

# MATERNAL AND CHILD SURVIVAL:

## Findings from five countries' experience in addressing maternal and child health challenges

Rafael Cortez, Seemeen Saadat, Sadia Chowdhury and Intissar Sarker

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## **Health, Nutrition and Population (HNP) Discussion Paper**

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# Health, Nutrition and Population (HNP) Discussion Paper

## Maternal and Child Survival:

### *Findings from five countries' experience in addressing maternal and child health challenges*

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This paper was prepared as part of a Joint initiative on Maternal and Child Health undertaken by the World Bank, the Partnership for Maternal, Newborn, and Child Health (PMNCH), the World Health Organization (WHO), United States Agency for International Development (USAID), Alliance for Health Policy and Systems Research (AHPSR), Johns Hopkins University, Global Health Insights, London School of Hygiene and Tropical Medicine, University of St Gallen, Cambridge Economic Policy Associates and MamaYe– Evidence for Action. Details about this initiative are available at: <http://www.who.int/pmnch/knowledge/publications/successfactors/en/>

**Abstract:** Considerable progress has been made towards the achievement of the Millennium Development Goals (MDGs) since 1990. Although advances in improving MDG 4 and MDG 5a (reducing child and maternal mortality, respectively) have been made, progress in some countries has been insufficient. While some countries have made substantial gains, others have not. This paper is part of a larger study that aims to address this gap in knowledge. The paper discusses the findings from qualitative case studies of five countries that are either on track to meet MDGs 4 and 5a by 2015 or have made significant progress to this end (Bolivia, China, Egypt, Malawi and Nepal). Although they have different socio-economic characteristics, all have made significant advancements due to a strong commitment to improving maternal and child health. To do this, strong political commitment, through policies backed by financial and programmatic support, was critical. In addition, focusing on the most vulnerable populations helped increase access to and use of services. Empowering women and families through education, employment, and poverty reduction programs have led to better health outcomes. These countries still face challenges, however, in terms of the evolving health system, and changes at the economic, social and political levels. Future qualitative and quantitative analyses on the returns of health investments, the political context and institutional arrangements at the country level could help deepen the understanding of the ways in which various countries, with their unique conditions, can improve MCH.

**Keywords:** Reproductive, Maternal, Child, Neonatal, Health, Fertility, Adolescent, Family Planning, Immunization, Childhood Illness, Survival, Mortality, Community, Health Workers, Skilled Birth Attendance, Service Delivery, Healthcare Financing, Insurance, Empowerment, Leadership, Poverty

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## INTRODUCTION

1. Since 1990, progress has been made towards the achievement of the Millennium Development Goals (MDGs), which include, among others, reducing extreme poverty, attaining universal primary education, and promoting gender equality. Despite some success in Reproductive, Maternal, Newborn and Child Health (RMNCH), progress on MDG 4 and MDG 5a (reducing child and maternal mortality, respectively) has been limited in many high burden countries. Of the 75 countries with the highest rates of maternal and child mortality (identified by the Countdown to 2015 Initiative<sup>1</sup>), 23 are “on track” to achieve MDG 4, and 9 to meet MDG 5a (WHO and UNICEF 2010; UNICEF 2012; WHO 2012). Of these, only 8 are on track for both, including Bangladesh, Cambodia, China, Egypt, Eritrea, the Lao People’s Democratic Republic, Nepal, and Vietnam. This list has been updated since 2010 when the project was first launched. At that time, Bolivia was also on track to meet MDG 5, but new estimates indicate that Bolivia is “making progress.”

2. Progress in improving RMNCH varies. While some countries have made substantial gains, others with similar socio-economic conditions and demographic markers, have not. Also, and as this study highlights, countries with different socio-economic characteristics have reduced maternal and child mortality and morbidity. Unfortunately, there are only a few cross-country analyses of policies to identify the factors contributing to successful RMNCH results (Goodburn and Campbell 2001). This study is part of a larger project that aims to address this gap in knowledge.

3. This paper reviews qualitative case studies of five countries (Bolivia, China, Egypt, Malawi and Nepal) that are either on track to meet MDG 4 and MDG 5a by 2015 or have made significant progress to this end. The paper compares the main findings across the five countries, presents the methodology and country contexts, and conclusions.

## METHODOLOGY

4. Five countries were selected for in-depth studies due to the progress that they have made in improving RMNCH outcomes. The cases were selected to maximize the quality and amount of data collection and analysis through other sources. They were built on primary and secondary information collected through (a) interviews with key individuals; (b) statistical data from secondary sources such as demographic health surveys, world development indicators, and the World Health Organization (WHO) global observatory; and (c) analytical reports, journal articles, and policy/program documents on health and related fields.

5. Criteria for selecting the countries included: (a) progress on MDG 4 and/or MDG 5a as noted by the Countdown to 2015 Initiative, (b) availability of information, and (c)

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<sup>1</sup> “Countdown to 2015 tracks coverage levels for health interventions proven to reduce maternal, newborn and child mortality. It calls on governments and development partners to be accountable, identifies knowledge gaps, and proposes new actions to reach Millennium Development Goals 4 and 5 to reduce child mortality and improve maternal health” (<http://www.countdown2015mnch.org/>).

capacity to conduct stakeholder interviews in the countries. When the countries were selected in 2010, only five were on track to meet both MGDs, including Bolivia, China, Egypt, Eritrea, and Equatorial Guinea (WHO 2010<sup>2</sup>). While both Eritrea and Equatorial Guinea were considered possible, they did not completely meet the criteria at that time. Malawi and Nepal were included to provide a broad geographic representation. Although the Countdown and United Nations inter-agency maternal mortality data indicate that Nepal is “making progress” on MDG 5, data from the Nepal Maternal Mortality and Morbidity Survey 2008–2009 show the country will meet its MDG 5a goal.<sup>3</sup> Malawi has made significant progress in improving child health, as shown by a decline in the under-five mortality rate from 209 deaths per 1,000 live births in 1990 to 92 deaths in 2010; however, although not on track for MDG 5, the country has made significant progress in reducing maternal mortality from 1,100 deaths per 100,000 live births in 1990 to 460 deaths in 2010, indicating a 4.4 percent annual decline.

6. Interviews were held with key stakeholder groups: (a) governments (eg. Ministries of health, finance, and planning), (b) multilateral organizations (eg. WHO, World Bank, United Nations Population Fund [UNFPA], and UNICEF), (c) donors (eg. Bilateral agencies and foundations), (d) health professional associations, (e) academic and research institutions, (f) NGOs and civil society, and (g) the private sector.

7. Studies focused on: (a) MCH programs and related policies; (b) service delivery methods, financing, and other sector factors as they apply in each country; and (c) socio-economic factors such as education, women’s empowerment, social inclusion, and poverty reduction in lowering inequities and creating an enabling environment for better MCH.

## COUNTRY CONTEXT

8. The countries reflect five different contexts. Each has a unique social, economic, and political history that has shaped the way they address MCH. For example, China is an emerging market with a strong socialist government. Nepal is a post-conflict country that was a monarchy until 2006. Egypt, due to social and political upheaval, still faces challenges to accelerate gains in maternal and child health. Bolivia’s policies, since 2005, have changed the social and political climate. Malawi held its first multi-party elections in 1994.

9. All have reduced poverty in the last two decades. In China, the proportion of people living under US\$1.25 a day dropped from 60 percent in 1990 to 11.8 percent in 2009. Nepal almost halved the number of those in extreme poverty from 53.1 percent in 2003 to 24.8 percent in 2010. In Malawi, with the highest proportion of people living in poverty of the five countries, the figure dropped in the last 10 years from 83 percent to 61 percent. Bolivia, where extreme poverty in the 1990s grew from 5 percent to 26.9 percent, reversed the trend, with 15.6 percent now living on under US\$1.25 a day

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<sup>2</sup> Interagency Maternal Mortality Estimates with data from 2008, which were available during the design of the study.

<sup>3</sup> Nepal also received the 2010 MDG Award for Improving Maternal Health and for being on track to achieve MDG 5.

10. Labor force participation is moderately high in all five countries (70 percent or above). While it is slightly lower for females than males, nearly half the labor force is comprised of women and participation rates range between 64 and 80 percent. The only exception is Egypt, where the female rate of participation is extremely low at 25 percent, and is likely reflective of a combination of factors such as labor market opportunities, occupational segregation, limited mobility, and social norms (see for example Assaad and Arntz 2005; Assaad 2007).

11. Although gaps exist between male and female literacy, over half the population in all of the countries is now literate. Their investment in basic education has ensured universal primary schooling; however, differences emerge at the secondary level. In China, secondary enrollment is about 80 percent, while in Nepal it is about 40 percent. What is clear though is that in each country, gender parity in enrollment at the secondary level is high. Thus, although the number for Nepal is low, almost the same proportion of boys and girls attend.

**Table 1: Socio-economic and Human Development Indicators**

Indicator	Bolivia	China	Egypt	Malawi	Nepal
GNI per capita, PPP (constant 2005 int'l \$) 2011-12	4251	7917	5654	650 <sup>a</sup>	1289
Population (Total, in millions) 2012	10.5	1351	80.7	15.9	27.5
Population growth (annual %) 2012	1.7	0.5	1.7	2.9	1.2
Poverty headcount ratio at \$1.25 a day (PPP) (% of population) 2008-10	15.6 <sup>d</sup>	11.8 <sup>c</sup>	1.7 <sup>d</sup>	61.6 <sup>b</sup>	24.8 <sup>b</sup>
Age dependency ratio (% of working-age population) 2012	67	36	58	95	68
Labor force, female (% of total labor force) 2012	45	44	24	51	51
Labor force participation rate, female (% of female population ages 15+) 2012	64	64	24	85	80
Literacy rate, adult female (% of females ages 15+) 2009-12	86.8 <sup>c</sup>	92.7 <sup>b</sup>	66	51.3 <sup>b</sup>	46.7 <sup>a</sup>
Literacy rate, adult male (% of males ages 15+) 2009-12	95.8 <sup>c</sup>	97.5 <sup>b</sup>	82	72.1 <sup>b</sup>	71.1 <sup>a</sup>
Ratio of female to male primary enrollment (%) 2011-12	98 <sup>a</sup>	100	96	104	108
Ratio of female to male secondary enrollment (%) 2011-12	100 <sup>a</sup>	102	98	90	104
Human development index rank (out of 186 countries) 2012	108	101	112	170	157
Gender inequality index rank (out of 186 countries) 2012	97	35	126	124	102

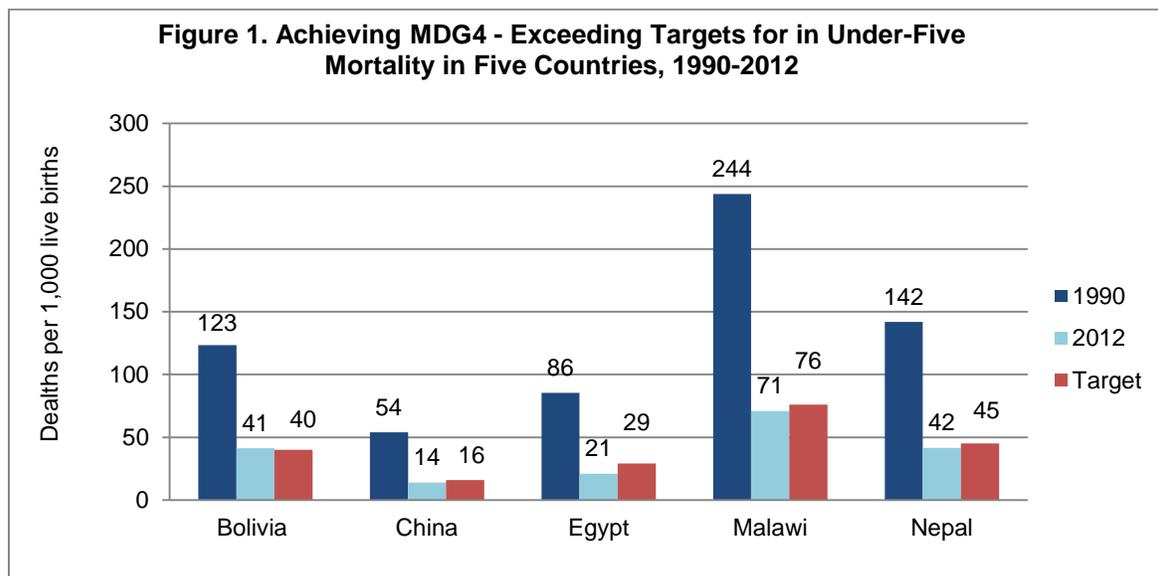
Source: UNDP 2013; WDI 2014. Accessed 4-24-14

Note: GNI = Gross national income; <sup>a</sup> =Year 2011, <sup>b</sup> =Year 2010, <sup>c</sup> =Year 2009, <sup>d</sup> =Year 2008

12. In short, the five countries either created equal opportunity for men and women or took steps to include women in the social and economic development of the country. Countries with higher per capita income and economic growth, of course, show higher levels of literacy, enrollment, and completion rates, as well as greater female

participation. Table 1 presents the key socio-economic and human development characteristics of these countries (Annex provides more details).

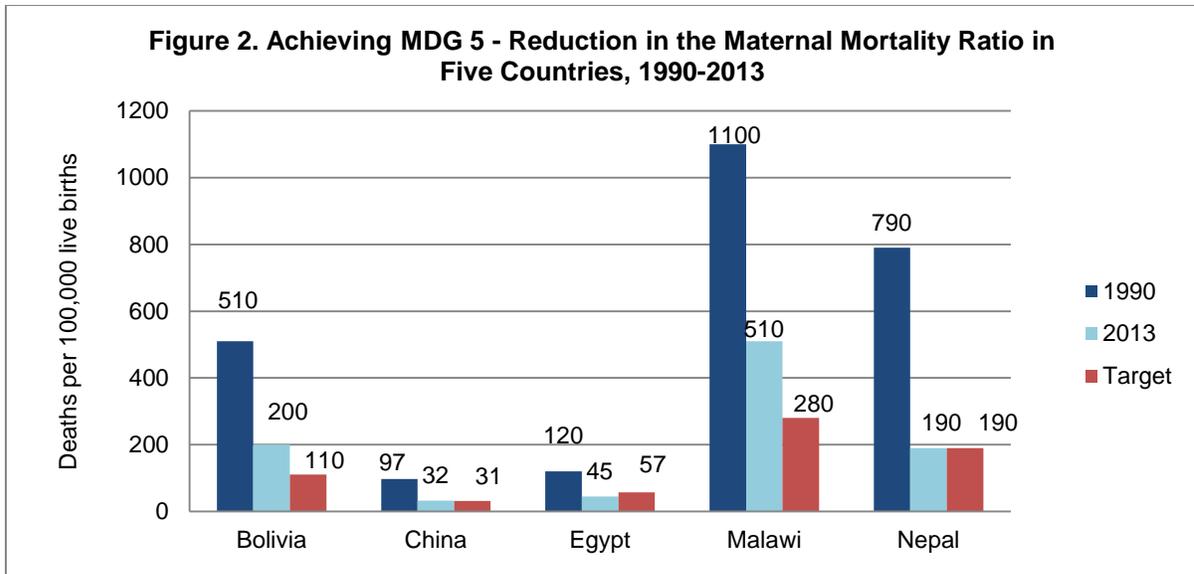
13. Each country has also made considerable progress in achieving its MDG 4 and MDG 5 targets. Malawi and Nepal, both low-income countries, experienced the largest absolute declines in maternal and child mortality (Figures 1 and 2) among the five countries. As of 2012, four of the five countries have achieved and exceeded the targets set for reducing child mortality (Figure 1). The only exception is Bolivia, which is just shy of meeting its target for under-five mortality, having reduced its child mortality by three-folds between 1990 and 2012.



Source: UNICEF 2013.

Maternal mortality ratio (MMR) for Bolivia has also declined considerably based on current projections.<sup>4</sup> China's gains are also impressive: In 1990, the country had a MMR of 120 per 100,000 live births, but it showed high level of inequalities across geographic areas. By 2010, health sector interventions focused on the poor and hard-to-reach populations, and on facility-based births (requiring high levels of resources). China had reduced its MMR to 32 deaths per 100,000 live births by 2013, which is comparable to high-income countries. Egypt focused on the gaps in service coverage to reduce its MMR by 71 percent and is expected to achieve its MDG 5 target. Malawi and Nepal have also made impressive gains, with maternal mortality declining by more than three times of what it was in 1990 (Figure 2).

<sup>4</sup> DHS 2008 data for Bolivia show a higher MMR. The results of the survey contradict interagency-modeled estimates for Bolivia's MMR. The general consensus seems to be that the decline in MMR has slowed. In the absence of a follow-up DHS or data collected through other sources such as a census, it is difficult to accurately assess maternal mortality information.



Source: WHO 2014.

## FACTORS THAT REDUCED MATERNAL MORTALITY

14. All five countries sought to eliminate barriers to access and use of services to improve MCH. Their investments to strengthen or expand health infrastructure, human resources, and subsidized or free maternal and child healthcare were the key factors to reducing maternal and child mortality.

### AFFORDABLE SERVICES FOR THE POOR

15. Several studies have found that financial support for MCH is vital, as it increases access to and use of services, especially among the poor (eg. Amazou et al 2012; Liljestrand et al. 2012; Sousa et al. 2010). Other studies on countries as diverse as Niger, Uganda, Thailand, and Brazil also found that eliminating user fees, either for women and children, or population wide, was linked to reducing child and maternal mortality (eg. Vapattanawong et al. 2007; Sousa et al. 2010; Mbonye et al. 2012; Amazou et al. 2012). All five countries have some form of health insurance or incentive for MCH, which have helped lower the households' financial burdens and empowered women and mothers to seek care.

16. Programs in the countries have targeted specific populations—the poor, those in rural areas, women, and children—to maximize gains. In China, for example, health insurance offered to poor, rural populations through the New Rural Cooperative Medical Scheme (NCMS) eased some of the burden associated with the high cost of health care. In the rural, western provinces the NCMS included MCH components, and as a result there was an increase in institutional deliveries from 45 percent in 2002 to 80 percent in 2007 (Long et al. 2010). Similarly, incentives under China's Two Reduction Program (Safe Motherhood Program) supported facility-based births for the rural, poor; subsequently, 95 percent of total deliveries are now in institutions. During the same period, the MMR declined from just under 120 per 100,000 live births to approximately

60, and neonatal mortality dropped from approximately 20 to just under 12 deaths per 1,000 live births (Feng et al. 2010; Wang and Liu 2011). Egypt's student health insurance, introduced in 1993, helped bring school children into the public health insurance system, and in 1997, extended it to children under one through a ministerial decree. The program has been linked to increased use of child health services across all income groups for school going children, although the largest gains seem to have been made among middle-income groups (World Bank 2009; Nandakumar et al 2000; Yip and Berman 2001).

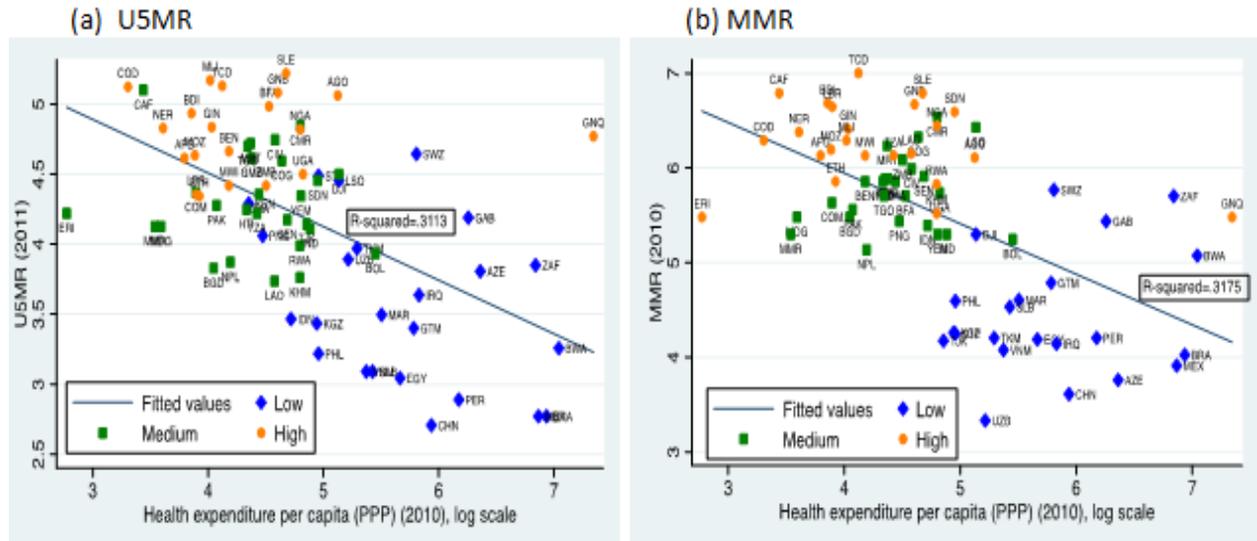
17. Nepal introduced cash incentives to encourage poor women to seek pregnancy-related care, with women in the poorest and more remote regions receiving the highest amounts in cash transfers.. Conditional cash transfers were introduced under the Safe Motherhood Incentives Program (SDIP) in 2005. The program pays women to attend four pre-natal visits, have skilled delivery care, and attend one post-natal session, after the program is completed. Cash transfers are based on the region's income level, and range from Nepalese rupees (NPR) 500 (US\$5.6 at the current exchange rate) in the plains (Terai) districts (richer regions) to NPR 1,500 (US\$16.9) in the mountain districts (poorest regions). After the program was in operation for one year, deliveries with trained birth attendants increased from 20 to 30 percent, and women who knew about the SDIP are now 26 percent more likely to deliver in a public health facility compared to those who did not receive the incentives (Ensor, Clapham, and Prasai 2009; Hanson and Powell-Jackson 2010).

18. Besides health insurance and conditional cash transfers, some countries offer free health services to women and children so as to increase their use. Bolivia has provided free MCH care through their maternal and child health insurance program (SUMI/SAFICI) since 1996. From 1994-2003, use of skilled birth attendants grew, and assisted deliveries rose from 5.3 percent to 21.1 percent among the poorest households, due to the programs. Institutional deliveries further increased from 57.1 percent to 67.5 percent during the Seguro Universal Materno Infantil period (2003-08) (Coa et al. 2008). Malawi removed user fees through an Essential Health Package, which included 11 free health interventions (including reproductive health and, prevention and treatment of HIV/AIDS and sexually transmitted infections). Once fees for MCH services were removed, outpatient visits rose from 0.8 to 1.2 per capita annually (Vaillancourt 2009). In 2009, Nepal also removed user fees for delivery-related care, and institutional deliveries soared from 17 to 33 percent the next year (Upreti et al. 2012).

19. In general, higher per capita health expenditures are positively associated with reducing maternal and child mortality. Quantitative mapping in the larger study identifies this association (Figure 3). Not surprisingly, countries with high maternal and child mortality generally have lower per capita health expenditures (AHPSR 2012). In fact, per capita health expenditures increased in all five countries, with differing spending levels (Figure 4). For example, Nepal and Malawi have significantly lower per capita expenditures compared to the other three. Conversely, China's per capita expenditure increased exponentially in the past decade, partly due to the rapid socio-economic development, the type of health systems investment, and the rising cost of health services, indicating that other factors are also associated with improving health outcomes. As seen in figures below, some outliers were able to reduce the rates with relatively low per capita

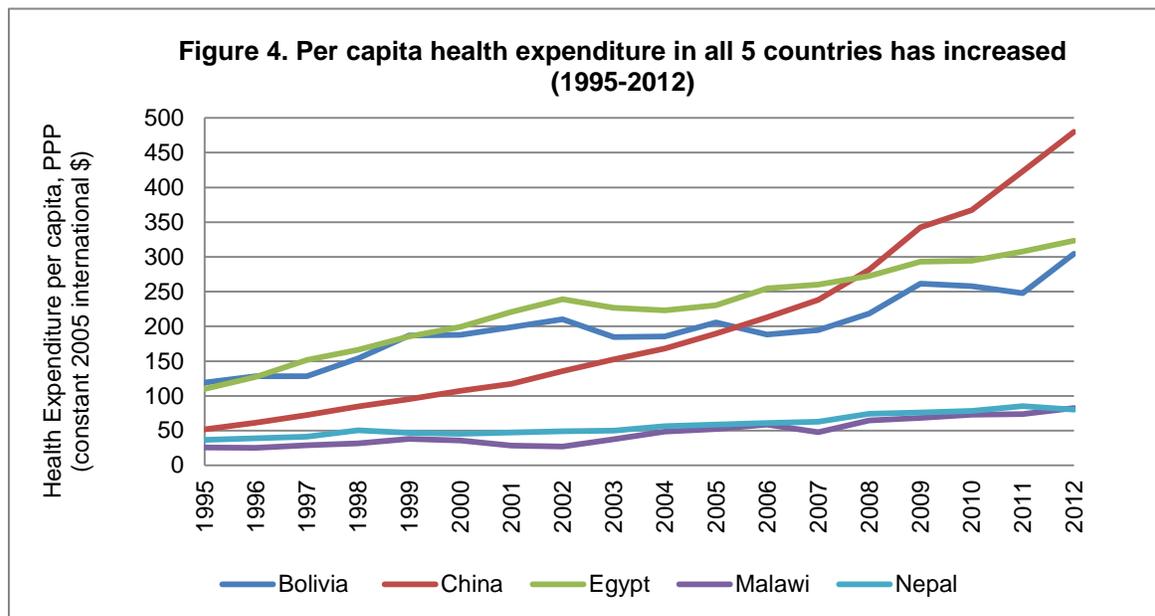
total health spending It is important, therefore, to explore how these outlier countries improved health outcomes with low per capita spending.

**Figure 3: Per capita health expenditure matters for child and maternal mortality reduction**



Source: Alliance for Health Policy and Systems Research (AHPSR) and Partnership for Maternal, Newborn, and Child Health (PMNCH) 2012

**Figure 4. Per capita health expenditure in all 5 countries has increased (1995-2012)**



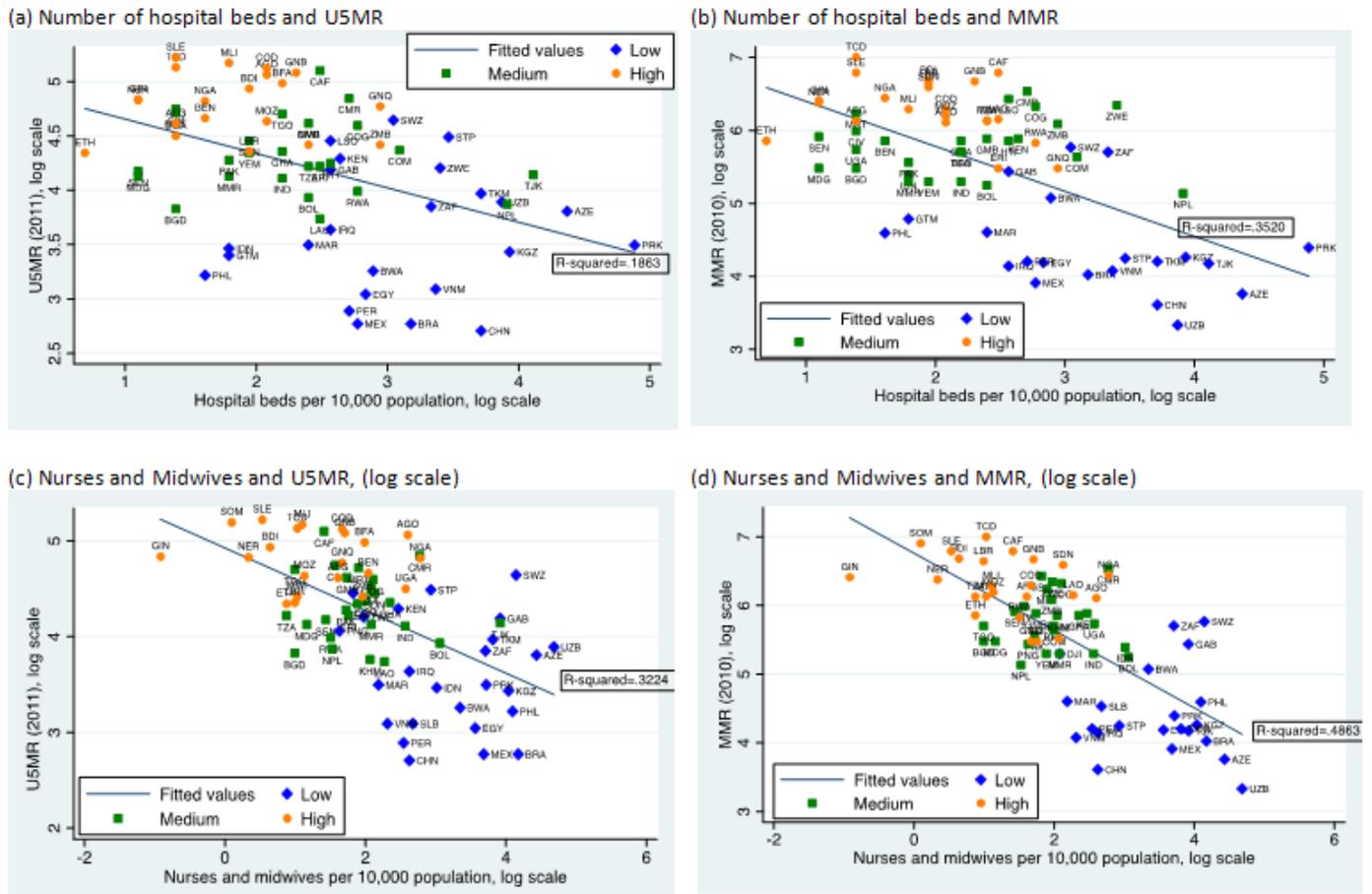
Source: WDI 2014. Accessed 4-25-14

### GEOGRAPHICALLY-ACCESSIBLE SERVICES

20. To improve MCH outcomes, it is vital to adapt services to specific needs and invest in the health system. Data from the Countdown to 2015 countries also shows positive correlations between service delivery and low maternal and child mortality (Figure 5) (AHPSR 2012).

