Nutrition in the First 1,000 Days

State of the World's Mothers 2012

Save the Children

Save the Children

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Meseret, a 15-year-old mother in Ethiopia, breastfeeds her 8-month-old son Besufekad. Meseret participates in an urban garden program supported by Save the Children. She and her son have more nutritious meals using the vegetables she grows, and she sells what's left at the market for income.

Photo by Anne-Sofie Helms

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NUTRITION IN THE FIRST 1,000 DAYS

In commemoration of Mother's Day, Save the Children is publishing its thirteenth annual *State of the World's Mothers* report. The focus is on the 171 million children globally who do not have the opportunity to reach their full potential due to the physical and mental effects of poor nutrition in the earliest months of life. This report shows which countries are doing the best – and which are doing the worst – at providing nutrition during the critical window of development that starts during a mother's pregnancy and goes through her child's second birthday. It looks at six key nutrition solutions, including breastfeeding, that have the greatest potential to save lives, and shows that these solutions are affordable, even in the world's poorest countries.

The *Infant and Toddler Feeding Scorecard* ranks 73 developing countries on measures of early child nutrition. The *Breastfeeding Policy Scorecard* examines maternity leave laws, the right to nursing breaks at work and other indicators to rank 36 developed countries on the degree to which their policies support women who want to breastfeed. And the annual *Mothers' Index* evaluates the status of women's health, nutrition, education, economic well-being and political participation to rank 165 countries – both in the industrialized and developing world – to show where mothers and children fare best and where they face the greatest hardships.

Bangladesh

FOREWORD

It's hard to believe, but a child's future can be determined years before they even reach their fifth birthday. As a father of three, I see unlimited potential when I look at my kids. But for many children, this is not the case.

In some countries, half of all children are chronically undernourished or "stunted." Despite significant progress against hunger and poverty in the last decade, undernutrition is an underlying killer of more than 2.6 million children and more than 100,000 mothers every year. Sustained poor nutrition weakens immune systems, making children and adults more likely to die of diarrhea or pneumonia. And it impairs the effectiveness of lifesaving medications, including those needed by people living with HIV and AIDS.

The devastating impact of undernutrition spans generations, as poorly nourished women are more likely to suffer difficult pregnancies and give birth to undernourished children themselves. Lost productivity in the 36 countries with the highest levels of undernutrition can cost those economies between 2 and 3 percent of gross domestic product. That's billions of dollars each year that could go towards educating more children, treating more patients at health clinics and fueling the global economy.

We know that investments in nutrition are some of the most powerful and cost-effective in global development. Good nutrition during the critical 1,000-day window from pregnancy to a child's second birthday is crucial to developing a child's cognitive capacity and physical growth. Ensuring a child receives adequate nutrition during this window can yield dividends for a lifetime, as a well-nourished child will perform better in school, more effectively fight off disease and even earn more as an adult.

The United States continues to be a leader in fighting undernutrition. Through Feed the Future and the Global Health Initiative we're responding to the varying causes and consequences of, and solutions to, undernutrition. Our nutrition programs are integrated in both initiatives, as we seek to ensure mothers and young children have access to nutritious food and quality health services.

In both initiatives, the focus for change is on women. Women comprise nearly half of the agricultural workforce in Africa, they are often responsible for bringing home water and food and preparing family meals, they are the primary family caregivers and they often eat last and least. Given any small amount of resources, they often spend them on the health and well-being of their families, and it has been proven that their own health and practices determine the health and prospects of the next generation.

To help address this challenge, our programs support country-led efforts to ensure the availability of affordable, quality foods, the promotion of breastfeeding and improved feeding practices, micronutrient supplementation and community-based management of acute malnutrition. Since we know rising incomes do not necessarily translate into a reduction in undernutrition, we are supporting specific efforts geared towards better child nutrition outcomes including broader nutrition education targeting not only mothers, but fathers, grandmothers and other caregivers.

The United States is not acting alone; many developing countries are taking the lead on tackling this issue. In 2009, G8 leaders met in L'Aquila, Italy and pledged to increase funding and coordination for investment in agriculture and food security, reversing years of declining public investment. And since 2010, some 27 developing countries have joined the Scaling Up Nutrition (SUN) Movement, pledging to focus on reducing undernutrition.

That same year, the United States and several international partners launched the 1,000 Days Partnership. The Partnership was designed to raise awareness of and focus political will on nutrition during the critical 1,000 days from pregnancy to a child's second birthday. 1,000 Days also supports the SUN Movement, and I am proud to be a member of the SUN Lead Group until the end of 2013.

Preventing undernutrition means more than just providing food to the hungry. It is a long-term investment in our future, with generational payoffs. This report documents the extent of the problem and the ways we can solve it. All we must do is act.

Dr. Rajiv Shah
Administrator of the United States Agency for International Development (USAID)

INTRODUCTION

Every year, our *State of the World's Mothers* report reminds us of the inextricable link between the well-being of mothers and their children. More than 90 years of experience on the ground have shown us that when mothers have health care, education and economic opportunity, both they and their children have the best chance to survive and thrive.

But many are not so fortunate. Alarming numbers of mothers and children in developing countries are not getting the nutrition they need. For mothers, this means less strength and energy for the vitally important activities of daily life. It also means increased risk of death or giving birth to a pre-term, underweight or malnourished infant. For young children, poor nutrition in the early years often means irreversible damage to bodies and minds during the time when both are developing rapidly. And for 2.6 million children each year, hunger kills, with malnutrition leading to death.

This report looks at the critical 1,000-day window of time from the start of a woman's pregnancy to her child's second birthday. It highlights proven, low-cost nutrition solutions – like exclusive breastfeeding for the first 6 months – that can make the difference between life and death for children in developing countries. It shows how millions of lives can be saved – and whole countries can be bolstered economically – if governments and private donors invest in these basic solutions. As Administrator Shah states persuasively in the Foreword to this report, the economic argument for early nutrition is very strong – the cost to a nation's GDP is significant when kids go hungry early in life.

Save the Children is working to fight malnutrition on three fronts as part of our global newborn and child survival campaign:

- First, Save the Children is increasing awareness of the global malnutrition crisis and its disastrous effects on mothers, children, families and communities. As part of our campaign, this report calls attention to areas where greater investments are needed and shows that effective strategies are working, even in some of the poorest places on earth.
- Second, Save the Children is encouraging action by mobilizing citizens around the world to support quality programs to reduce maternal, newborn and child mortality, and to advocate for increased leadership, commitment and funding for programs we know work.
- Third, we are making a major difference on the ground. Save the Children rigorously tests strategies that lead to breakthroughs for children. We work in partnerships across sectors with national ministries, local organizations and others to support high quality health, nutrition and agriculture programming throughout the developing world. As part of this, we train and support frontline health workers who promote breastfeeding, counsel families to improve diets, distribute vitamins and other micronutrients, and treat childhood diseases. We also manage large food security programs with a focus on child nutrition in 10 countries. Working together, we have saved millions of children's lives. The tragedy is that so many more could be helped, if only more resources were available to ensure these lifesaving programs reach all those who need them.

This report contains our annual ranking of the best and worst places in the world for mothers and children. We count on the world's leaders to take stock of how mothers and children are faring in every country and to respond to the urgent needs described in this report. Investing in this most basic partnership of all – between a mother and her child – is the first and best step in ensuring healthy children, prosperous families and strong communities.

Every one of us has a role to play. As a mother myself, I urge you to do your part. Please read the Take Action section of this report, and visit our website on a regular basis to find out what you can do to make a difference.

Carolyn Miles
President and CEO
Save the Children USA
(Follow @carolynsave on Twitter)

Somalia

EXECUTIVE SUMMARY: KEY FINDINGS AND RECOMMENDATIONS

Malnutrition is an underlying cause of death for 2.6 million children each year, and it leaves millions more with lifelong physical and mental impairments. Worldwide, more than 170 million children do not have the opportunity to reach their full potential because of poor nutrition in the earliest months of life.

Much of a child's future – and in fact much of a nation's future – is determined by the quality of nutrition in the first 1,000 days. The period from the start of a mother's pregnancy through her child's second birthday is a critical window when a child's brain and body are developing rapidly and good nutrition is essential to lay the foundation for a healthy and productive future. If children do not get the right nutrients during this period, the damage is often irreversible.

This year's *State of the World's Mothers* report shows which countries are succeeding – and which are failing – to provide good nutrition during the critical 1,000-day window. It examines how investments in nutrition solutions make a difference for mothers, children, communities, and society as a whole. It also points to proven, low-cost solutions that could save millions of lives and help lift millions more out of ill-health and poverty.

KEY FINDINGS

1. Children in an alarming number of countries are not getting adequate nutrition during their first 1,000 days. Out of 73 developing countries – which together account for 95 percent of child deaths – only four score "very good" on measures of young child nutrition. Our *Infant and Toddler Feeding Scorecard* identifies Malawi, Madagascar, Peru and Solomon Islands as the top four countries where the majority of children under age 2 are being fed according to recommended standards. More than two thirds of the countries on the *Scorecard* receive grades of "fair" or "poor" on these measures overall, indicating vast numbers of children are not getting a healthy start in life. The bottom four countries on the *Scorecard* – Somalia, Côte d'Ivoire, Botswana and Equatorial Guinea – have staggeringly poor performance on indicators of early child feeding and have made little to no progress since 1990 in saving children's lives. *(To read more, turn to pages 26-31.)*

2. Child malnutrition is widespread and it is limiting the future success of millions of children and their countries. Stunting, or stunted growth, occurs when children do not receive the right type of nutrients, especially in utero or during the first two years of life. Children whose bodies and minds are limited by stunting are at greater risk for disease and death, poor performance in school, and a lifetime of poverty. More than 80 countries in the developing world have child stunting rates of 20 percent or more. Thirty of these countries have what is considered to be "very high" stunting rates of 40 percent or more. While many countries are making progress in reducing child malnutrition, stunting prevalence is on the rise in at least 14 countries, most of them in sub-Saharan Africa. If current trends continue, Africa may overtake Asia as the region most heavily burdened by child malnutrition. *(To read more, turn to pages 15-21.)*

3. Economic growth is not enough to fight malnutrition. Political will and effective strategies are needed to reduce malnutrition and prevent stunting. A number of relatively poor countries are doing an admirable job of tackling this problem, while other countries with greater resources are not doing so

Vital Statistics

Malnutrition is the underlying cause of more than 2.6 million child deaths each year.

171 million children – 27 percent of all children globally – are stunted, meaning their bodies and minds have suffered permanent, irreversible damage due to malnutrition.

In developing countries, breastfed children are at least 6 times more likely to survive in the early months of life than non-breastfed children.

If all children in the developing world received adequate nutrition and feeding of solid foods with breastfeeding, stunting rates at 12 months could be cut by 20 percent.

Breastfeeding is the single most effective nutrition intervention for saving lives. If practiced optimally, it could prevent 1 million child deaths each year.

Adults who were malnourished as children can earn an estimated 20 percent less on average than those who weren't.

The effects of malnutrition in developing countries can translate into losses in GDP of up to 2-3 percent annually.

Globally, the direct cost of malnutrition is estimated at $20 to $30 billion per year.

well. For example: India has a GDP per capita of $1,500 and 48 percent of its children are stunted. Compare this to Vietnam where the GDP per capita is $1,200 and the child stunting rate is 23 percent. Others countries that are performing better on child nutrition than their national wealth might suggest include: Brazil, Chile, Costa Rica, Kyrgyzstan, Mongolia, Senegal and Tunisia. Countries that are underperforming relative to their national wealth include: Botswana, Equatorial Guinea, Guatemala, Indonesia, Mexico, Panama, Peru, South Africa and Venezuela. *(To read more, turn to pages 19-20.)*

4. We know how to save millions of children. Save the Children has highlighted six low-cost nutrition interventions with the greatest potential to save lives in children's first 1,000 days and beyond. Universal coverage of these "lifesaving six" solutions globally could prevent more than 2 million mother and child deaths each year. The lifesaving six are: iron folate, breastfeeding, complementary feeding, vitamin A, zinc and hygiene. Nearly 1 million lives could be saved by breastfeeding alone. This entire lifesaving package can be delivered at a cost of less than $20 per child for the first 1,000 days. Tragically, more than half of the world's children do not have access to the lifesaving six. *(To read more, turn to pages 23-26.)*

5. Health workers are key to success. Frontline health workers have a vital role to play in promoting good nutrition in the first 1,000 days. In impoverished communities in the developing world where malnutrition is most common, doctors and hospitals are often unavailable, too far away, or too expensive.

Vietnam

Kyrgyzstan

Community health workers and midwives meet critical needs in these communities by screening children for malnutrition, treating diarrhea, promoting breastfeeding, distributing vitamins and other micronutrients, and counseling mothers about balanced diet, hygiene and sanitation. The "lifesaving six" interventions highlighted in this report can all be delivered in remote, impoverished places by well-trained and well-equipped community health workers. In a number of countries – including Cambodia, Malawi and Nepal – these health workers have contributed to broad-scale success in fighting malnutrition and saving lives. *(To read more, turn to pages 32-37.)*

6. In the industrialized world, the United States has the least favorable environment for mothers who want to breastfeed. Save the Children examined maternity leave laws, the right to nursing breaks at work, and several other indicators to create a ranking of 36 industrialized countries measuring which ones have the most – and the least – supportive policies for women who want to breastfeed. Norway tops the *Breastfeeding Policy Scorecard* ranking. The United States comes in last. *(To read more, turn to pages 39-43.)*

RECOMMENDATIONS

1. Invest in proven, low-cost solutions to save children's lives and prevent stunting. Malnutrition and child mortality can be fought with relatively simple and inexpensive solutions. Iron supplements strengthen children's resistance to disease, lower women's risk of dying in childbirth and may help prevent premature births and low birthweight. Six months of exclusive breastfeeding increases a child's chance of survival at least six-fold. Timely and appropriate complementary feeding is the best way to prevent a lifetime of lost potential due to stunting. Vitamin A helps prevent blindness and lowers a child's risk of death from common diseases. Zinc and good hygiene can save a child from dying of diarrhea. These solutions are not expensive, and it is a tragedy that millions of mothers and children do not get them.

2. Invest in health workers – especially those serving on the front lines – to reach the most vulnerable mothers and children. The world is short more than 3 million health workers of all types, and there is an acute shortage of frontline

workers, including community health workers, who are critical to delivering the nutrition solutions that can save lives and prevent stunting. Governments and donors should work together to fill this health worker gap by recruiting, training and supporting new and existing health workers, and deploying them where they are needed most.

3. Help more girls go to school and stay in school. One of the most effective ways to fight child malnutrition is to focus on girls' education. Educated women tend to have fewer, healthier and better-nourished children. Increased investments are needed to help more girls go to school and stay in school, and to encourage families and communities to value the education of girls. Both formal education and non-formal training give girls knowledge, self-confidence, practical skills and hope for a bright future. These are powerful tools that can help delay marriage and child-bearing to a time that is healthier for them and their babies.

4. Increase government support for proven solutions to fight malnutrition and save lives. In order to meet internationally agreed upon development goals to reduce child deaths and improve mothers' health, lifesaving services must be increased for the women and children who need help most. All countries must make fighting malnutrition and stunting a priority. Developing countries should commit to and fund national nutrition plans that are integrated with plans for maternal and child health. Donor countries should support these goals by keeping their funding commitments to achieving the Millennium Development Goals and countries should endorse and support the Scaling Up Nutrition (SUN) movement. Resources for malnutrition programs should not come at the expense of other programs critical to the survival and well-being of children.*(To read more, turn to page 45.)*

5. Increase private sector partnerships to improve nutrition for mothers and children. Many local diets fail to meet the nutritional requirements of children 6-24 months old. The private sector can help by producing and marketing affordable fortified products. Partnerships should be established with multiple manufacturers, distributors and government ministries to increase product choice, access and affordability, improve compliance with codes and standards, and promote public education on good feeding practices and use of local foods and commercial products. The food industry can also invest more in nutrition programs and research, contribute social marketing expertise to promote healthy behaviors such as breastfeeding, and advocate for greater government investments in nutrition.

6. Improve laws, policies and actions that support families and encourage breastfeeding. Governments in all countries can do more to help parents and create a supportive environment for breastfeeding. Governments and partners should adopt policies that are child-friendly and support breastfeeding mothers. Such policies would give families access to maternal and paternal leave, ensure that workplaces and public facilities offer women a suitable place to feed their babies outside of the home, and ensure working women are guaranteed breastfeeding breaks while on the job. In an increasingly urban world, a further example is that public transportation can offer special seats for breastfeeding mothers.

Afghanistan

Niger

The *2012 Mothers' Index*: Norway Tops List, Niger Ranks Last, United States Ranks 25th

Save the Children's thirteenth annual *Mothers' Index* compares the well-being of mothers and children in 165 countries – more than in any previous year. The *Mothers' Index* also provides information on an additional 8 countries, 7 of which report sufficient data to present findings on women's or children's indicators. When these are included, the total comes to 173 countries.

Norway, Iceland and Sweden top the rankings this year. The top 10 countries, in general, attain very high scores for mothers' and children's health, educational and economic status. Niger ranks last among the 165 countries surveyed. The 10 bottom-ranked countries – eight from sub-Saharan Africa – are a reverse image of the top 10, performing poorly on all indicators. The United States places 25th this year – up six spots from last year.

Conditions for mothers and their children in the bottom countries are grim. On average, 1 in 30 women will die from pregnancy-related causes. One child in 7 dies before his or her fifth birthday, and more than 1 child in 3 suffers from malnutrition. Nearly half the population lacks access to safe water and fewer than 4 girls for every 5 boys are enrolled in primary school.

The gap in availability of maternal and child health services is especially dramatic when comparing Norway and Niger. Skilled health personnel are present at virtually every birth in Norway, while only a third of births are attended in Niger. A typical Norwegian girl can expect to receive 18 years of formal education and to live to be over 83 years old. Eighty-two percent of women are using some modern method of contraception, and only 1 in 175 is likely to lose a child before his or her fifth birthday. At the opposite end of the spectrum, in Niger, a typical girl receives only 4 years of education and lives to be only 56. Only 5 percent of women are using modern contraception, and 1 child in 7 dies before his or her fifth birthday. At this rate, every mother in Niger is likely to suffer the loss of a child.

Zeroing in on the children's well-being portion of the *Mothers' Index*, Iceland finishes first and Somalia is last out of 171 countries. While nearly every Icelandic child – girl and boy alike – enjoys good health and education, children in Somalia face the highest risk of death in the world. More than 1 child in 6 dies before age 5. Nearly one-third of Somali children are malnourished and 70 percent lack access to safe water. Fewer than 1 in 3 children in Somalia are enrolled in school, and within that meager enrollment, boys outnumber girls almost 2 to 1.

These statistics go far beyond mere numbers. The human despair and lost opportunities represented in these numbers demand mothers everywhere be given the basic tools they need to break the cycle of poverty and improve the quality of life for themselves, their children, and for generations to come.

See the Appendix for the Complete Mothers' Index and Country Rankings.

Bangladesh

WHY FOCUS ON THE FIRST 1,000 DAYS?

Good nutrition during the 1,000-day period between the start of a woman's pregnancy and her child's second birthday is critical to the future health, well-being and success of her child. The right nutrition during this window can have a profound impact on a child's ability to grow, learn and rise out of poverty. It also benefits society, by boosting productivity and improving economic prospects for families and communities.

Malnutrition is an underlying cause of 2.6 million child deaths each year.[1] Millions more children survive, but suffer lifelong physical and cognitive impairments because they did not get the nutrients they needed early in their lives when their growing bodies and minds were most vulnerable. When children start their lives malnourished, the negative effects are largely irreversible.

Pregnancy and infancy are the most important periods for brain development. Mothers and babies need good nutrition to lay the foundation for the child's future cognitive, motor and social skills, school success and productivity. Children with restricted brain development in early life are at risk for later neurological problems, poor school achievement, early school drop out, low-skilled employment and poor care of their own children, thus contributing to the intergenerational transmission of poverty.[2]

Millions of mothers in poor countries struggle to give their children a healthy start in life. Complex social and cultural beliefs in many developing countries put females at a disadvantage and, starting from a very young age, many girls do not get enough to eat. In communities where early marriage is common, teenagers often leave school and become pregnant before their bodies have fully matured. With compromised health, small bodies and inadequate resources and support, these mothers often fail to gain sufficient weight during pregnancy and are susceptible to a host of complications that put themselves and their babies at risk.

Worldwide, 20 million babies are born with low birthweight each year.[3] Many of these babies are born too early – before the full nine months of pregnancy. Others are full-term but they are small because of poor growth in the mother's womb. Even babies who are born at a normal weight may still have been malnourished in the womb if the mother's diet was poor. Others become malnourished in infancy due to disease, inadequate breastfeeding or lack of nutritious food. Malnutrition weakens young children's immune systems and leaves them vulnerable to death from common illnesses such as pneumonia, diarrhea and malaria.

South Sudan

ECONOMIC GROWTH AND FUTURE SUCCESS

Investments in improving nutrition for mothers and children in the first 1,000 days will yield real payoffs both in lives saved and in healthier, more stable and productive populations. In addition to its negative, often fatal, health consequences, malnutrition means children achieve less at school and their productivity and health in adult life is affected, which has dire financial consequences for entire countries.

Children whose physical and mental development are stunted by malnutrition will earn less on average as adults. One study suggested the loss of human potential resulting from stunting was associated with 20 percent less adult income on average.[4] Malnutrition costs many developing nations an estimated 2-3 percent of their GDP each year, extends the cycle of poverty, and impedes global economic growth.[5] Globally, the direct cost of child malnutrition is estimated at $20 to $30 billion per year.[6]

In contrast, well-nourished children perform better in school and grow up to earn considerably more on average than those who were malnourished as children. Recent evidence suggests nutritional interventions can increase adult earnings by as much as 46 percent.[7]

An estimated 450 million children will be affected by stunting in the next 15 years if current trends continue.[8] This is bad news for the economies of developing nations, and for a global economy that is increasingly dependent on new markets to drive economic growth.

Malawi

"Whenever I see a pregnant woman now, I share the lessons I learned, so they won't have to suffer like I did," says Sobia, age 23. Sobia, her 8-month-old daughter Arooj, and 3½-year-old son Abdullah, live in Haripur, Pakistan. *Photo by Daulat Baig*

Pakistan

Ending a Family Legacy of Malnutrition

Sobia grew up in a large family that struggled to get by, and like many girls, she did not get enough to eat. "We were five brothers and sisters and lived a very hard life," she said. "My mother looked after us by doing tailoring work at home and fed us on this meager income."

When Sobia was 18 and pregnant with her first child, she felt tired, achy, feverish and nauseous. Her mother-in-law told her this was normal, so she did not seek medical care. She knows now that she was anemic, and she is lucky she and her baby are still alive. With no prenatal care, she was unprepared for childbirth. When her labor pains started, her family waited three days, as they were expecting her to deliver at home. Finally, when her pain became extreme, they took her to the hospital. She had a difficult delivery with extensive bleeding. Her baby boy, Abdullah, was born small and weak. Sobia was exhausted, and it was difficult for her to care for her infant.

Sobia followed local customs that say a woman should not breastfeed her baby for the first three days. Over the next few months, Abdullah suffered bouts of diarrhea and pneumonia, but he managed to survive. When Abdullah was 8 months old, Sobia discovered she was pregnant again. After she miscarried, she sought help from a nearby clinic established by Save the Children. That was when she learned she was severely anemic.

The staff at the clinic gave Sobia iron supplements and showed her ways to improve her diet. They advised her to use contraceptives to give herself time to rest and get stronger before having her next baby. She discussed this with her husband and they agreed they would wait two years.

Sobia was anemic again during her third pregnancy, but this time she was getting regular prenatal care, so the doctors gave her iron injections and more advice about improving her diet. Sobia followed the advice and gave birth to her second baby, a healthy girl named Arooj, in July 2011. She breastfed Arooj within 30 minutes after she was born, and continued breastfeeding exclusively for 6 months. "My Arooj is so much healthier than Abdullah was," Sobia says. "She doesn't get sick all the time like he did."

Mozambique

THE GLOBAL MALNUTRITION CRISIS

One in four of the world's children are chronically malnourished, also known as stunted. These are children who have not gotten the essential nutrients they need, and their bodies and brains have not developed properly.

The damage often begins before a child is born, when a poorly nourished mother cannot pass along adequate nutrition to the baby in her womb. She then gives birth to an underweight infant. If she is impoverished, overworked, poorly educated or in poor health, she may be at greater risk of not being able to feed her baby adequately. The child may endure more frequent infections, which will also deprive the growing body of essential nutrients. Children under age 2 are especially vulnerable, and the negative effects of malnutrition at this age are largely irreversible.

The issue of chronic malnutrition, as opposed to acute malnutrition (as in the Horn of Africa in the last year) seldom grabs the headlines, yet it is slowly destroying the potential of millions of children. Globally, 171 million children are experiencing chronic malnutrition,[9] which leaves a large portion of the world's children not only shorter than they otherwise would be, but also facing cognitive impairment that lasts a lifetime.

