

Success Factors for Women's and Children's Health



BANGLADESH

Ministry of Health and Family Welfare, Bangladesh



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Success Factors for Women’s and Children’s Health is a three-year multidisciplinary, multi-country series of studies coordinated by PMNCH, WHO, World Bank and the Alliance for Health Policy and Systems Research (AHPSR), working closely with Ministries of Health, academic institutions and other partners. The objective is to understand how some countries accelerated progress to reduce preventable maternal and child deaths. The Success Factors studies include: statistical and econometric analyses of data from 144 low- and middle-income countries (LMICs) over 20 years; Boolean, qualitative comparative analysis (QCA); a literature review; and country-specific reviews in 10 fast-track countries for MDGs 4 and 5a.^{1, 2} For more details see the Success Factors for Women’s and Children’s health website: available at <http://www.who.int/pmnch/successfactors/en/>

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1. Executive Summary

Overview

Bangladesh has made significant improvements in the health of women and children and has achieved its Millennium Development Goal (MDG) 4 (to reduce child mortality) and is on track to MDG 5a (to reduce maternal mortality). In 2010, the United Nations recognized Bangladesh for its exceptional progress towards MDG 4 and 5a to reduce child and maternal mortality in the face of many socioeconomic challenges.



Under 5 child mortality

Between 1990 and 2011, under 5 mortality decreased from 151/1000 to 53/1000 live births (LBs). The infant mortality rate fell less rapidly from 87/1000 to 43/1000 LBs over the last 18 years. Mortality declines are associated with improved coverage of effective interventions to prevent or treat the most important causes of child mortality and with improvements in socioeconomic conditions. Programmes to ensure high coverage of vaccine preventable diseases, treatment of diarrhoea and ARIs, implementation of IMCI and to deliver newborn health interventions, have been crucial to these reductions. Moreover, Bangladesh has seen reduced disparities in under 5 mortality between urban-rural areas and across different regions of the country.



Maternal mortality

Between 1990 and 2010, maternal mortality in Bangladesh decreased from 574/100 000 to 194/100 000 LBs. The decline is associated with a reduced total fertility rate (from 5 births per woman in 1990, to 2 in 2011) and with increased skilled delivery attendance (from 5% in 1991 to 32% in 2011). Programmes such as the Maternal Health Voucher Scheme and Emergency Obstetrical Care Services (EmOCs), and the rapid development of the private sector, have also contributed to reducing maternal mortality.

Health sector initiatives and investments

Service delivery constraints are a significant challenge in the public health system. The Government has prioritized and scaled-up systems to deliver essential health interventions. There has also been an emphasis on the integration of delivery of services and interventions targeted at underserved populations. These strategies have benefited even the most disadvantaged populations, and contributed to reducing child and maternal mortality. Success has been achieved through targeted, well designed, equity-oriented programmes and a Government willing to experiment with service delivery and to work collaboratively with partners such as non-governmental organizations (NGOs) and the private sector.



Initiatives and investments outside the health sector

Several factors outside of the health sector have supported improvements in maternal and child health. The focus on women's education and empowerment are undeniably key factors. Programmes such as the Female Secondary School Stipend Project, which supported the expansion of female secondary schooling is one example. Nutrition has been a key focus area in Bangladesh. Progress in improving the nutritional status of women and children has been observed following the implementation of a number of policies and programmes. Improvements in road networks have substantially facilitated greater access to health services in rural areas. Likewise, the Rural Electrification Programme has brought electricity to rural areas. Bangladesh has embraced the use of new technology for the improvement of health services, which is supported by the rapidly increasing use of mobile telephones. The country is working towards a fully digitalized health information system. In recognition of its efforts, Bangladesh received the 2011 United Nations "Digital Health for Digital Development" award for outstanding contributions to the use of information and communications technology (ICT) for health and nutrition.

Governance and leadership

Successive governments in Bangladesh have held a long-standing commitment to improving maternal and child health. Continuous policies and health sector strategies underscore these efforts. Ongoing public-private partnerships (PPPs) in which the government contracts NGOs and the private sector have enabled greater access to and coverage of health services throughout the country.

Challenges and future priorities

Despite significant improvements in Bangladesh, some key challenges remain. In order to accelerate further progress, it will be necessary to:

1. Increase access to quality health services by strengthening the health workforce and provision of health services;
2. Support the equitable delivery of health interventions and services, particularly for underserved populations and marginalized groups;
3. Improve coverage of effective newborn health interventions;
4. Increase skilled birth attendance and facility deliveries;
5. Give priority to improving adolescent health, and;
6. Focus on mainstreaming nutrition interventions to reduce malnutrition.



2. Introduction

Bangladesh has achieved its Millennium Development Goal (MDG) 4 (to reduce child mortality) and is on track to MDG 5a (to reduce maternal mortality).³ This multi-stakeholder review was undertaken to identify key enabling factors contributing to the improvements observed over the past 40 years.

Objectives

The primary objective of this review was to identify factors both within and outside the health sector that have contributed to the reductions in maternal and child mortality in Bangladesh, with an emphasis on how improvements were made, what key policy and programmatic strategies were adopted, and how these were adapted and tailored to the unique context of the country. Consultations and input from key health and development stakeholders and experts ensured that the review represented a comprehensive synthesis of evidence, knowledge and experiences. Specifically the review strived to undertake:

- Policy analysis: content of policy, actors, context and processes
- Accurate synthesis of the factors, catalysts and contexts that contributed to reductions in maternal and child mortality
- An analysis of factors both within the health sector and outside of the health sector – with an emphasis on linkages between health and other sectors
- An examination of lessons learned and future priorities.

Methodology

The Success Factor review in Bangladesh was conducted in two phases. Initially a first draft document was prepared based on a literature review of peer-reviewed and grey literature, policy documents, programme evaluations and sector strategies and plans; and synthesis of quantitative data from population-based surveys, routine data systems, international databases and other sources. The document was reviewed by local and international development partners including WHO, UNICEF, Save the Children, UNFPA, JICA and USAID. Key informant interviews were conducted to further validate findings and incorporate local knowledge and experience. This was followed by two multi-stakeholder workshops at which findings were discussed, reviewed and revised to obtain a final consensus. The document was finally reviewed by all key stakeholders and local experts.

It can be difficult to establish causal links between policy and programme inputs and health impact. The methodology focused on identifying policies and programmes that are most strongly associated with improvements in health. For this reason, plausibility criteria were used to identify key policy and programme inputs and other contributing factors that could be linked to potential mortality reductions. These criteria included, the potential impact of the policy or programme on mortality reduction, implementation for a sufficient period of time to have influenced mortality, implementation on a sufficient scale in the target population to explain national-level reductions in mortality, and consensus between stakeholders working in the country. Further research is needed to better quantify how policies and programmes contribute to improved health outcomes. More data in this area would enable the analysis to be further refined.



3. Country Context

Overview

Bangladesh was formed in 1971 following the Liberation War where it gained independence from Pakistan and was declared a secular democracy. The war left the country devastated and it has since endured many challenges including poverty, political turmoil and frequent natural disasters. At the same time, there have been many opportunities for civil society to mobilise, NGOs to grow, and a pluralistic health environment to emerge.

