

Improve Maternal and Newborn Health and Nutrition

Facts, Solutions, Case Studies, and Calls to Action

OVERVIEW

Providing quality healthcare and nutritional support and security for all women and babies is vital for healthier societies.

In spite of substantial advances in maternal and newborn health over recent decades, too many women and children die from preventable causes. In 2017, 295,000 women died from pregnancy-related complications, and there were 2.5 million newborn deaths.^{1,2} There is widespread evidence and agreement within the global community on what needs to be done to prevent these deaths and improve the health, nutrition, and wellbeing of women and babies.

Clinical interventions and health services need to be delivered across a continuum of care—before, during, and after pregnancy.³ There must also be an enhanced focus on the role that nutrition plays in saving lives and safeguarding the health of all, including newborns.⁴ Good nutrition is essential for physical growth, mental development, performance, productivity, health, and wellbeing across the entire lifespan, making nutrition a sound investment for any country.⁵

The interventions discussed in this policy brief not only address the leading causes of maternal and newborn death and disability, but they also explore overall health and wellbeing solutions, encompassing good nutrition and the prevention and treatment of maternal mortality and morbidity.

SECTION 1: FRAMING THE ISSUE

In recent years, great strides have been made in maternal and newborn health. Maternal deaths decreased by 35% from 2000 to 2017, and newborn deaths decreased by 51% from 1990 to 2017.^{6,7} However, of the nearly 127 million women who give birth every year in developing regions, 28% (35 million women) do not deliver their babies in a healthcare facility.^{8,9} Additionally, although the World Health Organization (WHO) recommends at least eight antenatal contacts during pregnancy, only 64% of pregnant women globally have four or more antenatal visits.¹⁰ These and other factors contribute to current rates of maternal and newborn death and disability, including:

- An estimated 2.6 million stillbirths occur annually,¹¹ with more than 7,000 deaths a day.¹²
- Every day, some 810 women die from pregnancy- or childbirth-related complications, which equates to about one woman every two minutes.¹³
- Ninety-four percent of maternal deaths are in developing countries, and the majority of these deaths are due to preventable causes.¹⁴
- In some countries, a woman's lifetime risk of dying in pregnancy is as high as one in 45, while in high-income countries it is one in 5,400, on average.¹⁵

The major causes of maternal death include severe bleeding, infection, pre-eclampsia and eclampsia (hypertensive disorders during pregnancy), complications from delivery, and unsafe abortion. Combined, these account for roughly 75% of maternal deaths.¹⁶ However, causes of maternal mortality and morbidity are becoming increasingly diverse. Taking into account the effect of noncommunicable diseases, as well as environmental and demographic shifts, these diverse issues require responsive policy and care.¹⁷ Weak health systems also contribute to maternal mortality rates, particularly when facilities lack essential medical supplies and equipment; basic services such as reliable, accessible water and sanitation; and trained healthcare workers, including skilled birth attendants.^{18,19,20}

Efforts to improve maternal health need to look beyond maternal death. While a decrease in maternal mortality is a useful indicator, simply surviving pregnancy and childbirth does not necessarily mean improved health and wellbeing for the woman and child.²¹ Maternal morbidity can have severe impacts on the health and wellbeing of women throughout their lifespan. For every woman who dies of pregnancy- or childbirth-related complications, another 20 women experience a form of morbidity—such as an obstetric fistula or uterine prolapse—that carries long-term consequences, which can encumber health, wellbeing, and even social and economic status.²² Embracing a human rights framework for universal health requires the provision of high-quality care, not only during pregnancy and labor, but also before pregnancy and during the postpartum period.²³

The following are additional factors that contribute to increased vulnerability to maternal death and disability.

- **Low-income, rural, and marginalized women have less access to quality care:** Due to limited access to comprehensive maternal healthcare, low-income, rural, and other marginalized women

Disclaimer: The views and opinions expressed in this technical paper are those of the authors and do not necessarily reflect the official policy or position of all partnering organizations.



Improving maternal and newborn health and nutrition is linked to the achievement of the Sustainable Development Goals (SDGs) and targets, including:

SDG 1: End poverty in all its forms everywhere

- **1.1** By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day
- **1.2** By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

SDG 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

- **2.1** By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round
- **2.2** By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons

SDG 3: Ensure healthy lives and promote well-being for all at all ages

- **3.1** By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births





are most likely to experience pregnancy- and childbirth-related complications.²⁴ Fewer than half of all births in several low-income and lower-middle-income countries are assisted by a skilled birth attendant, which jeopardizes women's health and the health of their newborns.²⁵ Studies show a clear link between having a low income and giving birth in an environment that lacks basic services for infection prevention, which are critical for a safe delivery. A WHO report analyzed assessments from more than 66,000 healthcare facilities in low- and middle-income countries and found that 38% did not have access to clean water.²⁶ This reinforces the need to ensure adequate support to women and their newborns, who are particularly susceptible to diseases associated with poor water, sanitation, and hygiene that sicken and kill millions each year. These needs can be especially acute in emergency, fragile, and conflict-affected contexts, where the specific hygiene needs of girls and women are often overlooked.²⁷

• **Young women and adolescents are at increased risk:** Early pregnancy and childbearing increases the risk of complications for adolescent girls and their newborns. Pregnancy- and childbirth-related complications are leading causes of death for women ages 15 to 19 globally and result in 17,000 deaths per year.^{28, 29} A 2018 study in low- and middle-income countries found that babies born to girls under age 16 have a much higher risk of death compared to those born to mothers older than 16.³⁰ These newborns are also more likely to be pre-term and have low birth weight.^{31, 32} Furthermore, early childbearing directly and indirectly pushes young women to participate at higher rates in low-quality, informal-sector jobs, possibly due to reduced educational outcomes and the reluctance of the formal employment sector to hire teenage mothers.^{33, 34, 35} Studies show that if all women in low-income countries had a secondary education, 26% fewer children would be stunted, or too short for their age, emphasizing the critical need for investment in girls' education.³⁶

• **Nutritional status:** Boosting girls' and women's nutritional status is critical to improving maternal and newborn health. Malnutrition is both a cause and effect of gender inequality, making nutrition investments one of the soundest investments to make today.³⁷ Undernutrition among pregnant women leads to increased risks of infection, anemia, lethargy and weakness, lower productivity, poor birth outcomes, maternal complications, and even death.^{38, 39}

Poor nutrition is also a significant risk to women and their newborns. Anemia (iron deficiency) affects about 500 million women of reproductive age (15 to 49 years), with as many as half of all pregnant women in low-income and middle-income countries diagnosed with the condition.⁴⁰ The odds of maternal death are doubled in mothers with anemia.⁴¹ Poor maternal nutrition also increases the risk of premature delivery, low birth weight, and birth defects.⁴² Inadequate nutrition during pregnancy is a factor that could have long-term effects for children. In 2018, almost 49 million children were wasted (i.e., had body mass indexes that were too low), 17 million were severely wasted, and approximately 149 million were stunted, which hampers their ability to grow into healthy, active, and productive members of society.^{43, 44}

Overnutrition and obesity are also growing risks in most regions.⁴⁵ An estimated 5.9% (40 million) of children under age 5 were overweight in 2018.⁴⁶ Undernutrition and overnutrition can result in obesity and gestational diabetes mellitus (GDM), the onset of diabetes during pregnancy, which is associated with higher incidences of maternal and newborn health complications.^{47, 48} Maternal obesity is also associated with a higher risk of pre-eclampsia,⁴⁹ the second leading cause of maternal death,⁵⁰ which can lead to newborn and infant death.^{51, 52}

• **Unsafe abortion:** One of the leading causes of maternal mortality, unsafe abortion results in at least 22,800 deaths annually.^{53, 54, 55} Unsafe abortions are more likely to occur where abortion is illegal.⁵⁶ In these contexts, women risk unsafe methods of abortion, such as obtaining one from an unqualified provider, self-medicating to induce abortion, drinking toxic fluids, and self-injury.^{57, 58} Women who survive these procedures often suffer serious, if not permanent, injuries.⁵⁹

• **HIV:** HIV is a significant factor in maternal deaths, particularly across the developing world. In 2017, of the roughly 3,600 HIV-related maternal deaths worldwide, 89% (about 3,200) of them occurred in sub-Saharan Africa.⁶⁰ Compared to HIV-negative women, HIV-positive women are eight times more likely to die during pregnancy, childbirth, or the period immediately after childbirth.⁶¹ Early infant diagnosis is crucial to reducing the persistently high AIDS-related mortalities among children. Without treatment, HIV progresses rapidly to AIDS in newborns because their immune systems are underdeveloped.⁶²

• **Humanitarian emergencies and displacement:** Girls and women make up at least 50% of any displaced or stateless population and face increased maternal health risks during emergencies and displacement.⁶³ Every day in fragile and humanitarian settings, an estimated 500 girls and women die from complications due to pregnancy and childbirth.⁶⁴ During humanitarian emergencies, health workforce shortages, weak health systems, and deteriorating access to water and sanitation facilities are particularly acute. These challenges are often compounded by additional barriers to accessing quality reproductive and maternal health services, such as violence against healthcare workers,⁶⁵ collapsed infrastructure, communication and cultural barriers between refugee women and healthcare providers, and heightened mobility constraints.⁶⁶ Studies have found that countries with recent armed conflicts have higher maternal mortality ratios than countries without recent armed conflicts.^{67, 68}

- **3.2** By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births
- **3.7** By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes
- **3.8** Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all
- **3.c** Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States

SDG 5: Achieve gender equality and empower all women and girls

- **5.1** End all forms of discrimination against all women and girls everywhere
- **5.2** Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation



When girls and women are displaced from their homes, risks to maternal health are also exacerbated. When forced to flee and resettle, women may have to give birth in temporary shelters, on roads, or in other places with hazardous conditions.⁶⁹ In camps or settlements, the lack of qualified health workers who speak the same languages of displaced populations also makes providing quality maternal and newborn care challenging.⁷⁰ Even in urban settings, most refugees and internally displaced persons live in areas that are overcrowded and lack adequate access to public services, including water and sanitation facilities. Not having identification papers or a legal refugee status can also bar pregnant women from accessing publicly available maternal health services.⁷¹

Women are also more likely to be food insecure than men in every region of the world. More frequent humanitarian settings and emergencies caused by conflict, natural disasters, and/or climate shocks have led to an increase in the number of people who go hungry each day.⁷²

SECTION 2: SOLUTIONS AND INTERVENTIONS

A health system that is ready to deliver for women, when women are ready to deliver, is a strong health system. There is global consensus regarding the health and nutrition interventions that should be made available to women and newborns along a continuum of care.⁷³ These holistic, women-centered interventions are not only aimed at preventing the leading causes of maternal and newborn deaths, but also look to improve the overall health of women and infants by facilitating proper nutrition and preventing and treating maternal challenges, such as gestational diabetes, childbirth injuries, and high blood pressure.⁷⁴ Improved care for women during pregnancy reduces maternal and newborn mortality rates, as well as rates of low birth weight and stillbirth.⁷⁵

An effective continuum of care includes quality care before, during, and after pregnancy, and envisions care for normal pregnancy and childbirth, as well as emergency obstetric care delivered by skilled healthcare providers within a functioning health system.⁷⁶ For the continuum of care to have a significant impact on maternal and newborn health, it must also include access to the necessary facilities, medicines, supplies, equipment, and skilled health providers.⁷⁷ In low-income settings, improvements in water and sanitation are essential to protect the health of women and babies and save lives.⁷⁸ Finally, health services must be available, accessible, acceptable, and of quality (AAAQ),⁷⁹ and must be provided in a dignified and respectful manner, free from discrimination and abuse.⁸⁰

While the global community agrees on the clinical interventions needed to improve maternal and newborn health and nutrition, there are still gaps in service delivery. This brief highlights four strategies that have the potential to address these gaps:

- Ensure access to quality maternal and newborn care, including midwifery care.
- Expand community-level strategies to reach the most vulnerable girls and women.
- Address unintended pregnancy through modern contraception and increase access to safe abortion.
- Provide maternal and newborn nutrition education, counseling, and support, and promote exclusive breastfeeding.