More than 80 countries in the developing world have child stunting rates of 20 percent or more. Thirty of these countries have what are considered to be "very high" stunting rates of 40 percent or more.[10] Four countries – Afghanistan, Burundi, Timor-Leste and Yemen – have stunting rates close to 60 percent.[11] As much as a third of children in Asia are stunted[12] (100 million of the global total).[13] In Africa, almost 2 in 5 children are stunted – a total of 60 million children.[14] This largely unnoticed child malnutrition crisis is robbing the health of tomorrow's adults, eroding the foundations of the global economy, and threatening global stability.

Chronic Malnutrition Causes Three Times as Many Child Deaths as Acute Malnutrition

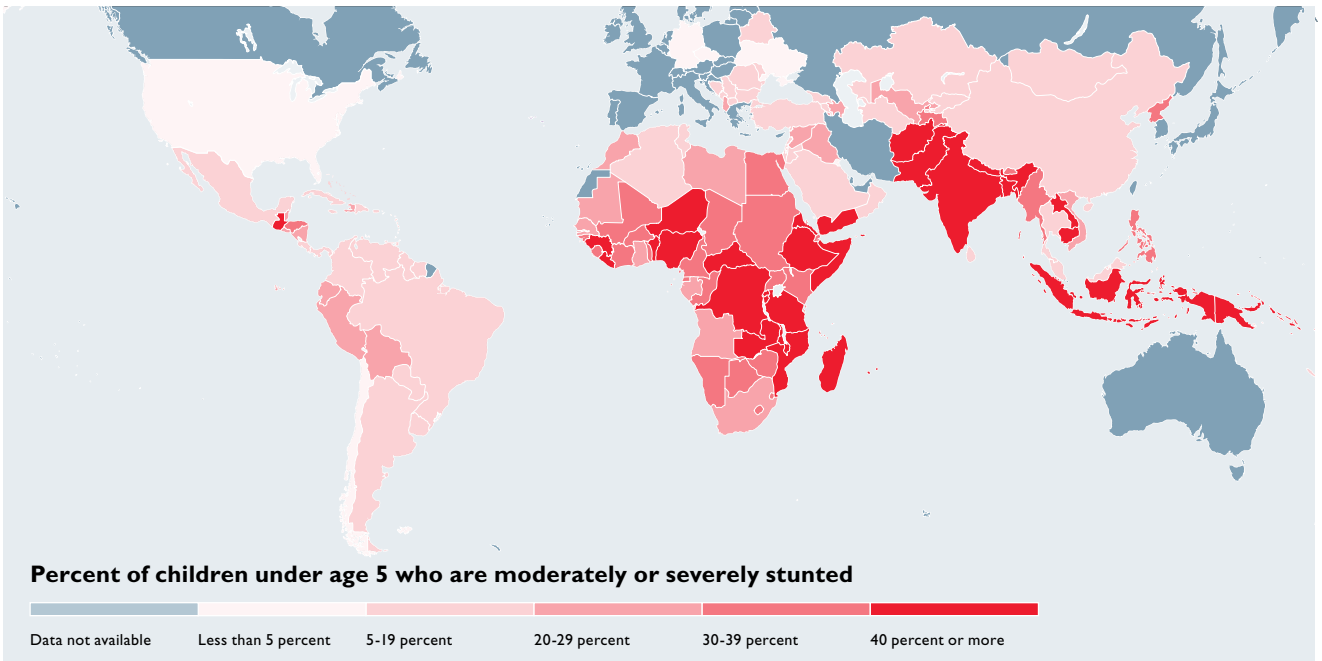
	Child deaths (1,000s)	% of all child deaths
Chronic malnutrition (stunting)	1,100	14.5
Acute malnutrition (severe wasting)	340	4.4
Low birthweight*	250	3.3
Total**	**1,600**	**21.4%**

* Deaths are for low birthweight (LBW) due to intrauterine growth restriction, the primary cause of LBW in developing countries.

** Totals do not equal column sums as they take into account the joint distrubtion of stunting and severe wasting.

Note: The share of global under-5 deaths directly attributed to nutritional status measures are for 2004 as reported in *The Lancet* (Robert E. Black, et al. "Maternal and Child Undernutrition: Global and Regional Exposures and Health Consequences," 2008). Total number of deaths are calculated by Save the Children based on child mortality in 2010 (UNICEF. *The State of the World's Children* 2012, Table 1).

Thirty Countries Have Stunting Rates of 40% or More



Data sources: WHO Global Database on Child Growth and Malnutrition (who.int/nutgrowthdb/); UNICEF Global Databases (childinfo.org); recent DHS and MICS surveys (as of April 2012)

Four Types of Malnutrition

Stunting – A child is too short for their age. This is caused by poor diet and frequent infections. Stunting generally occurs before age 2, and the effects are largely irreversible. These include delayed motor development, impaired cognitive function and poor school performance. In total, 171 million children – 27 percent of all children globally – are stunted.[15]

Wasting – A child's weight is too low for their height. This is caused by acute malnutrition. Wasting is a strong predictor of mortality among children under 5. It is usually caused by severe food shortage or disease. In total, over 60 million children – 10 percent of all children globally – are wasted.[16]

Underweight – A child's weight is too low for their age. A child can be underweight because she is stunted, wasted or both. Weight is a sensitive indicator of short-term (i.e., acute) undernutrition. Whereas a deficit in height (stunting) is difficult to correct, a deficit in weight (underweight) can be recouped if nutrition and health improve later in childhood. Worldwide, more than 100 million children are underweight.[17] Being underweight is associated with 19 percent of child deaths.[18]

Micronutrient deficiency – A child lacks essential vitamins or minerals. These include vitamin A, iron and zinc. Micronutrient deficiencies are caused by a long-term lack of nutritious food or by infections such as worms. Micronutrient deficiencies are associated with 10 percent of all children's deaths, or about one-third of all child deaths due to malnutrition.[19]

MALNUTRITION AND CHILD MORTALITY

Every year, 7.6 million children die before they reach the age of 5, most from preventable or treatable illnesses and almost all in developing countries.[20] Malnutrition is an underlying cause of more than a third (35 percent) of these deaths.[21]

A malnourished child is up to 10 times as likely to die from an easily preventable or treatable disease as a well-nourished child.[22] And a chronically malnourished child is more vulnerable to acute malnutrition during food shortages, economic crises and other emergencies.[23]

Unfortunately, many countries have not made addressing malnutrition and child survival a high-level priority. For instance, a recent analysis by the World Health Organization found that only 67 percent of 121 mostly low- and middle-income countries had policies to promote breastfeeding. Complementary feeding and iron and folic acid supplements were included in little over half of all national policy documents (55 and 51 percent, respectively). And vitamin A and zinc supplementation for children (for the treatment of diarrhea) were part of national policies in only 37 percent and 22 percent of countries respectively.[24] While nutrition is getting more high-level commitment than ever before, there is still a lot of progress to be made.

Persistent and worsening malnutrition in developing countries is perhaps the single biggest obstacle to achieving many of the Millennium Development Goals (MDGs). These goals – agreed to by all United Nations member states in 2000 – set specific targets for ending poverty and improving human rights and security. MDG 1 includes halving the proportion of people living in hunger. MDG 2 is to ensure all children complete primary school. MDG 4 aims to reduce the world's 1990 under-5 mortality rate by two thirds. MDG 5 aims to reduce the 1990 maternal mortality ratio by three quarters. And MDG 6 is to halt and begin to reverse the spread of HIV/AIDS and the incidence of malaria and other major diseases. Improving nutrition helps fuel progress toward all of these MDGs.

With just a few years left until the 2015 deadline, less than a third (22) of 75 priority countries are on track to achieve the poverty and hunger goal (MDG 1).[25] Only half of developing countries are on target to achieve universal primary education (MDG 2).[26] Just 23 of the 75 countries are on track to achieve the child survival goal (MDG 4).[27] And just 13 of the 75 countries are on target to achieve the maternal mortality goal (MDG 5).[28] While new HIV infections are declining in some regions, trends are worrisome in others.[29] Also, treatment for HIV and AIDS has expanded quickly, but not fast enough to meet the 2010 target for universal access (MDG 6).[30]

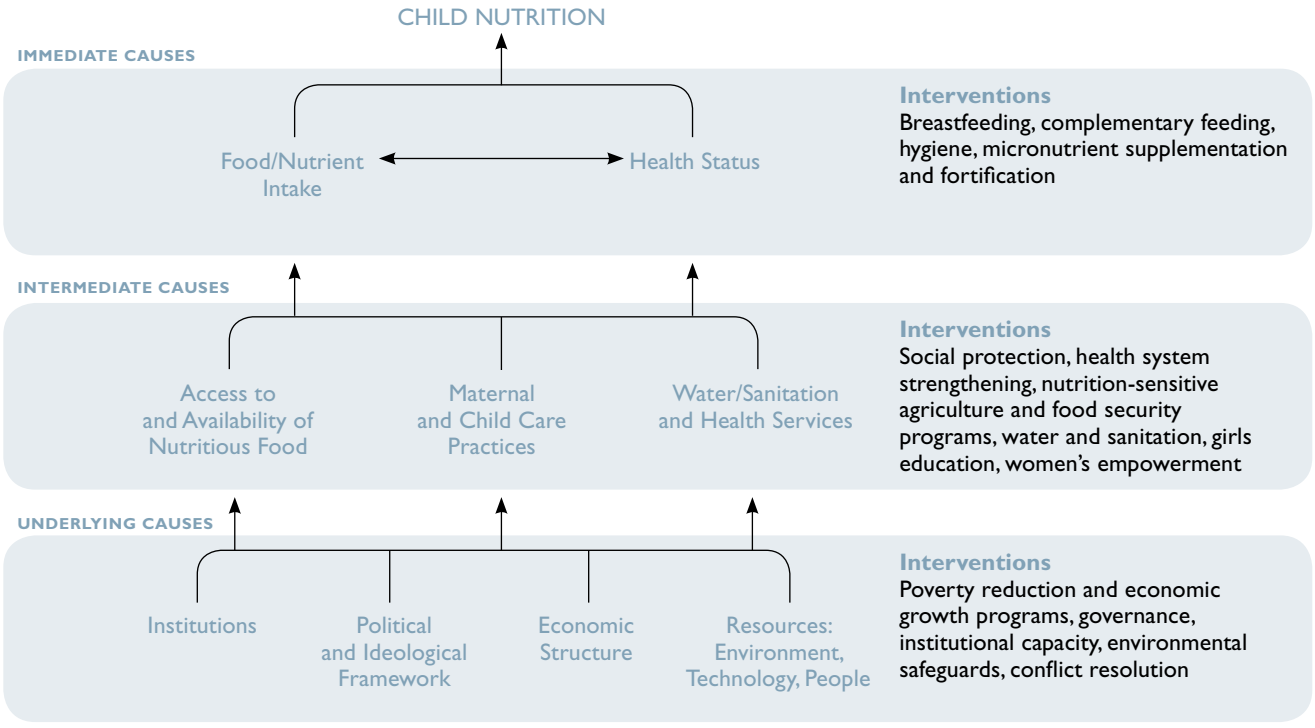
MATERNAL MALNUTRITION

Many children are born undernourished because their mothers are undernourished. As much as half of all child stunting occurs in utero,[31] underscoring the critical importance of better nutrition for women and girls.

In most developing countries, the nutritional status of women and girls is compromised by the cumulative and synergistic effects of many risk factors. These include: limited access to food, lack of power at the household level, traditions and customs that limit women's consumption of certain nutrient-rich foods, the energy demands of heavy physical labor, the nutritional demands of frequent pregnancies and breastfeeding, and the toll of frequent infections with limited access to health care.

Anemia is the most widespread nutritional problem affecting girls and women in developing countries. It is a significant cause of maternal mortality and can cause premature birth and low birthweight. In the developing world, 40

Determinants of Child Nutrition and Examples of How to Address Them



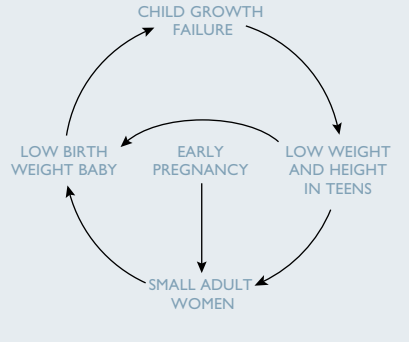
Adapted from UNICEF. *Strategy for Improved Nutrition of Children and Women in Developing Countries*, (New York: 1990); Marie Ruel. "Addressing the Underlying Determinants of Undernutrition: Examples of Successful Integration of Nutrition in Poverty Reduction and Agriculture Strategies," *SCN News* 2008; World Bank, *Moving Towards Consensus. A Global Action Plan for Scaling up Nutrition Investments*. GAP Presentation. Draft 2011; Save the Children, *A Life Free From Hunger*, (London: 2012)

percent of non-pregnant women and half (49 percent) of pregnant women are anemic.[32] Anemia is caused by poor diet and can be exacerbated by infectious diseases, particularly malaria and intestinal parasites. Pregnant adolescents are more prone to anemia than older women, and are at additional risk because they are often less likely to receive health care. Anemia prevalence is especially high in Asia and Africa, but even in Latin America and the Caribbean, one quarter of women are anemic.[33]

Many women in the developing world are short in stature and/or underweight. These conditions are usually caused by malnutrition during childhood and adolescence. A woman who is less than 145 cm or 4'7" is considered to be stunted. Stunting among women is particularly severe in South Asia, where in some countries – for example, Bangladesh, India and Nepal – more than 10 percent of women aged 15-49 are stunted. Rates are similarly high in Bolivia and Peru. And in Guatemala, an alarming 29 percent of women are stunted. These women face higher risks of complications during childbirth and of having small babies. Maternal underweight means a body-mass index of less than 18.5 kg/m^2 and indicates chronic energy deficiency. Ten to 20 percent of the women in sub-Saharan Africa and 25-35 percent of the women in South Asia are classified as excessively thin.[34] The risk of having a small baby is even greater for mothers who are underweight (as compared to stunted).[35]

In many developing countries, it is common for girls to marry and begin having babies while still in their teens – before their bodies have fully matured. Younger mothers tend to have fewer economic resources, less education, less health care, and they are more likely to be malnourished when they become pregnant, multiplying the risks to themselves and their children. Teenagers who give birth when their own bodies have yet to finish growing are at greater risk of having undernourished babies. The younger a girl is when she becomes pregnant, the greater the risks to her health and the more likely she is to have a low-birthweight baby.[36]

The Intergenerational Cycle of Growth Failure



Adapted from Administrative Committee on Coordination/ Subcommittee on Nutrition (United Nations), *Second Report on the World Nutrition Situation* (Geneva: 1992).

Rising Food Prices Can Hurt Mothers and Children

As global food prices remain high and volatile, poor mothers and children in developing countries can have little choice but to cut back on the quantity and quality of the food they eat. The World Bank estimates that rising food prices pushed an additional 44 million people into poverty between June 2010 and February 2011.[37] Staple food prices hit record highs in February 2011 and may have put the lives of more than 400,000 more children at risk.[38]

Poor families in developing countries typically spend between 50 to 70 percent of their income on food.[39] When meat, fish, eggs, fruit and vegetables become too expensive, families often turn to cheaper cereals and grains, which offer fewer nutrients. Studies show that women tend to cut their food consumption first, and as a crisis deepens, other adults and eventually children cut back.[40]

When pregnant mothers and young children are deprived of essential nutrients during a critical period in their development, the results are often devastating. Mothers experience higher rates of anemia and chronic energy deficiency. Childbirth becomes more risky, and babies are more likely to be born at low birthweight. Children face increased risk of stunting, acute malnutrition and death.

BARRIERS TO BREASTFEEDING

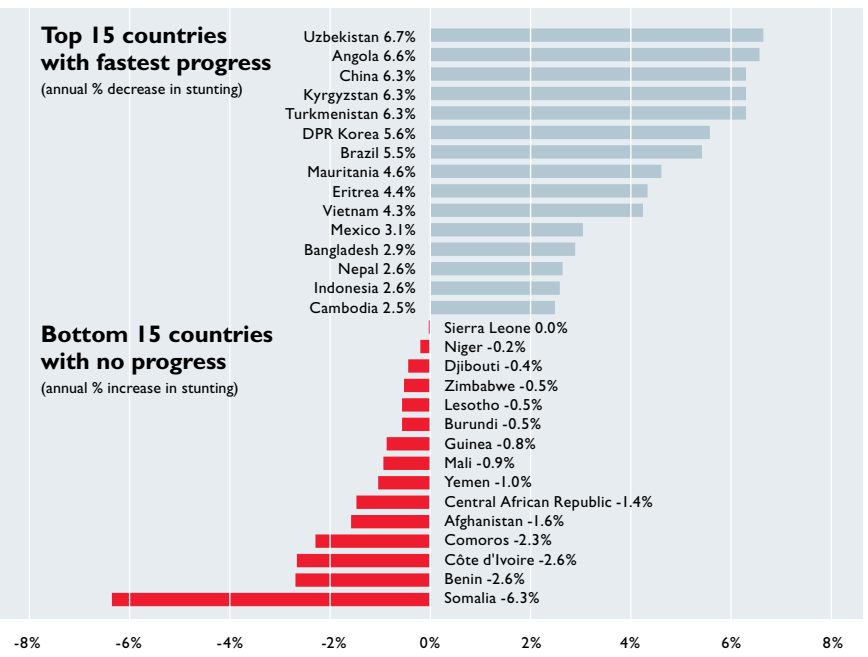
Experts recommend that children be breastfed within one hour of birth, exclusively breastfed for the first 6 months, and then breastfed until age 2 with age-appropriate, nutritionally adequate and safe complementary foods. Optimal feeding according to these standards can prevent an estimated 19 percent of all under-5 deaths, more than any other child survival intervention.[41] Yet worldwide, the vast majority of children are not breastfed optimally.

What are some of the reasons for this? Cultural beliefs, lack of knowledge and misinformation play major roles. Many women and family members are unaware of the benefits of exclusive breastfeeding. New mothers may be told they should wait several hours or days after their baby is born to begin breastfeeding. Aggressive marketing of infant formula often gives the impression that human milk is less modern and thus less healthy for infants than commercial formula. Or mothers may be told their breast milk is "bad" or does not contain sufficient nutrients, so they introduce other liquids and solid food too early.

Most breastfeeding problems occur in the first two weeks of a child's life. If a mother experiences pain or the baby does not latch, an inexperienced mother may give up. Support from fathers, mothers-in-law, peer groups and health workers can help a mother to gain confidence, overcome obstacles and prolong exclusive breastfeeding.

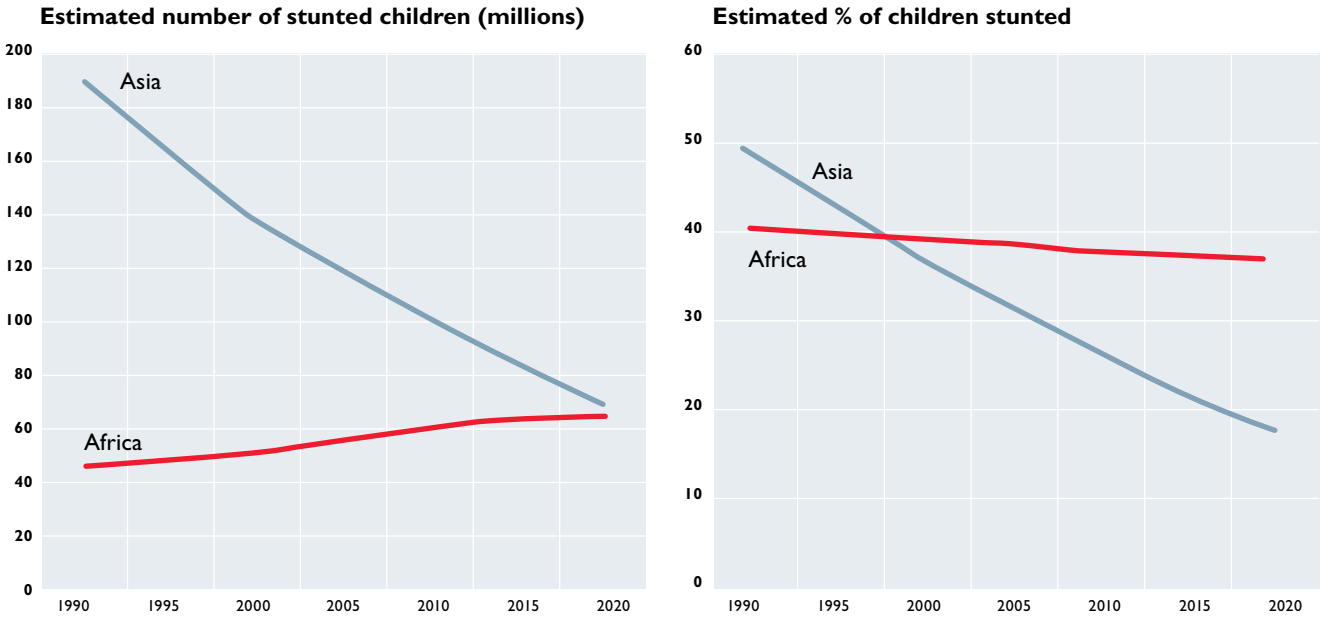
Women often stop breastfeeding because they return to work. Many aren't provided with paid maternity leave or time and a private place to breastfeed or express their breast milk. Legislation around maternity leave and policies that provide time, space, and support for breastfeeding in the workplace could reduce this barrier. For mothers who work in farming or the informal sector, family and community support can help them to continue breastfeeding, even after returning to work. Also many countries need better laws and enforcement to protect women from persecution or harassment for breastfeeding in public.

Countries Making the Fastest and Slowest Gains Against Child Malnutrition, ~1990-2010



Note: Trend analysis included all 71 of 75 *Countdown* countries with available data for the approximate period 1990-2010. For country-level data, see Methodology and Research Notes. Data Sources: WHO Global Database on Child Growth and Malnutrition (who.int/nutgrowthdb/); UNICEF Global Databases (childinfo.org); Countdown to 2015. *Accountability for Maternal, Newborn & Child Survival: An Update on Progress in Priority Countries.* (WHO: 2012); recent DHS and MICS surveys (as of April 2012)

Africa is Expected to Overtake Asia as the Region Most Heavily Burdened by Malnutrition



Source: Mercedes de Onis, Monika Blössner and Elaine Borghi, "Prevalence and Trends of Stunting Among Pre-School Children, 1990-2020," *Public Health Nutrition*, Vol.15, No.1, July 14, 2011, pp.142-148

INSUFFICIENT PROGRESS

Globally, there have been modest improvements in child malnutrition rates in the past two decades; however, the pace of progress has varied considerably across regions and countries. Between 1990 and 2010, child stunting rates fell globally by one third, from 40 to 27 percent. Asia, as a region, reduced stunting dramatically during this period, from 49 to 28 percent.[42] The Africa region, in contrast, shows little evidence of improvement, and not much is anticipated over the next decade.[43] In Latin America and the Caribbean, overall stunting prevalence is falling; however, stunting levels remain high in many countries (for example: Guatemala, Haiti and Honduras).[44]

Angola and Uzbekistan are the two priority countries[45] that have made the fastest progress in reducing child malnutrition – both cut stunting rates in half in about 10 years. Brazil, China and Vietnam have also made impressive gains, each cutting stunting rates by over 60 percent in the past 20 years.

Stunting rates have declined significantly in a number of the poorest countries in the world – including Bangladesh, Cambodia, Eritrea, Kyrgyzstan and Nepal – underscoring that marked improvements can be achieved even in resource-constrained settings.

Stunting rates have gotten worse in 14 countries, most of them in sub-Saharan Africa. Somalia has shown the worst regression – stunting rates in that country increased from 29 to 42 percent from 2000-2006, the only years for which data are available. Afghanistan – the most populous of the 14 countries – has seen stunting increase by 11 percent. In both Somalia and Afghanistan, war and conflict have likely played a significant role in stunting rate increases.