The country is located in the Bay of Bengal in South Asia and shares borders with India in the west, north and east, and Myanmar in the south-east.³ The land is characterized by two distinct areas: a delta plain which is traversed by a pervasive network of different rivers vital to Bangladesh's socioeconomic life, and a hilly region in the south-eastern and north-eastern parts of the country. The country suffers regular calamities including floods, cyclones and tidal bores that affect the overall poverty reduction progress.⁴ It is the world's eighth most densely populated country with 155 million people living on a landmass of 147 570 square kilometres.⁵ The population increased at a rate of 1.7% between 1990 and 2010, slightly below that of South Asia. Most (75%) of the population resides in rural areas, although the country is becoming increasingly urbanized. The population consists of approximately 98% ethnic Bengalis, with different tribal groups making up 2% of the population. The majority of the population are Muslim (89.5%) with the remainder comprised of Hindus (9.6%), Buddhists (0.5%), Christians (0.3%) and other religious groups.^{6,3}

Administratively, the country is divided into 7 divisions, 64 districts (Zila) and 488 sub-districts (Upazila). The seven administrative divisions are Dhaka, Chittagong, Rajshahi, Rangpur, Khulna, Sylhet, and Barisal. Each rural area in an upazila is divided into Union Parishads (UP) and *mouzas* (cluster of villages) within a UP. The urban area in an upazila is divided into wards and into *mohallas* (cluster of households) within a ward. These divisions allow the country as a whole to be easily separated into rural and urban areas.⁷



Bangladesh's economy, as measured by gross domestic product (GDP), grew at an impressive annual rate of 6% between 1990 and 2010; this growth rate was slightly lower than that of South Asia as a whole (8%).⁵ The majority of the GDP is generated by the service and agriculture sectors. Other major factors fuelling the continued economic growth have been the expansion in the export of ready-made garments, and remittances from migrant labourers who work primarily in unskilled positions in Malaysia and the Middle East.⁴

The country has set a national target of reaching the status of a 'middle-income country' by 2021, which would require an increase of gross national income (GNI) per capita (Atlas method) from US\$ 840 in 2012 to at least US\$ 1036.⁵ Despite current economic growth and modest improvements in the Human Development Index (HDI), in 2012 Bangladesh was ranked in the lowest quartile (146 of 187 countries) of the HDI.⁸ It is estimated that 32% of the country's population still lives below the national poverty line.⁹

Table 1: Key country indicators

	INDICATOR	1990-1999	2000-2009	2010-PRESENT
Population	TOTAL POUPLATION (millions)	107 (1990)	132 (2000)	155 (2012)
	TOTAL FERTILITY (births per woman)	5 (1990)	3 (2000)	2 (2014)
Health Financing	TOTAL HEALTH EXPENDITURE PER CAPITA (PPP, constant 2005 international \$)	24 (1995)	24 (2000)	67 (2011)
	OUT-OF-POCKET HEALTH EXPENDITURE (as % of total expenditure on health)	61 (1995)	58 (2000)	61 (2011)
Economic Development	GROSS DOMESTIC PRODUCT PER CAPITA (PPP, constant 2005 international \$)	732 (1990)	949 (2000)	1622 (2012)
	FEMALE PARTICIPATION IN LABOR FORCE (% female population age 15-64)	63 (1990)	57 (2000)	60 (2012)
	GINI INDEX (0 equality to 100 inequality income distribution)	28 (1992)	33 (2000)	32 (2010)
Health Workforce	PHYSICIANS (per 1000 population)	0.2 (1990)	0.2 (2001)	0.4 (2011)
	NURSES AND MIDWIVES (per 1000 population)	N/A	0.3 (2005)	0.2 (2011)
Education	GIRLS' PRIMARY SCHOOL NET ENROLLMENT (% of primary school age children)	67 (1990)	95 (2005)	93 (2010)
	ADULT LITERACY RATE (% of males (M) and % females (F) aged 15 and above)	44 (M) 26 (F) (1991)	54 (M) 41 (F) (2001)	62 (M) 54 (F) (2011)
Environmental Management	ACCESS TO CLEAN WATER (% of population with access to improved source)	76 (1990)	79 (2000)	83 (2011)
	ACCESS TO SANITATION FACILITIES (% of population with improved access)	38 (1990)	45 (2000)	55 (2011)
Urban Planning/ Rural Infrastructure	POPULATION LIVING IN URBAN AREAS (% of total population)	20 (1990)	24 (2000)	29 (2012)
	ELECTRIC POWER CONSUMPTION (kilowatt hours per capita)	48 (1990)	101 (2000)	259 (2011)
Human Development Index (Composite of life expectancy, literacy, education, standards of living, quality of life)	VALUE (reported along a scale of 0 to 1. Values nearer to 1 correspond to higher human development)	.36 (1990)	.43 (2000)	.52 (2012)
	COUNTRY RANK (2012)	146		
Good Governance (Reported along a scale of -2.5 to 2.5; higher values correspond to good governance)	CONTROL OF CORRUPTION (extent that public power is used for private gain)	-0.73 (1996)	-0.94 (2000)	-0.87 (2012)

*See Table 2 for data on coverage of key RMNCH indicators

+Source: World Development Indicators, UNDP, World Bank (Worldwide Governance Indicators). BDHS, 2014.



4. Key Trends, Timelines and Challenges

In 2010 the United Nations (UN) recognized Bangladesh for its exceptional progress towards achieving MDGs 4 and 5. Despite many socio-economic challenges, the country has performed extraordinarily well in terms of health outcomes for women and children. Targeted and well-designed programmes, a focus on women's education and empowerment and a government with an openness to experiment with service delivery and work collaboratively with partners (including its flourishing NGO and private sectors) are just some of the key features underlying its success. Improvements in road networks and information and communication technology (ICTs) have also been contributing factors.

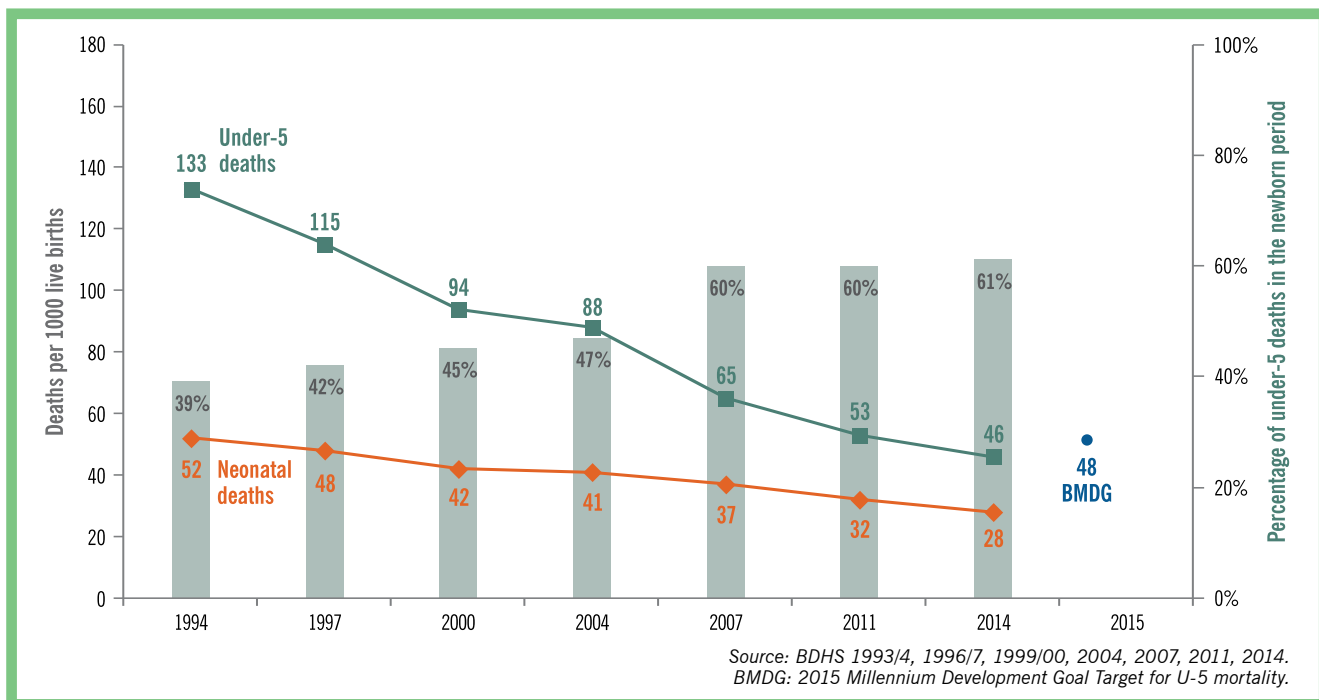
Under 5 child mortality



Between 1993 and 2014, under 5 mortality decreased from 133/1000 to 46/1000 LBs, exceeding the MDG 4 target of 48/1000 LBs. During the same period the infant mortality rate fell by 56%, from 87 to 38 deaths per 1000 LBs. Newborn deaths have also declined but not at the same pace as child mortality. Between 1993 and 2014 neonatal mortality fell from 52/1000 LBs to 28/1000 LBs, with newborn deaths now accounting for 61% of all under 5 mortality and 74% of infant deaths [Figure 1].¹⁶ Mortality reductions are associated with improved coverage of effective interventions to prevent or treat the most important causes of child mortality. Increased coverage of vaccines, Vitamin A

supplementation, oral rehydration therapy (ORT) for diarrhoea, and antibiotics for pneumonia, have been central to mortality reductions. Fertility declines and increased uptake of maternal and reproductive services over the past two decades, especially antenatal and post-natal care, skilled birth attendance, and facility deliveries, have contributed to the reduction of neonatal deaths. Coverage of essential newborn care interventions has however remained at under 50% over the past two decades. This may account for the modest decline in newborn mortality. Some improvements have been noted, including improved breast-feeding practices with 57% of newborns being breastfed within one hour of birth in 2014; this compares to just 17% in 2000.

