexico and Indonesia alone, inadequate breastfeeding is responsible for more than 236,000 child deaths each year; in these countries, the estimated future economic cost of mortality and cognitive losses attributed to inadequate breastfeeding are estimated to be almost \$119 billion per year.**
- **In order to meet the World Health Assembly target of increasing the percentage of children under 6 months of age who are exclusively breastfed to at least 50 percent by 2025, an additional \$5.7 billion is required. This investment translates to just \$4.70 per newborn.**
- **Greater progress is possible. With the right level of ambition and the right policies and investment, countries can fully realize the potential gains from breastfeeding.**

## BREASTFEEDING IS ONE OF THE SMARTEST INVESTMENTS A COUNTRY CAN MAKE TO BUILD ITS FUTURE PROSPERITY.

It offers children unparalleled health and brain-building benefits. It has the power to save the lives of women and children throughout the world, and the power to help national economies grow through lower health care costs and smarter workforces. Yet many societies are failing to adequately support women to breastfeed, and as a result, the majority of the world’s children—along with a majority of the world’s countries—are not able to reap the full benefits of breastfeeding.

The case to invest in breastfeeding has never been stronger, nor the need for action clearer. In 2012, the 194 countries of the World Health Assembly (WHA) committed to a target of increasing the global prevalence of exclusive breastfeeding in the first six months of life from the then baseline of 37 percent to at least 50 percent by 2025. But ensuring that at least half of the world’s children are exclusively breastfed for the first six months of their lives should be a starting point, not an endgame. Rapid progress is possible with investments in policies and programs that better support women to breastfeed, and that ensure that more of the world’s children have the opportunity to thrive.

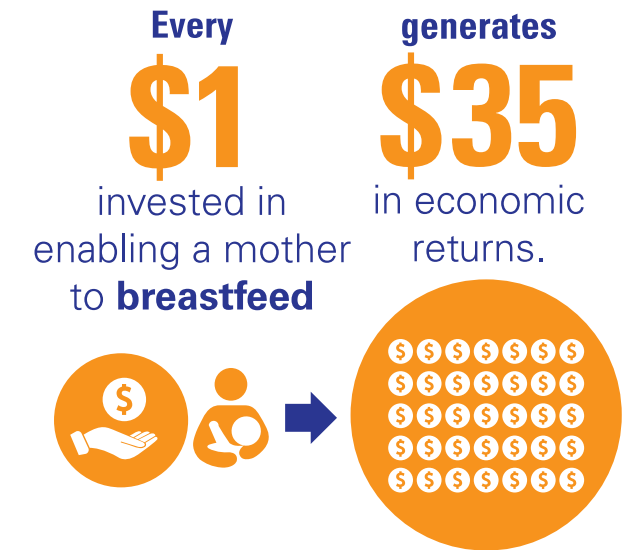
## THE INVESTMENT CASE FOR BREASTFEEDING

Throughout the past several years, there has been a surge in scientific evidence that shows just how critical breastfeeding is to human health and development. Recent analyses have confirmed the impact breastfeeding has on preventing diarrhea and pneumonia—two major causes of child mortality—and on the cognitive development and IQ of children, which impacts educational attainment, participation in the workforce and lifetime earnings. Studies have also revealed the impact breastfeeding has on reducing the risk of ovarian and breast cancer, two leading causes of death among women. While these effects are most acutely felt at the individual level, they also accrue at the societal level. In other words, breastfeeding benefits not just mothers and children, but also entire economies.