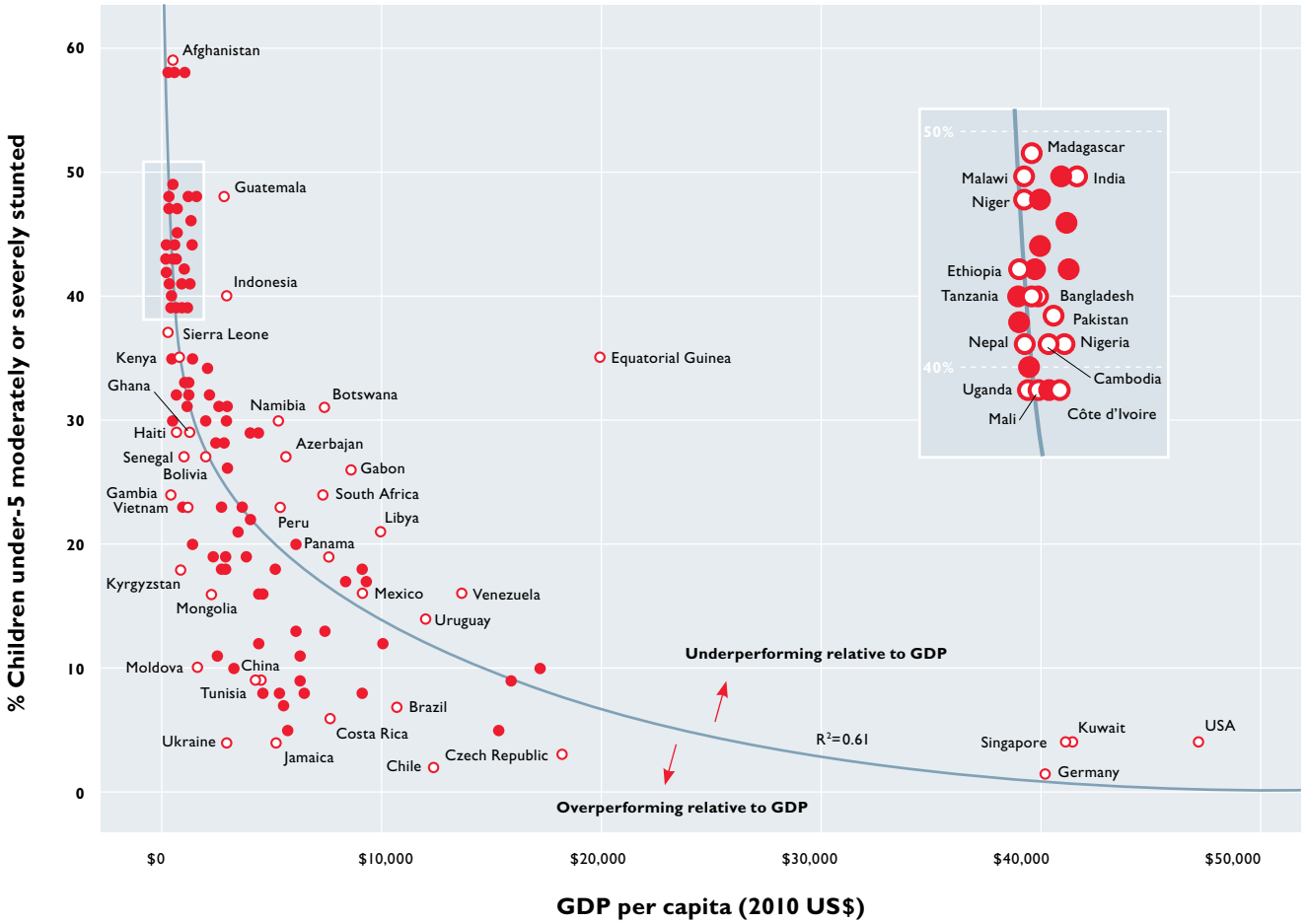
ECONOMIC GROWTH ISN'T ENOUGH

While children who live in impoverished countries are at higher risk for malnutrition and stunting, poverty alone does not explain high malnutrition rates for children. A number of relatively poor countries are doing an admirable job of tackling this problem, while other countries with greater resources are not doing so well.

Political commitment, supportive policies and effective strategies have a lot to do with success in fighting child malnutrition. This is demonstrated by an analysis of stunting rates and gross domestic product (GDP) in 127 developed and developing countries. For example: India has a GDP per capita of $1,500 and 48 percent of its children are stunted. Compare this to Vietnam where the GDP per capita is $1,200 and the child stunting rate is 23 percent. Nigeria and Ghana both have a GDP per capita around $1,250, but Nigeria's child stunting rate is 41 percent, while Ghana's is 29 percent.

Countries that are performing better on child nutrition than their national wealth might suggest include: Brazil, Chile, Costa Rica, Kyrgyzstan, Mongolia, Senegal and Tunisia. Countries that are underperforming relative to their GDP include: Botswana, Equatorial Guinea, Guatemala, Indonesia, Mexico, Panama, Peru, South Africa and Venezuela.

Countries Falling Above and Below Expectations Based on GDP



Note: All 127 countries with available data were included in this analysis. Stunting rates are for the latest available year 2000-2010. Data sources: WHO Global Database on Child Growth and Malnutrition (who.int/nutgrowthdb/); UNICEF Global Databases (childinfo.org); recent DHS and MICS (as of March 2012) and The World Bank, World Development Indicators (data.worldbank.org/indicator)

Guatemala

MALNUTRITION AMONG THE POOR

Most malnourished children tend to be poor. Generally speaking, children in the poorest households are more than twice as likely to be stunted or underweight as children in the richest households.[46] For many of these families, social protection programs and income-generating opportunities can play an important role in contributing to better nutrition. However, in many countries, stunting can be relatively high even among the better-off families,[47] showing that knowledge, behavior and other factors also play a part.

Across all developing regions, malnutrition is highest in the poorest households. In South Asia, the poorest children are almost three times as likely to be underweight as their wealthiest peers.[48] Latin America has some of the largest inequities. The poorest children in Guatemala and Nicaragua are more than six times as likely to be underweight as their wealthy peers. In Honduras, they are eight times as likely, and in El Salvador and Peru, they are 13 and 16 times as likely to be underweight.[49]

The relationship between stunting and wealth varies across countries. In countries such as Bolivia, India, Nigeria and Peru, children in the richest households are at a distinct advantage compared to children in other households.[50] This contrasts with Ethiopia, where stunting is widespread. Even among children living in the wealthiest Ethiopian households, the prevalence of stunting is high, at 30 percent.[51] Similarly, in Bangladesh, stunting in children less than 5 years of age is found in one-fourth of the richest households.[52] And in Egypt, stunting prevalence is remarkably similar across income groups (30 percent and 27 percent among the poorest and richest households, respectively).[53]

The poorest children also tend to have the poorest dietary quality. In Ethiopia, Kenya and Nigeria, for example, the wealthiest children are twice as likely to consume animal source foods as the poorest. In South Africa, they're almost three times as likely.[54]

South Sudan

SAVING LIVES AND BUILDING A BETTER FUTURE: LOW-COST SOLUTIONS THAT WORK

Here is a look at six key nutrition solutions that have the greatest potential to save lives in a child's first 1,000 days and beyond.[55] Using a new evidence-based tool,[56] Save the Children has calculated that nearly 1.3 million children's lives could be saved each year if these six interventions are fully implemented at scale in the 12 countries most heavily burdened by child malnutrition and under-5 mortality.

Implementing these solutions globally could save more than 2 million lives, and would not require massive investments in health infrastructure. In fact, with the help of frontline health workers, all six of these interventions can be delivered fairly rapidly using health systems that are already in place in most developing countries. What is lacking is the political will and relatively small amount of money needed to take these proven solutions to the women and children who need them most.

Three of the six solutions – iron, vitamin A and zinc – are typically packaged as capsules costing pennies per dose, or about $1 to $2 per person, per year. The other three solutions – breastfeeding, complementary feeding and good hygiene – are behavior-change solutions, which are implemented through outreach, education and community support. The World Bank estimates these latter three solutions could be delivered through community nutrition programs at a cost of $15 per household or $7.50 per child.[57] All combined, the entire lifesaving package costs less than $20 per child for the first 1,000 days.[58]

Breastfeeding, when practiced optimally, is one of the most effective child survival interventions available today. Optimal feeding from birth to age 2 can prevent an estimated 19 percent of all under-5 deaths, more than any other intervention.[59] However there are also other feeding practices and interventions that are needed to ensure good nutrition in developing countries (*see sidebar on this page and graphic on page 27*).

Given the close link between malnutrition and infections, key interventions to prevent and treat infections will contribute to better nutrition as well as reduced mortality. These interventions include good hygiene practices and hand washing, sanitation and access to safe drinking water (which reduce diarrhea and other parasitic diseases to which undernourished children are particularly vulnerable) and oral rehydration salts and therapeutic zinc to treat diarrhea.

THE SIX LIFESAVING SOLUTIONS ARE:

Iron folate supplements – Iron deficiency anemia, the most common nutritional disorder in the world, is a significant cause of maternal mortality, increasing the risk of hemorrhage and infection during childbirth. It may also cause premature birth and low birthweight. At least 25 percent – or 1.6 billion people – are estimated to be anemic, and millions more are iron deficient, the vast majority of them women.[60] A range of factors cause iron deficiency anemia, including inadequate diet, blood loss associated with menstruation, and parasitic infections such as hookworm. Anemia also affects children, lowering resistance to disease and weakening a child's learning ability and physical stamina. Recent studies suggest that pregnant women who take iron folate supplements not only lower their risk of dying in childbirth, they also enhance the intellectual development of their babies.[61] Iron supplements for pregnant women cost just $2 per pregnancy.[62] It is estimated that 19 percent of maternal deaths could be prevented if all women took iron supplements while pregnant.[63]

What Else Is Needed to Fight Malnutrition and Save Lives?

In 2008, world nutrition experts worked together to identify a group of 13 cost-effective direct nutrition interventions, which were published in the *Lancet* medical journal. It was estimated that if these interventions were scaled up to reach every mother and child in the 36 countries that are home to 90 percent of malnourished children, approximately 25 percent of child deaths could be prevented. There would also be substantial reductions in childhood illnesses and stunting.[64]

Experts also agreed that to make an even greater impact on reducing chronic malnutrition, short- and long-term approaches are required across multiple sectors involving health, social protection, agriculture, economic growth, education and women's empowerment.

In 2010, experts from the Scaling Up Nutrition (SUN) movement recommended a slightly revised group of 13 programmatically feasible, evidence-based direct nutrition interventions. The "lifesaving six" solutions profiled in this report are a subset of both the 13 Lancet and the 13 SUN interventions. The other seven SUN interventions are:

- Multiple micronutrient powders
- Deworming drugs for children (to reduce loss of nutrients)
- Salt iodization
- Iodized oil capsules where iodized salt is unavailable
- Iron fortification of staple foods
- Supplemental feeding for moderately malnourished children with special foods
- Treatment of severe malnutrition with ready-to-use therapeutic foods (RUTF)

Promoting and Supporting Early Initiation of Breastfeeding

Despite its benefits, many women delay initiation of breastfeeding. Only 43 percent of newborns in developing countries are put to the breast within one hour of birth. Establishing good breastfeeding practices in the first days is critical to the health of the infant and to breastfeeding success. Initiating breastfeeding is easiest and most successful when a mother is physically and psychologically prepared for birth and breastfeeding and when she is informed, supported, and confident of her ability to care for her newborn. The following actions can increase rates of early initiation of breastfeeding:

- Identify the practices, beliefs, concerns and constraints to early and exclusive breastfeeding and address them through appropriate messages and changes in delivery and postnatal procedures
- Counsel women during prenatal care on early initiation and exclusive breastfeeding
- Upgrade the skills of birth attendants to support early and exclusive breastfeeding
- Make skin-to-skin contact and initiation of breastfeeding the first routine after delivery
- Praise the mother for giving colostrum (the "first milk"), provide ongoing encouragement, and assist with positioning and attachment

Breastfeeding – Human breast milk provides all the nutrients newborns need for healthy development and also provides important antibodies against common childhood illnesses. Exclusive breastfeeding prevents babies from ingesting contaminated water that could be mixed with infant formula. The protective benefits of breastfeeding have been shown to be most significant with 6 months of exclusive breastfeeding and with continuation after 6 months, in combination with nutritious complementary foods (solids), up to age 2. In conditions that normally exist in developing countries, breastfed children are at least 6 times more likely to survive in the early months than non-breastfed children.[65]

Complementary feeding – When breast milk alone is no longer sufficient to meet a child's nutritional needs, other foods and liquids must be added to a child's diet in addition to breast milk. Optimal complementary feeding involves factors such as the quantity and quality of food, frequency and timeliness of feeding, food hygiene, and feeding during/after illnesses. The target range for complementary feeding is 6-23 months.[66] WHO notes that breastfeeding should not be decreased when starting complementary feeding; complementary foods should be given with a spoon or a cup, not in a bottle; foods should be clean, safe and locally available; and ample time should be given for young children to learn to eat solid foods.[67] Rates of malnutrition among children usually peak during the time of complementary feeding. Growth faltering is most evident between 6-12 months, when foods of low nutrient density begin to replace breast milk and rates of diarrheal illness due to food contamination are at their highest.[68] During the past decade, there has been considerable improvement in breastfeeding practices in many countries; however, similar progress has not been made in the area of complementary feeding. Complementary feeding is a proven intervention that can significantly reduce stunting during the first two years of life.[69] If all children in the developing world received adequate complementary feeding, stunting rates at 12 months could be cut by 20 percent.[70]

Vitamin A supplements – Roughly a third of all preschool-age children (190 million)[71] and 15 percent of pregnant women (19 million)[72] do not have enough vitamin A in their daily diet. Vitamin A deficiency is a contributing factor in the 1.3 million deaths each year from diarrhea among children and the nearly 118,000 deaths from measles.[73] Severe deficiency can also cause irreversible corneal damage, leading to partial or total blindness. Vitamin A capsules given to children twice a year can prevent blindness and lower a child's risk of death from common childhood diseases – at a cost of only 2 cents per capsule.[74] It is estimated that at least 2 percent of child deaths could be prevented if all children under age 5 received two doses of vitamin A each year.[75]

Zinc for diarrhea – Diarrhea causes the death of 1.3 million children[76] each year, most of them between the ages of 6 months and 2 years.[77] Young children are especially vulnerable because a smaller amount of fluid loss causes significant dehydration, because they have fewer internal resources, and because their energy requirements are higher. Children in developing nations suffer an average of three cases of diarrhea a year.[78] Diarrhea robs a child's body of vital nutrients, causing malnutrition. Malnutrition, in turn, decreases the ability of the immune system to fight further infections, making diarrheal episodes more frequent. Repeated bouts of diarrhea stunt children's growth and keep them out of school, which further limits their chances for a successful future.

We Can Save 1.3 Million Lives in These 12 Countries

UNDER-5 DEATHS			CHILD STUNTING			LIVES SAVED
# (1,000s)	Rank	Country	%	# (1,000s)	Rank	# (1,000s)
1,696	1	India	48%	61,300	1	326
861	2	Nigeria	41%	10,900	2	308
465	3	DR Congo	43%	5,100	8	145
423	4	Pakistan	42%	8,900	3	100
315	5	China	9%	7,700	5	22
271	6	Ethiopia	44%	5,300	7	73
191	7	Afghanistan	59%	3,300	11	125
151	8	Indonesia	40%	8,700	4	36
143	9	Sudan and South Sudan*	35%	2,200	16	31
141	10	Uganda	39%	2,500	13	51
140	11	Bangladesh	41%	6,100	6	22
133	12	Tanzania	43%	3,400	10	45

Total lives saved: 1.3 million

* Data are for the Sudan prior to the cession of the Republic of South Sudan in July 2011.

The annual estimated number of under-5 lives saved represents the potential combined effect of scaling up the following "lifesaving six" interventions to universal coverage (set at 99%) by 2020: iron folate supplementation during pregnancy, breastfeeding (including exclusive breastfeeding for the first six months and any breastfeeding until 24 months), counseling on complementary feeding, vitamin A supplementation, zinc for treatment of diarrhea and improved hygiene practices (i.e. access to safe drinking water, use of improved sanitation facilities, safe disposal of children's stool, handwashing with soap). In the few instances where intervention coverage data was missing, developing world averages were used. LiST analysis was done by Save the Children, with support from Johns Hopkins University Bloomberg School of Public Health. Estimates for the number of stunted children in country were calculated by Save the Children.

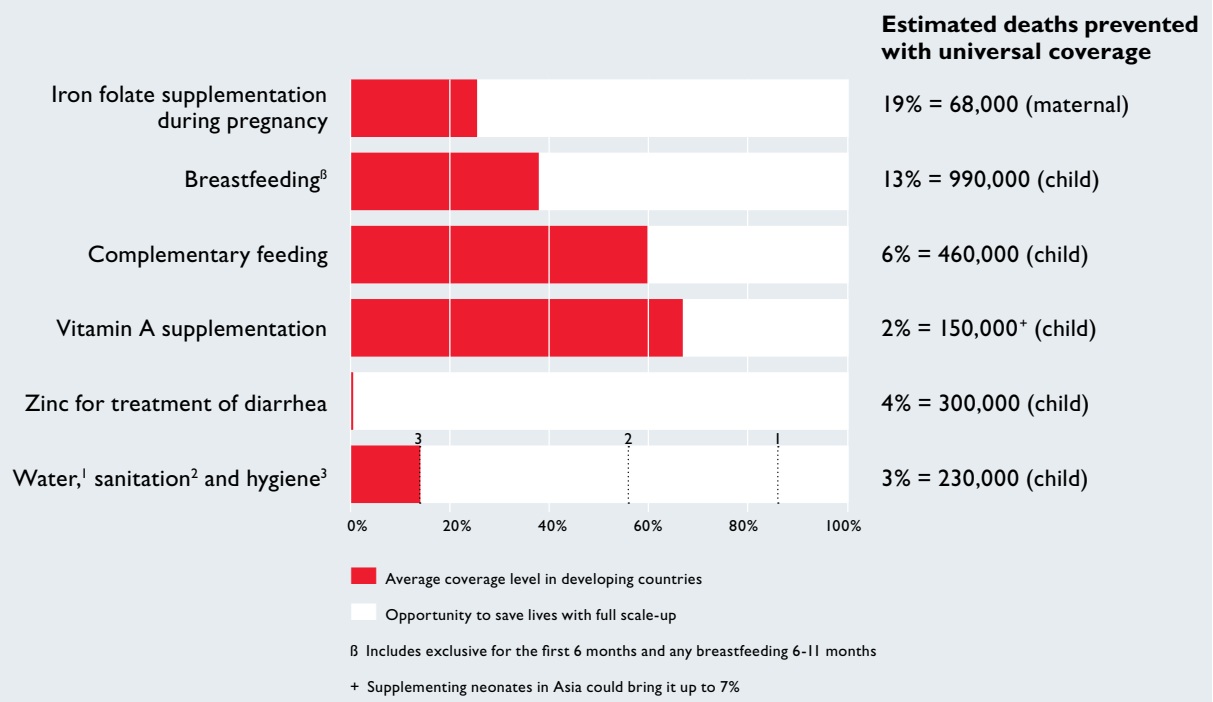
Data sources: Mortality and under-5 population, UNICEF. *The State of the World's Children 2012*. Tables 1 and 6; Stunting, WHO Global Database on Child Growth and Malnutrition (usho.int/nutgrowthb/.), UNICEF Global Databases (childinfo.org) and recent DHS and MICS surveys (as of April 2012)

When children with diarrhea are given zinc tablets along with oral rehydration solution, they recover more quickly from diarrhea and they are protected from recurrences.[79] At 2 cents a tablet, a full lifesaving course of zinc treatment for diarrhea costs less than 30 cents.[80] It is estimated that 4 percent of child deaths could be prevented if all young children with diarrhea were treated with zinc.[81]

Water, sanitation and hygiene – Poor access to safe water and sanitation services, coupled with poor hygiene practices, kills and sickens millions of children each year. Hand washing with soap is one of the most effective and inexpensive ways to prevent diarrheal disease and pneumonia,[82] which together are responsible for approximately 2.9 million child deaths every year.[83] It is estimated that 3 percent of child deaths could be prevented with access to safe drinking water, improved sanitation facilities and good hygiene practices, especially hand washing.[84]

Nigeria

Over Half the World's Children Do Not Have Access to the Lifesaving Six



The number of deaths that could be prevented with universal coverage of the "lifesaving six" interventions is calculated by applying *Lancet* estimates of intervention effectiveness (Bhutta et al., 2008 for iron folate, all others Jones et al., 2003) to 2010 child and 2008 maternal mortality. Coverage data are for the following indicators: % mothers who took iron during pregnancy (90+ days); % children exclusively breastfed (first 6 months); % children (6-8 months) introduced to soft, semi-soft or solid foods; % children (6-59 months) reached with two doses of vitamin A; % children (6-59 months) with diarrhea receiving zinc; % population with access to safe drinking water (1); % population using improved sanitation facilities (2); % of mothers washing their hands with soap appropriately (i.e. after handling stool and before preparing food) (3).

Data sources: UNICEF. *The State of the World's Children 2012*. (New York: 2012), Table 2; WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. *Progress on Drinking Water and Sanitation - 2012* Update. (UNICEF and WHO: New York: 2012); Susan Horton, Meera Shekar, Christine McDonald, Ajay Mahal and Jana Krystene Brooks, *Scaling Up Nutrition: What Will it Cost?* (World Bank: Washington DC: 2010); recent DHS surveys and Valerie Curtis, Lisa Danquah and Robert Aunger, "Planned, Motivated and Habitual Hygiene Behaviour: An Eleven Country Review," *Health Education Research 2009*, 24(4):655-673.

INFANT AND TODDLER FEEDING SCORECARD

Save the Children presents the *Infant and Toddler Feeding Scorecard* showing where young children have the best nutrition, and where they have the worst. This analysis reveals that the developing world has a lot of room for improvement in early child feeding. Only 4 countries out of 73 score "very good" overall on measures of young child nutrition. More than two-thirds perform in the "fair" or "poor" category.

The *Scorecard* analyzes the status of child nutrition in 73 priority countries where children are at the greatest risk of dying before they reach the age of 5 or where they are dying in the greatest numbers. For each country, it measures the percentage of children who are:

- Put to the breast within one hour of birth
- Exclusively breastfed for the first 6 months
- Breastfed with complementary food from ages 6-9 months
- Breastfed at age 2

Countries are ranked using a scoring system that assigns numeric values to very good, good, fair and poor levels of achievement on these four indicators. The performance thresholds are consistent with those established by the WHO and USAID's Linkages Project in 2003.

Key Nutrition Interventions in the First 1,000 Days

LIFECYCLE STAGE

Pregnancy‡ | **Newborn‡** | **0-6 months‡** | **6-24 months‡**

KEY DIRECT NUTRITION INTERVENTIONS

Pregnancy‡
- Iron folate or maternal supplementation of multiple micronutrients
- Calcium supplementation
- Iodized salt
- Interventions to reduce indoor air pollution and tobacco use
- Deworming
- Intermittent preventive treatment for malaria
- Insecticide-treated bednets

Newborn‡
- Immediate and exclusive breastfeeding
- Delayed cord clamping
- Vitamin A supplementation*

0-6 months‡
- Exclusive breastfeeding
- Hand washing or hygiene
- Conditional cash transfers (with nutrition education)
- Insecticide-treated bednets

6-24 months‡
- Continued breastfeeding
- Complementary feeding
- Preventive zinc supplementation
- Zinc in management of diarrhea
- Vitamin A supplementation
- Iodized salt
- Multiple micronutrient powders
- Hand washing or hygiene
- Treatment of severe acute malnutrition
- Deworming
- Iron supplementation and fortification
- Conditional cash transfers (with nutrition education)
- Insecticide-treated bednets

* To date, beneficial effects have been shown in Asia only.

‡ Food supplementation for pregnant women, lactating women and young children 6-24 months may be appropriate in food insecure settings.

Malnutrition can be greatly reduced through the delivery of simple interventions at key stages of the lifecycle – for the mother during pregnancy and while breastfeeding; for the child, in infancy and early childhood. If effectively scaled up, these key interventions will improve maternal and child nutrition and reduce the severity of childhood illness and under-5 mortality. Good nutrition is also important for children after the first 1,000 days, and interventions such as vitamin A supplementation, zinc treatment for diarrhea, and management of acute malnutrition are also critical for these young children.

Adapted from: Mainstreaming Nutrition Initiative, 2006; Zulfiqar Bhutta, Tahmeed Ahmed, Robert E. Black, Simon Cousens, Kathryn Dewey, Elsa Giugliani, Batool Haider, Betty Kirkwood, Saul Morris, HPS Sachdev and Meera Shekar, "What Works? Interventions for Maternal and Child Undernutrition and Survival," *Lancet* 2008 and Horton, et al. *Scaling Up Nutrition: What Will it Cost?* (World Bank: Washington DC: 2010)

Complementary feeding is the area where improvement is needed most. Countries score the most "poor" marks on this indicator, indicating widespread nutritional shortfalls during the vulnerable period from 6 to 9 months of age. This is the time in many children's lives when malnutrition is most likely to begin, and when greater attention is clearly needed to prevent stunting.

The *Scorecard* also looks at each country's progress towards Millennium Development Goal 4 and at the degree to which countries have implemented the *International Code of Marketing of Breast-milk Substitutes.* MDG 4 challenges the world community to reduce child mortality by two-thirds by 2015. The marketing of breast-milk substitutes Code stipulates that there should be no promotion of breast-milk substitutes, bottles and teats to the general public; that neither health facilities nor health professionals should have a role in promoting breast-milk substitutes; and that free samples should not be provided to pregnant women, new mothers or families. These last two indicators are presented to give a fuller picture of each country's efforts to promote nutrition and save lives – they were not included in the calculations for country rankings.

