ISGlobal
Barcelona Institute for Global Health

Political Will, Resources and Innovation: Three Key Factors for Improving Women's and Children's Health

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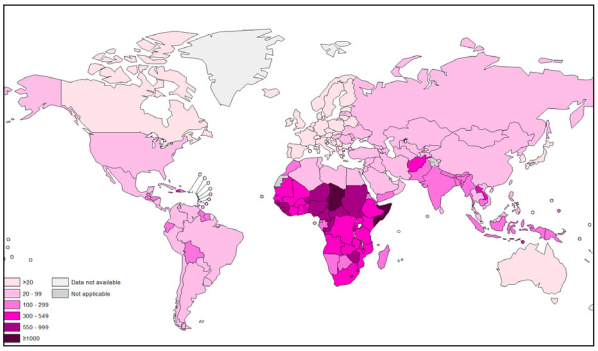
The last 30 years have witnessed numerous initiatives and international conferences that have set ambitious targets for reducing **maternal mortality** in developing countries.[1] Progress, however, has been slow and uneven, with **global health indicators showing that maternal health is still the area in which the greatest inequities exist.**

Maternal mortality rate (per 100,000 live births), 2010



Source: WHO 2010

According to the latest estimates[2], maternal mortality has been reduced by 47% since 1990, but **287,000 women still die every year** from avoidable pregnancy-related causes, such as obstetric haemorrhage, infection, (septicemia in most cases), hypertensive disorders (eclampsia), and obstructed labour.

While considerable progress has been made in certain regions, in particular Northern Africa, Latin America, and certain parts of Asia, **the Millennium Development Goal 5 (MDG5)** target of reducing the maternal mortality ratio by 75% between 1990 and 2015 will not be achieved. There are still major disparities across regions. **Sub-Saharan Africa is still the developing region with the highest maternal mortality ratio, at 500 maternal deaths per 100,000 live births, and the ratio in developing regions (240) is 15 times that in developed regions (16).**

Most maternal deaths occur in a small number of regions (sub-Saharan Africa and Southern Asia) and countries. India, with 56,000 deaths (19%), and Nigeria, with 40,000 deaths (14%), for example, account for a third of all maternal deaths. And just 10 countries —India, Nigeria, the Democratic Republic of the Congo, Pakistan, Sudan, Indonesia, Ethiopia, Tanzania, Bangladesh, and Afghanistan— account for 60% of all maternal deaths worldwide.

There are also major gaps within developing countries and countries in transition. Socioeconomic factors and gender inequality are important contributory factors to maternal mortality within what is known as the three delays model: delay in seeking medical help, delay in reaching a health care facility, and delay in receiving adequate care once a facility has been reached. **Just 10% to 30% of women in the poorest quintile have access to skilled medical care during labour,** a time

[1] 1987 Safe Motherhood Conference (Nairobi), 1990 World Summit for Children, 1994 International Conference on Population and Development (Cairo), 1995 Fourth World Conference on Women (Beijing), 2000 United Nations Millennium Summit (New York), 2005 Partnership for Maternal, Newborn & Child Health, 2010 The Muskoka Initiative to reduce maternal, newborn, and child mortality, 2010 UN Global Strategy for Women's and Children's Health.

[2] Trends in Maternal Mortality: 1990-2010, WHO, UNICEF, UNFPA, The World Bank, 2012.

when their lives are at greatest risk. In the wealthiest quintile, between 70% and 90% of mothers-to-be have access to this care.[3] Finally, in sub-Saharan Africa, only 46% of infants are delivered in a health care facility (the global rate is 65%).

Access to **antenatal care** is also crucial for preventing risks to both the mother and the fetus, as adequate medical care during pregnancy can contribute to the early detection of complications (e.g., anaemia, bleeding, hypertension) and chronic or infectious diseases that require treatment and monitoring. This is particularly important in sub-Saharan Africa, which has the highest burden of diseases that can be transmitted from mother to child, such as HIV/AIDS or malaria, which can be prevented with intermittent preventive treatment (IPT).

In some areas, these **indirect causes** are responsible for more deaths than direct obstetric causes.[4] At least four antenatal care visits are recommended for pregnant women. However, just 50% of women in the developing world and 43% of those in sub-Saharan Africa receive these visits.[5]

The most effective way of reducing maternal mortality is to increase access to and use of obstetric services and to improve the quality of care provided before, during, and after pregnancy.

