Scaling Up Breastfeeding/Infant and Young Child Feeding Interventions

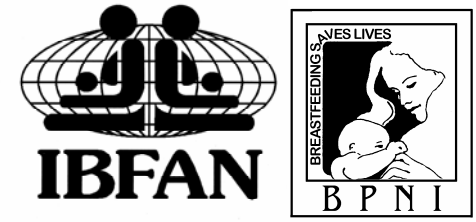
WHAT WILL IT COST?

A Discussion Paper Presented at

The World Breastfeeding Conference, 2012: 6-9 December, Delhi, India

Session: Meeting with Development Partners: 6.30 PM onwards.

8th December 2012.



2012

Scaling Up Breastfeeding / Infant and Young Child Feeding Interventions Rates - WHAT WILL IT COST?

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EXECUTIVE SUMMARY

The growing concern today about the increasing global burden of malnutrition – both under nutrition and obesity, as well as about the rising incidence of noncommunicable diseases (NCDs)- has highlighted the importance of infant and young child feeding practices, especially exclusive breastfeeding, in mitigating both forms of malnutrition including in adulthood. Optimal breastfeeding not only saves the lives of more than one million children under five, it also improves children's quality of life.

The current paper tries to estimate what is the minimum amount that needs to be spent if optimal breastfeeding and infant and young child feeding rates have to be enhanced. It is aimed at governments and the donor community, and provides the indicative costs of implementing specific interventions that have been shown to be effective both in raising breastfeeding rates and in terms of returns on investment.

This document is also the first step taken by International Baby Food Action Network, Asia (IBFANAsia) towards developing a financial tool that can be used to assess financial and human resource needs at the national, regional and global levels for enhancing breastfeeding rates.

The present situation

Global rates of optimal breastfeeding practices, especially exclusive breastfeeding – have remained stagnant over the past decade. Of the 136 million babies born every year, only 37% - 50 million - are able to practice exclusive breastfeeding for six months.[1]

The neglect of interventions to enhance breastfeeding rates has been particularly reflected in the lack of a global budget specifically for implementing them. Estimates are limited to breastfeeding promotion along with promoting interventions like hand washing. At the same time, some evidence is being generated on the cost effectiveness specific interventions to enhance rates of exclusive breastfeeding.

A recent study, yet to be published, has linked the improved implementation of the Global Strategy for Infant and Young Child Feeding with increased rates of breastfeeding.[2] IBFAN Asia/gBICS report "Are Our Babies Falling through the Gaps? The State of Policies and Programme Implementation of the Global Strategy for Infant and Young Child Feeding in 51 Countries" shows that there are glaring gaps in policies and programming in all the 51 countries. The primary reason for these gaps is lack of adequate financial and human resources.

Effective interventions for enhancing breastfeeding rates

The document estimates the costs of the following evidence-based effective interventions for enhancing breastfeeding rates: Policy and planning, Information Education and Communication (IEC), Training, Protection and support – Implementation of the International Code of Marketing of Breastmilk Substitutes and adequate maternity protection legislation, Monitoring and Research.

Scaling Up Breastfeeding: What will it cost

The financial estimations for a five-year period given in this paper are based on increasing coverage from current levels to 100 per cent of the target populations, to cover every birth, even as we recognize that this may not be attainable in practice.

[1] UNICEF. State of the World's Children 2010

[2] Lutter C, Morrow AL. 2012. Protection, Promotion and Support and Global Trends in Breastfeeding. *Advances in Nutrition.* (in press)

All financial estimates are in US dollars (US$). The regions and the countries included in the costing are based on WHO's classification. The annual number of births, as well as the number of households below the poverty line, has been taken from UNICEF's State of the World's Children 2012.

Constraints and limitations

Constraints include

1. Lack of adequate data about costs for interventions.
2. Wide divergence between staff responsibilities, salaries, transport costs and infrastructure costs among nations,[3] because of which we have not attempted to cost either the number of staff required or staff salaries in this exercise. Nor have we adjusted to allow for cost variations in countries.
3. Lack of information regarding existence of written national IYCF policies in countries.
4. Lack of adequate information on the kind of maternity protection and maternity entitlements that are being offered to women working in the unorganized/informal sector, as well as to homemakers in households below the poverty line, in several countries. We have tried to overcome this constraint by factoring in a minimum financial assistance as a flat rate to women below the poverty line, as an incentive to practice exclusive breastfeeding. This is the largest component in our estimate.
5. Wide variance in laws related to implementing the International Code and costs of taking action; we have limited our estimate to developing laws where there is no national legislation, training on the International Code and subsequent WHA resolutions and how to monitor for violations, and creating public awareness.

Some assumptions

Coverage

Our basic premise is that every woman who gives birth requires support at the hour of birth to initiate breastfeeding. We have thus assumed that once an adequately trained workforce is in place, every woman will be able to get this support.

Delivery platforms

We have assumed that the delivery platforms for counseling to be

- Health facilities
- Community health and nutrition programmes

For Code Monitoring, and provision of maternity benefits, we have assumed that the health and nutrition system and other relevant departments will provide the services; in addition the general public will monitor the implementation of the laws.

Methodology

We have based the calculations using

- unit costs where available and which are globally accepted (eg., cost of US$ 7.50 per child for breastfeeding promotion with one-to-one counselling[4], cost of US$ 5.00 for mass media campaigns[5]);

[3] An indication of these costs is available at WHO Database for those interested.

- where no globally accepted costs were available, unit costs per activity or per child based on actual program costs in countries from which we had information, and extrapolated them to other countries (eg., unit costs per for conducting refresher courses in human lactation, conducting training workshops on code monitoring, etc.)
- a flat rate of US $ 2 as financial assistance under maternity protection to women below the poverty line.

While we received information from countries on costs related to setting up toll-free help lines for providing counseling support to women, or on-line systems to encourage community monitoring of the International Code, we have not factored these costs into our estimation.

Our estimates for enhancing breastfeeding rates globally are as follows:

- Costs for developing policies, legislation and planning: US$ 76.17 million
- Cost for provision of skilled counseling in IYCF practices: US$ 1021.57 million
- Cost for mass media campaigns: US$ 2818.76 million
- Cost for implementing the International Code: US$ 77.62 million
- Costs for providing financial assistance to women below the poverty line as maternity benefit: US$ 51710.91 million
- **Total cost for protecting, promoting and supporting breastfeeding (including provision of financial assistance to women below poverty line): US$ 67913.70 million**
- **Total cost of protecting, promoting and supporting breastfeeding (excluding provision of financial assistance to women below poverty line): US$ 4492.07 million**

Recommendations

- Build implementation of the Global Strategy for Infant and Young Child Feeding as a key priority in the future agenda of child health and survival.
- Create budget lines for implementing the Global strategy commensurate with the need.
- Dedicate specific budget lines to address breastfeeding and IYCF interventions under child health or nutrition programming.

[4] Mason, J. B., J. Hunt, D. Parker, and U. Jonsson. 1999. "Investing in Child Nutrition in Asia." *Asian Development Review* 17 (1, 2): 1–32.

[5] Horton S. (1992) Unit Costs, Cost-Effectiveness, and Financing of Nutrition Interventions. Population and Human Resources Dept. World Bank. WPS 952

1. INTRODUCTION

Policy context and rationale

There is growing concern today about the increasing global burden of malnutrition – both under nutrition and obesity, as well as about the rising incidence of noncommunicable diseases (NCDs), including cardiovascular diseases, diabetes, and cancer. At the same time, there is a growing body of evidence on the role of infant and young child feeding practices, especially exclusive breastfeeding, in mitigating both forms of malnutrition including in adulthood.

In the context of under nutrition, in 2002, the Global Strategy for Infant and Young Child Feeding, adopted by the World Health Assembly and the UNICEF Executive Board, recognized that "*Malnutrition has been responsible directly or indirectly, for 60% of the 10.9 million deaths annually among children under five. Well over two-thirds of these deaths, which are often associated with inappropriate feeding practices, occur during the first year of life. No more than 35% of infants worldwide are exclusively breastfed for the first four months of life; complementary feeding frequently begins too early or too late, and foods are often nutritionally inadequate or unsafe. Malnourished children who survive are more often sick and suffer life-long consequences of impaired development. Because poor feeding practices are a major threat to social and economic development, they are among the most serious obstacles to attain and maintain health that face this age group.*"[6]

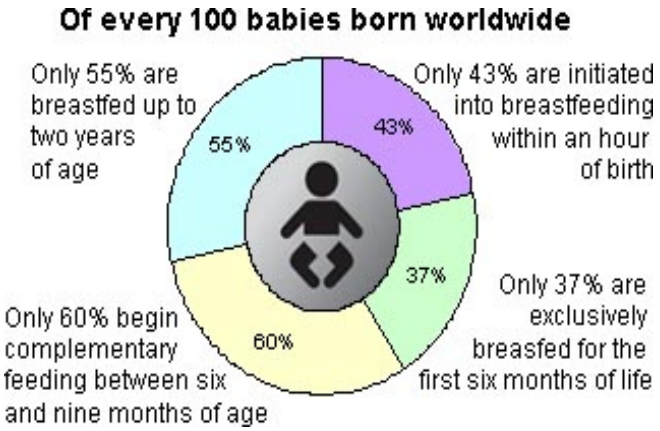
Breastfeeding has been linked to reduced risk of developing high blood pressure, serum cholesterol and Type II diabetes during adulthood. [7] The WHO 2008-2013 Action Plan for the Global Strategy for the Prevention and Control of Noncommunicable Diseases calls for the promotion of and support to exclusive breastfeeding for the first six months of life and to promote programmes to ensure optimal feeding for all infants and young children[8]

However, improving breastfeeding practices and enhancing breastfeeding rates has been largely neglected in international health and development initiatives.

> Somewhere in the world more than 250 women need support each minute to practice the first standard of health care for their babies.

World over 136 million babies are born every year, or, every minute 259 babies are born. Only 37% - 50 million - are able to practice exclusive breastfeeding for six months.[9] There is thus a need to reach all families of the world on minute-to-minute basis.

On average, more than 20,000 children under five years of age still die every day from preventable causes[10] and undernutrition contributes to more than one-third of these deaths. [11] Undernutrition, particularly in children under two years of age, prevents them from reaching their full development potential. Optimal breastfeeding not only saves the lives of more than one million children under five, it also



[6] WHO. Global Strategy for Infant and Young Child Feeding. Geneva: World Health Organization, 2003.
[7] Horta, B.L. et al. Evidence on the long-term effects of breastfeeding. Systematic reviews and meta-analysis. World Health Organization 2007
[8] WHO. 2008-2013 Action Plan for the Global Strategy for the Prevention and Control of Noncommunicable Diseases. Geneva: World Health Organization, 2008
[9] UNICEF. State of the World's Children 2010
[10] UNICEF. State of the World's Children 2012

improves children's quality of life.

Optimal infant and young child feeding practices mean:

- Initiation of breastfeeding within one hour of birth
- Exclusive breastfeeding for the first six months of life
- Continued breastfeeding for two years and beyond
- Introduction of adequate and appropriate complementary foods from the 7th month onwards.

The neglect of interventions to enhance breastfeeding rates has been particularly reflected in the lack of a global budget specifically for these interventions. Estimates for global costs for nutrition interventions include breastfeeding promotion along with other interventions such as hand washing, food supplementation and distribution of therapeutic food and micronutrients.

A recent study, yet to be published, has linked the improved implementation of the Global Strategy for Infant and Young Child Feeding with increased rates of breastfeeding.[12] At the same time, some evidence is being generated on the cost effectiveness specific interventions to enhance rates of exclusive breastfeeding. Taking note of this, some countries have taken some action to introduce specific interventions for this. However, the choice of the interventions seems to be based on whether finances are available or not to implement it.

A few countries have allocated resources for some interventions. Yet others have developed specific policies and national plans for improving Infant and Young Child Feeding practices. Yet, as the IBFAN Asia/gBICS report "Are Our Babies Falling through the Gaps? The State of Policies and Programme Implementation of the Global Strategy for Infant and Young Child Feeding in 51 Countries" shows, there are glaring gaps in policies and programming in all the countries that carried out the World Breastfeeding Trends Initiative assessment. The primary reason for these gaps is lack of adequate financial and human resources.

Today, there is no complete estimate of what it would cost to scale up a core set of effective interventions for enhancing breastfeeding rates, making it difficult for resource mobilization and financial planning at global and national levels. The current paper tries to address this gap, by estimating what is the minimum amount that needs to be spent if optimal.

The first chapter, *Why enhance breastfeeding rates* examines the critical need to prioritise optimal breastfeeding practices as a public health measure.

The second chapter, *Effective interventions for enhancing breastfeeding rates* gives justification for the selection of the core set of interventions.

The third chapter, *Scaling Up Breastfeeding: What will it cost?* gives the indicative costs for the interventions, as well the assumptions underlying the costing. While these assumptions may not correspond to an individual country's situation and needs, the document provides a tool for governments and donor agencies to identify priority areas for resource allocation.

This document is also the first step taken by International Baby Food Action Network, Asia (IBFANAsia) towards developing a financial tool that can be used to assess financial and human resource needs at the national, regional and global levels for enhancing breastfeeding rates.

[11] UNICF. State of the World's Children. 2010

[12] Lutter C, Morrow AL. 2012. Protection, Promotion and Support and Global Trends in Breastfeeding. *Advances in Nutrition.* (in press)

2. WHY ENHANCE BREASTFEEDING RATES

In spite of the overwhelming evidence on the cost-effectiveness of optimal breastfeeding practices on reduction of child mortality, morbidity and malnutrition, as well as its economic value to both the family and the nation, breastfeeding rates are low almost all over the world.

Optimal IYCF practice rates by region

	% of children (2006–2010*) who are:		
	exclusively breastfed (<6 months)	introduced to solid, semi-solid or soft foods (6–8 months)	breastfed at age 2 (20–23 months)
Africa	34	68	44
Sub-Saharan Africa	33	69	46
Eastern and Southern Africa	49	81	54
West and Central Africa	24	63	42
Middle East and North Africa	34	57	31
Asia	38	55	69
South Asia	45	56	76
East Asia and Pacific	29	54	44
Latin America and Caribbean	42	71	33
CEE/CIS	30	55	22
Industrialized countries	–	–	–
Developing countries	37	60	56
Least developed countries	42	68	61
World	37	60	55

Source: UNICEF. *State of the World's Children 2012*

Even in the industrialized world, breastfeeding is not practiced optimally. In the US, the rate of breastfeeding at 6 months is 47.2% and at 12 months is 25.5% in 2012[13]. In 2009/2010, Canada's national rate for breastfeeding initiation was 87%; however, the variation across jurisdictions ranged from 61% to 97%. The national rate of exclusive breastfeeding at six months remained at 26% for the period 2009/2010[14]. In UK, the *Indicators on breastfeeding: Quarter 4, 2011-12*, released in May 2012 reveals that in 2011/12 Quarter 4, the rate of initiation was 74.0%; however, the prevalence of breastfeeding at 6-8 weeks for the same period was just 46.9%[15]. In a research paper published in 2009[16], Wen, Baur, Rissel, Alperstein and Simpson note that in Australia, a national survey found that in 2004-5, while breastfeeding initiation was 88%, only 16% of infants were exclusively breastfed to six months and 29% were breastfed to 12 months.