It is important to note that even in countries that have taken action to implement the Code, monitoring and enforcement is often lacking. Only effective

national laws that are properly enforced can stop baby food companies from competing with breastfeeding. In fact, a recent WHO review of global nutrition policies found that only a third of the 96 countries reported to have enacted Code legislation also had effective monitoring mechanisms in place.[85]

The Top 4 countries on the *Scorecard* – Malawi, Madagascar, Peru and the Solomon Islands – are also regional leaders in terms of child survival. Malawi and Madagascar have made more progress in reducing under-5 mortality than any other countries in sub-Saharan Africa. Peru has made the most progress of any country in Latin America. And Solomon Islands has one of the lowest rates of child mortality in the East Asia and Pacific region. These countries have also made improvements in early initiation of breastfeeding and other feeding practices in recent years.

The Bottom 4 countries – Somalia, Côte d'Ivoire, Botswana and Equatorial Guinea – have made little to no progress in early feeding or in saving children's lives. Somalia, the lowest-ranked country on the *Scorecard*, has made no progress since 1990 in reducing under-5 mortality, and in recent years the prevalence of underweight and stunted children in Somalia has risen by at least 10 percentage points.[86]

Top 4 Countries

Malawi tops the *Infant and Toddler Feeding Scorecard* ranking, demonstrating impressive achievements in child nutrition. Overall, Malawi is doing a very good job of feeding young children according to recommended standards, and this is saving many lives. Within an hour after birth, 95 percent of babies in Malawi are put to the breast. At 6 months, 71 percent are still being exclusively breastfed, and between 6-9 months, 87 percent are breastfed with complementary foods. At age 2, 77 percent of children are still getting some of their nutrition from breast milk. Malawi has enacted many provisions of the *International Code of Marketing of Breast-milk Substitutes* into law and has put significant energy and resources into improving health services for its people. Many improvements can be attributed in part to the work of 10,000 health surveillance assistants who are deployed in rural areas. These trained, salaried frontline workers deliver preventative health care and counsel families about healthy behaviors such as hygiene, nutrition and breastfeeding *(see the story of one health worker on page 35)*. Malawi is an African success story, having reduced its under-5 mortality rate by 59 percent since 1990. It is one of a handful of sub-Saharan African countries that are on track to achieve MDG 4. While Malawi is to be applauded for its results in promoting breastfeeding and saving lives, the country still has one of the highest percentages of stunted children in the world (48 percent). This paradox indicates that additional efforts are needed to ensure children get good nutrition as they are weaned off breast milk.

Malawi

Madagascar is another African success story, on track to achieve MDG 4, with a 61 percent reduction in child mortality since 1990. Strong performance on infant and young child feeding indicators has contributed to Madagascar's success in saving hundreds of thousands of lives.[87] Madagascar's Ministry of Health, in partnership with the AED/Linkages Project (funded by USAID), launched a major effort in 1999 to raise public awareness of the benefits of breastfeeding. The campaign used interpersonal communications, community mobilization events and local mass media to reach 6.3 million people with positive messages about breastfeeding. Since the launch of the project, exclusive breastfeeding rates have increased from 41 to 51 percent and timely initiation of breastfeeding within an hour of birth has risen from 34 to 72 percent.[88] Madagascar also does well on measures of complementary feeding (89 percent) and breastfeeding at age 2 (61 percent). Madagascar has enacted most provisions of the breast-milk substitutes Code into law. As in Malawi,

Peru

Madagascar's children often falter as they are transitioning from breast milk to solid foods: despite starting life with healthy nutrition, an alarming 49 percent of Madagascar's children under age 5 have stunted growth.

Peru also does a very good job with early feeding of its children: 51 percent of newborns are put to the breast within an hour of birth; 68 percent are exclusively breastfed for 6 months; 84 percent are breastfed with complementary foods between 6-9 months; and an estimated 61 percent are still being breastfed around age 2. After years of almost no change in child chronic malnutrition rates, the Peruvian government launched Programa Integral de Nutrición (PIN) in 2006. PIN prioritized interventions for children under age 3, pregnant women, lactating mothers and the poorest families who were at high risk for malnutrition.[89] To inspire mothers to breastfeed more, the Ministry of Health sponsors events to promote breastfeeding, such as an annual breastfeeding contest where a prize is awarded for the baby who nurses the longest in one sitting.[90] Government programs combined with supporting efforts by NGOs and the donor community are credited with reducing Peru's under-5 chronic malnutrition rate by about one quarter since 2005,[91] an impressive achievement. Peru has also cut its under-5 mortality rate by 76 percent since 1990 so it has already achieved MDG 4. Still, 23 percent of Peru's children are stunted, indicating that more needs to be done to provide good nutrition to women while they are pregnant and children as they are transitioning from breast milk to solid foods.

Solomon Islands is one of the least developed countries in the world, yet it performs very well on early nutrition indicators, demonstrating that a strong policy environment and individual adoption of lifesaving nutrition practices can matter more than national wealth when it comes to saving children's lives. Within an hour after birth, 75 percent of babies in Solomon Islands are put to the breast. At 6 months, 74 percent are still being exclusively breastfed, and between 6-9 months, 81 percent are breastfed with complementary foods. At age 2, 67 percent of children are still getting some of their nutrition from breast milk. Solomon Islands has cut under-5 deaths by 40 percent since 1990 and is on track to achieve MDG 4.

Bottom 4 Countries

Somalia scores last on the *Infant and Toddler Feeding Scorecard*, demonstrating a widespread child nutrition crisis that often starts as soon as a child is born, if not before. Armed conflict, drought and food crises have placed enormous stresses on families in Somalia. Many women do not exclusively breastfeed, instead giving their infants camel's milk, tea or water in addition to breast milk.[92] Only 23 percent of Somali newborns are put to the breast

within an hour of birth; only 5 percent are exclusively breastfed for 6 months and 15 percent are breastfed with complementary foods between 6-9 months. At age 2, it is estimated that 27 percent of children are still getting some breast milk. Somalia has the lowest complementary feeding rate and the highest child mortality rate in the world. Tragically, 1 child in 6 dies before reaching age 5.[93] Years of political and economic instability in Somalia have also contributed to severe increases in stunting – up from 29 percent in 2000 to 42 percent in 2006.[94] Somalia has made no progress towards MDG 4.

Côte d'Ivoire is another country where conflict and instability have created a dire situation for mothers and children. Only 25 percent of Ivorian newborns are put to the breast within an hour of birth; only 4 percent are exclusively breastfed for 6 months; and 54 percent are breastfed with complementary foods between 6-9 months. At age 2, it is estimated that 37 percent of children are still getting some breast milk. One child in 12 dies before reaching age 1[95] and 39 percent of children are stunted. Côte d'Ivoire has made insufficient progress towards MDG 4, and has taken little action on the *International Code of Marketing of Breast-milk Substitutes*.

In **Botswana**, breastfeeding was once widely practiced[96] but today, only 20 percent of infants are exclusively breastfed. Botswana has been hard hit by AIDS, and many infected mothers likely do not breastfeed for fear they might pass along the disease to their babies. However, if given the right treatment with antiretrovirals (ARVs), HIV-positive mothers can safely breastfeed.[97] And even without ARVs, in places where there is little access to clean water, sanitation or health services, the risk that a child will die of diarrhea or another childhood disease outweighs the risk of contracting HIV through breast milk, at least during the early months. Most HIV-positive mothers in developing countries are advised to exclusively breastfeed, but this message has met resistance in Botswana. Poorly trained health workers often do not encourage this recommended practice. And despite good efforts by the government to discourage formula feeding by enacting most of the Code into law, the policies and programs to ensure that HIV-positive mothers are informed about the risks and benefits of different infant feeding options – and are supported in carrying out their infant feeding decisions – remain inadequate.[98] Largely as a result, only 20 percent of Botswana's newborns are put to the breast within an hour of birth. At ages 6-9 months, 46 percent are breastfed with complementary foods and at age 2, only 6 percent of children are getting any breast milk at all. Botswana's infant mortality rate is 36 per 1,000 live births and 31 percent of children are stunted.

Equatorial Guinea is the highest income country in Africa, demonstrating that national wealth alone is not sufficient to prevent malnutrition. Only 24 percent of babies in Equatorial Guinea are exclusively breastfed for 6 months and 48 percent are breastfed with complementary foods between 6-9 months. At age 2, it is estimated that just 10 percent of children are still getting some breast milk. Equatorial Guinea has made insufficient progress towards MDG 4, and has taken no action on the *International Code of Marketing of Breast-milk Substitutes*. One child in 12 dies before reaching age 1[99] and 35 percent of children have stunted growth.

Côte d'Ivoire

Infant and Toddler Feeding Scorecard

	% OF CHILDLREN (2000-2011) WHO ARE:				EARLY FEEDING SUMMARY			
	put to the breast within 1 hour of birth	exclusively breastfed (first 6 months)	breastfed with complementary food (6-9 months)	breastfed at age 2 (20-23 months)	Score	Rating	Progress towards MDG 4 (2010)[1]	State of policy support for the Code[2]
Malawi	95	71	87	77	9.3	Very good	On track	Good
Madagascar	72	51	89	61	9.0	Very good	On track	Very good
Peru	51	68	84	61[z]	9.0	Very good	On track	Very good
Solomon Islands	75	74	81	67	9.0	Very good	On track	Poor
Bolivia, Plurinational State of	64	60	81	40	8.3	Good	On track	Good
Burundi	74	69	74	79	8.3	Good	Insufficient	Poor
Cambodia	66	74	85	43	8.3	Good	On track	Good
Myanmar	76	24	81	65	8.3	Good	Insufficient	Fair
Rwanda	71	85	69	84	8.3	Good	Insufficient	Poor
Zambia	57	61	93	42	8.3	Good	Insufficient	Good
Papua New Guinea	–	56	76	72	*8.0*	*Good*	Insufficient	Good
Bangladesh	43	64	69	90	7.8	Good	On track	Good
Nepal	45	70	70	93	7.8	Good	On track	Very good
Egypt	56	53	66	35	7.5	Good	On track	Good
Eritrea	78	52	43	62	7.5	Good	On track	Poor
Ethiopia	52	52	51	82	7.5	Good	Insufficient	Good
Ghana	52	63	75	44	7.5	Good	Insufficient	Very good
Guatemala	56	50	71	46	7.5	Good	On track	Very good
Kenya	58	32	83	54	7.5	Good	No progress	Fair
Mozambique	63	41	81	52	7.5	Good	Insufficient	Very good
Tanzania, United Republic of	49	50	93	51	7.5	Good	Insufficient	Very good
Togo	53	63	44[x]	64	7.5	Good	Insufficient	Poor
Uganda	42	60	80	54	7.5	Good	Insufficient	Very good
Benin	32	43	76	92	7.0	Fair	Insufficient	Very good
Guinea-Bissau	55	38	41[x]	65	6.8	Fair	Insufficient	Good
Haiti	44	41	87	35	6.8	Fair	No progress	Poor
Lesotho	53	54	58	35	6.8	Fair	No progress	Poor
Mauritania	81	46	61	47	6.8	Fair	No progress	Poor
Niger	42	27	65	62	6.8	Fair	Insufficient	Good
Zimbabwe	65	31	83	20	6.8	Fair	No progress	Very good
Angola	55	11	77	37	6.0	Fair	Insufficient	Poor
Gambia	53	36	34[x]	31	6.0	Fair	Insufficient	Very good
Guinea	35	48	32	71	6.0	Fair	Insufficient	Good
India	41	46	57	77	6.0	Fair	Insufficient	Very good
Indonesia	44	32	75	50	6.0	Fair	On track	Good
Lao People's Democratic Republic	30	26	70	48	6.0	Fair	On track	Good
Morocco	52	15	66	15	6.0	Fair	On track	Fair
Nigeria	38	13	75	32	6.0	Fair	Insufficient	Good
Philippines	54	34	58	34	6.0	Fair	On track	Very good
Sao Tome and Principe	45	51	73	20	6.0	Fair	No progress	Poor
Sierra Leone	51	11	73	50	6.0	Fair	Insufficient	Poor
Swaziland	55	44	67[x]	11	6.0	Fair	Insufficient	Fair
Tajikistan	57[z]	25	15	34	6.0	Fair	Insufficient	Good
Uzbekistan	67	26	45	38	6.0	Fair	Insufficient	Poor
Yemen	30	12	76	[42]	*6.0*	*Fair*	Insufficient	Very good
Afghanistan	37[y]	43[y]	29	54	*5.3*	*Fair*	Insufficient	Very good
Brazil	43	40	70	25	5.3	Fair	On track	Very good
Burkina Faso	20	25	52	80	5.3	Fair	No progress	Good
Central African Republic	39	23	55	47	5.3	Fair	No progress	Poor
Congo	39	19	78	21	5.3	Fair	Insufficient	Poor
Congo, Democratic Republic of the	43	37	52[x]	53	5.3	Fair	No progress	Good
Gabon	71	6	62	9	5.3	Fair	Insufficient	Very good
Iraq	31	25	51	36	5.3	Fair	On track	Poor
Korea, Democratic People's Republic of	18	65	31	37	5.3	Fair	On track	Poor
Kyrgyzstan	65	32	49	26	5.3	Fair	On track	Good
Liberia	44	34	51	41	5.3	Fair	On track	Fair
Mali	43	34	30	56	5.3	Fair	Insufficient	Good
Senegal	23	39	71	51	5.3	Fair	Insufficient	Good
South Africa	61	8	49	31	5.3	Fair	No progress	Fair
Turkmenistan	60	11	54	37	5.3	Fair	Insufficient	Good
Sudan and South Sudan‡	–	41	51[x]	40	*5.0*	*Fair*	Insufficient	Poor
Azerbaijan	32	12	44	16	4.5	Poor	Insufficient	Good
Cameroon	20	20	76	24	4.5	Poor	No progress	Very good
Chad	34	3	36[x]	59	4.5	Poor	No progress	Poor
China	41	28	43	15	4.5	Poor	On track	Good
Comoros	25	21	34	45	4.5	Poor	Insufficient	Poor
Djibouti	67	1	23	18	4.5	Poor	Insufficient	Good
Pakistan	29	37	36	55	4.5	Poor	Insufficient	Very good
Vietnam	40	17	50[x]	19	4.5	Poor	On track	Good
Equatorial Guinea	–	24	48	10	*4.0*	*Poor*	Insufficient	Poor
Botswana	20	20	46	6	3.8	Poor	Insufficient	Very good
Côte d'Ivoire	25	4	54	37	3.8	Poor	Insufficient	Poor
Somalia	23	5	15	27	3.0	Poor	No progress	Poor

Indicator ratings

- Very good
- Good
- Fair
- Poor

Overall performance scores[+]

≥ 9 Very good
7-8 Good
5-6 Fair
3-4 Poor

[+] Aside from top performers, countries with three of the same ratings received the same overall performance score.

– Data not available
[x] Data differ from the standard definition
[y] Data refer to only part of a country
[z] Data are pre-2000
‡ Data are for the Sudan prior to the cession of the Republic of South Sudan in July 2011.

[1] "On track" means that the under-5 mortality rate (U5MR) in 2010 is less than 40 deaths per 1,000 live births (e.g. DPR Korea, Iraq, Kyrgyzstan, Philippines, Solomon Islands) or that it is 40 or more with an average annual rate of reduction (AARR) of 4% or higher for 1990-2010; "insufficient progress" indicates a U5MR ≥ 40 with an AARR of 1%-3.9%; "no progress" indicates a U5MR ≥ 40 with an AARR < 1%. Progress assessment by Save the Children. Sources: Methodology, Countdown to 2015; AARR, UNICEF. *State of the World's Children 2012*. Table 10.

[2] This column summarizes the status of national measures with respect to the *International Code of Marketing of Breast-milk Substitutes*. For category definitions, please see Research and Methodology Notes. Sources: IBFAN. *SOC 2011*; UNICEF. *National Implementation of the International Code. April 2011*.

Note: Findings are reported for 73 *Countdown* countries with latest available data from 2000-2011 for at least 3 out of these 4 early feeding indicators. Coverage ratings are based on performance thresholds established by the WHO. For rating and scoring methodology please see Methodology and Research Notes. Country scores and ratings in *italics* should be interpreted with care as they are based on incomplete, outdated or sub-regional data. Data sources: WHO Global Databank on Infant and Young Child Feeding (who.int/nutrition/databases/infantfeeding/); UNICEF Global Databases (childinfo.org); recent DHS, MICS and other national surveys (as of April 2012).

To Improve Child Nutrition, Educate Girls

The evidence is clear: When better-educated girls grow up and become mothers, they tend to have fewer, healthier and better-nourished children. Educating girls is one of the most effective ways there is to fight malnutrition and break the intergenerational cycle of malnutrition.

Studies the world over have linked maternal education with improved nutrition status of children. For example, a 2003 analysis by the International Food Policy Research Institute estimated that improved female education was "responsible for almost 43 percent of the total reduction in undernutrition across 63 countries between 1971 and 1995."[100]

Improvements in maternal education also lead to lower mortality rates in children. UNESCO has estimated that each additional year of girls' education can reduce child mortality by 9 percent and that universal secondary education could save 1.8 million children's lives in sub-Saharan Africa alone.[101]

The "Copenhagen Consensus 2008" (a panel of eight distinguished economists, including five Nobel Laureates) ranked investments in education, especially for girls, as providing some of the best returns of all development interventions. Lowering the price of schooling and increasing and improving girls' education ranked 7th and 8th out of their top 10 best investments in development.[102]

Despite the many benefits to individuals and society, far too many girls in developing countries are still deprived of an education. Worldwide, an estimated 36 million primary-school-aged girls are not enrolled in school.[103]

HEALTH WORKERS ARE KEY TO SUCCESS

Frontline health workers have a vital role to play in ensuring good nutrition in the first 1,000 days. In impoverished communities in the developing world where malnutrition is most common, doctors and hospitals are often unavailable, too far away, or too expensive. Frontline health workers meet critical needs in these communities by supporting and promoting breastfeeding, distributing vitamins and other micronutrients, counseling mothers about balanced diet and improved complementary feeding, promoting hygiene and sanitation, screening children for malnutrition, and treating diarrhea and pneumonia.

Frontline health workers deliver advice and services to families in their homes and in clinics, serving as counselors, educators and treatment providers. Because they often come from the communities they serve, community health workers and midwives understand the beliefs, practices and norms of the people, allowing them to provide health care that is more culturally appropriate, and often highly effective.

The "lifesaving six" interventions highlighted in this report can all be delivered in remote, impoverished places by well-trained and well-equipped local health workers. In a number of countries, these health workers have contributed to broad-scale success in fighting malnutrition and saving lives. Some examples follow.

- In **Cambodia**, exclusive breastfeeding rates climbed dramatically from 11 percent in 2000 to 74 percent in 2010.[104] Much of the credit goes to efforts such as the Baby-Friendly Community Initiative, which organized "Mother Support Groups" to provide education and individual counseling on infant and young child feeding. These volunteer-led groups have reached approximately 517,000 women in 2,675 villages, promoting early and exclusive breastfeeding, continued nursing to 2 years or beyond, and appropriate complementary feeding starting at 6 months of age.[105]

- **Nepal** has 50,000 female community health volunteers, 97 percent of whom are in rural areas.[106] These volunteers are chosen from and work for the community. They play an important role in contributing to a variety of public health programs, including family planning, maternal care, child health, vitamin A supplementation and immunization coverage.[107] Anemia was a serious public health problem in Nepal for many years, but now the health volunteers have helped increase iron folate supplementation to 81 percent (up from 23 percent in 2001).[108] At the national level, the prevalence of anemia in women of reproductive age decreased from 68 percent in 1998 to 35 percent in 2011.[109] Through this and other efforts, Nepal succeeded in cutting its maternal mortality rate in half – from 539 deaths per 100,000 live births in 1996 to 281 in 2006.[110]

- **India**'s Bihar State – one of the poorest in the nation – is at the forefront of the battle against vitamin A deficiency, which afflicts up to 62 percent of preschool-aged children in rural India. The state set the ambitious goal of reaching out to all children, beginning with those traditionally excluded from services – children from the lower castes and minority groups – in which malnutrition and mortality rates are often highest. More than 11,000 health centers and 80,000 *anganwadis*, or child development centers, serve as core distribution sites for vitamin A supplements in Bihar. In addition,

Hira, 30, a mother in Nepal, saw how much of a difference it made when she breastfed her third child exclusively for the first six months. Sandesh is much healthier than his two older brothers. *Photo by Honey Malla*

Nepal

There's Nothing Better Than Mother's Milk

Like mothers everywhere, Hira has a lot of demands on her time and energy. She has three small boys to look after and her husband is away for months at a time working outside the country, so Hira has to manage on her own.

Hira started breastfeeding all three of her children as soon as they were born, but she had difficulty continuing with the first two. With her husband away, she had to tend to their small farm, so she couldn't breastfeed as frequently as she wanted to. After about three months, she did not think she had enough of her own milk to feed the boys, so she started giving them *leeto* (a porridge made of wheat and soy). Both boys suffered frequent ailments such as common colds, coughs, fever, pneumonia and diarrhea.

When Hira became pregnant with her third child, she started getting help from the female community health volunteer in her village, a woman named Bhagawati, who was trained by Save the Children. Bhagawati counseled Hira about improving her diet, and taking vitamins and iron, so she could be stronger. She also explained why it is important to breastfeed exclusively for the first six months of a child's life, then to start introducing foods like *leeto* after six months. "I was not aware that the mother's milk is so good for the child," said Hira. "That it protects children from disease and infection."

Hira's third son, Sandesh, got nothing but breast milk for his first six months. "Not even water," Hira says proudly. "It is very easy to breastfeed. It doesn't take any preparation time. It is hygienic, and I feed anytime the baby needs it. My two older sons could not digest the *leeto* so early. Sandesh is much healthier. He has only been sick once. I took him to be weighed last week – he is up to 16.5 pounds."

Hira started complementary feeding Sandesh when he reached 6 months of age. "Right now, I breastfeed him first thing in the morning. I just started feeding him *leeto* three times a day and he is able to digest it. I still breastfeed him at least six times a day." Hira says she plans to continue breastfeeding Sandesh for a few more years.

more than 3,400 temporary sites were organized to deliver vitamin A within small, isolated communities. Frontline health and nutrition workers and community volunteers in the 38 districts of Bihar were trained to administer preventive vitamin A syrup to children and to counsel mothers on how to improve the vitamin A content of their children's diet. In 2009, Bihar's vitamin A supplementation program reached 13.4 million children under 5, protecting 95 percent of children in this age group against the devastating consequences of vitamin A deficiency.[111] In 2010, national coverage for India as a whole was estimated at only 34 percent.[112]

- **Vietnam** has a strong public health system at all levels that includes over 100,000 community health workers[113] and a specific cadre called "nutrition collaborators" who staff clinics and do home visits. These health workers screen children for malnutrition, treat diarrhea and counsel mothers about breastfeeding, balanced diet, hygiene and sanitation. With the help of these health workers, Vietnam is making promising progress toward the MDGs. By 2015 the country is almost certain to reach MDGs 4 and 5 related to child and maternal mortality. Since 1990, Vietnam has cut child mortality by 55 percent[114] and maternal mortality by 66 percent.[115] Over the past two decades Vietnam has also cut child stunting by over 60 percent (from 61 percent in 1989 to 23 percent in 2010)[116] and since 2005, the country has nearly eliminated iodine deficiency in pregnant women and children.[117]
- In **Mali**, community health workers in one program helped ensure more than 90 percent of mothers took daily doses of iron-folic acid and multiple micronutrients.[118] In nationwide efforts from 2002-2007, Mali's government trained 22,000 community health workers on several nutrition-related interventions to improve child survival. Each health worker was responsible for 35 households and was expected to visit each household monthly. The health workers delivered vitamin A to women and children under 5. They also discussed the benefits of exclusive breastfeeding in the first 6 months of life and the risks of giving water instead of breast milk.[119] Program-specific results are not available, but national-level surveys have reported early initiation of breastfeeding increased from 10 percent in 1995/96, to 43 percent in 2007. Exclusive breastfeeding rose from 8 to 34 percent.[120]
- In **Mongolia**, community health volunteers deliver multiple micronutrient powders – known as "Sprinkles" – that can improve vitamin and mineral intake among children over 6 months old. The powders contain up to 15 vitamins and minerals (such as iron, and vitamins A and D), are relatively tasteless, odorless, colorless, and are safe and easy to use. They cost about 3 cents per sachet (one child typically gets 60 to 90 sachets per year). Mongolia is introducing Sprinkles as part of an integrated approach to improve young child feeding and reduce anemia and stunting. In 2001, when the country began distributing Sprinkles as part of a pilot program, around 42 percent of preschool-age children were anemic. Public health workers and community volunteers gave 30 sachets monthly to children. One year into the program, 13,000 children, or more than 80 percent of those targeted, had received multi-micronutrient powders, and anemia was reduced to half of baseline levels.[121] Mongolia is currently scaling-up the program nationally, aiming to reach 49,480 children under age 2. Nurses, public health workers and community volunteers are distributing sachets at health posts.[122]

Vietnam

Chisomo Boxer examines Anthony's feet to check for edema. Chisomo was trained by Save the Children to deliver primary health care in an isolated rural community in Malawi. Anthony's mother Mercy is grateful that she does not have to walk 14 miles across rugged, mountainous terrain to get to the nearest health facility when her children are sick. *Photo by Amos Gumulira*

Malawi

A Personal Approach to Fighting Malnutrition

Chisomo, the village heath worker, visited Mercy Benson and her children as often as he could because he noticed a lot of health problems in the household. The family couldn't afford much food, they were drinking unsafe water and cooking in unsanitary conditions. Chisomo was especially worried about Anthony, the youngest child, who had been sick with malaria, diarrhea and other ailments.