Causes of Maternal Mortality in Mozambique: The Contribution of Infectious Diseases

According to an autopsy study of maternal mortality at Hospital Central de Maputo, a tertiary level referral hospital for Mozambique, 38% of maternal deaths between 2002 and 2004 were due to obstetric complications.[6] Over half (56%) of the deaths, however, were caused by infectious diseases such as HIV/AIDS, bacterial pneumonia, and severe malaria, despite the existence of effective treatments for these diseases.

The results of this study highlight the need to identify the causes of maternal mortality to inform planning policies, the allocation of resources, and the implementation of follow-up programmes. Determining the causes of maternal death may also help to apply local pressure to bring about actions and to demand that health care providers and management professionals act in accordance with the data available.

The MDG 5 incorporated a second target in 2006, namely to achieve **universal access to reproductive health by 2015**. There is clear evidence that access to contraception is key to alleviating poverty, improving the likelihood of raising healthier and better educated children, and fostering economic growth, productivity, and environmental sustainability. [7]

Lack of access to family planning information, services, and supplies has a major impact on maternal health. Sub-Saharan Africa and Southern Asia, for example, have the highest maternal mortality rates but they also have the lowest rates of contraception use. **Preventing pregnancy or spacing births could reduce maternal deaths by as much as a quarter**. However, this is not an option for the 215 million women in developing countries who do not have access to contraception.

Under-five mortality was reduced by a third between 1990 and 2008, but almost 8 million

[3] Women Deliver for Development, 2007 Background paper, by Kirrin Gill, Rohini Pande, Anju Malhotra.

[4] Trends in Maternal Mortality: 1990-2010, WHO, UNICEF, UNFPA, The World Bank, 2012.

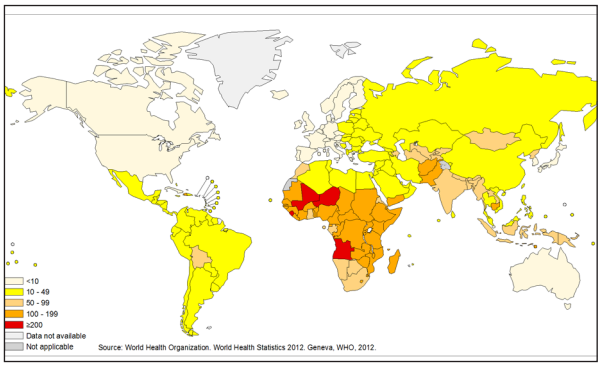
[5] The Millennium Development Goals Report, 2011.

[6] An autopsy study of maternal mortality in Mozambique: The contribution of infectious diseases, PloS Medicine 5/2):e44 Clara Menéndez et al.

[7] Adding it up: The Costs and Benefits of Investing in Family Planning and Maternal and Newborn Health, UNFPA and the Guttmacher Institute, 2009.

deaths still occur in this age group every year, the majority (81%) in sub-Saharan Africa and Southern Asia. **The progress made to date is insufficient to meet the MDG 4 target of reducing under-five mortality by 75% between 1990 and 2015**. The **neonatal period** is the most critical time as of the 8 million children who die before the age of 5, 3 million do not survive their first month of life.

Under-five mortality rate (probability of dying by age 5 per 1,000 live births), 2010



Source: WHO 2010

Most under-five deaths in low-income countries are attributable to **six causes**: pneumonia (18%); diarrhoeal diseases (18%); malaria (9%); malnutrition and neonatal complications such as prematurity (10%); asphyxia (9%); and infections (6%).[8]

Many of these deaths could be avoided with the adequate use of evidence-based technology, prevention and treatment tools, and cost-effective measures such as vaccines, antibiotics, micronutrient supplements, and insecticide-treated mosquito nets.

Towards Evidence-Based Policies

Evidence shows that successful women's health interventions have a ripple effect on women themselves, their children, their dependents, their communities, and their countries.[9] Improvements to women's health, and maternal health, in particular, is crucial for development.

Nonetheless, political leaders across the globe, in both countries with the highest maternal mortality rates and donor countries, and international agencies have largely ignored or failed in their efforts to make maternal health a priority. In short, there has been a lack of political will and allocation of adequate resources.

Official development assistance to health has tripled in the last decade, yet the proportion allocated to reproductive health and family planning has not increased.[10]

Women's and Children's health in figures[11]**...**

- 287,000 maternal deaths every year
- 40% of births without skilled attendance
- 215 million women without access to contraception
- 20 million unsafe abortions
- 7.6 million under-five deaths (40% in the first year of life)

To reduce maternal and infant mortality, we need to allocate more economic resources, improve mechanisms to ensure the accountability of international aid efforts, and move maternal health to the top of the political agenda worldwide.