The World Bank’s new Investment Framework for Nutrition notes that meeting the WHA target for exclusive breastfeeding in the first six months would save 520,000 children’s lives over the next 10 years.<sup>i</sup> In addition, if the WHA target were to be reached by 2025, almost \$300 billion in additional economic gains across lower- and middle-income countries could be generated as a result of improved cognitive development and child survival rates.<sup>ii</sup> The analysis found that every dollar invested in achieving the breastfeeding target generates a return of \$35 in economic benefits.<sup>iii</sup>

Additional research has also shown that employers and other providers of health services will accrue annual savings in

healthcare expenditures if breastfeeding rates increase, thanks to fewer prescriptions and reduced absenteeism rates. Healthcare costs for newborns could be as much as three times lower, with fewer hospitalizations and insurance claims. The United States alone could save \$13 billion per year if 90 percent of families were meeting the recommendation to exclusively breastfeed up to six months of age.<sup>iv</sup>



**WHO and UNICEF recommend that breastfeeding be initiated within one hour of birth, that it continue with no other foods or liquids for the first six months of life, and that it be continued with complementary feeding (breastfeeding with other age-appropriate foods) until at least 24 months of age.**

**EXCLUSIVE BREASTFEEDING up to six months of age means that the infant receives only breast milk. No other liquids or solids are given—not even water—with the exception of oral rehydration solution, or drops/syrups of vitamins, minerals, or medicines.**

## THE IMPACT OF BREASTFEEDING

From the first hour of an infant's life, breastfeeding has an enormous impact on health and development.

### BREASTFEEDING LAYS THE FOUNDATION FOR GOOD HEALTH:

- Optimal breastfeeding could have the single largest impact on child mortality of any preventive intervention.<sup>vi</sup> *The Lancet* estimated that scaling up breastfeeding to a near universal level could prevent 823,000 child deaths per year.<sup>vii</sup>
- Artificial feeding leads to common diseases such as diarrhea and pneumonia, which are leading causes of child mortality.<sup>viii</sup> By supporting mothers to practice proper breastfeeding, nearly 50 percent of diarrhea episodes and a third of respiratory infections would be avoided.<sup>ix</sup>
- Breastfeeding has been found to reduce the risk of childhood obesity and diabetes in children.<sup>x</sup>
- Breastfeeding is also a natural and necessary part of the reproductive cycle for women, and as such, has a significant impact on a mother's health. Breastfeeding contributes to delayed return of menstruation and thereby, to birth spacing.
- Research has shown that breastfeeding is associated with a lower risk of breast and ovarian cancers for nursing mothers later in life. *The Lancet* estimates 20,000 breast cancer deaths could be prevented annually as a result of optimal breastfeeding.<sup>xi</sup>

### BREASTFEEDING PLAYS AN UNPARALLELED ROLE IN BUILDING YOUNG CHILDREN'S BRAINS:

- Breastfeeding has been shown to play a critical role in fostering a young child's brain development and cognitive capacity. *The Lancet* series on breastfeeding reported that shorter durations of breastfeeding for children were associated with a 2.6 point loss in IQ scores.<sup>xii</sup>
- Additional studies concur, showing that non-breastfed children had significantly lower IQ scores and smaller brains overall.<sup>xiii</sup>

## THE COST OF INACTION

The global cost of inaction on breastfeeding is steep. As noted above, it is estimated that over 820,000 children under age five and 20,000 women each year die as a result of not breastfeeding and suboptimal breastfeeding practices. Moreover, recent analyses suggest that the failure to support women to optimally breastfeed is costing countries billions of dollars in losses to their economies. These economic losses are attributable to higher mortality in women and children, higher healthcare costs as a result of increased illnesses and disease, and lost future wages for individuals as a result of reduced cognitive capacity in children who are not breastfed in accordance with global recommendations.

New analysis conducted by Alive & Thrive examines what is at stake for countries when they do not invest in breastfeeding. It details the human and economic impacts of inadequate breastfeeding practices. These include:

- the estimated costs to health systems to treat cases of diseases that could be prevented with increased breastfeeding (which are calculated using country-specific treatment unit cost data);
- the potential future income lost due to maternal and child deaths that could be averted with increased breastfeeding (which are calculated as a portion of country's GNI per capita that an individual will not be able to contribute to the economy during their productive years); and

- the potential future income not realized due to cognitive losses attributed to inadequate breastfeeding. The estimates reflect potential earnings gains due to cognitive losses averted in children over their entire adult working lives. The estimates are based on research showing that breastfeeding is associated with a 2.62 point IQ increase compared to not being breastfed and that an increase of one standard deviation in IQ leads to a 17 percent increase in wage earnings in the future.<sup>xiv xv</sup>