21. There has also been a strong focus on providing primary health care and promoting skilled or facility-based births among the five countries. Although countries pursued slightly different strategies and models, based on the resources available and country context, the aim was to maximize coverage, focusing particularly on MCH.

**Figure 5: More health resources are positively associated with lowering maternal and child mortality**



Source: Alliance for Health Policy and Systems Research (AHPSR) and Partnership for Maternal, Newborn, and Child Health (PMNCH) 2012

22. In China and Egypt, the cornerstone of improved services has been a well-developed and organized system offering wide coverage. In China, to improve the weak health system of the 1950s, the government built a three-tier system that extensively covers both rural and urban populations. It also established special MCH hospitals and township centers to provide specialty care, focusing on facility-based births in the 1990s. Along with the Safe Motherhood Program, which aims to reduce maternal and neo-natal mortality, this has helped increase the number of facility-based births. In Egypt, where 60 percent of the population live in the Nile Delta, the high population density and well-developed infrastructure of roads and facilities (in Lower Egypt) mean most live close to health services (Campbell 2003; MoHP 2003). In fact, both rural and urban residents live within five kilometers of health facilities (El-Zanaty and Way 2006). More recently, through the Healthy Mother/Healthy Child Project, the government has increased

coverage to remote areas such as Upper Egypt. The World Bank also supported this endeavour through the Population Project (1996-2005), which encouraged family planning and smaller families, offering these services in rural, Upper Egypt. A key component of the project was the use of social change agents selected from the community. They conducted outreach to raise awareness about population issues, educated the population on behaviour change, and accompanied women to health clinics. On average, contraceptive prevalence rates (CPR) increased from 45 to 55 percent at the village level between 2000 and 2005, with improvements also at the district level (World Bank 2005).

23. Bolivia and Nepal also launched services in poor and rural areas. Both have substantial indigenous, remote, and/or poor populations, and have an increased need for social sector investments in these areas. By using community-based approaches, they brought services to people in settings where they would be most comfortable. In Nepal, authorities created village-level health posts and encouraged communities to use them, especially child health services (e.g., the integrated management of childhood illness, nutrition and, more recently, newborn care), a strategy similar to China's in the 1960s and 1970s. In Bolivia, when it expanded the acute respiratory infections program into indigenous areas, it drew on local slang in its Information, Education and Communication (IEC) campaign, and adopted some beneficial traditional practices (such as drinking herbal tea) into the program (Hudelson et al. 1995). The EXTENSA program brought an essential health services package, including immunizations and pre-natal and post-natal care to rural areas through mobile clinics. However, it did less well creating links between these communities and the formal health system (for follow-up care) which needed to be fostered. The Salud Familiar Comunitaria Intercultural Policy (Family, Intercultural and Community Health) also promoted outreach services for women and children, encouraging community engagement, particularly with indigenous populations (GHI 2012).

24. To improve coverage in underserved areas, authorities have met with civil society groups. In Malawi, where there are still gaps in the health infrastructure, the government engaged in a public-private partnership. In 2002, it signed Service Level Agreements with the Christian Health Association of Malawi, the second-largest provider of health services after the public sector, to provide free care to pregnant women and children in catchment areas not covered by public health services. In addition, a key component of Nepal's community-based approach has been to engage NGOs to deliver services in remote, rural regions.

25. For those developing health care programs, it is important to understand potential barriers to access. Often there are hidden costs to seeking health care, such as transport or the opportunity cost of time away from home (for deliveries at facilities). In Nepal, authorities addressed these costs by encouraging skilled and facility-based births. Its SDIP, and later the *Aama Surakshya Karyakram* or "Aama" program (Maternal Well-being Program), included a stipend to cover travel, which could sometimes cover as much as 50 percent of the transportation costs (Hanson and Powell-Jackson 2010). Similarly, by creating birthing centers at village-level health posts, it eased the burden of long trips over prolonged periods of time. Several other countries around the world, such

as Haiti, Indonesia, and Nicaragua, have pursued similar strategies to promote healthier births for rural women.

26. Countries have also invested in health workers, midwives, and a medical staff at the community level to provide essential MCH services. In Nepal, a large cadre of female community health volunteers carry out most of the local education and delivery services, functioning alongside health workers to provide education and outreach in areas such as health education, family planning, immunizations, and the integrated management of childhood illnesses. In Malawi, community-based workers such as Health Surveillance Assistants and distribution agents have been important, especially in rural areas. In China, authorities relied on “barefoot doctors” (community health workers) to reach the population.

27. To strengthen MCH services in villages in the 1980s, China created positions called Maternal and Child Health Clinicians; this staff worked part-time providing pre-natal services at the township level, and supervised village doctors and midwives. Since then, however, the country has developed professional cadres, and the midwives’ role has diminished. Whether this is the appropriate strategy remains to be seen as China has a shortage of health workers, especially in poor, rural areas. In fact, all of the countries studied need more health workers. The shortage is especially severe in Malawi, where the Emergency Human Resources Program has used salary top-ups, incentives, and training to increase the number, along with international volunteers as a short-term strategy. .

**Box 1: Key Reproductive, Maternal, Newborn, and Child Health Programs in Bolivia, China, Egypt, Malawi, and Nepal**

**Bolivia:** In addition to the health insurance programs targeting demand for services, critical to improving child health was continuous coverage under the Expanded Program of Immunization (EPI), launched in 1979 and revamped in 2000. Through its awareness campaign, mobile brigades and coordinated efforts to reach all populations, the EPI was successful in increasing immunization coverage from under 20 percent to nearly 80 percent between 1989 and 2008. Other important programs launched, and later merged into the Integrated Management of Childhood Illness (IMCI), – namely, the National Program to Combat Diarrhea and the Acute Lower Respiratory Infection Program – addressed some of the leading causes of child mortality in the 1980s. These programs incorporated local practices such as the use of herbal teas for coughs and fever with WHO recommended treatments as a strategy to gain acceptability among indigenous populations; and helped to reduce under-five mortality due to diarrhea and acute respiratory illnesses from 35.7 percent and 20.5 percent to 15 percent and 16 percent, respectively, between 1989 and 2008. More recently, to improve the nutritional status of women and children, Bolivia began the Zero Malnutrition Program. Between 2007 and 2010, under-two mortality due to severe malnutrition declined by 80 percent, while the proportion of women receiving a complete iron supplement treatment - increasing from 50.8 percent to 69.9 percent (DHS 1989, 2008; CIDA 2012; USAID 2010; World Bank 2008).

**China:** China’s *Two Reductions Program*, launched in 378 counties with high MMR in 2000 and later expanded to the whole country, aimed to reduce the high burden of maternal mortality and neonatal tetanus by promoting facility-based births. In addition to providing subsidized care to pregnant women, the program also builds the capacity of health workers. Between 2000 and 2006, facility-based births increased by 28 percent in counties where the program was implemented, and MMR due to hemorrhage dropped from 68 to 30 deaths per 100,000 live births. Neonatal tetanus also declined from 0.5 to 0.1 case

cases per 1000 live births. China's immunizations program has also helped to boost child health by reducing risk of serious illnesses like measles, diphtheria, and pertussis. To stimulate demand, and close coverage gaps, in the 1990s, China began to fund the program centrally and provide free coverage. Between 1995 and 2010 immunizations increased from 80 to 99 percent (Feng et al. 2010, Liu et al. 2010, Chen et al 2010; WDI 2013).

**Egypt:** A strong family planning program and childhood immunizations were critical in improving maternal and child health in Egypt. The family planning program, launched in the 1970s, focused on raising awareness, increasing contraceptive choices, developing local leadership, and generating ownership of service provision among health service providers to improve services. The program is credited with saving 3.8 million infants, more than 7 million children, and 18,000 maternal lives between 1980 and 2008. Immunizations also increased from 35 percent in 1988 to 80 percent children fully immunized by 1995, under the Child Survival Project. The project also supported programs to address leading causes of under-5 mortality in Egypt and is associated with a 59 percent decline in child mortality between 1985 and 1995. More recently, the Healthy Mother/Healthy Child Project, and Population Project have been important in addressing MCH in underserved and poor areas in Upper Egypt. Under the population project, contraceptive prevalence increased from 44 to 55 percent in target areas, whereas the Healthy Mother/Healthy Child project led to a 100 percent increase in facility based births, and contributed to the halving of national maternal mortality (USAID 2011; Campbell et al. 2005; Cobb et al. 1996; JSI 2005; World Bank 2005).

**Malawi:** Malawi has focused on child health since the 1970s, introducing the EPI, under which health surveillance assistants have played a critical role vaccinating children in rural areas, with nearly 81 percent of all children fully immunized as of 2010. The Child Lung Health Program (2000) addressed the problem of severe pneumonia, and is credited with reducing pneumonia related fatalities by 55 percent. The country also adopted the Emergency Triage Assessment and Treatment Program to address weaknesses in recognizing and managing the care of severely ill children. The program was simplified so it could be adopted by health workers who only have basic skills. Community based delivery of family planning in recent years has helped to raise contraceptive prevalence rate (CPR) from 23.5 to 36 percent during 1992-2000 in pilot districts – double the increase in control districts. Malawi's focus on malaria, nutrition, safe motherhood, and HIV/AIDS services, provided as part of community based package of interventions for MNCH, has also helped improve maternal and child health. The malaria program has been attributed with decreasing anemia in women aged 15 to 49 from 47 to 29 percent between 2001 and 2010, and according to data from sentinel surveys, the median HIV prevalence in pregnant women declined from 12.6 percent in 2007 to 10.6 percent in 2010 ( World Bank 2004; Soto et al. 2005; GoM 2012, 2013; Zimba et al. 2012).

**Nepal:** Safe motherhood has been an integral part of Nepal's health and development agenda. The Government of Nepal has invested in a comprehensive approach to addressing maternal and child health. This includes investment in infrastructure and equipment, training health personnel, monitoring and behavior change, promoting prenatal and postnatal care, skilled delivery, and emergency transport. Since the launch of the program, skilled birth attendance has increased from 7.4 percent in 1991 to 36 percent in 2011, and prenatal/postnatal visits have gone from 15.4 to 58.3 percent during the same time. On the demand side key interventions included subsidized MCH services. The family planning program, originally rooted in population concerns, and evolving within a framework of human and reproductive health rights, has helped to reduce fertility from 5.9 to 2.7 births per woman between 1976 and 2011. The program focuses on birth spacing, preventing unplanned pregnancies, managing adolescent reproductive health, and infertility. The government has also ensured coverage by providing health facilities at all levels, outreach clinics, and mobile voluntary surgical contraception camps. The Community-Based Integrated Management of Childhood Illness (CB-IMCI) program supports regular immunizations, and prevention and management of diarrhea and acute respiratory infections. Through nearly sustained coverage immunization rates in Nepal have reached 87 percent, and 69 percent of the under-five

population has coverage for pneumonia (Ghimire et al. 2010; Suvedi 2003; WDI 2013; Barker et al. 2007; HMG/N 2004).

## **MONITORING OUTCOMES TO EVALUATE ACCOUNTABILITY AND GOVERNANCE**

28. All of the countries studied have relied on surveillance, surveys, censuses, and other regularly collected data to design MCH policies and programs. Each has adopted and adapted surveillance and other systems to generate data, using it to set priorities and build accountability into their health information systems. China and Egypt have strong data collection systems that were initially linked to programs such as family planning and EPI, and later merged into an integrated Health Management Information System. In Bolivia, data collection on MCH was initially done for the health insurance programs and later combined with their information systems. The two low-income countries in this group—Nepal and Malawi—also adapted surveillance systems to monitor MCH outcomes. Nepal leveraged its polio surveillance system to monitor neo-natal tetanus, while Malawi used its HIV surveillance system to also monitor pregnant women (with surveillance at ANC stations).

29. Research has also helped guide programs and policies. In Egypt, authorities began targeting MCH in the Upper Egypt region after a 1992–1993 maternal mortality survey revealed the magnitude of maternal deaths. In Malawi, the Prevention of Mother to Child Treatment program was based on a pilot that led the country to adapt WHO guidelines to meet its own constraints—Option B+ which does not require a CD4 count and provides lifelong anti-retroviral therapy to pregnant women who test positive for HIV. Due to its success, the approach has been adopted and implemented in Uganda.

30. Surveillance and audits have also improved accountability, especially for maternal mortality. Egypt established a Maternal Mortality Surveillance System in 1998 to monitor deaths. Further, safe motherhood committees at the district and governorate levels meet regularly to review maternal deaths and identify ways to prevent them, such as sharing information with health staff (USAID 2010). In China, authorities have shown strong interest in reducing maternal and child mortality. Maternal death reviews began in 2000 with support from local governments, which has helped provide detailed information on these cases, identifying causes and encouraging accountability.

31. Other mechanisms, such as contractual agreements, have been used to set goals and encourage accountability, most notably in China, where the “contract responsibility system” and “target responsibility agreements” were introduced in the 1990s to improve and monitor supply-side performance. The systems mainly focus on the Expanded Program of Immunization (EPI) and prenatal care, and target agreements are signed between county health bureaus, township health centers, and county maternal and child health hospitals to monitor their performance on delivering services. These agreements have been effective in achieving top-down accountability. However, as they are designed to evaluate processes, they do not address quality issues, which would require that performance also be measured against other criteria, such as maternal death audits. In Malawi, service-level agreements with the Christian Health Association have been applied in the same manner.

## SETTING POLITICAL AND PROGRAM PRIORITIES (RMNCH)

32. Political priorities have been critical for reducing maternal mortality (Koblinsky 1999; Shiffman 2007; Shiffman, Stanton, and Salazar 2004). For example, with MCH-specific policies, China has achieved MDG 4 and MDG 5, by financing specific services (safe, facility based deliveries, immunizations, integrated management of childhood diseases, and more recently, Prevention of Mother to Child Transmission), allocating resources (including doctors) for poor and remote areas and creating a structure to coordinate efforts to improve the indicators. In 1994 it passed the Law on Maternal and Infant Health Care, which laid the foundation for comprehensive coverage and facility-based births (Box 2). The successful Safe Motherhood Program (Two Reductions Program) is rooted in this policy.

33. A change in government can also shift policies. In Malawi, prior to 1994 family planning was only allowed within the context of “child spacing,” so as to reduce the risk for maternal and child mortality when births were too close. In 1994, the country held its first multi-party election, which ushered in a new government that shifted away from the earlier pro-birth policy and passed a new National Population Policy that year. As a result, contraceptive use increased from 13 percent in 1992 to 21 percent in 1996, and is now at 46 percent (World Bank 2013). In Nepal, MCH has been on the development agenda since the 1970s but gained momentum with the election of a pro-poor coalition government in 2004. Indeed, it is one of the few areas that experienced strong political consensus (Ensor, Clapham, and Prasai 2009; Smith and Neupane 2011). The Safe Delivery Incentives Program, launched in 2005, subsidized care for pregnant women, offering higher incentives to women in remote, mountainous regions (Ensor, Clapham, and Prasai 2009; Hanson and Powell-Jackson 2010).

34. Constitutional support and new laws on reproductive health rights, especially for indigenous populations and marginalized ethnic groups have garnered support from MCH programs. In Bolivia, for example, the 2009 constitution guaranteed the right to health care, including reproductive health, and is the basis for two new plans—the National Strategic Plan for the Improvement of Maternal, Perinatal and Newborn Health (2009–2015) and the National Sexual and Reproductive Health Strategic Plan (2009–2015). Both aim to reduce maternal and infant mortality, improve the quality of care, and foster sexual and reproductive health for all men and women with a focus on human rights, gender equality, and multi-culturalism (MoHS Bolivia 2009a; 2009b). Similarly, in Nepal, the 2007 interim constitution and 2009 constitution offered guarantees to women, children, and ethnic minorities that have created an enabling environment for MCH especially for marginalized ethnic groups.

35. Champions of reproductive health and MCH have helped prioritize programs/policies in each of the five countries. In Egypt, the government was a strong force behind the Student Health Insurance Program, which covers health care for children one year of age and older. It has also been the driving force behind the Family Planning program, which focused attention on reproductive health. The secretary general also helped bring the landmark 1994 International Conference on Population and Development to Cairo. In Malawi, the current president has championed MCH and

women's rights, and influenced the direction of programs. When she was vice president, she was Malawi's Goodwill Ambassador for Safe Motherhood and supported the Campaign on Accelerated Reduction of Maternal and Child Mortality (UNFPA Africa Regional Office 2011). As president, she has also established the Presidential Initiative for Maternal Health and Safe Motherhood to improve access to reproductive health services (Banda 2012). Most recently, she supported the 2012 Gender Equality and Women's Empowerment Agenda program (UNFPA Malawi 2012).

36. In Nepal, leaders in the Ministry of Health and Population focused on MCH, launching broad campaigns for measles immunization and the community-based Newborn Care Program, while introducing new financing strategies to provide safe deliveries (e.g. the SDIP).

#### **Box 2: MCH Policies in Bolivia, China, Egypt, Malawi, and Nepal**

**Bolivia:** Two important MCH policies were the 1989–1993 National Plan for Child Survival and Maternal Health and the 1993–1997 Plan Vida/Life Plan. Both stressed the need to reduce maternal and child mortality. Due to Plan Vida, the first Insurance Program for Women and Children (Seguro Nacional de Maternidad y Niñez) was created. Also, the Salud Familiar Comunitaria Intercultural Policy was adopted in 2008 to improve outreach to indigenous populations, providing primary health care through home visits. The model emphasizes community health and integrates the traditional health care practices of the indigenous and Afro-Bolivian populations.

**China:** The 1994 comprehensive Law on Maternal and Infant Health Care requires that MCH be included in “plans for national economic and social development.” The law also made sex-selected abortions illegal and drew attention to service standards through the Safe Motherhood Program. Further, it promotes better access to information, along with nutrition, reproductive, maternal, and newborn services for adolescents, mothers, and infants (see also Hesketh and Zhu 1997). In addition, it introduced the one-child policy, based on the authorities setting population growth and high fertility priorities.

**Egypt:** Recognizing that population growth was a concern for development, the first National Population Policy, created in 1973, aimed to reduce birth rates from 34 per 1,000 in 1973 to 24 in 1982. It recognized that socio-economic development and family planning services were key to reducing fertility. This policy paved the way for Egypt's strong family planning program. After the 1994 International Conference on Population and Development, family planning was integrated into broader reproductive health care services and linked with MCH. The 1998–2002 Five-Year Plan emphasized MCH, providing the framework for successful projects such as the Healthy Mother Healthy Child and the Population Projects in Upper Egypt, which has helped reduce regional disparities in MCH outcomes.

**Malawi:** The 1994 National Population Policy made MCH a priority. Other efforts, such as the EPI, the Integrated Management of Childhood Illness (IMCI) strategy, the Child Lung Health Program, and the Emergency Triage Assessment and Treatment program, helped prioritize services for childhood diseases. More recently, the community-based maternal and newborn care package was adopted. It is an integrated approach that includes maternal, newborn, and child health, HIV/AIDS, and malaria services. With the Prevention of Mother to Child Transmission of HIV/AIDS program, Malawi is pioneering a new approach in which lifelong anti-retroviral therapy is provided to all pregnant women who test positive for HIV (Option B+). Other actions include the 1995 Safe Motherhood Strategic Plan (which led to the National Safe Motherhood Program in 1996), the 2002 Reproductive Health Policy (which led to the National Reproductive Health Program), the Post-Abortion Care Strategy (2004), the National Road Map for Accelerating the Reduction of Maternal and Neonatal Mortality and Morbidity (2005), the National Reproductive Health Strategy (2006–2010), and the Sexual and Reproductive Health and Rights Policy

(2009). Malawi also adopted regional strategies such as the African Union Commission's Maputo Plan of Action on Sexual and Reproductive Health and Rights (2006) and the Campaign to Accelerate the Reduction of Maternal Mortality in Africa (CARMMA) (2009).

**Nepal:** An early focus on population growth and poverty alleviation led to family planning and MCH projects under Nepal's Third Five-Year Plan (1965–1970). MCH was also an integral part of the First Long-Term Health Plan (1975–1990). The 1991 National Health Policy was a turning point for Nepal, as it was the first to adopt an integrated approach to health services that ultimately abolished vertical programs. In 1997, the government adopted the National Reproductive Health Strategy to further the concept of integrated services for the entire population. It also led to several, more specific policies/plans, targeting family planning, safe motherhood, and adolescents.

## ENABLING ENVIRONMENT

37. Socio-economic factors such as poverty reduction and education play an important role in improving MCH. As noted in Section 3 (Country Context), poverty was reduced in all five countries, and social and human development indicators improved. Higher incomes have led to increased consumption and the demand for services, including health. Investments in education, empowerment, and social inclusion have further improved reproductive and MCH. This section describes the actions that created an enabling environment for improving MCH.

### Education

38. Education is linked to better health. Educated women are more likely to invest in their children's education (Filmer 2006; De Walque 2007) and participate in household and community decision making compared to those with no or little education (Sen 1999; UNESCO 2000). An analysis of 175 countries from 1970-2009 showed that of the 8.2 million under-five lives that have been saved, about half were attributed to increased educational attainment in women of childbearing age (Gakidou et al. 2010).

39. All of the countries in the study invested in education, offering free primary education, which helped them achieve universal or near universal coverage at the primary level. However, outcomes vary for the secondary and tertiary level due in part to different policies. In China, free, compulsory education is provided for the first nine years, with a special focus on the poor, ethnic minorities, and rural areas. The government also focused on gender parity at the primary level, and the ratio of girls to boys enrolled (the Gender Parity Index) increased from 98 percent in 1991 to 106 percent in 2006. At the secondary level, enrolment is at 80 and 83 percent respectively for boys and girls. In contrast, in Nepal, secondary enrolment is only at 46 and 40 percent respectively for boys and girls. These differences are driven by policies as well as socio-economic factors. In Malawi, significant strides were made in improving the quality of and access to education, due to government efforts, such as the Free Primary Education policy passed in 1994: Enrolments rose from about 2 million in 1993 to 3.2 million in 1994, for a gross rate of 108 percent (Avenstrup et al. 2004).

40. Countries have also focused on improving access to education for girls, the poor and marginalized—an important factor for improving their status and opportunities. In

Bolivia, the Educational Reform Act of 1994 advanced equal opportunities in education, promoting gender and multi-cultural/multi-ethnic equality, with a focus on bilingual education. It also mandates the state to provide free education (Lisandro 2007). Today, secondary enrolment is relatively high in Bolivia — around 80 percent for both boys and girls. In Nepal, the 2002 Education Regulation mandated free education to the poor, disabled, girls, *Dalits* (a caste in Hinduism). In 2003, under the Tenth Plan, education policy also stressed functional and income-generating literacy and post-literacy programs to improve women's lives. The policy also contains special provisions for their access to education to achieve the "education for all" (by 2015) target. Nepal has achieved gender parity at both the primary and secondary levels (World Bank 2013).

41. Within the last decade, the countries studied have led efforts to improve female education. In Egypt, various projects, including those of UNESCO<sup>5</sup> and the National Council for Childhood and Motherhood,<sup>6</sup> focused on improving girls' education through girl-friendly schools, recruitment and training of female teachers, and teaching girls marketable skills beyond the standard primary education, especially in rural areas. Improved access to and equity in education were also supported by the Community Schools Initiative (1992), which was designed to bring quality education to hard-to-reach and rural areas. Enrolment, therefore, increased from 121 in 1992/93 to 3,000 in 2000, mainly due to the added numbers of girls attending (from 89 in 1992/93 to 2,000 in 1995/96) (World Bank 2003). In Malawi, the government took steps to improve adolescent education, now allowing girls who become pregnant to return to school once they have delivered. However, in practice, few return due to various factors, including what the girls see as being stigmatized (Maluwa-Banda 2003). Further support, including community education and financial incentives, is needed to encourage girls to return to school.

### **Women's empowerment**

42. All of the countries have taken steps to mainstream gender equality into the development process, but in varying degrees. Nepal has been involved in this since the 1990s through affirmative action laws, policies, and programs, especially within some major sectors including agriculture, education, health, and local development. Its community-based approaches to reducing poverty have supported local empowerment and helped improve health. China's socialist ideology has contributed to laws that promote gender equality by providing equal franchise, abolishing old feudal marriage customs, giving women and men equal rights in marriage, and protecting female workers' rights. Although biases still exist, especially in rural areas, the laws have helped raise women's status. In Egypt, the Family Tribunal Law, the Nationality Law, and the Family Court Law have built stronger legal rights and privileges for women and children. Women's rights in the workplace are protected in the 2003 Labor Law, which includes provisions for a 90-day paid maternity leave, and prohibits gender-based wage discrimination and dismissal of a woman while on maternity leave. The law also includes

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<sup>5</sup> [http://www.unesco.org/education/wef/countryreports/egypt/rapport\\_3.htm](http://www.unesco.org/education/wef/countryreports/egypt/rapport_3.htm).

<sup>6</sup> National Council for Childhood and Motherhood's Girls Education Initiative: [http://www.nccm-egypt.org/e11/e3151/index\\_eng.html](http://www.nccm-egypt.org/e11/e3151/index_eng.html)

some controversial provisions that limit the hours a woman can work in paid employment and control the types of occupations in which women can be hired (Freedom House<sup>7</sup>).

43. In Egypt, the Social Fund for Development (SFD) has been pivotal in addressing equity and empowerment. Established in 1991, it aims to (a) reduce poverty by supporting community-level initiatives, (b) encourage small-enterprise development and (c) increase employment opportunities through community development, public works, micro-credit and small enterprises (Abou-Ali et al 2009). For example, the Population Project and Social Change Agents, in cooperation with the Ministry of Health, hire young women as agents to provide health education to families (e.g., family planning, the risks of female circumcision, etc.), and accompany women to health clinics. The agents also encourage married women with one or two children to participate in the micro-credit program established through the social fund. In fact, an estimated 32 percent of Egyptians benefited from the Social Fund from 2001-2008, most of whom are in lower-income groups; this has also produced positive outcomes in health, education, and poverty reduction (Abou-Ali 2009).

44. In Malawi, laws that have made gender a priority have increased women's political participation—which contributes to improving their status. The 50–50 Campaign, launched in 2008, increased female representation in the government. As a result, the share of women in parliament rose from 14 percent in 2004 to 27 percent in 2009 (Karim 2010). The National Gender Programme further integrated gender into eight areas, including institutional strengthening, poverty reduction and economic empowerment, education, health and HIV/AIDS, agriculture, food, and national security. Malawi also passed laws against gender-based violence with the Prevention of Domestic Violence Act in 2006 (GoM 2005; MoGCS Malawi 2004).

### **Social inclusion**

45. In countries with large indigenous populations, governments have focused on social inclusion. In Bolivia, the 1994 Law of Popular Participation promoted the participation of men and women in municipal development plans. It empowered municipalities, especially the poorest, by giving them access to and control over the use of government funds for development purposes (World Bank 2004). This helped empower indigenous groups, rural communities, indigenous associations, and agrarian unions because it gave them legal status (Hall and Patrinos 2004).

46. In Bolivia, equity of health services has been a guiding principle, especially to accommodate the needs of indigenous groups, which constitute about 62 percent of the population. The 2002 Pregnant Woman's Rights Charter was another effort to empower women, especially indigenous ones. The Charter establishes the rights of pregnant women to information, education, and related health services. It also requires that facilities honor the cultural preferences for birthing practices and for taking home the placenta (World Bank 2004). In addition, the Salud Familiar Comunitaria Intercultural Policy empowers indigenous communities, and helps them take control of their health.

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<sup>7</sup> [http://www.freedomhouse.org/sites/default/files/inline\\_images/Egypt.pdf](http://www.freedomhouse.org/sites/default/files/inline_images/Egypt.pdf).

47. In Nepal, caste and gender barriers are being addressed through legislation. Nepal's 2007 interim constitution guarantees human rights for all, including the "untouchables" (lowest castes). It also guarantees the right to health, including reproductive health,<sup>8,9</sup> and is training women from the lowest castes to serve as volunteers in their communities in order to reduce access and use barriers to services for MCH.

48. In China and Egypt, the main focus is on reducing regional disparities in MCH. China's western provinces are poor compared to those in the east. Similarly, in Egypt, the Lower Egypt region is much more developed than Upper Egypt.

### Poverty reduction

49. Poverty reduction has also played an important role in improving the health of women and children (as discussed in the Country Context section). In Nepal, increased remittances have been associated with increased consumption, including basic services such as education and health (MOHP Nepal 2012; Khatri 2010). In China, it is likely that smaller family size has contributed to children's well-being. Also, rapid socio-economic development (an average annual GDP growth rate of 10 percent from 2000-2011) contributed to increased consumption of basic health services. In addition to investments in the health sector, and specifically for reproductive, maternal, and child health, the countries have benefited from more inclusive social policies and poverty alleviation strategies, which have helped reduce maternal mortality and improve child health. However, further in-depth, multivariate analyses are needed to understand the different paths adopted in the various countries to improving MCH.