Costs of not breastfeeding in the first year of life

UK – annual expenditure of US$ 602 per infant (in terms of gastroenteritis, respiratory infections and otitis media – 2007 estimates)[17];

Benefits of breastfeeding in the first year of life

US – Annual National savings on just three illnesses – otitis media, gastroenteritis and NEC – US$ 3.6 billion[18]

Annual National savings from above as well as from reduction in SIDS, childhood leukemia, childhood obesity, asthma, Type I diabetes – US$ 13 billion[19]

[13] http://www.cdc.gov/breastfeeding/data/reportcard.htm

[14] Public Health Agency of Canada. Perinatal Health Indicators for Canada 2011. Ottawa. 2012

[15] http://transparency.dh.gov.uk/2012/05/24/breastfeeding-statistics-march-2012/

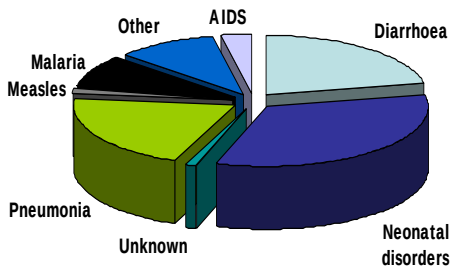
[16] Li M Wen, Louise A Baur, Chris Rissel, Garth Alperstein, Judy M Simpson. Intention to breastfeed and awareness of health recommendations: findings from first-time mothers in southwest Sydney, Australia. *International Breastfeeding Journal* 2009, 4:9

[17] Jacklin P., Resta P., Dougherty M., Kwan I. Modelling the cost effectiveness of interventions to promote breastfeeding. NICE Maternal and Child Nutrition Programme. Sept. 2007

[18] Cited in US Department of Health and Human Services. Surgeon's General's Call to Action to Support Breastfeeding 2011

[19] Bartick M, Reinhold A. The burden of suboptimal breastfeeding in the United States: a pediatric cost analysis. *Pediatrics* 2010;125:e1048–e1056. Cited in US Department

How 9.7 million children under five die in 42 countries



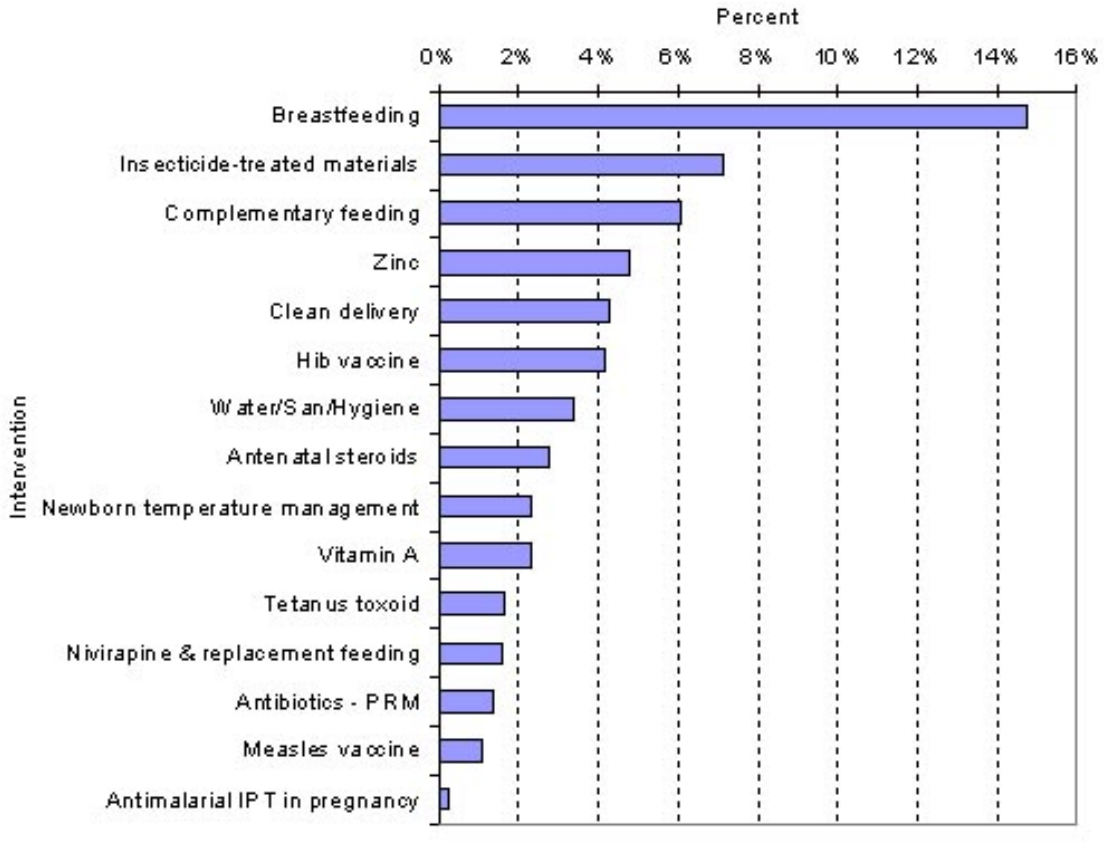
Source: Robert Black et al. *Lancet 2003; 361 :2226-34*

Today, the role of optimal IYCF practices, especially breastfeeding, in reducing morbidity and mortality amongst children, preventing childhood obesity and reducing future risk of acquiring non-communicable diseases like diabetes, and heart disease, as well as reducing women's risks of getting breast and ovarian cancers is well known.

Optimal IYCF practices, especially breastfeeding have been linked to reduction in Disability Affected Life Years (DALYs), improved quality of life and national and family savings. (For details, see Annexure 1)

Lancet series on child survival 2003, the **Lancet series on neonatal survival 2005**, and the **Lancet series on maternal and child under-nutrition 2008**, clearly pointed out the importance of exclusive breastfeeding for the first six months of life which could save more lives than any other intervention while enhancing nutritional status. The analysis pointed out the effect of nutrition related interventions on mortality; 99% coverage with 'breastfeeding promotion' may lead to a proportional decrease in deaths under one year of age by 11.6%, and may also avert 21.9 million DALYs. In 2003 it was presented that

Under-5 deaths Preventable through universal coverage with individual interventions (based on data from 42 countries) (2000)



exclusive breastfeeding, if universalized, could save 13% of all under five deaths, (an estimated 1.3 million in the 42 high mortality countries). Further, in 2006 one WHO study attributed that 53% deaths due to diarrhea, and 55% due to pneumonia during first six months are attributed to sub optimal breastfeeding. The analysis in the Lancet series 2008 has revealed that most of the attributable deaths (1.06 million) and DALYs (37.0 million) were found to be due to non-exclusive breastfeeding in the first 6 months of life, accounting for 77% and 85%, respectively.

Breastfeeding has also been linked to potential benefits for the family as well as for the employer, the community and the State. (For details, see Annexure 2).

Improving breastfeeding rates is a global recommendation. The **MDG Report 2010** notes: "…Halving the prevalence of underweight children by 2015 (from a 1990 baseline) will require accelerated and concerted action to scale up interventions that effectively combat undernutrition. A number of simple and cost-effective interventions at key stages in a child's life could go a long way in reducing undernutrition; these include breastfeeding within one hour of birth, exclusive breastfeeding for the first six months of life, adequate complementary feeding and micronutrient supplementation between six and 24 months of age…"

The **World Health Statistics Report 2009** recognized that poor infant feeding i.e. not being exclusively breastfed for the first months of life - is a risk factor for survival of the child.

The **Countdown to 2015, Maternal, Newborn Child Survival, Report** released in May 2010, monitors 20 core interventions. The report says coverage of early initiation of breastfeeding within one hour was 48%, exclusive breastfeeding for the first six months was 34% and complementary feeding was 67%. Out of the coverage of 8 'postnatal interventions', feeding and care indicators form the bottom five, and needed to reach more than 80%.

Lutter and Morrow, in their 2012 analysis,[20] confirm a significant association between implementation of the Global Strategy and national improvements in exclusive breastfeeding for the first six months and breastfeeding; the finding that efforts to implement the Global Strategy have had measurable impact justifies the above call to mobilize resources.

Global Commitments to enhancing breastfeeding rates

In 1981, the International Code of Marketing of Breastmilk Substitutes was adopted; it urged all Member States to follow up and develop legislations with the Code as minimum standard. Till now, about 60 countries have gone ahead with legislations to give effect to the Code but to differing degrees.

In 1995, the Innocenti Declaration called upon countries to put in place policies and programmes to support women to breastfeed.

In 2002, the Global Strategy for Infant and Young Child Feeding, which identified 10 areas of action for governments, including implementing the Code, was adopted by the World Health Assembly; it was further strengthened by the Innocenti Declaration on Infant and Young Child Feeding (2005).

UN Secretary General's Global Strategy for Women's and Children's Health: "….in 2015 alone, 21.9 million more infants would be exclusively breastfed for first six months …."

In May 2012, WHO's Member States further reinforced the Global Strategy by endorsing a comprehensive implementation plan for maternal, infant and young child nutrition, where emphasis is placed on early and exclusive

[20] Lutter C, Morrow AL. 2012. Protection, Promotion and Support and Global Trends in Breastfeeding. *Advances in Nutrition.* (in press)

breastfeeding for its substantial benefits in reducing child mortality and morbidity.

In June 2012, the Child Survival Call to Action - **Committing to Child Survival: A Promise Renewed** challenged the world to reduce child mortality to below 20 child deaths or fewer per 1,000 live births in every country by 2035.

World Health Assembly Resolution63.23

"the improvement of exclusive breastfeeding practices, adequate and timely complementary feeding, along with continued breastfeeding for up to two years or beyond, could save annually the lives of 1.5 million children under five years of age."

3. EFFECTIVE INTERVENTIONS FOR ENHANCING BREASTFEEDING RATES

In 2004, the EU Project on Promotion of Breastfeeding in Europe[21] identified six areas requiring immediate action: Policy and planning, Information Education and Communication (IEC), Training, Protection, promotion and support – Implementation of the International Code of Marketing of Breastmilk Substitutes and adequate maternity protection legislation, Monitoring and Research. We selected these interventions for our estimate, after examining their effectiveness.

Written policy and coordinated plan of action. The first important step in creating a mother and baby friendly environment has been identified by Lutter and Morrow[22] as having policies and programmes in place that protect, promote and support breastfeeding. They attribute the rise in exclusive breastfeeding rates in Brazil and Colombia to the presence of these policies. Jacknowitz, while acknowledging the role of changes in demographic characteristics of birth to explain increasing rates of breastfeeding, identifies changes in laws and policies, health promotion, the WIC Special Supplemental Programme, employer support, technological innovations and attitudes towards breastfeeding as important factors in bringing about such a change.[23]

Bryce et al, in their paper[24], draw attention to the need for creating national policies and action plans; they also stress on the need for political will and commitment, without which no significant change can occur. They further identify creating legislation as a partial measure to protect effective actions from political change.

Almost two decades ago, the Innocenti Declaration had called upon nations to appoint a National Breastfeeding Coordinator. Interventions to enhance breastfeeding rates cut across several sectors of government action, and need to be coordinated so as to achieve the maximum impact.

Policies are essential to demonstrate political leadership and ensure effective investment.[25] A written evidence based policy clearly spelling out priority areas for action and a budget estimate assist in advocacy for investment. For example, the *US Surgeon General's Call for Action to Support Breastfeeding* in 2011, has been used by the United States Breastfeeding Committee to call for the appropriation of $15 million
from the Prevention and Public Health Fund for FY 2012 to support breastfeeding.[26]

Information Education and Communication (IEC).

Mass media campaigns

Although mass media programmes to promote breastfeeding have been used for the past few decades, we could not access many studies of their impact on breastfeeding rates from 1990s onwards. The two exceptions were a study from

[21] EU Project on Promotion of Breastfeeding in Europe. Protection, promotion and support of breastfeeding in Europe: a blueprint for action. European Commission, Directorate Public Health and Risk Assessment, Luxembourg, 2004. Available at http://www.cdph.ca.gov/programs/breastfeeding/Documents/MO-EuropeanBlueprint.pdf

[22] Lutter C, Morrow AL. 2012. Protection, Promotion and Support and Global Trends in Breastfeeding. *Advances in Nutrition.* (in press)

[23] Jacknowitz A. Increasing breastfeeding rates: do changing demographics explain them? *Womens Health Issues.* 2007 Mar-Apr;17(2):84-92.

[24] Bryce J, Coitinho D, Darnton-Hill I, D, Pelletier D, Pinstrup-Andersen P. Maternal and child undernutrition: effective action at national level. *The Lancet* 2008; 371: 510-26.

[25] Every Child Counts. Submission to the Health Select Committee: Inquiry into Preventing Child Abuse and Improving Child Health. New Zealand.

[26] USBC. Investing in breastfeeding saves money, helps boost our economy. http://www.usbreastfeeding.org/Portals/0/Advocacy/2011-03-10-One-Pager-Approp-FY12.pdf

Jordon[27] in the late 1980s and one from Armenia[28], which show positive results. Wakefield, Loken and Hornik conclude that mass media campaigns for child survival interventions, including breastfeeding, can produce positive changes or prevent negative changes in health-related behaviours across large populations, especially if they are concurrent with availability of required services, availability of community-based programmes, and policies that support behaviour change. They recommend investment in longer and better-funded campaigns to achieve adequate population exposure to media messages.[29]

Horton et al (2010) stress on the importance of promotion of breastfeeding and complementary feeding practices to prevent and treat infantile acute malnutrition.[30] Wen et al, in their research paper, citing studies,[31] suggest that women's prenatal breastfeeding intentions are a good predictor of the actual duration of breastfeeding, which in turn indicates the possible need for effective IEC. Kattapong's meta-analysis of education based breastfeeding interventions, which examined data from 52 studies, concluded that educational breastfeeding interventions are effective in improving rates of breastfeeding from initiation and up to six months post-partum, especially if in conjunction with multidimensional interventions.[32] UNICEF's case study on Uganda in its Infant and Young Child Feeding Programme Review, recommends developing a communications strategy aimed at ensuring that all women have equitable access to accurate, clear, and consistent messages.[33]

One-to-one counseling

One-to-one counseling has been shown to increase optimal IYCF practices. The National Institute of Health and Clinical Excellence (NICE) of the NHS in UK, in *The effectiveness of public health interventions to promote the duration of breastfeeding: Systematic review 1st edition – May 2005* identified counseling during the stay in maternity facility and later, in the community, as one of the practices that have been shown to be extremely effective for enhancing breastfeeding rates and duration.

The California WIC Nutrition Education Committee ensures that all nutrition education materials support breastfeeding promotion. WIC's Nutrition Service Plan requires that all staff of local agencies are trained for 20 hours on breastfeeding promotion and support, especially to new mothers. It is a further requirement that before mailing food instruments to the participants, the local agencies of the California WIC programme "…ensure that the required minimum nutrition education contacts for each

[27] McDivitt JA, Zimicki S, Hornik R, Abulaban A. The impact of the Healthcom mass media campaign on timely initiation of breastfeeding in Jordan. *Stud Fam Plann* 1993; **24**: 295-309.

[28] Thompson ME, Harutyunyan TL. Impact of a community-based integrated management of childhood illnesses (IMCI) programme in Gegharkunik, Armenia. *Health Policy Plan* 2009; **24**: 101-107.

[29] Wakefield MA, Loken B, Hornik RC. Use of mass media campaigns to change health behaviour. *The Lancet*. Volume 376, Issue 9748, pp. 1261-1271, 9th October 2010

[30] Horton et al, *Scaling Up Nutrition: What Will It Cost?* World Bank

[31] Forster DA, McLachlan HL, Lumley J: Factors associated with breastfeeding at six months postpartum in a group of Australian women. *International Breastfeeding Journal* 2006, 1:18; Donath S, Amir LH, ALSPAC Study Team: Relationship between prenatal infant feeding intention and initiation and duration of breastfeeding: a cohort study. *Acta Paediatrica* 2003, 92(3):352-356; Rempel LA: Factors influencing the breastfeeding decisions of long-term breastfeeders. *Journal of Human Lactation* 2004, 20:306-317. Cited in Li M Wen, Louise A Baur, Chris Rissel, Garth Alperstein, Judy M Simpson. Intention to breastfeed and awareness of health recommendations: findings from first-time mothers in southwest Sydney, Australia. *International Breastfeeding Journal* 2009, 4:9

[32] Kattapong K.R. 2007. A meta-analysis of education based breastfeeding interventions: impact of social marketing techniques, number of intervention components used and methodological quality – dissertation submitted to the Faculty of Graduate School, Loyola University, Chicago.