Figure 1: Trends in Under Five and Neonatal Mortality 1994-2014



Coverage of other essential newborn care practices, such as drying the newborn immediately after birth and delayed bathing, are also low but increased considerably between 2007 to 2014 [Table 2].¹⁶ The slower pace of newborn mortality reduction has led to greater prioritisation of newborn health interventions over the past decade. Particular focus has been on improving quality of care, sepsis management and upgrading district hospitals with specialised equipment for newborn care, such as the Specialised Newborn Care Units (SCANU).

Bangladesh has also made progress towards reducing urban-rural and regional inequities in under 5 mortality. In 1994, under 5 deaths in rural areas were 34% higher than in urban; this compares to a difference between the two of just 10% in 2011. Similarly, in Sylhet division, under 5 mortality was almost double that of Khulna division in the south during the same period. This variation has now been substantially reduced although disparities across wealth and continue to persist.^{10,11}

Table 2: Key RMNCH Coverage Indicators^a

CONTINUUM OF CARE STAGE	INDICATOR	2000	2004	2007	2011	2014
Prepregnancy	DEMAND FOR FAMILY PLANNING SATISFIED (% of women age 15-49 with met need for family planning)	78	84	77	82	88
Pregnancy to postnatal	ANTENATAL CARE (% of women attended at least 4 times during pregnancy by any provider)	11	17	22	26	31
	SKILLED ATTENDANCE AT BIRTH (as % of total births)	12	16	21	32	42
	ESSENTIAL NEWBORN CARE PRACTICES					
	% of newborns breastfed within one hour of birth	17	24	43	50	57
	% newborns dried within 5 minutes of birth			6	51	67
	% newborns wrapped within 5 minutes of birth			2	33	-
	% newborns bathed >72 hours after delivery			17	28	34
	% of newborns with nothing applied to the umbilical stump or chlorhexidine where indicated:			56	59	48
	ANTIRETROVIRALS FOR WOMEN (HIV-Positive pregnant women to reduce mother-to-child transmission)				13 (2013) ^b	
	POSTNATAL CARE FOR MOTHERS (% of mothers who received care within two days of childbirth by medically trained provider)		16	20	27	34
	POSTNATAL CARE FOR NEWBORNS (% newborns that received post natal care within two days of birth from a medically trained provider)		13	20	30	32
Newborn to childhood	INFANT FEEDING (Exclusive breastfeeding for children under six months)	46	42	43	64	55
	IMMUNIZATION (Children ages 12-23 months receiving DTP3/pentavalent)	72	81	91	93	91
	% of children <5 receiving vitamin A supplement in the previous six months	73	82	84	60	62
	PNEUMONIA (Antibiotic treatment for pneumonia)	N/A	N/A	N/A	71	34
	DIARRHOEA TREATMENT					
	% of children < 5 with diarrhoea receiving ORT	74	75	81	81	84
	% children <5 years with diarrhoea receiving ORT and Zinc			20	34	38

^a All data from BDHS 2000, 2004, 2007, 2011 and 2014 unless otherwise indicated.

^b UNAIDS, Country Progress Report on Bangladesh, May 2014. http://www.unaids.org/sites/default/files/en/dataanalysis/knowyourresponse/countryprogressreports/2014countries/BGD_narrative_report_2014.pdf

Maternal mortality



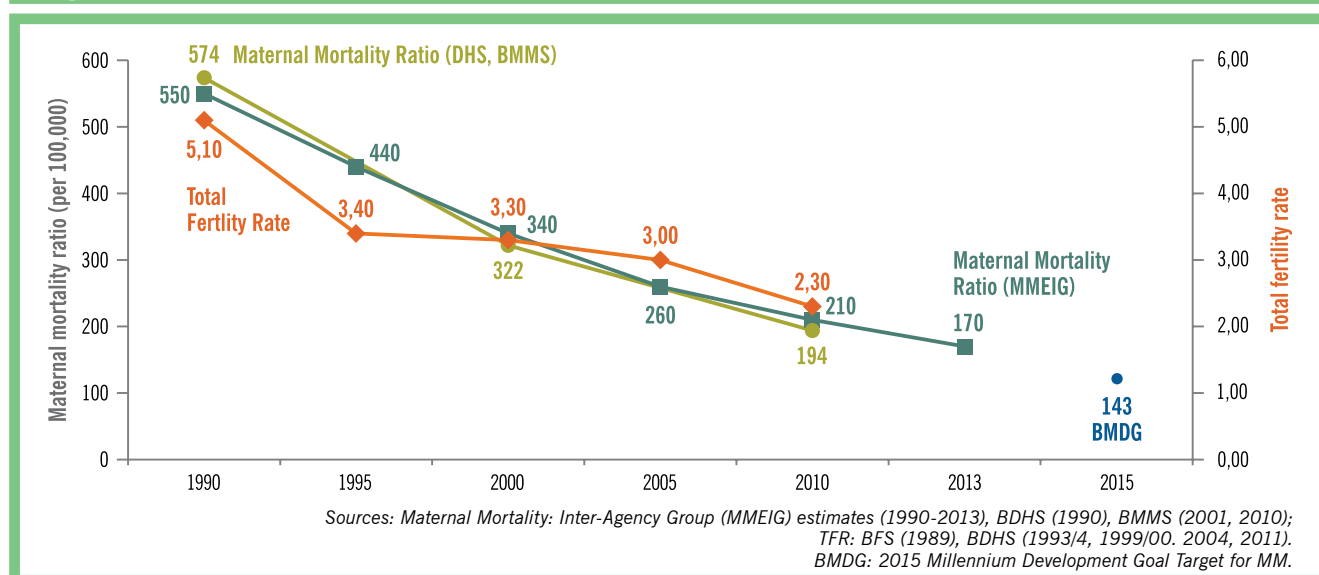
In 1990, Bangladesh set a MDG target for maternal mortality of 143/100 000 LBs (from 574/100 000 LBs) and aimed to increase the proportion of births delivered by skilled birth attendants to 50% from a low of 7%.^{12,13} Between 2001 and 2010, national data estimates show that maternal mortality in Bangladesh declined by 40% from 322 to 194 per 100 000 live births. Mortality estimates calculated by the Maternal Mortality Estimation Inter-Agency Group show a 70% decline for the period 1990 to 2013, with maternal mortality falling from 550 to 170 per 100 000 live births, an annual rate of decline of 5.0%.¹⁴ In 2013 the country was on track for meeting the national MDG maternal mortality target of 143/100 000 live births [Figure 2]. The rate of decline averaged 5.5% per year - slightly higher than the 5.4% rate required for achieving MDG 5 and was similar across urban and rural areas.^{10,15} In addition, substantial reductions were seen in the total fertility rate (TFR) which dropped from 5 births per woman in 1990 to 2 in 2014.¹⁶

The reduction in maternal mortality is attributed to multiple factors, including improved access and utilisation of health facilities, improvements in female education and per capita income.¹⁷ Fertility reductions have contributed substantially to the lowering of maternal mortality ratio (MMR) by lowering the number of high risk, high parity births. The proportion of deliveries conducted by skilled birth attendants rose from 7% in 1991 to 42% in 2011.¹⁶ Likewise, care-seeking from a health facility

for complications almost doubled from 2001 to 2010 from 16% to 29%.¹⁰ Although the proportion of deliveries taking place in a facility is currently 37%, this has increased steadily from 2001 when it was 9%.^{16,18} Despite these improvements, skilled attendance at birth in Bangladesh remains low and it will be a challenge to achieve the national goal of 50% skilled attendance by 2015.^{13,17} The high rate of caesarean sections – 23% in 2014- points to greater access to life saving interventions. The high rate could also suggest unnecessary caesarean sections are being conducted in some populations. Inequities are also noted between the rich and poor. Women from the highest wealth quintiles are 6 times more likely to deliver in a health facility compared to the poorest women. There is a similar equity gap according to place of residence and wealth for care-seeking from a health facility for maternal complications.¹⁹

Although it remains low, antenatal care (ANC) coverage has been increasing. The proportion of women receiving at least one antenatal visit from a medically trained provider rose from 28% in the early 1990s to 64% in 2014.^{11,16} Approximately 1 in 3 women (31%) currently receives the recommended four or more ANC visits.¹⁶ Access to emergency obstetric care has increased. Due to rapid development of the road transportation system and short distance between home and comprehensive emergency obstetric care facilities, women with life-threatening obstetric complications can easily reach an emergency obstetric care facility.