## CONCLUSIONS

50. The main themes of the study are:

- Country contexts matter. Services and programs that ensure coverage and improve MCH must be adapted to a country's specific needs and limitations;
- Clear policies and legislation, supported by strong political will and programmatic interventions create a much needed enabling environment for providing MCH services, as well as creating demand for these services.
- Scaling-up existing programs or piloting new ones that use mechanisms such as insurance or demand-side, results-based financing are important to remove financial barriers for the poor;
- Good quality human resources are needed to reach women and children, including for skilled deliveries;
- Data collection must be improved and program outputs/outcomes better monitored. Maternal death audits should be implemented to ensure better

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<sup>8</sup> [http://www.rti.org/pubs/31\\_nepal\\_assessingimplementation.pdf](http://www.rti.org/pubs/31_nepal_assessingimplementation.pdf).

<sup>9</sup> <http://www.idea.int/resources/analysis/upload/Women-s-Caucus-Book-Final-version-eng.pdf>.

monitoring of maternal deaths, and their causes, as well as to build accountability into the health systems.

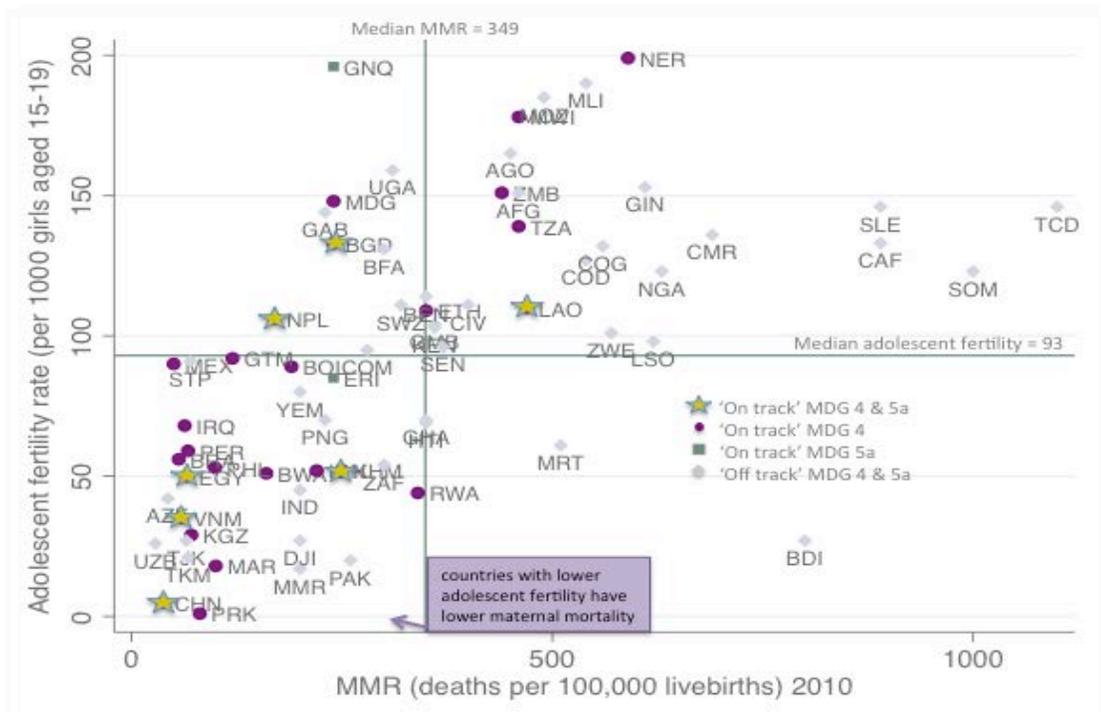
51. The countries in the study have made remarkable progress on MDG 4 and MDG 5. Although they have different socio-economic characteristics, all have advanced because they were committed to change—identifying the key issues and addressing them. To do this, strong political commitment, through policies backed by financial and programmatic support, was important. In addition, a focus on the most vulnerable populations helped increase access to and use of services. Empowerment of women through education and employment was also needed to raise their status in the family and provide them with a voice and choices, which are critical for making decisions about childbirth and use of health services. Finally, poverty reduction and economic development contributed to improving health outcomes through increasing household income and consumption.

52. The countries face several challenges. A shortage of human resources is a common problem, especially in remote and rural areas. To address this, China has focused on recruiting and training professional staff; while in Nepal volunteer workers with appropriate qualifications are being trained as midwives. In Malawi, the shortage is being addressed through training and recruitment of international staff to fill vacant posts. Bolivia and Nepal also contract out services to address coverage gaps.

53. Gaps can still be seen in the use of services, due to income and ethnicity, but progress has been made to address them. Countries have introduced subsidized or free care, especially for more vulnerable groups, but there is room for improvement. New laws/constitutions in Bolivia and Nepal create the space for inclusive growth. The next step is to ensure effective implementation of programs.

54. While strides have been made to empower women, barriers persist that affect their access to reproductive, maternal, and child health. In Nepal and Egypt, for example, women have limited say in household decision-making. In China, the household registration system, known as *Hukou*, prohibits migrant workers from accessing social services other than in their primary place of residence; in this respect, female migrant workers face the greatest challenges because pregnancies and childbirth mean they must return to their towns or villages to deliver, and in many cases, raise their children to ensure that they and their children have access to public services such as health and education.

**Figure 6: Lower adolescent fertility is correlated with lower maternal mortality**



Source: PMNCH 2013

Note: Data for adolescent fertility available between 2000 and 2008. There was a positive correlation between the adolescent fertility rate and MMR [ $r=.56$ ]. Data source: WHO World Health Statistics, 2011; Trends in maternal mortality: 1990-2010 (WHO, 2012).

55. Although adolescent fertility declined from 2000-2011, it is still relatively high in Malawi, Nepal, and Bolivia, where it is 108.3, 89.6, and 75.4 births per 1,000 women aged 15-19 respectively. Interestingly, while adolescent fertility is low in China, it is estimated to have increased from 7.7 births to 9 births per 1,000 women aged 15-19 during the same time period (World Bank 2013). This remains an important MCH issue, as adolescent pregnancies are linked to both high maternal mortality and poor economic outcomes, and early parenthood is linked to reduced future opportunities for education and employment for both boys and girls. It is also linked to reduced status in households and communities (UNFPA 2009; Raj et al. 2009; World Bank 2007; World Bank 2010; Chiavegatto Filho and Kawachi 2012). Evidence indicates that girls in lower income groups are more likely to become pregnant than their richer counterparts, and are less likely to use maternal health services. This is also reflected in poor health outcomes: 65 percent of obstetric fistulas occur in adolescents globally, and girls are two to five times more likely than older women to die due to pregnancies. Quantitative mapping also shows a positive correlation between adolescent fertility and maternal mortality (Figure 6). Further investigations are needed in each country to understand and address the causes of high adolescent fertility, which would require multi-sectoral approaches (e.g. opportunities for higher education and employment for girls; or vocational training for pregnant women and young mothers) to get the most optimal outcomes.

56. In Egypt, Nepal, and Malawi, donor financing has been critical for sustaining MCH programs. China has benefitted from technical and financial support from multilateral donors, while USAID has provided substantial resources to Egypt. Although the case studies looked at donor financing, it is an area that requires further analysis in order to provide answers to questions of sustainability.

57. Other issues, such as low contraceptive use in Nepal, and HIV/AIDS in Malawi, contribute to the challenges the countries face in maintaining current gains and achieving their MDG targets. Addressing these challenges will require a continued focus on reproductive, maternal, and child health by both government and donors. This includes financial and technical support for expanding coverage of health services, and investments in other sectors that enhance equity and improve the socio-economic status of women and the poor.

### **RECOMMENDATIONS AND NEXT STEPS**

58. Caution should be taken in interpreting the study's findings, as further quantitative analysis is needed to determine causality and the influence of various factors. As this paper uses findings based largely on qualitative analyses, it does not assign weight to the different factors such as education, legislation, family planning, insurance, gender equality, for example. Instead it notes the similarities and differences in the approaches used to reduce maternal and child mortality. Where impact evaluations are available, especially in relation to programs, the results have been included.

59. Although the case studies have gathered information on various issues linked to the decline in child and maternal mortality, and note the relevance of multi-sectoral factors such as education, poverty reduction, and social inclusion and demographics such as adolescent fertility, all of these areas deserve further attention. Future qualitative and quantitative analyses on these topics would deepen the understanding of the ways in which the various countries, with their unique conditions, can improve MCH.

60. To understand the effect of the health and non-health factors, new data collection at the country level could improve multivariate, in-depth analyses. This could involve expanding existing routine surveys, such as the demographic, health or household budget surveys, to add questions about the use of particular programs or access to facilities, to ultimately determine what is feasible and beneficial.

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## ANNEX: COUNTRY PROFILES

### ANNEX 1: BOLIVIA'S PROGRESS ON MDGS 4 AND 5

#### Key Messages

- Bolivia made considerable gains in reducing maternal and child mortality from 1990 to date. The maternal mortality ratio declined from 510 to 200 deaths per 100,000 live births between 1990 and 2013, and under-five mortality also declined from 120 to 41 deaths per 1,000 live births from 1990 to 2011. Bolivia also reduced its under-2 child mortality rate due to severe malnutrition by 80% in the same period
- The three key drivers of this reduction are: (i) structural reforms in the health delivery model, including profound changes in programs and health systems governance, new health infrastructure, and policies for expanding coverage from 1990 to 2003; (ii) financial protection reforms with a pro-poor provision of free maternal and child services through the creation of a public health insurance program, using results based financing to pay providers since 1996, and (iii) cultural adaptation to ensuring greater access and acceptance of health services from indigenous population.
- Over the last five years, progress has stagnated, and Bolivia needs to continue working on the three lines developed to achieve next round of gains. The health delivery model will need to improve quality and address shortages of staff, inadequate facilities and equipment in rural and remote areas. Financial protection requires changes on payment mechanisms towards increase quality of services, and is needed more culturally-friendly focus on indigenous population.

#### 1. Introduction

**Bolivia, a lower-middle-income country, is one of the poorest, least-developed countries in South America.** It had a per capita GNI (PPP) of US\$ 4,251 in 2012 and an average GNI growth rate of 4.4 percent during the last ten years. A multi-ethnic society, Bolivia has one of the largest proportions of indigenous people in Latin America (62 percent). According to 2011 estimates, Bolivia has a population of 10.09 million, of which 35.7 percent are aged 0 to 14. Two-thirds of the population—66.8 percent—lives in urban areas, and one-third—33.2 percent—lives in rural areas.

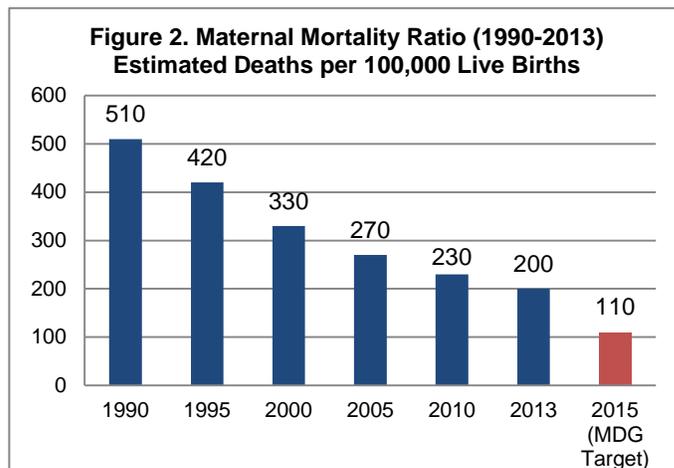
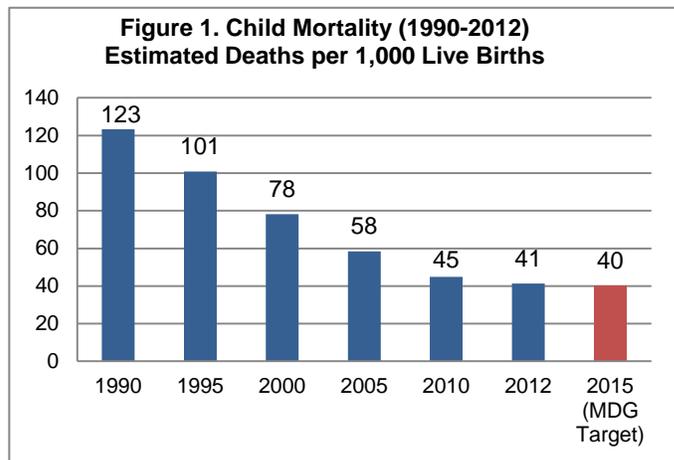
**Bolivia is ranked 108th out of 187 countries in the Human Development Index and 88th out of 146 countries in the Gender Inequality Index.** The current primary education completion rate is 95 percent for both males and females. The gross secondary enrolment ratio is 80 percent for females and 82 percent for males. Female labor force participation is 64 percent compared 81 percent for males, and women are primarily employed in the services sector.

**Bolivia has made great progress in improving maternal and child survival.** According to the most recent interagency modelled estimates, child mortality declined from 123 deaths per 1,000 live births in 1990 to 41 deaths per 1,000 live births in 2012, just shy of its Millennium Development Goal (MDG) 4. Maternal mortality has also declined from 510 deaths per 100,000 live births in 1990 to 200 deaths per live births in 2013, a 61 percent decline.

#### 2. Key Maternal and Child Health Policies

**National Plan for Child Survival and Maternal Health (1989–1993):** Established specifically to improve the health of women and children the plan focused on three main strategies : social

management, primary health care, and the development of local health systems. Under this plan, a National Reproductive Health Committee was established, and the first norms on contraception in Bolivia were introduced. In addition, emphasis was placed on training birth attendants and several health system strengthening projects were initiated (Save the Children 2002).



Sources: WHO 2014; UNICEF 2013.

based health service delivery system, and integrates traditional health care practices of Bolivia's indigenous, and Afro-Bolivian populations with modern medicine. New national plans enacted under the policy to improve maternal and child health include the National Strategic Plan for the Improvement of Maternal, Perinatal and Newborn Health (2009–2015) and the 2009–2015 National Sexual and Reproductive Health Strategic Plan (Ministry of Health and Sports 2009; Global Health Initiative 2012; PAHO 201310).

### 3. Main Maternal and Child Health Programs – Transforming health delivery

To reach the majority of the population, Bolivia's maternal and child health programs re-focused attention on primary health care in the 1990s, expanding the public health system in rural and peri-urban areas. This included (i) the construction of more than 300 hundred primary health care facilities in around 100 defined networks during a ten years period and (ii) prioritizing key programmatic interventions:

**Plan Vida(1993-1997):** The plan aimed to reduce maternal mortality by 50 percent and neonatal mortality by 30 percent. It emphasized the development of comprehensive local health care services for women, and for children under five. Bolivia introduced its first maternal and child health insurance program, the *Seguro Nacional de Maternidad y Niñez* (National Maternal and Child Insurance, SNMN) under this plan. It provided free health care to pregnant women and children and was effective in increasing utilization of services. The Bolivian Health Norm, with protocols for the care of women and newborns, and the Committee for Safe Motherhood were also established under this plan (Save the Children 2002).

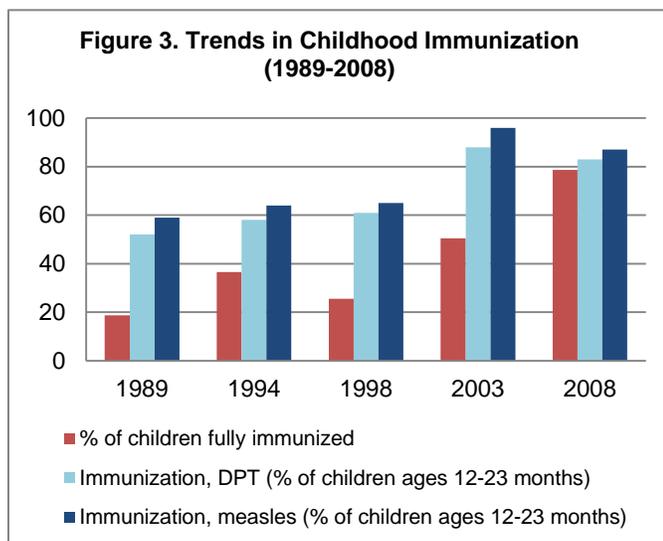
**Salud Familiar Comunitaria Intercultural (SAFCI - 2008 to Present):** Initiated in 2008 to improve the provision of primary health care services and promote social inclusion. The policy emphasizes social participation in health management, includes social workers as part of the community-

<sup>10</sup> [http://www.paho.org/saludenlasamericas/index.php?id=24&option=com\\_content](http://www.paho.org/saludenlasamericas/index.php?id=24&option=com_content)

**Immunizations:** Introduced in 1979, the Expanded Program of Immunization (EPI) aimed to reduce child mortality and morbidity from measles, pertussis, tetanus, diphtheria, poliomyelitis, and tuberculosis. It was launched as a permanent and closely coordinated effort to replace previous isolated and sporadic activities. The program coupled static facilities with mobile brigades to address coverage gaps, with each health facility responsible for managing vaccination operations for the population living within its 5-kilometer radius. This was accompanied by a public awareness campaign. While immunizations increased initially, by the mid-1990s, coverage had begun to wane due to both demand and supply side constraints (World Bank 2001). Under the health sector reform (1996), the EPI was revamped and expanded as EPI II, which included the pentavalent vaccine, a combination of five vaccines: diphtheria, tetanus, whooping cough, hepatitis B and Haemophilus influenza type b (the bacteria that causes meningitis, pneumonia and otitis). A new complete health cold chain was developed, and the new vaccines were included in the package of services covered by maternal and child health insurance. Although coverage gaps still persist, Bolivia successfully eradicated polio by 1987 (Gavi Alliance 2010), and the proportion of fully immunized children increased from 18.8 percent in 1989 to 78.6 percent in 2008 (Figure 3).

**Management of Childhood Illnesses:**

Critical in addressing the two leading causes of childhood mortality – diarrhea and pneumonia – were the National Program to Combat Diarrhea (NPCD) and the Acute Lower Respiratory Infection (ALRI) Program, both introduced as vertical programs in the 1980s. Key to success of the NPCD was the distribution of oral rehydration therapy (ORT) through health facilities and community volunteers, with 76 percent of distribution attributed to community volunteers (Mendizábal Lozano 2002). The ALRI program went a step further and incorporated culturally acceptable traditional practices appropriate for the treatment



Source: DHS 2008/WDI.

of respiratory infections into the program such as the use of herbal teas for cough and fever in conjunction with treatment prescribed by World Health Organization (WHO) guidelines, and advice against harmful practices (use of kerosene and mentholated balms). The programs were brought under Integrated Management of Childhood Illness (IMCI) in 1996. Under five deaths due to diarrhea and acute respiratory illnesses declined from 35.7 percent and 20.5 percent in 1989 to 15 percent and 16 percent in 2008 respectively (DHS 1989, 2008).

**Maternal Health:** Early efforts to improve maternal health adopted the WHO-recommended “risk approach” for pregnancy screening beginning in 1983. Other strategies, including the promotion of prenatal and delivery care and postpartum care, were also supported. This approach was replaced by 18 evidence-based best practices for maternal and newborn care mandated by Ministerial Resolution 0496 including active management of third stage labor, birth preparedness and counseling for complications to improve quality of services and maternal outcomes. On the demand side, provision of free maternal health services as part of health insurance has been critical in increasing utilization of services (more details in Section 4). Data show a considerable increase in skilled birth attendance between 1994 and 2008 from 47.2 percent to 71.1 percent (Table 1).

**Family Planning:** Family planning began rather late in Bolivia. Attempts were made to introduce family planning in the 1970s and 1980s but were met with opposition, mainly from the Catholic Church. Not until the 1989 National Plan for Child Survival and Maternal Health were family planning services allowed to be provided through public facilities, at which time the total fertility rate was at 5 births per woman. Since then, there has been a steady decline in total fertility and an uptake in contraceptive use (Table 1).

**Addressing Communicable Diseases:** Maternal and child health outcomes in Bolivia are also impacted by diseases such as Chagas, Tuberculosis (TB), and Malaria. In 1999, with support from the Department for International Development (DFID) and the Inter-American Development Bank (IADB), the government of Bolivia launched the Epidemiological Shield (ES). Its main components are (a) EPI II; (b) a series of stand-alone programs to tackle highly prevalent diseases such as Chagas, malaria, tuberculosis, leishmaniasis, and dengue; and (c) the establishment of an epidemiological surveillance system to monitor the overall status of endemic diseases. The program has been linked to strong improvements in outcomes. For example, between 1998 and 2008, the incidence of malaria declined from 24 to 4.2 cases per 1,000 people. Similarly, the incidence of TB has declined from 251 to 131 cases per 100,000 people between 1990 and 2011 (Global Health Initiative 2012; USAID 2012; World Bank 2004).

**Zero Malnutrition Program:** Malnutrition is a serious concern in Bolivia, resulting in high levels of stunting in the country. As recently as 2004, over 30 percent of population was stunted. The Zero Malnutrition Program (ZMP) was established in 2007 with the aim of eradicating malnutrition. The program focuses on pregnant and lactating women, and children under age two. Its main activities include (a) food fortification; (b) literacy and Information, Education and Communication activities; (c) the development of Rural Integral Nutritional Networks (RINN) based on a preventive approach in coordination with health networks; and (d) expanded access to drinking water and sanitation. Between 2007 and 2010, there was an 80 percent reduction in the under-two child mortality rate due to severe malnutrition. There was also an increase in the proportion of pregnant women receiving a complete iron supplement treatment - increasing from 50.8 percent in 2008 to 69.9 percent in 2010 (CIDA 2012; USAID 2010; World Bank 2008).

**Table 1: Trends in Reproductive Health, 1989–2008**

Indicator	1989	1994	1998	2003	2008
Total fertility rate	5	4.8	4.2	3.8	3.5
Contraceptive prevalence rate (any method)	30.3	45.3	48.3	58.4	60.6
Unmet need for family planning	—	28.9	26.6	22.8	20.1
Births attended by skilled health staff (% of total)	42.6	47.2	59.3	66.8	71.1
Percentage of live births delivered at a health facility	—	—	53.2	57.1	67.5

Sources: DHS2008/WDI.

Note: — = not available.

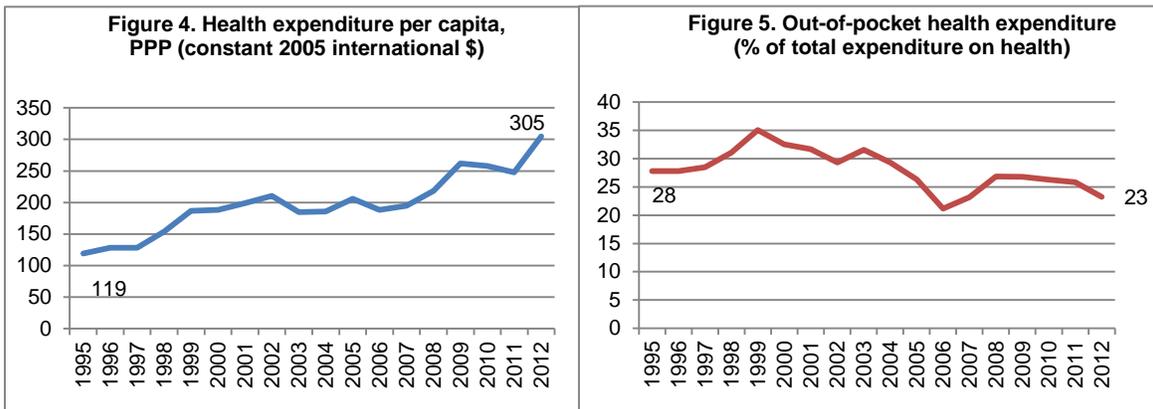
#### 4. Health System strengthening

**Decentralization:** In 1994, the Law of Popular Participation transferred 20 percent of central government revenues to the municipalities, which became responsible for the provision of health services (including facilities and financing of equipment and basic inputs). Management of human resources for health was made the responsibility of the sub-national autonomous administrations. In 1995, the Law of Administrative Decentralization, further supported local governance through the creation of the “Prefectura” - an administrative body at the regional level that would be responsible for policy -making at the regional and local levels and managing human resources. Changes in governance from 1997 to 2003 increased accountability, with the

use of performance agreements between National and sub-national authorities for achieving results in exchange of additional funds.

Since the mid-1990s, there has been a doubling of health expenditure per capita (in terms of purchasing power parity) while out of pocket costs have remained low – underscoring the low burden of healthcare on the population.

**Financial coverage:** The 1996 Health Sector Reforms, initiated in the country with support of the World Bank, aimed to reduce maternal and child mortality as one of the main goals. Free coverage for maternal and child health care was first introduced as part of this reform through the Seguro Nacional de Maternidad y Niñez (SNMN) health insurance package. Since then, Bolivia has provided free maternal and child health care services through evolving insurance programs that are discussed below:



Source: WDI 2014

**Seguro Nacional de Maternidad y Niñez (SNMN):** SNMN, introduced in 1996, was Bolivia’s first health insurance scheme. It provided coverage of 32 basic interventions including prenatal care, emergency obstetric care, and newborn care; and treatment of diarrhea, pneumonia, and respiratory infections in children under five. There was a significant growth in utilization of services from the 18-month period prior to implementation to the 18-month period after implementation with antenatal visits increasing by 39 percent and total births increasing 50 percent. In addition, utilization of services was strongest among the low socioeconomic clients. Utilization of services among adolescents was also high (Dmytraczenko et al. 1999).

**Seguro Básico Salud (SBS):** In 1998, the SNMN was replaced by a broader health insurance, the Seguro Básico Salud (SBS or Basic Health Insurance), to provide free coverage to poor and vulnerable populations. Supported by the World Bank and rooted in the government’s Strategic Health Plan (1998), SBS was open to everyone, but specifically aimed at the poorest segments of the population in both urban and rural areas. It included a package of 102 basic health interventions for maternal and child health and key endemic diseases (Chagas, cholera, malaria, and tuberculosis). Additional reproductive health components were also included in the package including post-abortion care, family planning, transport for emergency obstetric care, and prevention of sexually transmitted infections. It also included child nutrition and development screening. However, the program suffered from some drawbacks including a lack of incentives

for health workers to enroll eligible populations, and poor marketing and enrollment in rural areas (Silva and Batista 2010; Rivera et al 2006; GTZ 2000).

Both the SNMN and SBS focused on first and second levels of care, and during the time of implementation maternal and child mortality declined rapidly. This has been attributed to the increase in uptake of maternal and health services between 1998 and 2003 - the percentage of mothers utilizing health services through insurance grew from 3.6 percent to 53.4 percent. However, gaps still remained between the poorest and the richest households (Table 2).

**Table 2: Utilization of Public Services for Births by Wealth Quintile (%)**

Income Group	Year			
	1989	1994	1998	2003
Lowest	6	5.3	11.6	21.1
Second	14.5	19	21.1	35.7
Middle	23.7	35.6	41	52.3
Fourth	41.5	48.3	53.7	76.6
Highest	68.3	78.8	73.6	92.3
TOTAL	29	34.4	37.1	53.4

Source: UDAPE and UNICEF 2006.

**Box 1: Mixed Results in Reaching the Vulnerable**

The road to improving maternal and child health outcomes in Bolivia has also hit some bumps along the way. Two well intentioned but poorly planned and executed programs aimed at reaching vulnerable populations highlight the supply side challenges still faced in Bolivia.

In 2002, the EXTENSA program was initiated to extend packages of essential health services (through SBS and SUMI) to rural areas through mobile units that travelled to outlying communities. By 2007, EXTENSA was providing services to over 300,000 people in 2,500 villages. However, the program was terminated in the same year for various reasons including a two-month time lag between visits to a community, meaning that care was not always available when needed, and inadequate referral services and ambulatory support.

In 2009, Bolivia introduced a conditional cash transfer program for maternal, newborn, and child health titled *Bono Juana Azurduy*. The program provides a lifetime stipend of US\$260 per pregnant woman, paid in installments for regular prenatal visits, skilled birth attendance, and postnatal visits until her child is two years old. According to government estimates, within a year of implementation nearly 350,000 eligible women received cash payments through the program, and the number of prenatal visits to health facilities around La Paz quadrupled. Recently, however, the once-promising program has experienced several challenges, with demand outstripping supply. Major supply side constraints, including lack of facilities, supplies, and personnel, have halted the expansion of the program into rural areas, where it is most needed, and there are complaints of delays in beneficiary payments. Whether the program will be able to overcome these challenges remains to be seen.

Sources: World Bank 2009; Maloney 2010

**Cultural adaptation of health services –Indigenous Health Insurance:** Created by the Ministry of Health Resolution 26350 in 2001, the insurance aimed to improve indigenous populations’ access to health facilities during the SBS period. It included an additional portfolio of ten services that adapted maternal health services to indigenous traditions, such as “soul rescue” by a traditional practitioner, devolution of placentae, painting facilities yellow, while avoiding white which is associated with death among indigenous communities, and creating “*wilaqunas*” or indigenous health defenders. Rural services increased in coverage by 15% within one year. However, with the creation of SUMI, the next government ended this indigenous insurance program.

**Seguro Universal Materno Infantil (SUMI):** In 2003, the Government of Bolivia, with World Bank support, introduced SUMI. Unlike its predecessors, SUMI incorporated primary, secondary, and tertiary levels of care, and focused specifically on pregnancy-related care and under-five

child health. Many services that had been covered under the SBS were no longer covered—a strategic decision by the government to ensure focus where it was most needed, that is, on reducing maternal and child mortality. By 2004, SUMI reached 74 percent of its targeted population. Institutional deliveries increased from 57.1 percent in 2003 to 67.5 percent in 2008. While initially SUMI did not cover family planning, in 2006, the program was expanded to cover family planning and screening and prevention of cervical cancer for women up to age 60 (PAHO 2008). It should be noted that DHS data for 2008 also show an increase in maternal mortality between 2003 and 2008. While there is some debate on the accuracy of the data, one of the potential reasons for this is a decline in the quality of service provision. However, more information is required to confirm the mortality data and the reasons behind it.