[33] Infant and Young Child Feeding Programme Review. Case Study: Uganda. Nutrition Section, UNICEF New York, June 2009. Available at http://www.aednutritioncenter.org/update_docs/IYCF_Feeding_Prog_Rev_Case_Study_Uganda.pdf

participant category within the certification period are met."[34]

The Baby Friendly Community Health Initiative (BFCHI) Project, Lalitpur, organized by Pediatrics Dept. of BRD Medical College Gorakhpur, India, has clearly shown that provision of skilled one-to-one counseling to a mother at her doorstep can be scaled up to cover a child population of a million.[35] The project uses government health and nutrition field workers and functionaries, volunteer women in the villages, the local district administration to take breastfeeding messages to village women and provide support. A unique feature of the project is the strong referral system, where a field worker facing a challenge has access to professional support and help at both the district hospital and from the staff of BRD Medical College, which is almost 600km away. In the middle are specially trained "mentoring" counselors who also supervise the field workers on a regular basis. The training module used is IBFANAsia's *The '4 in 1' Training Programme - Capacity building initiative for building health workers' skills in Infant and Young Child Feeding Counseling*[36], and includes capacity building in counseling skills for initiation of breastfeeding, exclusive breastfeeding and appropriate complementary feeding along with continued breastfeeding. The cascade training course involves creation of national level trainers, who then build the capacity of a larger cadre of middle level trainers, who in turn build the capacity of frontline workers. In Lalitpur, they also act as "mentors" and supervisors.

IEC is extensively recognized as an effective intervention, and is, in fact, usually the only intervention that is included in national and global estimates of the cost of improving nutritional practices. The global estimate of the costs of Scaling Up Nutrition at US$ 11.8 billion includes this component.[37]

***Training*.** Increasing evidence is being gathered about the importance of training in lactation management for enhancing breastfeeding rates, which also results in decreased incidence of diarrhoea and gastro-intestinal illnesses in infants. An evidence review conducted by Mei Chung et al of Tufts-New England Medical Center Evidence-based Practice Center for Agency for Healthcare Research and Quality, Rockville, Maryland, assessed evidence gathered from RCTs conducted in Australia, Belarus, Brazil, Canada, Denmark, France, Italy, Japan, Netherlands, New Zealand, Scotland, Sweden, Singapore, United Kingdom, and United States over September 2001 to February 2008. The authors found that breastfeeding interventions, especially by trained personnel are more effective than usual care in increasing short- and long-term breastfeeding rates.[38] Hannula, Kaunonen and Tarkka's systematic review conducted on studies published in Finnish, Swedish and English between 2000 and March 2006 concluded that intervention packages using various methods of education and support from well-trained professionals are more effective than interventions concentrating on a single method in enhancing breastfeeding rates.[39] Reinforcing this, the European Society for Pediatric Gastroentrology, Hepatology and Nutrition (ESPGHAN) Committee on Nutrition

[34] http://www.cdph.ca.gov/programs/wicworks/Documents/StatePlan2011-2012/Breastfeeding%20Promotion%20and%20Support.pdf

[35] Kushwaha K.P. Reaching the Under 2s: Universalising Delivery of Nutrition Interventions in District Lalitpur, Uttar Pradesh. Available at http://bpni.org/BFHI/Reaching-the-under-2S-Universalising-Delivery-of-Nutrition-Interventions-in-Lalitpur-UP.pdf

[36] Updated and revised course based on WHO and UNICEF's 3 training courses on breastfeeding, Complementary feeding, HIV& Infant feeding counseling with addition of Growth monitoring as the 4th component

[37] Horton et al. 2010. Scaling Up Nutrition: What Will It Cost? The International Bank for Reconstruction and Development/The World Bank.

[38] Mei Chung et al. Primary Care Interventions to Promote Breastfeeding: An Evidence Review for the U.S. Preventive Services Task Force *Ann Intern Med* 2008;149:565-82; http://www.annals.org

[39] Hannula L.et al. A systematic review of professional support interventions for breastfeeding. *Journal of Clinical Nursing* 17 (9) p.1132 – 1143

recommends that health care workers should be trained in breast-feeding issues and counseling.[40]

Protection and support. This has two components – enacting and implementing the International Code of Marketing of Breastmilk Substitutes and enacting and implementing maternity protection legislation.

International Code of Marketing of Breastmilk Substitutes. While there are few studies assessing the impact of implementing the International Code on breastfeeding rates, studies on the relationship between formula feeding and mortality and morbidity of infants resulted in the development of the International Code. The Code restricts the marketing practices of formula manufacturers and urges nations to create national legislation to regulate the promotional practices of baby milk manufacturers, as they interfere with breastfeeding recommendations. However, till date, only 84 countries have passed national legislation based on the Code, with only 37 countries including all provisions of the Code in law.[41]

There are also some studies linking the marketing of infant formula with lowered breastfeeding rates. Several studies from Laos, conducted from 2007 onwards, show how unrestricted promotion of baby foods as breastmilk substitutes is leading to a rapid reduction in breastfeeding rates.[42a-c] The US Government Accountability Office selected 11 studies for review and found seven showing that for at least one point in time, breastfeeding rates were lower among women who received formula company-produced discharge packs and/or formula or formula coupons from hospitals, as compared to women who received non-commercial packs or no packs at all.[43] This was also the finding in several other studies.[44a-d]

Recommendation of Centres for Disease Control and Prevention, Atlanta, US

Limiting the marketing of commercial competitors who compete with breastfeeding can help mothers and families make appropriate and informed decisions about infant feeding. "[45]

[40] Breast-feeding: A Commentary by the ESPGHAN Committee on Nutrition Journal of Pediatric Gastroenterology and Nutrition 49:112–125 # 2009

[41] http://www.unicef.org/nutrition/files/State_of_the_Code_by_Country_April2011.pdf

[42] **a.** Nina J Berry, Sandra C Jones, Don Iverson. Circumventing the WHO Code? An observational study, *Arch Dis Child* doi:10.1136/adc.2010.202051
b. Barennes H, Empis G, Quang TD, Sengkhamyong K, Phasavath P, et al. (2012) Breast-Milk Substitutes: A New Old-Threat for Breastfeeding Policy in Developing Countries. A Case Study in a Traditionally High Breastfeeding Country. PLoS ONE 7(2): e30634. doi:10.1371/journal.pone.0030634
c. Hubert Barennes, Todisoa Andriatahina, Vattanaphone Latthaphasavang, Margot Anderson, Leila M Srour. (2007) Misperceptions and misuse of Bear Brand coffee creamer as infant food: national cross sectional survey of consumers and paediatricians in Laos. BMJ | ONLINE FIRST | bmj.com

[43] United States Government Accountability Office (GAO). Breastfeeding: Some Strategies Used to Market Infant Formula May Discourage Breastfeeding; State Contracts Should Better Protect Against Misuse of WIC Name. Report to Congressional Addresses. GAO-06–282, February 2006. Available at: http://www.gao.gov/new.items/d06282.pdf.

[44] **a.** Howard CR, Howard FM, Lawrence R, Andresen E, DeBlieck E, Weitzman M. Office prenatal formula advertising and its effect on breast-feeding patterns. *Obstet Gynecol.* 2000;95(2):296–303
b. Kent G. WIC's promotion of infant formula in the United States. *Int Breastfeed J.* 2006;1(1):8 April, Available at: http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1481608&blobtype=pdf.
c. Tuttle CR. An open letter to the WIC program: the time has come to commit to breastfeeding. *J Hum Lact.* 2000;16(2):99–103.
d. Rosenberg KD, Eastham C, Kasenhagen L, Sandoval AP. Infant Formula Marketing Through Hospitals: the Impact of Commercial Hospital Discharge Packs on Breastfeeding. *Am J Public Health.* 2008;98(2):290–295

[45] Shealy KR, Li R, Benton-Davis S, Grummer-Strawn LM. The CDC Guide to Breastfeeding Interventions. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2005. Available at http://www.cdc.gov/breastfeeding/pdf/breastfeeding_interventions.pdf

However, it is clear that baby food manufacturers continue to violate the Code, as well as the subsequent resolutions of the World Health Assembly, particularly in those countries where these have not been enacted into national legislation as well as in countries where the implementation of the legislation is not adequate. A study from Sydney, Australia, published in 2010, informs how women having their first baby often perceive toddler milk advertisements to be promoting a range of products that included infant and follow-on formula and accept their claims quite uncritically, even though these claims may contradict public health messages about breastfeeding and the evidence of health risks associated with formula feeding.[46]

Maternity Protection

ILO's C102, and then C183 set standards of maternity benefits, including paid maternity leave; they state:

- The benefits should extend throughout the period of leave
- They should be adequate to maintain the health and living standard of a woman and her child
- Where they are based on previous earnings, they should not be less than two-thirds of the woman's wage prior to taking leave.

The link between postnatal leave and breastfeeding has been clearly established through several studies. A study from South Carolina[47] found that compared with those returning to work within 1 to 6 weeks, women who had not yet returned to work had a greater odds of initiating breastfeeding, continuing any breastfeeding beyond 6 months, and predominant breastfeeding beyond 3 months. Women who returned to work at or after 13 weeks postpartum had higher odds of predominantly breastfeeding beyond 3 months.

Studies from Europe further strengthen this conclusion. A review of literature on the length of maternity leaves and health of mothers and children to evaluate the Swiss situation in view of the maternity leave policy implemented in 2005, concluded that there was a positive association between the length of maternity leave and mother's mental health and breastfeeding duration. The study further concluded that the extension of the duration of maternity leave in Switzerland to 14 weeks, fewer depressive symptoms and longer breastfeeding duration could be expected.[48] The UK Millennium Cohort Study[49] found that mothers employed part-time or self-employed were more likely to breast-feed for at least 4 months than those employed full-time. The Study concluded that policies should aim to increase financial support and incentives for employers to offer supportive work arrangements.

A study from Lebanon[50] found that breastfeeding depended on the duration of the maternity leave, the possibility of breaks for breastfeeding and the presence of nurseries at work, and that a rapid return to work could cause physical and psychological problems. The authors called for urgent interventions to

[46] Berry NJ, Jones S, Iverson D. It's all formula to me: women's understandings of toddler milk ads. Breastfeed Rev. 2010 Mar;18(1):21-30. Sourced from Centre for Health Initiatives, University of Wollongong, NSW, Australia. njb805@uow.edu.au

[47] Chinelo Ogbuanu, Saundra Glover, Janice Probst, Jihong Liu, James Hussey. The Effect of Maternity Leave Length and Time of Return to Work on Breastfeeding Published online May 29, 2011 (doi: 10.1542/peds.2010-0459). Available at http://pediatrics.aappublications.org/content/early/2011/05/25/peds.2010-0459.abstract

[48] Staehelin K, Bertea PC, Stutz EZ Length of maternity leave and health of mother and child--a review. *Int J Public Health*. 2007;52(4):202-9.

[49] Hawkins SS, Griffiths LJ, Dezateux C, Law C; Millennium Cohort Study Child Health Group. The impact of maternal employment on breast-feeding duration in the UK Millennium Cohort Study. *Public Health Nutr*. 2007 Sep;10(9):891-6. Epub 2007 Mar 7.

[50] Saadé N, Barbour B, Salameh P. Maternity leave and experience of working mothers in Lebanon. [Article in French] *East Mediterr Health J*. 2010 Sep;16(9):994-1002.

prolong maternity leave and promote breastfeeding among working women. Another study from Turkey[51] identified the factors that improve long-term breastfeeding are successful exclusive breastfeeding in the first few months, intention of the mother to breastfeed and sufficient duration of maternity leave.

Monitoring and research. The Global Strategy stresses the need for monitoring and research, for both evaluating actions taken and their impact and making mid-term changes if needed. The Strategy particularly recommends regular monitoring in the areas of

- policy implementation,
- maternity entitlements,
- Baby Friendly initiative
- Implementing and monitoring existing measures of the International Code of Marketing of Breastmilk Substitutes and subsequent relevant World Health Assembly resolutions to strengthen them.
- Growth and development of infants and young children as a routine nutrition intervention.

The Strategy further urges that such monitoring and evaluations should guide resource investment and management to improve infant and young child feeding.

Stating that epidemiological and operational research is a crucial component, the Strategy also stresses the need for new clinical and population-based research and investigations of behavioural concerns. In particular the Strategy urges nations and international agencies to support research on marketing practices and the International Code and subsequent relevant WHA resolutions.

WHO developed a tool for monitoring the implementation of the Global Strategy, which was adapted later by IBFAN Asia and is now introduced in 82 countries, 51 of which have completed the assessment; the countries of South Asia have used the tool thrice to generate action to improve breastfeeding rates.[52]

[51] Camurdan AD, Ilhan MN, Beyazova U, Sahin F, Vatandas N, Eminoglu S. How to achieve long-term breast-feeding: factors associated with early discontinuation. *Public Health Nutr*. 2008 Nov;11(11):1173-9. Epub 2008 Feb 18.

[52] IBFAN Asia/gBICS. Are Our Babies Falling through the Gaps? The State of Policies and Programme Implementation of the Global Strategy for Infant and Young Child Feeding in 51 Countries. December 2012

4. SCALING UP BREASTFEEDING: WHAT WILL IT COST?

International Monetary Fund

It is conventional wisdom that public expenditure on nutrition, health, and education is relatively productive not only because of its direct impact on well-being but also because of its investment aspect, that is, its beneficial effect on the development of human capital. These outlays provide direct benefits to individual recipients and may provide indirect benefits to society as a whole.[53]

It is evident that while the need to improve breastfeeding rates is now being recognized as a priority, not enough has been done to raise finances for this, either nationally or globally.

The most repeated gap reported by the 51 countries completing national assessments of the implementation of the Global Strategy was the lack of adequate financial and human resources to enhance breastfeeding rates.[54]

A major challenge in raising finances is the lack of any clear idea of what will it cost to raise breastfeeding rates, including the cost of effective interventions. IBFAN Asia has attempted to work out indicative costs for the selected interventions that countries can use and adapt to their needs.

We have taken a programmatic approach to scaling up nutrition interventions, basing costs on what countries have allocated to the specific intervention.

The financial estimations given in this paper are based on increasing coverage from current levels to 100 per cent of the target populations, to cover every birth, even as we recognize that this may not be attainable in practice. However, as Jacklin et al note, "increasing breastfeeding rates requires financial resources, and … spending resources to achieve a 15% point increase in the rates should be considered as cost effective."[55]

Our costing covers a five year period, where we assume that the first year sees all policies, legislation and training in place. We accept that this may not be possible, and that developing policies and legislations, as well as training the minimum required number of counselors may extend into the following years as well.

All financial estimates are in US dollars (US$); where estimates have in other currencies, the current rates of exchange have been used to convert them to US dollars, using *Universal Currency Converter* available at http://www.xe.com/ucc/. Inflation has not been taken into account.

The regions and the countries included in the costing are based on WHO's classification.

The annual number of births, as well as the number of households below the poverty line, has been taken from UNICEF's State of the World's Children 2012.

Constraints and limitations

The financial resources estimated in this document have limitations, based on the following constraints:

6. The first constraint is the lack of adequate data about costs for interventions. Over the past few years, some countries such as Cambodia, Vietnam, Fiji, Afghanistan and Nepal have attempted to estimate the

[53] IMF Pamphlet Series. Unproductive Public Expenditures: A Pragmatic Approach to Policy Analysis. Available at http://www.imf.org/external/pubs/ft/pam/pam48/pam4802.htm

[54] IBFAN Asia/gBICS. Are Our Babies Falling through the Gaps? The State of Policies and Programme Implementation of the Global Strategy for Infant and Young Child Feeding in 51 Countries. December 2012

[55] Jacklin P., Resta P., Dougherty M., Kwan I. Modelling the cost effectiveness of interventions to promote breastfeeding. NICE Maternal and Child Nutrition Programme . Sept. 2007

resources required for a core set of the interventions. Other countries that have tried to implement a specific intervention such as providing skill training to a specific number of counselors as done by Brunei Darussalam, have not succeeded in maintaining the implementation. For details of country estimates for the interventions, see Annexure 4.