Figure 2: Trends in Maternal Mortality and Fertility 1990-2013



Timeline with key policy inputs

Pre 1990	1991-2000	2001-2013
1953 Initiation of Family Planning Programme 1975 Establishment of Directorate of Family Planning 1975-1990 Maternal and Child Health Multi-sectoral Programme 1976 Population Policy	1995-2002 Bangladesh Integrated Nutrition Programme (BINP) 1997 National Plan of Action for Nutrition (NPAN) 1998 Integrated Management of Childhood Illness (IMCI) strategy 1998-2003 Health and Population Sector Programme (HPSP)	2003-2011 Health Nutrition and Population Sector Programme (HNPPSP) and National Nutrition Programme (NNP) 2007 Demand-side Financing Programme – designed to incentivize births in a health facility 2007-2012 Accelerating Progress towards Maternal and Neonatal Mortality and Morbidity Reduction 2011-2016 Health Population and Nutrition Sector Development Programme (HPNSDP) 2012-2032 Health Care Financing Strategy towards Universal Health Coverage



These facilities are provided either from the public or from the private sector. Regional variations and urban-rural differences in ANC coverage are significant, as are inequities across wealth and education. Mothers in urban areas are almost two times more likely to receive 4 or more ANC visits compared to rural women (46% vs 26%).

Bangladesh has a strong national family planning programme which has brought about an increase in contraceptive prevalence and an associated fertility decline.²⁰ The contraceptive prevalence rate increased from 40% in 1990 to 62% in 2014. Despite this progress, projections suggest Bangladesh will not reach the MDG target of 72% by 2015.²¹ Reductions in the adolescent birth rate and unmet need for family planning have been slow. Unplanned pregnancies are still common in Bangladesh, despite a steady increase in the level of contraceptive use over the past 30 years. Of all currently married women, 12% have an unmet need

for family planning services, 5% have a need for spacing, and 7% have a need for limiting births.¹⁶

Traditionally women marry at a very young age in Bangladesh. This is a concern for adolescent fertility as adolescent mothers are more likely to experience complications during pregnancy and are less prepared to manage them. This leads to a higher likelihood of maternal death. Furthermore, children born to very young mothers are at greater risk of illness and death. Early entry into reproduction can also curtail a young woman's opportunity for education and skill formation.²² Despite the legal age of marriage for women being 18 years in Bangladesh, a large proportion of marriages still take place before this. Over the past two decades, the proportion of women marrying before the legal age has decreased from 73% in 1989 to 65% in 2011.¹⁰ The proportion of childbearing adolescents declined slightly between 2001 and 2014 from 34% to 31%, respectively.^{19,16}

Nutrition



Between 2004 and 2014 the prevalence of children who are underweight declined from 43% to 33%, a 23% reduction, that meets the MDG target for underweight.^{21, 16}

During the same period the prevalence of children who are stunted declined 29%, from 51% to 36%. The prevalence of wasting showed very little change during this period [Figure 3]. Between 1990 and 2011 the proportion of undernourished women was reduced by nearly half, from 52% to 24%.¹⁰ The proportion of the population consuming below the recommended level of dietary energy consumption, declined from 28% to 17% between 1990 and 2011, just short of the MDG target of 14% by 2015.²⁴

Breastfeeding is now almost universal in Bangladesh. As many as 90% of children breastfeed until the age of two. Exclusive breastfeeding in children up to six months increased from 43% in 2007 to 55% in 2014, which represents a decline from the rate of 64% reported in 2011. Complementary feeding practices remain relatively poor. Overall, 23 percent of children age 6-23 months were fed appropriately according to recommended IYCF practices in 2014; that is, they are given milk or milk products and foods from the recommended number of food groups and are fed at least the recommended minimum number of times. Infant and child feeding practices have changed very little (2 percentage point increase)

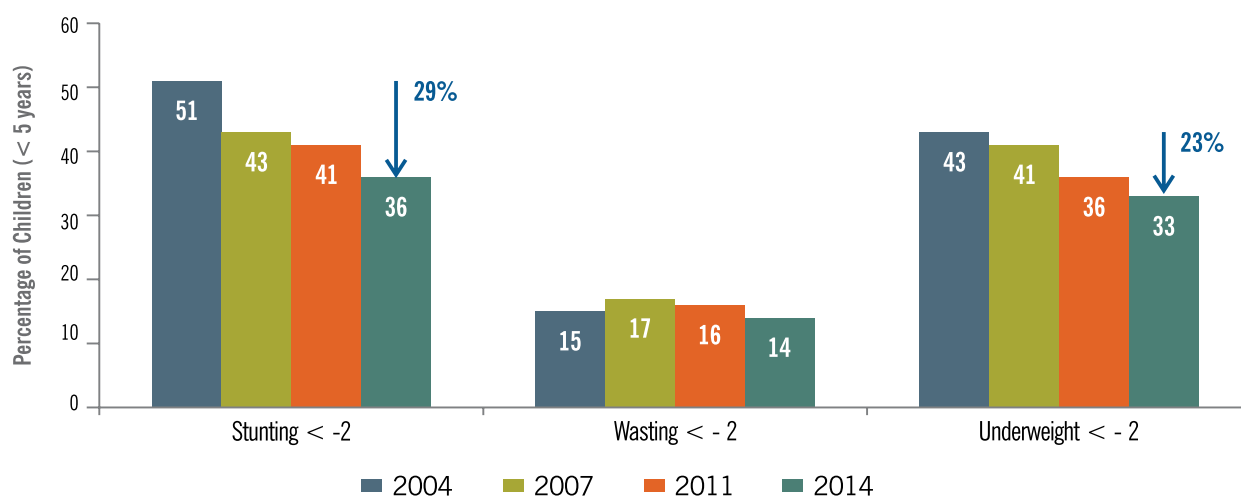
between 2011 and 2014 BDHS, and remain below the HNPSDP target for 2016 of 52 percent.¹⁶

Micronutrient supplementation

In Bangladesh, children age 6-59 months receive vitamin A capsules once every six months during National Immunization Days (NIDs) and vitamin A campaigns twice a year. In 1994, only 49% of children under 3 received vitamin A capsules; by 2007 coverage reached 84% among children aged 6-59 months. In 2014, however, this figure declined to 62% (see Table 2).^{16,25} Postpartum vitamin A supplementation also improved between 2007 and 2011, from 20% to 27%.

In 2011, just over half of all children in Bangladesh were anaemic. A number of interventions have been put in place to address this, including the distribution of iron supplements and deworming tablets every six months to children aged 1-5. Around half of children under 5 years received deworming medication in 2011.¹⁰ In addition, as part of a routine government programme to address anaemia in women, supplementation with iron-folic acid tablets and deworming medication is recommended during ANC visits. The percentage of mothers who took iron and folic acid supplements during their last pregnancy increased from 36% in 2000 to 55% in 2007.²⁴

Figure 3: Trends in Childhood Stunting, Wasting and Underweight, 2004-2014



Source: BDHS 2004, 2007, 2011, 2014 using WHO reference standards.