## **5. Creating an Enabling Environment**

Besides health sector interventions, empowerment and equity are necessary to improving health outcomes. Broad support for improved equality in gender and education is evidenced by a number of policies in Bolivia.

**Constitutional Rights:** Bolivia's new Constitution, promulgated in 2009, has been a key development for maternal and child health and for indigenous rights. It guarantees the right to health and health care for all citizens, including all indigenous groups (Articles 1 and 18), the right to reproductive and sexual rights (Articles 14 and 15), and the right to gender and cultural equality.

**Women's empowerment:** The 1992 Women in Development Conceptual Framework was a turning point for women's empowerment in Bolivia. It was the first time that the government acknowledged disparities between outcomes for men and women. It focused on health, education, and social services and targeted two specific groups: minors in particularly difficult circumstances and women in general. Also important to equity and empowerment of women was the 1994 Law of Popular Participation, which promoted the participation of men and women in municipal development plans. Supreme Decree 26350 established the following key government policies relating to gender: the National Gender Equity Plan (the first gender mainstreaming plan), the National Plan for the Prevention and Eradication of Gender-related Violence, and the Programme for the Reduction of Poverty in Relation to Women 2001–2003.

**Education:** Bolivia's 1994 Educational Reform Act was key to advancing equal opportunities in education and the role of the state to provide universal free education. It promoted gender and multicultural/multiethnic equality in education and focused on bilingual education. Today, gross secondary enrollment in Bolivia is relatively high at around 80 percent for both males and females. However, there are concerns about dropouts and absenteeism, especially among the indigenous populations.

## 6. Challenges and Priorities for Future Action

While Bolivia has improved maternal and child health since the 1990s, progress has stagnated. Areas that need attention include the following:

**Bolivia is still struggling with the shortage of staff and adequate facilities in rural areas,** where the need for maternal and child health services is most acute. Rural health centers face very high turnover of health personnel, particularly physicians.

**The quality at rural health centers is cause for concern.** Many health centers have deficient equipment, and many rural areas lack services altogether. A health post may exist, but it is not staffed by clinicians on a permanent basis. Transport and access are poor, making it difficult for rural women to receive appropriate emergency obstetric care.

**Unsafe abortions account for a significant number of maternal deaths.** Abortion in Bolivia is illegal except in cases where there is harm to a woman's health or rape. Making post-abortion care available can help mitigate some of the dangers of unsafe abortion. While this service is covered under health insurance, more needs to be done to ensure women have access to it, and that there is greater awareness regarding unsafe abortions.

**Bolivia also has the highest rate of teen pregnancy in the Latin America region,** with over 17 percent of girls aged 15 to 19 having experienced a pregnancy. Although the adolescent fertility rate has declined from 87 per 1,000 births to 75 per 1,000 births for women aged 15 to 19, during the last 15 years (1989-2008), the pace of decline has been very slow. Problems associated with teen pregnancies include poor knowledge, as well as financial, physical, and psychosocial barriers to accessing reproductive health services. These barriers can be addressed through ensuring the availability of youth-friendly services, especially for the indigenous populations, and improving communication on safe sex and family planning.

**In Bolivia, addressing cultural challenges is important in stimulating demand for maternal and child health services.** A growing priority is to provide culturally appropriate services for indigenous populations who often rely on traditional medicine. Communal decision making is central to the culture, which means that the whole community decides whether the mother should access health care. Low use of health services has been directly related to the lack of education and information within these rural communities.

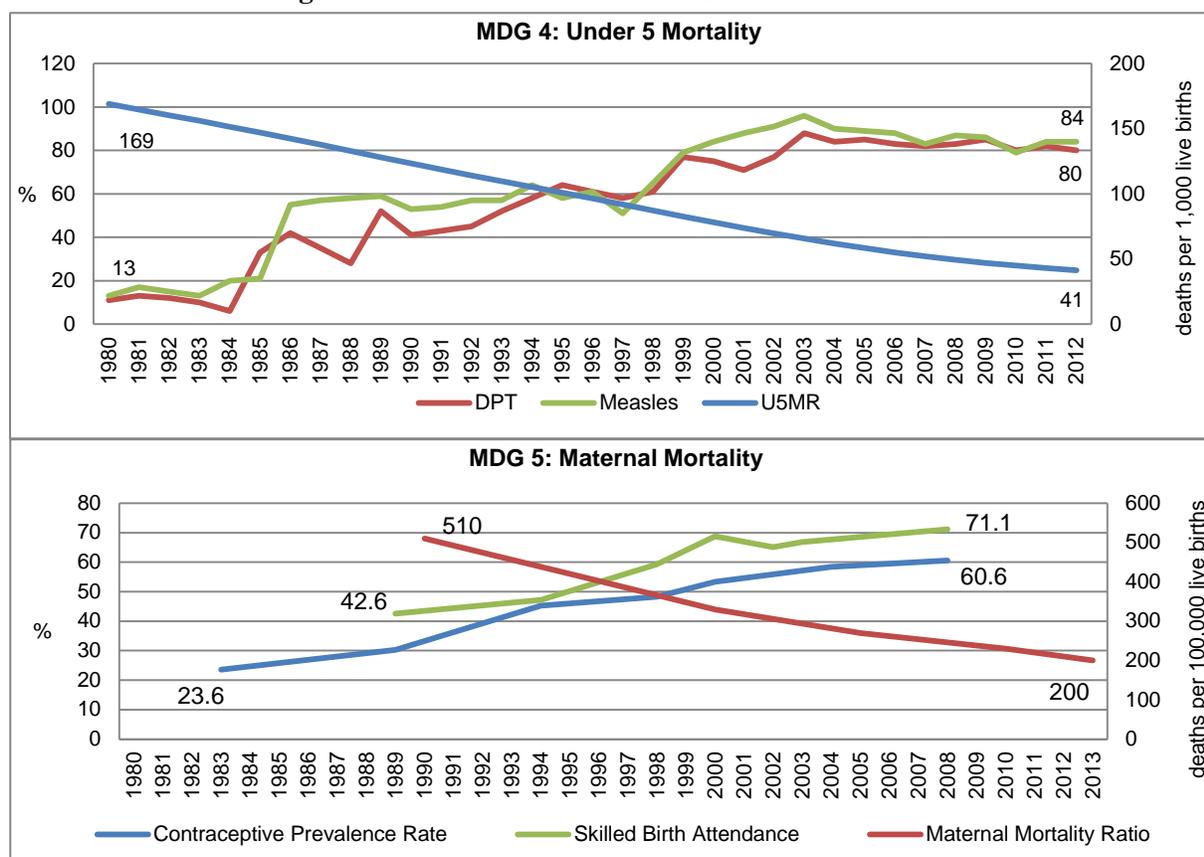
**Quality of data is another area that requires improvement.** Health information systems and epidemiologic surveillance need to be improved to enable better monitoring and evaluation.

Figure 6 provides a timeline of interventions and indicators related to MDGs 4 and 5.<sup>11</sup>

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<sup>11</sup> Caution should be taken in inferring any causality since multiple factors contributed to the decline of U5MR and MMR as the discussion highlights.

**Figure 6. Bolivia: Timeline of MDG 4 and 5 Interventions**



1979–1990	1991–2000	2001–2012
<p><b>1979:</b> Expanded Program of Immunization (EPI)</p> <p><b>1980s:</b> National Program to Combat Diarrhea and Acute Lower Respiratory Infection Programs</p> <p><b>1983:</b> “Risk approach” adopted for maternal health</p> <p><b>1989–93:</b> National Plan for Child, Survival and Development and Maternal Health</p>	<p><b>1993–97:</b> Plan Vida/Life Plan</p> <p><b>1994:</b> Law of Popular Participation</p> <p><b>1994:</b> Education Reform Act</p> <p><b>1996:</b> Integrated Management of Childhood Illness strategy</p> <p><b>1996–98:</b> Seguro Nacional de Maternidad y Niñez (SNMN)</p> <p><b>1998–2003:</b> Seguro Básico Salud (SBS)</p> <p><b>1999:</b> Epidemiological Shield</p>	<p><b>2002–07:</b> EXTENSA program</p> <p><b>2003:</b> Seguro Universal Materno Infantil (SUMI)</p> <p><b>2006:</b> Zero Malnutrition Program (ZMP)</p> <p><b>2008:</b> Salud Familiar Comunitaria Intercultural (SAFCI) policy</p> <p><b>2009:</b> Bono Juan Azurduy incentive program</p> <p><b>2009:</b> New constitution guaranteeing health and reproductive health rights; National Strategic Plan for the Improvement of Maternal, Perinatal and Newborn Health; and National Sexual and Reproductive Health Strategic Plan</p>

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## ANNEX 2: CHINA'S PROGRESS ON MDGs 4 AND 5

### Key Messages

- Since the 1950s, China has recognized the importance of improving maternal and child health outcomes. Maternal mortality has declined from a staggering 1,500 deaths per 100,000 live births in 1949 to 37 deaths in 2010, and infant mortality has gone from 200 deaths per 1,000 live births to 13 deaths during the same period.
- Early “low-cost, high-impact” investment in clean deliveries, improved hygiene, and immunizations led to considerable gains in reducing maternal and child mortality. The government trained and deployed midwives in rural areas, organized mass immunization campaigns leveraging its commune network, and, in the long term, invested in a three-tier health system, including maternal and child health stations and, later, specialty hospitals.
- In 1994, the government passed the Law on Maternal and Infant Health Care. This is widely seen in China as a critical turning point in refocusing on maternal and child health after a decade of diffused attention.
- To reduce gaps in access to service due to income disparities, China reintroduced health insurance in rural areas under the New Cooperative Medical Scheme in the 2000s. Where the package of services has included maternal and child health, improvements have been observed in utilization rates.
- The Safe Motherhood Program (the “Two Reductions Program”), which was mandated by the Law on Maternal and Infant Health Care, has also been pivotal in recent years in reducing maternal mortality and neonatal tetanus through subsidizing hospital-based deliveries.
- Socioeconomic development, which accompanied higher education and incomes, greater female employment, and improved women’s status, has also contributed to improvements in maternal and child health outcomes.
- Challenges remain including ensuring quality of care and integrated service delivery, improving access to health and other social services for migrant populations, and addressing the effects of population aging in the context of the one-child policy.

### 1. Introduction

**China is a lower-middle-income country with a per capita GNI (PPP) of US\$ 7,917 in 2012 and an average GNI growth rate of over 10 percent during 2000–12.** In the last few decades, China had gradually transitioned from a closed, centrally planned economy to a market-oriented economy. Nearly half of the population lives in urban areas (45 percent). According to national data, 3 percent of the population, or 40 million people, live under the poverty line. Given growing urbanization and a rapidly growing economy, disparities among income groups are expected to grow.

**As of 2010, China had a population of 1.3 billion and a population growth rate of 0.6 percent.** Seventy-two percent of the population is in the working-age group (15–64), with an age dependency ratio of 11 percent. With a fertility rate of 1.6 births per woman and an aging population, the dependency ratio is expected to increase over the next two decades, putting disproportionate pressure on the working-age population, with potential socioeconomic implications.

**Between 1990 and 2010, China’s maternal mortality ratio (MMR) declined from 120 deaths to 37 deaths per 100,000 live births, roughly halving twice in 20 years** (figure 1). Currently, it is well on track to meet its MDG 5 target of 31 maternal deaths per 100,000 live births by 2015 (WHO 2012). Skilled birth attendance is high, since most births take place at health facilities.

**Table 1: Key Intermediate MCH Indicators, 1992–2010**

Indicator	1992	1995	2000	2006	2010
Contraceptive prevalence (% of women ages 15–49)	84.6	90.4	83.8	84.6	—
Births attended by skilled health staff (% of total)	84.1	89.3	96.6	97.8	99.6
Pregnant women receiving prenatal care (%)	69.7	78.7	89.4	89.7	94.1
Immunization, measles (% of children 12–23 months)	87	80	84	93	99

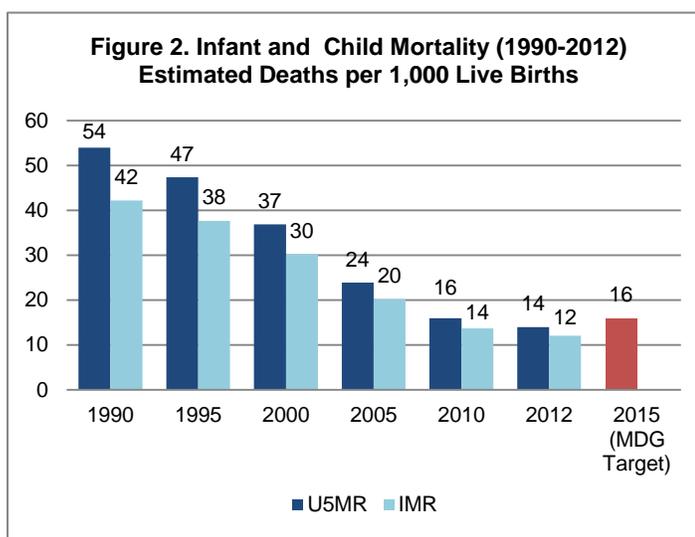
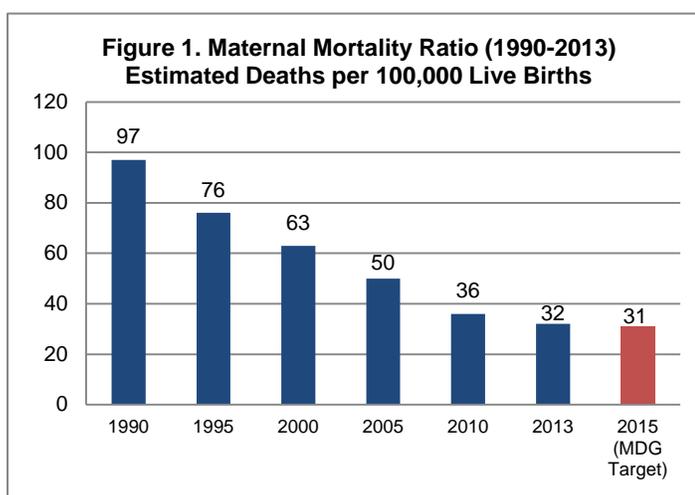
Source: WDI.

Similarly, China made significant gains in reducing under-five and infant mortality (figure 2). As of 2012, China has exceeded its MDG 4 target of reducing under-five mortality to 16 deaths per 1,000 live births by 2015. Its under-five mortality rate is 14 deaths per 1,000 live births, and its infant mortality rate is 12 deaths per 1,000 live births. Immunizations are nearly universal and provided free of cost. Great strides have also been made in controlling childhood illnesses such as pneumonia (table 1).

## 2. Key Maternal and Child Health Policies

Provision of basic health services and prevention of illness were the cornerstone of earlier policy, with special attention to MCH (Box 1). The government also focused on establishing standards and protocols for provision of MCH care to address quality of care issues. decades has contributed to the low levels In more recent years, the Law on Maternal and Infant Health Care has given a boost to improving maternal, newborn, and child health in the country.

**Law on Maternal and Infant Health Care:** Passed in October 1994, this law is the most comprehensive law on maternal and infant health in China and represents a turning point for MCH in the country. Article 3 of the law places maternal and infant health at the center of development, requiring that it be included in “plans for national economic and social development.” The law provides better access to information, nutrition, and reproductive, maternal and newborn services for adolescents, mothers, and infants. The law also made sex-selective abortions illegal. While some provisions of the law have been criticized for being disrespectful of human rights, overall it has been critical in signalling the importance of women’s and children’s health and well-being at the policy level. It was also important in creating space



Source: WDI; UNICEF 2013; WHO 2014

for continued attention at the programmatic level for maternal and child health (Ministry of Health, China 1995; Hesketh and Zhu 1997; Stakeholder Interviews).

### **Box 1. China's Early Interventions to Address Maternal, Newborn, and Child Health**

At the time of China's founding, it had one of the highest levels of maternal and child mortality in the developing world.<sup>a</sup> During 1949–50, the leading causes of maternal and newborn death were postpartum sepsis and neonatal tetanus. Most births took place in the home, with the help of traditional birth attendants.

The Ministry of Health prioritized reduction of postpartum infection, tetanus incidence, and mortality rates through promoting safe and clean deliveries and improving hygiene.<sup>b</sup> The Patriotic Health Campaign called for people to “be mobilized, pay attention to hygiene, reduce disease and improve health,” and focused on sanitation, waste management, and disease control. This was aligned with the overall health policy, which focused on greater access to care, preventive medicine (both traditional and western), and mass public health campaigns to ensure a high level of outreach in rural areas and health personnel training (Ma and Sood 2008; Zhang and Kanbur 2005). The policy supported creation of service teams consisting of midwives, physicians, and administrative personnel to serve in rural areas, which helped to provide targeted care for maternal and child health.<sup>c</sup>

The government initiated midwifery training and invested in Maternal and Child Health (MCH) Stations as part of its clean delivery campaign. The Ministry of Health provided necessary disinfection equipment to villages and created MCH service teams consisting of birth attendants, doctors, and administrative personnel to improve service provision in rural areas. The ability for mass organization through communes, production brigades, and production teams facilitated large campaigns for mass immunizations and health personnel training (Zhang and Kanbur 2005).

“Twinning,” which paired urban and rural health workers and doctors for training, was introduced. Primary care health workers from urban, developed areas worked in rural areas, while their rural counterparts traveled to urban areas to learn best practices (Li et al. 2009).<sup>d</sup> By the late 1970s, every village had a clinic staffed by health personnel also known as “barefoot doctors.” In village clinics with more than two barefoot doctors, at least one would be female to provide basic MCH services. At the township level, all health centers were required to have at least one MCH staff. This staff was also responsible for supervision and training of village health workers/barefoot doctors, especially when high-risk cases were identified.

These efforts led to significant improvements in China's health outcomes. By 1960, more than 810,000 traditional midwives had been trained, and clean delivery rates had reached 85 percent (Ling Xuezheng Collection 1995). Infant mortality declined from 235 to 83 per 1,000 live births, and life expectancy increased from 34 to 63 years between 1950 and 1970 (Blumenthal and Hsiao 2005; MoH/WHO/UNFPA/UNICEF 2006; Wang and Liu 2011; Zhang and Kanbur 2005). According to the National Health Services Survey of 2008, the proportion of safe drinking water in urban and rural areas had reached 98.2 percent and 85.8 percent, respectively, and use of sanitary latrines reached 93.8 percent and 43.3 percent, respectively

*Note:* a. The MMR was 1,500 and the infant mortality rate was about 235; b, c, d, e. Stakeholder interviews

**China's One Child Policy:** Established in 1979, this policy has had a profound influence on both Chinese society and maternal and child health. The policy limits households to one child, with some exceptions. Rural households and ethnic populations were allowed more than one child under certain circumstances. The policy aimed to reduce pressure on the country's resources through controlling population growth, which had already reached 969 million by 1979. Although fertility rates in China had been declining due at least in part to earlier population policies and social unrest, concern over a high population growth rate prompted the government to implement the one-child policy. At the same time, it had provisions for families to use maternal and child health services, through making reproductive health services available, including for adolescents. The policy contributed to the already declining fertility rate by further halving it from 2.8 to 1.9 births per woman between 1978 and 1998. However, the policy has been strongly criticized for being coercive and disrespecting human rights. It has also had some unintended negative

consequences, such as the skewed gender ratio in favor of boys (Doherty et al. 2001; Hesketh et al. 2005; Short et al. 2001; Fengying 1998; Ni and Rossignol 1994).

### 3. Main Maternal and Child Health Programs

**The “Two Reductions” Program (Safe Motherhood):** In 2000, China introduced the *Program to Reduce Maternal Mortality and Eliminate Neonatal Tetanus*, aimed at reducing maternal and infant mortality by promoting hospital delivery. Initiated in 378 counties, it now covers the entire country. The program focuses on health education, affordable care, quality of care, and social mobilization to reduce maternal and infant mortality. It provides subsidies to mothers in national poverty counties with a maternal mortality ratio (MMR) and neonatal tetanus incidence that are high compared to the average provincial rate. Obstetric experts from provincial tertiary hospitals are also assigned to primary maternal care centers for at least two weeks each year to build local capacity through direct support and training, and to facilitate communications and referral networks among the different tiers of service delivery. Effort has also been made to improve the specialized capacity of pediatric workers by sending experts to counties for on-site training, and conducting health education and social mobilization.

The program is associated with an increase in prenatal visits and facility-based births, and in contributing to declines in maternal and neonatal mortality. Between 2000 and 2006, facility-based births increased by 28 percent in counties where the program was implemented, and a MMR due to hemorrhage dropped from 68 to 30 deaths per 100,000 live births. During the same period, the overall MMR declined from just under 120 per 100,000 live births to approximately 60 per 100,000 live births. A decline was also observed in neonatal mortality, from approximately 20 per 1,000 live births in 2000 to just under 12 deaths per 1,000 live births in 2006. The incidence of neonatal tetanus also declined from 0.5 cases to 0.1 cases for every 1,000 live births. In 2012, the World Health Organization declared China free of maternal and neonatal tetanus (Feng et al., 2010; Liu et al. 2010; WHO 2012).

**Childhood Immunizations:** China established the Expanded Program for Immunization (EPI) in 1978 covering tuberculosis, polio, whooping cough, diphtheria, measles, and tetanus. Routine immunizations were organized through the health system under the supervision of China’s Center for Disease Control (CDC) for children under seven years of age. In 1992, the MoH added hepatitis B to EPI and later, in 2007, 15 additional immunizations were added including grubella, mumps, encephalitis, epidemic cerebrospinal meningitis, hepatitis A, epidemic hemorrhagic fever, anthrax, and leptospirosis (Zhang et al. 1999).

Over the next two decades, immunization rates averaged between 60 and 80 percent. Gaps in immunization began appearing along socioeconomic lines, with maternal education, health insurance coverage, and cost of vaccines as the main determinants of child immunization (Xie and Dow 2005; Zhang et al. 1999). Other inherent problems of the health system such as uneven distribution of resources (health workers, supply chain, and financing) across counties and provinces also contributed to gaps in immunization, especially in remote and rural areas (Chen, Lei, and Zhou 2010; WHO 2008).

To stimulate an increase in immunization rates, in 2007, the Chinese government took steps to address both demand- and supply-side constraints. On the supply side, it began to centrally fund the immunization/EPI program, which included vaccines, syringes, and allowances for health workers to encourage greater coverage in rural areas. On the demand side, EPI services were also made free. These efforts have helped increase immunizations, which are now nearly universal at 99 percent for both DPT and measles.

**Control of Childhood Diseases:** In the 1990s, acute respiratory infections (ARI) and chronic diarrheal disease were identified as major causes of child ill health and mortality in China. To

address this, the MoH introduced the National Children's Respiratory Infection Control Program (1992–1995) and the Diarrheal Disease Control Program (1990–1994). The programs promoted the use of appropriate technology, systematic training, health education, management, and monitoring to prevent and manage illnesses, especially in rural areas. A follow-on program in 10 counties from Guangxi, Inner Mongolia, Qinghai, Shandong, Shanxi, Sichuan, Xinjiang, and Yunnan provinces targeted both health workers and mothers to reduce the incidence of mortality due to ARI and diarrheal disease.

#### 4. Health System Responsiveness

**Service Delivery System:** One of the most critical pillars of successful improvements in MCH has been its well-organized service delivery system, with wide geographic coverage. Beginning from a very weak base in the 1950s, especially in the rural areas, the government created a three-tier health system consisting of county hospitals, township health centers, and village clinics in rural areas, and of street clinics, district hospitals, and city hospitals in urban areas.

In rural areas where maternal mortality was highest, the government established Maternal and Child Health (MCH) Stations, in addition to village clinics, to improve access and encourage facility-based clean deliveries following standardized protocols. In 1986, MCH received a further boost when the MoH and Ministry of Labor co-published standards for MCH service delivery. The role of MCH stations was expanded to include both primary and secondary levels of MCH services. Further, in the 1990s a separate Department for Maternal and Child Health was created within the Ministry of Health, and all counties were required to have MCH specialty hospitals, completing the three-tier MCH structure from village to county level with roles and responsibilities clearly articulated. This helped create a clear chain of command, linking all levels of service provision (Eggleston et al. 2008; Li 2004; MOH China 2011).

**Health Insurance Coverage:** In the rural areas, where major gaps in access to and provision of health services appeared in the 1980s due to market reforms, the Government of China reintroduced health insurance to reduce financial barriers to inpatient care in rural areas by subsidizing the cost of inpatient care. Although rural populations had previously been covered by the Rural Cooperative System, which provided free health care, with the collapse of the commune system, rural populations lost this coverage.

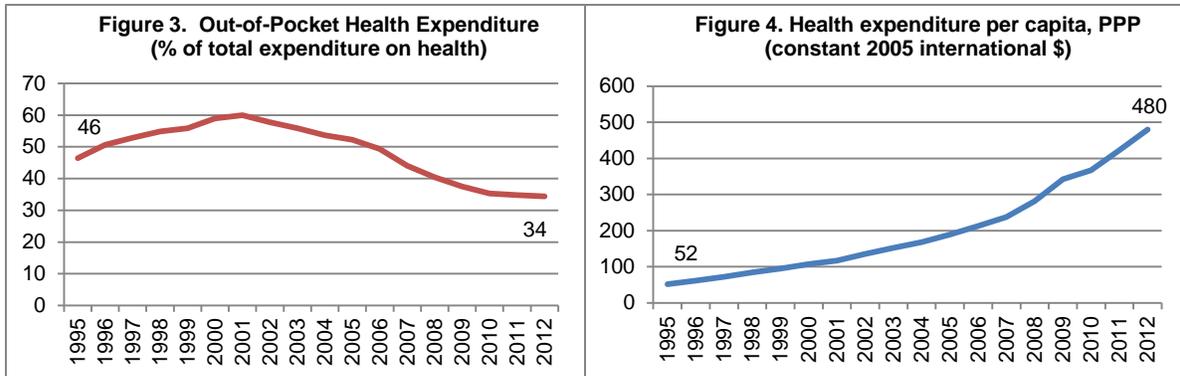
Between 1988 and 2001, out-of-pocket payments rose significantly, increasing from 38 percent to 61 percent, which have since declined to pre-1988 levels due in large part to health insurance (figure 3). At the same time, with greater investments in health, the per capita health expenditure has increased, and this is most likely related to the burden of non-communicable diseases (figure 4).

In 2003, the *New Rural Cooperative Medical Scheme* (NCMS) was piloted in some counties, and expanded to all rural counties by 2010. This scheme differs from its predecessor in that it is organized at the county level and enrollment is voluntary (Wagstaff et al. 2009; Yip and Hsiao 2009; Zhang et al. 2010).<sup>12</sup>

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<sup>12</sup> While its main focus is on subsidizing inpatient care, in some counties catastrophic illnesses requiring outpatient care are also covered (Wagstaff et al. 2009). Under the cooperative medical scheme, citizens make a small contribution to a pool and the community funds a local health worker, who provides basic clinical services and referral for more specialized needs via a three-tiered network from village to township to county (stakeholder interview).

The NCMS includes a maternal health care benefits package, which varies by county. It generally provides reimbursement for specific services including both facility-based normal delivery and caesarean section. Since the design of the package is left to the counties, coverage for MCH under this scheme is not automatic and is limited to a few counties. Subsidies under the NCMS helped reduce out-of-pocket costs, although at 14 percent of total household expenditure, they are still substantial for the poorest households, and the scheme has been criticized for its high deductibles and focus on hospital care. However, in the rural western provinces of China where MCH components are available, NCMS is associated with an increase in institutional deliveries—from 45 percent in 2002 to 80 percent in 2007 (Yip and Hsiao 2009; Zhang et al. 2010; Long et al. 2010).



Source: WDI 2014

**Investment in Human Resources:** In China, early focus on training health personnel including midwives at the community level was pivotal in providing MCH services to the masses. The aim was to build up a cadre of health personnel trained in Western medicine and to increase staffing. At the rural level, “twinning” and the ability for mass organization through communes, production brigades, and production teams facilitated health personnel training (Box 1). By the late 1970s, “barefoot doctors” had been deployed in every village to provide basic health services (Zhang and Kanbur 2005).

To strengthen delivery of MCH services in villages, the government created the position of the Maternal and Child Health Clinician in the 1980s. These were part-time clinicians that provided prenatal services at the township level, and supervised village doctors. Along with the village doctors, they were responsible for identifying and keeping track of pregnancies in their area to ensure proper care, especially of high-risk cases.

Over time, the role of midwives in China has also declined, as greater emphasis has been placed on hospital-based deliveries. However, there are shortages of qualified staff. This is part of the overall shortages in the health sector. In the rural and poor areas, these shortages are more acute, because health workers have become concentrated in urban areas and higher-income counties, where they can earn more. At the national level, skilled birth attendance remains high, as do postnatal care visits, but at the county level there are coverage gaps due to inadequate qualified human resources. While the Government of China has initiated training as part of its 2009 health sector reforms, there needs to be greater discussion on how to ensure that underserved areas are covered and whether trained birth attendants including midwives can fulfill this role (WHO 2008; Harris et al. 2009; World Bank 2010).

**Monitoring of Health Inputs and Outcomes:** China has one of the largest networks of women’s and children’s health surveillance in the world. Several surveillance networks including the National Birth Defects Surveillance Network (1986), the National Maternal Mortality Network (1989), and the Under-five Child Mortality Surveillance Network (1991) were

integrated into a single information system in 1996, to form this system. To improve performance and enhance accountability, maternal death reviews were initiated in 2000 with the strong support and involvement of local governments.