7. The next constraint is the wide divergence between staff responsibilities, salaries, transport costs and infrastructure costs among nations.[56] Thus, while it is imperative that the interventions require an increase in human resources and the resultant financial resources in most countries, we have not attempted to cost either the number of staff required or staff salaries in this exercise. Nor have we adjusted to allow for cost variations in countries. For the same reason, we have not computed capital costs of infrastructure (space - rent or purchase, tables, chairs, computers, stationery, etc.). However, the financial tool being developed for countries to use will be incorporating this factor so that each country can make a fair estimate of what it requires in terms of human and financial resources.
8. The third constraint is the lack of information regarding existence of written national IYCF policies in countries. As having a written IYCF policy that applies to the entire country is the first step towards enhancing breastfeeding rates, which may have resulted in a slight over exaggeration in the estimated cost. This constraint is also being dealt with in the financial tool being developed.
9. The fourth constraint is the lack of information on the kind of maternity protection and maternity entitlements that are being offered to women working in the unorganized/informal sector, as well as to homemakers in households below the poverty line, in several countries. We have tried to overcome this constraint by factoring in a minimum financial assistance as a flat rate to women below the poverty line, as an incentive to practice exclusive breastfeeding. This is the largest component in our estimate.
10. A fifth constraint concerns the kind of action that is needed to implement the International Code. Countries with laws could take the matter to court; other countries could impose financial and other forms of penalties. Given the wide variance in laws and costs of taking action, we have limited our estimate to developing laws where there is no national legislation, training on the International Code and subsequent WHA resolutions and how to monitor for violations, and creating public awareness.
11. We have not estimated costs of other direct and indirect interventions that impact IYCF practices, such as food supplementation for mothers and children, including micronutrients and foods for preventing and managing malnutrition, special needs of infants in the context of HIV/AIDS, or food security interventions in related sectors like agriculture, education, welfare, etc.

Some assumptions

Coverage

Our basic premise is that every woman who gives birth requires support at the hour of birth to initiate breastfeeding. We have taken the total number of live births as well as the number of live births per country from UNICEF's *State of the World's Children 2012,* for our calculations to estimate a per child cost. While the numbers of women who require counseling and support during a one-year period may be impacted by neonatal and infant mortality rates on the one hand, and the numbers of new births on the other, we do not deem it necessary to calculate

[56] An indication of these costs is available at WHO Database for those interested.

the exact number of infants and children under two years of age, because the training of health workers for IYCF counseling would include counseling for both optimal breastfeeding and optimal complementary feeding practices.

Delivery platforms

We have assumed that the delivery platforms for counseling to be

- Health facilities
- Community health and nutrition programmes

We have assumed that the public sector health and nutrition delivery system, with its community outreach programmes is already equipped with adequate human resources and transport facilities. Further that the outreach programmes already contact mothers regularly for antenatal check ups, distribution of iron and folic acid tablets, tetatnus toxoid injections during pregnancy, weighing and growth monitoring of infants and young children, and immunization. We assume that with an additional component of training in skilled counseling, this cadre of workers will deliver the services required.

For Code Monitoring, we have assumed that while the health and nutrition system as well as the general public will monitor the implementation of the Code, action will be taken by the legal and bureaucratic machinery of the government. We have not therefore estimated additional costs for in terms of salaries and infrastructure for this.

For provision of maternity benefits, we have again assumed that various sectors of the governance system – health and nutrition sector, labor, welfare sectors, as well as the general public will monitor the implementation of maternity legislation; however, action against violations will be taken by the government. Further, the disbursal of financial benefits will be done by the government. While this would entail certain costs related to staff time and transport, we have not taken them into account.

Methodology

Bryce et al. (2005) provided an estimate based on the ingredients approach for the package of child survival interventions proposed in the Methodology: Estimating the Costs. They estimate the cost of saving six million child lives per year using 23 interventions, of which four (breastfeeding, zinc supplements, complementary feeding, and vitamin A supplements) are nutrition interventions. Their methodology is explained in detail in World Health Organization (2005) and covered the 42 countries, which, at the time, accounted for 90 percent of deaths among children under five years of age. Their estimates suggested a need for US$5.1 billion in additional funding to provide universal coverage (99 percent, except for breastfeeding which was 90 percent) in the 42 countries. This translates to US$1.23 per capita in these countries, and the estimated cost per life saved was US$887[57].

Colleagues and people working with the government in relevant ministries in Brunei Darussalam, China, Egypt, Fiji, Mongolia, Saudi Arabia, Rwanda and Brazil gave us some information on the estimates for certain interventions. Other contacts, especially from Australia, directed us towards documents and websites that gave us relevant information. (For details, see Annexure 4)

We also found several countries using different ways to allocate funds for implementing specific interventions of the *Global Strategy for Infant and Young Child Feeding* (WHO 2002). Countries such as Mongolia, Brunei Darussalam, Australia, and others have allocated financial resources for maternity protection. Australia has also created a special budget line for developing a toll-free helpline. However, countries such as China appear to depend upon funding and grants

[57] Bryce et al. Can the world afford to save the lives of 6 million children each year? Lancet 2005; 365: 2193–2200

given by international organizations like WHO and UNICEF for carrying out activities in the area. Philippines has just installed an on-line system for community reporting of violations of the International Code.

Wherever available, we have used costs that have been largely accepted by the global community.

Unit costs for the interventions

Development of policies and legislation

Horton, in 1992, estimated the cost of development of policies and legislation related to nutrition at US$ 1-5 per mother[58]. National IYCF budgets of Afghanistan, China and Vietnam have included costs of development of policy, while Afghanistan's budget includes costs for overseeing its implementation. The one time cost for developing policies and legislation, and costs of subsequent review and updating are based on budget estimates of Afghanistan, at US 155,000 per country; these include costs of hiring national and international consultants, meetings, and reviews and are per country costs, as we assume there will not be very wide variations in cost among countries. However, we have included a separate one-time cost for updating policies in year 3, as well as operationalizing the activities of a National Breastfeeding/Infant and Young Child Feeding Committee, and monitoring of policies and programmes in the context of the Global Strategy, twice every five years.

IEC

For estimating costs of mass media nutrition education campaigns and the promotion of breastfeeding, as well as campaigns to raise public awareness about the International Code and Maternity legislation we have taken the cost of US$ 5 per child, as recommended by Horton in 1992[59], without taking inflation into account.

Training

Counseling

We have used the cost of US$ 7.50 per child as a one-time cost for training in IYCF promotion as calculated by Mason,[60] which has also been used by Horton et al in *Scaling Up Nutrition – What will it cost?* This includes home visits, as well as training staff in public sector hospitals and health clinics. We have further included a unit cost of US$ 0.20 per live birth, based on actual expenses incurred by the BCFHI Project in Lalitpur, India, for subsequent years as the cost of conducting refresher courses. We have not taken into account costs of setting up other mechanisms of counseling such as toll-free help lines, lactation management clinics in the community, and so on. We are assuming that the entire cadre will be trained fully in the first year, and that only refresher courses will be held in the next 4 years.

Code Monitoring

The state of monitoring of Code violations depends upon the knowledge of bureaucrats and the public about the Code/national legislation, as well as mechanisms in place to report violations. We have, for our calculations, estimated the costs of one-time training based on 2-day training workshops held in India, where 60-80 officials in related ministries and departments are trained in the International Code and identifying violations. For this estimation, we have assumed that two trainings per year, at US$ 23160 per training, held over five years would ensure that an adequate number of officials are trained. We have not estimated the costs of

[58] Horton S. (1992) Unit Costs, Cost-Effectiveness, and Financing of Nutrition Interventions. Population and Human Resources Dept. World Bank. WPS 952

[59] Horton S. (1992) Unit Costs, Cost-Effectiveness, and Financing of Nutrition Interventions. Population and Human Resources Dept. World Bank. WPS 952

[60] Mason, J. B., J. Hunt, D. Parker, and U. Jonsson. 1999. "Investing in Child Nutrition in Asia." *Asian Development Review* 17 (1, 2): 1–32.

training of field level workers as we assume that the skill training course provided will include a component on the International Code.

For subsequent monitoring of violations we have used the estimation by Breastfeeding Promotion Network of India in 2011 - an annual expenditure of INR 61,600,000 (US$ 1,188,000 approx) at INR 100,000 (US$ 1927) per district[61]. In order to extrapolate the costs to other countries, we worked out a per live birth cost (US$ 0.05) of such implementation and then estimated what financial resources each country would require for this purpose.

Financial Assistance as Maternity Benefit for women below poverty line

We have taken a flat rate of US$ 2 per day for six months as financial assistance to be given to women below the poverty line.

Monitoring and research

Most countries are already conducting national surveys of IYCF practices, and thus we have not taken these costs into account. However, we have estimated the financial resources needed for conducting national assessments of implementation of the Global Strategy using a tool first developed by WHO, and then adapted by IBFAN Asia as the *World Breastfeeding Trends Initiative* (www.worldbreastfeedingtrends.org). Currently 82 countries from Asia, Latin America and the Caribbean and Africa are utilizing this tool to track and monitor their implementation of the Global Strategy and identify gaps. Reassessments are conducted every three years. The cost per country for using this tool and building consensus over the assessment and identification of gaps, developing report cards and national reports, is US$ 1500.

We have not estimated any cost for research, and believe that countries themselves need to identify what research is needed, and cost for it.

[61] Breastfeeding Promotion Network of India (2011). National Consultation to Develop a Plan of Action - Resource Requirements for Enhancing Rates of Breastfeeding & Infant and Young Child Feeding in the 12th Plan – A Report. Available at http://www.bpni.org/Research/Report-National-Consultation.pdf

What will it cost

Estimated Financing Needs over 5 years for Scaling Up breastfeeding interventions to Cover every infant born, by region*(US$ millions)*

Regions[a]	Interventions					Total (excluding Maternity benefit)	Total (including maternity benefit)	Average annual expenditure	
	Policies and Planning	IEC		Code Monitoring	Financial assistance as maternity benefit			Without maternity benefit	With maternity benefit
		Counseling	Mass Media Campaigns						
Afro D	6.19	114.56	371.96	9.74	11650..31	502.43	12152.75	110.49	2430.55
Afro E	4.76	123.60	401.30	8.64	12511.75	538.30	13050.05	107.66	2610.01
Amro A	0.71	36.93	119.90	1.90	0	159.43	159.43	31.886	31.886
Amro B	6.19	67.04	217.66	8.20	808.63	299.08	1107.71	59.816	221.542
Amro D	1.43	15.61	50.68	1.90	603.74	69.62	673.36	13.924	134.672
Emro B	2.86	23.90	77.58	3.55	72.03	107.88	179.92	21.576	35.984
Emro D	2.14	85.54	277.74	4.86	2452.18	370.28	2882.46	74.056	576.492
Euro A	6.43	36.22	117.59	7.43	0	167.66	167.66	33.532	33.532
Euro B	3.81	26.96	87.52	4.58	729.91	122.87	852.77	24.574	170.554
Euro C	2.14	18.49	60	2.68	2332.29	83.30	2416	16.66	483.2
Searo B	0.71	43.03	139.71	2.09	1708.83	185.55	1894.38	37.11	378.876
Searo D	32.37	247.69	804.20	9.89	24023.34	1094.16	25117.50	218.832	5023.5
Wpro A	1.19	11.53	37.43	1.53	0	51.68	51.68	10.336	10.336
Wpro B	5.24	170.47	55.49	10.63	6468.21	739.83	7208.03	147.966	1441.606
Total	**76.17**	**1021.57**	**2818.76**	**77.62**	**51710.91**	**4492.07**	**67913.7**	**908.42**	**13582.74**

Source: calculations on the basis explained below by authors.

[a] the countries have been segregated into regions based on WHO Classification. as follows:

- ***Afro D-*** Algeria, Angola, Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Comoros, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Mauritania, Mauritius, Niger, Nigeria, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Togo
- ***Afro E -*** Botswana, Burundi, Central African Republic, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, Zimbabwe
- ***Amro A*** - Canada, Cuba, United States of America
- ***Amro B*** - Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guyana, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela
- ***Amro D -*** Bolivia, Ecuador, Guatemala, Haiti, Nicaragua, Peru
- ***Emro B*** - Bahrain, Iran (Islamic Republic of), Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, United Arab Emirates
- ***Emro D*** - Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, Sudan, Yemen
- ***Euro A*** - Andorra, Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland, United Kingdom
- ***Euro B -*** Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Georgia, Kyrgyzstan, Poland, Romania, Serbia and Montenegro, Slovakia, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey,Turkmenistan, Uzbekistan
- ***Euro C -*** Belarus, Estonia, Hungary, Kazakhstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Ukraine
- ***Searo B***- Indonesia, Sri Lanka, Thailand
- ***Searo D -*** Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Maldives, Myanmar, Nepal, Timor-Leste

- ***Wpro A*** – Australia, Brunei Darussalam, Japan, New Zealand, Singapore
- ***Wpro B*** - Cambodia, China, Cook Islands, Fiji, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam

The time for action is NOW

The time has come to take a strong stand on enhancing optimal breastfeeding and IYCF practices. The global intention to do this is evident in the call to action issued by the UN Secretary General, as well as setting of MDGs and WHO's Plan for implementing nutrition interventions, the establishing of the SUN initiative and other such actions. The results of assessment of the Global Strategy using the World Breastfeeding Trends Initiative tool shows clearly that finances are needed for scaling up breastfeeding and infant and young child feeding practices.

Our recommendations to governments and the global community:

- Build implementation of the Global Strategy for Infant and Young Child Feeding as a key priority in the future agenda of child health and survival.
- Create budget lines for implementing the Global strategy commensurate with the need.
- Dedicate specific budget lines to address breastfeeding and IYCF interventions under child health or nutrition programming.

Annexure 1

WHY ENHANCING BREASTFEEDING RATES IS A PUBLIC HEALTH IMPERATIVE

Breastfeeding has been identified as a key intervention for Child Survival. The Lancet Series on Child Survival 2003 estimated that exclusive breastfeeding could prevent 13% of all under 5 deaths in the 42 countries with 90% of worldwide child deaths[62].

The *Lancet series on child survival 2003***,** the *Lancet series on neonatal survival 2005*, and the *Lancet series on maternal and child under-nutrition 2008*, clearly pointed out the importance of exclusive breastfeeding for the first six months of life which could save more lives than any other intervention while enhancing nutritional status. The analysis pointed out the effect of nutrition related interventions on mortality; 99% coverage with 'breastfeeding promotion' may lead to a proportional decrease in deaths under one year of age by 11.6%, and may also avert 21.9 million DALYs. In 2003 it was presented that exclusive breastfeeding, if universalized, could save 13% of all under five deaths, (an estimated 1.3 million in the 42 high mortality countries). Further, in 2006, one WHO study attributed that 53% deaths due to diarrhea and 55% due to pneumonia during first six months are attributed to sub optimal breastfeeding.

The analysis in the Lancet series 2008 has revealed that most of the attributable deaths (1.06 million) and DALYs (37.0 million) were found to be due to non-exclusive breastfeeding in the first 6 months of life, accounting for 77% and 85%, respectively.

Cost effectiveness of breastfeeding as an intervention to enhance child survival and reduce malnutrition

Promotion of breastfeeding is one of the least expensive and most cost effective interventions for child survival[63], particularly in areas with a high level of infectious disease and unsafe water, an infant who is not breastfed during the first 2 months of life is up to 23 times more likely to die from diarrhea.[64]

In a prospective controlled study in an Indian hospital, conducted in the 1980s, when the International Code was in the process of being developed and the Indian national legislation to restrict the marketing of infant milk substitutes was not yet passed, the anti-infective properties of breastmilk were evaluated in 70 high-risk low-birthweight infants. 32 babies were given fresh expressed breast-milk during the day and milk formula at night, while 38 infants received only milk formula and served as controls. The two groups were matched for other factors that could influence the occurrence of infection. The incidence of infections was significantly less ($p<0{\cdot}01$) in babies who received breastmilk.[65]

In the UK millennium cohort survey of 15 890 infants, six months of exclusive breast feeding was associated with a 53% decrease in hospital admissions for diarrhoea and a 27% decrease in respiratory tract infections each month; partial breast feeding was associated with 31% and 25% decreases,

[62] Jones G, Steketee RW, Black RE, Butta AB, Morris SS, and the Bellagio Child Survival Study Group. 2003. Howmany child deaths can we prevent this year? Lancet. 362: 65-71.
[63] World Bank. 1993. World Development Report: Investing in Health. New York: Oxford University Press.
[64] Victora CG, Smith PG, Vaughan JP, Nombre LC, Lobardi C et al. 1989. Infant feeding and deaths due to diarrhea: a case-control study. American Journal of Epidemiology. 129:1032-41.
[65] Indira Narayanan , Shashi Bala , K. Prakash , R.K. Verma , V.V. Gujral. Partial supplementation with expressed breast-milk for prevention of infection in low-birth-weight infants. The Lancet, Volume 316, Issue 8194, Pages 561 - 563, 13 September 1980

respectively.[66] The results of this study suggested that the protective effects wore off soon after breast feeding ceased.