Ensure Access to Quality Maternal and Newborn Care, Including Midwifery Care

Access to skilled, knowledgeable, and compassionate midwifery care is one of the strongest ways to promote affordable and quality maternal and newborn healthcare services throughout pre-pregnancy, pregnancy, birth, the postnatal period, and the first months of infancy. This is one of the most important investments a country can make to improve maternal and newborn health.⁸¹ The provision of full care for all pregnant women and newborns—as recommended by the WHO—combined with modern contraception for women who want to avoid pregnancy, would yield a drop in maternal deaths from an estimated 308,000 to 84,000 per year, and a drop in newborn deaths from 2.7 million to 538,000 per year.⁸² In humanitarian and displacement settings, ensuring the availability of skilled midwives who speak the languages of displaced populations is critical to breaking barriers of communication and access and addressing the needs of vulnerable populations.

Many countries—including Burkina Faso, Cambodia, Indonesia, Morocco, and Sri Lanka—have significantly reduced maternal and newborn deaths by training and deploying midwives.^{83,84} Midwives, or skilled birth attendants, can counsel women on sound nutrition practices, such as the importance of folic acid through food fortification, to strengthen women's ability to carry pregnancies to term, prevent birth defects, and save newborn lives.⁸⁵ Midwives are crucial in the early initiation and ongoing support of breastfeeding during the first moments and weeks of life, a key newborn health and nutrition intervention.⁸⁶

Many low- and middle-income countries still have a long way to go before quality midwifery services are available for the most underserved populations. Only 42% of the world's medical, midwifery, and nursing professionals are available in the 73 low- and middle-income countries where 92% of maternal and newborn deaths occur.^{87,88} Not only is there a need to increase the number of midwives in these countries, but there must be continued commitment by governments and their development partners to guarantee that midwifery services are available, accessible, acceptable, and of high quality.

Case Study: Improving Midwifery Care in Cambodia

Maternal and newborn mortality has been falling significantly in Cambodia since 2005.⁸⁹ Key to this decline was a notable investment in midwifery education and a marked increase in the number of midwives



- **5.3** Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation
- **5.6** Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences

SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

- **9.1** Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

SDG 11: Make cities and human settlement inclusive, safe, resilient and sustainable

- **11.2** By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities, and older persons



providing antenatal care and deliveries within an expanding primary healthcare network. The government increased access to quality maternal care with the support of partners, including non-profit organizations and UN organizations.^{90, 91} Access to improved primary healthcare, with a focus on midwifery, was also seen across the health system. In 2010, deliveries performed by skilled birth attendants in a facility accounted for 55% of all births, and home deliveries with a midwife accounted for 16%. Pre-service education and in-service training for midwives have been prioritized, and all health centers have at least one primary midwife.^{92, 93}

Expand Community-Level Strategies to Reach the Most Vulnerable Girls and Women

In order to improve maternal and newborn health and nutrition, essential health services need to be provided through functioning health systems that integrate a continuum of community- and facility-based care. Grassroots-level interventions include community mobilization, health and behavior change education, community support groups, and home visits during pregnancy and after childbirth.⁹⁴ These may be provided by a healthcare provider or a community health worker at a home, school, or local clinic. Growing evidence suggests that community-based strategies improve maternal and newborn health outcomes, and positively affect health and nutrition practices such as childbirth with a skilled birth attendant in a health facility and the uptake of exclusive breastfeeding.⁹⁵ Additionally, community participation and engagement—involving both women and men—in the design and delivery of health services has led to improvements in their quality, availability, and utilization.⁹⁶ In emergency settings, community participation and engagement can help ensure the specific needs of girls and women are not overlooked.^{97, 98}

Effective community-level interventions include:

- **Training and deploying community health workers (CHWs):** Community health workers play an important role in increasing access to essential health information services and are instrumental in providing care to underserved populations, including youth and adolescents, and individuals in rural areas and humanitarian settings. Community health workers receive a limited amount of training to deliver a wide range of health and nutrition services to the members of their communities and to promote sound practices such as breastfeeding. They typically remain in their home village or neighborhood, serving as a link between their neighbors and the health facility. In this capacity, they can help refer women and newborns to an appropriate health facility for necessary care.^{99, 100} A number of countries have embarked on national community health worker programs with positive results. Ethiopia's Health Extension Program (HEP), Pakistan's Lady Health Worker (LHW) Programme, and Uganda's Village Health Teams, among others, expand access to essential health information and services.¹⁰¹
- **Mobilizing communities through women's groups:** Evidence from countries in Africa and Asia points to how women's groups can contribute to improved maternal and newborn care practices and the reduction of maternal and newborn deaths. These groups bring women together before, during, and after pregnancy to share common experiences, identify problems, exchange information, discuss ways to access quality maternal and newborn healthcare, identify gaps in the system, and find potential solutions. A meta-analysis conducted in 2013 found that when at least a third of pregnant women in a coverage area participate in a women's group that practices participatory learning and action, these groups can be a cost-effective method to improve maternal and newborn health in low-resource settings.¹⁰²

Case Study: Pakistan's Lady Health Worker Programme

In response to urban-rural disparities and insufficient numbers of health workers, nurses, and skilled birth attendants, Pakistan created the Lady Health Worker Programme in 1994 through the Prime Minister's Programme for Family Planning and Primary Care.¹⁰³ Lady Health Workers are recommended by the community, have at least eight years of schooling, and undergo extensive training. The goal is to equip female health workers with skills to provide essential primary health services in rural and urban slum communities.¹⁰⁴ Results demonstrate better health outcomes in populations served by Lady Health Workers. A 2006 study of the Punjab province showed a drop in maternal mortality from 350 to 250 per 100,000 live births, and infant mortality declined from 250 to 79 per 100,000 live births.¹⁰⁵

Address Unintended Pregnancy Through Modern Contraception and Increase Access to Safe Abortion

Roughly 43% of the 206 million pregnancies that occurred in developing regions in 2017 were unintended.¹⁰⁶ If the unmet need for modern contraception were satisfied, 67 million unintended pregnancies and 36 million induced abortions—half of which are estimated to be unsafe¹⁰⁷—could be prevented.^{108, 109} To eliminate the risks of unintended pregnancy and unsafe abortion, girls and women need access to contraceptive information, counseling, products, and services, and they need to be able to plan their pregnancies.¹¹⁰ Girls and women also need access to quality postabortion care to treat complications arising from an incomplete or unsafe abortion.¹¹¹

In humanitarian settings, the need for reproductive health services is more acute, because girls and women affected by armed conflict and natural disasters are at increased risk of multiple forms of gender-based violence, unintended pregnancy, maternal morbidity and mortality, and unsafe abortion.^{112, 113} As a result, meeting the demand for contraception in humanitarian settings is critical. For example, nearly three-quarters of pregnant Syrian refugee women surveyed in Lebanon wished to



Relevant International Agreements:

- Programme of Action of the International Conference on Population and Development (1994)
- Beijing Platform of Action, Fourth World Conference on Women (1995)
- Millennium Development Goals (2000 to 2015)
- Global Strategy for Women's and Children's Health (2010)
- Scaling Up Nutrition (SUN) Movement Strategy and Roadmap (2016 to 2020)
- Sustainable Development Goals (2015 to 2030)
- WHO's Global Strategy for Women's, Children's, and Adolescents' Health (2016 to 2030)
- Report of the High-Level Working Group on the Health and Human Rights of Women, Children and Adolescents (2017)
- UN Decade of Action on Nutrition (2016 to 2025)



prevent future pregnancy, and more than one-half did not desire their current pregnancy.¹¹⁴ Demand for the full range of contraceptive options, including long-acting methods, is present in humanitarian settings, and evidence shows that women will use them if available and of reasonable quality.¹¹⁵

Increasing access to and use of modern contraception is the best way to reduce unintended pregnancies and unsafe abortions.¹¹⁶ The use of modern contraception also allows for birth spacing, which in turn reduces birth complications, thus increasing the health of both the woman and baby.^{117,118} Access to safe and legal abortion is also crucial to reducing maternal mortality and morbidity.¹¹⁹ Therefore, liberalizing abortion laws and increasing access to safe abortion services needs to be a priority in places where it is currently highly restricted or illegal.¹²⁰ In countries such as Nepal and South Africa, legalizing abortion has been linked to a drop in maternal mortality.¹²¹

Where safe abortion services do exist, communities must be informed and know how to access them, and available services must be affordable. In countries where abortion remains highly restricted and, therefore, often unsafe, postabortion care services should be strengthened and efforts must be made to increase awareness of them. Fear of stigma may prevent women, and especially adolescents, from seeking care for abortion-related complications. Postabortion care providers should not only be trained on appropriate techniques and procedures, but should also know how to provide nonjudgmental, confidential, and youth-friendly services, including counseling on contraception. Evidence shows that providing contraceptive services and counseling alongside postabortion care services increases contraceptive use, thereby reducing unintended pregnancies and repeat abortions.¹²²

In countries where abortion is legal, the following actions promote access to safe abortions:¹²³

- Registering essential medicines and making supplies available for safe abortion services.
- Training providers on WHO-endorsed safe abortion methods, including vacuum aspiration for surgical abortions and misoprostol for medical abortions.
- Ensuring abortions are affordable, legal, and confidential for all, without age or marriage restrictions.