Anthony's health problems intensified when he was about a year old and Mercy stopped breastfeeding him. Mercy was pregnant again, and she mistakenly believed she shouldn't breastfeed because it would take nutrition away from the baby in her womb. Anthony started getting diarrhea more frequently, and a few months later Chisomo discovered Anthony was malnourished, and getting worse.

Chisomo treated Anthony's diarrhea with oral rehydration solution and zinc. He explained to Mercy that she should resume breastfeeding, because it would help Anthony get better and it would not harm her pregnancy. "I advised Mercy to prepare food for Anthony and the rest of the family using multi-mix food principles. This means staple foods, legumes, fresh vegetables and oils should all be eaten as a single meal," said Chisomo. "I also taught her about hygienic food handling practices and environmental sanitation. Better refuse disposal would fix their condition once and for all. I dislike crude dumping. It contributes to the spread of diarrheal disease."

Chisomo checked in on the Bensons a few weeks later. "I noticed great improvements!" he said. "The family responded to my advice. They improved their hygiene to prevent diarrhea. Anthony no longer had edema due to malnutrition. And I was very pleased to see Mercy breastfeeding during my visit."

Save the Children staff visited Anthony in March 2012, and found him healthy, playful and laughing with his sisters and brothers. "Anthony is no longer malnourished," said Chisomo. "He is fully recovered and he is even picking up weight."

- **Brazil** has more than 246,000 community health agents serving 120 million people (63 percent of the population). The health agents make home visits where they promote healthy practices such as breastfeeding, monitor the growth of children and counsel on follow up, and provide simple treatments such as oral rehydration solution for diarrhea. These health workers are residents of the communities they serve and are selected in a public process with strong community engagement. The health worker program has been in place nationally since the early 1990s.[123] Since that time there has been over a 90 percent decline in diarrhea-related mortality,[124] and stunting has been reduced from 19 to 7 percent.[125]

- **Pakistan** began training and deploying "Lady Health Workers" in 1994. There are now more than 90,000 female health workers throughout the country, serving 70 percent of the rural population.[126] Lady Health Workers focus largely on essential maternal and newborn care. Their training emphasizes maternal nutrition, iron and folate use, rest during pregnancy and promotion of breastfeeding. Each Lady Health Worker looks after a population of about 1,000 individuals. At group meetings, she will discuss issues related to better health, hygiene, nutrition, sanitation and family planning, emphasizing their benefits towards improved quality of life. In household visits, she will treat iron deficiency anemia in women and young children, and provide nutritional education with emphasis on breastfeeding and complementary feeding practices, and maternal nutrition, including ways to reduce micronutrient malnutrition.[127] Pakistan still does poorly on breastfeeding indicators, but trends are moving in the right direction. Exclusive breastfeeding rates increased from 23 percent in 1990/91 to 37 percent in 2006/07. During that same period, rates of early initiation rose three-fold, from 9 to 29 percent.[128] Over roughly the same period (1990-2008), maternal mortality dropped by nearly half.[129]

Greater investments are needed to recruit, train and supervise/support more frontline health workers to build on these successes. WHO estimates there is a shortage of at least 1 million frontline health workers in the developing world.[130] And many existing health workers could do more to fight malnutrition if they had better training, equipment and support.[131]

Brazil

"Naweeda is getting fatter day by day," said Roshan Gul. "I am so happy." *Photo by Elissa Bogos*

Afghanistan

Coping with Food Crisis in Afghanistan

Roshan Gul is the mother of five children and the wife of a day laborer who used to work in the fields of local farmers in northern Afghanistan. Then the drought started, and harvests failed three years in a row, so her husband couldn't find work anymore. Sometimes her family doesn't have food for days. If there is food, it mostly consists of rice, bread and tea. Vegetables and meat are too expensive. Roshan Gul's youngest child, Naweeda, became severely malnourished. She was 9 months old and weighed 9.9 pounds when Save the Children community mobilizers weighed her for the first time in January 2012.

"When my baby Naweeda was born, she was round and healthy. She was pretty," said Roshan Gul. "But then she stopped growing. Look: she cannot cry properly and she cannot move like other little babies.

"I was very happy when the women [Save the Children community mobilizers] came to my house, weighed the baby and said they would help me to feed her. Now I go to a neighbor's house four times a week and we cook together for the children. Everybody brings a child and a little bit of food from home – a tea glass full of rice, a carrot, a potato… We have teachers and we learn from them what children must eat to become stronger. We cook rice with beans, eggs, carrots, turnips, potatoes and oil. We clean our hands before we start to cook so that the children don't become sick. It is good to know that this helps to keep my children healthy.

"In the beginning Naweeda didn't eat much, but her appetite is becoming better and she is eating more now. Her face looks beautiful again, like when she was born."

When the doctor weighed Naweeda in April 2012, she was up to 13.2 pounds. "He also measured my daughter's upper arm, and it is fatter. It is at 11.3 centimeters," said Roshan Gul. "They say it was 9.5 in the beginning. She wasn't like a baby then. She was like a bird so light. She is heavier in my arms now.

"Naweeda is getting fatter day by day. I am so happy. We don't sleep so much anymore, because she is often awake at night now. She wakes up and looks around and tells me things, then she sleeps, then she wakes up again. She has more energy, more like a normal baby, but she still doesn't want to play very much. I think she needs to eat more and recover. She is still too light for her age. The doctor says she must gain another 4 pounds soon."

Sweden

BREASTFEEDING IN THE INDUSTRIALIZED WORLD

In developed countries, breastfeeding usually is not critical to an infant's survival, as it often is in impoverished developing countries. Uncontaminated, nutritious alternatives to breast milk are readily available in wealthier countries, and while malnutrition does exist, it is relatively uncommon. Still, breastfeeding has many benefits for mothers and babies, and more can be done to support mothers who want to breastfeed.

According the World Health Organization, exclusive breastfeeding for the first six months is best for babies *everywhere*.[132] Babies who are fed formula and stop breastfeeding early have higher risks of illness, obesity, allergies and sudden infant death syndrome (SIDS).[133] They tend to require more doctor visits, hospitalizations and prescriptions.[134] Various studies also suggest breastfeeding enhances a child's cognitive development.[135] While health professionals agree that human milk provides the most complete form of nutrition for infants, there are a few exceptions when breastfeeding is not advised, such as when the mother is taking certain drugs or is infected with HIV or tuberculosis.[136]

Mothers who breastfeed have lower risks of breast[137] and ovarian[138] cancers. Breastfeeding delays the return to fertility and helps a mother lose the weight she gained while pregnant. In the long term, breastfeeding reduces the risk of type 2 diabetes.[139] It also increases the physical and emotional bond between a mother and her child.

In all countries of the world, it is cheaper to breastfeed than to feed a baby formula or other milk. Breastfeeding is also the most environment-friendly way to feed a baby. Breast milk does not require packaging, storage, transportation or refrigeration. It generates no waste, is a renewable resource, and requires no energy to produce (except of course, the calories burned by the mother's body).

Opinions vary on the benefits of breastfeeding mixed with other foods in the early months of a baby's life. While some breast milk is seen as better than none, a number of recent studies have suggested that the immunity benefits for babies come only with exclusive breastfeeding.[140]

Despite these many known benefits of breastfeeding for mothers and their children, significant percentages of women in developed countries do not breastfeed optimally.

In Belgium and the United Kingdom, only about 1 percent of children are exclusively breastfed for the first 6 months. In Australia, Canada, Finland, Italy, Norway, Sweden, the United States and several other countries, 15 percent or fewer of children have 6 months of exclusive breastfeeding. Even the "best" countries in the industrialized world have exclusive breastfeeding rates well below 50 percent.[141]

Poor compliance with breastfeeding recommendations costs the world economy billions of dollars each year. In the United States alone, it is estimated that low rates of breastfeeding add $13 billion to medical costs and lead to 911 excess deaths every year.[142] In the United Kingdom, it was estimated in 1995 that the National Health Service spent £35 million per year in England and Wales treating gastroenteritis in formula-fed infants and that, for every 1 percent increase in breastfeeding at 13 weeks, £500,000 would be saved.[143]

The reasons why women don't breastfeed are varied and complex. In most developed countries, the majority of women report they try to breastfeed, but then at 3 months a significant percentage are not breastfeeding exclusively, and at 6 months many have stopped nursing *(see table on p.43)*. Mothers who want to breastfeed may become frustrated by physical challenges or the amount of

The Double Burden: Hunger and Obesity

Childhood overweight and obesity are on the rise the world over. This is a growing problem in both rich and poor countries alike, with the poorest people in both affected most. People with lower incomes tend to consume more fat, meat and sugar, while those with higher incomes consume more fruit and vegetables. Children who are not breastfed are at higher risk of obesity. In addition, breastfeeding for at least the first six months of life appears to be a factor protecting against obesity.[144]

In the United States, 10 percent of children under age 5 are overweight and an additional 10 percent of 2- to 5-year-olds are at risk of overweight.[145] Among other developed countries with available data, the highest levels of child overweight (around 20 percent or more) are found in Albania, Bosnia and Herzegovina, Georgia and Serbia.[146]

Some of these countries also have large numbers or high percentages of stunted children. In the United States, for example, 4 percent of young children are estimated to be stunted, which translates into 840,000 stunted children.[147] Stunting rates are over 10 percent in Bosnia and Herzegovina and Georgia. In Albania, the rate is over 20 percent.[148]

Although being overweight is a problem most often associated with industrialized countries, obesity has been on the rise in developing countries in recent years as well. This has lead to a "double burden" of malnutrition, where countries have high rates of both stunting and overweight. In Comoros, for example, 22 percent of young children are overweight, while around half are stunted. In Egypt, 21 percent of children under 5 are overweight while 31 percent are stunted. Libya has stunting and overweight rates above 20 percent. Other countries with serious levels of both extremes of malnutrition include: Azerbaijan, Belize, Benin, Botswana, Central African Republic, Djibouti, Indonesia, Iraq, Malawi, Mongolia, Morocco, Nigeria, Peru, Sierra Leone and Syria.[149]

Australia

time required. They may lose confidence if their baby has difficulty latching and there is not a lactation consultant or support group they can turn to for advice. If she has a demanding work schedule, or lack of support at home, a mother may be forced to stop breastfeeding or start using formula sooner than she would like.

Breastfeeding practices tend to vary widely across race, ethnicity, education and income levels. Often, disadvantaged mothers breastfeed less that their more privileged counterparts.

In the United States, more than 80 percent of Hispanics and Asians begin breastfeeding, but only 74 percent of whites and 54 percent of blacks do so.[150] Women with higher levels of education are more likely to breastfeed, but racial differences are apparent across education levels. For example, even among women with a college degree, blacks are less likely to breastfeed than whites.[151] There are sharp geographical differences as well: in eight states, most in the Southeast, less than 10 percent of infants are exclusively breastfed at 6 months.[152]

Similar trends are found in Australia, where Aboriginal mothers are less likely to breastfeed than non-Aboriginal mothers. Poorer, less educated, women breastfeed less than women with post-school qualifications. And mothers over 30 are twice as likely to be breastfeeding their babies at 12 months of age (28 percent) compared with mothers aged 18-29 years (14 percent).[153]

In the United Kingdom, the highest incidences of breastfeeding are found among mothers from managerial and professional occupations, those with the highest education levels and those age 30 and older.[154] South Asian and black mothers are more likely than white mothers to breastfeed initially, and to continue breastfeeding through six months. However, among mothers who breastfeed exclusively at birth, the fall-off is greater among South Asian and black mothers than among white mothers. For example, 70 percent of white mothers who nursed exclusively at birth were still exclusive at one week, compared with 62 percent of South Asian and 52 percent of black mothers. At four months, 12 percent of white mothers were still exclusively breastfeeding, compared with 7 percent of South Asians and 5 percent of blacks.[155]

A recent study in the United States found that less than 2 percent of low-income mothers who planned to breastfeed were able to meet their goals, while 50 percent of women from a more affluent population did. The low-income women reported the obstacles they encountered when breastfeeding led them to stop sooner than they had planned. The study suggested better support is needed from medical professionals to help low-income mothers succeed in their breastfeeding plans.[156]

Experts agree that much of breastfeeding success hinges on getting off to a good start. The Baby-Friendly Hospital Initiative, launched in 1991 by UNICEF and the WHO, is an effort to ensure that more hospitals and maternity units provide breastfeeding support. A maternity facility can be designated "baby-friendly" when it does not accept free or low-cost breast milk substitutes, feeding bottles or teats, and has implemented 10 specific steps to support successful breastfeeding. These steps include: training staff to encourage and support breastfeeding; informing all pregnant women about the benefits of breastfeeding; helping mothers to begin nursing within half an hour of birth; and establishing breastfeeding groups to support mothers after they leave the hospital.[157] In many areas where hospitals have been designated Baby-Friendly, more mothers are breastfeeding their infants, and child health has improved.[158]

The implementation of the Baby-Friendly Hospital Initiative has been difficult and slow in many countries. Three countries – Norway, Slovenia and Sweden – report very high percentages of births in baby-friendly hospitals.[159] Sweden is considered the global leader in terms of Baby-Friendly Hospital Initiative implementation: just four years after the program was introduced in 1993, all of the then 65 maternity centers in the country had been designated as "baby-friendly."[160] Today, Sweden remains the only industrialized country where all the hospitals are baby-friendly.

Perhaps the most effective way to improve breastfeeding rates is to provide longer periods of paid maternity leave. Countries with generous maternity and parental leave policies – such as Denmark, Norway and Sweden – tend to have high breastfeeding rates. Public health researchers in the United States recently found that women whose maternity leave lasted longer than six weeks were more likely to initiate breastfeeding, continue for more than six months and rely mostly on exclusive breastfeeding beyond three months, compared with women who returned to work between one and six weeks after giving birth.[161]

Apart from the United States, all developed countries now have laws mandating some form of paid compensation for women after giving birth. Depending on the country, maternity leave can range from 12 to 46 weeks, with pay from 55 to 100 percent of regular salary.

Many countries have also enacted laws giving working women the right to take nursing breaks while on the job. Although research has shown that returning to work is associated with early discontinuation of breastfeeding, a supportive work environment may make a difference in whether mothers are able to continue to nurse. Under the best policies – in countries such as Germany, Poland and Portugal – women may take an hour or more of paid nursing breaks each day, for as long as they need them. Laws in France, Japan, New Zealand, Norway, Sweden, Switzerland and the United States give women the right to nursing breaks, but without guaranteed pay. In Australia, Canada, Denmark, Finland, Iceland and the United Kingdom, women do not have the explicit right to nursing breaks, paid or unpaid.

USA

BREASTFEEDING POLICY SCORECARD

Save the Children examined maternity leave laws, the right to nursing breaks at work and several other indicators to create a ranking of 36 industrialized countries measuring which ones have the most – and the least – supportive policies for women who want to breastfeed.

Norway tops the *Breastfeeding Policy Scorecard* ranking. Norwegian mothers enjoy one of the most generous parental leave policies in the developed world. After giving birth, mothers can take up to 36 weeks off work with 100 percent of their pay, or they may opt for 46 weeks with 80 percent pay (or less if the leave period is shared with the father). In addition, Norwegian law provides for up to 12 months of additional child care leave, which can be taken by both fathers and mothers. When they return to work, mothers have the right to nursing breaks as they need them. Nearly 80 percent of hospitals have been certified as "baby-friendly" and many provisions of the *International Code of Marketing of Breast-milk Substitutes* have been enacted into law. Breastfeeding practices in Norway reflect this supportive environment: 99 percent of babies there are breastfed initially and 70 percent are breastfed exclusively at 3 months.

The United States ranks last on the *Breastfeeding Policy Scorecard*. It is the only economically advanced country – and one of just a handful of countries worldwide – where employers are not required to provide any paid maternity leave after a woman gives birth. There is also no paid parental leave required by U.S. law. Mothers may take breaks from work to nurse, but employers are not required to pay them for this time. Only 2 percent of hospitals in the United States have been certified as "baby-friendly" and none of the provisions of the *International Code of Marketing of Breast-milk Substitutes* has been enacted into law. While 75 percent of American babies are initially breastfed, only 35 percent are being breastfed exclusively at 3 months.

Norway

Breastfeeding Policy Scorecard for Developed Countries

	BREASTFEEDING POLICY SUMMARY		PAID MATERNITY LEAVE[1]		RIGHT TO DAILY NURSING BREAKS		% HOSPITALS THAT ARE BABY-FRIENDLY	STATE OF POLICY SUPPORT FOR THE CODE[4]	BREASTFEEDING PRACTICES		
	Score	Rating	Length (weeks)	% Wages paid	Y/N	Length of coverage (months)[3]			Ever breastfed %	Exclusive at 3 months %	Any at 6 months %
Norway	9.8	Very good	36 or 46[2]	100, 80%	Y*	no limit	79%	Good	99	70	80
Slovenia	9.6	Very good	15	100%	Y	no limit	79%	Good	97	—	—
Sweden	9.6	Very good	60[2]	80%†	Y*	no limit	100%	Good	98	60 (4 m)	72
Luxembourg	9.4	Very good	16	100%	Y	no limit	>50%[8]	Good	90	26 (4 m)	41
Austria	9.0	Good	16	100%	Y	no limit	>15%[8]	Good	93	60	55
Lithuania	9.0	Good	18	100%	Y	no limit	>15%[8]	Good	98	41	31
Latvia	8.8	Good	16	100%	Y	18	47%	Good	92	63	46
Czech Republic	8.6	Good	28	60%	Y	≥12	55%	Good	96	—	53
Netherlands	8.6	Good	16	100%†	Y	9	63%	Good	81	30	37
Germany	8.4	Good	14	100%†	Y	no limit	4%	Good	96	33 (4 m)	48
Estonia	8.2	Good	20	100%	Y	18	0%[8]	Good	82	—	40
Poland	8.2	Good	20	100%	Y	no limit	15%	Good	71	31	—
Portugal	8.2	Good	17 or 21[2]	100, 80%	Y	no limit	2%	Good	90	52	29
France	8.0	Good	16	100%†	Y*	12	1%	Good	65	—	—
Belgium	7.8	Good	15	82,75%†	Y	7	6%	Good	72	25	25
Ireland	7.8	Good	26 (16)	80%†	Y	6.5	35%	Good	46	—	—
Italy	7.8	Good	20	80%	Y	12	2%	Good	91	47	47
Switzerland	7.8	Good	14	80%†	Y*	12	>50%[8]	Fair	92	—	41
New Zealand	7.6	Good	14[2]	100%†	Y*	–	>75%[8]	Fair	88	56	—
Cyprus	7.5	Good	18	75%	Y	6	—	Good	79	52	—
Denmark	7.4	Good	18	100%†	no right to breaks‡		39%	Good	98	48	—
Greece	7.4	Good	17	100%	Y	12	0%	Good	86	—	—
Slovak Republic	7.4	Good	28	55%	Y	12	29%	Good	92	57 (4 m)	—
Spain	7.4	Good	16	100%	Y	9	3%	Good	76	44	40
United Kingdom	7.2	Good	39 (13)	90%	no right to breaks‡		17%	Good	81	13	25
Finland	6.8	Fair	18	70+%	no right to breaks‡		12%	Good	93	51	60
Israel	6.8	Fair	12	100%	Y	7.5	0%[8]	Good	—	—	—
Japan	6.8	Fair	14	67%	Y*	12	6%[8]	Fair	97	38	—
Hungary	6.6	Fair	24	70%	Y	9	7%[8]	Good	96	62 (4 m)	—
Liechtenstein	6.2	Fair	20	80%	Y	no limit	0%[8]	Poor	—	—	—
Canada	5.4	Fair	17	55%†	no right to breaks‡		4%[8]	Fair	90	52	54
Iceland	5.4	Fair	13[2]	80%	no right to breaks‡		0%	Poor	98	48 (4 m)	65
Monaco	5.4	Fair	16	90%	Y	12	0%[8]	Poor	—	—	—
Australia	4.8	Poor	18[2]	flat rate	no right to breaks‡		>15%[8]	Fair	96	39	60
Malta	4.4	Poor	14	100%	no right to breaks‡		0%[8]	Poor	62	—	—
United States	4.2	Poor	(12)	unpaid	Y*	12	2%[8]	Poor	75	35	44

— No data

(x) Unpaid period of leave

† Paid up to a ceiling

(4m) Data refer to exclusive breastfeeding at 4 months

[1] In some countries, different sectors provide different lengths of leave. The minimum standards for leave are indicated here. In addition to maternity leave, most countries offer parental leave which is paid in part or full or in some cases not at all. Country performance is scored and rated according to the full length of paid leave— including both maternity and parental leaves – available to mothers. For more on maternity leave policies, see country footnotes for Tier I of the *Mothers' Index*. Detailed information on leave policies can be found at: leavenetwork.org/lp_and_r_reports/review_2011/

[2] These countries do not provide maternity leave as such. Figures given are for the period of paid parental leave available to mothers. In many countries (e.g. Norway), fathers take little more than their quota, leaving benefits for the most part to be taken by the mother.

[3] Indicates the child's age when breastfeeding breaks end. "No limit" means mothers can take breaks as long as they continue to breastfeed.

* The ILO's Maternity Protection Convention (No. 183) calls for paid breastfeeding breaks. Although these countries guarantee the right to breastfeed at work, legislation does not explicitly provide for payment. In some countries, breaks are paid in certain sectors (e.g. the public sector in Norway) and/or industries due to collective agreements in the workplace (e.g. Japan).

‡ Women are not entitled to breastfeeding breaks by statutory law, although some workplaces may allow breaks.

[8] Figures are for all facilities (i.e. not just hospitals) providing maternal care. Data listed as "> X %" are sourced from WHO graphics which were used to determine performance ratings; graphics did not allow for precise estimates.

[4] This column summarizes the status of national measures with respect to the *International Code of Marketing of Breast-milk Substitutes*. For category definitions, see Methodology and Research Notes.

Note: Findings are reported for 36 industrialized (as identified by UNICEF) countries with available data. Countries missing one, but not more than one, data point were inlcuded in the analysis. For rating and scoring methodology please see Methodology and Research Notes. To ensure comparability across countries, data were taken from a single source where possible. Where sources differed, the most recent (in the case of policy data) or the most reliable (in the case of breastfeeding data) estimates were used.

Sources: ILO Database on Conditions of Work and Employment Laws; UNSD. Statistics and indicators on women and men. Table 5g. (Updated December 2011); International Network on Leave Policies and Research. *International Review of Leave Policies and Related Research* 2011. Ed. Peter Moss; WABA. *Status of Maternity Protection by Country*. (Updated September 2011); World Legal Rights Data Centre: Adult Labour Database; Elaine Cote, IBFAN-GIFA, Geneva, Switzerland; WHO Department of Nutrition for Health and Development. Data presented at the 2010 BFHI coordinators meeting. Florence, Italy (unpublished); UNICEF BFHI 2006 records update; IBFAN. *State of the Code by Country* 2011. (Penang, Malaysia: 2011); Adriano Cattaneo, Institute for Maternal and Child Health IRCCS Burlo Garofolo, Trieste, Italy; WHO Global Data Bank on Infant and Young Child Feeding (who.int/nutrition/databases/infantfeeding/); OECD (2011), OECD Family Database, OECD, Paris; and recent national infant feeding surveys.

Indicator ratings

- Very good
- Good
- Fair
- Poor

Overall performance scores[+]

≥ 9 Very good

7-8 Good

5-6 Fair

3-4 Poor

[+] In order to receive a "very good" overall, countries had to have a rating of "good" or better across all indicators.

Niger

TAKE ACTION NOW TO ENSURE EVERY CHILD GETS THE NUTRITION THEY NEED FOR THE RIGHT START IN LIFE

Children who get the right nutrition in their first 1,000 days – from pregnancy to age 2 – have a foundation that lasts their entire lives. Their bodies and brains develop, they do better in school, and they even have higher lifelong earnings.