Yet another study conducted with 283 very low-birthweight (VLBW) infants admitted to the Georgetown University Medical Center Neonatal Intensive Care Unit (NICU) from January 1992 through September 1993 showed that human feeding among VLBW infants was associated with a lower incidence of retinopathy of prematurity (ROP), compared to exclusively formula-fed VLBW infants after adjusting for confounding variables.[67] With the increased survival of very low birthweight (VLBW) infants, weighing less than 1500 g at birth, the incidence of ROP, a significant cause of blindness among children in the United States, is also increasing. Human milk has many antioxidant constituents including inositol, vitamin E, and beta-carotene that may protect against the development of ROP.

Black et all identified suboptimum breastfeeding as having large mortality consequences worldwide, similar to those of stunting. Suboptimal breastfeeding, identified as partial breastfeeding and predominant breastfeeding and not breastfeeding, increased the relative risk of mortality, particularly for diarrhea, and pneumonia. According to the authors, "More than three quarters of the burden attributed to suboptimum breastfeeding is due to non-exclusive breastfeeding in the first 6 months of life when even provision of water or teas leads to an increased risk of death.[68]

Exclusive breastfeeding has also been found to result in lower rates of HIV transmission than partial breastfeeding with rates of 1%[69,70]and 4%[71]being reported from studies in Africa.[72]

In addition, the US Surgeon General's *Call to Action* cites increased risk of severe lower respiratory infections[73] and leukemia[74] in formula fed infants, with risks of hospitalization for the former being 250%

[66] Quigley MA, Kelly YJ, Sacker A. Breastfeeding and hospitalization for diarrheal and respiratory infection in the United Kingdom Millennium Cohort Study. Pediatrics. 2007 Apr;119(4):e837-42. PubMed PMID: 17403827

[67] Hylander MA, Strobino DM, Pezzullo JC, and Dhanireddy R. Association of Human Milk Feedings With a Reduction in Retinopathy of Prematurity Among Very Low Birthweight Infants. Journal of Perinatology 2001; 21:356 – 362.

[68] Robert E Black et al. Maternal and child undernutrition: global and regional exposures and health consequences. Lancet Series on Maternal and Child Undernutrition 1. www.thelancet.com DOI:10.1016/S0140-6736(07)61690-0

[69] Iliff PJ, Piwoz EG, Tavengwa NV, et al. Early exclusive breastfeeding reduces the risk of postnatal HIV-1 transmission and increases HIV-free survival. AIDS 2005; 19: 699–708.

[70] Coutsoudis A, Pillay K, Kuhn L, et al. Method of feeding and transmission of HIV-1 from mothers to children by 15 months of age: prospective cohort study from Durban, South Africa. AIDS 2001; 15: 379–87.

[71] Coovadia HM, Rollins NC, Bland RM, et al. Mother-to-child transmission of HIV-1 infection during exclusive breastfeeding in the first 6 months of life: an intervention cohort study. *Lancet* 2007; 369: 1107–16.

[72] WHO, UNICEF, UNAIDS, UNFPA, HIV and infant: new evidence and programmatic experience. Report of a technical consultation held on behalf of the Inter-agency task team (IATT) on the prevention of HIV infection in pregnant women, mothers and their infants, Geneva October 2006.

[73] Ip S, Chung M, Raman G, Chew P, Magula N, DeVine D, et al. Breastfeeding and maternal and infant health outcomes in developed countries: evidence report/ technology assessment no. 153. Rockville, MD: Agency for Healthcare Research and Quality; 2007. AHRQ Publication No. 07-E007;
Bachrach VR, Schwarz E, Bachrach LR. Breastfeeding and the risk of hospitalization for respiratory disease in infancy: a meta-analysis. Arch Pediatr Adolesc Med 2003;157:237–243.

[74] Ip S, Chung M, Raman G, Chew P, Magula N, DeVine D, et al. Breastfeeding and maternal and infant health outcomes in developed countries: evidence report/ technology assessment no. 153. Rockville, MD: Agency for Healthcare Research and Quality; 2007. AHRQ Publication No. 07-E007;
Kwan ML, Buffler PA, Abrams B, Kiley VA. Breastfeeding and the risk of childhood leukemia: a meta-analysis. Public Health Rep 2004;119:521–535.

higher than in those who are exclusively breastfed for at least four months. Never breastfed infants also have a 56% higher risk of mortality from Sudden Infant Death Syndrome.[75]

Epidemiological evidence has also linked the timing of initiation of breastfeeding to significant reduction in neonatal mortality, which contributes approximately one third of under-five mortality. This reaffirms the recommendation to initiate breastfeeding within an hour of birth, and definitely within a day of birth.[76]

Besides saving lives in infancy and childhood, breastfeeding also provides protection against numerous diseases in adulthood[77], especially over-nutrition (obesity)[78] and non-communicable diseases such as hypertension, heart disease, asthma[79], cancers, Type II diabetes[80].

Breastfeeding also benefits the mother. While early initiation of breastfeeding within an hour of birth is associated with lowered risk of maternal mortality because of post-partum haemorrhage[81], not breastfeeding has been associated with increased risk of breast cancer[82] and ovarian cancer[83].

Table 1 shows the excess health risks associated with not breastfeeding as cited in the Surgeon General's Call to Action.

[75] Ip S, Chung M, Raman G, Chew P, Magula N, DeVine D, et al. Breastfeeding and maternal and infant health outcomes in developed countries: evidence report/ technology assessment no. 153. Rockville, MD: Agency for Healthcare Research and Quality; 2007. AHRQ Publication No. 07-E007;

[76] Edmond KM, Zandoh C, Quigley MA, et al. Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics* 2006; 117: e380–86.

[77] Horta BL, Bahl RB, Martines JC, Victora CGl. Evidence on the long-term effects of breastfeeding: systematic reviews and meta-analyses. World Health Organization, 2007 ; Ip S, Chung M, Raman G, Chew P, Magula N, et al., Breastfeeding and Maternal and Infant Health Outcomes in Developed Countries. Washington, DC: Agency for Healthcare Research and Quality, April 2007.

[78] Arenz S, Ruckerl R, Koletzko B, von Kries R. Breast-feeding and childhood obesity—a systematic review. Int J Obes Relat Metab Disord 2004;28:1247–1256.

[79] Ip S, Chung M, Raman G, Chew P, Magula N, DeVine D, et al. Breastfeeding and maternal and infant health outcomes in developed countries: evidence report/ technology assessment no. 153. Rockville, MD: Agency for Healthcare Research and Quality; 2007. AHRQ Publication No. 07-E007

[80] Owen CG, Martin RM, Whincup PH, Smith GD, Cook DG. Does breastfeeding influence risk of type 2 diabetes in later life? A quantitative analysis of published evidence. Am J Clin Nutr 2006;84:1043–1054.

[81] US Coalition for Child Survival. Fact Sheet on Early and Exclusive Breastfeeding: Saving children's lives by supporting mothers.

[82] Ip S, Chung M, Raman G, Chew P, Magula N, DeVine D, et al. Breastfeeding and maternal and infant health outcomes in developed countries: evidence report/ technology assessment no. 153. Rockville, MD: Agency for Healthcare Research and Quality; 2007. AHRQ Publication No. 07-E007;
Collaborative Group on Hormonal Factors in Breast Cancer. Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50302 women with breast cancer and 96973 women without the disease. Lancet 2002;360:187–195. . Bernier MO, Plu-Bureau G, Bossard N, Ayzac L, Thalabard JC. Breastfeeding and risk of breast cancer: a meta-analysis of published studies. Hum Reprod Update 2000;6:374–386.

[83] Ip S, Chung M, Raman G, Chew P, Magula N, DeVine D, et al. Breastfeeding and maternal and infant health outcomes in developed countries: evidence report/ technology assessment no. 153. Rockville, MD: Agency for Healthcare Research and Quality; 2007. AHRQ Publication No. 07-E007;

Table 1 Excess Health Risks Associated with Not Breastfeeding

Outcome	Excess Risk* (%)
Among full-term infants	
Acute ear infection (otitis media)	100
Eczema (atopic dermatitis)	47
Diarrhea and vomiting (gastrointestinal infection)	178
Hospitalization for lower respiratory tract diseases in the first year	257
Asthma, with family history	67
Asthma, no family history	35
Childhood obesity	32
Type 2 diabetes mellitus	64
Acute lymphocytic leukemia	23
Acute myelogenous leukemia	18
Sudden infant death syndrome	56
Among preterm infants	
Necrotizing enterocolitis	138
Among mothers	
Breast cancer	4
Ovarian cancer	27

Source: US Department of Health and Human Services. *Surgeon's General's Call to Action to Support Breastfeeding 2011*

In 2003-04 the UN Standing Committee on Nutrition (SCN)'s Breastfeeding and Complementary Feeding Working Group, recognizing that the protection, promotion and support of optimal infant and young child feeding as described in the Global Strategy (GS) for Infant and Young Child Feeding (IYCF) addresses each of the 8 goals, developed a matrix listing out the contributions of optimal IYCF to each MDG. The meeting of Breastfeeding and Complementary Feeding Working Group (WG) to finalise this matrix was attended by about 200 participants, about 10 from UN agencies, about 20-25 from bilaterals, and the remainder from non-governmental or civil society organisations. Table 2 gives the finalized matrix.

Table 2: Contribution of Breastfeeding, Complementary Feeding, and Related Maternal Nutrition to the Millennium Development Goals[84]

MDGs	Goals and Targets	Contribution of Infant and Young Child feeding (i.e., Early and Exclusive Breastfeeding, continued breastfeeding with complementary feeding and related maternal nutrition)
Goal 1	Eradicate extreme poverty and hunger	Breastfeeding significantly reduces early childhood feeding costs, and exclusive breastfeeding halves the cost of breastfeeding [1]. Exclusive breastfeeding and continued breastfeeding for two years is associated with reduction in underweight [2] and is an excellent source of high quality calories for energy. By reducing fertility, exclusive breastfeeding reduces reproductive stress. Breastfeeding provides breast milk, serving as low-cost, high quality, locally produced food and sustainable food security for the child.
Goal 2	Achieve universal primary	Breastfeeding and adequate complementary feeding are prerequisites for readiness to learn [3]. Breastfeeding and quality complementary foods significantly contribute to cognitive development and capacity. In addition to the balance of long chain fatty acids in breast milk which support neurological

[84] *UN Steering Committee on Nutrition. Working Group on Breastfeeding and Complementary Feeding: Contribution to Millennium Development Goals (MDGs) Available at* http://www.unsystem.org/scn/Publications/AnnualMeeting/SCN31/31_breastfeeding.htm

	education	development, initial exclusive breastfeeding and complementary feeding address micronutrient and iron deficiency needs and, hence, support appropriate neurological development and enhance later school performance.
Goal 3	Promote gender equality and empower women	Breastfeeding is the great equalizer, giving every child a fair start on life. Most differences in growth between sexes begin as complementary foods are added into the diet, and gender preference begins to act on feeding decisions. Breastfeeding also empowers women: • increased birth spacing secondary to breastfeeding helps prevents maternal depletion from short birth intervals, • only women can provide it, enhancing women's capacity to feed children • increases focus on need for women's nutrition to be considered
Goal 4	Reduce child mortality	By reducing infectious disease incidence and severity, breastfeeding could readily reduce child mortality by about 13%, and improved complementary feeding would reduce child mortality by about 6% [4]. In addition, about 50-60% of under-5 mortality is caused by malnutrition due to inadequate complementary foods and feeding following on poor breastfeeding practices [5] and, also, to low birth weight. The impact is increased in unhygienic settings. The micronutrient content of breastmilk, especially during exclusive breastfeeding, and from complementary feeding can provide essential micronutrients in adequate quantities, as well as necessary levels of protein and carbohydrates.
Goal 5	Improve maternal health	The activities called for in the Global Strategy include increased attention to support for the mother's nutritional and social needs. In addition, breastfeeding is associated with decreased maternal postpartum blood loss, breast cancer, ovarian cancer, and endometrial cancer, as well as the probability of decreased bone loss post-menopause. Breastfeeding also contributes to the duration of birth intervals, reducing maternal risks of pregnancy too close together, including lessening risk of maternal nutritional depletion from repeated, closely-spaced pregnancies. Breastfeeding promotes return of the mother's body to pre-pregnancy status, including more rapid involution of the uterus and postpartum weight loss (obesity prevention).
Goal 6	Combat HIV/AIDS, malaria, and other diseases	Based on extrapolation from the published literature on the impact of exclusive breastfeeding on MTCT, exclusive breastfeeding in a population of untested breastfeeding HIV-infected population could be associated with a significant and measurable reduction in MTCT.
Goal 7	Ensure environmental sustainability	Breastfeeding is associated with decreased milk industry waste, pharmaceutical waste, plastics and aluminum tin waste, and decreased use of firewood/fossil fuels for alternative feeding preparation [6], less CO2 emission as a result of fossil fuels, and less emissions from transport vehicles as breastmilk is locally produced.
Goal 8	Develop a global partnership for development	The Global Strategy for Infant and Young Child Feeding fosters multi-sectoral collaboration, and can build upon the extant partnerships for support of development through breastfeeding and complementary feeding. In terms of future economic productivity, optimal infant feeding has major implications.

[1] Bhatnagar, S., Jain, N. P. & Tiwari, V. K. Cost of infant feeding in exclusive and partially breastfed infants. Indian Pediatr. 33, 655-58 (1996).
[2] Dewey, K. G. Cross-cultural patterns of growth and nutritional status of breast-fed infants. Am. J. Clin. Nutr. 67, 10-7 (1998).
[3] Anderson, J. W., Johnstone, B. M. & Remley, D. T. Breast-feeding and cognitive development: a meta-analysis. Am. J. Clin. Nutr. 70, 525-35 (1990).
[4] Jones, G. et al. How many child deaths can we prevent this year? Lancet 362, 65-71 (2003).
[5] Pelletier, D. & Frongillo, E. Changes in child survival are strongly associated with changes in malnutrition in developing countries. J. Nutr. 133, 107-119 (2003)
[6] Labbok M. Breastfeeding as a women's issue: conclusions and consensus, complementary concerns, and next actions. IJGO 1994; 47(Suppl):S55-S61

Paul Jacklin et al, in a study prepared for National Institute for Health and Clinical Excellence (NICE) in 2007, have estimated that the cost in terms of gastroenteritis, respiratory infections and otitis media in the first year of life because of not breastfeeding is £ 301 per infant.[85]

On the overall cost effectiveness of enhancing breastfeeding in terms of net savings for the national health system, Jacklin et al estimate that cost effectiveness of interventions to improve breastfeeding rates are higher in countries with a low rate. Increasing breastfeeding rates requires financial resources, and the

[85] Jacklin P., Resta P., Dougherty M., Kwan I. Modelling the cost effectiveness of interventions to promote breastfeeding. NICE Maternal and Child Nutrition Programme . Sept. 2007

study estimates that spending resources to achieve a 15% point increase in the rates should be considered as cost effective.[86]

A study conducted by the US Dept. of Agriculture, Economic Research Service in 2001, estimated that if breastfeeding rates had met, in 2000, the targets set in *Healthy People 2010*, the impact on just three childhood illnesses – otitis media, gastroenteritis and NEC would have resulted in a saving of $3.6 billion annually, based both on direct costs ((e.g., costs for formula as well as physician, hospital, clinic, laboratory, and procedural fees) and indirect costs (e.g., wages parents lose while caring for an ill child), as well as the estimated cost of premature death.[87] In 2010, Bartick's study, which extended the impact of breastfeeding to include more diseases including SIDS, childhood leukemia, childhood obesity, asthma and Type I diabetes among others, increased the value of the annual savings to $13 billion if 90% of infants were breastfed, and to $10.5 billion a year if 80% of infants were breastfed[88].