In the 1990s, the Government of China also introduced the “contract responsibility system” and “target responsibility agreements” to improve and monitor supply-side performance. The contract responsibility system primarily focuses on the EPI and prenatal care, while the target agreements are signed among the county health bureau, the township health center, and the county MCH hospital to monitor their performance on delivery of services.

## 5. Creating an Enabling Environment

**Education:** Education is an important factor influencing maternal and child health. Educated women are more likely to invest more in their children’s education (Filmer 2006; De Walque 2007), and they are more likely to participate in household and community decision making compared to women with no or little education (Sen 1999; UNESCO 2000). After the Cultural Revolution, universal primary education in China was one of the major targets pursued by the government. Early efforts, which included mass adult literacy campaigns, helped reduce illiteracy from 80 percent in 1950 to 52 percent in 1964. To further improve education status, the Government of China introduced free compulsory education for the first nine years of schooling, with particular focus on poor and ethnic minority areas (The Compulsory Education Law of the People’s Republic of China, 1986). The government also set a target of “eliminating gender inequities in primary and secondary education by 2005.”

By 2007, net primary education enrollment ratios reached 99.52 percent for girls and 99.46 percent for boys. Adult literacy rate has increased to 94 percent, with a 91 percent adult female literacy rate in 2009. Secondary school enrollment has also increased significantly for both boys and girls, increasing from 32 percent in 1990 to 83 percent in 2010 for girls, and from 43 percent to 80 percent for boys.

**Women’s Empowerment:** Women’s empowerment is important for their uptake and utilization of reproductive, maternal, and child health services. Improvement in women’s social and family status is associated with more freedom and decision-making authority, especially in relation to their own health and that of their children. Although gender discrimination still exists, China legally recognizes men and women as equal. This is enshrined in several laws and the Constitution of the People’s Republic of China (1954). The Marriage Law of the People’s Republic of China (1949), which grants women equal rights in marriage, and the Electoral Law of the People’s Republic of China (1953), which gives women equal right to hold political office, have helped improve women’s status.

China has introduced a number of laws and regulations protect female workers’ rights and establish health standards for female workers and protect their rights to social insurance such as the Regulations Concerning the Labor Protection of Female Staff and Workers (1988), the Law of the People’s Republic of China on the Protection of Women’s Rights and Interests (1992), and the Measures for Implementation of the Law of the People’s Republic of China on Maternal and Infant Health Care (2001).

**Political Leadership:** Political leadership has played an important role in shaping the socioeconomic landscape in China. Directives from the Central Government have been important in the Chinese context, with its one-party rule in signaling policy directions. Programs to promote MDGs 4 and 5 have been successful in China due to strong support from the government, including financing of MCH services and the creation of a three-tier structure to support coordinated efforts to improve MCH indicators. Safe delivery, immunizations and, more recently,

preventing mother-to-child transmission, have been prioritized with strong political backing. Similarly, maternal death audits were institutionalized with strong support from the government.

## 6. Remaining/Future Challenges

**While China has 8.2 million health care providers, challenges remain in ensuring the availability and quality of health care providers.** The ratio of doctors and nurses to the population is still low at 1.79 doctors and 1.52 nurses per 1,000 population (Chinese Health Statistical Digest 2011). Human resources are also unequally distributed in favor of urban and higher-income counties and provinces. The capacity of health workers also needs attention. Health sector reforms were initiated in 2009, which aim at addressing these challenges including training for health workers at the township and city levels and village doctors.

**With facility-based births, one issue that has emerged is the high rate of cesarean sections,** with 70 percent of births being performed via C-section. Evidence suggests that the majority of the C-sections are demanded by women for personal reasons, especially those with higher education and those who live in urban area and higher-income regions (Sufang et al. 2007; Anand et al. 2008; Harris et al. 2009). Demand-side interventions such as information and education campaigns are needed to address this issue.

**Although major strides have been made to reduce gender disparities, some gaps remain due to income, residential status, and culture.** Most women still work in the agricultural sector as unpaid family workers. Wage differentials and other practices such as stronger enforcement of penalties for violation of family planning regulations and forced early retirement due to pregnancy put women at a disadvantage. Employers are often reluctant to hire women, and may hire them on the condition that they will not become pregnant, or fire them due to a pregnancy. This also affects their insurance coverage and other benefits that depend on employment status or length of employment. Women are considered primary caregivers within Chinese society, and there is greater pressure on them to leave the labor force when they start a family. This is especially relevant for female migrant workers. (Burnett 2010; Tolhurst, Standing, and Qian 2004; Fan 2003). While major strides have been made in improving the status of women, such practices persist and will require greater effort to address.

**Migrant workers constitute a particular challenge since they do not have access to the urban medical insurance system or other basic services.** Floating migrant populations in China's urban areas have increased considerably, skyrocketing from 31 million in 1990 to 221 million in 2010. Household registration in China, known as *Hukou*, determines where household members can access basic services such as health care and education, putting rural inhabitants who migrate to urban centers at a disadvantage. According to the United Nations Development Program's *China Human Development Report 2007–08*, the maternal mortality rate among permanent urban residents is 25 per 100,000 births compared to 71 per 100,000 among migrant workers (Chan 2009; Liang and Chen 2004).

**Social services such as health and education are not easily accessible to these populations.** The problem is especially acute for female migrant workers from rural areas who, lacking safety nets similar to those of urban residents may have to return to their villages for marriage, childbirth, and even their children's education, or face an uncertain future in urban centers (Burnett 2010; Fan 2003). Those migrants who stay in urban areas face additional challenges because their children do not qualify for free public health services such as routine immunizations outside of their county of residence (World Bank 2006). Yet, these workers are critical to the continued growth of China's economy. It is a challenge to manage health and other social services for a transient population. Some steps are being taken with towards providing better coverage to these populations.

**One of the key concerns in China has been regional disparities in MCH indicators due to income differentials.** Indicators of child health demonstrate particularly strong disparities: the prevalence of stunting is 5.3 times higher in rural compared to urban children, and the prevalence of underweight is 4.6 times higher in rural children (Liu et al. 2008). While the rural-urban gap in infant and under-five mortality has declined, the pace of decline has been slow (Brixii et al. 2010).

**Decentralized financing and administration has provided more autonomy to the counties, but also makes it difficult to ensure that the poor have access to services especially when counties do not have the resources to provide services.** Local governments allocate resources based on their development and health priorities, and may lack sufficient funds to cover MCH services appropriately. This has translated into variations in service provision (see World Bank 2005, 2006). Programs such as the Safe Motherhood Program have been very useful in addressing some of the barriers created due to changes to the economy and health system reform. In addition, poverty alleviation programs and monitoring initiated by the Government of China are showing positive results. Between 1990 and 2010, the percentage of people living under US\$1.25 a day declined significantly from 60 percent to 14 percent. While household consumption has increased, at the regional level, disparities persist, especially in access to health services. For example, out-of-pocket expenditures in rural areas continue to be twice as high as those in urban areas, overall (Brixii et al. 2010). Generally speaking, richer coastal provinces in the east perform significantly better than those inland (that is, the Western province), and this is starkly reflected in MCH progress (see, for example, Fang et al. 2009). The Government of China has made poverty alleviation and reduction of maternal and child mortality its priority, and continued effort, focusing on local- and provincial-level inequalities, is needed to ensure continued improvements in outcomes.

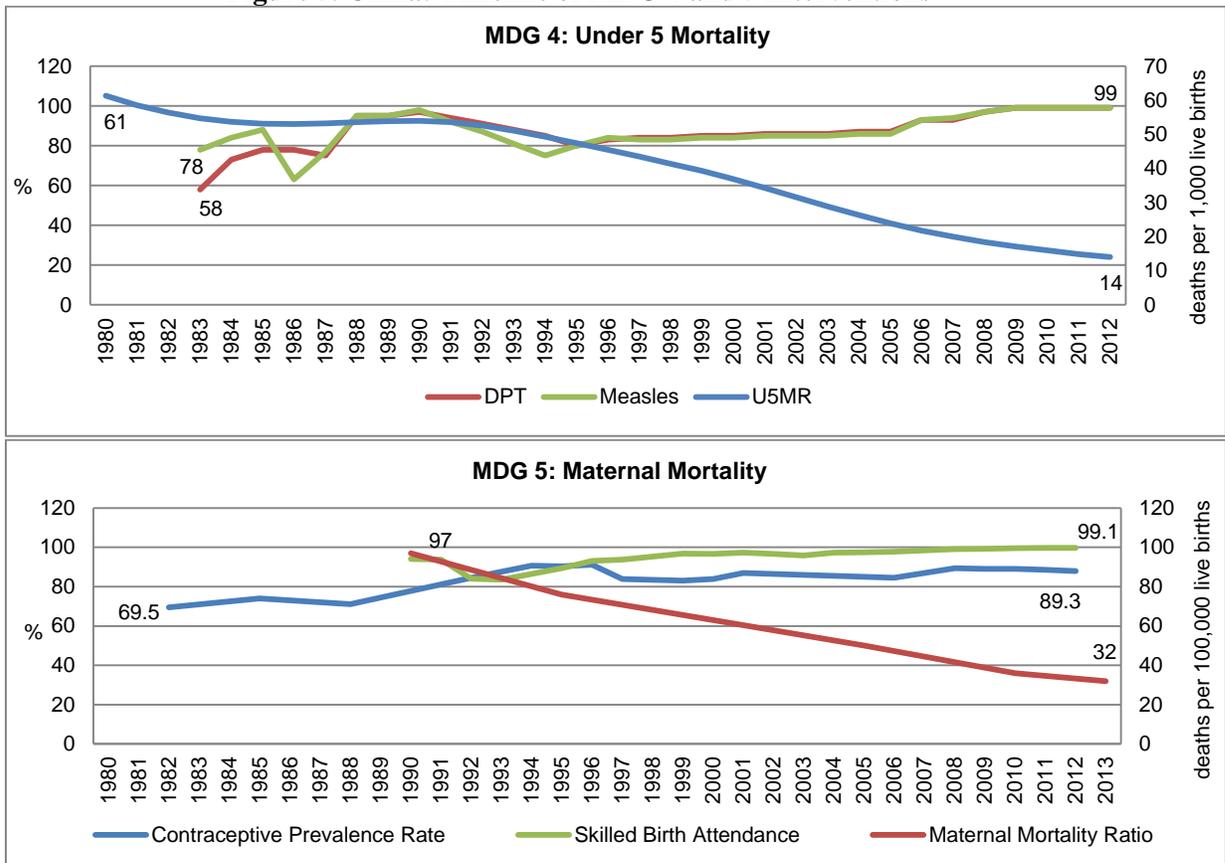
**China's also faced with an increasing age dependency ratio due to an aging population and the one-child policy.** Currently, China enjoys a low age dependency ratio, but this is expected to reverse over the next 20 to 30 years due in part to the continued implementation of the one-child policy and the resulting low fertility rate of 1.6 births per woman, the population growth has slowed. In tandem with advances in medicine and an increased life expectancy of 73 years, the elderly are living longer in China, and their proportion of the population is expected to grow over the next few decades. In essence, this would translate into four grandparents and two parents per person born today (the 1:2:4 ratio). This will also have implications for social safety nets and per capita productivity. Addressing this challenge will require not only an assessment of social safety nets but also the one child policy.

Figure 5 provides a timeline of interventions and indicators related to MDGs 4 and 5 in China<sup>13</sup>

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<sup>13</sup> Caution should be taken in inferring any causality since multiple factors contributed to the decline of U5MR and MMR as the discussion highlights.

**Figure 5. China: Timeline of MDG 4 and 5 Interventions**



**1950–1989**

**1950s onwards:** Training of midwives initiated; focus on improving hygienic conditions; and mass immunizations

**1965:** "June 26 Directive" calls for scientific methods in healthcare

**Mid-1970s:** Barefoot doctors in every village

**1978:** Expanded Program for Immunization (EPI) initiated

**1979:** One-Child Policy

**1980s:** Position of Maternal and Child Health (MCH) clinician created

**1984:** Operational protocols to standardize maternal healthcare provision

**1986:** Ministries of Health and Labor co-formulate standards for MCH

**1990–1999**

**1990–94** Diarrheal Disease Control Program

**1992–95** National Children's Respiratory Infection Control Program

**1994:** Law on Maternal and Infant Health Care

**1996:** Integrated Health Information System for MCH established through merger of existing data collection channels

**Mid-1990s:** MCH department created; all counties required having an MCH specialty hospital

**2000–2012**

**2000:** Program to Reduce Maternal Mortality and Eliminate Neonatal Tetanus ("Two Reductions" or Safe Motherhood Program)

**2000:** Maternal death reviews initiated

**2001:** Implementation Guidelines of the Law on Maternal and Child Health

**2003:** NCMS to subsidize health care costs in rural areas

**2010:** NCMS expanded to cover all counties

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## ANNEX 3: EGYPT'S PROGRESS ON MDGS 4 AND 5

### Key Messages

- Child mortality has declined from 86 deaths per 1,000 live births in 1990 to 21 deaths per 1,000 live births in 2012. Maternal mortality has also declined from 120 deaths per 100,000 live births in 1990 to 45 deaths per 100,000 live births in 2013 – achieving its MDG 4 and 5 targets.
- Egypt has had a long standing family planning program which has contributed to the improvement of women and children's health.
- Programs for childhood immunizations and control of diseases have been an important component of Egypt's response to child ill health
- After ICPD 1994, integrated approaches to maternal and child health have been critical in reducing maternal and child mortality further, especially through increased focus on the poor and marginalized areas. Between 1992 and 2000, Egypt saw a 52% in reduction of maternal mortality. This is due in part to the success of the Healthy Mother/ Healthy Child Project which operated in the Upper Egypt region.
- While Egypt has done a great deal to improve maternal and child health, challenges remain especially in relation to women's autonomy. Egypt has seen political and social unrest since 2011 which has escalated in the past year with negative consequences for economic growth and social development.

### 1. Introduction

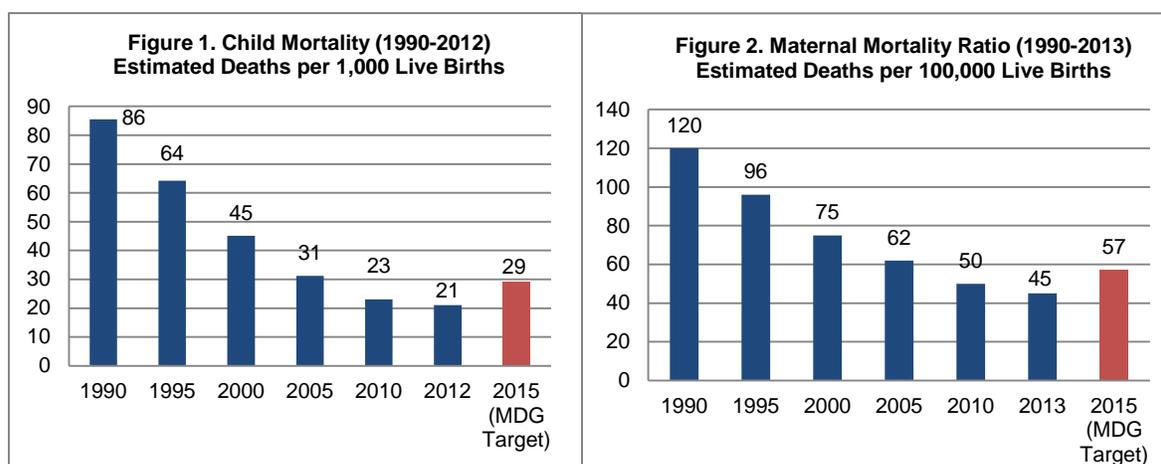
**Egypt is a lower middle-income country with a GNI per capita (PPP) of US\$ 5,654 in 2012 and an average GNI growth rate of 4.4 percent between 2001 and 2010.** Following political unrest (the Arab Spring) in 2011, Egypt's economy has taken a downturn with growth slowing to 2.2 percent in 2012 (World Development Indicators 2014). With continued instability in the country, there is growing concern regarding the socio-economic conditions in the country.

**Although extreme poverty in Egypt is low (with only 25 percent of the population living on US\$ 1.25 per day or less), it is largely concentrated in the Upper Egypt (the southern) region,** which is home to 80 percent of the extreme poor. Half of Egypt's 82.54 million people live in rural areas. . It is the largest, most densely populated country among the Arab States. Most of the population is concentrated in the Nile Delta (in the North) or in the Nile Valley (south of Cairo) – which makes up the Lower Egypt region, which has been an advantage in providing coverage of basic services to majority of the population as the government could concentrate in these two regions.

**Egypt is ranked 112<sup>th</sup> on the Human Development Index, and 126<sup>th</sup> on the Gender Inequality Index (out of 186 ranked countries).** The female labor force participation rate is 24 percent compared to 74 percent for males. The primary school completion rate is high for both females and males at 99 percent and 102 percent, respectively. Gross secondary enrollment is 71 percent for females and 74 percent for males. However, only 60 percent of the women are literate compared to 80 percent men.

**Egypt has made considerable progress in improving maternal and child health.** According to interagency estimates, child mortality declined from 86 deaths per 1,000 live births in 1990 to 21 deaths per 1,000 live births in 2012 - a 75.4 percent decline, that has allowed Egypt to exceed its target for MDG4. Egypt has also successfully reduced neonatal mortality by 65 percent during the same period. Similarly, the maternal mortality ratio (MMR) has declined from 120 deaths per

100,000 live births in 1990 to 45 deaths per 100,000 live births in 2013 – a 62 percent decline, that also exceeds the targets set for MDG 5 for Egypt. Recent political events in the country, however, bring into question how long the results can be sustained if conditions do not improve.



Source: WHO 2014; UNICEF 2013

## 2. Maternal and Child Health Policies

**Child Health:** Focus on immunizations and control of childhood diseases was an important aspect of early prioritization of child health. In 1989 Egypt further focused attention on child related issues by declaring a “Decade of the Egyptian Child” from 1989 to 1999, and then again a second decade from 2000 to 2010. Investment in children was promoted as the best investment for the future of Egypt. In 1996, the *Law of the Child* was passed, which aimed to use an integrated approach to address childhood issues including health. Provisions in the law are guided by the Qur’an, the Shari’a (the code of law based on the Qur’an), the principles of the Egyptian Constitution, and the provisions of the Convention on the Rights of the Child. In 2008, the law was amended to include a rights-based approach.<sup>14</sup>

**Reproductive and Maternal Health:** Early family planning efforts in Egypt were grounded in concern over population growth and the quality of life. The first National Population Policy was promulgated in 1973 with the goal of reducing the crude birth rate from 34 births per 1,000 in 1973 to 24 per 1,000 in 1982 emphasizing the link between family planning, fertility reduction, and socioeconomic development. By 1994, there was a marked shift in policy with family planning being rooted firmly within comprehensive reproductive and maternal health after the landmark International Conference on Population and Development (ICPD) conference which was held in Cairo (Zohry 1997). In 1988, the National Council for Childhood and Motherhood (NCCM) was created to coordinate policymaking and programs on children and safe motherhood in Egypt (National Council for Childhood and Motherhood 2000). After ICPD 1994, family planning was merged with maternal and child health under the Ministry of Health and Population (MoHP). The *1998–2002 Five Year Plan* of the MoHP adopted a comprehensive approach integrating family planning and maternal and child health into a general women’s health program. It focused improving the quality of delivery care and encouraging appropriate care-seeking behavior to reduce maternal mortality. Greater emphasis was also placed on improving the quality of care in Upper Egypt to reduce regional disparities in maternal mortality outcomes between the region and Lower Egypt (Sharma et al. 2005; World Bank 2008; Campbell et al. 2005).

<sup>14</sup> Child Rights/Legislation. National Council for Childhood and Motherhood. [http://www.nccm-egypt.org/e7/index\\_eng.html](http://www.nccm-egypt.org/e7/index_eng.html)

**Constitution of 2012:** In 2012, Egypt adopted a new Constitution which guarantees healthcare including free maternal and child health services and free healthcare for the poor. Article 10 of the constitution states that “The State shall ensure maternal and child health services free of charge, and enable the reconciliation between the duties of a woman toward her family and her work.” Article 62 guarantees the right to health of every citizen and makes provisions for free healthcare for the poor<sup>15</sup>. In guaranteeing these rights, it continues to support existing MCH programs. However, there are concerns that overall it does not go far enough in preserving women’s rights, including that for family planning, especially amid reports that the government has begun to scale back the family planning program<sup>16</sup>, which in part is due to a phasing out of donor support.

### 3. Maternal and Child Health Programs

**Immunization:** Improvements in child health in Egypt are largely attributed to the focus on vaccinations and treatment of childhood illnesses. The immunization program in Egypt started in 1956, when DPT immunization was made compulsory, followed by poliomyelitis in 1968, BCG in 1973, and measles in 1977. Initiated as vertical programs, these were later incorporated into the Expanded Program of Immunization (EPI).<sup>17</sup> In late 1985, President Mubarak set a national goal of achieving universal coverage by 1987, resulting in a series of national campaigns that led to a high level of complete immunization coverage in many areas. The overall immunization coverage against childhood illness increased from 35 percent in 1988 to 92 percent in 2008. The World Health Organization declared Egypt free of neonatal tetanus (NT) in 2006 based on the outcomes of the national campaign against NT from 1995 to 2006 (UNDP 2010<sup>18</sup>). The percentage of children immunized increased from 35 percent in 1988 to 91.5 percent in 2008. Overall DPT and measles immunizations have also increased, despite a minor decline between 2005 and 2008 (Table 1).

**Table 1: Childhood Immunizations in Egypt (1988-2008)**

Indicator	1988	1992	1995	2000	2005	2008
% of children fully immunized	35	67.4	79.1	92.2	81.1	91.5
Immunization, DPT (% of children 12-23 months)	87	79	88	98	98	97
Immunization, measles (% of children 12-23 months)	85	89	89	98	98	92

Sources: WDI, DHS

**Childhood Illnesses:** In the late 1970s and early 1980s, dehydration from diarrhea had emerged as one of the leading causes of death in Egypt. To address this, the Control of Diarrheal Disease Program (CDD) was begun in 1982 to address this issue. Oral rehydration salts (ORS) were introduced through both the public and private sector. Media campaigns were also launched to raise awareness and teach mothers how to use ORS. Diarrheal mortality decreased 62 percent in children and 82 percent in infants between 1982 and 1987. Overall, the program helped reduce child diarrheal deaths by 300,000 between 1982 and 1989.<sup>19</sup>

<sup>15</sup> <http://www.egyptindependent.com/news/egypt-s-draft-constitution-translated>

<sup>16</sup> <http://www.economist.com/news/middle-east-and-africa/21568394-if-approved-egypts-new-constitution-would-be-step-back-mubarak-era>

<sup>17</sup> <https://jscholarship.library.jhu.edu/bitstream/handle/1774.2/848/WP94-10.pdf>;  
<http://www.benthamsience.com/open/tovacj/articles/V002/77TOVACJ.pdf>

<sup>18</sup> [http://www.undp.org.eg/Portals/0/MDG/2010%20MDGR\\_English\\_R5.pdf](http://www.undp.org.eg/Portals/0/MDG/2010%20MDGR_English_R5.pdf)

<sup>19</sup> [http://www.cgdev.org/doc/millions/MS\\_case\\_8.pdf](http://www.cgdev.org/doc/millions/MS_case_8.pdf)

During the 1980s, there were high levels of morbidity and mortality associated with acute respiratory infections (ARI) in children under five, particularly pneumonia. Egypt established a national ARI program in 1989 to respond to this threat. To increase utilization, communication, and education, efforts were made through counseling of families by doctors and nurses. The program also focused on training of health personnel and securing equipment and a regular supply of essential drugs. Research and monitoring also played an important part in this program as it has informed key implementation areas such as policy making and the improvement of guidelines. By 1994, access to standard case management was 85 percent (Khallaf and Pio 1997).

By the mid-1990s, the ARI, CDD, and EPI vertical programs were folded into the nationwide Integrated Management of Childhood Illness (IMCI) program with an aim to provide cost-effective and comprehensive child health services. The IMCI strategy was adopted by the MoHP in 1997 as part of its health sector reform (WHO 1999). The IMCI in Egypt aims to improve the quality of child health services, develop health information system, strengthen referral system, and improve family practices by combining curative, preventive and development aspects of child care, for the under 5 years age group. IMCI improved the quality of primary health care services offered to children with universal coverage at public health care facilities, and evidence shows that it is associated with doubling the rate of reduction of U5MR in districts implementing IMCI.

Despite progress in reducing childhood illnesses, disparities are evident between Upper Egypt and Lower Egypt. According to the 2008 DHS, under-5 mortality in Lower Egypt is 25.3 deaths per 1,000 live births compared to Upper Egypt which is 42.7 deaths per live births. Infant mortality is also higher in Upper Egypt with 36.3 deaths 1,000 per live births versus Lower Egypt with 21.3 deaths 1,000 per live births.

**Family Planning:** The national family planning program began in 1973 with the establishment of the first *National Population Policy*, which focused on population growth and economic development. Campaigns were launched and choice of contraceptives increased over the 1980s and 1990s. The government also invested in developing local leadership and generating ownership of service provision among health service providers to improve quality of services through the Leadership Development Programme (LDP), which has shown positive results. After ICPD 1994, family planning was integrated into the MCH program. The family planning program can be associated with the increase in contraceptive prevalence from 23 % in 1980 to 60% in 2008. Total fertility also declined from 5.6 to 2.7 during the same period. The family planning program is credited with contributing to 3.8 million fewer infant deaths and over 7 million fewer child deaths, and for saving 18,000 maternal lives between 1980 and 2008 (USAID 2011).

**Population Project (1996-2005):** This World Bank supported project has also been instrumental in encouraging utilization of family planning through women's empowerment. One of the objectives of the project was to stimulate demand for smaller families and family planning services in high-fertility areas of rural Upper Egypt through socioeconomic improvement (micro credit, literacy eradication activities, and home visits using a network of Social Change Agents). On average, in participating areas CPR increased from 44 to 55 percent between 2000 and 2005 at the village level. There were also improvements at the district level. Anecdotal evidence from the project suggests that the project had a positive impact on the women's status and their families. Positive changes in male attitudes were also noted, especially because of microcredit (World Bank 2005).

**Child Survival Project:** In 1985, the MoHP, with the assistance of USAID, started the Child Survival Project, which aimed to reduce maternal and child deaths by 1995. The project comprised four vertical programs: EPI, ARI, child spacing, and nutrition. Data show that over the next 10 years there was an average 35 percent decline in infant mortality and a 59 percent decline in child mortality. At the same time, maternal mortality declined from 220 maternal deaths per 100,000 live births in 1988 to 174 maternal deaths per 100,000 live births during 1992-93,

accounting for a 21 percent reduction in the MMR. This reduction surpassed the project goal of a 15 percent decline (Cobb et al. 1996).

### **Box 1: Generating Consensus among Stakeholders on Family Planning in Egypt**

In Egypt, a predominantly Muslim country, wide uptake of family planning is in part supported by the efforts to ensure acceptability and wide access. To generate consensus, religious leaders were involved early in the family planning policy making process to gain their support and encourage cultural acceptability. Earlier advocacy by the Happy Family Society, a non-profit organization, led to an official FATWA (religious decree) being issued in 1937 that declared that Islam was not against the use of family planning under specific conditions. Later, with the government taking on family planning as part of its policy, support was sought and gained for family planning through additional fatwas supporting the use of modern contraception. These fatwas became part of the government's education and information campaigns on family planning.

Despite Egypt's remarkable successes in family planning, the programming has traditionally adopted a top-down approach. Amid concerns that uptake of family planning is stagnating, there is now an emerging consensus among policy makers in Egypt that a different approach is needed in order to continue improving results. Evidence points towards a relatively high unmet need for contraception (25 percent) coupled with misinformation about contraceptive use. To address these issues it is important that there is a shift away from a top-down program with targets for family size and fertility rate towards a rights-based and person-centered approach. The essence of a rights-based approach is the focus on individuals taking control of their lives. Such an approach would also support a greater voice for the poor and marginalized in exercising their rights to better health.

**The Healthy Mother/Healthy Child Project:** Aimed at reducing regional disparities, the project began operating in Upper Egypt in 1998 and incorporated a wide array of critical initiatives. It enhanced the infrastructure of maternal and neonatal wards in the hospitals; improved services via extensive training of physicians, nurses, and obstetricians/ gynecologists; developed standardized national guidelines and disseminated them nationally; trained nurses to be qualified nurse midwives; improved the referral network from the primary level to the tertiary level; and developed an integrated maternal mortality surveillance system.

HM/HC has improved access to essential obstetric and neonatal care for an estimated 22,934,908 million people in nine Upper Egypt governorates and two slum areas. It has also improved utilization and quality of maternal and child services. Urban births attended by a trained health provider increased 45 percent between 1998 and 2003. In 2003, 77 percent of urban births and 50 percent of rural births were attended by a trained health provider, and the proportion of rural births delivered in a health facility increased by 100 percent. Neonatal care unit admissions increased from 6,149 cases in 1999 to 15,355 cases in 2003, representing an increase of 150% in 55 NCUs. The utilization rate tripled from between 1999 and 2003 from 11.6/1000 live births to 27.9/1000 live births (JSI 2005).

By 2000, maternal mortality had declined 52 percent since 1992–93 with significant gains made in Upper Egypt. Interestingly, the magnitude of change was significantly greater in Upper Egypt (59 percent) than in Lower Egypt (30 percent). In addition, for the first time, the maternal mortality ratio was lower in Upper Egypt than in Lower Egypt (MOHP 2000; Campbell et al. 2005).