For children who don't get this adequate investment, the opposite is true; the impacts are often irreversible. Even worse, malnutrition is an underlying cause of more than a third of child deaths before the age of 5.

Every child deserves a fair start in life. Getting children the right nutrition – especially in this 1,000 day window – pays for itself and is one of the most cost-effective development interventions.

All Countries:

- Malnutrition impacts both wealthy and developing countries in serious ways. All governments must make fighting malnutrition and stunting a priority, setting targets for progress in their own countries and around the world. Together, countries should set and monitor a global target for reducing stunting as a key way to accelerate investment and accountability for malnutrition.
- Countries should endorse and support the Scaling Up Nutrition (SUN) movement, which provides a framework for donor and developing countries, multilateral agencies and NGOs to work together to advance nutrition.
- Leaders attending the Call to Action forum, *A Promise to Keep: Ending Preventable Child Deaths* in Washington in June should commit to ending preventable child deaths and focusing on nutrition as an underlying cause of a third of child deaths.
- Governments, donors and international agencies should prioritize investing in frontline health workers and girls' education. Both of these are essential to breaking the cycle of malnutrition.

Developing Countries:

- Developing country governments must commit and fund national nutrition plans of action that are integrated with plans for maternal and child health. Again, the SUN movement provides a framework for developing country leadership.
- African governments must invest in health by meeting the Abuja target set in 2001 to devote at least 15 percent of government spending to the health sector. This must include resources for the implementation of a national action plan for nutrition which is supported by accountable leadership and good stewardship of resources.

Donor Countries:

- With global economic turmoil, many international assistance budgets are under pressure. However, most countries spend less than 1 percent of their GDP on international assistance. Citizens in developed countries need to tell their governments to continue to invest in global health and development – including nutrition.
- Donor countries and international agencies must keep their funding commitments to achieving MDGs 1, 4 and 5. They should endorse the SUN movement and support country plans to reduce malnutrition.
- Nations participating in the G-8 Summit in May 2012 at Camp David in the United States must set a global target for preventing stunting and, at a minimum, continue support for food security at levels agreed to under the L'Aquila Food Security Initiative.
- Nations attending the G20 in Mexico in June must endorse the SUN movement, direct their Agriculture Ministers to identify policies and practices that maximize the impact on nutrition; and support low-income countries to establish, develop and finance social protection systems that can be scaled up to protect poor and vulnerable populations.

Individuals:

- Citizens everywhere should urge their governments – national governments and donors alike – to invest in nutrition for mothers and all children, especially in the first 1,000 days, and live up to the commitments made to achieve Millennium Development Goals 1, 4 and 5.
- Join Save the Children's newborn and child survival campaign. Visit **www.savethechildren.net** to find the campaign in your country, take action to let your leaders know that preventable child deaths and malnutrition are unacceptable, and join our movement.

Norway

APPENDIX: THE MOTHERS' INDEX AND COUNTRY RANKINGS

The thirteenth annual *Mothers' Index* helps document conditions for mothers and children in 165 countries – 43 developed nations[162] and 122 in the developing world – and shows where mothers fare best and where they face the greatest hardships. All countries for which sufficient data are available are included in the *Index*.

Why should Save the Children be so concerned with mothers? Because more than 90 years of field experience have taught us that the quality of children's lives depends on the health, security and well-being of their mothers. In short, providing mothers with access to education, economic opportunities and maternal and child health care, gives them and their children the best chance to survive and thrive.

The *Index* relies on information published by governments, research institutions and international agencies. The *Complete Mothers' Index*, based on a composite of separate indices for women's and children's well-being, appears in the fold-out table in this appendix. A full description of the research methodology and individual indicators appears after the fold-out.

Mothers' Index Rankings

European countries – along with Australia and New Zealand – dominate the top positions while countries in sub-Saharan Africa dominate the lowest tier. The United States places 25th this year.

Most industrialized countries cluster tightly at the top of the *Index* – with the majority of these countries performing well on all indicators – the highest ranking countries attain very high scores for mothers' and children's health, educational and economic status.

The 10 bottom-ranked countries in this year's *Mothers' Index* are a reverse image of the top 10, performing poorly on all indicators. Conditions for mothers and their children in these countries are devastating.

2012 Mothers' Index Rankings

Top 10 – Best places to be a mother		Bottom 10 – Worst places to be a mother	
RANK	COUNTRY	RANK	COUNTRY
1	Norway	**156**	DR Congo
2	Iceland	**156**	South Sudan
3	Sweden	**156**	Sudan
4	New Zealand	**159**	Chad
5	Denmark	**160**	Eritrea
6	Finland	**161**	Mali
7	Australia	**162**	Guinea-Bissau
8	Belgium	**163**	Yemen
9	Ireland	**164**	Afghanistan
10	Netherlands / United Kingdom	**165**	Niger

Niger

What the Numbers Don't Tell You

The national-level data presented in the *Mothers' Index* provide an overview of many countries. However, it is important to remember that the condition of geographic or ethnic sub-groups in a country may vary greatly from the national average. Remote rural areas tend to have fewer services and more dire statistics. War, violence and lawlessness also do great harm to the well-being of mothers and children, and often affect certain segments of the population disproportionately. These details are hidden when only broad national-level data are available.

- Over half of all births are not attended by skilled health personnel.
- On average, 1 in 30 women will die from pregnancy-related causes.
- 1 child in 7 dies before his or her fifth birthday.
- Nearly a third of all children suffer from malnutrition.
- 1 child in 6 is not enrolled in primary school.
- Fewer than 4 girls are enrolled in primary school for every 5 boys.
- On average, females receive about 6 years of formal education.
- Women earn less than 40 percent of what men do.
- 8 out of 10 women are likely to suffer the loss of a child in their lifetime.

The contrast between the top-ranked country, Norway, and the lowest-ranked country, Niger, is striking. Skilled health personnel are present at virtually every birth in Norway, while only 1 in 3 births are attended in Niger. In Norway, nearly 40 percent of parliamentary seats are held by women; in Niger only 13 percent are. A typical Norwegian girl can expect to receive 18 years of formal education and will live to be over 83 years old. Eighty-two percent of women are using some modern method of contraception, and only 1 mother in 175 is likely to lose a child before his or her fifth birthday. At the opposite end of the spectrum, in Niger, a typical girl receives only 4 years of education and lives to only 56. Only 5 percent of women are using modern contraception, and 1 child in 7 dies before his or her fifth birthday. This means that every mother in Niger is likely to suffer the loss of a child.

Chad

Afghanistan

The data collected for the *Mothers' Index* document the tremendous gaps between rich and poor countries and the urgent need to accelerate progress in the health and well-being of mothers and their children. The data also highlight the regional dimension of this tragedy. Eight of the bottom 10 countries are in sub-Saharan Africa. Sub-Saharan Africa also accounts for 18 of the 20 lowest-ranking countries.

Individual country comparisons are especially startling when one considers the human suffering behind the statistics:

- Less than 25 percent of births are attended by skilled health personnel in Afghanistan, Chad, Lao PDR and Nepal. In Ethiopia only 6 percent of births are attended. Compare that to 99 percent in Sri Lanka and 95 percent in Botswana.
- According to the most recent estimates, 1 woman in 11 dies in pregnancy or childbirth in Afghanistan. The risk is 1 in 14 in Chad and Somalia. In Italy and Ireland the risk of maternal death is less than 1 in 15,000 and in Greece it's 1 in 31,800.
- A girl born today isn't likely to live much past the age of 50 in Botswana, Central African Republic, Democratic Republic of the Congo, Guinea-Bissau and Zambia. In Afghanistan, Lesotho, Sierra Leone and Swaziland, the average girl won't live to see her 50th birthday, while in Japan female life expectancy is over 87 years old.
- In Somalia, only 1 percent of women use modern contraception. Rates are 5 percent or less in Angola, Chad, Eritrea, Guinea and Niger. And less than 10 percent of women use modern contraception in 13 other developing countries. By contrast, at least 80 percent of women in Norway, Portugal and Thailand and 84 percent of women in China and the United Kingdom use some form of modern contraception.
- In Afghanistan, Jordan, Lebanon, Libya, Morocco, Oman, Pakistan, Syria and Yemen, women earn 25 cents or less for every dollar men earn. Saudi and Palestinian women earn only 16 and 12 cents respectively to the male dollar. In Mongolia, women earn 87 cents for every dollar men earn and in Mozambique they earn 90 cents.

Progress in Afghanistan

After two years as the worst place in the world to be a mother, Afghanistan has moved up one notch on the *Mothers' Index* this year. Afghanistan has made noteworthy improvements in maternal and child health and well-being. Skilled birth attendance has risen from 14 to 24 percent. Female life expectancy is up by almost 5 years. The average number of years girls are in school has increased by a year and a half. Child mortality has dropped from around 200 deaths per 1,000 live births to 149. And enrollment in primary school has been climbing steadily. In 2000, only 20 percent of primary-school-age children were enrolled in school, and twice as many boys as girls were in school. Today, enrollment in primary school is at 97 percent.

What explains Afghanistan's progress? One answer is that it has invested in training and deploying more frontline health workers. With support from international partners, Afghanistan increased its cadre of community health workers from 2,500 in 2004 to about 22,000 today. And there are now 3,000 trained midwives, up from about 500 in 2003.

Despite this progress, Afghanistan still has a long way to go. Half of the population does not have access to safe drinking water. Only 7 girls for every 10 boys are enrolled in primary school – the second largest gender disparity in education in the world. One child in 3 is underweight. One child in 7 dies before reaching age 5. Only 1 in 4 births is attended by skilled personnel. Just 1 woman in 6 is using modern contraception. And, according to the latest international estimates, 1 woman in 11 will die of a pregnancy-related cause – the highest lifetime risk of maternal mortality in the world.

Results from a recent national survey suggest that Afghanistan's maternal mortality rate is on the decline, but Afghanistan still has the highest lifetime risk of maternal mortality in the world. It also places second to last on female life expectancy and gender disparity in primary education.

- In Qatar, Saudi Arabia and the Solomon Islands, not one parliamentary seat is occupied by a woman. In Comoros and Papua New Guinea, women have only 1 seat. Compare that to Rwanda, where women hold over half of all seats in parliament.
- A typical female in Central African Republic, Côte d'Ivoire, Djibouti, Guinea-Bissau, Papua New Guinea and Tanzania receives only 5 years of formal education. In Eritrea and Niger, it's 4 years and in Somalia, girls receive less than 2 years of education. In Australia, Iceland and New Zealand, however, the average woman stays in school for 20 years.
- In Somalia, 2 out of 3 children are not enrolled in primary school. More than half (55 percent) of all children in Eritrea are not in school. In Djibouti and Papua New Guinea, out-of-school rates are 40 percent. In comparison, nearly all children in France, Norway, Spain and Sweden make it from preschool all the way to high school.
- In Central African Republic and Chad, fewer than 3 girls for every 4 boys are enrolled in primary school. In Afghanistan, it's close to 2 girls for every 3 boys. And in Somalia, boys outnumber girls by almost 2 to 1.
- More than 1 child in 6 does not reach his or her fifth birthday in Burkina Faso, Chad, Democratic Republic of the Congo, Mali, Sierra Leone and Somalia. In Iceland only 1 child in 500 dies before age 5.
- Over 40 percent of children under age 5 suffer from malnutrition in Bangladesh, India, Madagascar, Niger and Yemen. In Timor-Leste, 45 percent of children are moderately or severely underweight.
- More than half of the population in Democratic Republic of the Congo, Equatorial Guinea, Ethiopia, Madagascar, Mozambique, Niger and Papua New Guinea lack access to safe drinking water. In Somalia, 70 percent of people lack access to safe water.

India

Statistics are far more than numbers. It is the human despair and lost opportunities behind these numbers that call for changes to ensure that mothers everywhere have the basic tools they need to break the cycle of poverty and improve the quality of life for themselves, their children, and for generations to come.

Frequently Asked Questions about the *Mothers' Index*

Why doesn't the United States do better in the rankings?

This year the United States moved up six spots, from 31st to 25th place. Improvements across education indicators are largely responsible for the movement. Despite these gains, however, the U.S. still performs below average overall and quite poorly on a number of measures:

- One of the key indicators of maternal well-being is lifetime risk of maternal mortality. In the United States, mothers face a 1 in 2,100 risk of maternal death – the highest of any industrialized nation. In fact, only three developed countries – Albania, Moldova and the Russian Federation – perform worse than the United States on this indicator. A woman in the U.S. is more than 7 times as likely as a woman in Ireland or Italy to die from a pregnancy-related cause and her risk of maternal death is 15 times that of a woman in Greece.

- Similarly, the United States does not do as well as most other developed countries with regard to under-5 mortality. The U.S. under-5 mortality rate is 8 per 1,000 births. This is on par with rates in Bosnia and Herzegovina, Montenegro, Slovakia and Qatar. Forty countries performed better than the U.S. on this indicator. This means that a child in the U.S. is four times as likely as a child in Iceland to die before his or her 5th birthday.

- The United States has the least generous maternity leave policy of any wealthy nation. It is the only developed country – and one of only a handful of countries in the world – that does not guarantee working mothers paid leave.

- The United States is also lagging behind with regard to preschool enrollment and the political status of women. Performance in both areas places it among the bottom 10 in the developed world.

Why is Norway number one?

Norway generally performed as well as or better than other countries in the rankings on all indicators. It ranks among the very best (i.e. top 5) on contraceptive use, female education and political representation and has one of the most generous maternity leave policies in the developed world. It also has the highest ratio of female-to-male earned income and the second lowest under-5 mortality rate (tied with five other countries) in the developed world.

Why is Niger last?

It is the cumulative effect of underperformance that lands Niger at the bottom of the *Index*. Unlike many other least-developed countries, which perform "well" with respect to their peers on at least one measure, Niger performs very poorly across all indicators of maternal and child health and well-being. Levels of maternal mortality and education, contraceptive use, women's income relative to men's, as well as primary school enrollment and rates of child malnutrition are among the very worst in the world.

Why are some countries not included in the Mothers' Index?

Rankings were based on a country's performance with respect to a defined set of indicators related primarily to health, nutrition, education, economic and political status. There were 165 countries for which published information regarding performance on these indicators existed. All 165 were included in the study. The only basis for excluding countries was insufficient or unavailable data or national population below 250,000.

Why can't country performance be compared across development tiers?

Indicators for the three tiers were selected to best represent factors of maternal well-being specific to each level of development. Because the set of indicators tracked for each tier is different, a single *Index* ranking cannot be generated and performance on the rankings should not be compared across tiers.

What should be done to bridge the divide between countries that meet the needs of their mothers and those that don't?

- Governments and international agencies need to increase funding to improve education levels for women and girls, provide access to maternal and child health care and advance women's economic opportunities.

- The international community also needs to improve current research and conduct new studies that focus specifically on mothers' and children's well-being.

- In the United States and other industrialized nations, governments and communities need to work together to improve education and health care for disadvantaged mothers and children.

TIER I: MORE DEVELOPED COUNTRIES

COUNTRY	MOTHERS' INDEX RANK*	WOMEN'S INDEX RANK**	CHILDREN'S INDEX RANK***
Norway	1	1	11
Iceland	2	5	1
Sweden	3	7	2
New Zealand	4	2	25
Denmark	5	4	25
Finland	6	6	19
Australia	7	3	32
Belgium	8	10	14
Ireland	9	9	8
Netherlands	10	8	27
United Kingdom	10	11	16
Germany	12	16	7
Slovenia	13	12	12
France	14	14	6
Portugal	15	13	13
Spain	16	14	20
Estonia	17	18	10
Switzerland	18	20	17
Canada	19	17	24
Greece	20	21	18
Italy	21	25	5
Hungary	22	23	22
Lithuania	23	22	28
Belarus	24	29	21
United States	25	19	31
Czech Republic	26	28	22
Austria	27	32	4
Poland	28	27	29
Croatia	29	26	30
Japan	30	36	3
Luxembourg	30	35	9
Latvia	32	24	34
Slovakia	33	30	33
Malta	34	41	14
Romania	35	31	39
Serbia	36	38	37
Bulgaria	37	33	40
Russian Federation	37	34	38
Ukraine	39	39	36
Bosnia and Herzegovina	40	37	41
Moldova	41	40	42
Macedonia, TFYR	42	42	43
Albania	43	43	44

TIER II: LESS DEVELOPED COUNTRIES

COUNTRY	MOTHERS' INDEX RANK*	WOMEN'S INDEX RANK**	CHILDREN'S INDEX RANK***
Cuba	1	3	12
Israel	2	1	4
Barbados	3	2	16
Argentina	4	5	8
Cyprus	5	4	1
Korea, Republic of	6	6	2
Uruguay	7	8	8
Kazakhstan	8	9	26
Mongolia	8	7	45
Bahamas	10	11	14
Colombia	11	10	28
Brazil	12	14	7
Costa Rica	13	20	3
China	14	13	34
Chile	15	20	5
Thailand	16	15	35
Jamaica	17	18	29
Venezuela, Bolivarian Republic of	17	17	41
Mexico	19	26	18
Ecuador	20	30	33
Kuwait	20	26	18
Vietnam	20	16	61
Peru	23	22	36
Panama	24	22	32
Trinidad and Tobago	24	31	31
Bahrain	26	33	22
Dominican Republic	26	19	51
Kyrgyzstan	26	28	36
Tunisia	26	38	18
Armenia	30	36	14
Paraguay	31	25	43
Uzbekistan	31	24	48
Bolivia, Plurinational State of	33	28	54
South Africa	33	31	56
Mauritius	35	34	36
Cape Verde	36	36	56
El Salvador	37	41	46
Qatar	37	53	6
United Arab Emirates	37	49	25
Fiji	40	47	22

TIER II: LESS DEVELOPED COUNTRIES

COUNTRY	MOTHERS' INDEX RANK*	WOMEN'S INDEX RANK**	CHILDREN'S INDEX RANK***
Malaysia	41	45	39
Belize	42	51	24
Georgia	42	55	10
Sri Lanka	42	35	61
Maldives	45	40	54
Namibia	46	39	67
Lebanon	47	59	17
Turkey	47	63	10
Nicaragua	49	54	59
Algeria	50	49	44
Iran, Islamic Republic of	50	57	26
Libya	52	42	60
Philippines	52	42	64
Guyana	54	58	52
Suriname	54	51	49
Jordan	56	67	13
Oman	57	64	29
Botswana	58	55	58
Indonesia	59	46	70
Honduras	60	64	52
Azerbaijan	61	62	65
Tajikistan	62	44	73
Saudi Arabia	63	69	39
Swaziland	64	48	72
Egypt	65	72	21
Occupied Palestinian Territory	66	70	42
Ghana	67	59	71
Guatemala	68	71	63
Syrian Arab Republic	69	75	50
Zimbabwe	70	68	74
Gabon	71	59	79
Kenya	72	66	78
Morocco	72	77	66
Congo	74	73	75
Cameroon	75	74	81
India	76	76	77
Papua New Guinea	77	78	83
Pakistan	78	80	76
Côte d'Ivoire	79	81	80
Nigeria	80	79	82

TIER III: LEAST DEVELOPED COUNTRIES

COUNTRY	MOTHERS' INDEX RANK*	WOMEN'S INDEX RANK**	CHILDREN'S INDEX RANK***
Rwanda	1	1	7
Bhutan	2	7	1
Malawi	3	4	3
Lesotho	4	6	4
Uganda	5	8	10
Cambodia	6	3	13
Myanmar	7	10	9
Burundi	8	2	24
Solomon Islands	9	13	2
Mozambique	10	5	29
Lao People's Democratic Republic	11	11	20
Nepal	12	14	16
Timor-Leste	13	12	25
Comoros	14	17	5
Madagascar	15	8	35
Bangladesh	16	16	13
Tanzania, United Republic of	17	18	12
Senegal	18	21	8
Gambia	19	19	6
Angola	20	15	33
Mauritania	21	21	20
Liberia	22	25	11
Djibouti	23	24	18
Togo	24	23	19
Ethiopia	25	20	32
Benin	26	28	17
Zambia	27	30	13
Guinea	28	25	22
Burkina Faso	29	27	28
Sierra Leone	30	29	36
Equatorial Guinea	31	34	27
Central African Republic	32	33	34
Democratic Republic of the Congo	33	32	40
South Sudan	33	36	30
Sudan	33	38	30
Chad	36	31	42
Eritrea	37	36	37
Mali	38	35	38
Guinea-Bissau	39	40	26
Yemen	40	39	39
Afghanistan	41	41	41
Niger	42	42	43

* Due to different indicator weights and rounding, it is possible for a country to rank high on the women's or children's index but not score among the very highest countries in the overall *Mothers' Index*. For a complete explanation of the indicator weighting, please see the Methodology and Research Notes.

** Rankings for Tiers I, II and III are out of the 43, 81 and 42 countries respectively for which sufficient data existed to calculate the *Women's Index*.

*** Rankings for Tiers I, II and III are out of the 44, 83 and 44 countries respectively for which sufficient data existed to calculate the *Children's Index*.

THE COMPLETE MOTHERS' INDEX 2012

TIER I	Women's Index								Children's Index			Rankings		
Development Group	Health Status			Educational Status	Economic Status			Political Status	Children's Status			SOWM 2012		
MORE DEVELOPED COUNTRIES	Lifetime risk of maternal death (1 in number stated)	Percent of women using modern contraception	Female life expectancy at birth (years)	Expected number of years of formal female schooling	Maternity leave benefits 2011		Ratio of estimated female to male earned income	Participation of women in national government (% seats held by women)	Under-5 mortality rate (per 1,000 live births)	Gross pre-primary enrollment ratio (% of total)	Gross secondary enrollment ratio (% of total)	Mothers' Index Rank (out of 43 countries)+	Women's Index Rank (out of 43 countries)+	Children's Index Rank (out of 44 countries)+
	2008	2010	2010	2011	Length	% Wages paid	2007	2011	2010	2011	2011			
Albania	1,700	10	80	11	365 days[1]	80, 50 (a)	0.54	16	18	56	89	43	43	44
Australia	7,400	71	84	20	18 weeks	flat (b)	0.70	29	5	81	129	7	3	32
Austria	14,300	47	84	16	16* weeks	100	0.40	29	4	96	100	27	32	4
Belarus	5,100	56	76	15	126 days[1]	100	0.63	32	6	99	96	24	29	21
Belgium	10,900	73	83	17	15 weeks	82, 75 (c,d)	0.64	39	4	118	111	8	10	14
Bosnia and Herzegovina	9,300	11	78	14	1 year	50-100 (r)	0.61	19	8	17	90	40	37	41
Bulgaria	5,800	40	77	14	135 days	90	0.68	21	13	79	88	37	33	40
Canada	5,600	72	83	16	52 weeks	55 (d,e,r)	0.65	28	6	71	101	19	17	24
Croatia	5,200	—	80	14	1+ year	100 (f,g)	0.67	24	6	58	95	29	26	30
Czech Republic	8,500	63	81	16	28* weeks	60	0.57	21	4	106	90	26	28	22
Denmark	10,900	72	81	17	52 weeks	100 (d)	0.74	39	4	96	117	5	4	25
Estonia	5,300	56	80	17	140* days[1]	100	0.65	20	5	96	104	17	18	10
Finland	7,600	75	83	17	105* days[11]	70 (h)	0.73	43	3	66	108	6	6	19
France	6,600	75	85	16	16* weeks	100 (d)	0.61	20	4	110	113	14	14	6
Germany	11,100	66	83	16 (z)	14* weeks	100 (d)	0.59	32	4	114	103	12	16	7
Greece	31,800	46	83	16	119 days	50+ (j,s)	0.51	19	4	67	101	20	21	18
Hungary	5,500	71	78	16	24* weeks	70	0.75	9	6	85	98	22	23	22
Iceland	9,400	—	84	20	3 months	80	0.62	40	2	97	107	2	5	1
Ireland	17,800	61	83	19	26 weeks	80 (h,d)	0.56	19	4	—	117	9	9	8
Italy	15,200	41	85	17	5 months	80	0.49	21	4	97	99	21	25	5
Japan	12,200	44	87	15	14 weeks	67	0.45	13	3	90	102	30	36	3
Latvia	3,600	56	79	16	112 days[1]	100	0.67	23	10	84	95	32	24	34
Lithuania	5,800	33	78	17	126 days[1]	100	0.70	19	7	75	98	23	22	28
Luxembourg	3,800	—	83	14	16 weeks	100	0.57	25	3	87	98	30	35	9
Macedonia, the former Yugoslav Republic of	7,300	10	77	13	9 months	— (k)	0.49	31	12	25	83	42	42	43
Malta	9,200	46	82	14	14 weeks	100 (l)	0.45	9	6	111	105	34	41	14
Moldova, Republic of	2,000	43	73	12	126 days[1]	100	0.73	20	19	76	88	41	40	42
Montenegro	4,000	17	77	15	—	—	0.58	12	8	31	104	—	—	35
Netherlands	7,100	67	83	17	16 weeks	100 (d)	0.67	39	4	96	120	10	8	27
New Zealand	3,800	72	83	20	14 weeks	100 (d)	0.69	32	6	93	119	4	2	25
Norway	7,600	82	83	18	36-46* weeks	80,100 (m)	0.77	40	3	98	110	1	1	11
Poland	13,300	28	81	16	20* weeks	100	0.59	22	6	66	97	28	27	29
Portugal	9,800	83	83	16	120-150 days	80,100 (m)	0.60	29	4	82	107	15	13	13
Romania	2,700	38	78	15	126 days[1]	85	0.68	10	14	77	95	35	31	39
Russian Federation	1,900	65	75	15	140 days[1]	100 (d,s)	0.64	11	12	90	89	37	34	38
Serbia	7,500	19	77	14	365 days	100 (n)	0.59	22	7	53	91	36	38	37
Slovakia	13,300	66	80	15	28* weeks	55	0.58	16	8	91	89	33	30	33
Slovenia	4,100	63	83	18	105 days[1]	100	0.61	23	3	86	97	13	12	12
Spain	11,400	62	85	17	16* weeks	100	0.52	35	5	126	119	16	14	20
Sweden	11,400	65	84	17	420 days[1]	80 (o,d)	0.67	45	3	95	100	3	7	2
Switzerland	7,600	78	85	15	14 weeks	80 (d)	0.62	27	5	102	95	18	20	17
Ukraine	3,000	48	75	15	126 days	100	0.59	8	13	97	96	39	39	36
United Kingdom	4,700	84 [1]	82	17	52 weeks	90 (p)	0.67	22	5	81	102	10	11	16
United States	2,100	73	81	18	12 weeks	0 (q)	0.62	17 (i)	8	69	96	25	19	31