[86] Jacklin P., Resta P., Dougherty M., Kwan I. Modelling the cost effectiveness of interventions to promote breastfeeding. NICE Maternal and Child Nutrition Programme . Sept. 2007
[87] Cited in US Department of Health and Human Services. *Surgeon's General's Call to Action to Support Breastfeeding 2011*
[88] Bartick M, Reinhold A. The burden of suboptimal breastfeeding in the United States: a pediatric cost analysis. Pediatrics 2010;125:e1048–e1056. Cited in US Department of Health and Human Services. *Surgeon's General's Call to Action to Support Breastfeeding 2011*

Annexure 2

BREASTFEEDING: POTENTIAL BENEFITS AND COSTS

Dr. Julie P. Smith of the Australian Center for Economic Research on Health lists benefits and costs of optimal breastfeeding practices for all stakeholders – the country, society, employers, family, mothers and babies – in the following table:

Breastfeeding: Potential benefits & costs

Perspective	Benefits	Costs
Society and economy	• Value of infant food production • Environmental externalities/costs • Health care costs for mother and baby • Costs of mortality (lost lifetime production) • Productive capacity of 'human capital'	• Opportunity cost of women's time • Costs of protecting breastfeeding from damaging institutional arrangements/practices and culture
Government, community, health care services	• Lower incidence and treatment costs of ill health and chronic disease of mothers and babies • Reduced abandonment/child abuse	• Costs of maintaining institutions and training which enable breastfeeding • Costs of 'marketing' breastfeeding in competition with artificial infant food producers
Industry and employers	• Healthier so more productive current and future workforce • More jobs and profits in lactation support services • More jobs and profits in breastfeeding products	• Employer costs of accommodating breastfeeding employees • Fewer jobs and profits in health care services, agriculture and food processing and retailing
Family	• Reduced health care costs for mother • Reduced health care costs for baby • Reduced food costs for baby • Food security (quality/safety and availability) • Child spacing	• Reduced employment income of new mother • Reduced mother time for unpaid work and care of other children • Proximity of mother and infant • Increased food needs of mother • Sexual availability of mother/fewer babies
Mother	• Reduced reproductive and other health risk • Appropriate weight gain and loss during reproductive years • Calming hormones and satisfaction of breastfeeding • Child spacing • Time savings for feeding of older infant	• Proximity/"Tied down' by baby • Reduced employment income of new mother • Reduced leisure time of mother • Reduced fertility • Embarrassment at public breastfeeding
Baby	• Nutrition Health/survival • Time/development opportunities with mother • Bonding hormones etc with mother • Long term health and development • Labour force productivity/earnings	• Dependent on availability/proximity of mother

Source: Dr. Julie P. Smith. Breastfeeding and lactation support: what is the evidence on cost effectiveness? Presentation available at http://breastfeedingconference.asn.au/sites/breastfeedingconference.asn.au/files/Papers_Presentations/29_SMITH%20Julie_Bf%20and%20lactation%20support%20cost%20effectiveness.pdf

Annexure 3

INTERVENTIONS THAT CAN ENHANCE BREASTFEEDING RATES

While individual breastfeeding decisions of mothers and families are influenced by several factors including knowledge and socioeconomic factors that pose a challenge to enhancing breastfeeding rates, a major challenge at national levels is the lack of adequate comprehensive policies related to breastfeeding. Bryce et al listed seven challenges for effective nutrition action at the national level in their paper, *Maternal and child undernutrition: effective action at national level*. [89] These are getting nutrition on the list of priorities, and keeping it there; doing the right things; not doing the wrong things; acting at scale; reaching those in need; data-based decision making; and building strategic and operational capacity. Interventions with proven effectiveness that are selected by countries should be rapidly implemented at scale. Having a written breastfeeding policy can address some of these challenges.

The need for policies

Step 1 of WHO's *Evidence for the ten steps to successful breastfeeding* states clearly "Have a written breastfeeding policy that is routinely communicated to all health care staff." Acknowledging that written policies are necessary to effect change in the face of divergent opinion, the document urges that the policies be *appropriate, made explicit in a written document* and that all concerned people *be made aware of* the policy. [90] Lutter and Morrow have linked the rise in breastfeeding rates in Brazil to the development of policies geared to this end.[91] Jacknowitz, while acknowledging the role of changes in demographic characteristics of birth to explain increasing rates of breastfeeding, identifies changes in laws and policies, health promotion, the WIC Special Supplemental Programme , employer support, technological innovations and attitudes towards breastfeeding as important factors in bringing about such a change.[92]

Bryce et al, in their paper[93], draw attention to the need for creating national policies and action plans; they also stress on the need for political will and commitment, without which no significant change can occur. They further identify creating legislation as a partial measure to protect effective actions from political change. Yet the mere existence of legislation does not, they acknowledge, imply its effective implementation, which again requires political will.

Development of policies, plans of action, legislation, and guidelines for the implementation are key factors for estimating the costs of enhancing breastfeeding rates. Recognising this, in 2001, WHO Regional Office for Europe brought out a *First Action Plan for Food and Nutrition Policy* for 2000-2005 for its region. This action plan, which included infant nutrition, was developed to provide a framework for countries to develop national policies.[94]

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[89] Bryce J, Coitinho D, Darnton-Hill I, D, Pelletier D, Pinstrup-Andersen P. Maternal and child undernutrition: effective action at national level. The Lancet 2008; 371: 510-26.

[90] While the document is for Baby Friendly Hospital Initiative, its comment on the need for policy is applicable to all policies.

[91] Lutter C, Morrow AL. 2012. Protection, Promotion and Support and Global Trends in Breastfeeding. *Advances in Nutrition.* (in press)

[92] Jacknowitz A. Increasing breastfeeding rates: do changing demographics explain them? Womens Health Issues. 2007 Mar-Apr;17(2):84-92.

[93] Bryce J, Coitinho D, Darnton-Hill I, D, Pelletier D, Pinstrup-Andersen P. Maternal and child undernutrition: effective action at national level. The Lancet 2008; 371: 510-26.

[94] WHO Regional Office for Europe. 2001. The First Action Plan for Food and Nutrition Policy - WHO European Region 2000-2005

Developed in 2001, Northern Ireland's *Government's Anti-Poverty and Social Inclusion Strategy for Northern Ireland*[95] includes among its goals, "to ensure that every child should have a chance to develop their full potential in infancy regardless of social background". The policy explains:

"*The importance of Early Years experience in helping shape positive, social, psychological and educational development is well recognised …. Maximising provision and support, therefore for children in their early years is an investment which will help lay a solid foundation for their future."*

The WIC programme in the US attributes significant increase in breastfeeding rates to policy changes.[96] The policy change referred to was that in order to firmly establish exclusive breastfeeding, breastfeeding mothers are not routinely given infant formula in the first month postpartum. Similarly, in Ireland, policy changes recommended by the *2005 Five-year Strategic Breastfeeding Action Plan* and targets set to increase rates of breastfeeding initiation raised breastfeeding rates at hospital discharge from 48.9% in 2005 to 55.7% in 2010, crossing the target of 50% set by *Lifetime Opportunity*.

Policies are essential to demonstrate political leadership and ensure effective investment.[97] A written evidence based policy clearly spelling out priority areas for action and a budget estimate assist in advocacy for investment. For example, the *US Surgeon General's Call for Action to Support Breastfeeding* in 2011, has been used by the United States Breastfeeding Committee to call for the appropriation of $15 million from the Prevention and Public Health Fund for FY 2012 to support breastfeeding.[98]

National assessments of the implementation of the Global Strategy for Infant and Young Child Feeding, conducted using the WBT*i* tool, showed that of the 46 countries assessed, 39 had a written policy on infant and young child feeding.[99] Again, of 26 countries that comprise the Latin American and Caribbean countries, 21 have a policy in place[100]. While of 27 African countries (Angola, Botswana, Burundi, Cameroon, Cape Verde, Comoros, Eritrea, Ethiopia, Ghana, Gambia, Guinea Bissau, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Rwanda, Somalia, South Africa, South Sudan, Swaziland, Uganda, Tanzania, Zambia and Zimbabwe), 20 have IYCF guidelines, none of the countries have a separate IYCF policy; however the health, and often agriculture, education, welfare and other policies include nutrition sensitive policy statements including components of IYCF[101].

Prioritizing nutrition and building effective plans for improving nutritional status of women and children, and especially of infants, is imperative to meet the MDG goals 4 and 5 of reducing under five mortality and morbidity and maternal mortality[102]. It is equally important that national plans for this must specify

[95] Office of the First Minister and Deputy First Minister. Lifetime Opportunities – Government's Anti-Poverty and Social Inclusion Strategy for Northern Ireland.
[96] WIC Works: Policy changes raise breastfeeding rates. Available at http://www.calwic.org/storage/WIC_WORKS_Policy_Changes_Raise_Breastfeeding_Rates.pdf
[97] Every Child Counts. Submission to the Health Select Committee: Inquiry into Preventing Child Abuse and Improving Child Health. NewZealand.
[98] USBC. Investing in breastfeeding saves money, helps boost our economy. http://www.usbreastfeeding.org/Portals/0/Advocacy/2011-03-10-One-Pager-Approp-FY12.pdf
[99] National reports of the World Breastfeeding Trends Initiative (WBTi) assessments. Available at http:www.worldbreastfeedingtrends.org
[100] Personal communication from Regional Coordinator, IBFAN LAC.
[101] Information from Regional Coodinator, IBFAN Africa
[102] Bryce J, Coitinho D, Darnton-Hill I, D, Pelletier D, Pinstrup-Andersen P. Maternal and child undernutrition: effective action at national level. The Lancet 2008; 371: 510-26.

actions and be accompanied by timelines and budgets.[103] Political commitment to increase breastfeeding rates needs to be translated into action, and budgets need to be specifically allocated for this.

Currently there is a wealth of information available on the costs of interventions for enhanced complementary feeding, including food-based interventions, supplying of special enriched, fortified foods for preventing and managing malnutrition, managing micronutrient deficiencies with fortification and supplementation, preventing childhood diseases with immunization, treating diarrhea with oral rehydration salts, strengthening the health system, and so on. However, there is limited data available globally on the costs of enhancing breastfeeding rates. This paper attempts to create a model to estimate such costs, focusing particularly on three specific areas where interventions are needed: protection, promotion and support of breastfeeding. Our estimates also include assessment and stock taking mechanisms such as regional stock taking meetings every two years, and a global stock taking meeting every three to five years, to set future targets and make recommendations to governments, as well as the costs of setting up a secretariat for this purpose.

The need for protection

Recognising the role of advertising, imagery, free offers, endorsements, direct mail, and other such practices of the infant formula industry as a barrier to optimal breastfeeding, in 1981 the World Health Assembly passed a resolution – the International Code of Marketing of Breastmilk Substitutes - to restrict their marketing practices. The International Code was later endorsed by UNICEF, and ratified by 166 countries.

The International Code provides standard guidelines for the marketing and distribution practices of commercial competitors to breastfeeding, especially to limit marketing directed toward pregnant women and new mothers. According to the US CDC, "Limiting the marketing of commercial competitors who compete with breastfeeding can help mothers and families make appropriate and informed decisions about infant feeding.[104]"

In spite of this recommendation, Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), which serves almost half of all the infants born in the country, purchased 57%-68% of all infant formula sold in the country between 2004-2006, according to a study by Victor Oliveira, Elizabeth Frazo and David Smallwood.[105] The formula manufacturers give the WIC state agencies a substantial rebate, often over 80% of the marked price.

The International Code urges nations to create national legislation to regulate the promotional practices of baby milk manufacturers, as they interfere with breastfeeding recommendations. However, till date, only 84 countries have passed national legislation based on the Code, with only 37 countries including all provisions of the Code in law.[106]

According to the WBT*i* national assessments of policies and programmes conducted in 33 countries in the period 2007-9, of the 28 countries that had enacted all the provisions of the Code as law, only nine

[103] Jennifer Bryce, Denise Coitinho, Ian Darnton-Hill, David Pelletier, Per Pinstrup-Andersen, for the Maternal and Child Undernutrition Study Group, "Maternal and child undernutrition: effective action at national level" Lancet Series: Maternal and Child Undernutrition 4,2009

[104] Shealy KR, Li R, Benton-Davis S, Grummer-Strawn LM. The CDC Guide to Breastfeeding Interventions. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2005. Available at http://www.cdc.gov/breastfeeding/pdf/breastfeeding_interventions.pdf

[105] Victor Oliveira, Elizabeth Frazo, David Smallwood. Rising Infant Formula Costs to the WIC Program: Recent Trends in Rebates and Wholesale Prices. Economic Research Report No. (ERR-93) 46 pp, February 2010

[106] http://www.unicef.org/nutrition/files/State_of_the_Code_by_Country_April2011.pdf

countries - Afghanistan, Bangladesh, Brazil, Costa Rica, Dominican Republic, Gambia, Ghana, Malawi, and Mongolia – actually implemented it.[107]

The need for promotion

The global low rates for optimal breastfeeding practices, especially exclusive breastfeeding for the first six months and continued breastfeeding for two years and beyond are a reflection of the both the lack of adequate knowledge and skills related to breastfeeding among the public, and in particular, women (especially primiparas), as well as the result of the aggressive marketing tactics of the formula makers.

Enhancing breastfeeding rates thus requires an equally aggressive promotion of breastfeeding to both counter the advertising of formula and to bring about behaviour change, particularly in the context of cultural beliefs and practices, as well as public opinion, in other words, making breastfeeding the norm rather than the exception. Special social marketing campaigns, following the principles of commercial marketing, may have to be designed for this purpose.

Wen et al, in their research paper, citing studies,[108] suggest that women's prenatal breastfeeding intentions are a good predictor of the actual duration of breastfeeding.

Enhancing optimal IYCF practices, especially breastfeeding requires promotion at the global, national, community and individual level. Promotion at the global level requires that all global interventions related to nutrition and health include the component of IYCF. Promotion at the national and community level requires developing campaigns, the use of mass media and other means to inform people of the benefits of optimal IYCF and influence their feeding decisions. Promotion at the individual level requires the availability of adequate and accessible skilled counseling services.

Making a move in the right direction, the World Alliance for Breastfeeding Action (WABA) initiated the celebration of the World Breastfeeding Week from August 1 to August 7 every year. Governments across the world take this opportunity to promote breastfeeding heavily. However, such promotion needs to be sustained throughout the year in order to be successful.

Promotion through counselling

A key intervention for providing support is skilled counseling, because of the special complexities related to breastfeeding. Production and flow of breastmilk is controlled by two different hormones, which in turn are controlled by the physical stimulation of the baby's suckling, and the confidence level and state of mind of the lactating woman. If the woman has doubts of her ability to breastfeed adequately, or is facing stressful situations, she will not be able to breastfeed successfully, even though her breasts may be full of milk, leading to problems like painful breasts, abscesses, etc., which will further undermine her confidence in her ability to breastfeed. Counseling for breastfeeding thus requires that the counselor be specially trained in confidence-building skills and management of common problems related to breasts.

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[107] World Breastfeeding Trends Initiative (WBT*i*). State of Breastfeeding in 33 Countries 2010. Published by IBFANAsia in 2010.