## **4. Health System Responsiveness**

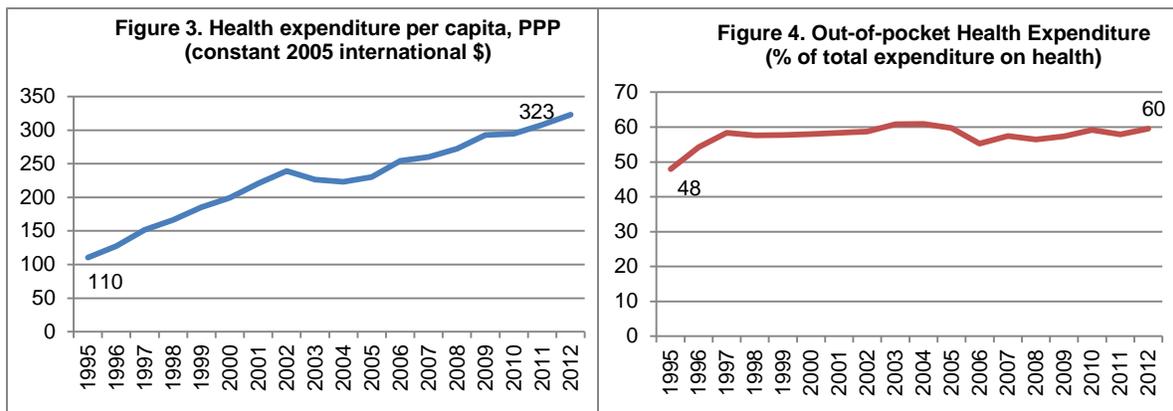
**Service Delivery System:** Egypt's health care system is characterized by widespread geographic coverage of both public and private providers. The high population density and well-developed infrastructure of roads and facilities means that most people live within close reach of health

services. In most cases, both rural and urban residents have access to a health facility within 5 kilometers of their home. Health services in Egypt are currently managed, financed, and provided by the public and private sector as well as parastatal agencies. The public health care infrastructure in Egypt is quite strong, with approximately 5,000 public primary care facilities and 1,100 public hospitals located across the country.

**Health Insurance:** In Egypt, half the population is covered by health insurance through the government sponsored Health Insurance Organization (HIO), which includes public sector workers, infants, school children, pensioners, and widows (WHO 2010). The government funds a package of primary health care services. All Egyptians can receive free basic care through the public health system; however, certain services, such as laboratory services, must be paid out-of-pocket. While per capita health expenditure has increased, so have out of pocket costs (see figures 3 and 4). Private insurance is only utilized by 1 percent of the population. Fifty percent of the population is uninsured and must pay out-of-pocket at public and private facilities for health services. This includes the poor and those in the informal sector who rely on the free care provided by the MOH. Out of pocket expenditures represent 60 percent of health care expenses and 60 percent of this are for hospital and outpatient clinic services with spending on pharmaceuticals making up the balance (World Bank 2009; WDI 2014).

In 1993, the government introduced the *Student Health Insurance Program*, to ensure comprehensive preventative and curative coverage to address gaps in service among school aged children. This increased the total beneficiary population from 5 million in 1992 to 20 million in 1995. In 1997, a ministerial decree extended insurance coverage to children under age one, which by 2002 had increased the eligible beneficiary population to more than 30 million. The program has been linked to increased utilization of child health services across all income groups although the largest gains seem to have been made among the middle income groups (World Bank 2009; Nandakumar et al 2000; MoHP 2005; Yip et al. 2001).

**Health Care Reform (1997-2005):** In 1997, Egypt took a step toward universal health coverage with its Health Sector Reform Program (HSRP). The reforms aimed to extend health services to poor populations by restructuring the primary health care delivery system to be based on the Family Health *Model* (FHM). Under the FHM, families rather than individuals are registered with specific doctors and facilities in their home neighborhood. Uninsured beneficiaries would be registered through *Family Health Funds* (FHF), which were to function as insurance entities – a precursor to national universal insurance. This program was targeted at women, children and other disadvantaged population groups. Services would be provided through Family Health Facilities which are accredited following staff training, upgrading of facilities, and ensuring standard practice guidelines including essential drug lists, clinical information and referral systems. An impact evaluation on the HSRP pilot found that HSRP improved maternal health regarding nutrition and family planning but did not have an impact on prenatal and natal care. In addition, the child vaccination rate and access to medical treatment also improved under the HSRP (Grun and Ayala 2006).



Source: WDI 2014

**Outcomes Monitoring:** Most surveillance systems were established as part of the different vertical programs, such as family planning, EPI, and ARI. As the programs matured and were integrated within the overall health system, their surveillance systems were integrated into the national health information system maintained by the MoHP. This system collects data at the local, regional, district, and governorate levels. Egypt also established a *Maternal Mortality Surveillance System* (MMSS) in 1998, which is based on death notification data at the district level and expanded to all levels of the health system by 2001. These systems have allowed practitioners to track diseases; determine causes of maternal deaths; and respond to the changing environment and needs. It has also helped build accountability into the system, which has been crucial in reducing maternal and neonatal mortality.

Monitoring outcomes through surveillance has been very influential in guiding government response, projects and determining the areas of greatest need in Egypt especially for maternal health. In 1992–93, the first *Maternal Mortality Study* was carried out under the Child Survival Project. The study identified huge disparities in MMR between Lower and Upper Egypt. In response, the government convened an expert panel and then released obstetric/gynecological clinical guidelines and protocols nationally to ensure a high and consistent standard of care. The government also focused its attention on Upper Egypt through the Mother Care and Healthy Mother/Healthy Child Projects, which have been successful in addressing the regional disparities in maternal mortality outcomes.<sup>20</sup>

## 5. Creating an Enabling Environment

In addition to health sector interventions, empowerment through education and integrative projects has also been important to improving maternal and child health in Egypt. Poverty reduction has also played an important role in increasing demand and utilization of services.

**Education:** Literacy levels are moderately high in Egypt, with 72 percent of the population being able to read or write. However, only 60 percent of the women are literate compared to 80 percent men. Improved access and equity in education in Egypt has been strongly supported by the Community Schools Initiative launched by the Ministry of Education. Launched in 1992, this project was designed to bring quality education to hard to reach and rural areas. The number of students enrolled increased from 121 in 1992/93 to 3,000 in 2000. Girl’s enrolment increased from 89 in 1992/93 to 2,000 in 1995/96, reflecting the majority of the overall enrolment (World Bank 2003).

Another project – the “*One Classroom*” was initiated in 1993 to encourage the re-enrolment of girls in disadvantaged and remote areas aged 8-15 who have previously dropped out of school. It aimed to reduce the large gender disparities in these areas by providing free education and

<sup>20</sup> [http://pdf.usaid.gov/pdf\\_docs/PNACA168.pdf](http://pdf.usaid.gov/pdf_docs/PNACA168.pdf)

employing only female teachers. The project provided primary education and courses that teach marketable skills for income generation. The number of schools increased from 313 in 1993/4 to 2,260 in 1998/9 and the enrolment increased from 2926 to 44,820 in the same period.<sup>21</sup> The Girls' Education Initiative, initiated in 2000, also aimed to reduce the gender gap in primary education. The Initiative has opened 1,076 girl-friendly schools and enrolled 24,413 girl students.<sup>22</sup>

At the primary school level, Egypt has achieved near universal enrolment as well as gender parity. The primary completion rate is high for both females and males at 99% and 102% respectively. Secondary school enrolment is also high and near parity (at 71 and 74 percent respectively) for boys and girls (World Development Indicators 2013).

**Empowerment:** In 2000, the National Council for Women was established as a government institution that aims to enhance the status and participation of women (United Nations 2004). The Family Tribunal Law, the Nationality Law and the Family Court Law have built stronger legal rights and privileges for women and children (World Bank 2005). The *Egyptian Social Fund for Development (SFD)* has also been important in addressing equity and empowerment. It was established in 1991 to reduce poverty and increase employment opportunities through community development, public works, microcredit and small enterprises (Abou-Ali et al 2009). In support of the goals of the Population Project, Social Change Agents, included population and family planning into their outreach. With cooperation from the Ministry of Health, it hires young women as social change agents who provide health education to families (family planning, the risks of female circumcision etc.), and accompany women to health clinics. The social change agents also encourage newly married women with one or two children to participate in the micro-credit program established through the social fund. As estimated 32 percent of Egyptians have benefited from the Social Fund between 2001 and 2008, majority of who are in the lower income quintiles with positive outcomes for health, education, and poverty reduction (Abou-Ali 2009).

**Employment:** Women's rights in the labor force are protected in the 2003 Labor law. The law guarantees all provision of the labor code apply to women and mandates a 90 day paid maternity leave. It also prohibits gender based wage discrimination and dismissal of a woman while on maternity leave. While the law protects women's rights in the workplace in many ways, it also includes some discriminatory provisions. For instance, there are articles that allow government ministers to establish conditions where it is inappropriate for women to work from 7pm to 7am. Further, ministers are also able to determine is an area of work is morally inappropriate for women.<sup>23</sup> Overall, female labor force participation remains low with only 25 percent of women ages 15-49 actively participating in the labor market. Female participation in waged or salaried work is 48 percent – a decline from its peak at 67 percent in 2002 (World Development Indicators 2013).

**Role of Political and Programmatic Leadership:** Political and programmatic leadership has played an important role in Egypt by maintain focus on maternal and child health. Senior Egyptian policymakers have been instrumental in moving the country forward in terms of health outcomes, health insurance coverage, MCH programs, and family planning, as well as bringing ICPD 1994 to Egypt. Child health has been a critical focus of the first ladies.

## 6. Challenges and future priorities

**While facility based births have increased considerably, quality of services need further attention.** For example, according to the 2004 Egypt service provision assessment, only 17 percent were in facilities equipped with newborn respiratory support and only 8 percent are by

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<sup>21</sup> [http://www.unesco.org/education/wef/countryreports/egypt/rapport\\_3.htm](http://www.unesco.org/education/wef/countryreports/egypt/rapport_3.htm)

<sup>22</sup> National Council for Childhood and Motherhood. Girls Education Initiative. Available at: [http://www.nccm-egypt.org/e11/e3151/index\\_eng.html](http://www.nccm-egypt.org/e11/e3151/index_eng.html)

<sup>23</sup> [http://www.freedomhouse.org/sites/default/files/inline\\_images/Egypt.pdf](http://www.freedomhouse.org/sites/default/files/inline_images/Egypt.pdf)

staff trained in neonatal resuscitation, with implications for neonatal survival. Moreover, while 65 percent of all mothers received a post-partum check-up within two days of birth, only 31.2 percent of newborn children received a check-up within two days of birth. Attention to these gaps in provision is needed to further reduce incidence of maternal and child ill-health and mortality, while ensuring that gains made in reducing under-5 mortality are maintained.

**Despite gains disparities exist in access and utilization of health care due to income, education and/or place of residence.** For example, 57 percent of pregnant women in rural areas received regular ante-natal care as compared to 80 percent of pregnant women in urban areas during 2007-08. Similarly, 40 percent of women in the lowest income quintile received regular ante-natal care compared to 90 percent of the women in the highest income quintile; and while 55 percent of the women in the lowest income quintile had a skilled attendant at birth, nearly all women (97 percent) had skilled attendance at birth in the highest income group.

**Although the contraceptive prevalence rate is high at 60 percent, long term use is limited.** According to the 2008 Egypt demographic and health survey, a quarter of the women stopped using contraception within 12 months of starting during 2003-08. Of these, 3 out of 10 women cited health concerns as a reason for discontinuing contraceptive use (Cleland and Sinding 2000). As highlighted in Box 1, there are now efforts to explore different approaches to encourage uptake that focus on individual rights.

**Emerging maternal and child health challenges relate to behavioural risks associated with chronic diseases** - a leading cause of death in Egyptian adults. Focus on control of such diseases is needed due to complications from maternal obesity, hypertension and diabetes. This is already evidenced in the increased share of neonatal and post-neonatal complications causing under-5 deaths e.g. 30 percent of infant deaths in Egypt are due to pre-term birth, whereas congenital anomalies make up another 21 percent.

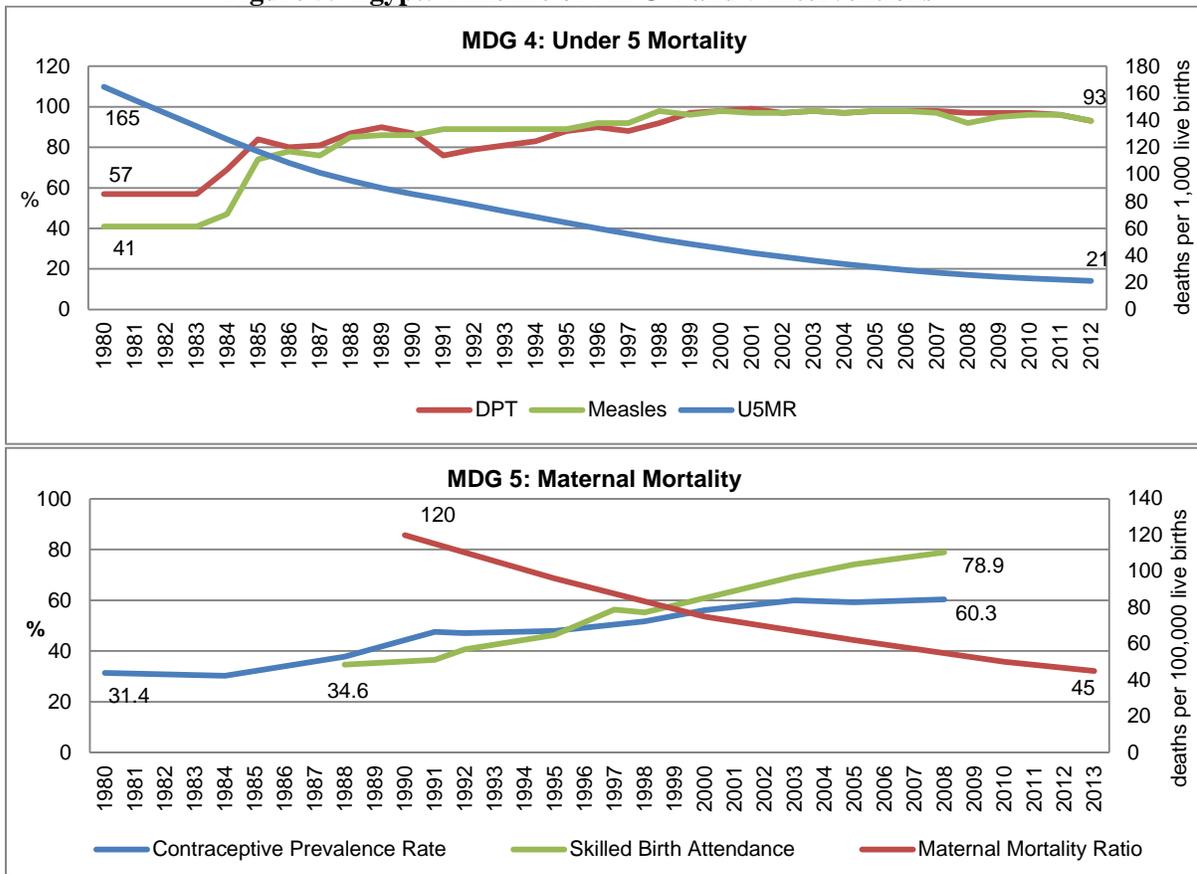
**One of the issues that presented some challenges is women's autonomy over their own health care.** Often husbands or other decision-makers such as mothers-in-law have to be convinced of the need to seek medical help for women's own illnesses and pregnancies. Although the percentage of women who have some say in decision making about their own health has increased from 60 to 87 percent between 2000 and 2008, the remaining 13 percent still had no say in decisions about their health. Women with higher education, four or more children (possibly reflective of status within the household), and those working for cash had more control over decision-making regarding their health and other household issues. Rural women, especially from Upper Egypt and the frontier governorates were less likely to make decisions alone or jointly. In order for further inroads to be made towards reducing maternal and child mortality, it would be important to reach this pocket of households.

**Continued political commitment is important** for ensuring that both maternal and child mortality remain low. This support is also essential for further improving the quality of services, maintaining momentum, and ensuring universal coverage of maternal and child health services. Figure 5 provides a timeline of interventions and indicators related to MDG 4 and 5 in Egypt.<sup>24</sup>

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<sup>24</sup> Caution should be taken in inferring any causality since multiple factors contributed to the decline of U5MR and MMR as the discussion highlights.

**Figure 5. Egypt: Timeline of MDG 4 and 5 Interventions**



Pre-1980	1980-1995	1996-2012
<p><b>1937:</b> Official Fatwa (declaration) supports use of family planning under specific conditions</p> <p><b>1945:</b> Family planning services as part of its health activities</p> <p><b>1956:</b> DPT vaccination made compulsory</p> <p><b>1962:</b> Egypt's National Charter establishes support for family planning</p> <p><b>1968:</b> Poliomyelitis vaccination made compulsory</p> <p><b>1973:</b> BCG vaccination made compulsory</p> <p><b>1973:</b> The first National Population Policy; family planning program follows</p> <p><b>1977:</b> Compulsory Measles vaccination introduced.</p>	<p><b>1982:</b> Control of Diarrheal Disease (CDD) Program</p> <p><b>1985:</b> Child Survival Project initiated, and National Population Council (NPC) established</p> <p><b>1987:</b> Acute respiratory infections (ARI) program</p> <p><b>1991:</b> Social Fund for Development established and helps reduce poverty and supports activities aimed at improving family planning and maternal health in subsequent years</p> <p><b>1992-93:</b> Maternal Mortality Study</p> <p><b>1993:</b> Student health insurance introduced to address gaps in coverage through targeting public school populations.</p>	<p><b>1996:</b> Law of the child enacted</p> <p><b>1997:</b> IMCI introduced</p> <p><b>1997:</b> Health Sector Reforms</p> <p><b>1998-2005:</b> Healthy Mother/Healthy Child Project helps reduce regional disparities</p> <p><b>1998:</b> Maternal mortality surveillance system established</p> <p><b>2000:</b> National Council for Women established, and maternal mortality study</p> <p><b>2008:</b> Law of the Child amended based on a rights based approach, and female circumcision is criminalized</p> <p><b>2012:</b> Free MCH services and healthcare for the poor guaranteed under the Constitution.</p>

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## ANNEX 4: MALAWI'S PROGRESS ON MDGs 4 AND 5

### Key Messages

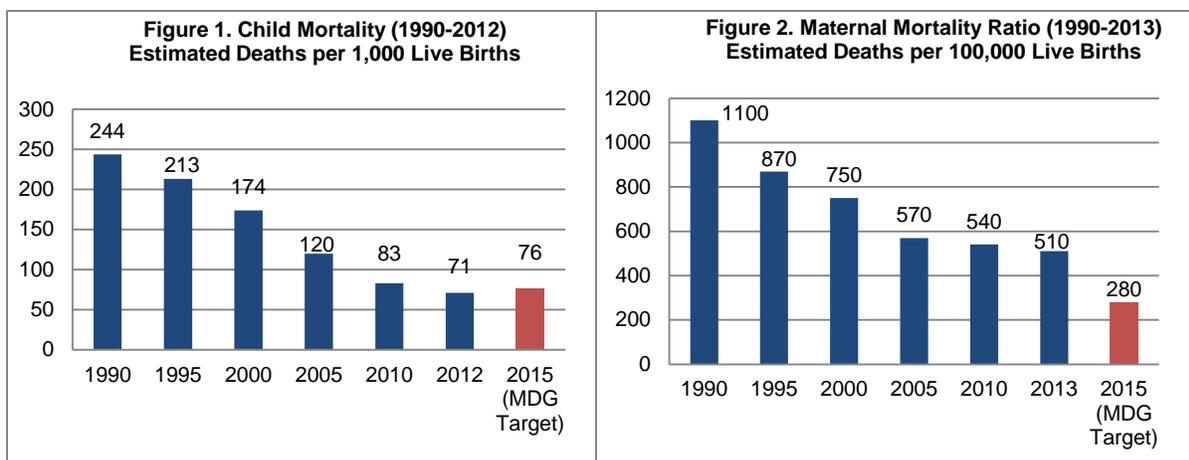
- Malawi has more than halved its burden maternal and child mortality since 1990: maternal mortality declined from 1100 to 510 deaths per 100,000 live births between 1990 and 2013, while child mortality declined from 244 to 71 per 1000 live births between 1990 and 2012.
- Community based service delivery has been integral to reaching rural populations. This includes use of health surveillance workers for immunizations and community based distribution agents for providing family planning services.
- Provision of free primary care services at public facilities, and subsidized care through partnering with the Christian Health Association of Malawi (CHAM) has facilitated an increase utilization of maternal and child health services, especially in rural areas.
- Addressing HIV/AIDs and malaria has been an important aspect of improving maternal and child health.
- The Emergency Human Resources Program (EHRP) is helping to build up human resources and has already been associated with facilitating an increase in maternal and child health service provision.
- Malawi needs to maintain focus on reducing drug and staff shortages, improving quality of services and addressing adolescent reproductive health, and unsafe abortions.

### 1. Introduction

**Malawi is a low-income country with a per capita GNI (PPP) of US\$ 650 in 2011** and an average annual GNI growth rate of 3.8 percent over the past ten years. Poverty is high with 62 percent of the population living on less than US\$1.25 a day. Eighty percent of the population lives in rural areas where the incidence of poverty is also higher: 56.6 percent of the rural population is poor compared to 17.3 percent of the urban population (World Development Indicators 2013; 2014).

**Malawi has a large youth population:** of the 15.3 million people, 45.8 percent are under 14 years of age. . The primary education completion rate is 72 percent for females and 70 percent for males. Gross secondary enrollment, however, drops considerably from the primary completion rate of 33 percent for females and 36 percent for males. Investment in education and health of this young population is essential to promote future economic growth and reap the benefits of a potential demographic dividend.

**Malawi has made great progress in improving maternal and child health (MCH).** According to interagency estimates, the under-five mortality rate declined substantially from 244 deaths per 1,000 live births in 1990 to 71 deaths per live births in 2012. The annual rate of reduction from 1990 to 2012 was 5.6 percent. Maternal mortality has also declined, from 1,100 maternal deaths per 100,000 live births in 1990 to 460 deaths per 100,000 live births in 2010, a 59 percent decrease in MMR, and an average annual decline of 4.4 percent.



Source: WHO 2014; UNICEF 2013

## 2. Maternal and Child Health Policies

**Maternal Health Policies:** Maternal and child health (MCH) gained considerable importance in Malawi in 1994 after the first newly elected democratic government came into power bringing with it a change in the political atmosphere towards population and health issues. The *National Population Policy* was approved in March 1994 which included strategies on increasing the contraceptive prevalence rate, safe motherhood, prevention of sexually transmitted diseases, HIV/AIDS, education, gender, development, and employment, employing a holistic approach to population growth and maternal and child health (Chimbwete et al. 2005). The *Reproductive Health Strategy* (1999-2004) further identified six key priority areas of focus: safe motherhood; adolescent reproductive health; family planning; prevention, early detection, and management of cervical, prostate, and breast cancers; prevention and management of STIs and HIV/AIDS; elimination of harmful practices and reduction of domestic violence; and infertility. The strategy was further updated for the 2006-2010 period to guide programmatic direction within the context of health sector priorities and challenges (MoH 2006).

Malawi has also adopted several regional strategies such as the *African Union Commission's Maputo Plan of Action on Sexual and Reproductive Health and Rights* (2006) and the *Campaign to Accelerate the Reduction of Maternal Mortality in Africa* (CARMMA) (2009). A key element of the plan is that it urges compliance with the Abuja 2001 commitment of increasing resource allocation to the health sector by at least 15% of the national budget. Malawi's *Sexual and Reproductive Health and Rights Policy* (2009) is a rights based policy that domesticates the Maputo Plan (UNFPA 2011; SAfAIDS 2011).

**Child Health Policies:** The *Integrated Management of Childhood Illness (IMCI) strategy* has been critical in addressing the preventive and curative aspects of child health. It was first implemented in 1999 at the facility level. In the following years, there was an improvement in child health indicators: The percentage of children under five with diarrhea who received oral rehydration therapy or increased fluids increased from 51 percent in 2000 to 54 percent in 2004. The percentage of children under five with suspected pneumonia who were taken to a provider also increased, from 27 percent in 2000 to 37 percent in 2004 (WHO and UNICEF 2012). In 2006, the Government of Malawi (GoM) established an IMCI policy to coordinate and guide implementation of IMCI activities, and was the result of a multisectoral effort among the Ministry of Health, the Ministry of Women and Child Development, and other GoM ministries (USAID 2011).

The IMCI approach was influential in the development of the five-year strategic plan for *Accelerated Child Survival and Development*, which was launched in 2006 to scale-up key

interventions in child health. It aims to deliver a package of integrated and high-impact services including immunizing children and women, providing antiretroviral treatment to HIV-positive children, delivering life-saving micronutrients, encouraging breastfeeding, supplying oral rehydration salts for diarrhea and insecticide-treated nets (ITNs) to protect children and women from malaria, and ensuring that young children have access to early childhood learning. District and village implementation plans were also developed as part of this strategy, and services are provided through home visits, village clinic outreach programs, and other key points of contact with the health system<sup>25</sup> (UNICEF Malawi 2007).

### 3. Maternal and Child Health Programs

**Childhood Immunization:** Malawi has focused a great deal of attention on child health since 1979 when it launched the *Expanded Program of Immunization* (EPI) to improve immunization coverage and health outcomes at which point only 58 percent of the children had been immunized for DPT and 49 percent for measles. As of 2010, the immunization rate for both DPT and measles was 93 percent and the percentage of fully immunized children is 80.9 percent. The high immunization coverage rate has been attributed in part to the Health Surveillance Assistants, who have been responsible for the majority of all vaccinations that are given to under-five children in the rural areas.

**Table 1: Childhood Immunizations in Malawi, 2000–2010**

Indicator	2000	2004	2010
Percentage of children fully immunized	70.1	64.4	80.9
Immunization, DPT (% of children aged 12–23 months)	75	89	93
Immunization, measles (% of children aged 12–23 months)	73	80	93

Sources: DHS/WDI.

**Childhood Illnesses:** Malawi implemented the *Child Lung Health Program* in 2000 to address severe pneumonia in children. The program used the widely accepted International Union against Tuberculosis and Lung Disease’s model. The program also strengthened the skills of 312 health workers in district hospitals, and improved supplies of antibiotics and equipment for oxygen therapy. By the end of the pilot in 2005, the program had reduced fatalities by more than 55 percent.

Malawi also adopted the *Emergency Triage Assessment and Treatment* (ETAT) program to address weaknesses in recognizing and managing the treatment of severely ill children. The program was simplified and adapted for Malawi’s context and capacity so it can be used by health workers with basic skills. By January 2011, 89 facilities were implementing ETAT, and mortality decreased 17 percent between 2009 and 2011.

**Family Planning:** Family planning efforts began rather late in Malawi. In 1982, family planning was adopted as part of public health service delivery in the context of child spacing in an effort to reduce maternal and child mortality. The right of the family to have as many children as they wanted was left intact, however. The program consisted of counseling and the distribution of modern contraceptives (World Bank 1987). The 1994 elections and the National Population Policy allowed more intensive actions to be taken on maternal health.

<sup>25</sup> Such as prenatal clinics, mother and child clinics, maternity wards, pediatric wards, and nutrition rehabilitation units.

As with childhood immunization, community based service delivery has been important in the uptake of family planning in Malawi. *Community Based Distribution Agents* (CBDAs) are mainly volunteers who provide and distribute contraception, raise awareness about family planning, and act as referral agents to facilities. A pilot project carried out in three districts during 1999-2003 showed the efficacy of this approach: contraceptive prevalence rate (CPR) increased 12 percent (from about 23.5 percent to 36 percent) in pilot districts compared to a 6 percent increase in the control districts (World Bank 2004; Soto et al. 2005), strengthening the case for further investment in community based health workers for delivery of family planning services.

**Table 2: Maternal Health Indicators in Malawi, 1992–2010**

Indicator	1992	2000	2004	2010
Total fertility rate	6.73	6.3	6	5.7
Adolescent fertility rate	—	159.8	143.1	111
Contraceptive prevalence rate: Any method	13	31	33	46
Contraceptive prevalence rate: Modern method	7.4	26	28	42
Unmet need for contraception	36.5	29.9	30.3	26.2
Skilled birth attendants	55	56	56	71
Percentage of live births delivered at a health facility	55.3	55.3	69.4	73.2
Prenatal care from a skilled provider	90	91	93	95

Sources: DHS/WDI.

Note: — = not available.

**National Safe Motherhood Program:** Launched in 1996 to coordinate safe motherhood strategic activities, the program aimed to reduce maternal mortality ration (MMR) by 50 percent between 1996 and 2000. The program had four key strategies: (1) to increase public awareness on maternal mortality issues; (2) to generate political, government, and donor commitment for resource allocation; (3) to reduce delays by expectant mothers in reaching emergency obstetric care; and (4) to improve the quality of reproductive health care and reduce the total number of high-risk pregnancies. While not successful in achieving its goals due to structural weaknesses, it program did establish a routine monitoring system to evaluate facilities which has helped district management teams identify problems (Pearson 2010; Hussein 2001)

One of the more recent efforts to improve maternal and child health has been the Community-Based Maternal and Newborn Care (CBMNC) package, which was adopted by the Ministry of Health in 2007. This integrative package includes maternal and newborn child health, HIV/AIDS, and malaria services. The CBMNC package includes three prenatal house visits by HSAs (who are linked to facility-based health workers), and three postnatal visits. By 2011, 1,700 HSAs were trained and the CBMNC package was being implemented in 17 of 28 districts (Zimba et al. 2012).