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TIER II	Women's Index							Children's Index					Rankings		
Development Group	Health Status				Educational Status	Economic Status	Political Status	Children's Status					SOWM 2012		
LESS DEVELOPED COUNTRIES and TERRITORIES (minus least developed countries)	Lifetime risk of maternal death (1 in number stated)	Percent of births attended by skilled health personnel	Percent of women using modern contraception	Female life expectancy at birth (years)	Expected number of years of formal female schooling	Ratio of estimated female to male earned income	Participation of women in national government (% seats held by women)	Under-5 mortality rate (per 1,000 live births)	Percent of children under 5 moderately or severely underweight for age	Gross primary enrollment ratio (% of total)	Gross secondary enrollment ratio (% of total)	Percent of population with access to safe drinking water	Mothers' Index Rank (out of 80 countries)+	Women's Index Rank (out of 81 countries)+	Children's Index Rank (out of 83 countries)+
	2008	2010	2010	2010	2011	2007	2011	2010	2010	2011	2011	2010			
Algeria	340	95	52	75	14	0.36	7	36	3	110	95	83	50	49	44
Argentina	600	98	64	80	17	0.51	38	14	2	118	89	97 (z)	4	5	8
Armenia	1,900	100	19	77	13	0.57	8	20	5	103	92	98	30	36	14
Azerbaijan	1,200	88	13	74	12	0.44	16	46	8	94	85	80	61	62	65
Bahamas	1,000	99	60	79	13	0.72 (y)	18	16	—	114	96	97 (z)	10	11	14
Bahrain	2,200	97	31 [2]	76	13 (z)	0.51	19	10	9 (z)	107	103	94 (z)	26	33	22
Barbados	1,100	100	53	80	18	0.65	20	20	6 (z)	120	101	100	3	2	16
Belize	330	95	31	78	13	0.43	11	17	4	121	75	98	42	51	24
Bolivia, Plurinational State of	150	71	34	69	13	0.61	30	54	4	105	80	88	33	28	54
Botswana	180	95	42	51	12	0.58	8	48	11	108	80	96	58	55	58
Brazil	860	97	77	77	14	0.60	10	19	2	127	101	98	12	14	7
Brunei Darussalam	2,000	100	—	81	15	0.59	— (ii)	7	—	108	110	—	—	11	—
Cameroon	35	63	12	54	10	0.53	14	136	16	120	42	77	75	74	81
Cape Verde	350	78	57	78	13	0.49	21	36	9 (z)	110	88	88	36	36	56
Chile	2,000	100	58 (y)	82	15	0.42	14	9	1 (z)	106	88	96	15	20	5
China	1,500	99	84	76	12	0.68	21	18	4	111	81	91	14	13	34
Colombia	460	98	68	78	14	0.71	14	19	3	115	96	92	11	10	28
Congo	39	83	13	59	10	0.51	10	93	11	115	45	71	74	73	75
Costa Rica	1,100	99	72	82	12	0.46	39	10	1	110	100	97	13	20	3
Côte d'Ivoire	44	57	8	58	5 (z)	0.34	11	123	16	88	27	80	79	81	80
Cuba	1,400	100	72	81	17	0.49	45	6	4 (z)	103	89	94	1	3	12
Cyprus	6,600	100 (y)	—	82	15	0.58	11	4	—	105	98	100	5	4	1
Dominican Republic	320	98	70	77	13	0.59	19	27	7	108	76	86	26	19	51
Ecuador	270	98	59	79	12 (z)	0.51	32	20	6	114	80	94	20	30	33
Egypt	380	79	58	76	11	0.27	2 (iii)	22	6	106	85	99	65	72	21
El Salvador	350	96	66	77	12	0.46	19	16	6	114	65	88	37	41	46
Fiji	1,300	99	—	72	14	0.38	— (iv)	17	8 (z)	105	86	98	40	47	22
Gabon	110	86	12	64	11 (z)	0.59	16	74	12 (z)	182	53	87	71	59	79
Georgia	1,300	100	27	77	13	0.38	7	22	1	109	86	98	42	55	10
Ghana	66	57	17	66	10	0.74	8	74	14	107	58	86	67	59	71
Guatemala	210	51	34	75	10	0.42	18	32	13	116	59	92	68	71	63
Guyana	150	92	40	73	11	0.41	31	30	11	85	91	94	54	58	52
Honduras	240	67	56	76	12	0.34	20	24	8	116	73	87	60	64	52
India	140	53	49	68	10	0.32	11	63	43	118	60	92	76	76	77
Indonesia	190	79	57	72	13	0.44	18	35	18	118	77	82	59	46	70
Iran, Islamic Republic of	1,500	97	59	75	13	0.32	3	26	5 (z)	108	84	96	50	57	26
Iraq	300	80	33	73	9	—	25	39	6	105	53	79	—	—	67
Israel	5,100	99	52 [3]	84	16	0.64	20	5	—	113	91	100	2	1	4
Jamaica	450	98	66	76	13	0.58	15	24	2	89	93	93	17	18	29
Jordan	510	99	41	75	14	0.19	11	22	2	97	91	97	56	67	13
Kazakhstan	950	100	49	73	16	0.68	14	33	4	111	100	95	8	9	26
Kenya	38	44	39	59	11	0.65	10	85	16	113	60	59	72	66	78
Korea, Democratic People's Republic of	230	100	58	72	—	—	16	33	19	—	98 (z)	98	—	—	47
Korea, Republic of	4,700	100 (y)	70	84	16	0.52	15	5	—	104	97	98	6	6	2
Kuwait	4,500	100	39 [2]	76	15	0.36	8	11	10 (z)	106	101	99	20	26	18

THE COMPLETE MOTHERS' INDEX 2012

TIER II continued	Women's Index							Children's Index					Rankings		
Development Group	Health Status				Educational Status	Economic Status	Political Status	Children's Status					SOWM 2012		
LESS DEVELOPED COUNTRIES and TERRITORIES (minus least developed countries)	Lifetime risk of maternal death (1 in number stated)	Percent of births attended by skilled health personnel	Percent of women using modern contraception	Female life expectancy at birth (years)	Expected number of years of formal female schooling	Ratio of estimated female to male earned income	Participation of women in national government (% seats held by women)	Under-5 mortality rate (per 1,000 live births)	Percent of children under 5 moderately or severely underweight for age	Gross primary enrollment ratio (% of total)	Gross secondary enrollment ratio (% of total)	Percent of population with access to safe drinking water	Mothers' Index Rank (out of 80 countries)+	Women's Index Rank (out of 81 countries)+	Children's Index Rank (out of 83 countries)+
	2008	2010	2010	2010	2011	2007	2011	2010	2010	2011	2011	2010			
Kyrgyzstan	450	99	46	72	13	0.55	23	38	2	100	84	90	26	28	36
Lebanon	2,000	98	34	75	14	0.25	3	22	4 (z)	105	81	100	47	59	17
Libya	540	100	26	78	16	0.25	8	17	5 (z)	114	110	72 (z)	52	42	60
Malaysia	1,200	99	30 [4]	77	13	0.42	13	6	13	96	68	100	41	45	39
Maldives	1,200	95	27	79	13	0.54	7	15	17	109	71	98	45	40	54
Mauritius	1,600	98	39	77	14	0.42	19	15	15 (z)	99	89	99	35	34	36
Mexico	500	95	67	80	14	0.42	25	17	3	115	87	96	19	26	18
Mongolia	730	100	61	73	15	0.87	4	32	5	100	93	82	8	7	45
Morocco	360	63	52	75	10	0.24	11	36	9	114	56	83	72	77	66
Namibia	160	81	54	63	11	0.63	25	40	17	107	64	93	46	39	67
Nicaragua	300	74	69	77	11	0.34	40	27	6	118	69	85	49	54	59
Nigeria	23	39	8	53	8	0.42	7	143	23	83	44	58	80	79	82
Occupied Palestinian Territory	—	99	39	75	14	0.12 (y)	— (v)	22	3 (z)	91	86	85	66	70	42
Oman	1,600	99	25	76	14	0.23	10	9	9	105	100	89	57	64	29
Pakistan	93	39	19	67	6	0.18	21	87	31	95	34	92	78	80	76
Panama	520	89	54	79	14	0.58	9	20	4	108	74	93 (z)	24	22	32
Papua New Guinea	94	53	20 (y)	66	5	0.74	1	61	18	60	19	40	77	78	83
Paraguay	310	82	70	75	12	0.64	14	25	3	100	67	86	31	25	43
Peru	370	84	50	77	13	0.59	22	19	4	109	92	85	23	22	36
Philippines	320	62	34	73	12	0.58	22	29	22	106	85	92	52	42	64
Qatar	4,400	100	32 [2]	78	14	0.28	0	8	6 (z)	103	94	100	37	53	6
Saudi Arabia	1,300	97	29 (y) [2]	76	14	0.16	0	18	14 (z)	106	101	95 (z)	63	69	39
Singapore	10,000	100 (y)	55	84	—	0.53	22	3	3 (z)	—	—	100	—	—	—
South Africa	100	91	60	54	12 (z)	0.60	41(vi)	57	9	102	94	91	33	31	56
Sri Lanka	1,100	99	53 [5]	78	12 (z)	0.56	6	17	21	99	87	91	42	35	61
Suriname	400	90	45	74	13 (z)	0.44	12	31	7	113	75	92	54	51	49
Swaziland	75	82	47	49	10	0.71	22	78	6	116	58	71	64	48	72
Syrian Arab Republic	610	96	43	78	10 (z)	0.20	12	16	10	118	72	90	69	75	50
Tajikistan	430	83	32	71	11	0.65	18	63	15	102	87	64	62	44	73
Thailand	1,200	100	80	78	13	0.63	16	13	7	91	79	96	16	15	35
Trinidad and Tobago	1,100	98	38	74	12	0.55	27	27	6 (z)	105	90	94	24	31	31
Tunisia	860	95	52	77	15	0.28	27	16	3	109	90	94 (z)	26	38	18
Turkey	1,900	91	46	77	12	0.26	14	18	2	102	78	100	47	63	10
Turkmenistan	500	100	45	69	—	0.65	17	56	8	99 (z)	84 (z)	72 (z)	—	—	69
United Arab Emirates	4,200	100	24 [2]	78	13	0.27	18	7	14 (z)	104	92	100	37	49	25
Uruguay	1,700	100	75 [6]	81	17	0.55	12	11	5	113	90	100	7	8	8
Uzbekistan	1,400	100	59	72	11	0.64	19	52	4	95	106	87	31	24	48
Venezuela, Bolivarian Republic of	540	95	62	78	15	0.48	17	18	4	103	83	83 (z)	17	17	41
Vietnam	850	88	68	77	12	0.69	24	23	20	106	77	95	20	16	61
Zimbabwe	42	66	58	53	10	0.58 (y)	18	80	10	91 (z)	45 (z)	80	70	68	74

Note: Data refer to the year specified in the column heading or the most recently available. (y) Data are from an earlier publication of the same source. (z) Data differ from the standard definition and/or are from a secondary source. – No data ' Calendar days " Working days (all other days unspecified)

+ The *Mothers' Index* rankings include only the countries for which sufficient data were available to calculate both the Women's and Children's Indexes. The *Women's Index* and *Children's Index* ranks, however, include additional countries for which adequate data were available to present findings on either women's or children's indicators, but not both. For complete methodology see *Methodology and Research Notes*.

‡ Apart from political status, the data presented are pre-cession estimates.

(i) The total includes all voting members of the House; (ii) There is no parliament; (iii) Results of elections to the lower or upper house only, not both; (iv) Parliament has been dissolved or suspended for an indefinite period; (v) The legislative council has been unable to meet and govern since 2007; (vi) Figures calculated on the basis of permanent seats only; (vii) The parliament was dissolved following the December 2008 coup.

(a) 80% prior to birth and for 150 days after; 50% for the rest of the leave period; (b) Each parent can take up to 12 months of leave, of which 18 weeks are paid; (c) 82% for the first 30 days; 75% for the remaining period; (d) Up to a ceiling; (e) Federal = 17 weeks maternity leave, additional 35 weeks parental leave shared between both parents; (f) 45 days before delivery and 1 year after; (g) 100% until the child reaches 6 months, then at a flat rate for the remaining period; (h) Benefits vary, but there is a minimum flat rate; (j) 50% plus a dependent's supplement (minimum benefit = 67%); a maternity supplement of up to 33% may also be provided (i.e. most mothers get 100% replacement of earnings); (k) Paid amount not specified; (l) Paid only the first 13 weeks; (m) Parental benefits paid at 100% for the shorter duration of leave; 80% for the longer option; (n) 100% of earnings paid for the first 6 months; 60% from the 6th-9th month; 30% for the last 3 months; (o) 480 days paid parental leave, 60 days reserved for each parent: 80% for 390 days, flat rate for remaining 90; (p) 90% for the first 6 weeks and a flat rate for the remaining weeks; (q) No national program; cash benefits may be provided at the state level; (r) Benefits vary by province/canton; (s) A birth grant is also paid in lump sum.

(1) Data excludes Northern Ireland; (2) Data pertain to nationals of the country; (3) Data pertain to the Jewish population; (4) Data pertain to Peninsular Malaysia; (5) Data exclude the Northern Province; (6) Data pertain to men and women.

* These countries also offer prolonged periods of leave of at least two years either as parental leave alone or by taking parental leave in addition to other child-related leave. For additional information on leave entitlements see the OECD Family Database: oecd.org/dataoecd/45/26/37864482.pdf

TIER III	Women's Index							Children's Index					Rankings		
Development Group	Health Status				Educational Status	Economic Status	Political Status	Children's Status					SOWM 2012		
LEAST DEVELOPED COUNTRIES	Lifetime risk of maternal death (1 in number stated)	Percent of births attended by skilled health personnel	Percent of women using modern contraception	Female life expectancy at birth (years)	Expected number of years of formal female schooling	Ratio of estimated female to male earned income	Participation of women in national government (% seats held by women)	Under-5 mortality rate (per 1,000 live births)	Percent of children under 5 moderately or severely underweight for age	Gross primary enrollment ratio (% of total)	Ratio of girls to boys enrolled in primary school	Percent of population with access to safe drinking water	Mothers' Index Rank (out of 42 countries)+	Women's Index Rank (out of 42 countries)+	Children's Index Rank (out of 44 countries)+
	2008	2010	2010	2010	2011	2007	2011	2010	2010	2011	2011	2010			
Afghanistan	11	24	16	49	6	0.24	28	149	33	97	0.69	50	41	41	41
Angola	29	47	5	53	9	0.64	38	161	16	124	0.81	51	20	15	33
Bangladesh	110	27	48	70	8 (y)	0.51	20	48	41	95 (z)	1.04 (z)	81	16	16	13
Benin	43	74	6	59	7	0.52	8	115	18	126	0.87	75	26	28	17
Bhutan	170	65	31	70	12	0.39	14	56	13	111	1.01	96	2	7	1
Burkina Faso	28	54	13	57	6	0.66	15	176	26	79	0.93	79	29	27	28
Burundi	25	60	8	53	11	0.77	35	142	29	156	0.99	72	8	2	24
Cambodia	110	71	27	65	10	0.68	18	51	28	127	0.95	64	6	3	13
Central African Republic	27	44	9	51	5	0.59	13	159	24	93	0.71	67	32	33	34
Chad	14	23	2	52	6	0.70	13	173	30	90	0.73	51	36	31	42
Comoros	71	62	19	63	9	0.58	3	86	25 (z)	104	0.92	95	14	17	5
Congo, Democratic Republic of the	24	74	6	51	7	0.46	5 (iii)	170	24	94	0.87	45	33	32	40
Djibouti	93	93	17	60	5	0.57	14	91	23	59	0.90	88	23	24	18
Equatorial Guinea	73	65	6	53	7	0.36	10	121	19 (z)	87	0.97	43 (z)	31	34	27
Eritrea	72	28	5	64	4	0.50	22	61	35	45	0.84	61 (z)	37	36	37
Ethiopia	40	6	14	62	8	0.67	26	106	33	102	0.91	44	25	20	32
Gambia	49	57	13	60	8	0.63	8	98	18	83	1.02	89	19	19	6
Guinea	26	46	4	56	7	0.68	— (vii)	130	21	94	0.84	74	28	25	22
Guinea-Bissau	18	44	6	50	5	0.46	10	150	18	123	0.94	64	39	40	26
Haiti	93	26	24	64	—	0.37	4	165	18	111 (z)	0.98 (z)	69	—	—	23
Lao People's Democratic Republic	49	20	29	69	9	0.76	25	54	31	121	0.90	67	11	11	20
Lesotho	62	62	46	48	10	0.73	24	85	13	103	0.98	78	4	6	4
Liberia	20	46	10	59	9	0.50	11	103	15	96	0.91	73	22	25	11
Madagascar	45	44	28	69	10	0.71	12	62	42 (z)	149	0.98	46	15	8	35
Malawi	36	54	38	55	10	0.74	22	92	13	135	1.04	83	3	4	3
Mali	22	49	6	53	6	0.44	10	178	27	82	0.88	64	38	35	38
Mauritania	41	61	8	61	8	0.58	19	111	15	102	1.05	50	21	21	20
Mozambique	37	55	12	52	8	0.90	39	135	18	115	0.90	47	10	5	29
Myanmar	180	64	38	68	10	0.61	3	66	23	126	1.00	83	7	10	9
Nepal	80	19	44	70	8	0.61	33	50	39	115	0.86	89	12	14	16
Niger	16	33	5	56	4	0.34	13	143	40	71	0.84	49	42	42	43
Rwanda	35	69	26	57	11	0.79	52	91	11	143	1.02	65	1	1	7
Senegal	46	52	10	61	8	0.55	30	75	14	87	1.06	72	18	21	8
Sierra Leone	21	42	6	49	6	0.74	13	174	21	125	0.93	55	30	29	36
Solomon Islands	230	70	27	70	9	0.51	0	27	12	109	0.97	70 (z)	9	13	2
Somalia	14	33	1	53	2	—	7	180	32	32	0.55	29	—	—	44
South Sudan‡	32	49 (y)	6	64	6	0.33	24	103	31 (z)	73	0.90	58	33	36	30
Sudan‡	32	49 (y)	6	64	6	0.33	24	103	31 (z)	73	0.90	58	33	38	30
Tanzania, United Republic of	23	49	26	60	5 (z)	0.74	36	76	16	102	1.02	53	17	18	12
Timor-Leste	44	29	21	64	11	0.53	32	55	45	117	0.96	69	13	12	25
Togo	67	60	11	59	9	0.45	11	103	17	140	0.90	61	24	23	19
Uganda	35	42	18	55	11	0.69	35	99	16	121	1.01	72	5	8	10
Yemen	91	36	19	68	7	0.25	1	77	43	87	0.82	55	40	39	39
Zambia	38	47	27	50	7 (y)	0.56	12	111	15	115	1.01	61	27	30	13

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METHODOLOGY AND RESEARCH NOTES

COMPLETE MOTHERS' INDEX

1. In the first year of the *Mothers' Index* (2000), a review of literature and consultation with members of the Save the Children staff identified health status, educational status, political status and children's well-being as key factors related to the well-being of mothers. In 2007, the *Mothers' Index* was revised to include indicators of economic status. All countries with populations over 250,000 were placed into one of three tiers according to United Nations regional development groups: more developed countries, less developed countries and least developed countries. Indicators for each development group were selected to best represent factors of maternal well-being specific to that group, and published data sources for each indicator were then identified. To facilitate international comparisons, in addition to reliability and validity, indicators were selected based on inclusivity (availability across countries) and variability (ability to differentiate between countries). To adjust for variations in data availability, when calculating the final index, indicators for maternal health and children's well-being were grouped into subindices (see step 7). This procedure allowed researchers to draw on the wealth of useful information on those topics without giving too little weight to the factors for which less abundant data were available. Data presented in this report includes information available through 01 April 2012.

Sources: 2011 Population: United Nations Population Fund (UNFPA). *The State of World Population 2011*. (New York: 2011); Classification of development regions: United Nations Population Division. *World Population Prospects: The 2008 Revision*. (New York: 2009)

2. In Tier I, data were gathered for seven indicators of women's status and three indicators of children's status. Sufficient data existed to include analyses of two additional indicators of children's well-being in Tiers II and III. Indicators unique to specific development groups are noted below.

THE INDICATORS THAT REPRESENT WOMEN'S HEALTH STATUS ARE:

Lifetime risk of maternal death

A woman's risk of death in childbirth is a function of many factors, including the number of children she has and the spacing of births as well as the conditions under which she gives birth and her own health and nutritional status. The lifetime risk of maternal mortality is the probability that a 15-year-old female will die eventually from a maternal cause. This indicator reflects not only the risk of maternal death per pregnancy or per birth, but also the level of fertility in the population. Competing causes of maternal death are also taken into account. Estimates are periodically calculated by an inter-agency group including WHO, UNICEF, UNFPA and the World Bank. Data are for 2008 and represent the most recent of these estimates available at the time of this analysis.

Source: WHO, UNICEF, UNFPA and the World Bank. *Trends in Maternal Mortality: 1990 to 2008*. (Geneva: 2010) Available online at: whqlibdoc.who.int/publications/2010/9789241500265_eng.pdf

Percent of women using modern contraception

Access to family planning resources, including modern contraception, allows women to plan their pregnancies. This helps ensure that a mother is physically and psychologically prepared to give birth and care for her child. Data are derived from sample survey reports and estimate the proportion of married women (including women in consensual unions) currently using modern methods of contraception, which include: male and female sterilization, IUD, the pill, injectables, hormonal implants, condoms and female barrier methods. Contraceptive prevalence data are the most recent available as of April 2011.

Source: United Nations Population Division. *World Contraceptive Use 2011*. Available online at: un.org/esa/population/publications/contraceptive2011/contraceptive2011.htm

Skilled attendant at delivery

The presence of a skilled attendant at birth reduces the likelihood of both maternal and infant mortality. The attendant can help create a hygienic environment and recognize complications that require urgent medical care. Skilled attendance at delivery is defined as those births attended by physicians, nurses or midwives. Data are from 2006-2010. As nearly every birth is attended in the more developed countries, this indicator is not included in Tier I.

Source: United Nations Children's Fund (UNICEF). *The State of the World's Children 2012*. (New York: 2012) Table 8, pp.116-119 Available online at: unicef.org/sowc2012/pdfs/SOWC-2012-TABLE-8-WOMEN.pdf

Female life expectancy

Children benefit when mothers live longer, healthier lives. Life expectancy reflects the health, social and economic status of a mother and captures trends in falling life expectancy associated with the feminization of HIV and AIDS. Female life expectancy is defined as the average number of years of life that a female can expect to live if she experiences the current mortality rate of the population at each age. Data estimates are for 2010-2015.

Source: UNFPA. *The State of World Population 2011*. (New York: 2011) pp. 116-120. Available online at: unfpa.org/swp/

The indicator that represents women's educational status is:

Expected number of years of formal female schooling

Education is singularly effective in enhancing maternal health, women's freedom of movement and decision-making power within households. Educated women are more likely to be able to earn a livelihood and support their families. They are also more likely than uneducated women to ensure that their children eat well, finish school and receive adequate health care. Female school life expectancy is defined as the number of years a female child of school entrance age is expected to spend at school or university, including years spent on repetition. It is the sum of the age-specific enrollment ratios for primary, secondary, post-secondary non-tertiary and tertiary education. Primary to secondary estimates are used where primary to tertiary are not available. Data are from 2011 or the most recent year available.