Case Study: The Impact of Legal Reform on the Availability of Abortion in South Africa

After abortion was legalized in South Africa in 1996, there was a significant decrease in infections in and hospitalizations of women who had undergone unsafe abortion, especially younger women.¹²⁴ A review of national data indicates that abortion mortality dropped by more than 90% between 1994 and 2001.¹²⁵

Provide Maternal and Newborn Nutrition Education, Counseling, and Support, and Promote Exclusive Breastfeeding

Given the intergenerational nature of malnutrition, it is important to recognize the value of nutritional education, counseling, and support services as effective tools to improve maternal and newborn health and enhance overall health and wellbeing for all. When girls and women who are malnourished become pregnant, the impacts can be detrimental for themselves and their babies.¹²⁶ Lack of proper nutrition can lead to the birth of underweight babies who face an increased risk of poor health throughout their lives.¹²⁷ Providing women with micronutrients can help ensure healthy pregnancies, prevent anemia, enhance fetal growth, and support healthy birth weight.¹²⁸ Micronutrients are important for the health of the baby, but also for the overall health and wellbeing of girls and women.

Nearly half of all deaths in girls and boys under age 5 are attributable to undernutrition,¹²⁹ and it is estimated that one-quarter of children under age 5 worldwide experienced chronic malnutrition or stunting in 2018.¹³⁰ This figure is even higher in South Asia, Eastern and Southern Africa, and West and Central Africa, where more than one-third of all children are stunted.¹³¹ Proper nutrition from the beginning of a woman's pregnancy and during the first 1,000 days of a baby's life is critical.¹³² The first 1,000 days can have a strong impact on a child's physical and cognitive growth and ability to learn,¹³³ as early childhood nutrition and early stimulation and learning programs extend school completion, improve learning outcomes, and increase adult wages and access to decent work opportunities.¹³⁴

An increased risk of malnutrition, death, and illness during the postnatal period is linked to poor and inadequate feeding practices. Early initiation of breastfeeding along with exclusive breastfeeding for the first six months of life has the potential to save the lives of hundreds of thousands of infants and reduce healthcare costs.^{135, 136, 137} Newborns need the nutrients found in breast milk to protect them from conditions such as diarrhea,^{138, 139} and adolescents and adults who were breastfed as babies are less likely to become overweight or obese.¹⁴⁰ Breastfeeding and proper nutrition may also lower the risk of high blood pressure and cholesterol, obesity, diabetes, cancer, and some childhood asthmas.^{141, 142} For women with the ability to breastfeed, breastfeeding can also help reduce the risks of breast and ovarian cancer, type 2 diabetes, and postpartum depression.^{143, 144}

Globally, 41% of infants younger than 6 months were exclusively breastfed in 2017, up from 35% in 2005,¹⁴⁵ but still below the World Health Assembly target of 50%.¹⁴⁶ The prevalence of exclusive breastfeeding is highest in Eastern and Southern Africa (56%), followed by South Asia (52%). It is much lower in Latin America and the Caribbean (39%), Western and Central Africa (33%), the Middle East and North Africa (33%), Eastern Europe and Central Asia (32%), North America (26%), and Eastern Asia and the Pacific (22%).¹⁴⁷

A lack of awareness of optimal feeding practices and a lack of support and encouragement from skilled counselors, family members, healthcare providers, employers, and policymakers still exist throughout Africa,¹⁴⁸ although this is changing.¹⁴⁹ Babies who are not breastfed within the first hour after birth have a higher risk of death.¹⁵⁰ Therefore, it is vital that healthcare providers, family, and community members advising new mothers have accurate information about the merits of breastfeeding and are equipped to promote and support maternal nutrition and recommended breastfeeding practices.¹⁵¹ Special attention and support around breastfeeding must also be given to low-birth-weight babies and their mothers, HIV-positive mothers, and babies born in fragile and emergency settings.¹⁵² Due to the lack of maternity protection provisions, many women who return to work stop breastfeeding partially or completely because they do not have sufficient time or a place to breastfeed, express, and store their milk.¹⁵³ Enabling conditions at work can help, such as paid parental leave; part-time work arrangements; on-site childcare; clean, safe, and private facilities for expressing and storing breast milk; and breastfeeding breaks.¹⁵⁴

Humanitarian emergencies present additional challenges related to promoting breastfeeding practices. The disruption of social networks that promote breastfeeding, poor access to clean water, and the absence of private spaces for women to breastfeed in displacement settings all deter healthy breastfeeding practices.¹⁵⁵ In some emergencies, increased access to breast milk substitute donations also disincentivize critical breastfeeding practices.¹⁵⁶ Female-friendly spaces and breastfeeding programs for displaced women can help protect and support breastfeeding practices in emergencies.



Case Study: Scaling Up Breastfeeding in Bangladesh

Between 2007 and 2011, targeted education and advocacy helped increase exclusive breastfeeding in Bangladesh from 43% to 64%.¹⁵⁷ Bangladesh's success has been attributed to community mobilization and media outreach around the importance of breastfeeding, along with comprehensive health worker training. This training helped create a support system at health facilities that provides a vital resource for positive nutritional education. Bangladesh also utilized the strategic technical experience of various stakeholders, including civil society, UNICEF, and the Alive and Thrive initiative;¹⁵⁸ incorporated existing evidence and best practices; and worked across sectors to create uniform messaging and practices around breastfeeding promotion.¹⁵⁹ The Alive and Thrive initiative helped increase breastfeeding in targeted populations. Among women reached by the initiative, exclusive breastfeeding increased from 49% to 88%, and early initiation of breastfeeding increased from 64% to 94%.¹⁶⁰

Case Study: Infant and Young Child Feeding Program in Refugee Camps in Jordan

Save the Children established mother- and baby-friendly spaces in Syrian refugee camps in Jordan that provided privacy and support for breastfeeding women with children under the age of 5. The spaces also offered health education sessions that emphasized the health benefits of breastfeeding and proper nutrition for young children. The program engaged more than 15,000 mothers in the Za'atari camp between December 2012 and May 2014.¹⁶¹

SECTION 3: THE BENEFITS OF INVESTMENT

If all girls and women had access to the full range of maternal and newborn health services, including modern contraception, maternal deaths would drop roughly 73% and newborn deaths would be reduced by about 80%.¹⁶²

Investments in maternal, newborn, and reproductive health are sound investments. They not only save lives, they also increase both social and economic benefits for developing nations.¹⁶³ Providing all pregnant women and infants with the level of maternal and newborn healthcare recommended by the WHO would reduce maternal deaths by 64%, to 112,000 per year, and newborn deaths by 76%, to 655,000 per year.¹⁶⁴ Fully meeting the needs for modern contraception and maternal and newborn healthcare would cost US \$8.56 per person per year in developing regions.¹⁶⁵ Given the important role girls and women play in contributing to national and global economies, ensuring they are healthy before, during, and after pregnancy makes them more likely to save for themselves and invest in their families, communities, and societies. Conversely, poor health outcomes, which can result from maternal death, disability, and inadequate nutrition, adversely affect the economy and reduce family earnings.

Evidence suggests that in Africa and Asia, an 11% loss in gross national product is directly linked to malnutrition, and scaling up nutrition interventions targeting pregnant women and young children yields a return of at least \$16 for every \$1 spent.^{166,167} A *Lancet* study estimated that the costs required for breastfeeding promotion are relatively low, making it a cost-effective intervention. For the 34 countries with 90% of the world's stunted children, achieving vast coverage in promoting early, exclusive, and continued breastfeeding through education and nutrition supplementation would cost roughly \$175 per life-year saved.¹⁶⁸ Children who are malnourished during their first 1,000 days of life are more susceptible to infectious diseases and have lower cognitive abilities.¹⁶⁹ As a result, early undernutrition or overnutrition can considerably hinder a country's economic growth.¹⁷⁰

Research has demonstrated that the impact of maternal death on families, especially on children who are left behind, can be devastating.¹⁷¹ Maternal mortality has implications for the surviving household's financial stability and puts the future education of children at risk.¹⁷² Research has shown that newborns whose mothers die in childbirth are far less likely to reach their first birthday than those whose mothers survive.¹⁷³ Among surviving daughters, school dropout and early marriage rates rise, repeating the cycle of poverty for the next generation.¹⁷⁴

SECTION 4: CALLS TO ACTION

The vast majority of maternal and newborn deaths and disabilities can be prevented by known interventions provided through a continuum of care. Access to quality maternal and newborn care and nutrition not only benefits the woman and child, it also has far-reaching benefits for families, communities, and societies as a whole. In order to power progress for all, many different constituencies must work together—governments, civil society, academia, media, affected populations, the United Nations, and the private sector—to take the following actions for girls and women:

- Guarantee access to quality, affordable care before, during, and after pregnancy, including midwifery and obstetric care, emergency obstetric care, modern contraception, safe abortion, postabortion care, and treatment of maternal morbidities. (Most relevant for: civil society, governments, the United Nations, and the private sector)
- Meet the unmet need for modern contraception for girls and women. (Most relevant for: civil society, governments, the United Nations, and the private sector)
- Support the prevention, screening, and treatment of common challenges during pregnancy, such as obesity, gestational diabetes, and high blood pressure. (Most relevant for: civil society, governments, the United Nations, and the private sector)
- Increase national budgets for maternal and newborn health and nutrition to meet global health and nutrition targets by 2030. (Most relevant for: governments)
- Set measurable targets for improving maternal and newborn health and nutrition, monitor progress, and strengthen accountability mechanisms while ensuring the equal involvement of all stakeholders, including civil society. (Most relevant for: civil society and governments)
- Address barriers to healthcare, including user fees; poor infrastructure such as inadequate access to clean water, sanitation, and hygiene; and a lack of essential supplies, medicines, and micronutrients. (Most relevant for: governments, civil society and the private sector)
- Include girls, young people, and women in the design and implementation of maternal and newborn health and nutrition programs as context experts. (Most relevant for: civil society, governments, and the United Nations)
- Hold governments accountable for their commitments made in support of girls' and women's health, rights, and wellbeing. (Most relevant for: affected populations, civil society, and the United Nations)



- Promote and provide young people and women access to nutritious food; information on critical micronutrients; and counseling on proper nutritional practices, such as early initiation of breastfeeding and exclusive and continued breastfeeding. (Most relevant for: affected populations, civil society, governments, the United Nations, and the private sector)
- Adopt and implement adequate parental protection measures so that women who return to work are aware of their rights and can continue breastfeeding until their baby is at least 6 months old. (Most relevant for: governments, the United Nations, the private sector and civil society)
- Ensure that the full spectrum of maternal and newborn health, food security, and nutrition interventions are included in humanitarian response guidelines and protocols, financed, and implemented, including the Minimum Initial Service Package and the minimum standards in food security and nutrition guidelines. (Most relevant for: the United Nations, governments, and civil society)
- Count every maternal and newborn death and stillbirth in routine data collection, monitoring, and reporting. (Most relevant for: governments, the United Nations, and healthcare providers)
- Establish respectful partnerships with communities, recognizing their essential role in promoting maternal and newborn healthcare, and ensure that women and their newborns are cared for respectfully at health facilities. (Most relevant for: the United Nations and governments)
- Ensure that the mother-baby dyad is a focus of care, beginning before pregnancy and continued through labor, childbirth, and the neonatal period, including promoting breastfeeding, skin-to-skin contact, and keeping the mother and newborn baby together even in the case of referral. (Most relevant for: the United Nations, governments, and healthcare providers)
- Procure and pre-position lifesaving maternal and newborn essential medicines, equipment, and supplies, including for small and sick babies. Invest in innovations that will improve service delivery in challenging contexts. (Most relevant for: the United Nations and governments)
- Engage in and support intersectoral collaborations and interventions that promote maternal and newborn health across the humanitarian-development-peace nexus, including preparedness, resilience-building, and health systems strengthening initiatives. Promote stronger linkages with priority sectors across the continuum of care, including, but not limited to, sexual and reproductive health; nutrition and feeding for infants and young children; water, sanitation, and hygiene; mental health; early childhood development and operationalization of the Nurturing Care Framework; adolescent health; and mental health. (Most relevant for: the United Nations, governments and civil society)

Last reviewed and updated October 2019

Brief prepared by: Kathleen Schaffer, Family Care International; and Shafia Rashid, FCI Program of Management Sciences for Health

2019 version reviewed and updated by: Saeeda Rizvi, Women Deliver; Iselin Danbolt, Scaling Up Nutrition (SUN) Movement; Cathryn Grothe, Women Deliver; Brigid Rayder, Women Deliver; Courtney Carson, Women Deliver; Marcy Hersh, Women Deliver; Darcy Allen, Women Deliver; Susan Papp, Women Deliver; Dani Murphy, Women Deliver; Sonali Patel, Women Deliver; Meyris Montalvo, Women Deliver; Molly Shapiro, Consultant; Rachel Fowler, Women Deliver.