Challenges



Geographical and financial barriers to care have contributed to higher under 5 mortality rates among the poor, girls, and in rural areas.¹⁰ These challenges have been compounded by poor quality of care, poverty and high out-of-pocket (OOP) costs. Despite increases in GDP per capita (purchasing power parity (PPP) Int\$), which rose from \$732 in 1990 to \$1623 in 2012 (see Table 1: Key Country Indicators), poverty is a substantial problem which often renders health care unaffordable for the poorest.^{5,26} In 2007, household OOP payments on health constituted over 86% of private financing of health in Bangladesh.²⁰

Other challenges relate to the capacity and distribution of qualified health care providers; this limits access to skilled care and particularly in rural areas.²⁰ Bangladesh is one of 58 countries that faces an acute shortage of human resources for health.²⁷ According to the WHO, the density of qualified health care personnel in Bangladesh is substantially lower than other South Asian countries.

Bangladesh is also lagging in terms of reaching the minimum 23 qualified providers per 10 000 population required to help it achieve the health-related MDG targets.²⁷ The distribution of formal qualified health care providers also remains concentrated in urban areas —a situation that has not changed for over decade.²⁸

The rapid expansion of the urban poor places an additional burden on the health system. Urbanization in Bangladesh has grown at a rate of 3.5% annually from 1.9 million in 1950 to 46.1 million in 2010.^{29,30} This number is predicted to increase to 51 million by 2015.³¹ The slum population grew even faster, with the rate doubling that of overall urban population growth.³² A census in 2005 revealed that the slum population in the six largest cities was about 35% of the total population in those cities.³¹ A comprehensive policy on urbanization and an approved health strategy for urban areas has not yet been developed. There remains a lack of clarity on the government body that will be specifically responsible for urban issues.³³

Table 3: Factors influencing mortality declines, Bangladesh 1990-2011

	Factors influencing child mortality declines	Factors influencing maternal mortality declines
Improved coverage of effective interventions to prevent or treat the most important causes of maternal and childhood deaths	<ul style="list-style-type: none"> Improved vaccination coverage: full vaccination of children 12-23 months increased from 60% in 2000^d to 84% in 2014^e Improved management of diarrhoea: children with diarrhoea receiving ORT (ORS or RHF) increased from 74% in 2000^d to 84% in 2014^e Improved care-seeking for and management of pneumonia in under-fives: care seeking for symptoms of ARI Increased from 28% in 2000^d to 42% in 2014^e Antibiotic use: In 2014^e 34% of children under 5 with symptoms of ARI received antibiotics Vitamin A supplementation: rose from 49% in 1994^f to 62% in 2014^e Improved nutrition: underweight children: 43% in 2004 to 33% in 2014^e <p><i>Newborn care interventions:</i></p> <ul style="list-style-type: none"> Improved breastfeeding practices: exclusive + within 1 hour of delivery increased from 9% in 1994^f to 17% in 2000^d and 57% in 2014^e Increase in coverage of ENC between 2007^g and 2014^e: <ul style="list-style-type: none"> <i>Dried within 5 minutes:</i> 6% to 67% <i>Bathed 72hrs or more after birth:</i> 17% to 34% <i>Nothing on the stump or chlorhexidine if indicated:</i> 56% to 48% Neonatal tetanus: mothers protected during last birth rose from 66% in 1994^f to 90% in 2011^h 	<ul style="list-style-type: none"> Family planning programme: increased contraceptive prevalence and fertility decline (CPR: 40% in 1990 to 62% in 2014; TFR: 5 births per woman in 1990ⁱ to 2.3 in 2014^e) Increased availability, utilisation and access to maternal health interventions: <ul style="list-style-type: none"> CEmOC services: treatment from health facility for maternal complications: 16% in 2001^j to 29% in 2010^k Caesarean-sections: 2% 2000^d to 23% in 2014^e Menstrual regulation: <ul style="list-style-type: none"> Abortion-related maternal deaths: 5% in 2001^j to 1% in 2010^k Use of MMR: 5% in 2000^d to 9% in 2011^h Facility delivery: 8% in 2000^d to 37% in 2014^e Skilled birth attendance: 12% in 2000^d to 42% in 2014^e 4 + ANC: 11% in 2000^d to 31% in 2014^e PNC within 2 days of delivery mothers: 16% in 2004^l to 34% in 2014^e PNC within 2 days of delivery newborns: 13% in 2004 to 32% in 2014
Economic, environmental and educational improvements	<ul style="list-style-type: none"> Female education (literacy among 15-24 year old girls: 38% in 1991 to 80% in 2011) Female participation in parliament increased from 12% in 1991 to 20% in 2010 Poverty reduction (57% in 1991-2 to 32% in 2010) Proportion of population below national poverty line (70% in 1992 to 43% in 2010) Improved communication networks (road and information & communication technology) Access to clean water (76% in 1990 to 83% in 2011) and improved sanitation (38% in 1990 to 55% in 2011) Growth of private sector NGO interventions 	

^dBDHS 1999-2000; ^eBDHS 2014; ^fBDHS 1993-1994; ^gBDHS 2007; ^hBDHS 2011; ⁱBFS 1989; ^jBMMS 2001; ^kBMMS 2010; ^lBDHS 2004.



5. Health Sector Initiatives and Investments

Policy and programme inputs have emphasized the delivery of key maternal and child health interventions by developing improved health systems. This has encouraged partnerships with NGOs and the private sector and also helped to highlight the sectors outside of health that are important. Activities have been focused in four areas: high level commitment and prioritisation of health; strengthened health systems; prioritization of essential health interventions and programmes; and outcomes monitored using evidence.

Political prioritization of essential health interventions

The political commitment to improve maternal and child health has been a priority for successive governments in Bangladesh. This is reflected in continuity of health sector policies and strategies over many decades and through multiple government transitions. Successive Five Year Plans for health have been running since 1973. Since 1997, sector development strategies have shifted the focus of health and population programmes towards a sector-wide approach and the decentralisation of delivery of essential service packages. Key health sector strategies include: the first Health and Population Sector Strategy (HPSS) in 1997; the Health and Population Sector Programme (HPSP) in 1998; the Health Nutrition and Population Sector Programme (HNPSPP) for 2003-2011; and the most recent Health Population and Nutrition Sector Development Programme (HPNSDP) for 2011-2016.

Strategy development has been supported by continuous development and updating of key policies. Key policies and strategies are summarized in the table below.

There has been strong mutual collaboration in the delivery of health services between the Government of Bangladesh, professional bodies, development partners and the NGO sector. This collaboration has accelerated the progress towards achieving MDGs 4 and 5a. Through policy processes, the government has explicitly ensured that space and flexibility is provided to NGOs and private sector organisations to deliver health services independently or under mutual collaboration with the government sector. This has facilitated widespread coverage of many health interventions.

Strengthened health systems

Strengthened systems underlie all efforts to improve the delivery of key interventions and have been developed to support programming in all technical areas.

Health financing



Total health expenditure per capita (PPP, Int\$) rose from \$24 in 1995 and 2000 to \$67 in 2011 (see Table 1: Key Country Indicators). As a percentage of total government expenditure, expenditure on health increased from 7.6% in 2000 to 8.9% in 2011. South Asia saw smaller increases over the same period, from 6.7% to 7.5%.⁵

Estimates from the Bangladesh National Health Accounts showed that total health expenditure (THE) in Bangladesh grew from US\$1.1 billion in 1997 to US\$2.3 billion in 2007.³⁴ In per capita terms, THE rose from US\$9.2 to US\$16.2 over the same period.²⁰ THE in Bangladesh is financed through both the public and private sectors. Public sources come from government revenue and development partners, while private sources are dominated by OOP payments. The main source of total health expenditure is OOP spending by households (64%), followed by government spending (26%).³⁵ Bangladesh spends 3.4% of GDP on health and less than 1% of the population is covered by an insurance scheme.³⁵ Bangladesh is also a focus country for a number of donor, multilateral-organization and non-governmental organization programmes and interventions.

Between 2000 and 2011, external resources for health on average accounted for 8% of total health expenditure; this compares to 2.2% across South Asia. In 2011, net bilateral aid flows from Development Assistance Committee donors to Bangladesh totalled US\$1.2 billion, placing Bangladesh in the top 20 aid recipient countries.⁵

The Constitution of the People's Republic of Bangladesh (May 2004) sets out the state's obligation to ensure public health to all citizens. Policies and programmes focus on ensuring that these rights are realized by targeting underserved populations and improving access to good-quality health care.