Drawing from the analysis, data from five of the world's largest emerging economies are highlighted here to illustrate just how significant the cost of inaction is:

- In **China**, a country where the prevalence of exclusive breastfeeding in children below the age of six months is estimated at 21 percent, the total economic cost of not breastfeeding is estimated to be \$66 billion per year, or a total of 0.61 percent of China's Gross National Income (GNI).<sup>xvi</sup> With rapidly declining child mortality in China, the main driver of these staggering losses are costs associated with lower cognitive capacity—an estimated \$59 billion. Inadequate breastfeeding attributes to 16,146 child deaths due to preventable diarrhea and pneumonia and 19,651 deaths in women from cancers and type II diabetes each year. Together, these deaths cost the Chinese economy an estimated \$6 billion.

## IMPROVED RATES OF BREASTFEEDING LEAD TO...



- The story in **Nigeria** is different. The prevalence of exclusive breastfeeding in children below the age of six months is only 17 percent, which means that at least 5.4 million children each year do not get the powerful health and immunological benefits of breastfeeding. In a country with a high under-five mortality rate and high birth rate, inadequate breastfeeding leads to 103,742 child deaths each year which in turn translates into almost \$12 billion in future economic losses for the country. When cognitive losses and health costs are added in, inadequate breastfeeding is estimated to cost the Nigerian economy \$21 billion per year, or 4.1 percent of its GNI.
- Despite a reported 55 percent exclusive breastfeeding rate in children below the age of six months, the large population in **India** and high under five mortality means that an estimated 99,499 children die each year as a result of cases of diarrhea and pneumonia that could have been prevented through early initiation of breastfeeding, exclusive breastfeeding for the first six months, and continued breastfeeding. The high level of child mortality and growing number of deaths in women from cancers and type II diabetes attributable to inadequate breastfeeding is estimated to drain the Indian economy of \$7 billion. Together with another \$7 billion in costs related to cognitive losses, India is poised to lose an estimated \$14 billion in its economy, or 0.70 percent of its GNI.
- In **Indonesia**, where the prevalence of exclusive breastfeeding in children below the age of six months is estimated at 42 percent, 15,028 child deaths and 4,814 deaths in women each year are linked to poor breastfeeding practices. These deaths cost the Indonesian

economy \$2.3 billion in future gains. Yet it is the cognitive losses associated with inadequate breastfeeding that cost the country the most—almost \$7 billion is lost as a result of Indonesian children not being breastfed as recommended. Thus, the total costs attributable to inadequate breastfeeding are estimated to be \$9 billion, or 1.06 percent of Indonesia’s GNI. In addition, further analysis found that treating cases of diarrhea and pneumonia attributable to inadequate breastfeeding cost the health system \$88 million per year and that the out-of-pocket health care expenditures related to these childhood illnesses incurred by families can account for more than 10% of average monthly income.<sup>xvii</sup>

- For **Mexico**, a country with just 31 percent of its children below the age of six months exclusively breastfed, costs associated with cognitive losses due to inadequate breastfeeding are estimated to be \$7.1 billion. Together with another \$1 billion in costs attributed to mortality, inadequate breastfeeding costs the Mexican economy \$8 billion, or 0.67 percent of its GNI. Approximately 2,360 child deaths are attributed to inadequate breastfeeding due to preventable diarrhea and pneumonia, and 4,907 maternal deaths from cancers and type II diabetes each year.

These countries represent some of the larger emerging economies in the world and show how, for these five countries alone, the estimated future economic losses due to inadequate breastfeeding alone could potentially reach \$119 billion per year.