Disclaimer: The views and opinions expressed in this technical paper are those of the authors and do not necessarily reflect the official policy or position of all partnering organizations.

These briefs are intended to be used by policymakers, decision-makers, advocates, and activists to advance issues affecting girls and women in global development. These materials are designed to be open-sourced and available for your use.

➔ **Learn more about the Deliver for Good campaign.**

ENDNOTES

- 1 World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank Group, and the United Nations Population Division. *Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*. Geneva: World Health Organization, 2019. <https://www.who.int/reproductivehealth/publications/maternal-mortality-2000-2017/en/>.
- 2 Hug, Lucy, Monica Alexander, Danzhen You, and Leontine Alkema. "National, regional, and global levels and trends in neonatal mortality between 1990 and 2017, with scenario-based projections to 2030: a systematic analysis." *The Lancet Global Health* 7, no. 6 (June 2019): e710–720. [https://doi.org/10.1016/S2214-109X\(19\)30163-9](https://doi.org/10.1016/S2214-109X(19)30163-9).
- 3 The Partnership for Maternal, Newborn & Child Health. *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn, and Child Health (RMNCH): Essential Interventions, Commodities and Guidelines for Reproductive, Maternal, Newborn and Child Health*. PMNCH, 2011. http://www.who.int/pmnch/topics/part_publications/essential_interventions_18_01_2012.pdf.
- 4 World Health Organization. *Essential Nutrition Actions: improving maternal, newborn, infant and young child health and nutrition*. Geneva: World Health Organization, 2013. http://apps.who.int/iris/bitstream/10665/84409/1/9789241505550_eng.pdf.
- 5 Save the Children. *State of the World's Mothers: Nutrition in the First 1,000 Days*. Save the Children, 2012. <http://www.savethechildren.org/atf/ct/%7B9def2ebe-10ae-432c-9bd0-df91d2eba74a%7D/STATE-OF-THE-WORLDS-MOTHERS-REPORT-2012-FINAL.PDF>.
- 6 World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank Group, and the United Nations Population Division. *Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*. Geneva: World Health Organization, 2019. <https://www.who.int/reproductivehealth/publications/maternal-mortality-2000-2017/en/>.



- 7 Hug, Lucy, Monica Alexander, Danzhen You, and Leontine Alkema. "National, regional, and global levels and trends in neonatal mortality between 1990 and 2017, with scenario-based projections to 2030: a systematic analysis." *The Lancet Global Health* 7, no. 6 (June 2019): e710–720. [https://doi.org/10.1016/S2214-109X\(19\)30163-9](https://doi.org/10.1016/S2214-109X(19)30163-9).
- 8 Guttmacher Institute. "Greater Investments Needed to Meet Women's Sexual and Reproductive Health Needs in Developing Regions." Last modified December 6, 2017. <https://www.guttmacher.org/news-release/2017/greater-investments-needed-meet-womens-sexual-and-reproductive-health-needs>.
- 9 *Adding It Up: Investing in Contraception and Maternal and Newborn Health, 2017*. New York: Guttmacher Institute, 2017. <http://www.guttmacher.org/fact-sheet/adding-it-up-contraception-mnh-2017>.
- 10 World Health Organization. "Pregnant Women must be able to access the right care at the right time, says WHO." November 7, 2016. <https://www.who.int/en/news-room/detail/07-11-2016-pregnant-women-must-be-able-to-access-the-right-care-at-the-right-time-says-who>.
- 11 *Ending preventable stillbirths: An Executive Summary for The Lancet's Series*. *The Lancet*, 2016. <http://www.thelancet.com/pb/assets/raw/Lancet/stories/series/stillbirths2016-exec-sum.pdf>.
- 12 World Health Organization. "Stillbirths." 2016. http://www.who.int/maternal_child_adolescent/epidemiology/stillbirth/en/.
- 13 World Health Organization. "Maternal mortality." Last modified September 19, 2019. <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>.
- 14 World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank Group, and the United Nations Population Division. *Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*. Geneva: World Health Organization, 2019. <https://www.who.int/reproductivehealth/publications/maternal-mortality-2000-2017/en/>.
- 15 World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank Group, and the United Nations Population Division. *Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*. Geneva: World Health Organization, 2019. <https://www.who.int/reproductivehealth/publications/maternal-mortality-2000-2017/en/>.
- 16 World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank Group, and the United Nations Population Division. *Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*. Geneva: World Health Organization, 2019. <https://www.who.int/reproductivehealth/publications/maternal-mortality-2000-2017/en/>.
- 17 Graham, Wendy, Susannah Woodd, Peter Byass, Veronique Filippi, Giorgia Gon, Sandra Virgo, and Doris Chou et al. "Diversity and Divergence: The Dynamic Burden of Poor Maternal Health." *The Lancet* 388, no. 10056 (2016): P2164–2175. [https://doi.org/10.1016/S0140-6736\(16\)31533-1](https://doi.org/10.1016/S0140-6736(16)31533-1).
- 18 World Health Organization. *Interagency list of medical devices for essential interventions for reproductive, maternal, newborn and child health*. Geneva: World Health Organization, 2015. http://www.who.int/medical_devices/md_maternal_v12_web.pdf.
- 19 Theiss-Nyland, Katherine. *Water, Sanitation and Hygiene - the Impact on RMNCH*. PMNCH, 2014. <http://www.who.int/pmnch/knowledge/publications/summaries/ks30.pdf?ua=1>.
- 20 Campbell, Jim, Gilles Dussault, James Buchan, Francisco Pozo-Martin, Maria Guerra Arias, Claudia Leone, Amani Siyam, and Giorgio Commeto. *A Universal Truth: No Health without a Workforce*. Global Health Workforce Alliance and the World Health Organization, 2014. http://www.who.int/workforcealliance/knowledge/resources/GHWA-a_universal_truth_report.pdf.
- 21 Say, Lale, and Doris Chou. "Maternal Morbidity: Time for Reflection, Recognition, and Action." *International Journal of Gynecology and Obstetrics* 141, no. 51 (2018). <https://doi.org/10.1002/ijgo.12499>.
- 22 Hardee, Karen, Jill Gay, and Ann K. Blanc. "Maternal Morbidity: Neglected Dimension of Safe Motherhood in the Developing World." *Global Public Health* 7, no. 6 (July 2012): 603–617. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3396379/>.
- 23 World Health Organization. "Uncovering the True Burden of Health Complications Experienced by Women." May 24, 2018. <http://www.who.int/reproductivehealth/maternal-morbidity/en/>.
- 24 United Nations Population Fund. *Rich Mother, Poor Mother: The Social Determinants of Maternal Death and Disability*. UNFPA, 2012. <https://www.unfpa.org/sites/default/files/resource-pdf/EN-SRH%20fact%20sheet-Poormother.pdf>.
- 25 World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank Group, and the United Nations Population Division. *Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*. Geneva: World Health Organization, 2019. <https://www.who.int/reproductivehealth/publications/maternal-mortality-2000-2017/en/>.
- 26 World Health Organization and United Nations Children's Fund. *Water, sanitation and hygiene in health care facilities. Status in low- and middle-income countries and way forward*. Geneva: World Health Organization, 2015. http://www.who.int/water_sanitation_health/publications/wash-health-care-facilities/en/.
- 27 World Health Organization and United Nations Children's Fund. *Water, sanitation and hygiene in health care facilities. Status in low- and middle-income countries and way forward*. Geneva: World Health Organization, 2015. https://www.who.int/water_sanitation_health/publications/wash-health-care-facilities/en/.
- 28 World Health Organization. "Adolescents: Health Risks and Solutions." Last modified December 13, 2018. <http://www.who.int/mediacentre/factsheets/fs345/en/>.
- 29 Darroch, Jacqueline E., Vanessa Woog, Akinrinola Bankole, and Lori S. Ashford. *Adding It Up: Costs and Benefits of Meeting the Contraceptive Needs of Adolescents*. New York: Guttmacher Institute, 2016. https://www.guttmacher.org/sites/default/files/report_pdf/adding-it-up-adolescents-report.pdf.
- 30 Neal, Sarah, Andrew Amos Channon, and Jesman Chintsanya. "The impact of young maternal age at birth on neonatal mortality: Evidence from 45 low and middle income countries." *PLoS ONE* 13, no. 5 (May 2018): 1–16. <https://doi.org/10.1371/journal.pone.0195731>.
- 31 World Health Organization. *WHO Guidelines on Preventing Early Pregnancy and Poor Reproductive Outcomes Among Adolescents in Developing Countries*. Geneva: World Health Organization, 2011. http://www.who.int/immunization/hpv/target/preventing_early_pregnancy_and_poor_reproductive_outcomes_who_2006.pdf.
- 32 Gibbs, Cassandra M., Amanda Wendt, Stacey Peters, and Carol J. Hogue. "The Impact of Early Age at First Childbirth on Maternal and Infant Health." *Paediatric and Perinatal Epidemiology* 26, no. 01 (July 2012): 259–284. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4562289/>.
- 33 Finlay Jocelyn E., and Marlene A. Lee. "Identifying Causal Effects Of Reproductive Health Improvements On Women's Economic Empowerment Through the Population Poverty Research Initiative." *The Milbank Quarterly* 96, no. 2 (June 2018): 300–322. <https://doi.org/10.1111/1468-0009.12326>.
- 34 Herrera, Catalina, David E. Sahn, and Kira M. Villa. "Teen Fertility and Labor Market Segmentation: Evidence from Madagascar." Institute of Labor Economics. Discussion Paper Series, no. 10464 (2016). <https://www.iza.org/publications/dp/10464/teen-fertility-and-labor-market-segmentation-evidence-from-madagascar>.
- 35 Urdinola, B. Piedad and Carlos Ospino. "Long-Term Consequences of Adolescent Fertility: The Colombian Case." *Demographic Research* 32, no. 55 (2015). <http://www.demographic-research.org/Volumes/Vol32/55/>.
- 36 United Nations Educational, Scientific and Cultural Organization. *Education transforms lives*. Paris: UNESCO, 2013. unesdoc.unesco.org/images/0022/002231/223115E.pdf.
- 37 SUN Movement Lead Group. *A Call to Action: Scaling Up Gender Equality and Women's and Girls' Empowerment to Fight Malnutrition*. SUN Movement, 2019. https://scalingupnutrition.org/wp-content/uploads/2019/05/SUN-call-to-action-EN_FINALENGLISH.pdf.
- 38 LINKAGES and CORE Group. "Maternal Nutrition During Pregnancy and Lactation." LINKAGES: Breastfeeding, LAM, Related Complementary Feeding, and Maternal Nutrition Program and the Child Survival Collaborations and Resources (CORE) Nutrition Working Group, 2004. <https://coregroup.org/wp-content/uploads/2017/09/Maternal-Nutrition-During-Pregnancy-and-Lactation.pdf>.
- 39 World Health Organization Regional Office for Europe. *Good Maternal Nutrition: The best start in life*. Copenhagen: World Health Organization, 2016. http://www.euro.who.int/_data/assets/pdf_file/0008/313667/Good-maternal-nutrition-The-best-start-in-life.pdf?ua=1.
- 40 Stevens, Gretchen A., Mariel M. Finucane, Luz Maria De-Regil, Christopher J. Paciorek, Seth R. Flaxman, Francesco Branca, Juan Pablo Pena-Rosas, Zulfiqar A. Bhutta, and Majid Ezzati. "Global, regional, and national trends in haemoglobin concentration and prevalence of total and severe anaemia in children and pregnant and non-pregnant women for 1995–2011: A Systematic Analysis of Population-Representative Data." *The Lancet Global Health* 1, no. 1 (2013). [https://doi.org/10.1016/S2214-109X\(13\)70001-9](https://doi.org/10.1016/S2214-109X(13)70001-9).
- 41 Daru, Jahnavi, Javier Zamora, Borja M. Fernandez-Felix, Joshua Vogel, Olufemi T. Oladapo, Naho Morisaki, and Ozge Tuncalp et al. "Risk of maternal mortality in women with severe anaemia during pregnancy and post Partum: a multilevel analysis." *The Lancet Global Health* 6, no. 5 (2018). [https://doi.org/10.1016/S2214-109X\(18\)30078-0](https://doi.org/10.1016/S2214-109X(18)30078-0).
- 42 Abu-Saad, Kathleen, and Drora Fraser. "Maternal Nutrition and Birth Outcomes." *Epidemiologic Reviews* 32, no. 1 (2010): 5–25. <https://doi.org/10.1093/epirev/mxq001>.
- 43 United Nations Children's Fund. "UNICEF, WHO, World Bank Joint Child Malnutrition dataset." Last modified April 2019. <https://data.unicef.org/topic/nutrition/malnutrition/>.
- 44 United Nations Children's Fund, World Health Organization, International Bank for Reconstruction and Development/The World Bank. *Levels and trends in child malnutrition: Key findings of the 2019 Edition of the Joint Child Malnutrition Estimates*. Geneva: World Health Organization, 2019. <https://www.who.int/nutgrowthdb/jme-2019-key-findings.pdf?ua=1>.
- 45 FAO, IFAD, UNICEF, WFP and WHO. *The State Of Food Security And Nutrition In The World 2017: Building Resilience For Peace And Food Security*. Rome: FAO, 2017. <http://www.fao.org/3/a-17695e.pdf>.