**Nutrition:** In 2006, Malawi began implementing UNICEF’s biannual Child Health Days, to deliver free essential health services through mass campaigns. This includes messaging on breastfeeding, feeding sick children, Vitamin-A rich foods, deworming, handwashing with soap, and use of insecticide-treated nets (ITNs). In 2010, Child Health Days resulted in nearly 100 percent of children aged 6 to 59 months receiving vitamin A supplements and deworming (UNICEF; UNICEF 2011).

Malnutrition in children under five declined from 52.5 percent in 2005 to 47.8 percent in 2010 (WHO 2013). Disparities remain, however, and according to the 2010 Demographic and Health Survey (DHS), under-five mortality is higher in rural areas (130 deaths per 1,000 live births) than in urban areas (113 deaths per 1,000 live births). Further, under-five mortality is 133 per 1,000

live births in the lowest quintile compared to 105 per 1,000 live births in the highest quintile (NSO 2011).

**Malaria:** Malaria is endemic in Malawi and is among the leading causes of morbidity and mortality in children under five and pregnant women, responsible for 40 percent of all hospitalization for children under the age of five. The *National Malaria Control Program* was established in the 1980s to identify and implement more effective ways to fight the disease than the status quo. Malawi adopted sulfadoxine/pyrimethamine (SP) for intermittent preventive treatment for pregnant women (IPTp) in 1993, becoming the first country to abandon chloroquine and the first country to use SP for IPTp. For malaria treatment in children, Malawi moved from SP to artemisinin-based combination therapy (ACT). Insecticide treated nets (ITNs) have also been important in preventing malaria in Malawi, which are available free of cost as of 2006. The malaria program (specifically, the distribution of ITNs) has been attributed with decreasing anemia in women (aged 15 to 49 years) from 47 percent in 2001 to 29 percent in 2010.

Current malaria prevention and management is guided by the 2011–2015 *Malaria Strategic Plan*, which aims to provide universal access to prevention, care, and treatment (with an 80 percent utilization rate of interventions) including a focus on pregnant women.

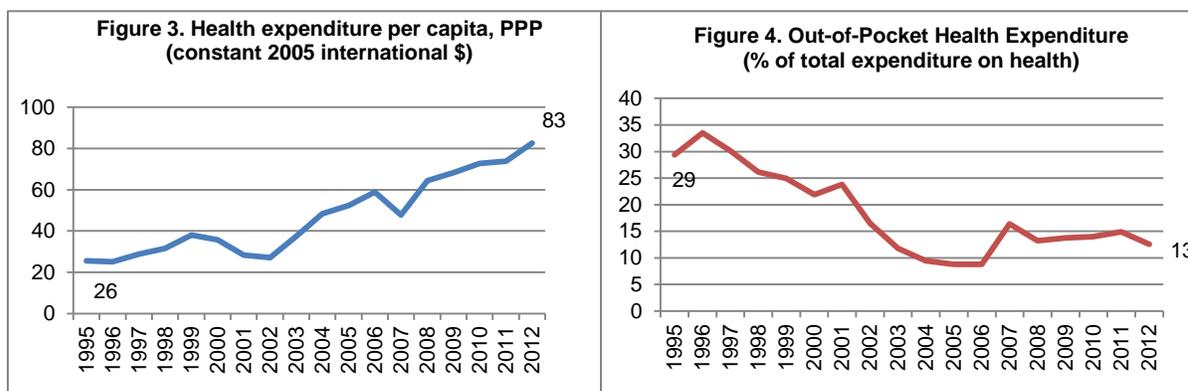
**HIV/AIDS:** At 11 percent, Malawi has one of the highest prevalence rates of HIV/AIDS in the world and contributes to nearly a third of maternal deaths in the country. Women generally bear a higher burden of the disease (13 percent) compared to men (9 percent), and at 25 percent mother to child transmission is high (DHS 2010; World Bank 2012).

The government has prioritized HIV/AIDS in policy and strategies; the current *National HIV and AIDS Policy* was approved in 2003, and the most recent guiding framework is the National Strategic Plan 2011–2016. In 2003, Malawi also began implementing a comprehensive *Prevention of Mother-to-Child Transmission* (PMTCT) program. Under the program, HIV/AIDS services are available through antenatal clinics (ANCs), maternity wards, and outreach programs. With investment in scale up of service delivery, the number of ANCs that provide access to a minimum package of PMTCT services has increased from 60 to 491 clinics between 2006 and 2010.

Additionally, since CD4 testing is limited in the resource strapped country, Malawi pioneered a hybrid of the WHO recommended Option B approach to PMTCT – “Option B+” provides lifelong treatment for any pregnant woman with HIV status regardless of CD4 count. Since implementation began in July 2011, there has been a six-fold increase in the number of pregnant women starting antiretroviral therapy. Other countries are now following Malawi’s lead in implementing Option B+. In September 2012, Uganda announced that it was going to adopt the Option B+ strategy (GoM 2009; Schouten 2011; MSH 2012; IRIN 2012).

#### **4. Responsiveness of Health System**

The gains made in recent years toward addressing MDGs 4 and 5 are strongly linked to Malawi’s efforts to strengthen its health system and provide affordable services. About 60 percent of health care services are provided through the public system free of charge, and about 37 percent are provided through the not-for-profit Christian Health Association of Malawi (CHAM) and the remaining 3 percent are provided by the private, for-profit sector for a fee. Since 1995, Malawi has seen a sharp increase in the per capita health expenditure and a decline in out of pocket expenses – although still low, health care expenditures per capita have roughly tripled from US\$ 26 to US\$ 83 between 1995 and 2012 (figure 3), while out-of-pocket health expenditures have halved from 29 percent to 13 percent during the same period (figure 4).



Source: WDI 2014

The government of Malawi has taken several steps to address the weaknesses in its health system. These include the following:

**Streamlining investment for the Essential Health Package (EHP):** In 2002, the Government of Malawi initiated changes to its health strategy due to persistent weaknesses in the health system (shortages of drugs and personnel; poor quality of infrastructure; lack of access to health services). At the national level, free provision of a package of 11 essential interventions was included in the country’s Poverty Reduction Strategy. This was aligned with resource mobilization in the health sector - the government adopted a Sector Wide Approach (SWAp) to streamline investments for the delivery of the EHP. The removal of user fees has helped to increase the utilization of health services, with outpatient visits increasing from 0.8 to 1.2 per person between 2004/05 and 2007/08. The use of skilled birth attendants also increased from 38 percent to 45 percent during the same period. As of 2009, 65 percent of facilities were delivering the EHP and 55 percent offered emergency obstetrics care (World Bank 2002 & 2009, Vaillancourt, 2009).

**Public-Private Partnership for service delivery:** Engaging in a public-private partnership with the CHAM has also been important in reducing coverage gaps, including for maternal and child health services in rural areas. While CHAM operated health facilities have existed since the 1960s, since 2002, the government has entered into service level agreements (SLAs) with CHAM health facilities to provide subsidized care to pregnant women and children in catchment areas not covered by public health services. Since then, evidence points to an increase in utilization of health services, with a 75 percent increase in live births at CHAM facilities and a 13 percent reduction in maternal and newborn deaths between 2004 and 2008 (DFID 2010; MSH 2010).

**Addressing Human Resource Shortages:** Human resource shortages have posed a significant challenge to the delivery of maternal and child health services, especially in rural areas. Community based health workers, including Health Surveillance Assistants (HSAs), and more recently Community Based Distribution Agents (CBDAs) have been an important part of reaching rural women and children with essential services. The HSAs have a long history of delivering child health services at the community level, beginning from immunizations in the 1960s and 1970s to providing more comprehensive community based package of maternal and child health services. As of 2011, Malawi had 12,000 HSAs.

Although community based health workers are a critical part of the service delivery system they do not have a formal medical background. To address the shortage of trained doctors and nurses, between 2004 and 2010, the Government of Malawi implemented a 6-year Emergency Human Resources Program (EHRP). The program aimed to increase recruitment, promote retention (through financial and nonfinancial incentives such as a 52 percent salary top-up), and expand training. Short term gaps were filled by bringing in international volunteers. It is estimated that these efforts have contributed to saving 13,000 lives. Maternal and child health service provision

has also benefitted with a 15 percent increase in safe deliveries, a 7 percent increase in ANC's, a 10 percent increase in immunization, and an 18 percent increase in PMTCT (MSH 2010).

## 5. Creating an Enabling Environment

Improvements in women's status can contribute to longer-term improvements in their health.

**Education:** Significant strides in improving the quality of and access to education in Malawi have resulted from key government efforts, such as the establishment of Free Primary Education, in 1994. To encourage girls to stay in school, Malawian law now allows adolescent girls who become pregnant to return to school following delivery, and mandates an "assurance of safe custody of child." Conditional cash transfers have also been introduced to keep girls in school. According to a study of the *Zomba Cash Transfer Program*, the program has not only had an impact on education, but also on the sexual behavior of girls. For instance, the probability of getting married for beneficiaries decreased by 40 percent (compared to out of school at baseline), and the probability of becoming pregnant decreased by 30 percent (Baird et al. 2010).

**Empowerment:** Malawi has prioritized gender empowerment in its laws. In 1987, Malawi ratified the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) and promulgated the 2000 National Gender Policy, which eventually led to the launch of the National Gender Programme, which has 8 focus areas: institutional strengthening; education; health; HIV/AIDS; agriculture, food, and national security; national resources and environmental management; poverty eradication and economic empowerment; and governance and human rights.

**Gender-based Violence:** Malawi also legislated against gender-based violence The Prevention of Domestic Violence Act in 2006. The 50–50 Campaign in 2008 was launched to increase female representation in the government. As a result, the share of women represented in parliament increased from 14 percent in 2004 to 27 percent in 2009. The most recent effort to support gender empowerment in Malawi is the Gender Equality and Women's Empowerment Agenda (GEWEM) program, which was launched in July 2012. The program will be implemented in 13 districts for three years to address a variety of gender issues, including empowerment, gender-based violence, sexual reproductive health, and HIV/AIDS. One of the outcomes of the program is the Gender and Youth Sector Wide Approach.

## 6. Challenges and Future Priorities

**To ensure continued progress on maternal and child health in Malawi, there are many challenges that need ongoing attention.** Human resources are still an issue since much of the workforce is deployed in urban areas. In addition, infrastructure for basic emergency obstetric care is inadequate, resulting in overcrowding in the available (understaffed) facilities and, therefore, poor quality of care. Furthermore, the referral system in terms of both communication and transport is poor.

**Maternal mortality is still very high, and little progress has been made in the reduction of neonatal mortality.** Poverty levels also remain high, meaning that out-of-pocket costs such as transport to a health facility are significant obstacles to care. Although the political will to improve maternal and child health is generally positive and the target for health sector funding has been reached, per capita expenditure on health remains below the recommended level.

**An area that requires much attention is adolescent reproductive health.** Malawi has a huge youth bulge with 46 percent of the population under age 15. Adolescent fertility is also high at 111 births per women aged 15 to 19. The age of sexual consent in Malawi is 13 and, with parents' permission, adolescents as young as 15 can marry. While the incidence of such young

marriages appears to be rare, between the ages of 15 and 19, a third of young women have begun childbearing. Younger girls and their babies are at higher risk of maternal and child mortality and morbidity. Moreover, it adversely affects their life chances - adolescent pregnancy is one of the leading reasons for dropping out of school in the country. While the policy has changed to allow pregnant girls to return to school, in practice, few girls return to school due to the stigma attached with an unexpected pregnancy, or because they may be unable to meet the school requirements and take care of their child.

**Most adolescents are shy or afraid to seek reproductive health services.** For many, peers at school are the main source of information. Radio advertisements and school-based health education are other sources of information, mainly about HIV prevention, but do not provide information on STIs, contraception, or unwanted pregnancies. While steps have been taken to encourage reproductive health services for youth, often these services are considered by youth to be inaccessible due to poor location, lack of privacy and confidentiality, and negative attitudes of staff (Jackson et al. 2011; Munthali, Zulu, and Madise 2006).

**Unsafe abortions contribute significantly to maternal mortality.** Currently, abortion is only allowed to save a woman's life. In practice, this requires spousal consent and endorsement by two independent obstetricians before the abortion can be performed. The penalty for seeking an abortion otherwise is 7 to 14 years' imprisonment. Most women seeking abortions go to traditional healers or private clinics, or try to self-induce abortion using unsafe methods. Unsafe abortions are the second leading cause of maternal mortality in Malawi, accounting for 18 percent of maternal deaths, and the leading cause of obstetric complications. Anecdotal evidence suggests that the prevalence of unsafe abortion is high among adolescents, with a third of adolescents aged 15 to 19 reporting having a close friend who attempted to end an unwanted pregnancy (GoM 2005; WHO 2011).

**At the programmatic level, a main challenge to improving maternal and child health is the high unmet need for family planning services.** Despite the rising contraceptive prevalence rate, unmet need remains high (26 percent). In particular, low-income women have little access to family planning services, but have the greatest need – women in the lowest income group had an unmet need of 30 percent compared to 22 percent for those in the highest income group (DHS 2010).

**In addition, traditional birth attendants will be an important issue for future action.** In order to promote institutional deliveries, the Government of Malawi in 2007 banned traditional birth attendants (TBA) from delivering babies. The rationale was that TBAs were unable to identify obstetric complications early enough, contributing to maternal mortality (IRIN 2010). This ban was lifted in 2010, but there are no known incentives to keep TBAs from practicing.

**Drug stock-outs are a significant issue in service delivery in Malawi.** On average, 75 percent of facilities are thought to have experienced drug shortages. One study found 60 percent of EHP facilities to have insufficient stock and 13 percent to be completely out of co-trimoxazole (a drug that treats acute respiratory and other infections). Only 24 percent of health centers reported having sufficient amounts of Benzathine-Penicilline in stock, and only 22 percent reported having enough Erythromycine in stock. Thirteen percent reported being entirely out of Benzathine-Penicilline and 20 percent reported being entirely out of Erythromycine (Mueller et al. 2011). In recent years, there have been efforts to improve the Central Medical Store, which procures and supplies medical goods for the government. In 2008, the Central Medical Store was designated a public trust, but its performance is still weak (Wild and Cammack 2013).

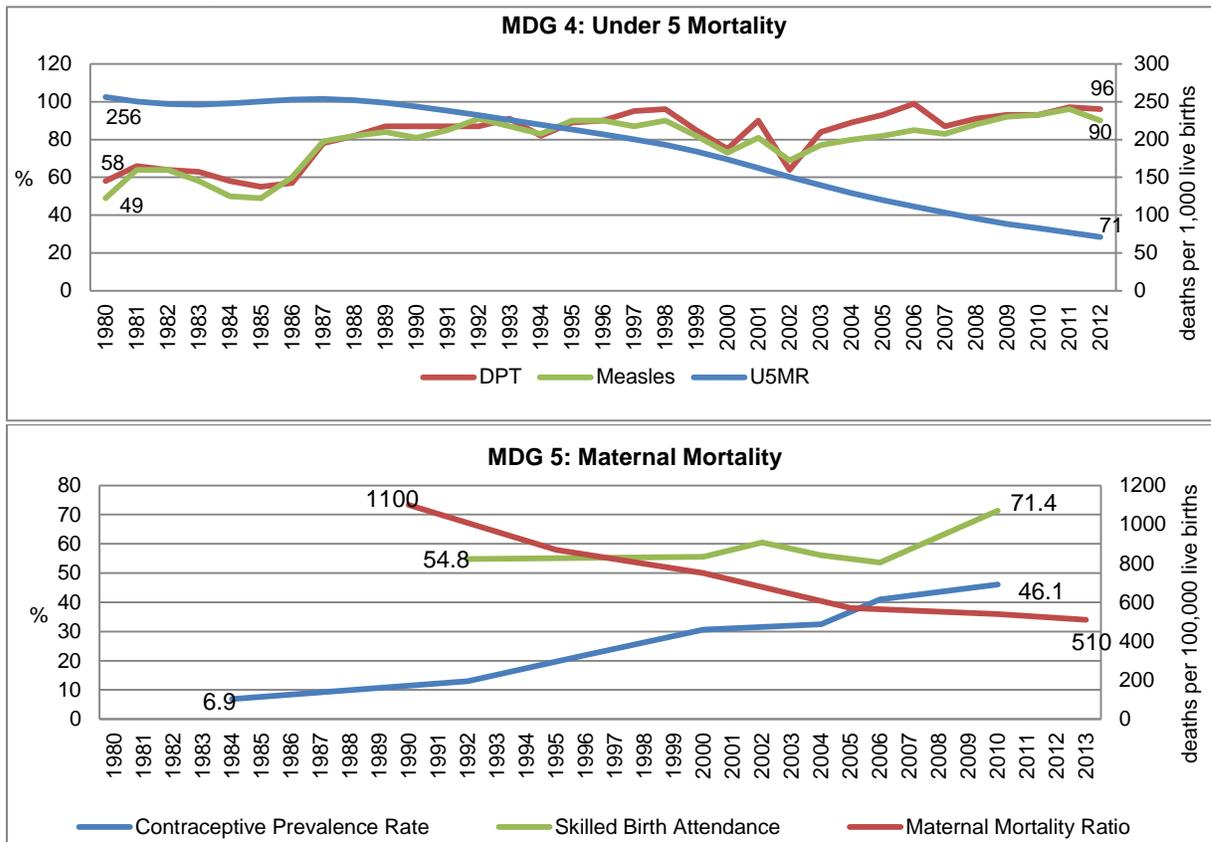
**Other concerns relate to the management of infectious diseases.** The HIV pandemic increased deaths from puerperal sepsis, and also reduced the availability of safe blood. The malaria pandemic remains a major cause of mortality, as well as a cause of anemia among pregnant women.<sup>70</sup>

**An overarching concern is funding.** Despite considerable donor support, it has been inadequate to implement successful activities nationwide. Interventions are being implemented across the country very slowly, which limits their impact. Furthermore, other sectors such as agriculture, education, and water and sanitation need to be strengthened to complement interventions in the health sector (UNICEF Malawi 2007). Figure 5 provides a timeline of interventions and indicators related to MDG 4 and 5 in Malawi.<sup>26</sup>

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<sup>26</sup> Caution should be taken in inferring any causality since multiple factors contributed to the decline of U5MR and MMR as the discussion highlights.

**Figure 5. Malawi: Timeline of MDG 4 and MDG 5 Interventions**



1970 – 1990	1991–2000	2000–2012
<p><b>1973:</b> Maternal and Child Health (MCH) program initiated to improve and expand MCH services</p> <p><b>1979:</b> Expanded Program of Immunization (EPI) initiated</p> <p><b>1980s:</b> National Malaria Control Program introduced</p> <p>Community-Based Distribution Agents (CBDAs) begin providing contraception</p> <p><b>1982:</b> Family planning is adopted nationally for purpose of child spacing and better MCH outcomes</p>	<p><b>1993:</b> First country to adopt SP for IPTp (Malaria treatment)</p> <p><b>1994:</b> National population policy launched; free primary education introduced</p> <p><b>1995:</b> Health Surveillance Assistants (HSAs) become formal part of health system; National Strategic Plan for Safe Motherhood</p> <p><b>1996:</b> Safe Motherhood Program</p> <p><b>1999:</b> Integrated Management of Childhood Illness (IMCI) launched</p> <p><b>1999–2004:</b> National Reproductive Health Strategy enacted.</p> <p><b>2000:</b> Child Lung Health Program</p>	<p><b>2002:</b> GoM/CHAM partnership to address service gaps</p> <p><b>2003:</b> National HIV Policy; PMTCT and Emergency Triage and Assessment Programs</p> <p><b>2004:</b> Emergency Human Resources Program (EHRP); Post-abortion care strategy</p> <p><b>2005:</b> National Road Map for Accelerating the Reduction of Maternal and Neonatal Mortality and Morbidity; ACT Malaria</p> <p><b>2006:</b> Child Health Days; Malawi Growth and Development strategy; Maputo Plan</p> <p><b>2006–2010:</b> National RH strategy</p> <p><b>2009:</b> SRHR Policy; CARMMA campaign</p> <p><b>2010:</b> “Option B”+ for PMTCT; Gender equality program</p>

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## ANNEX 5: NEPAL'S PROGRESS ON MDGs 4 AND 5

### Key Messages

- Nepal is a low-income country that has made great progress in reducing maternal and child health outcomes. It is on track to meet both MDGs 4 and 5.
- Adopting a community-based approach to service delivery and bringing critical maternal and child health services closer to the most marginalized populations has been important to Nepal's success.
- Ensuring inclusion of the poor and marginalized through provision of subsidized or free care for maternal and child health services has been critical in the uptake of services.
- Improvements in socioeconomic status have also contributed to maternal and child health outcomes in Nepal through better access to education and reduction in poverty.
- Donor support has been key in enabling the country to invest efficiently in the health sector in general, and in maternal and child health, in particular.

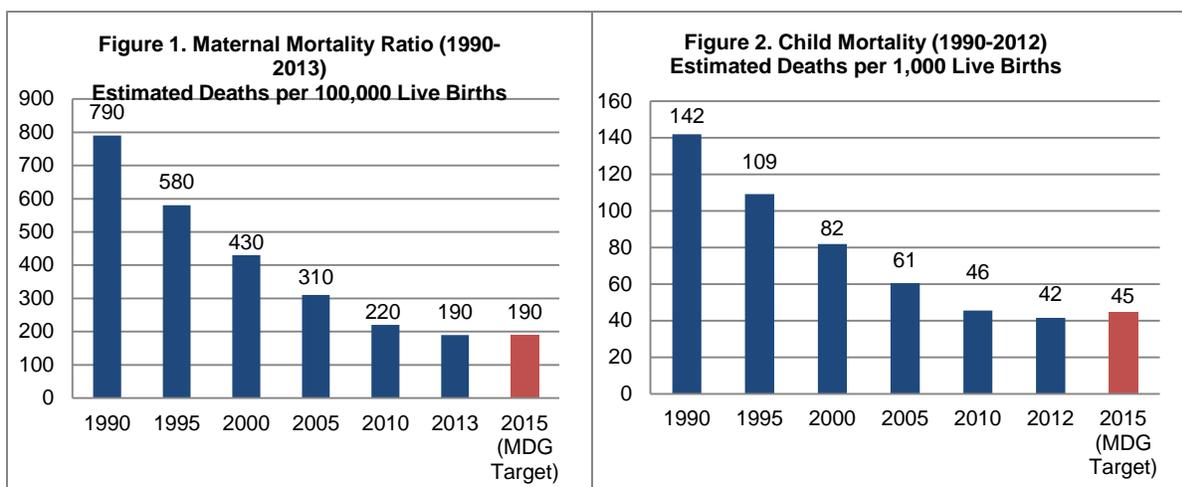
### 1. Introduction

**Nepal is a landlocked, low-income country, with a per capita GNI (PPP) of US\$1,289 in 2012, and an average GNI growth rate of 4.4 percent during 2003-12.** Poverty has declined considerably in recent years, with the proportion of population living below the US\$1.25 per day declining from 53.1 percent in 2003 to 24.8 percent in 2010. Using comparable concepts of consumption and poverty lines, Nepal's headcount poverty rate has declined from 60 percent in 1995/96 to 25 percent in 2010/11 (Nepal Poverty Maps, World Bank 2013). Income inequality has also declined, with the Gini coefficient dropping from 43.83 in 2003 to 32.82 in 2010 (World Bank 2013).

**Nepal has a population of 26.5 million and an average population growth rate of 1.35 percent per year during the past 10 years.** Fifty-nine percent of Nepal's population is in the 15 to 64 years age group, and average life expectancy is 67 years. Majority of the population lives in rural areas, with only 17 percent living in urban areas. Literacy is low in Nepal, with only 59.6 percent of the adult population able to read or write; and female literacy is significantly lower than male literacy - 48.8 percent compared to 71.7 percent (UNFPA 2009; World Bank 2013).

**In 1990, constitutional reforms established a multiparty democracy within the framework of a constitutional monarchy.** In 1996, a Maoist insurgency broke out leading to a 10-year civil war between the insurgents and government forces. An interim constitution was established in 2007 following a peace accord with the Maoists. In 2006, the newly formed Constituent Assembly abolished the Monarchy and declared Nepal a federal democratic republic. Nepal continues to experience social unrest and political instability which needs to be addressed to ensure the gains made in health and other sectors can be sustained in the long run.

**As of 2012, Nepal has met its MDG 4 and 5 targets.** Maternal mortality declined from 790 deaths per 100,000 live births in 1990 to 190 deaths per 100,000 live births in 2013, — an impressive 76 percent decline, allowing Nepal to achieve its MDG 5 target two years ahead of time. Similarly, under-five mortality declined from 142 deaths per 1,000 live births in 1990 to 42 deaths per 1,000 births in 2012, exceeding the MDG 4 target of 45 deaths per 1,000 births by 2015 (figures 1 and 2).



Source: UNICEF 2013; WHO 2014

## 2. Maternal and Child Health Policies

Nepal has prioritized family planning and maternal and child health at the national level since the mid-1960s in its development agenda. An early focus on population growth and poverty alleviation prompted the launch of family planning and maternal and child health projects under Nepal's Third Five Year Plan (1965–1970). Maternal and child health was also an integral part of the First Long Term Health Plan (1975–1990), implemented as part of primary health care delivery through integrated community health development. The Expanded Program for Immunizations (EPI) was also initiated under this plan (Agarwal 1998; Baral et al. 2012; HMG/N 2005).

**National Health Policy (1991):** The policy aimed to expand preventive and curative health services to the rural population, with priority given to interventions to reduce infant and child mortality. It represents a turning point in access to health care in Nepal – it is the first policy that adopted an integrated approach to health service provision. The policy strengthened decentralization of service delivery, with more planning responsibilities given to District Health Offices, and encouraged community participation through promoting female community health volunteers, traditional birth attendants, and inclusion of civil society organizations (Agarwal 1998; MoHP 2009).

**National Reproductive Health Strategy (1997):** Following ICPD 1994, the Government of Nepal introduced this strategy to provide integrated reproductive health services to all. It covers family planning; safe motherhood, including newborn care, child health, prevention and management of complications of abortion, sexually transmitted infections including HIV/AIDS, prevention and management of infertility; adolescent reproductive health; and diseases such as cancers in older women, making it one of the most comprehensive policies. Importantly, it also called for strengthening maternal care (including family planning) at all levels of service delivery.

Several other more specific policies and plans such as on family planning, safe motherhood, and adolescents had their origins in this policy, catalyzing policy into action, which had been slow due to factors that include resource allocation and poor implementation planning. Many of these developments have occurred within the framework of the Second Long Term Health Plan, which covers the period from 1997 to 2017 (Agarwal 1998; Hardee et al. 1999; MoH 2009).

**National Adolescent Health and Development Strategy (2000):** The overarching aim of this strategy is improving the health and socioeconomic status of adolescents. Through improving access to information and providing adolescents' access to health services including reproductive health and counseling services, in a safe and supportive environment, the strategy aims to empower Nepal's young population to have better health outcomes. The strategy also focuses on enhancing their life opportunities through better education and skills development. Importantly, soon after the adoption of this strategy, the National Reproductive Health Program Steering Committee (under the National Reproductive Health Policy) also endorsed providing adolescent population access to family planning services, irrespective of their marital status (Pradhan and Strachan 2003).

**National Safe Motherhood Plan (2002–2017):** This plan also stems from the *National Reproductive Health Policy*. It aims to reduce maternal mortality through improved access to and utilization of maternal health services, including postpartum care for pregnant women. This includes establishing at least one comprehensive essential obstetric care facility in each of the 75 districts of Nepal and basic essential obstetric care facilities in 137 primary health care centers throughout the country over time. In addition, the plan aims to improve ambulatory services and transport to better address emergencies and improve community-based care of pregnant women.

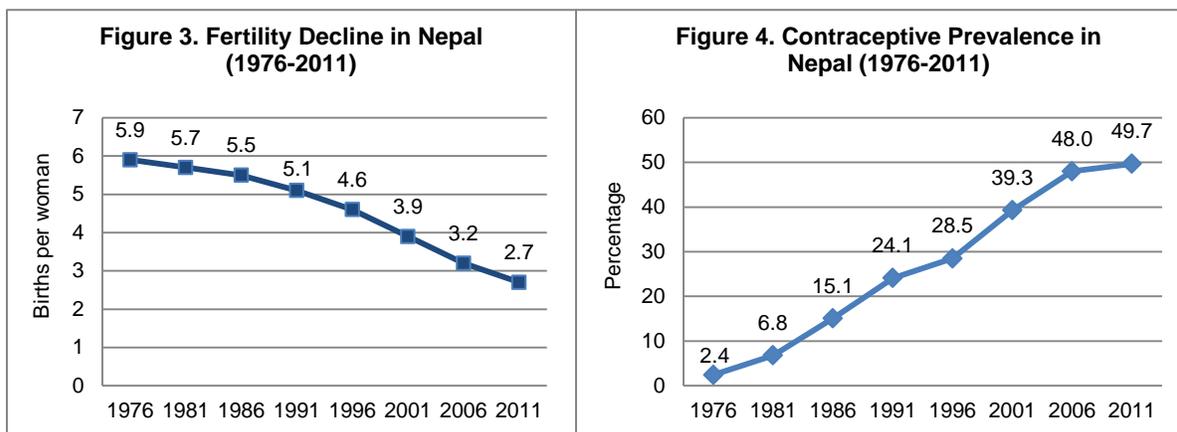
**National Safe Motherhood and Newborn Health Long Term Plan (2006–2017):** In 2004, the safe motherhood plan was revised to include neonatal health. The revised plan aims to improve maternal and neonatal health and survival especially among the poor and socially excluded. It has set specific goals of reducing the maternal mortality ratio to 134 per 100,000 live births and the neonatal mortality ratio to 15 per 1,000 live births by 2017. To achieve this, the plan emphasizes community-based care, equity in provision of safe motherhood services including prenatal care, delivery and newborn care by skilled birth attendants, postnatal care, emergency obstetric care, comprehensive abortion care, and referral services. The Ministry of Health and Population (MoHP) is operationalizing this through ensuring that both the Family Health division and Child Health division include newborn health within their programs for comprehensive coverage (CBNCP 2010; GoN 2006).