	Future economic cost of mortality (USD \$Billion)	Future economic cost of cognitive losses (USD \$Billion)	Total combined economic cost as percent of GNI
<b>China</b>	<b>\$6.13</b>	<b>\$59.60</b>	<b>0.61</b>
<b>India</b>	<b>\$7.10</b>	<b>\$7.25</b>	<b>0.70</b>
<b>Indonesia</b>	<b>\$2.32</b>	<b>\$6.94</b>	<b>1.06</b>
<b>Mexico</b>	<b>\$1.10</b>	<b>\$7.13</b>	<b>0.67</b>
<b>Nigeria</b>	<b>\$11.94</b>	<b>\$9.10</b>	<b>4.10</b>

Estimated annual economic costs attributable to not breastfeeding and poor breastfeeding practices at current levels compared to near universal coverage.<sup>xviii</sup>

## Investing **\$5.7 billion by 2025** to reach the World Health Assembly target on **exclusive breastfeeding** can save the lives of **520,000 children**



### FINANCING THE GLOBAL BREASTFEEDING TARGET

Despite a growing body of evidence, investments in breastfeeding remain abysmally low. It is estimated that annually only \$85 million is spent by donors, and about \$250 million by governments, on breastfeeding programs in low- and middle-income countries.<sup>xix</sup>

Reaching the WHA target to increase to at least 50 percent the proportion of infants under six months of age who are exclusively breastfed will require an investment in programs and policies that are specifically designed to promote, protect and support breastfeeding. Recent analysis by the World Bank, the Results for Development Institute (R4D), and 1,000 Days shows that meeting the global target by 2025 would require an additional investment of \$5.7 billion. **The additional investment needed to help mothers to exclusively breastfeed for the first six months translates to only \$4.70 per newborn.<sup>xx</sup>**

This additional financing would be invested in a set of evidence-based actions that have been proven to improve breastfeeding practices. While they do not fully cover all the interventions required to support and improve breastfeeding, they represent an important step. The following are interventions included in the financing analysis:

- **Fully implement the International Code of Marketing of Breastmilk Substitutes and subsequent relevant resolutions.** Aggressive marketing of baby feeding products undermines optimal breastfeeding practices. While these products are necessary in some cases, the unethical and unregulated promotion of these products

can have a detrimental effect on breastfeeding initiation, exclusivity and duration. As of March 2016, only 39 out of 194 countries had legislation fully implementing the Code, while an additional 31 countries had legal measures that address many provisions of the Code, and a further 65 had measures that address some provisions.<sup>xxi</sup>

- **Improve breastfeeding practices in maternity facilities.** Support must be available immediately for new mothers to initiate breastfeeding in maternity facilities. It is important to integrate the WHO/UNICEF Ten Steps of Successful Breastfeeding (established in 1989) that describe what maternity facilities should do to enable a successful start to breastfeeding into health systems and public financing such as health insurance schemes.<sup>xxii</sup>
- **Improving access to skilled breastfeeding counseling** and education has been shown to result in a 90 percent increase in exclusive breastfeeding rates for infants up to five months of age.<sup>xxiii</sup> Infant and young child nutrition counseling should include a package of multiple counseling sessions for the mother, in the community and/or at a health facility, during pregnancy and the postnatal period. Care must be taken to avoid conflicts of interest and to avoid involvement of the baby feeding industry in such counseling.
- The analysis includes additional funding for **national breastfeeding promotion** campaigns that are integrated with counseling and community mobilization. These strategies have proven to have a significant effect on increasing exclusive breastfeeding rates. For example, in Vietnam a campaign combining mass media, infant



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and young child feeding counseling and advocacy for pro-breastfeeding social policies was able to track a 28.3 percent increase in exclusive breastfeeding during the first six months of life.<sup>xxiv xxv</sup> It is important that public funding for these efforts is sustained and that the campaigns are protected from conflicts of interest.