The Demand-side Financing Programme for improving access to quality maternal health services is one example of these efforts. Initiated in 2007, the programme is a government-led Maternal Health Voucher scheme targeting poor women with the aim to improve access to and the utilisation of maternal health services by reducing the financial barriers through the provision of incentives.³⁶ The scheme provides eligible women a voucher that entitles them to a package of three antenatal check-ups, safe delivery care in a health facility or at home

KEY POLICIES AND HEALTH SECTOR STRATEGIES

Health Sector Strategies	Policies
HPSS - Health and Population Sector Strategy 1997	Menstrual Regulation Policy 1971 Population Policy 1976, 2005 and 2010 National Drug Policy 1982
HPSP - Health and Population Sector Programme 1998-2003	National Education Policy 1996 and 2010 National Food and Nutrition Policy 1997 National Policy on Women's Advancement 1997
HNPSP - Health Nutrition and Population Sector Programme and Tribal Health Nutrition Population Plan (THNPP) 2003-2011	National Health Policy 2000 and 2011 Skilled Birth Attendant Strategy 2001 National Maternal Health Strategy 2001 and 2011 Poverty Reduction Strategy Paper
HPNSDP - Health Population and Nutrition Sector Development Plan 2011-2016	Community IMCI Strategy 2004 HIV/AIDs Strategy 2006 Anaemia Strategy 2007 IYCF Strategy 2007 Bangladesh Health Workforce Strategy 2008 National Neonatal Health Strategy and guidelines 2009 National Adolescent Reproductive Health Strategy 2009 National Children Policy 2011 National Women's Development Policy 2011 National Plan of Action on Adolescent Sexual and Reproductive Health 2013

with a skilled birth attendant. It also provides vouchers for emergency care for obstetric complications, including caesarean sections, one postnatal care check-up within six weeks of delivery, cash incentives to cover routine and emergency transport, some food and medicine costs for the family, and a small gift box.^{36,37} Among voucher recipients, safe delivery rates were an impressive 89% and institutional deliveries 40% in 2012.³ An evaluation also found the programme to be 'strongly and significantly' associated with higher rates of skilled birth attendance, institutional deliveries and postnatal care visits, particularly among the poor.³⁸ Currently, the programme is implemented in 53 upazilas across 45 districts in the country. As a result of its success, the programme is now firmly integrated into the government's new health sector programme - HPNSDP (2011-2016) with the goal to add 20 upazilas under the programme each year.

Bangladesh has an on-going commitment to ensuring social protection for underserved populations. In particular, Bangladesh's health financing strategy (2012-2032) sets out the Government's ambition to expand social protection for health and move towards

universal health coverage.³⁵ The strategy includes three key interventions: 1) Design and implement a Social Health Protection Scheme, with some aspects focusing specifically on those living below the poverty line; 2) Strengthen financing and the provision of public health care services, such as through the use of Results-based Financing and the scale up of the Demand-side Financing Programme; 3) Strengthen national capacity to design and manage the Social Health Protection Scheme, as well as in financial management and accountability, and monitoring and evaluation.²¹

Health sector financing in Bangladesh continues to face three main challenges - inadequate health financing, inequity in health financing and utilisation, and inefficient use of existing resources.³⁶ To address these and in order to achieve universal health coverage, the first Bangladesh healthcare financing strategy aims to reduce OOP from 64% to 32% of total health expenditure, to increase government expenditure in health from 26% to 30%, to increase social protection from less than 1% to 32%, and reduce dependence on external funds from 8% to 5%.³⁵



Health workforce



Bangladesh has a severe shortage and poor distribution of public sector health workers. There are approximately 0.58 workers per 1000 population - well below the WHO's cut-off of 2.28 per 1000 population.²⁷ The health workforce crisis in Bangladesh is more severe than in other South and Southeast Asian countries. For every 1000 population, there are only 0.5 doctors and 0.2 nurses. Minimal growth in this area has been seen over the last five years.³⁹ To address the health workforce shortage, particularly in the rural areas, Bangladesh focused on the development of networks of community health workers (CHW). Bangladesh began using CHWs widely in the 1960s for smallpox eradication and malaria control activities. This was expanded in the 1970s to include oral rehydration workers (BRAC) and government family welfare assistants (FWAs) for reproductive health.⁴⁰ The first five-year plan (1973-78) placed emphasis on family planning and primary health care using female field workers in rural areas to deliver contraceptives and teach mothers how to use ORS. This approach has continued to be integrated in subsequent national health plans and policies. Realising that on its own it could not meet the needs of its growing population, the government partnered with NGOs, including BRAC, to execute this strategy. The Government and NGOs continue to deploy various types of community-based models for health service delivery. Currently in Bangladesh there are an estimated 0.36 CHW per 1000 population; this compares to an average of 0.09 for the WHO South-East Asia region as a whole. In 2011-2012, Bangladesh had around 219 000 CHWs; of these, 56 000 were government workers and 163 000 were from NGOs, including 105 631 from BRAC.³⁹ CHWs have been instrumental in providing coverage for many health interventions and are likely to have contributed to the reduction in fertility as well as maternal and child mortality.³⁹

In the most recent HPNSDP (2011–2016), the Government of Bangladesh committed to increasing the number of registered doctors from 50 000 to 70 000 and nurses from 27 000 to 40 000. Although a Health Workforce Strategy was developed in 2008, a revised Human Resources for Health (HRH) plan is outlined in the HPNSDP which will introduce incentive packages for workers in rural areas. Efforts have been made to improve skilled birth attendance through the training of community-based skilled birth attendants (CSBAs), however, numbers remain low and the CSBAs are responsible for assisting only a small fraction of births (0.3%).¹⁹



Health infrastructure



Since independence, the Government of Bangladesh has been committed to ensuring access to health facilities, particularly in rural areas. The formal health system has hospitals at the district and sub-district levels, health centres at the union level and smaller clinics at the village level. These government run facilities provide high levels of coverage. From the first of Bangladesh's national development plans (1973-78) and two-year plan (1978-80) there was a clear commitment to expanding the rural health infrastructure to provide comprehensive primary health care services to the entire population. This was known as "Minimum medical care for all" by 1985, and subsequently "Health for All" by the year 2000. The second five-year plan (1980-85) focused on the provision of a four-level health system from primary health care at the village, union and sub-district levels to higher more specialised care at secondary and tertiary facilities at sub-division, district and national levels.⁴¹ Primary health care (PHC) facilities consist of one health complex in each rural sub-district (Thana/Upazila) and one Family Welfare Centre (FWC) in each union as well as domiciliary services provided by CHWs. The second five-year plan (1980-85) endeavoured to establish 4500 Family Welfare Centres that would serve a population of 20 000. The HSPP between 1998-2003 further expanded PHC facilities to the village level. This was achieved through the construction of 18 000 community clinics to serve a population of 6000, with the aim to gradually phase out domiciliary services.

In 1993, with support from the United Nations Population Fund (UNFPA), the government strengthened its reproductive and emergency obstetric services throughout the country. This was achieved by upgrading all Maternal and Child Welfare Centres (MCWC) under the Directorate of Family Planning. This included renovations,

procurement of supplies, ongoing training and supervision activities and management. Utilisation increased substantially; this led to an increase in the number of deliveries conducted at MCWCs.⁴² However, the availability of human resources to provide reproductive health and emergency obstetric services remains a major constraint.

Prioritization of essential health interventions and programmes

The Government of Bangladesh has prioritized a number of essential health interventions over the past decades. There has been a focus on expanding immunization, tackling diarrhoea and pneumonia, and reducing fertility through family planning. These programmes and strategies have been scaled-up nationwide. The Government has promoted widespread availability and affordability of these interventions with an emphasis on community-based approaches. As a result, inequities in coverage of specific interventions have declined; this may explain the improvements seen amongst even the most disadvantaged populations. Key programmes and initiatives that have led to gains in maternal and child survival are highlighted below.