Sources: UNESCO Institute for Statistics (UIS). Data Centre. stats.uis.unesco.org, supplemented with data from UNESCO. *Global Education Digest 2011*. (Montreal: 2011) Table 14, pp.216-225. Available online at: uis.unesco.org/Education/Documents/ged-2011-en.pdf

The indicators that represent women's economic status are:

Ratio of estimated female to male earned income

Mothers are likely to use their influence and the resources they control to promote the needs of their children. Where mothers are able to earn a decent standard of living and wield power over economic resources, children survive and thrive. The ratio of estimated female earned income to estimated male earned income – how much women earn relative to men for equal work – reveals gender inequality in the workplace. Female and male earned income are crudely estimated based on the ratio of the female nonagricultural wage to the male nonagricultural wage, the female and male shares of the economically active population, the total female and male population, and GDP per capita in purchasing power parity terms in US dollars. Estimates are based on data for the most recent year available between 1996 and 2007.

Source: United Nations Development Programme (UNDP). *Human Development Report 2009*. (New York: 2009) Table K, pp.186-189. Available online at: hdrstats.undp.org/en/indicators/130.html

Maternity leave benefits

The maternity leave indicator includes both the length of time for which benefits are provided and the extent of compensation. The data are compiled by the International Labour Office and the United States Social Security Administration from a variety of legislative and non-legislative sources as of December 2011. Where parental leave entitlements are paid at the same level, the total length of leave available to mothers is reported. Data on maternity leave benefits are reported for only Tier I countries, where women comprise a considerable share of the non-agricultural workforce and thus most working mothers are free to enjoy the benefits of maternity leave.

Sources: *ILO Database on Conditions of Work and Employment Laws*, ilo.org/dyn/travail/travmain.home; United Nations Statistics Division. *Statistics and Indicators on Women and Men*. Table 5g. Updated December 2011. Available online at: unstats.un.org/unsd/demographic/products/indwm/

The indicator that represents women's political status is:

Participation of women in national government

When women have a voice in public institutions, they can participate directly in governance processes and advocate for issues of particular importance to women and children. This indicator represents the percentage of seats occupied by women in single or, in the case of bicameral legislatures, upper and lower houses of national parliaments. Data are as of 31 December 2011.

Source: Inter-Parliamentary Union (IPU). *Women in National Parliaments*. Available online at: ipu.org/wmn-e/classif.htm

The indicators that represent children's well-being are:

Under-5 mortality rate

Under-five mortality rates are likely to increase dramatically when mothers receive little or no prenatal care and give birth under difficult circumstances, when infants are not exclusively breastfed, when few children are immunized and when fewer receive preventive or curative treatment for common childhood diseases. Under-five mortality rate is the probability of dying between birth and exactly five years of age, expressed per 1,000 live births. Estimates are for 2010.

Source: UNICEF. *The State of the World's Children 2012*. (New York: 2012) Table 1, pp.88-91 Available online at: unicef.org/sowc2012/pdfs/SOWC-2012-TABLE-1-BASIC-INDICATORS.pdf

Percentage of children under age 5 moderately or severely underweight

Poor nutrition affects children in many ways, including making them more susceptible to a variety of illnesses and impairing their physical and cognitive development. Children moderately or severely underweight are more than two and three standard deviations below median weight-for-age of the WHO Child Growth Standards respectively. Data are for the most recent year available between 2006 and 2010. Where WHO data are not available, estimates based on the NCHS/WHO reference population are used. Please note that in years past NCHS/WHO data were the primary source; these estimates are no longer reported. Due to this change, these underweight data are not comparable to estimates included in previous editions of the *Mothers' Index*. This indicator is included in Tier II and Tier III only, as few more developed countries have available data.

Source: UNICEF. *The State of the World's Children 2012*. (New York: 2012) Table 2, pp.92-95 Available online at: unicef.org/sowc2012/pdfs/SOWC-2012-TABLE-2-NUTRITION.pdf

Gross pre-primary enrollment ratio

Early childhood care and education, including pre-primary schooling, supports children's growth, development, learning and survival. It also contributes to proper health and poverty reduction and can provide essential support for working parents, particularly mothers. The pre-primary gross enrollment ratio is the total number of children enrolled in pre-primary education, regardless of age, expressed as a percentage of the total number of children of official pre-primary school age. The ratio can be higher than 100 percent when children enter school later than the official enrollment age or do not advance through the grades at expected rates. Data are for the school year ending in 2011 or the most recently available. Pre-primary enrollment is analyzed across Tier I countries only.

Source: UNESCO Institute for Statistics (UIS). Data Centre. stats.uis.unesco.org

Gross primary enrollment ratio

The gross primary enrollment ratio (GER) is the total number of children enrolled in primary school, regardless of age, expressed as a percentage of the total number of children of official primary school age. Where GERs are not available, net attendance ratios are used. Data are for the school year ending in 2011 or the most recently available. This indicator is not tracked in Tier I, where nearly all children complete primary school.

Sources: UNESCO Institute for Statistics (UIS). Data Centre. stats.uis.unesco.org, supplemented with data from UNESCO. *Global Education Digest 2011*. (Montreal: 2011) Table 3, pp.112-121. Available online at: uis.unesco.org/Education/Documents/ged-2011-en.pdf and UNICEF. Primary school enrolment (updated Jan 2012), childinfo.org/education_enrolment.php

Gender parity index

Educating girls is one of the most effective means of improving the well-being of women and children. The ratio of gross enrollment of girls to boys in primary school – or Gender Parity Index (GPI) – measures gender disparities in primary school participation. It is calculated as the number of girls enrolled in primary school for every 100 enrolled boys, regardless of age. A score of 1 means equal numbers of girls and boys are enrolled; a score between 0 and 1 indicates a disparity in favor of boys; a score greater than 1 indicates a disparity in favor of girls. Where GERs are not available, net attendance ratios are used to calculate the GPI. Data are for the school year ending in 2011 or the most recently available. GPI is included in Tier III, where gender equity gaps disadvantaging girls in access to education are the largest in the world.

Source: UNESCO Institute for Statistics (UIS). Data Centre. stats.uis.unesco.org, supplemented with data from UNESCO. *Global Education Digest 2011*. (Montreal: 2011) Table 3, pp.112-121. Available online at: uis.unesco.org/Education/Documents/ged-2011-en.pdf

Gross secondary enrollment ratio

The gross secondary enrollment ratio is the total number of children enrolled in secondary school, regardless of age, expressed as a percentage of the total number of children of official secondary school age. Data are for the school year ending in 2011 or the most recently available. This indicator is not tracked in Tier III where many children still do not attend primary school, let alone transition to higher levels.

Sources: UNESCO Institute for Statistics (UIS). Data Centre. stats.uis.unesco.org, supplemented with data from UNICEF. *Secondary School Participation* (updated Jan 2012), childinfo.org/education_secondary.php

Percent of population with access to safe water

Safe water is essential to good health. Families need an adequate supply for drinking as well as cooking and washing. Access to safe and affordable water also brings gains for gender equity, especially in rural areas where women and young girls spend considerable time collecting water. This indicator reports the percentage of the population with access to an adequate amount of water from an improved source within a convenient distance from a user's dwelling, as defined by country-level standards. "Improved" water sources include household connections, public standpipes, boreholes, protected dug wells, protected springs and rainwater collection. In general, "reasonable access" is defined as at least 20 liters (5.3 gallons) per person per day, from a source within one kilometer (0.62 miles) of the user's dwelling. Data are for 2010.

Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. *Progress on Drinking Water and Sanitation - 2012 Update*. (UNICEF and WHO: New York: 2012) Available online at: childinfo.org/files/JMPreport2012.pdf , supplemented with data from UNICEF. *The State of the World's Children 2012*. (New York: 2012) Table 3, pp.96-99 Available online at: unicef.org/sowc2012/pdfs/SOWC-2012-TABLE-3-HEALTH.pdf

3. Missing data were supplemented when possible with data from the same source published in a previous year, as noted in the fold-out table in this appendix.

4. Data points expressed as percentages were rounded to the nearest tenth of one percent for analysis purposes. Data analysis was conducted using Microsoft Excel software.

5. Standard scores, or Z-scores, were created for each of the indicators using the following formula: $z = (x-\bar{x})/s$ where:

z = The standard, or z-score
x = The score to be converted
$\bar{x}$ = The mean of the distribution
s = The standard deviation of the distribution

6. The standard scores of indicators of ill-being were then multiplied by (-1) so that a higher score indicated increased well-being on all indicators.

Notes on specific indicators

- To facilitate cross-country comparisons, length of maternity leave was converted into days and allowances were averaged over the entire pay period.
- To report findings for the greatest number of countries possible, countries without a parliament, or where it has been dissolved, suspended or otherwise unable to meet, are given a "0" for political representation when calculating index scores.

- To avoid rewarding school systems where pupils do not start on time or fail to progress through the system at expected rates, gross enrollment ratios between 100 and 105 percent were discounted to 100 percent. Gross enrollment ratios over 105 percent were either discounted to 100 with any amount over 105 percent subtracted from 100 (for example, a country with a gross enrollment rate of 107 percent would be discounted to 100-(107-105), or 98) or the respective country's net enrollment ratio, whichever was higher.
- To avoid rewarding countries in which girls' educational progress is made at the expense of boys', countries with gender parity indices greater than 1.02 (an indication of gender inequity disfavoring boys) were discounted to 1.00 with any amount over 1.02 then subtracted from 1.00.

7. The z-scores of the four indicators related to women's health were averaged to create an index score of women's health status. In Tier I, an index score of women's economic status was similarly calculated as a weighted average of the ratio of female to male earned income (75 percent), length of maternity leave (12.5 percent) and percent of wages paid (12.5 percent). An index of child well-being-the *Children's Index*- was also created by first averaging indicators of education, then averaging across all z-scores. At this stage, cases (countries) missing more than one indicator on either index were eliminated from the sample. Countries missing any one of the other indicators (that is educational, economic or political status) were also eliminated. A *Women's Index* was then calculated as a weighted average of health status (30 percent), educational status (30 percent), economic status (30 percent) and political status (10 percent).

8. The *Mothers' Index* was calculated as a weighted average of children's well-being (30 percent), women's health status (20 percent), women's educational status (20 percent), women's economic status (20), and women's political status (10 percent). The scores on the *Mothers' Index* were then ranked.

NOTE: Data exclusive to mothers are not available for many important indicators (school life expectancy and government positions held, for example). In these instances, data on women's status have been used to approximate maternal status, since all mothers are women. In areas such as health, where a broader array of indicators is available, the index emphasizes indicators that address uniquely *maternal* issues.

STUNTING TREND ANALYSIS

The analysis of country progress in reducing child stunting was done by calculating the average annual rate of reduction (AARR)[163] from about 1990 to 2010, or the most recent year available. Where data for 1990 was absent, the closest data point was used. When two points were equidistant, the earlier baseline was used to more closely approximate a 20-year time period. Trend data was available for 71 of 75 *Countdown* priority countries, including Sudan pre-cession.

Countries Making the Fastest and Slowest Gains Against Child Malnutrition

		% Children under-5 stunted		Average annual rate of reduction	
	COUNTRY	BASELINE	ENDLINE	YEARS	%
1	Uzbekistan	39	20	1996-2006	6.7%
2	Angola	62	29	1996-2007	6.6%
3	China	32	9	1990-2010	6.3%
3	Kyrgyzstan	33	18	1997-2006	6.3%
3	Turkmenistan	28	19	2000-2006	6.3%
6	DPR Korea	64	32	1998-2009	5.6%
7	Brazil	19	7	1989-2007	5.5%
8	Mauritania	55	23	1990-2010	4.6%
9	Eritrea	70	44	1993-2002	4.4%
10	Vietnam	61	23	1989-2010	4.3%
11	Mexico	26	16	1989-2006	3.1%
12	Bangladesh	63	41	1990-2011	2.9%
13	Indonesia	48	40	1995-2007	2.6%
13	Nepal	65	41	1995-2010	2.6%
15	Cambodia	59	41	1996-2011	2.5%
57	Sierra Leone	41	37	1990-2008	0.0%
58	Niger	48	47	1992-2010	-0.2%
59	Djibouti	28	31	1989-2010	-0.4%
60	Burundi	52	58	1987-2010	-0.5%
60	Lesotho	39	39	1992-2009	-0.5%
60	Zimbabwe	31	32	1988-2011	-0.5%
63	Guinea	35	40	1995-2008	-0.8%
64	Mali	33	39	1987-2006	-0.9%
65	Yemen	52	58	1992-2003	-1.0%
66	Central African Republic	40	43	1995-2006	-1.4%
67	Afghanistan	53	59	1997-2004	-1.6%
68	Comoros	39	47	1992-2000	-2.3%
69	Benin	35	45	1996-2006	-2.6%
69	Côte d'Ivoire	23	39	1986-2007	-2.6%
71	Somalia	29	42	2000-2006	-6.3%

Note: These results differ considerably from those published previously by Save the Children in *A Life Free From Hunger* (2012). The reasons for these differences include: the use of more recent DHS and MICS data, and in some cases, pre-1990 data points to more closely approximate 20 years of change. This analysis was also limited to just the 75 *Countdown* priority countries for maternal, newborn and child survival.

Mozambique

Baseline and endline years and prevalence estimates are shown here. For complete trend data see sources: WHO Global Database on Child Growth and Malnutrition (who.int/nutgrowthdb/); UNICEF (childinfo.org); Countdown to 2015. *Accountability for Maternal, Newborn & Child Survival: An update on progress in priority countries.* (WHO: 2012); and recent DHS and MICS surveys (as of April 2012).

INFANT AND TODDLER FEEDING SCORECARD

Four key infant and young child feeding (IYCF) indicators were selected for analysis: early initiation of breastfeeding, exclusive breastfeeding, complementary feeding and breastfeeding at age 2. These practices were chosen because they are those most often identified with "optimal" feeding in the literature,[164] had the largest data set of available IYCF indicators and span the continuum of feeding in a child's first 1,000 days.

This analysis was done by comparing current coverage of these four interventions against levels of achievement established by WHO in 2003.[165] Achievement thresholds for breastfeeding at age 2 were not available and so were estimated by applying the same methodology used by the WHO to 2002 data published in UNICEF's *The State of the World's Children 2005*. As summarized in the table below, coverage levels were rated in accordance with WHO methodology, and then scored on a scale of 1 to 10. This scoring scheme was adapted from BPNI/ IBFAN-Asia's World Breastfeeding Trends Initiative (WBTi)[166] assessment tool. Scores were then averaged across indicators and an overall performance rating was assigned: 3-4 = poor; 5-6 = fair; 7-8 = good; ≥ 9 = very good. In order to receive a "very good" overall, countries had to have "good" or better levels of coverage across all indicators. Apart from these top-performers, any country with the same rating on 3 out of 4 indicators was automatically assigned that same rating overall.

This analysis was limited to 2012 *Countdown* countries[167] with latest available data from 2000-2011 for at least 3 out of the 4 early feeding indicators examined. Data was sufficient to present findings for 73 of 75 priority countries, including Sudan pre-cession.

IYCF Indicator Ratings and Scores

RATING	SCORE	EARLY INITIATION OF BREASTFEEDING	EXCLUSIVE BREASTFEEDING	COMPLEMENTARY FEEDING	BREASTFEEDING AT AGE 2	STATE OF POLICY SUPPORT FOR THE CODE
Very good	10	90-100%	90-100%	95-100%	90-100%	**Category 1** (All or nearly all provisions law)
Good	9	50-89%	50-89%	80-94%	60-90%	**Categories 2-3** (Many provisions law; few provisions law)
Fair	6	30-49%	12-49%	60-79%	30-59%	**Categories 4-6** (Voluntary code or policy; some provisions in other laws; some provisions voluntary)
Poor	3	0-29%	0-11%	0-59%	0-29%	**Categories 7-9** (Mesure drafted; being studied; no action)

Note: For indicator definitions and data sources, see the *Infant and Toddler Feeding Scorecard*, page 31

BREASTFEEDING POLICY SCORECARD

The *Breastfeeding Policy Scorecard* examines information about the supportive nature of the environment for breastfeeding in industrialized countries.[168] The following set of policy-related indicators were included in the analysis: duration and wage replacement of paid leave available for mothers (which includes maternity and parental leave, where available), daily length of breastfeeding breaks and length of breastfeeding break coverage, the percentage of hospitals and maternities that have been designated baby-friendly and the state of policy support for the *International Code of the Marketing of Breast-milk Substitutes* (aka the Code).

Country performance on each indicator was rated and scored in accordance with the achievement levels outlined in the table below. Achievement levels for paid leave and breastfeeding breaks were established by the World Legal Rights Data Centre: Adult Labour Database. Please note that although country placement according to these categories was publicly available for these indicators, the raw data (i.e. the total length of paid leave available to mothers and the wage replacement over that period of paid leave) were not. Information on maternity leave was presented instead in the table to illustrate the variation in protection policies across countries, even though countries are scored and rated according to the entire length of paid leave available to mothers. Due to the nuanced nature of parental leave policies, which were also examined, this data was not included in the table. Similarly, as all countries guaranteeing breastfeeding breaks permit them to be taken for at least 6 months (i.e. the recommended duration of exclusive breastfeeding), this indicator, although examined and included in country assessments, was not presented in the table. Achievement levels for baby-friendly hospitals were adapted from coverage categories reported in Cattaneo et al. in 2004.[169] And those for the Code are where expert opinion placed natural breaks along IBFAN's continuum of Code categories.[170] Breastfeeding practices were also examined across countries. However, countries were not scored or rated along these dimensions.

For many indicators, estimates varied across sources. In the case of policy data, the most recent data available was used. For breastfeeding practices, to ensure the greatest degree of comparability, data were taken from a single source as much as possible: Adriano Cattaneo (Institute for Maternal and Child Health IRCCS Burlo Garofolo, Trieste, Italy). In some cases, these estimates do not represent the most recent figures, but they are the most reliable. Cattaneo's dataset was supplemented by recent national infant and child feeding surveys, the WHO, and in the case of missing data, the OECD. For a complete list of sources, see the *Breastfeeding Policy Scorecard,* page 43.

Once each indicator was rated and scored, scores were averaged across indicators and an overall performance rating was assigned: 3-4 = poor; 5-6 = fair; 7-8 = good; ≥ 9 = very good. In order to receive a "very good" overall, countries had to have "good" or better levels of coverage across all indicators. Sufficient data, defined as missing no more than one data point, existed to present findings for 36 industrialized countries.

Breastfeeding Policy Scorecard Indicator Ratings and Scores

		Paid leave for mothers				
RATING	SCORE	LENGTH OF LEAVE	% WAGES PAID	BREASTFEEDING BREAKS AT WORK	BABY-FRIENDLY HOSPITALS (%)	STATE OF POLICY SUPPORT FOR THE CODE
Very good	10	≥ 52 weeks	100%	Breaks for the duration of breastfeeding (i.e. no age limit)	≥ 75%	**Category 1** (All or nearly all provisions law)
Good	9	26-51 weeks	75-99%	Breaks allowed until child is ≥ 7 months old	50-74%	**Categories 2-3** (Many provisions law; few provisions law)
Fair	6	14-25 weeks	50-74%	Breaks of <1 hour/ day or until child is ≤ 6 months old or not specifed	15-49%	**Categories 4-6** (Voluntary code or policy; some provisions in other laws; some provisions voluntary)
Poor	3	< 14 weeks	0-49% or fat rate	No legal right to breastfeeding breaks	0-14%	**Categories 7-9** (Mesure drafted; being studied; no action)

ENDNOTES

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[9] de Onis, Mercedes, et al. "Prevalence and Trends of Stunting Among Pre-School Children, 1990-2020," *Public Health Nutrition*. p.145

[10] Data sources: WHO Global Database on Child Growth and Malnutrition, UNICEF global databases, recent MICS and DHS surveys (as of March 2012)

[11] In Afghanistan, 59 percent of children are stunted. In Burundi, Timor-Leste and Yemen, 58 percent of children are stunted.

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[13] de Onis, M, et al. "Prevalence and Trends of Stunting Among Pre-School Children, 1990-2020," *Public Health Nutrition*. p.145

[14] Ibid.

[15] UNICEF. *The State of the World's Children 2012*.

[16] de Onis, Mercedes, et al. "Prevalence and Trends of Stunting Among Pre-School Children, 1990-2020," *Public Health Nutrition*. p.145

[17] UNICEF. *The State of the World's Children 2012*. Tables 2 and 6. pp.95, 111

[18] Black, Robert E., et al. "Maternal and Child Undernutrition: Global and Regional Exposures and Health Consequences," *The Lancet.*

[19] Ibid.

[20] UNICEF. *The State of the World's Children 2012*. Table 2. p.95

[21] Black, Robert E. et al. "Maternal and Child Undernutrition: Global and Regional Exposures and Health Consequences," *The Lancet*.

[22] Ibid.

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[25] UNICEF. *Undernutrition. Tracking Progress on MDG 1* [Updated Jan 2012]. childinfo.org/undernutrition_mdgprogress.php_

[26] World Bank. *Global Monitoring Report 2011. Improving the Odds of Achieving the MDGs.* (Washington DC: 2011) p.3

[27] Progress assessment by Save the Children. Sources: Countdown to 2015; UNICEF. *The State of the World's Children 2012*. Table 10

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[32] Ibid. p.38

[33] Ibid.

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[36] UNICEF. *Low Birthweight.* childinfo.org/low_birthweight.html

[37] World Bank. *Food Price Watch.* February 2011. worldbank.org/foodcrisis/food_price_watch_report_feb2011.html

[38] Save the Children. *Costing Lives: The Devastating Impact of Rising and Volatile Food Prices.* (London: 2011)

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[43] de Onis, Mercedes, et al. "Prevalence and Trends of Stunting Among Pre-School Children, 1990-2020," *Public Health Nutrition*. p.145

[44] WHO Global Database on Child Growth and Malnutrition, UNICEF global databases, recent MICS and DHS surveys (as of March 2012)

[45] Angola and Uzbekistan are two of 75 countries identified by the Countdown to 2015 as priority countries for maternal, newborn and child survival. See: Countdown to 2015. *Accountability for Maternal, Newborn & Child Survival: An Update on Progress in Priority Countries*. (WHO: 2012)

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[50] UNICEF. *Tracking Progress on Maternal and Child Nutrition: A Survival and Development Priority*. (New York: 2009)

[51] Central Statistical Agency [Ethiopia] and ICF International. *Ethiopia Demographic and Health Survey 2011*. (Addis Ababa and Calverton, MD: 2011) p.159

[52] National Institute of Population Research and Training (NIPORT), Mitra and Associates, & Macro International. *Bangladesh Demographic and Health Survey 2007*. (NIPORT, Mitra and Associates and Macro International: Dhaka and Calverton, MD: 2009)

[53] UNICEF. *Tracking Progress on Maternal and Child Nutrition: A Survival and Development Priority.*

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[55] This set of interventions were selected based on the potential to save lives under age 5, as estimated by *The Lancet* (Jones et al. 2003, among others) as well as the feasibility of scale up in the 36 countries most heavily burdened by child malnutrition, as assessed by the World Bank (Horton et al. 2010). So, for example, while preventive zinc supplementation has been proven to save lives, it is an intervention that is not currently available for large-scale implementation.

[56] LiST: The Lives Saved Tool was created by a consortium of academic and international organizations, led by Institute of International Programs at the Johns Hopkins Bloomberg School, and supported by a Gates Foundation grant to the US Fund for UNICEF. It allows users to estimate the impact of different intervention packages and coverage levels for countries, states or districts.

[57] Horton, Susan, et al. *Scaling Up Nutrition: What Will It Cost?*

[58] Cost estimates for the "lifesaving six" are as follows: iron folate supplements for pregnant women: $2 per pregnancy; community nutrition programs for behavior change, which include the promotion of breastfeeding, appropriate complementary feeding practices and proper hygiene, especially hand washing: $7.50 per child ($15 per participating mother, who is assumed to have 2 children); vitamin A supplements: $1.20 per child per year; zinc for diarrhea: $1 per child per year. Therefore the cost of delivering these lifesaving six over the first 1,000 days is estimated at $2 + $7.50 + (2×$1.20) + (2×$1) = $13.90 per child. (Source: Horton et al. *Scaling Up Nutrition: What Cost*. (World Bank: 2010))

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[71] United Nations Standing Committee on Nutrition (SCN). *6th Report on the World Nutrition Situation*. p.8

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South Sudan

Malnutrition is the single largest threat to a young child's life and well-being. It is an underlying cause of 2.6 million child deaths each year and it leaves millions more with lifelong physical and cognitive impairments. More than 170 million children do not have the opportunity to reach their full potential because of poor nutrition in the earliest months of life.

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