**Policy on abortion (2003):** Prior to 2003, abortion was illegal in Nepal. Earlier policy on reproductive health included post-abortion care to ensure women who underwent illegal abortions had medical care. In 2002, the House of Representatives passed the 11th amendment of the country's civil code, which allows women to legally terminate unwanted pregnancies under certain circumstances, which became law in 2003. This has been a key development for reproductive health rights in Nepal (Pradhan and Strachan 2003).

More recently, the Government has sought to establish the right of citizens to free basic health care services. The 2008 *Aama Surakshya Karyakram* program is a step in this direction.

### 3. Maternal and Child Health Programs

**Family Planning:** Fertility has been declining steadily in Nepal (figures 2 and 3). Most gains have taken place after 1990, when fertility was still at 5.1 births per woman and contraceptive prevalence was under 25 percent. Early focus on family planning was rooted in concerns about population growth, but has evolved over time within a framework of human and reproductive health rights after the 1990s, when most gains have been made. Nepal's current aim is to achieve replacement fertility—2.6 births per woman—by 2017, which it is likely to achieve.



Source: WDI 2013

The family planning program in Nepal focuses on birth spacing, prevention of unwanted pregnancies, managing adolescent reproductive health, and infertility. In keeping with a rights-based approach, the health facilities offer a range of methods that clients can choose from. The government has also focused on ensuring coverage at all levels through health facilities at all levels, outreach clinics, and mobile voluntary surgical contraception camps. Family planning camps, also known as *sibirs*, have been an important mode of service delivery since the 1970s, especially for longer-term family planning methods (GoN 2011; Thapa and Friedman 1998).

The decline in fertility in Nepal has also contributed to improvements in maternal health outcomes. Through birth spacing and limiting births, and increasing the age of marriage, access to abortion, and a focus on improving adolescent reproductive health, the family planning program has helped to lower fertility and, through it, the lifetime risk of maternal deaths—which had dropped to 1 in 190 in 2010 (WHO 2012; see also Bhandari et al. 2011; Hussein et al. 2011).

**Safe Motherhood Program:** Safe motherhood has been an integral part of the government’s health and development agenda. Initiated in 1997 as the Nepal Safe Motherhood Project, it grew from a 9-district project to a comprehensive program covering all 75 districts during 2005–10. The program focuses on improving quality and utilization of services, especially emergency obstetric care (EmOC). With support from donor partners and in collaboration with NGOs, the Government of Nepal has invested in a comprehensive approach to addressing maternal and child health. This includes investment in infrastructure and equipment, training health personnel, monitoring and behavior change, promoting prenatal and postnatal care, skilled delivery, and emergency transport (Barker et al. 2007; HMG/N 2004).

Since the launch of the program, there has been an increase in the uptake of prenatal services and of skilled birth attendance, which are core components of the Safe Motherhood Program. Skilled attendance at birth has increased from 9 percent in 1996 to 36 percent in 2011, and prenatal/postnatal visits have gone from 23.6 percent to 58.3 percent (Table 1). While prenatal visits have been increasing steadily over this period, the uptake in skilled birth attendance has been especially strong after the introduction of incentives, pointing to the key role these incentives have played in easing the financial constraints to access to better pregnancy care (World Bank 2013).

**Community-Based Integrated Management of Childhood Illness (CB-IMCI)** program provides government support for management of childhood illnesses, with a particular focus on diarrhea and acute respiratory infections. The program also supports regular immunization that, with nearly sustained coverage for years, has enabled immunization rates to reach over 80 percent (Table 1) and nutrition assistance including micronutrient supplementation (Suvedi 2003). A core component of CB-IMCI is the treatment of pneumonia. Initiated in 1995, community-based

pneumonia management was merged with CB-IMCI in 1999. By 2007, the program had been scaled up to 42 of Nepal's 75 districts and covered 69 percent of the under-five population (Ghimire et al. 2010).

Childhood immunizations in Nepal have been increasing steadily under the *National Immunization Program (NIP)*. Diphtheria Pertussis Tetanus (DPT) immunization was started in Nepal in 1965 at maternal and child health clinics and later expanded to most clinics at the district level. By 1978, Nepal had established the *Extended Program for Immunization* with 4 antigens (BCG [Bacille Calmette-Guérin] and DPT) in three districts, which expanded to all districts by 1988 with 6 antigens including BCG, DPT, oral polio vaccine (OPV) and measles. Currently, the National Immunization Program also provides special vaccines such as for Japanese Encephalitis in high-risk districts as part of routine immunization (Suvedi 2003).

Childhood immunization is a high priority of the government, and services are provided free of cost. The program is targeted to children under one-year of age and pregnant women. Supplementary immunization activities, targeted to children 9 months to 14 years of age, are conducted regularly to provide additional vaccinations, such as for measles and polio. Nepal has also initiated school immunizations to provide tetanus vaccination to children in grades 1, 2, and 3, in addition to providing the tetanus vaccine to all pregnant women. The program has helped reduce the burden of vaccine-preventable diseases and, consequently, child mortality. For example, between 2001 and 2006, measles cases fell from nearly 11,000 to 2,000 cases, and neonatal tetanus cases decreased from 327 to 42 (MoH 2007; Suvedi 2003).

**Table 1: Nepal – Trend in Key MCH Service Delivery Indicators, 1991–2011**

Indicator	1991	1996	2001	2006	2011
Births attended by skilled health staff (% of total)	7.4	9	10.9	18.7	36
Pregnant women receiving prenatal care (%)	15.4	23.6	27.9	43.7	58.3
Children fully immunized (aged 12–23 months)	—	43	60	80	87
Immunization, DPT (% of children aged 12–23 months)	46	65	72	89	92
Immunization, measles (% of children 12–23 months)	57	65	71	85	88

Source: WDI; NDHS 1996, 2001, 2006, 2011.

Note: To be fully immunized, a child should receive the following vaccinations: one dose of BCG, three doses each of DPT and polio, and one dose of measles vaccine.

Using community-based approaches has been an important part of the immunizations and CB-IMCI strategy in Nepal. Services are provided at static facilities and through mobile clinics. Community Health Workers are a key link between the health system and the population, especially in the rural and remote areas for provision of services. For example, in districts using community-based treatment of pneumonia, the number of cases treated doubled compared to districts with only facility-based treatments. Over half of these are attributed to contact with female community health volunteers. Annual drives such as through national immunization days have also been an important mode reaching remote populations and increasing coverage. The government now plans to also merge the *Community-Based Newborn Care Program* with the CB-IMCI to have a more comprehensive approach to addressing child health (Jha and Niraula 2011; Pradhan et al. 2012).

**Safe Delivery Incentives Program (SDIP):** Initiated in 2005, the program offers cash incentives to women who attend four prenatal visits, get skilled delivery care, and attend a postnatal visit. To relieve the financial burden of transport, which makes up 50 percent of the hidden costs associated with institutional deliveries, the program covers the cost of travel as well. Cash transfers are based on the region of residence and range from Nepalese Rupees (NPR) 500 (US\$5.67 at current exchange rate) in the Plains/Terai districts (richer regions) to NPR 1,500

(US\$16.90) in the mountain districts (poorest regions). Among the lower-caste women, especially in the rural and remote areas of the country, there is still a hesitation in accessing formal sector facilities for a myriad of reasons, including fear of discrimination. Thus, on the supply side, the government also provides incentives to skilled birth attendants for attending home deliveries.

Within a year of initiation, deliveries with trained birth attendants increased from 20 to 30 percent. A recent study on the SDIP found that women who knew of the SDIP prior to childbirth were on average 26 percent more likely to deliver in a public health facility, 17 percent more likely to deliver with a skilled birth attendant, and 36 percent more likely to have a caesarean section compared to those who did not receive the incentives (Ensor et al. 2009; Hanson and Powell-Jackson 2010).

**Aama Surakshya Karyakram (“Aama”):** The *Aama* program was established in 2009 by the Government of Nepal to provide free delivery of health services in all public sector and partner facilities. The program builds on the SDIP to provide services free of cost to women from the 25 poorest districts in the country. Components included free institutional delivery care, a cash incentive initiated under the SDIP to mothers who complete 4 prenatal care visits and deliver at health facilities, and transportation costs. As with the SDIP, cash incentives vary depending on the region in which the recipient lives. Health facilities also receive a payment to cover their costs, which can vary from NPR 1,000-1,500 (US\$11.27-16.90) for normal deliveries to NPR 3,000 (US\$33.80) for deliveries with complications, and NPR 7,000 (US\$78.88) for c-sections. Health workers are also provided a small incentive payment of NPR 300 (US\$3.38) as part of this package (MoHP 2010).

A recent assessment of the *Aama* program in 6 districts shows that despite improvements in institutional deliveries, vast disparities in utilization exist at the district level. For example, despite an overall increase in institutional deliveries from 17 to 33 percent during 2008-2011, in one mountain district, 75 percent of women were still delivering at home without any assistance. Further study is needed to better understand and address these variations, and to assess the full impact of the program (Upreti et al. 2012).

#### 4. Health System Responsiveness

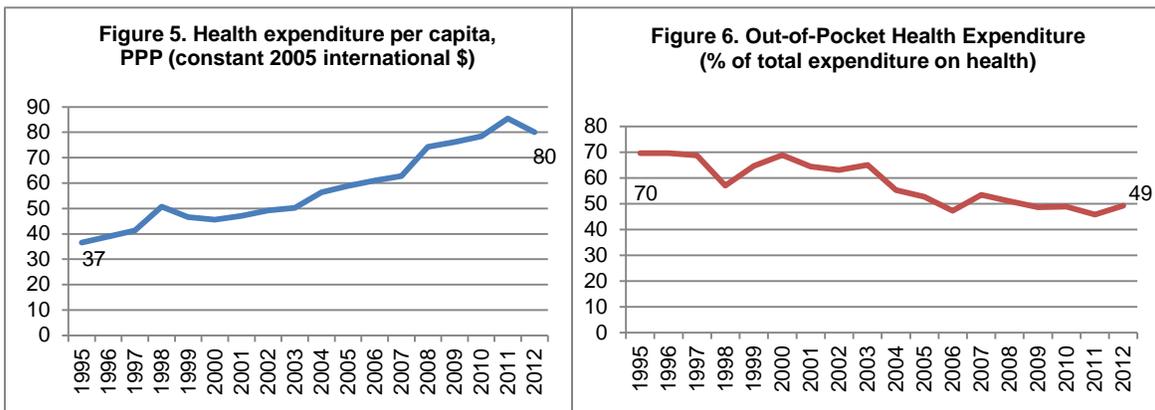
**Service Delivery:** Nepal has a decentralized service delivery system. The Local Self-Governance Act (1999) decentralized health care responsibility and implementation to the districts. The Ministry of Health and Population oversees public sector health care through Regional Health Directorates and District Health Offices, which are supported by Hospital Development Committees, District and Village Development Committees, and municipalities. Health services are delivered in central, regional, sub-regional, zonal and district hospitals, primary health care centers, health posts, and sub-health posts at lowest levels of delivery.

Nepal has a large network of public sector health facilities, with at least one local health post under each Village Development Committee. Since more than half the women deliver at home, birthing centers have been set up in the health posts to bring services, especially delivery care, closer to women’s homes. The combination of the network of facilities on the ground and community health volunteers has contributed to a strong public health structure at the village level and enabled effective dissemination of health interventions. This has supported Nepal’s early and consistent gains in MCH (World Bank 2011).

Public health care services are provided free of cost at health posts and sub-health post levels in Nepal, a right provided under the interim constitution. At primary health care centers and district hospitals, the government of Nepal has introduced targeted free care for the poor and the vulnerable. Since 2008–09, delivery services, including caesarean section, have been provided free to women at public and some private/NGO facilities. As a result, utilization of the health

care system has increased, but it has also overburdened the system with, for example, supply shortages in 25 percent of facilities (World Bank 2010a; World Bank 2011).

**Healthcare Financing:** On average, health expenditures make up 5.6 percent of GDP (2002–12). Over the last decade, public expenditure on health has averaged around 11.2 percent of total government expenditure, although in recent years it has declined — public expenditure on health was 9.6 in 2011 compared to a high of 14.5 in 2006. At the same time, the per capita expenditure on health (in terms of purchasing power parity) has more than doubled (figure 5), and 90 percent of private expenditure on health represents out-of-pocket spending. After declining from 70 percent of total health expenditure to a low of 46 percent in 2006, Nepal has experienced a slight increase in out-of-pocket expenditures (figure 6). These trends are driven by remittance-related increases in per capita income over the last few years, and expected to continue as people’s disposable incomes increase (World Bank 2010b).



Source: WDI 2014

A significant proportion of the health sector budget comes through donor support. While earlier efforts were fragmented, in 2004 Nepal launched its first Sector-Wide Approach (SWAp) with support from the World Bank, the Department for International Development (United Kingdom, DFID), and the Australian Agency for International Development (AusAID). The Nepal Health Sector Program has allowed donors to support the program through their individual focus on an overall objective. The second SWAp was initiated in 2010 and funds health sector activities through 2015 (Barker et al. 2010). Most of the gains in the last 10 years in maternal and child health have been made possible through this coordinated donor support. On the other hand, this has also raised concerns about the long-term sustainability of Nepal’s health sector financing, especially since in 2008/09 the government moved toward provision of free basic health services (see, for example, World Bank 2010c).

**Human Resources:** Female community health volunteers (FCHVs) have played an important role in facilitating access to services for maternal and child health in Nepal. They are the first level of contact in the community. Established in 1988, the FCHV program covers mainly rural areas and has become key for community-level service provision in Nepal. More than 50,000 female community health volunteers work alongside health workers to provide education and outreach related to health education, family planning, immunization, and integrated management of childhood illnesses. FCHVs are selected from within their communities by community members and the local Mother’s Club. Being from the community helps establish trust and facilitates the women in fulfilling their role with greater ease since they do not have to commute long distances or migrate somewhere else to provide services. FCHV involvement has been linked to the increase in the intake of iron supplements during pregnancy, which has more than doubled between 2001 and 2006, going from 23 to 59 percent. At the village level, Maternal and

Child Health Workers and Auxiliary Nurse Midwives are also important in providing maternal and delivery care services. (Glenton et al. 2010; Micronutrient Initiative)

**Surveillance and Monitoring:** Nepal has benefited from the availability of timely and reliable data on maternal and child health for the last two decades. Data on fertility and maternal and child health collected regularly through the Demographic and Health Surveys and the Maternal Mortality and Morbidity Surveillance have supported evidence-based policy making in the country. Nepal has also leveraged existing information systems to monitor child health. For instance, the polio surveillance system was adapted to monitor neonatal tetanus, allowing immediate information gathering. Together, the various sources make up the Health Management Information System (HMIS). Over the years, with the integration of services, routine monitoring system has improved. While the HMIS is not a perfect system (for example, vital registration data are incomplete because people simply do not register births), availability of information has facilitated policy making and programmatic directions.

## 5. Creating an Enabling Environment

**Poverty Reduction:** Nepal has seen a significant decline in poverty in the last 10 years. Efforts on the part of the government, such as the establishment of the *Poverty Alleviation Fund* (2004), are helping to address poverty. The fund has supported community-driven development in 40 of Nepal's poorest districts focusing on income-generating activities and small-scale infrastructure. It has also contributed to improving food security and education outcomes among the poorest and most vulnerable in these districts. Food insecurity decreased by 19 percentage points and school enrollment of children aged 6 to 15 increased by 14 percentage points. Enrollment for girls increased by 21 percentage points (Parajuli et al. 2012).

In recent years, remittances from migrant labor have contributed significantly toward economic growth, with personal remittances accounting for 22.3 percent of GDP in 2011. This has contributed to an increase in consumption expenditure, which has also helped to reduce poverty. According to one estimate, 79 percent of remittances are used for consumption of goods and services, including basic services such as health and education (DHS 2011; Khatri 2010; World Bank 2013).

**Education:** Nepal has made great strides in improving the education status of its population and enhancing girls' education. The Education Regulation (2002) first mandated free education to the poor, the disabled, girls, Dalits, and the other students who are below the national poverty line. In 2003, under the Tenth Plan, education policy also emphasized functional and income-generating literacy and postliteracy programs to improve the situation of women. The policy also contains special provisions for women's access to education to achieve the "education for all" (by 2015) target. Gross primary enrollment is high for both boys and girls (123 percent and 106 percent, respectively). Government commitment to providing free primary education has been an important factor in increasing the enrollment rates. However, the enrollment rate drops significantly at the secondary level (43 percent in 2006) and is low for both boys and girls (World Bank 2013).

Education is an important factor for improving maternal and child health outcomes. A 2012 study in Nepal, for example, found that children whose mothers had received at least a secondary education were nearly six times more likely to be completely immunized compared to children of mothers with no formal education (Pandey and Nim Lee 2012). This also highlights the need for continued investment in girls' education, especially beyond the primary level, where enrollment still lags behind for both boys and girls.

**Social Inclusion and Gender Equality:** Caste and gender are major social barriers in Nepal, especially in the rural areas. With its population of 26.5 million including more than 100 ethnic groups, nearly as many languages, and 60 castes and subcastes, discrimination is a challenge of everyday life. Nepal's social and economic life has been closely associated with a caste-based hierarchy.<sup>27</sup> Although the caste-based system was officially abolished in 1963, in practice, it has been harder to eradicate. For example, the 1990 Constitution, while emphasizing equality, also left space for protecting "traditional practices." It also did not go far enough in enhancing gender equality, with Nepali women still not being able transfer citizenship to their children (World Bank 2006).

Further steps to promote social inclusion were taken in the 2007 Interim Constitution. It emphasizes human rights. Article 14 specifically provides protection against discrimination and untouchability based on caste, descent, community, or occupation. Article 20 on the "Right of Woman" states that women are to be free from discrimination in any form because of their gender.<sup>28</sup> The constitution also guarantees the right to reproductive health. In 2007, health care was declared a basic human right in Nepal's interim constitution, making the government responsible for the health of the public. All policies and programs since have emphasized the importance of health care for all people including women, ethnic groups, and castes.<sup>29,30</sup>

Gender has been mainstreamed within the country's development agenda through the Ninth Development Plan (1997–2002), the Tenth Plan (2002–2007) and the Poverty Reduction Strategy. In 1998, Nepal also launched the Decentralized Action for Children and Women (DACA) in 15 districts, and later expanded to 23 districts, with support from UNICEF and the United Nations Development Programme (UNDP). Where operational, the program has helped to improve women's status through focusing on education, health, HIV/AIDS prevention, and water and sanitation. For example, DACA has supported the Out of School Education Program, which helps children catch up on their education and enrol in formal schools. By 2006, 45,000 children had completed the program, of which 65 percent were girls (UNICEF 2007).

Women's empowerment is important for their uptake and utilization of reproductive, maternal, and child health services. Evidence shows that women's empowerment increased with education and employment, especially in the urban areas in Nepal. Thirty-six percent of women with secondary or higher education reported being involved in decisions regarding their health care compared to 25 percent with primary or no education (see Furuta and Salway 2006; Pandey, Lama, and Lee 2011; Suvedi et al. 2009).

Nepal's rights-based agenda has been important for MCH delivery. Against a backdrop of political and social struggle, the collective forces aligned in such a way that preservation of rights of minorities and women took center stage in Nepal's polity. In 2004, when a new coalition government was formed in Nepal, maternal, newborn, and child health gained further momentum as part of a pro-poor government agenda. Better maternal and child health has been described as one of the few areas where there was strong political cohesion across parties during this period, creating an enabling environment for better maternal and child health (Ensor et al. 2009; Smith and Neupane 2011).

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<sup>27</sup> Nepal's caste system consists of the priestly *Brahmans* at the top of the ritual order; the *Kshatriya* (kings and warriors) just beneath them and in command of the political order; the *Vaishya* (merchants); the *Sudra* (peasants and laborers); and at the bottom, other occupational groups considered "impure" and "untouchable" or *acchut* (World Bank 2006).

<sup>28</sup> [http://www.worldstatesmen.org/Nepal\\_Interim\\_Constitution2007.pdf](http://www.worldstatesmen.org/Nepal_Interim_Constitution2007.pdf)

<sup>29</sup> [http://www.rti.org/pubs/31\\_nepal\\_assessingimplementation.pdf](http://www.rti.org/pubs/31_nepal_assessingimplementation.pdf)

<sup>30</sup> <http://www.idea.int/resources/analysis/upload/Women-s-Caucus-Book-Final-version-eng.pdf>

## 6. Remaining Challenges/Future Directions

**Skilled attendance at birth is still low in Nepal due to both supply and demand barriers.** On the supply side, this includes shortage of staff, inadequate facilities, and lack of equipment and supplies, especially in remote and rural areas, where the need is the greatest. On the demand side, poor quality of care, financial considerations, social norms and preferences create disincentives for accessing care, especially among the more poor, vulnerable, and ethnic minorities. Some demand side issues, such as financial stress, are being relieved through conditional cash transfer schemes. Harder to change are preferences, perceptions, and mistrust related to the formal health sector, especially among the lower castes. The government has set a target of 60 percent births by skilled attendants by 2015 and is investing in training Dalits and Janajits (lowest castes) as ANMs to meet some of the shortages in the underserved areas and promote social inclusion.

**Nutrition interventions also require more support.** Eighteen percent of Nepal's population is undernourished. Chronic malnutrition, an underlying cause of mortality for women and children, is pervasive even among higher wealth, and is associated with early teenage pregnancy and poor maternal nutrition. In recent years, Nepal has been making strides toward improving nutrition. Vitamin A supplementation is high, with 93 percent of children 6 to 59 months of age receiving the recommended two doses of vitamin A. Further attention, especially to maternal nutrition will help to improve outcomes.

**A large number of teenage pregnancies are unintended in Nepal, and use of modern contraceptives is low** compared to other age groups, even for married women aged 15 to 19. Although the contraceptive prevalence rate increased from 2.4 percent in 1976 to nearly 50 percent in 2011, there are concerns that uptake has slowed and may stagnate. Enhancing access to family planning services, including counselling and education for the youth, is important.

**Women's empowerment is important for their uptake and utilization of reproductive, maternal, and child health services.** Education is an important factor in this regard. A recent study in Nepal, for example, found that children whose mothers had received at least a secondary education were nearly 6 times more likely to be completely immunized compared to children of mothers with no formal education. This highlights the need for continued investment in girls' education, especially beyond the primary level, where enrollment still lags.

**Income is a strong predictor of reproductive health outcomes in Nepal.** Women in poor households are more likely to have lower levels of education, get married at a younger age, and begin child bearing earlier than women in upper-income groups. Continued poverty reduction efforts are important. Nepal's community-driven development approach has proven successful whether through the Poverty Alleviation Fund or DACAW. Maintaining and expanding these programs is important to ensure that benefits reach the poorest women and children.

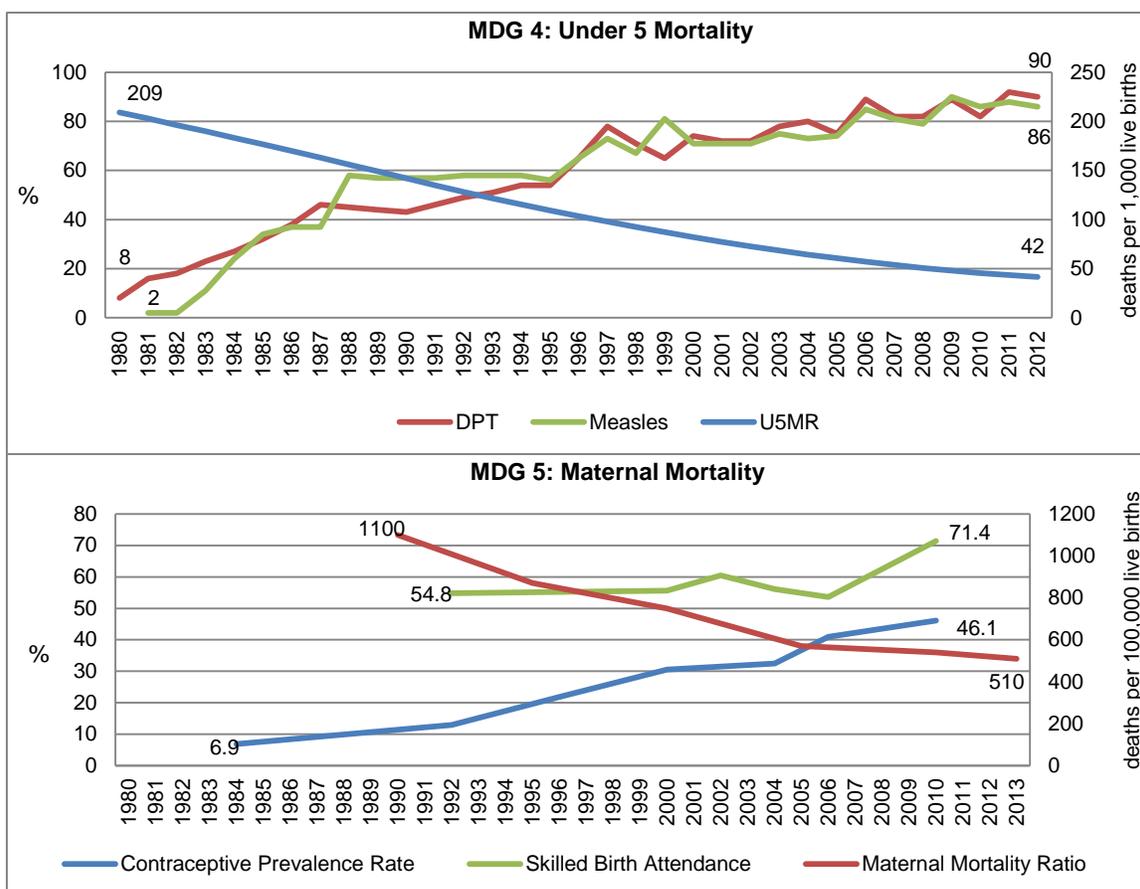
**Nepal is still a low-income country whose recent history has included long periods of political unrest - detrimental to long-term growth and stability.** Strong government leadership and accountability is important for successful planning and implementation of programs and policies. Continued political tensions in the country however pose a challenge to the continuity of programs and policies by focusing attention away from the health and other social sectors. The role of Nepal's partners will continue to be critical. The Ministry of Health and Population requires not just financial support, but also critical technical assistance related to capacity building, training, planning, implementation management, and operations research. How the political situation develops, may also impact this support.

Figure 7 provides a timeline of interventions and indicators related to MDGs 4 and 5 in Nepal.<sup>31</sup>

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<sup>31</sup> Caution should be taken in inferring any causality since multiple factors contributed to the decline of U5MR and MMR as the discussion highlights.

**Figure 7. Nepal: Timeline of MDG 4 and 5 Interventions**



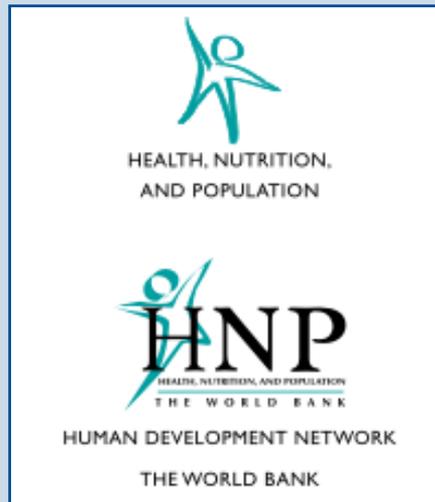
Pre-1990	1991-2000	2001-2012
<p><b>1965-1970:</b> Third Five-Year Plan</p> <p><b>1965:</b> Immunization with DPT begins</p> <p><b>1975-90:</b> First Long-Term Health Plan</p> <p><b>1977:</b> Expanded Program of Immunization (EPI)</p> <p><b>1979:</b> National Commission on Population established</p> <p><b>1983:</b> National Population Strategy</p> <p><b>1988:</b> FCHV program</p>	<p><b>1991:</b> National Health Policy</p> <p><b>1997:</b> National Reproductive Health Strategy</p> <p><b>1997-2017:</b> Second Long-Term Health Plan</p> <p><b>1999:</b> Local Self-Governance Act</p> <p><b>1997:</b> National Plan of Action (NPA) for Gender Equality and Women's Empowerment</p> <p><b>1998:</b> Decentralized Action for Children and Women (DACA)</p> <p><b>2000:</b> National Adolescent Health and Development Strategy</p>	<p><b>2002-17:</b> National Safe Motherhood Plan</p> <p><b>2002:</b> Education Regulation</p> <p><b>2003:</b> Abortion is legalized</p> <p><b>2004:</b> Safe Motherhood Plan revised to include neonatal health</p> <p><b>2005:</b> Safe Motherhood Incentives Program</p> <p><b>2006:</b> Skilled birth attendance policy</p> <p><b>2007:</b> Interim Constitution</p> <p><b>2009:</b> Aama Surakshya Karyakram (Aama) program</p> <p><b>2009:</b> Community-Based Newborn Care Package</p>

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