- 46 United Nations Children's Fund, World Health Organization, International Bank for Reconstruction and Development/The World Bank. *Levels and trends in child malnutrition: Key findings of the 2019 Edition of the Joint Child Malnutrition Estimates*.
- 47 Hod, Moshe, Anil Kapur, Davia A. Sacks, Eran Hadar, Mukesh Agarwal, Gian Carlo Di Renzo, Luis Cabero Roura, Harold David McIntyre, Jessica L. Morris, and Hema Divakar. "The International Federation of Gynecology and Obstetrics (FIGO) Initiative on Gestational Diabetes Mellitus: A Pragmatic Guide for Diagnosis, Management and Care." *International Journal of Gynecology and Obstetrics* 131, Supplement 3 (2015). <https://obgyn.onlinelibrary.wiley.com/toc/18793479/131/53>.
- 48 Dror, Daphna K., and Lindsay H. Allen. "Vitamin D inadequacy in pregnancy: biology, outcomes, and interventions." *Nutrition Reviews* 68, no. 8 (2010): 465–477. <https://doi.org/10.1111/j.1753-4887.2010.00306.x>.
- 49 Sohlberg, Sara, Olof Stephansson, Sven Cnattingius, and Anna-Karin Wikstrom. "Maternal Body Mass Index, Height, and Risks of Preeclampsia." *American Journal of Hypertension* 25, no. 1 (2012): 120–125. <https://doi.org/10.1038/ajh.2011.175>.
- 50 Say, Lale, Doris Chou, Alison Gemmill, Ozge Tuncalp, Ann-Beth Moller, Jane Daniels, A. Metin Gulmezoglu, Marleen Temmerman, and Leontine Alkema. "Global Causes of Maternal Death: A WHO Systematic Analysis." *The Lancet Global Health* 2, no. 6 (June 2014): E323–333. [https://doi.org/10.1016/S2214-109X\(14\)70227-X](https://doi.org/10.1016/S2214-109X(14)70227-X).
- 51 Say, Lale, Doris Chou, Alison Gemmill, Ozge Tuncalp, Ann-Beth Moller, Jane Daniels, A. Metin Gulmezoglu, Marleen Temmerman, and Leontine Alkema. "Global Causes of Maternal Death: A WHO Systematic Analysis." *The Lancet Global Health* 2, no. 6 (June 2014): E323–333. [https://doi.org/10.1016/S2214-109X\(14\)70227-X](https://doi.org/10.1016/S2214-109X(14)70227-X).
- 52 Hodgins, Stephen. "Pre-eclampsia as Underlying Cause for Perinatal Deaths: Time for Action" *Global Health: Science and Practice* 3, no. 4 (2015): 525–27. <https://doi.org/10.9745/GHSP-D-15-00350>.
- 53 Say, Lale, Doris Chou, Alison Gemmill, Ozge Tuncalp, Ann-Beth Moller, Jane Daniels, A. Metin Gulmezoglu, Marleen Temmerman, and Leontine Alkema. "Global Causes of Maternal Death: A WHO Systematic Analysis." *The Lancet Global Health* 2, no. 6 (June 2014): E323–333. [https://doi.org/10.1016/S2214-109X\(14\)70227-X](https://doi.org/10.1016/S2214-109X(14)70227-X).
- 54 GHDx. "GBD Results Tool." Accessed September 2019. <http://ghdx.healthdata.org/gbd-results-tool>.
- 55 Singh, Susheela, Lisa Remez, Gilda Sedgh, Lorraine Kwok, and Tsuyoshi Onda. *Abortion Worldwide 2017: Uneven Progress and Unequal Access*. New York: Guttmacher Institute, 2018. <http://www.guttmacher.org/report/abortion-worldwide-2017>.
- 56 World Health Organization. "Preventing unsafe abortion." Last modified June 26, 2019. <http://www.who.int/mediacentre/factsheets/fs388/en/>.
- 57 World Health Organization. "Preventing unsafe abortion." Last modified June 26, 2019. <http://www.who.int/mediacentre/factsheets/fs388/en/>.
- 58 Grimes, David A., Janie Benson, Susheela Singh, Mariana Romero, Bela Ganatra, Friday E. Okonofua, and Iqbal H. Shah. "Unsafe abortion: the preventable pandemic." *The Lancet Sexual and Reproductive Health Series* (2006). http://www.who.int/reproductivehealth/topics/unsafe_abortion/article_unsafe_abortion.pdf.
- 59 World Health Organization. "Preventing unsafe abortion." Last modified June 26, 2019. <http://www.who.int/mediacentre/factsheets/fs388/en/>.
- 60 World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank Group, and the United Nations Population Division. *Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*. Geneva: World Health Organization, 2019. <https://www.who.int/reproductivehealth/publications/maternal-mortality-2000-2017/en/>.
- 61 Calvert Calvert and Carine Ronsmans. "The contribution of HIV to pregnancy-related mortality: a systematic review and meta-analysis." *AIDS* 27, no. 10 (2013): 1631–1639. <https://www.ncbi.nlm.nih.gov/pubmed/23435296>.
- 62 Joint United Nations Programme on HIV/AIDS. *How AIDS Changed Everything. MDG6: 15 Years, 15 Lessons of Hope from the AIDS Response*. UNAIDS, 2015. http://www.unaids.org/sites/default/files/media_asset/MDG6Report_en.pdf.
- 63 United Nations High Commissioner for Refugees. "Women." Accessed September 2019. <http://www.unhcr.org/en-us/women.html>.
- 64 United Nations Population Fund. *Humanitarian Action 2019 Overview*. New York: UNFPA, 2019. https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA_HumanitAction_2019_PDF_Online_Version_16_Jan_2019.pdf.
- 65 Elamein, Mohamed, Hilary Bower, Camilo Valderrama, Daher Zedan, Hazem Rihawi, Khaled Almilaji et al. "Attacks against health care in Syria, 2015–16: results from a real-time reporting tool." *The Lancet* 390, no. 10190 (2017): P2278–2286. [https://doi.org/10.1016/S0140-6736\(17\)31328-4](https://doi.org/10.1016/S0140-6736(17)31328-4).
- 66 Robles, Omar J. *I'm Here: Adolescent Girls in Emergencies*. New York: Women's Refugee Commission, 2014. <https://www.womensrefugeecommission.org/populations/adolescent-girls/research-and-resources/1078-i-m-here-report-final.pdf>.
- 67 Urdal, Henrik, and Chi Primus Che. "War and Gender Inequalities in Health: The Impact of Armed Conflict on Fertility and Maternal Mortality." *International Interactions* 39, no. 4 (2013): 489–510. doi:10.1080/03050629.2013.805133.
- 68 O'Hare, Bernadette A. M., and David P Southall. "First Do No Harm: The Impact Of Recent Armed Conflict On Maternal And Child Health in Sub-Saharan Africa." *Journal of the Royal Society of Medicine* 100, no. 12 (2007): 564–570. <https://www.ncbi.nlm.nih.gov/pubmed/18065709?dopt=Abstract>.
- 69 Creel, Liz. "Policy Brief: Meeting the Reproductive Health Needs of Displaced Population." Population Reference Bureau/MEASURE Communication, 2002. https://www.prb.org/wp-content/uploads/2002/07/MeetingReproHlthDispl_Eng.pdf.
- 70 Onyango, Monica Adhiamno, and Shirin Heidari. "Care with Dignity In Humanitarian Crises: Ensuring Sexual And Reproductive Health And Rights Of Displaced Populations." *Reproductive Health Matters* 25, no.51 (2017):1–6. <https://doi.org/10.1080/09688080.2017.1411093>.
- 71 Rao, Liz. "Meeting the Maternal and Newborn Needs of Displaced Persons in Urban Settings." Maternal Health Task Force. July 2017. <https://www.mhtf.org/2017/07/03/meeting-the-maternal-and-newborn-needs-of-displaced-persons-in-urban-settings/>.
- 72 FAO, IFAD, UNICEF, WFP and WHO. *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns*. Rome: FAO, 2019. <http://www.fao.org/3/ca5162en/ca5162en.pdf>.
- 73 The Partnership for Maternal, Newborn & Child Health. *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn, and Child Health (RMNCH): Essential Interventions, Commodities and Guidelines for Reproductive, Maternal, Newborn and Child Health*. PMNCH, 2011. http://www.who.int/pmnch/topics/part_publications/essential_interventions_18_01_2012.pdf.
- 74 The Partnership for Maternal, Newborn & Child Health. *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn, and Child Health (RMNCH): Essential Interventions, Commodities and Guidelines for Reproductive, Maternal, Newborn and Child Health*. PMNCH, 2011. http://www.who.int/pmnch/topics/part_publications/essential_interventions_18_01_2012.pdf.
- 75 World Health Organization. "Care of the preterm and low-birth-weight newborn." Accessed September 2019. http://www.who.int/maternal_child_adolescent/topics/newborn/care_of_preterm/en/.
- 76 The Partnership for Maternal, Newborn & Child Health. *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn, and Child Health (RMNCH): Essential Interventions, Commodities and Guidelines for Reproductive, Maternal, Newborn and Child Health*. PMNCH, 2011. http://www.who.int/pmnch/topics/part_publications/essential_interventions_18_01_2012.pdf.
- 77 The Partnership for Maternal, Newborn & Child Health. *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn, and Child Health (RMNCH): Essential Interventions, Commodities and Guidelines for Reproductive, Maternal, Newborn and Child Health*. PMNCH, 2011. http://www.who.int/pmnch/topics/part_publications/essential_interventions_18_01_2012.pdf.
- 78 Theiss-Nyland, Katherine. *Water, Sanitation and Hygiene - the Impact on RMNCH*. PMNCH, 2014. <http://www.who.int/pmnch/knowledge/publications/summaries/ks30.pdf?ua=1>.
- 79 Sabot, Kate. *Women's & Children's Health: Human Rights & Accountability*. PMNCH, 2013. http://www.who.int/pmnch/topics/part_publications/KS23_human_rights.pdf.
- 80 World Health Organization. "The Prevention and Elimination of Disrespect and Abuse During Facility-Based Childbirth." 2015. http://apps.who.int/iris/bitstream/10665/134588/1/WHO_RHR_14.23_eng.pdf?ua=1&ua=1.
- 81 *Midwifery: An Executive Summary for The Lancet's Series*. The Lancet, 2014. http://www.thelancet.com/pb/assets/raw/Lancet/stories/series/midwifery/midwifery_exec_summ.pdf.
- 82 *Adding It Up: Investing in Contraception and Maternal and Newborn Health*, 2017. New York: Guttmacher Institute, 2017. <http://www.guttmacher.org/fact-sheet/adding-it-up-contraception-mnh-2017>.
- 83 Haththotuwa, Rohana, Lakshmen Senanayake, Upul Senarath, and Deepika Attygalle. "Models of care that have reduced maternal mortality and morbidity in Sri Lanka." *International Journal of Gynecology and Obstetrics* 119, No. S1 (2012): S45–S49. <https://doi.org/10.1016/j.ijgo.2012.03.016>.
- 84 Van Lerberghe, Wim, Zoe Matthews, Endang Achadi, Chiara Ancona, James Campbell, Amos Channon, Luc de Bernis et al. "Country experience with strengthening of health systems and deployment of midwives in countries with high maternal mortality." *The Lancet Midwifery Series* 384, no. 9949 (2014): P1215–1225. [https://doi.org/10.1016/S0140-6736\(14\)60919-3](https://doi.org/10.1016/S0140-6736(14)60919-3).
- 85 Guyon, Agnes. "Can Trained Traditional Midwives Become Agents of Change for Nutrition?" *The Pump* by John Snow, Inc., April 11, 2016. <http://thepump.jpsi.com/can-trained-traditional-midwives-become-agents-of-change-for-nutrition/>.
- 86 Renfrew, Mary J., Alison McFadden, Maria Helena Bastos, James Campbell, Andrew Amos Channon, Ngai Fen Cheung, Deborah Rachel Audebert Delage Silva et al. "Midwifery and quality care: findings from a new evidence-informed framework for maternal and newborn care." *The Lancet Midwifery Series* 384, no. 9948 (2014): 1129–1145. [https://doi.org/10.1016/S0140-6736\(14\)60789-3](https://doi.org/10.1016/S0140-6736(14)60789-3).
- 87 International Confederation of Midwives, United Nations Population Fund, and World Health Organization. *The State of the World's Midwifery 2014: A Universal Pathway. A Woman's Right to Health*. UNFPA, 2014. http://www.unfpa.org/sites/default/files/pub-pdf/EN_SoWMy2014_complete.pdf.