- And finally, there is funding included in the analysis to support program capacity, monitoring, and evaluation. Some of this funding could be directed to the critical effort to **track the progress of policies, programs, and funds towards achieving national and global breastfeeding targets.**

The financing analysis is based on scaling up these interventions in all low- and middle-income countries to full coverage. However, there are some limitations to the analysis that are important to note. First, the WHA target to increase to 50 percent the number of children under six months of age exclusively breastfed may be under-ambitious. Aiming for a more ambitious target would require a higher level of investment but it would also help save more lives, ensure more women and children reap the health benefits of breastfeeding and prevent the staggering economic losses associated with poor breastfeeding practices. Second, while the target focuses on exclusive breastfeeding for children under six months of age, it is critical to ensure there is also greater progress on improving rates of early initiation of breastfeeding as well as continued breastfeeding for two years or beyond. Finally, this financing analysis does not include the costs associated with two interventions that are also essential to improving breastfeeding practices:

- **Enact paid family leave and workplace policies to support mothers to breastfeed as recommended.** This should include paid maternity leave cash benefits and broader support for mothers, including spaces to express and store breastmilk at the workplace, and nursing breaks or flexible working arrangements. Access to maternity leave has been found to increase exclusive breastfeeding rates by 52 percent, and has even been linked to lower infant mortality in some countries.<sup>xxvi</sup>
- **Strengthen links between health facilities and communities to protect, promote, and support breastfeeding.** Community-level support can make an important contribution to improving breastfeeding practices, especially where the existing health system is weak. This support can help women sustain appropriate breastfeeding practices, address problems that arise, and prevent new ones from occurring.

## THE SHARED OPPORTUNITY: A CALL TO ACTION

The case to invest in breastfeeding is clear. There is strong and indisputable evidence that investing in breastfeeding can save lives and set the foundation for healthier and more prosperous societies. Greater political commitment is needed to support women to breastfeed, make breastfeeding the infant and young child feeding norm, and realize a wealth of benefits for children, families, and societies alike.

Led by UNICEF and WHO, the Global Breastfeeding Collective calls for the immediate scaling up of financing and implementation of policies, programs, and interventions to better enable mothers to give their children the strongest start to life. Specifically, the Global Breastfeeding Collective calls on country governments, donors, and development partners to:

1. **Increase funding** to raise breastfeeding rates from birth through two years. At least \$5.7 billion in additional funding is required by 2025 to ensure that 50 percent of the world's children are exclusively breastfed.
2. Fully implement the International Code of Marketing of Breastmilk Substitutes and relevant World Health Assembly resolutions through **strong legal measures that are enforced and independently monitored** by organizations free from conflicts of interest.
3. **Enact paid family leave and workplace breastfeeding policies**, building on the International Labour Organization's maternity protection guidelines as a minimum requirement, including provisions for the informal sector.
4. **Implement the Ten Steps to Successful Breastfeeding in maternity facilities**, including providing breastmilk for sick and vulnerable newborns.
5. **Improve access to skilled breastfeeding counseling** as part of comprehensive breastfeeding policies and programs in health facilities.
6. **Strengthen links between health facilities and communities**, and encourage community networks that protect, promote, and support breastfeeding.
7. **Strengthen monitoring systems that track the progress** of policies, programs, and funding towards achieving both national and global breastfeeding targets.



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- <sup>ii</sup> Ibid.
- <sup>iii</sup> Ibid.
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- <sup>ix</sup> Ibid.
- <sup>x</sup> Ibid.
- <sup>xi</sup> Rollins et al. 2016; Victora et al. 2016.
- <sup>xii</sup> Rollins et al. 2016; Horta, B. L., C. Loret de Mola, and C. G. Victora. 2015. "Breastfeeding and Intelligence: A Systematic Review and Meta-Analysis." *Acta Paediatrica* 104: 14-19.
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- <sup>xv</sup> The calculations also account for a 3% discount rate on future economic benefits, a long-term mean annual GDP growth rate of 3% in each country, and takes into account the wage share of national income in each country. These calculations assume that exclusive breastfeeding below six months of age compared to non-exclusive breastfeeding can achieve the same cognitive gains as ever being breastfed children compared to not being breastfed. Eikman et al. (2007) suggest that exclusive breastfeeding for more than 1 month can have a 3.0 point IQ increase at age 1 compared to partial or no breastfeeding.
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