Increasing immunization coverage through EPI:

The Expanded Programme on Immunization (EPI) in Bangladesh is considered a success story. The programme started in 1979 to combat six vaccine-preventable diseases, and now vaccinates children against eight diseases: tuberculosis, diphtheria, pertussis, tetanus, polio, and measles, hepatitis B, and haemophilus influenza type B.^{10,13}

Access to immunizations has improved substantially over time.⁴³ By 2014, 84% of children aged 12-23 months had received all the recommended vaccinations; only 2% of children from the same age range had not received any vaccinations.¹⁶ The country's third five-year plan (1985-90) committed to universal childhood immunization by 1990. The Expanded Programme on Immunization (EPI) became a major component of maternal and child health services delivered through the primary health care system. Funding and technical support from donors were pivotal to these efforts. Community mobilization and outreach have been particularly effective as a means to expand service delivery. An important innovation was the use of CHWs for household visits to bring immunization messages and deliver services to the poor and marginalized (See Health Sector Spotlight).⁴⁴

The most recent government health sector programme, HPNSDP, aims to increase the coverage of children under-one year that are fully immunized to 90% by 2016. Recent estimates suggest that this has increased to more than 78% from a baseline of 68% in 2004.^{16,45}

“EPI was a very structured, well planned, well distributed, well resourced, well managed, successful intervention. It was a straightforward intervention. It was an all-out effort.”

[Statement from participant in multi-stakeholder meeting.]

Health sector spotlight

THE EXPANDED PROGRAMME ON IMMUNIZATION (EPI)



The EPI programme was launched in Bangladesh in 1979 and has been identified as the largest single contributing factor in the reductions to under 5 deaths.⁴⁶ Large-scale coverage was achieved through the government’s commitment to achieve universal immunization coverage by 1990. Coverage was achieved through a largely community-based outreach approach, supported and funded by donor agencies and NGOs. The service delivery strategy for vaccination was reorganised, with the establishment of infrastructure, procurement of cold chain equipment and portable vaccination kits, and training of vaccination teams.⁴⁷

A community-outreach strategy for vaccinations was integrated into the primary health care system and backed by intensive media campaigns to create demand. Government community health workers (Health Assistants and Family Welfare Assistants) provided vaccinations at EPI sites, satellite clinics and static clinics. They also made household visits to motivate and educate families. A unique feature of the programme was that the communities were required to provide space for these outreach services, even in the most poor and marginalized areas. Immunization coverage rose from less than 2% in 1985 to 65% in 1992 and 84% in 2014.¹⁶ Routine immunization has enabled the country to maintain polio free status since 2001 and to eliminate neonatal tetanus in 2008.¹³

The Government formed collaborative partnerships with NGOs to deliver immunization services. NGOs were key to mobilising the community to attend EPI delivery sites and continue to provide technical assistance for training, management and monitoring. In urban areas, NGOs manage the majority of immunization services.³⁹ The Government of Bangladesh also partnered with civil society to ensure widespread uptake and acceptance of its EPI programme. NIDs have been held since 1995 for the distribution of oral polio vaccine and vitamin A capsules. Civil society participation is important to the success of NIDs. More than 600 000 volunteers enable them to reach over 90% (24 million) of children in a single day, with follow-up for the remaining 10%. In 2014, NIDs reached a coverage of 100%.⁴⁸



Coverage among the lowest wealth quintile increased from 49% in 1994 to 80% in 2005.⁴⁴ Between 1997 and 2014, measles coverage among children aged 12 to 23 months rose from 75% to 90% in urban areas, and from 69% to 85% in rural populations.¹⁶ In the last ten years, gender disparities in immunization coverage have disappeared. Evidence suggests that CHWs have been effective in reducing inequities in immunization coverage.⁴⁹

Integrated Management of Childhood Illness (IMCI):

Bangladesh adopted the Integrated Management of Childhood Illness (IMCI) strategy in 1998 to focus on the major causes of child mortality: diarrhoea, pneumonia, malaria, measles and malnutrition. The programme was introduced in 2002, replacing the earlier vertical child health programmes – Control of Diarrhoeal Diseases (CDD) and Acute Respiratory Infections. Implementation and expansion of IMCI was facilitated through a government-led national steering committee headed by the health secretary. Facility-based IMCI is being implemented in 425 of the 482 sub-districts across the country, including community clinics. These clinics represent the lowest tier of government health facilities at the grass-roots level and exist even in hard-to-reach areas. By 2013, 4000 doctors, 17 000 paramedics, 8 500 basic health workers and 15 600 skilled birth attendants had been trained in IMCI. Community-IMCI is available in 150 sub-districts primarily in low-performing areas.²⁴ A cluster randomized trial in Matlab sub-district between 2002 and 2009 showed that the IMCI strategy led to a reduction of 4.2 child deaths per 1000 LBs in its last two years of implementation. It also improved care-seeking for sick children from trained health providers from 8% to 24%; increased rates of exclusive breastfeeding, and contributed to a reduction in the prevalence of stunting (see Table 2: Key RMNCH Coverage Indicators).²⁴

Control of diarrhoeal disease: Diarrhoea now accounts for only 2% of under 5 child deaths, compared with almost a fifth in the 1990s. This dramatic improvement is largely attributable to the widespread use and uptake of Oral Rehydration Therapy (ORT) and more recently, zinc. Between 1993 and 2014, the proportion of children with diarrhoea receiving ORT—either Oral Rehydration Salts (ORS) or Recommended Homemade Fluids (RHF)—increased from 67% to 89% in urban areas, and from 58% to 83% in rural areas.^{16,11}

The scale-up of ORS through campaign activities had a major impact on under 5 deaths from diarrhoea. Between 1993 and 2011, these deaths decreased from 12 per 1000 LBs to 1 per 1000.^{10,50} The use of ORT for the treatment of dehydration due to diarrhoea began in 1979, using pre-packaged ORS under the brand name 'ORSaline' and gained momentum in the 1990s.⁵¹ The initial scale up was led by BRAC, mobilising grassroots community health workers known as Oral Rehydration Workers to visit every household in the country to teach mothers how to make ORS solution for treating diarrhoea at home.⁵² Social marketing was a key strategy employed to complement home visits and was instrumental for promoting the uptake and use of ORS. With support from the Government and BRAC, the Social Marketing Company (SMC) took



responsibility for promoting and selling ORSaline in 1990 using a mass communication and marketing campaign.⁵¹ The campaign utilised a wide range of mass media, including radio, TV, cinema, billboards, wall paintings, neon signs, mobile film units, point-of-purchase advertisements and printed educational materials.^{38,51} Others that supported the scale-up of ORS included the Grameen Foundation, which provided business opportunities for women to buy ORS packets at a subsidized price and sell them for a profit. The United Nations Children's Fund (UNICEF) and the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) also promoted ORS through a marketing campaign. The Government of Bangladesh introduced the Control of Diarrhoeal Disease (CDD) programme in 1997 with the establishment of an ORT corner in each sub-district, district and tertiary level facility with a dedicated medical officer in each district.

Zinc was added as recommended treatment for diarrhoea in 2004. Studies demonstrating the effectiveness of zinc were conducted locally at ICDDR,B. ICDDR,B is an international leader in research in diarrhoeal diseases and has played a fundamental role in driving national scale-up.^{53,54} Both zinc and ORS are on the essential medicines list, have received over the counter approval and are included in national IMCI guidelines. The country has a large and competitive private sector and local pharmaceutical industry producing over 90 brands of zinc tablets and syrups. UNICEF has supported procurement and distribution of zinc in its focus districts. A social marketing approach was implemented for the national scale-up of zinc treatment, with 38% of children now receiving zinc and ORT for diarrhoea (Table 2).⁵⁵

Improvements in access to safe drinking water and sanitation have also been fundamental to reducing the incidence and mortality from diarrhoea in children. In 2011, 83% of the population had access to clean water and 55% to improved sanitation facilities.¹⁰

Pneumonia case-management: Deaths from pneumonia remain one of the leading causes of childhood mortality in Bangladesh. Early diagnosis and treatment with antibiotics can reduce the likelihood of death. In 2014, 34% of children with symptoms of ARI received antibiotics.¹⁶ This level of utilisation remains below the target of 50% set by the MOHFW. Ongoing work is needed to further improve the management of pneumonia are associated through both widespread implementation of IMCI and improved availability of antibiotics. Bangladesh's early adoption of a National Drug Policy in 1982 was a major innovation that led to improved access, availability and affordability of several essential medicines, including antibiotics, through both formal and informal health providers. The widespread use of antibiotics, particularly by untrained and unqualified providers, raises the risk of antibiotic resistance and is an area that will need close monitoring in the future.