- 88 Campbell, Jim, Gilles Dussault, James Buchan, Francisco Pozo-Martin, Maria Guerra Arias, Claudia Leone, Amani Siyam, and Giorgio Commeto. *A Universal Truth: No Health without a Workforce*. Global Health Workforce Alliance and the World Health Organization, 2014. http://www.who.int/workforcealliance/knowledge/resources/GHWA-a_universal_truth_report.pdf.
- 89 Liljestrand, Jerker and Mean Reatanak Sambath. "Socio-economic Improvements and Health System Strengthening of Maternity Care are Contributing to Maternal Mortality Reduction in Cambodia." *Reproductive Health Matters* 20, no. 39 (2012): 62–72. <https://www.ncbi.nlm.nih.gov/pubmed/22789083>.
- 90 Liljestrand, Jerker and Mean Reatanak Sambath. "Socio-economic Improvements and Health System Strengthening of Maternity Care are Contributing to Maternal Mortality Reduction in Cambodia." *Reproductive Health Matters* 20, no. 39 (2012): 62–72. <https://www.ncbi.nlm.nih.gov/pubmed/22789083>.
- 91 Hor, Darith et al. "Cambodia Demographic & Health Survey 2010." *National Institute of Statistics, Directorate General for Health, and ICF Macro*. 2011. <https://dhsprogram.com/pubs/pdf/FR249/FR249.pdf>.
- 92 Liljestrand, Jerker and Mean Reatanak Sambath. "Socio-economic Improvements and Health System Strengthening of Maternity Care are Contributing to Maternal Mortality Reduction in Cambodia." *Reproductive Health Matters* 20, no. 39 (June 2012): 62–72. <https://www.ncbi.nlm.nih.gov/pubmed/22789083>.
- 93 Hor, Darith et al. "Cambodia Demographic & Health Survey 2010." *National Institute of Statistics, Directorate General for Health, and ICF Macro*. 2011. <https://dhsprogram.com/pubs/pdf/FR249/FR249.pdf>.
- 94 Lassi, Zohra S., Batool A. Haider, and Zulfiqar A. Bhutta. "Community-Based Intervention Packages For Reducing Maternal And Neonatal Morbidity And Mortality And Improving Neonatal Outcomes." *Journal of Development Effectiveness* 4, no.1 (2012). <https://doi.org/10.1080/19439342.2012.655911>.
- 95 Lassi, Zohra S., Batool A. Haider, and Zulfiqar A. Bhutta. "Community-based intervention packages for reducing maternal and neonatal morbidity and mortality and improving neonatal outcomes." *Journal of Development Effectiveness* 4, no.1 (2012). <https://doi.org/10.1080/19439342.2012.655911>.
- 96 United Nations Development Programme. *Discussion Paper: A Social Determinants Approach to Maternal Health*. UNDP, 2011. <http://www.undp.org/content/dam/undp/library/Democratic%20Governance/Discussion%20Paper%20MaternalHealth.pdf>.
- 97 Inter-Agency Working Group on Reproductive Health in Crises (IAWG). *Inter-agency Field Manual on Reproductive Health in Humanitarian Settings*. 2018. <http://iawg.net/iafm/>.
- 98 Every Woman Every Child. *The Global Strategy for Women's, Children's and Adolescents' Health (2016–2030)*. 2015. <http://who.int/life-course/partners/global-strategy/globalstrategyreport2016-2030-lowres.pdf>.
- 99 Nsiband, Duduzile, Tanya Doherty, Petrida Ijumba, Mark Tomlinson, Debra Jackson, David Sanders, and Joy Lawn. "Assessment of the Uptake Of Neonatal And Young Infant Referrals By Community Health Workers To Public Health Facilities In An Urban Informal Settlement, KwaZulu-Natal, South Africa." *BMC Health Services Research* (2013). <http://bmchealthservres.biomedcentral.com/articles/10.1186/1472-6963-13-47>.
- 100 Andersen, Kathryn, Anuja Singh, Meena Kumari Shrestha, Mukta Shah, Erin Pearson, and Leila Hessini. "Early Pregnancy Detection by Female Community Health Volunteers in Nepal Facilitated Referral for Appropriate Reproductive Health Services." *Global Health: Science and Practice* 1, no. 3 (2013): 372–381. <https://doi.org/10.9745/GHSP-D-12-00026>.
- 101 Bhutta, Zulfiqar A., Zohra S. Lassi, George Pariyo, and Luis Huicho. *Global Experience of Community Health Workers for Delivery of Health Related Millennium Development Goals: A Systematic Review, Country Case Studies, and Recommendations for Integration into National Health Systems*. World Health Organization and Global Health Workforce Alliance, 2010. http://www.who.int/workforcealliance/knowledge/publications/CHW_FullReport_2010.pdf?ua=1.
- 102 Prost, Audrey, Nadine Seward, Kishwar Azad, Arri Coomarasamy, Andrew Copas, Tanja A. J. Houweling et al. "Women's Groups Practicing Participatory Learning And Action To Improve Maternal And Newborn Health In Low-Resource Settings: A Systematic Review And Meta-Analysis." *The Lancet* 381 (2013): 1736–46. [http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(13\)60685-6.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(13)60685-6.pdf).
- 103 Mohamud, Khalif Bile, Carmen Dolea, Manuel Dayrit, Mwansa Nkwane, and Rebecca Bailey. "Country Case Study: Pakistan's Lady Health Worker Programme." Geneva: World Health Organization, n.d. http://www.who.int/workforcealliance/knowledge/case_studies/CS_Pakistan_web_en.pdf?ua=1.
- 104 Mohamud, Khalif Bile et al. "Country Case Study: Pakistan's Lady Health Worker Programme." Geneva: World Health Organization, n.d. http://www.who.int/workforcealliance/knowledge/case_studies/CS_Pakistan_web_en.pdf?ua=1.
- 105 Mohamud, Khalif Bile et al. "Country Case Study: Pakistan's Lady Health Worker Programme." Geneva: World Health Organization, n.d. http://www.who.int/workforcealliance/knowledge/case_studies/CS_Pakistan_web_en.pdf?ua=1.
- 106 *Adding It Up: Investing in Contraception and Maternal and Newborn Health*, 2017. New York: Guttmacher Institute, 2017. <http://www.guttmacher.org/fact-sheet/adding-it-up-contraception-mnh-2017>.
- 107 Ganatra, Bela, Caitlin Gerds, Clémentine Rossier, Brooke Ronald Johnson Jr, Özge Tunçalp, Anisa Assifi, Gilda Sedgh et al. "Global, regional, and subregional classification of abortions by sSafety, 2010–14: estimates from a bayesian hierarchical model." *The Lancet* 390, no. 10110 (2017): 2372–2381. [https://doi.org/10.1016/S0140-6736\(17\)31794-4](https://doi.org/10.1016/S0140-6736(17)31794-4).
- 108 Starrs, Ann M., Alex C. Ezeh, Gary Barker, Alaka Basu, Jane T. Bertrand, Robert Blum, Awa M. Coll-Seck et al. "Accelerate Progress—Sexual And Reproductive Health And Rights For All: Report of the Guttmacher–Lancet Commission." *The Lancet Commissions* 391, no. 10140 (2018): P2642–2692. [https://doi.org/10.1016/S0140-6736\(18\)30293-9](https://doi.org/10.1016/S0140-6736(18)30293-9).
- 109 *Adding It Up: Investing in Contraception and Maternal and Newborn Health*, 2017. New York: Guttmacher Institute, 2017. <http://www.guttmacher.org/fact-sheet/adding-it-up-contraception-mnh-2017>.
- 110 Singh, Susheela and Jacqueline E. Darroch. *Adding It Up: Costs and Benefits of Contraceptive Services: Estimates for 2012*. Guttmacher Institute and UNFPA, 2012. Web. <https://www.guttmacher.org/pubs/AIU-2012-estimates.pdf>.
- 111 Singh, Susheela, Jacqueline E. Darroch, and Lori S. Ashford. *Adding It Up: The Costs and Benefits of Investing in Sexual and Reproductive Health 2014*. New York: Guttmacher Institute, 2014. <https://www.guttmacher.org/pubs/AddingItUp2014.pdf>.
- 112 World Health Organization. "Family Planning Evidence Brief: Improving Family Planning Service Delivery in Humanitarian Crises." 2017. <http://apps.who.int/iris/bitstream/handle/10665/255864/WHO-RHR-17.13-eng.pdf?sessionid=A749E39968C0A769DBEEAE61701519?sequence=1>.
- 113 Barot, Sneha. "In a State of Crisis: Meeting the Sexual and Reproductive Health Needs of Women in Humanitarian Situations." Guttmacher Institute, 2017. <http://www.guttmacher.org/gpr/2017/02/state-crisis-meeting-sexual-and-reproductive-health-needs-women-humanitarian-situations>.
- 114 Benage, Matthew, P. Gregg Greenough, Patrick Vinck, Nada Omeira, Phuong Pham et al. "An Assessment Of Antenatal Care Among Syrian Refugees In Lebanon." *Conflict and Health* 9 (2015). doi:10.1186/s13031-015-0035-8.
- 115 Casey, Sara E., Shanon E. McNab, Clare Tanton, Jimmy Odong, Adrienne C. Testa, and Louise Lee-Jones. "Availability of Long-Acting and Permanent Family-Planning Methods Leads to Increase in Use in Conflict-Affected Northern Uganda: Evidence from Cross-Sectional Baseline and Endline Cluster Surveys." *Global Public Health* 8, no. 3 (2013): 284–297. <https://doi.org/10.1080/17441692.2012.758302>.
- 116 *Adding It Up: Investing in Contraception and Maternal and Newborn Health*, 2017. New York: Guttmacher Institute, 2017. <http://www.guttmacher.org/fact-sheet/adding-it-up-contraception-mnh-2017>.
- 117 Kozuki, Naoko, and Neff Walker. "Exploring the Association Between Short/ Long Preceding Birth Intervals And Child Mortality: Using Reference Birth Interval Children Of The Same Mother As Comparison." *BMC Public Health* 13, Suppl 3, S6 (September 2013). <https://bmcpubhealth.biomedcentral.com/articles/10.1186/1471-2458-13-S3-S6>.
- 118 Conde-Agudelo, Agustín, Anyeli Rosas-Bermudez, Fabio Castano, Maureen H. Norton. "Effects of Birth Spacing on Maternal, Perinatal, Infant, and Child Health: A Systematic Review of Causal Mechanisms." *Studies in Family Planning* 43, no.2 (June 2012): 93–114. <https://doi.org/10.1111/j.1728-4465.2012.00308.x>.
- 119 Singh, Susheela, Jacqueline E. Darroch, and Lori S. Ashford. *Adding It Up: The Costs and Benefits of Investing in Sexual and Reproductive Health 2014*. New York: Guttmacher Institute, 2014. <https://www.guttmacher.org/pubs/AddingItUp2014.pdf>.
- 120 Cohen, Susan A. "Access to Safe Abortion in the Developing World: Saving Lives While Advancing Rights." *Guttmacher Policy Review* 15, no. 3 (2012). <https://www.guttmacher.org/gpr/2012/10/access-safe-abortion-developing-world-saving-lives-while-advancing-rights>.
- 121 Cohen, Susan A. "Access to Safe Abortion in the Developing World: Saving Lives While Advancing Rights." *Guttmacher Policy Review* 15, no. 3 (2012). <https://www.guttmacher.org/gpr/2012/10/access-safe-abortion-developing-world-saving-lives-while-advancing-rights>.
- 122 High Impact Practices in Family Planning. *Postabortion family planning: a critical component of postabortion care*. Washington, DC: USAID, 2019. https://www.fphighimpactpractices.org/sites/fphips/files/hip_pac_brief.pdf.
- 123 World Health Organization. *Safe Abortion: Technical and Policy Guidance for Health Systems, Second Edition*. Geneva: World Health Organization, 2012. http://apps.who.int/iris/bitstream/10665/70914/1/9789241548434_eng.pdf.
- 124 Jewkes, Rachel, Helen Rees, Kim Dickson, Heather Brown, and Jonathan Levin. "The Impact of Age on the Epidemiology of Incomplete Abortions in South Africa after Legislative Change." *BJOG: An International Journal of Obstetrics & Gynecology* 112 (2005): 355–359. <http://onlinelibrary.wiley.com/doi/10.1111/j.1471-0528.2004.00422.x/epdf>.
- 125 Jewkes, Rachel, Helen Rees, Kim Dickson, Heather Brown, and Jonathan Levin. "The Impact of Age on the Epidemiology of Incomplete Abortions in South Africa after Legislative Change." *BJOG: An International Journal of Obstetrics & Gynecology* 112 (2005): 355–359. <http://onlinelibrary.wiley.com/doi/10.1111/j.1471-0528.2004.00422.x/epdf>.