However, more and better national and international data on the causes of death and on the barriers to expanding coverage are also needed, as are effective measures to tackle the uneven distribution of health care services.

There are still critical knowledge gaps that can only be filled by field research. Innovation is necessary to create tools that will lead to better and more effective application of knowledge generated in low and medium-resource settings.

To this end, together with the World Health Organization, the Barcelona Institute for Global Health, (ISGlobal) is working to develop a **prioritised, coordinated research agenda for women's and children's health** aimed at promoting dialogue between decision makers and academics through a global network of academic and research institutions. This network is the contribution of the scientific and academic community to **the UN Global Strategy for Women's and Children's Health**[12],

[8] WHO, World Health Statistics 2011.

[9] World development report 2012: gender equality and development, The World Bank.

[10] ODA increased from $6557 million to $19,790 millions between 2000 and 2009, but the proportion allocated to reproductive health and family planning remained the same or decreased, depending on the year. The Millennium Development Goals Report 2011.

[11] WHO data 2008.

[12] http://www.everywomaneverychild.org/

launched by the UN Secretary-General in September 2010 in response to the poor progress that has been made towards achieving MDGs 4 and 5.

In Spain, ISGlobal has called for the government to include **R&D initiatives targeting maternal, infant, and reproductive health in its cooperation development programme** to help inform policy decisions regarding interventions in the countries in which it is active. R&D in this field will contribute to accelerating the development and implementation of research products and intervention strategies that will reduce mortality and morbidity in women, newborns and children.

Our Work in Women's and Children's Health

In the last two decades, ISGlobal has contributed to achievements in women's and children's health through research, training, and technical cooperation projects in the following **areas**[13] :

- Causes of maternal and neonatal morbidity and mortality
- HIV/AIDS and other sexually transmitted diseases, with a focus on the impact of HIV infection on the health of the mother and the survival of the newborn.
- Malaria in pregnancy and newborns, with a focus on malaria control strategies for pregnant women, such as IPT, insecticide-treated nets, cost-effectiveness studies; the impact of malaria during pregnancy on infant mortality and the risk of malaria morbidity in the newborn; and research into alternatives to current antimalarial drugs
- Basic and emergency obstetric care
- Mother-to-child transmission of infectious diseases (HIV, Chagas disease)
- Cervical cancer: feasibility of vaccination to prevent human papillomavirus infection
- Respiratory diseases
- Diarrhoeal diseases
- Vaccines and immunisation

From Innovation to the Health Policy Agenda: Intermittent Preventive Treatment for Malaria in Children

Malaria is responsible for an estimated 243 million clinical cases and 863,000 deaths every year, and over 85% of these cases and 90% of these deaths occur in sub-Saharan Africa and in children.

The World Health Organization (WHO) has recommended intermittent preventive treatment during infancy (IPTi) since 2010. This treatment consists of administering an antimalarial drug to children during routine childhood vaccinations.

Sulfadoxine-pyrimethamine, the antimalarial used in African regions where malaria is transmitted by *Plasmodium falciparum*, has proven to be cheap, safe, and effective, and overall, IPTi has proven to an effective tool for preventing malaria and anemia in sub-Saharan Africa. Its administration as part of routine immunization programmes provides protection for at least 6 weeks post-treatment and reduces the incidence of malaria by 30%.

The WHO recommendation[14] is based on the results of seven studies of sulfadoxine-pyrimethamine IPTi in areas with moderate and high rates of malaria transmission. IPT in children is an example of how innovation has contributed to the creation of a tool for tackling a serious health problem and placing it on the political agenda.

[13] Through projects conducted at the CRESIB (Barcelona Centre for International Health Research) and other associated organisations, including Fundació Clínic para la Recerca Biomèdica-Hospital Clínic de Barcelona, IDIBAPS, and CISM.

[14] WHO Policy recommendation on Intermittent Preventive Treatment during infancy with sulphadoxine-pyrimethamine (SP-IPTi) for *Plasmodium falciparum* malaria control in Africa, 2010. Schellenberg D, Menendez C, Kahigwa E, Aponte J, Vidal J, Tanner M, et al. Intermittent treatment for malaria and anaemia control at time of routine vaccinations in Tanzanian infants: a randomised, placebo-controlled trial. Lancet 2001;357(9267):1471-7;Schellenberg D, Menendez C, Aponte JJ, Kahigwa E, Tanner M, Mshinda H, et al. Intermittent preventive antimalarial treatment for Tanzanian infants: follow-up to age 2 years of a randomised, placebo-controlled trial. Lancet 2005;365(9469):1481-3.