[108] Forster DA, McLachlan HL, Lumley J: Factors associated with breastfeeding at six months postpartum in a group of Australian women.
International Breastfeeding Journal 2006, 1:18; Donath S, Amir LH, ALSPAC Study Team: Relationship between prenatal infant feeding intention and initiation and duration of breastfeeding: a cohort study. *Acta Paediatrica* 2003, 92(3):352-356; Rempel LA: Factors influencing the breastfeeding decisions of long-term breastfeeders. *Journal of Human Lactation* 2004, 20:306-317. Cited in Li M Wen, Louise A Baur, Chris Rissel, Garth Alperstein, Judy M Simpson. Intention to breastfeed and awareness of health recommendations: findings from first-time mothers in southwest Sydney, Australia. *International Breastfeeding Journal* 2009, 4:9

Adequate counseling by professionals, peers and mother support groups can enhance breastfeeding rates. Horton et al (2010) stress on the importance of promotion of breastfeeding and complementary feeding practices to prevent and treat infantile acute malnutrition.[109] Such counseling needs to take place at centres that provide antenatal care (see Li Wen et al suggestions above), at the facility of delivery through the Baby Friendly Hospital Initiative (BFHI) and after delivery through post-natal counseling.

The National Institute of Health and Clinical Excellence (NICE) of the NHS in UK, in *The effectiveness of public health interventions to promote the duration of breastfeeding Systematic review 1st edition – May 2005* identified counseling during the stay in maternity facility and later, in the community, as one of the practices that have been shown to be extremely effective for enhancing breastfeeding rates and duration.

The California WIC Nutrition Education Committee, ensures that all nutrition education materials support breastfeeding promotion. WIC's Nutrition Service Plan requires that all staff of local agencies are trained for 20 hours on breastfeeding promotion and support, especially to new mothers. It is a further requirement that before mailing food instruments to the participants, the local agencies of the California WIC programme "…ensure that the required minimum nutrition education contacts for each participant category within the certification period are met."[110]

The Baby Friendly Community Health Initiative (BFCHI) Project, Lalitpur, organized by Pediatrics Dept. of BRD Medical College Gorakpur, India, is based on the provision of skilled counseling to each mother at her doorstep. Lalitpur, one of the poorest districts in the state of Uttar Pradesh, considered one of the more backward states, has shown significant increase in rates of optimal IYCF practices. Reaching out to over a 100,000 infants and young children, the project uses government health and nutrition field workers and functionaries, volunteer women in the villages, the local district administration to take breastfeeding messages to village women and provide support. A unique feature of the project is the strong referral system, where a field worker facing a challenge has access to professional support and help at both the district hospital and from the staff of BRD Medical College, which is almost 600km away. In the middle are specially trained "mentoring" counselors who also supervise the field workers on a regular basis. The training module used is IBFANAsia's *The '4 in 1' Training Programme - Capacity building initiative for building health workers' skills in Infant and Young Child Feeding Counseling*[111], and includes capacity building in counseling skills for initiation of breastfeeding, exclusive breastfeeding and appropriate complementary feeding along with continued breastfeeding. The cascade training course involves creation of national level trainers, who then build the capacity of a larger cadre of middle level trainers, who in turn build the capacity of frontline workers. In Lalitpur, they also act as "mentors" and supervisors.

The need for support

Given the challenges posed by industry, lack of correct knowledge about breastfeeding, cultural beliefs and traditional practices, as well as the need to earn incomes, women require several forms of support to be able to practice optimal breastfeeding.

Maternity Entitlements – paid leave/wage compensation and child care

[109] Horton et al, *Scaling Up Nutrition: What Will It Cost?* World Bank
[110] http://www.cdph.ca.gov/programs/wicworks/Documents/StatePlan2011-2012/Breastfeeding%20Promotion%20and%20Support.pdf
[111] Updated and revised course based on WHO and UNICEF's 3 training courses on breastfeeding, Complementary feeding, HIV& Infant feeding counseling with addition of Growth monitoring as the 4th component

Adequate maternity entitlements are vital aspects of support that can help enhance breastfeeding rates. Besides prevention of exposure to health and safety hazards during and after pregnancy and medical care, basic elements of maternity entitlements include paid maternity leave, paid breastfeeding breaks and other support to breastfeeding mothers; protection against discrimination and dismissal; and a guaranteed right to return to the job after maternity leave.

The link between postnatal leave and breastfeeding has been clearly established through several studies. A study from California[112] concluded that postpartum maternity leave may have a positive effect on breastfeeding among full-time workers, particularly those who hold non-managerial positions, lack job flexibility, or experience psychosocial distress, and that pediatricians should encourage patients to take maternity leave and advocate for extending paid postpartum leave and flexibility in working conditions for breastfeeding women. This finding was reiterated by a study from South Carolina[113], which found that compared with those returning to work within 1 to 6 weeks, women who had not yet returned to work had a greater odds of initiating breastfeeding, continuing any breastfeeding beyond 6 months, and predominant breastfeeding beyond 3 months. Women who returned to work at or after 13 weeks postpartum had higher odds of predominantly breastfeeding beyond 3 months.

Studies from Europe further strengthen this conclusion. A review of literature on the length of maternity leaves and health of mothers and children to evaluate the Swiss situation in view of the maternity leave policy implemented in 2005, concluded that there was a positive association between the length of maternity leave and mother's mental health and breastfeeding duration. The study further concluded that the extension of the duration of maternity leave in Switzerland to 14 weeks, fewer depressive symptoms and longer breastfeeding duration could be expected.[114] The UK Millennium Cohort Study[115] found that mothers employed part-time or self-employed were more likely to breast-feed for at least 4 months than those employed full-time. The longer a mother delayed her return to work postpartum, the more likely she was to breast-feed for at least 4 months. Mothers were less likely to breast-feed for at least 4 months if they returned to work for financial reasons or used informal day care arrangements rather than care by themselves or their partner. Mothers were more likely to breastfeed for at least 4 months if their employer offered family-friendly, or they received Statutory Maternity Pay (SMP) plus additional pay during their maternity leave rather than SMP alone. The Study concluded that policies should aim to increase financial support and incentives for employers to offer supportive work arrangements.

A study from Lebanon[116] found that breastfeeding depended on the duration of the maternity leave, the possibility of breaks for breastfeeding and the presence of nurseries at work, and that a rapid return to work could cause physical and psychological problems. The authors called for urgent interventions to prolong maternity leave and promote breastfeeding among working women. Another study from

[112] Guendelman S, Kosa JL, Pearl M, Graham S, Goodman J, Kharrazi M. Juggling work and breastfeeding: effects of maternity leave and occupational characteristics. Pediatrics. 2009 Jan;123(1):e38-46.
[113] Chinelo Ogbuanu, Saundra Glover, Janice Probst, Jihong Liu, James Hussey. The Effect of Maternity Leave Length and Time of Return to Work on Breastfeeding Published online May 29, 2011 (doi: 10.1542/peds.2010-0459). Available at http://pediatrics.aappublications.org/content/early/2011/05/25/peds.2010-0459.abstract
[114] Staehelin K, Bertea PC, Stutz EZ Length of maternity leave and health of mother and child--a review. Int J Public Health. 2007;52(4):202-9.
[115] Hawkins SS, Griffiths LJ, Dezateux C, Law C; Millennium Cohort Study Child Health Group. The impact of maternal employment on breast-feeding duration in the UK Millennium Cohort Study. Public Health Nutr. 2007 Sep;10(9):891-6. Epub 2007 Mar 7.
[116] Saadé N, Barbour B, Salameh P. Maternity leave and experience of working mothers in Lebanon. [Article in French] East Mediterr Health J. 2010 Sep;16(9):994-1002.

Turkey[117] identified the factors that improve long-term breast-feeding are successful exclusive breast-feeding in the first few months, intention of the mother to breast-feed and sufficient duration of maternity leave.

There is today an increasing acceptance among governments about the important role that Early Childhood Care and Education (ECCE), including maternity entitlements can play in addressing socio-economic disadvantages, especially in increasing women's participation in the labour market and thus increasing their family' income. The EU Summit in Barcelona passed a recommendation that by 2010, Member States should provide childcare for at least 33% of children under the age of three. Only a few years earlier, the EU endorsed a directive that required Member States to implement a minimal standard of parental leave in their national legislation.[118]

While countries follow different approaches and provide different services as maternity entitlements, these policies and provisions affect parents' decisions about feeding and care of their infants.

The International Labor Organization (ILO) in its Convention 102 and 183, set standards of maternity benefits, including paid maternity leave; they state:

- The benefits should extend throughout the period of leave
- They should be adequate to maintain the health and living standard of a woman and her child

Where wage compensation is based on previous earnings, ILO suggests they should not be less than two-thirds of the woman's wage prior to taking leave.

ILO documents show that as of February 2012, only 23 countries have ratified the Maternity Protection Convention, 2000 (No. 183). These are Albania, Austria, Azerbaijan, Belarus, Belize, Benin, Bosnia and Herzegovina, Bulgaria, Cuba, Cyprus, Hungary, Italy, Latvia, Lithuania. Luxembourg, Mali, Republic of Moldova, Morocco, Netherlands, Romania, Serbia, Slovakia, and Slovenia; in all 63 countries are party to one of the three ILO conventions on maternity protection. However, 167 countries have some kind of national legislation on maternity benefits, with countries from Asia and Africa providing the maximum benefits[119], reflecting a modicum of political commitment to the issue.

In all Nordic countries, maternity leave has expanded quite rapidly since the 1960s. Swedish policy provides for 14 weeks maternity leave, including up to seven weeks before the birth, and two weeks paternity leave after childbirth. Parental leave follows for up to 18 months, often on reduced pay for the few final months.[120]

In most European countries, providing childcare support is primarily the government's responsibility. Spending on formal childcare per child under three years of age is highest in Nordic countries at around US$ PPP 5 700 or more.[121]

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[117] Camurdan AD, Ilhan MN, Beyazova U, Sahin F, Vatandas N, Eminoglu S. How to achieve long-term breast-feeding: factors associated with early discontinuation. Public Health Nutr. 2008 Nov;11(11):1173-9. Epub 2008 Feb 18.
[118] National Women's Council of Ireland. 2005. An accessible child care model. Available at http://www.dit.ie/cser/media/ditcser/images/accessible-childcare.pdf
[119] ILO. Maternity at work. A review of national legislation Findings from the ILO Database of Conditions of Work and Employment Laws. 2nd ed. (2010). Available online at http://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_124442.pdf
[120] National Women's Council of Ireland. 2005. An accessible child care model. Available at http://www.dit.ie/cser/media/ditcser/images/accessible-childcare.pdf
[121] OECD. PF3.1: Public spending on childcare and early education. Available at

Countries use three forms of calculation – flat rate, scaled rates or salary-dependent rates for calculating wage compensation. However, because neither C102 nor C183 contain explicit definitions of previous earnings, countries have defined such earnings in different ways. For instance, while in Senegal the rate of 100% is applied to the daily wage received on the last pay day, including allowances directly related to the nature of the work, in Iceland, the percentage is applied to the worker's average wage during a 12-month consecutive period ending two months prior to the first day of the maternity/paternity leave. In UK, six weeks are paid at 90%, weeks seven to 39 at a flat rate, and weeks 40 to 52 unpaid is unpaid[122]. Several countries have legislated maternity entitlements, but several others have not. Again, self-employed women, and those working in the informal or unorganized sector, especially in developing countries, often get no form of wage compensation.

http://www.oecd.org/social/familiesandchildren/37864512.pdf

[122] Maternity Protection Resource Package - From Aspiration to Reality for All. Module 7: Cash and medical benefits. ILO 2012

Annexure 4

ESTIMATES/BUDGETS/ACTUAL EXPENDITURES ON BREASTFEEDING AND IYCF IN COUNTRIES

An increasing number of countries are developing such policies to guide national action. Mongolia and Fiji have estimated the cost of developing IYCF policy at US$ 5000[123, 124]; the latter is specially allocated to technical support. Afghanistan has developed both a national policy for IYCF as well as a nation plan of action.[125] The cost estimates for this is US$ 45,000, and includes costs of meetings, remuneration for national and international consultants, advocacy with other departments, printing and dissemination of the policy and plan of action documents. Afghanistan has also estimated the cost of developing IYCF guidelines at US$ 38,000, to include the costs of remuneration for national and international consultants for a specified period of 2 months, printing and dissemination of the guidelines[126]. We have used the former figure of US 45,000 for developing an IYCF policy, guidelines and a national plan of action.

As new information regarding IYCF becomes available, or new threats to optimal IYCF practices emerge, policies may need to be updated. Most budgets on IYCF do have some kind resources available for this. For instance, Solomon Islands is spending SBD$ 21,000 (approx US$ 2960) for the National Breastfeeding Policy Review in 2012; the operational costs (annual) for programmes related to enhancing breastfeeding is SBD$87,338 (US$ 12,305). [127]

Vietnam has factored in annual review of policy in its budget at approximately VND 100 million (US$ 4800 approx) a year[128], while Afghanistan has estimated a cost of US$ 10,000 a year[129]; the latter cost includes services of an international consultant for a specified period of time. For the purpose of this costing, we have used Vietnam's costs.

The cost of organizing an annual review meeting in Vietnam is VND 100 million[130], and organizing the annual meeting of the National Breastfeeding Committee in Afghanistan is US$ 7000[131]. Vietnam has also budgeted for annual assessment of policies and programmes for their impact at VND 500 million (US$ 24000 approx. a year[132]; no costs for this head have been included in the Afghanistan budget[133]. We

[123] Information based on personal communication from Mrs. Ateca Kama, Acting Manager, Nutrition and Dietetics, Ministry of Health, Fiji
[124] Information based on personal communication from Dr. Soyolgerel Gochoo, Officer of Child Health, Ministry of Health, Mongolia
[125] Islamic Republic of Afghanistan, Ministry of Public Health. National Infant and Young Child Feeding Policy and Strategy 2009 – 2013. Annex 4
[126] Islamic Republic of Afghanistan, Ministry of Public Health. National Infant and Young Child Feeding Policy and Strategy 2009 – 2013. Annex 4
[127] Information based on personal communication with Ms. Rosemary Lilu Kafa, Nutritionist with the Nutrition and Dietetics Unit, Ministry of Health and Medical Services, Solomon Islands
[128] Annex 4, Infant and Young Child Feeding Plan of Action for Vietnam 2006-2010. Ministry of Health, Vietnam. Available at http://www.ennonline.net/pool/files/ife/iycf-plan-of-action-for-viet-nam-english-version.pdf
[129] Islamic Republic of Afghanistan, Ministry of Public Health. National Infant and Young Child Feeding Policy and Strategy 2009 – 2013. Annex 4
[130] Annex 4, Infant and Young Child Feeding Plan of Action for Vietnam 2006-2010. Ministry of Health, Vietnam. Available at http://www.ennonline.net/pool/files/ife/iycf-plan-of-action-for-viet-nam-english-version.pdf
[131] Islamic Republic of Afghanistan, Ministry of Public Health. National Infant and Young Child Feeding Policy and Strategy 2009 – 2013. Annex 4
[132] Annex 4, Infant and Young Child Feeding Plan of Action for Vietnam 2006-2010. Ministry of Health, Vietnam. Available at http://www.ennonline.net/pool/files/ife/iycf-plan-of-action-for-viet-nam-english-version.pdf
[133] Islamic Republic of Afghanistan, Ministry of Public Health. National Infant and Young Child Feeding Policy and Strategy 2009 – 2013. Annex 4

have thus budgeted for this head, using the Vietnamese cost of VND 600 million (US$ 28000 approx) a year.