- 126 The Partnership for Maternal, Newborn and Child Health. *Opportunities for Africa's Newborns: Practical Data, Policy, and Programmatic Support for Newborn Care in Africa*. Cape Town: PMNCH, 2006. <https://www.who.int/pmnch/media/publications/africanewborns/en/>.
- 127 The Partnership for Maternal, Newborn and Child Health. *Opportunities for Africa's Newborns: Practical Data, Policy, and Programmatic Support for Newborn Care in Africa*. Cape Town: PMNCH, 2006. <https://www.who.int/pmnch/media/publications/africanewborns/en/>.
- 128 United Nations Children's Fund. "Micronutrients," Last modified June 7, 2018. https://www.unicef.org/nutrition/index_iodine.html.
- 129 United Nations Children's Fund. "Malnutrition." UNICEF Data. Last modified April 2019. data.unicef.org/topic/nutrition/malnutrition/.
- 130 World Health Organization Regional Office for Europe. *Good Maternal Nutrition: The best start in life*. Copenhagen: World Health Organization, 2016. http://www.euro.who.int/_data/assets/pdf_file/0008/313667/Good-maternal-nutrition-The-best-start-in-life.pdf?ua=1.
- 131 World Health Organization Regional Office for Europe. *Good Maternal Nutrition: The best start in life*. Copenhagen: World Health Organization, 2016. http://www.euro.who.int/_data/assets/pdf_file/0008/313667/Good-maternal-nutrition-The-best-start-in-life.pdf?ua=1.
- 132 Save the Children. *State of the World's Mothers: Nutrition in the First 1,000 Days*. Save the Children, 2012. <http://www.savethechildren.org/atf/cf/%7B9def2ebe-10ae-432c-9bd0-df91d2eba74a%7D/STATE-OF-THE-WORLDS-MOTHERS-REPORT-2012-FINAL.PDF>.
- 133 Save the Children. *State of the World's Mothers: Nutrition in the First 1,000 Days*. Save the Children, 2012. <http://www.savethechildren.org/atf/cf/%7B9def2ebe-10ae-432c-9bd0-df91d2eba74a%7D/STATE-OF-THE-WORLDS-MOTHERS-REPORT-2012-FINAL.PDF>.
- 134 The World Bank. *Snapshot: Investing in the Early Years for Growth and Productivity*. Washington, DC: World Bank Group, 2016. <http://documents.worldbank.org/curated/en/276471475756836740/Snapshot-investing-in-the-early-years-for-growth-and-productivity>.
- 135 FAO, IFAD, UNICEF, WFP and WHO. *The State Of Food Security And Nutrition In The World 2017: Building Resilience For Peace And Food Security*. Rome: FAO, 2017. <http://www.fao.org/3/a-17695e.pdf>.
- 136 Mason, Frances, Kathryn Rawe, and Simon Wright. *Superfood for Babies: How overcoming barriers to breastfeeding will save children's lives*. London: Save the Children, 2013. <https://resourcecentre.savethechildren.net/library/superfood-babies-how-overcoming-barriers-breastfeeding-will-save-childrens-lives>.
- 137 Rollins, Nigel, Nita Bhandari, Nemat Hajeebhoy, Susan Horton, Chessa K. Lutter, Jose C. Martines, Ellen G. Piwoz, Linda M. Richter, and Cesar G. Victora. "Why invest, and what it will take to improve breastfeeding practices?" *The Lancet Breastfeeding Series* 387, no.10017 (2016): 491-504. [https://doi.org/10.1016/S0140-6736\(15\)01044-2](https://doi.org/10.1016/S0140-6736(15)01044-2).
- 138 Rollins, Nigel, Nita Bhandari, Nemat Hajeebhoy, Susan Horton, Chessa K. Lutter, Jose C. Martines, Ellen G. Piwoz, Linda M. Richter, and Cesar G. Victora. "Why invest, and what it will take to improve breastfeeding practices?" *The Lancet Breastfeeding Series* 387, no.10017 (2016): 491-504. [https://doi.org/10.1016/S0140-6736\(15\)01044-2](https://doi.org/10.1016/S0140-6736(15)01044-2).
- 139 World Health Organization. "10 facts on breastfeeding." Accessed September 2019. <http://www.who.int/features/factfiles/breastfeeding/facts/en/>.
- 140 World Health Organization. "10 facts on breastfeeding." Accessed September 2019. <http://www.who.int/features/factfiles/breastfeeding/facts/en/>.
- 141 United Nations Children's Fund. "Breastfeeding." Last modified July 9, 2015. http://www.unicef.org/nutrition/index_24824.html.
- 142 Rollins, Nigel, Nita Bhandari, Nemat Hajeebhoy, Susan Horton, Chessa K. Lutter, Jose C. Martines, Ellen G. Piwoz, Linda M. Richter, and Cesar G. Victora. "Why invest, and what it will take to improve breastfeeding practices?" *The Lancet Breastfeeding Series* 387, no.10017 (2016): 491-504. [https://doi.org/10.1016/S0140-6736\(15\)01044-2](https://doi.org/10.1016/S0140-6736(15)01044-2).
- 143 Rollins, Nigel, Nita Bhandari, Nemat Hajeebhoy, Susan Horton, Chessa K. Lutter, Jose C. Martines, Ellen G. Piwoz, Linda M. Richter, and Cesar G. Victora. "Why invest, and what it will take to improve breastfeeding practices?" *The Lancet Breastfeeding Series* 387, no.10017 (2016): 491-504. [https://doi.org/10.1016/S0140-6736\(15\)01044-2](https://doi.org/10.1016/S0140-6736(15)01044-2).
- 144 World Health Organization. "10 facts on breastfeeding." Accessed September 2019. <http://www.who.int/features/factfiles/breastfeeding/facts/en/>.
- 145 World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank Group, and the United Nations Population Division. *Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*. Geneva: World Health Organization, 2019.
- 146 World Health Organization. Breastfeeding in the 21st century. 2016. https://www.who.int/pmnch/media/news/2016/breastfeeding_brief.pdf.
- 147 United Nations Children's Fund. "Infant and Young Child Feeding." UNICEF Data. Last modified July 2018. <https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/>.
- 148 The Partnership for Maternal, Newborn and Child Health. *Opportunities for Africa's Newborns: Practical Data, Policy, and Programmatic Support for Newborn Care in Africa*. Cape Town: PMNCH, 2006. <https://www.who.int/pmnch/media/publications/africanewborns/en/>.
- 149 FAO, IFAD, UNICEF, WFP and WHO. *The State of Food Security and Nutrition in the World 2017: Building resilience for peace and food security*. Rome: FAO, 2017. <http://www.fao.org/3/a-17695e.pdf>.
- 150 Edmond, Karen Margaret, Charles Zandoh, Maria A. Quigley, Seeba Amenga-Etego, Seth Owusu-Agyei, Netty R. Kirkwood. "Delayed Breastfeeding Initiation Increases Risk Of Neonatal Mortality." *Pediatrics*, 117, no. 3 (2006):e380-386. doi:10.1542/peds.2005-1496.
- 151 Rollins, Nigel, Nita Bhandari, Nemat Hajeebhoy, Susan Horton, Chessa K. Lutter, Jose C. Martines, Ellen G. Piwoz, Linda M. Richter, and Cesar G. Victora. "Why invest, and what it will take to improve breastfeeding practices?" *The Lancet Breastfeeding Series* 387, no.10017 (2016): 491-504. [https://doi.org/10.1016/S0140-6736\(15\)01044-2](https://doi.org/10.1016/S0140-6736(15)01044-2).
- 152 Rollins, Nigel, Nita Bhandari, Nemat Hajeebhoy, Susan Horton, Chessa K. Lutter, Jose C. Martines, Ellen G. Piwoz, Linda M. Richter, and Cesar G. Victora. "Why invest, and what it will take to improve breastfeeding practices?" *The Lancet Breastfeeding Series* 387, no.10017 (2016): 491-504. [https://doi.org/10.1016/S0140-6736\(15\)01044-2](https://doi.org/10.1016/S0140-6736(15)01044-2).
- 153 World Health Organization. "10 facts on breastfeeding." Accessed September 2019. <http://www.who.int/features/factfiles/breastfeeding/facts/en/>.
- 154 World Health Organization. "10 facts on breastfeeding." Accessed September 2019. <http://www.who.int/features/factfiles/breastfeeding/facts/en/>.
- 155 Branca, Francesco and Werner Schultink. "Breastfeeding in emergencies: a question of survival." WHO Commentary, May 20, 2016. <http://www.who.int/mediacentre/commentaries/breastfeeding-in-emergencies/en/>.
- 156 Branca, Francesco and Werner Schultink. "Breastfeeding in emergencies: a question of survival." WHO Commentary, May 20, 2016. <http://www.who.int/mediacentre/commentaries/breastfeeding-in-emergencies/en/>.
- 157 Alive & Thrive. *Using Multiple Platforms For Change In The Context Of High Malnutrition: Alive & Thrive's Approach And Results in Bangladesh*. Alive & Thrive, 2014. <https://www.aliveandthrive.org/wp-content/uploads/2018/04/country-profile-BD.pdf>.
- 158 Alive and Thrive. "How We Work." Accessed September 2019. www.aliveandthrive.org/how-we-work/.
- 159 Rollins, Nigel, Nita Bhandari, Nemat Hajeebhoy, Susan Horton, Chessa K. Lutter, Jose C. Martines, Ellen G. Piwoz, Linda M. Richter, and Cesar G. Victora. "Why invest, and what it will take to improve breastfeeding practices?" *The Lancet Breastfeeding Series* 387, no.10017 (2016): 491-504. [https://doi.org/10.1016/S0140-6736\(15\)01044-2](https://doi.org/10.1016/S0140-6736(15)01044-2).
- 160 Menon, Purnima, et al. "Impacts on Breastfeeding Practices of At-Scale Strategies That Combine Intensive Interpersonal Counseling, Mass Media, and Community Mobilization: Results of Cluster-Randomized Program Evaluations in Bangladesh and Viet Nam." *PLOS Medicine* 13, no. 10 (2016). <https://doi.org/10.1371/journal.pmed.1002159>.
- 161 Branca, Francesco and Werner Schultink. "Breastfeeding in emergencies: a question of survival." WHO Commentary, May 20, 2016. <http://www.who.int/mediacentre/commentaries/breastfeeding-in-emergencies/en/>.
- 162 Guttmacher Institute. "Greater Investments Needed to Meet Women's Sexual and Reproductive Health Needs in Developing Regions." Last modified December 6, 2017. <https://www.guttmacher.org/news-release/2017/greater-investments-needed-meet-womens-sexual-and-reproductive-health-needs>.
- 163 *Focus on Five Women's Health and the MDGs*. 2010. <https://www.unfpa.org/sites/default/files/pub-pdf/Focus-on-5.pdf>.
- 164 *Adding It Up: Investing in Contraception and Maternal and Newborn Health, 2017*. New York: Guttmacher Institute, 2017. <http://www.guttmacher.org/fact-sheet/adding-it-up-contraception-mnh-2017>.
- 165 *Adding It Up: Investing in Contraception and Maternal and Newborn Health, 2017*. New York: Guttmacher Institute, 2017. <http://www.guttmacher.org/fact-sheet/adding-it-up-contraception-mnh-2017>.
- 166 International Food Policy Research Institute. *Global Nutrition Report 2016: From Promise to Impact: Ending Malnutrition by 2030*. Washington, D.C.: International Food Policy Research Institute, 2016. <http://www.ifpri.org/publication/global-nutrition-report-2016-promise-impact-ending-malnutrition-2030>.
- 167 Bhutta, Zulfiqar A., Jai K. Das, Arjumand Rizvi, Michelle F. Gaffey, Neff Walker, Susan Horton, Patrick Webb, Anna Lartey, and Robert E. Black. "Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost?" *The Lancet* 382, no. 9890 (2013): 452-477. [https://doi.org/10.1016/S0140-6736\(13\)60996-4](https://doi.org/10.1016/S0140-6736(13)60996-4).
- 168 Bhutta, Zulfiqar A., Jai K. Das, Arjumand Rizvi, Michelle F. Gaffey, Neff Walker, Susan Horton, Patrick Webb, Anna Lartey, and Robert E. Black. "Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost?" *The Lancet* 382, no. 9890 (2013): 452-477. [https://doi.org/10.1016/S0140-6736\(13\)60996-4](https://doi.org/10.1016/S0140-6736(13)60996-4).
- 169 Save the Children. *State of the World's Mothers: Nutrition in the First 1,000 Days*. Save the Children, 2012. <http://www.savethechildren.org/atf/cf/%7B9def2ebe-10ae-432c-9bd0-df91d2eba74a%7D/STATE-OF-THE-WORLDS-MOTHERS-REPORT-2012-FINAL.PDF>.



- 170 Save the Children. *State of the World's Mothers: Nutrition in the First 1,000 Days*. Save the Children, 2012. <http://www.savethechildren.org/atf/cf/%7B9def2ebe-10ae-432c-9bd0-df91d2eba74a%7D/STATE-OF-THE-WORLDS-MOTHERS-REPORT-2012-FINAL.PDF>.
- 171 Belizan, Jose and Suellen Miller. "True Costs of Maternal Death." *Reproductive Health* 12, Supplement 1 (2015). <http://www.reproductive-health-journal.com/supplements/12/S1>.
- 172 Belizan, Jose and Suellen Miller. "True Costs of Maternal Death." *Reproductive Health* 12, Supplement 1 (2015). <http://www.reproductive-health-journal.com/supplements/12/S1>.
- 173 Moucheraud, Corrina, Alemayehu Worku, Mitike Molla, Jocelyn E. Finlay, Jennifer Leanin, and Alicia Ely Yamin. "Consequences of Maternal Mortality On Infant And Child Survival: A 25-Year Longitudinal Analysis in Butajira Ethiopia (1987–2011)." *Reproductive Health* 12, Supplement 1 (2015). <http://reproductive-health-journal.biomedcentral.com/articles/10.1186/1742-4755-12-S1-S4>.
- 174 Belizan, Jose and Suellen Miller. "True Costs of Maternal Death." *Reproductive Health* 12, Supplement 1 (2015). <http://www.reproductive-health-journal.com/supplements/12/S1>.