Costs of developing and implementing IYCF policies in different countries

Country	Budget head	Amount allocated in US$	Comments
Afghanistan	Developing national policy and plan of action	45000	includes costs of meetings, remuneration for national and international consultants, advocacy with other departments, printing and dissemination of the policy and plan of action documents
	Developing IYCF guidelines	38000	Includes the costs of remuneration for national and international consultants for a specified period of 2 months, printing and dissemination of the guidelines
	Annual review of policy	10000	Includes cost of international consultant
	Annual meeting of National Breastfeeding Committee	7000	
Fiji	Developing IYCF policy	5000	Cost of technical support
Mongolia	Developing IYCF policy	5000	No details available
Solomon Islands	Review of National Breastfeeding Policy	2960 approx.	
	Operational costs of programmes	12305 approx.	Annual cost
Vietnam	Review of Policy	4800 approx.	Annual cost
	Assessment of Policy and programmes for their impact	24000 approx	Annual cost

Costs for protection of breastfeeding

The costs of developing national legislation based on the International Code of Marketing of Breastmilk Substitutes are extremely difficult to reference as only a few countries have translated all provisions of the code into law, and the cost of doing so are not available. In China, WHO and UNICEF extended US$ 55,397 from 2006 to 2012 for developing national legislation; however no details are available for this estimate[134]. Technical support for this, in Fiji, has been estimated at US$ 5000, while the costs for training, production and distribution of training material and monitoring and reporting have been estimated at US$40000[135]. The cost for developing national legislation in Egypt was EGP 100000 (US$ 16420 approx), spread over six months.[136] The Afghanistan budget is estimated at US$ 110,000 for this, and includes development of the code through national level advocacy meetings, hiring national and international consultants, training in monitoring of legislation, printing and dissemination of the legislation, and holding meetings to sensitize the bureaucracy and judicial system[137]. Recurring annual costs include cost of monitoring and implementation. The IYCF budget of Afghanistan has put down some estimates, basically related to field visits. These do not take into account the continuous need to monitor violations and take action against the violators.

In India, violations of the *Infant Milk Substitutes Feeding Bottles, and Infant Foods (Regulation of Production, Supply and Distribution) Act 1992, and Amendment Act 2003* is a cognizable offence and the State as well as the organization gazetted by the State can take the matter to court. While so far no financial resources have been allocated under this head, a national consultation to estimate the resources

[134] Information based on personal communication from Dr. Shuyi Zhang, Capital Institute of Pediatrics, Beijing, China
[135] Information based on personal communication from Mrs. Ateca Kama, Acting Manager, Nutrition and Dietetics, Ministry of Health, Fiji
[136] Information based on personal communication from Dr. Gihan Fouad, Consultant of Pediatrics and (IBCLC) in National Nutrition Institute, Cairo, Egypt.
[137] Islamic Republic of Afghanistan, Ministry of Public Health. National Infant and Young Child Feeding Policy and Strategy 2009 – 2013. Annex 4

required to enhance optimal IYCF rates was organized by Breastfeeding Promotion Network of India in 2011 with assistance from the Planning Commission, to inform the preparation of the 12th Five-year Plan for the country. The report recommended an annual expenditure of INR 61,600,000 (US$ 1188000 approx) at INR 100,000 (US$ 1927) per district for monitoring the IMS Act[138]. We have taken this amount as an indicator for the purpose of estimating what countries would need to spend on implementation of the International Code and related national legislation. In order to extrapolate the costs to other countries, we worked out a per birth cost (US$ 0.05) of such implementation and then estimated what financial resources each country would require for this purpose.

Costs of developing and implementing national legislation based on the International Code in different countries

Country	Budget head	Amount allocated in US$	Comments
China	Developing national legislation	55397	Allocation over 5 years, no further details available
Egypt	Developing national legislation	16420	Spread over six months, no further details available
Fiji	Developing national legislation	45000	Includes costs technical support for developing legislation, for training, production and distribution of training material and monitoring and reporting
Afghanistan	Developing national legislation	110000	Includes holding national level advocacy meetings, hiring national and international consultants, training in monitoring of legislation, printing and dissemination of the legislation, and holding meetings to sensitize the bureaucracy and judicial system
India	Cost of implementation	1188000 or US$ 0.05 per birth	Annual cost

Costs for promotion of breastfeeding

A study from Uganda, which calculated both financial and economic costs, estimated annual project costs be US$56,308. The largest cost component was peer supporter supervision, which accounted for over 50% of total project costs. The cost per mother counselled was US$139 and the cost per visit was US$26; there were six such visits for each mother.[139] The Study did not mention any costs related to the training of the peer counselors. Mongolia has allocated US$5000 for training 30 persons over 5 days in skilled counseling for lactation management[140]. In Egypt and Australia, EGP 5 million (US$ 82313120) over five years[141] and AUD 1.8 million (US$ 1830420 approx) over four years[142] respectively, include both costs of training and promotion; no details are available of the estimates for individual interventions. Similarly, the Saudi Arabia budget of US$106640.0000 includes the cost of training in skilled counselling, as well as providing technical support and hotline services.[143] Fiji has put down the cost of training at US$

[138] Breastfeeding Promotion Network of India (2011). National Consultation to Develop a Plan of Action - Resource Requirements for Enhancing Rates of Breastfeeding & Infant and Young Child Feeding in the 12th Plan – A Report. Available at http://www.bpni.org/Research/Report-National-Consultation.pdf

[139] Chola et al. Cost of individual peer counseling for the promotion of exclusive breastfeeding in Uganda. Cost Effectiveness and Resource Allocation 2011, 9:11. http://www.resource-allocation.com/content/9/1/11

[140] Information based on personal communication from Dr. Soyolgerel Gochoo, Officer of Child Health, Ministry of Health, Mongolia

[141] Information based on personal communication from Dr. Gihan Fouad, Consultant of Pediatrics and (IBCLC) in National Nutrition Institute, Cairo, Egypt.

[142] Australian National Breastfeeding Strategy 2010-2015, available at http://www.health.gov.au/internet/main/publishing.nsf/content/health-pubhlth-strateg-brfeed-index.htm

[143] Information based on person communication from Dr. Albandri Abonayan, Supervisor of Breast Feeding program, Ministry of Health, Saudi Arabia.

40,000[144]. WHO and UNICEF allocated US$ 195,537 in China for development of BFHI self-appraisal tools over a six-year period from 2006-2012[145]; once again no breakdown of costs are available. The budget for Vietnam costs creating a core group of national trainers and training counselors for field level work over a period of five years at 4650 million Vietnamese Dong, or US$ 222915 approximately[146]. Solomon Islands has spent SBD$68,751 (US$ 9686 approx) in 2012 for creating a cadre of skilled counselors for the Baby Friendly Hospital Initiative (BFHI)[147]. Brunei Darussalam used to allocate some finances for training in IYCF, but the budget has been cut. The department for nursing and continuing nursing education now conducts this training, which is down to about 2 training courses per year[148].

Refresher courses conducted by middle level trainers for field level workers in Lalitpur District in India cost INR 10 (US$ 0.20 approx) per infant born over the programme period[149].

Some countries have allocated specific amounts to IEC activities to promote breastfeeding. Egypt has allocated EGP 5 million (US$ 82313120) for an awareness raising campaign for mothers and families about breastfeeding and its benefits through TV spots, Radio spots, brochures, posters, as well as training health care workers in breastfeeding and counseling skills, over five years.[150] Saudi Arabia has estimated US$106640.0000 as the cost of training in skilled counselling, providing technical support and hotline services.[151] In China, WHO and UNICEF allocated US$ 311,674 for programmes related to enhancing breastfeeding over a six-year period from 2006-2012[152]

Vietnam budgeted VND 1500 million (US$ 71910 approx) in 2010 for implementation of communication activities[153]. The *Australian National Breastfeeding Strategy 2010-2015,* which builds on existing initiatives to promote, protect, support and monitor breastfeeding, includes $1.8 million (US$ 1830420 approx) over four years to support education and the provision of information resources, as well as health professionals training and support[154]. The IYCF budget of Afghanistan puts the annual cost of raising public awareness at US$ 1,634,000, of which US$ 400,000 is for World Breastfeeding Week celebrations[155].

[144] Information based on personal communication from Mrs. Ateca Kama, Acting Manager, Nutrition and Dietetics, Ministry of Health, Fiji
[145] Information based on personal communication from Dr. Shuyi Zhang, Capital Institute of Pediatrics, Beijing, China
[146] Annex 4, Infant and Young Child Feeding Plan of Action for Vietnam 2006-2010. Ministry of Health, Vietnam. Available at http://www.ennonline.net/pool/files/ife/iycf-plan-of-action-for-viet-nam-english-version.pdf
[147] Information based on personal communication with Ms. Rosemary Lilu Kafa, Nutritionist with the Nutrition and Dietetics Unit, Ministry of Health and Medical Services, Solomon Islands
[148] Information based on personal communication from Mrs. Roseyati Yakuub, Dept. of Health Services, Ministry of Health, Brunei Darussalam
[149] Personal communication with Dr. Komal Kushwaha, Principal, BRD Medical College, Gorakhpur, India, and HOD Dept. of Pediatrics; Dr. Kushwaha is in charge of the BFCHI programme for District Lalitpur.
[150] Information based on personal communication from Dr. Gihan Fouad, Consultant of Pediatrics and (IBCLC) in National Nutrition Institute, Cairo, Egypt.
[151] Information based on person communication from Dr. Albandri Abonayan, Supervisor of Breast Feeding program, Ministry of Health, Saudi Arabia.
[152] Information based on personal communication from Dr. Shuyi Zhang, Capital Institute of Pediatrics, Beijing, China
[153] Annex 4, Infant and Young Child Feeding Plan of Action for Vietnam 2006-2010. Ministry of Health, Vietnam. Available at http://www.ennonline.net/pool/files/ife/iycf-plan-of-action-for-viet-nam-english-version.pdf
[154] Australian National Breastfeeding Strategy 2010-2015, available at http://www.health.gov.au/internet/main/publishing.nsf/content/health-pubhlth-strateg-brfeed-index.htm
[155] Islamic Republic of Afghanistan, Ministry of Public Health. National Infant and Young Child Feeding Policy and Strategy 2009 – 2013. Annex 4

Costs of promotion of IYCF in different countries

Country	Budget head	Amount allocated in US$	Comments
Costs of training in skilled counseling			
Australia	Training and promotion	1830420	Spread over 4 years
China	Development of BFHI Self Appraisal tools	195537	Spread over 6 years No further details available
Egypt	Training and promotion	82313120	Spread over 5 years
Fiji	Training	40000	No further information available
India	Training	4.50 per birth	One time costs Costs of BFCHI project, Lalitpur Cost includes training, training material, a minimum honorarium for field level workers, but not any travel costs for delivery of services
	Refresher training	0.20 per birth	Annual costs of refresher course at Lalitpur
Mongolia	Training in skilled counselling and lactation management	5000	Training given to 30 persons over 5 days
Saudi Arabia	Programme Operation costs	106640	Annual costs Cost includes Training in skilled counseling, providing technical information and hotline services but no further details available
Solomon Islands	Training	9686	Creating a cadre of skilled counselors for BFHI
Vietnam	Training	222915	Spread over 5 years Creating a Core group of national and field level counselors
Costs of other forms of promotion			
Afghanistan	Promotion	1634000	Annual Costs Includes US$ 100,000 for celebration of World Breastfeeding Week.
Australia	Promotion and training in counseling skills	1830420	Over four years
China	Programmes for Enhancing Breastfeeding	311674	Spread over 6 years Nor further details available of what interventions are included in the programme
Egypt	Promotion and training in counseling skills	83213120	Over five years
Vietnam	Promotion	71910	Annual costs

Costs for support of breastfeeding

While we could not access costs of developing legislation to provide maternity benefits, the Afghanistan IYCF budget of US$ 35000 under this head gives us a base for calculating the costs of developing guidelines for implementing the legislation and sensitizing the public[156].

In Mongolia, every pregnant woman from the 20 weeks of her pregnancy receives 41000 MNT (US$ 30 approx) each month for the next 12 months, till the baby is about six months old. Working mothers receive additional 60 days allowance from insurance[157]. In Fiji, where 70,708 females are employed, there are 84 consecutive days of maternity leave with full pay for the first three confinements, and thereafter, 50% of gross salary is due as maternity benefit; annual leave can be taken with maternity leave[158]. In Brunei Darussalam, non-formal private sectors female employees are entitled to 13 weeks of paid maternity leave; of which compensation for post-delivery 8 weeks is paid by their employer, and the other 5 weeks supported by the Brunei Government through a special procedure involving filling a form in the

[156] Islamic Republic of Afghanistan, Ministry of Public Health. National Infant and Young Child Feeding Policy and Strategy 2009 – 2013. Annex 4

[157] Information based on personal communication from Dr. Soyolgerel Gochoo, Officer of Child Health, Ministry of Health, Mongolia

[158] Information based on personal communication from Mrs. Ateca Kama, Acting Manager, Nutrition and Dietetics, Ministry of Health, Fiji

Dept. of Labour, certification of birth by a government doctor, etc. However this privilege is only applicable to Brunei citizens and permanent residents.[159]

The Australian Government has introduced a comprehensive Paid Parental Leave (PPL) scheme for new parents who are the primary carers of a child born or adopted on or after 1 January 2011. An eligible person will receive taxable PPL payments at the level of the Federal Minimum Wage, currently $543.78 (US$ 553 approx) a week, for a maximum period of 18 weeks; the amount is taxable. However certain conditionalities apply. To be eligible for the PPL scheme, the primary carer (usually the mother) must be in paid work and have (a) been engaged in work continuously for at least 10 of the 13 months prior to the expected birth or adoption of the child; and (b) undertaken at least 330 hours of paid work in the 10 month period (an average of around one day of paid work a week). However, women do not meet these conditionalities can continue to receive assistance from other forms of family assistance including the Baby Bonus. The PPL scheme is estimated to have a net cost to the Government of AUD 731 million (US$ 743,353,859 approx) over five years[160].

India has initiated the Indira Gandhi Matritva Sahyog Yojna (Indira Gandhi Maternity Benefit Scheme), which is initially being implemented in 52 selected districts. The scheme enables any woman above 18 years of age to receive a maternity benefit of Rs. 4000[161] (approximately US$ 80 over six months) provided she attends antenatal clinics, has her delivery at a health facility, and completes the immunization schedule for her child.

Costs of support – wage compensation/financial assistance and setting up crèches in different countries

Country	Budget head	Amount allocated in US$	Comments
Cost of developing guidelines for providing maternity entitlements			
Afghanistan	Maternity Entitlements	35000	One time cost Developing guidelines for providing maternity entitlements, and sensitizing the public
Types of maternity entitlements and their costs			
Brunei Darussalam	Maternity entitlements	Not available	13 weeks of paid maternity leave for non-formal private sectors female employees; of which compensation for post-delivery 8 weeks is paid by their employer, and the other 5 weeks supported by the Brunei Government through a special procedure involving filling a form in the Dept. of Labour, certification of birth by a government doctor, etc. applicable to Brunei citizens and permanent residents.
Mongolia	Maternity entitlements	360 per birth	Applicable to each pregnant woman Covers the period from 20 weeks of pregnancy to 6 months after birth
		60 per birth	Additional allowance for 60 days applicable only to working mothers
Fiji	Maternity entitlements	Not available	84 consecutive days of maternity leave with full pay for the first three confinements, and thereafter, 50% of gross salary is due as maternity benefit; annual leave can be taken with maternity leave
Australia	Paid Parental Leave scheme	743,353,859	Applicable over 5 years to primary care givers adopting the scheme Primary care giver receives US$ 553 (approx)

[159] Information based on personal communication from Mrs. Roseyati Yakuub, Dept. of Health Services, Ministry of Health, Brunei Darussalam

[160] Australian Government publication. Australia's Paid Parental Leave Scheme. Supporting working Australian families.

[161] The State of Tamil Nadu has increased this amount to Rs. 12000 (appox US$ 240) to be paid over six months

			each week for maximum 18 weeks; amount is taxable Primary care giver must be in paid work and have (a) been engaged in work continuously for at least 10 of the 13 months prior to the expected birth or adoption of the child; and (b) undertaken at least 330 hours of paid work in the 10 month period (an average of around one day of paid work a week). Does not qualify for other assistance related to maternity
India	Indira Gandhi Maternity Benefit Scheme	80 per birth	Spread over 6 months Applicable to all women but with conditions including attending antenatal clinics, delivery at a health facility, and completing the immunization schedule for the baby Currently being piloted in 52 districts in the country