“Maternal and child mortality has decreased due to massive use of antibiotics. Even village doctors are prescribing antibiotics. Though in many cases use of antibiotics is not rational, it helps to reduce infection related deaths in both mothers and children.”

[Statement by respondent from key informant interviews]

Neonatal health initiatives:

Between 1990 and 2014 neonatal mortality in Bangladesh fell by 46%. Over the past 10 years, neonatal mortality declined at an annual rate of decline of 4% per year – double the regional and global averages of around 2% per year.^{16,56} Neonatal deaths in Bangladesh now comprise 61% of all under 5 mortality and 74% of infant deaths.¹⁶ Asphyxia, severe infection and complications of preterm births are currently the leading causes of newborn deaths in the country. Newborn deaths attributable to tetanus declined from 17% to 4% between 1996 and 2011. Neonatal deaths from diarrhoea and infections also showed a slight decline over the past two decades.⁴⁹

Increased coverage of key interventions critical for newborn survival took place between 2000 and 2011. This includes increased rates of facility deliveries, skilled birth attendance, ANC and PNC visits and caesarean sections—all of which are likely to have contributed to the neonatal mortality decline (see Trends, Timelines and Challenges and Table 2).

Increased national attention to newborn health began in 2001 and was sparked by global initiatives that led to a national situation analysis.⁵⁶



Subsequent formative research, and testing and scale up of various community-based newborn interventions led to the development and introduction of the National Neonatal Health Strategy and Guidelines in 2009. The goal of the Strategy is to reduce neonatal morbidity and neonatal mortality (to 22 per thousand live births by 2015). The Strategy calls for improved policies, services and demand for services by mothers before, during, and after pregnancy and at childbirth. The focus is on building the capacity of health service providers to address birth asphyxia, neonatal sepsis and low birth weight.⁵⁷ The Government's health sector plan for 2011-2016 also includes strategies to ensure universal access to high impact interventions for newborn survival. Newborn health is increasingly emphasized in community-based programmes.

Several recent initiatives focus on the leading causes of neonatal deaths. The Helping Babies Breathe (HBB) initiative rolled out nationally in mid-2011 aims to address birth asphyxia by training skilled birth attendants (SBA) in newborn resuscitation. So far over 21 000 SBAs have been trained and there is plan to train an additional 10 000. By April 2013, 40 districts were covered. Efforts to improve prevention and management of preterm and low birth weight babies using corticosteroids and Kangaroo Mother Care (KMC) are also underway.

Infections, including pneumonia, are responsible for just over one-third of neonatal deaths in Bangladesh. National and international evidence suggests that management of neonatal infections can be done effectively through community-based strategies;^{58,59} however, recent operations research conducted in Bangladesh suggests that this may not always be the case. More research is needed in this area.

Currently, greater attention is being given to improving the quality of care delivery and early newborn care at facilities and enhancing referral mechanisms. Investments have been made to establish specialized newborn care units (SCANU) at district and medical college hospitals. To date, 14 units have been received and by 2016, an additional 21 units will be provided to district and sub-district hospitals.²⁴ While these units are very much needed, they also require ongoing health systems support to sustain them.



Family planning services:

The population programme in Bangladesh began long before independence with the creation of Family Planning Association of Bangladesh (FPAB) in 1953. In 1960 the first National Family Planning Programme was established by the Directorate of Family Planning.⁵⁹ Bangladesh's 1976 Population Policy identified the population growth rate as the country's 'number one problem' and a constraint to improving the overall development. Since then, reducing population growth has been a priority in Bangladesh. As a result of these efforts, the country has experienced a remarkable demographic transition over the last three decades with a population growth rate of only 1.4% between the 1991 and 2011 censuses.⁶¹ The total fertility rate (TFR) more than halved between 1990 and 2014, from 5 to 2 births per woman [see Table 1: Key Country Indicators].¹⁶

This considerable reduction in the fertility rate has contributed to improvements in maternal mortality.^{15,62,63}

This decline is also a result of the Government's sustained efforts to ensure women's access to family planning services, with substantial external support, and through the provision of services at the community level and in rural areas.^{46,64} NGOs have played a vital role, not only by increasing access to services, but also by providing specific policy recommendations based on intervention research.⁶⁰ NGOs have also used mass communication campaigns to increase demand for family planning services. FWAs - the governments female frontline community health workers – have been central to this effort by bringing a range of contraceptive options and information to the doorsteps of village households.⁶⁵



Access to Comprehensive Emergency Obstetric Care and Skilled Birth Attendance:

Since 1994, Bangladesh has focused on increasing the availability of comprehensive emergency obstetric care (CEmOC) services through the public health system. This has been reflected in the government's health, nutrition and population sector programme strategies. Comprehensive emergency obstetric care services were upgraded and strengthened in district hospitals and at Maternal and Child Welfare Centres (MCWC) throughout the country. Efforts were intensified following adoption of the Safe Motherhood Initiative in 1997 and the National Maternal Health Strategy in 2001—both explicitly focused on emergency obstetric care. In 2001, CEmOC was available in only 3 sub-district hospitals; by 2010, this increased to 132 out of a total of 427. Currently, all 59 district hospitals and 70 out of 97 MCWCs provide CEmOC, while 1500 Union Health and Family Welfare Centres (UHFWCs) have been upgraded to provide obstetric first aid services.¹⁷ A recent analysis has demonstrated that improved access to CEmOC has contributed to maternal mortality declines in Bangladesh.¹⁵ Despite implementation of CEmOC, only 70-80 of the upgraded sub-district level hospitals actually function as CEmOC facilities due to a lack of qualified providers, including obstetricians and anaesthetists.¹⁹ This remains a continuing challenge for the public health system.¹⁰

Legalization of Menstrual Regulation – Abortion policy reform:

Abortion-related maternal deaths have fallen from 5% in 2001 to only 1% in 2010.¹⁹ The widespread use of family planning to prevent unwanted pregnancies has been a key factor underlying this reduction. The provision of safer and more accessible Menstrual Regulation (MR) services may also have had an impact on reducing abortion-related maternal mortality by reducing the likelihood of high risk traditional methods used in the past to induce abortion.¹⁸ A study in Matlab sub-district demonstrated that between 1976 and 2005 the reduction in abortion-related mortality accounted for a significant proportion of the decline in MMR, together with investments in emergency obstetric care and family planning.⁶⁶

Bangladesh is unique in that although it has a highly restrictive abortion law, it permits the use of Menstrual Regulation (MR). MR is a procedure that utilises manual vacuum aspiration to safely establish non-pregnancy when a woman has missed her menstrual cycle. Bangladesh established an MR policy very early on at its independence in 1971, and in 1974 the procedure was first introduced in government clinics. From 1979 menstrual regulation has been part of Bangladesh's National Family Programme. Nationally, around 4000 government facilities and 200 NGO clinics offer MR services.⁶⁷ The public sector is the dominant source of MR; in 2010, 6500 Family Welfare Visitors (FWVs) and 8000 physicians provided MR through government facilities. Training and support of female FWVs at primary health facilities has been supported by NGO –GO partnerships.⁶⁸ A nationally representative survey of health facilities conducted in 2010 found almost half of MR services provided were through UHFWCs - the primary providers in rural areas.⁶⁹ MR is increasingly provided through the private sector and NGOs as well. In 2010, 653 100 MR procedures were conducted.⁶⁹ The 2011 Bangladesh Demographic and Health Survey (BDHS) reports that 9.4% of women that had ever been married had used MR.¹⁰

“Abortion has been done in the name of MR. In Bangladesh, MR Service is one of the major contributing factors in reducing abortion related maternal death.”

[Statement by respondent from key informant interviews]

Availability of and demand for caesarean sections:

Rates of caesarean sections in Bangladesh have escalated from 2.7% to 12.2% between 2001 and 2010, and to 23% in 2014—now exceeding the recommended rate of 15% set by the WHO. This increased access may have had some impact on maternal mortality reductions by reducing the number of deaths resulting from prolonged labour and eclampsia.^{16,19} Alarming, 71% of deliveries conducted in private facilities were delivered by caesarean section while the rate in public facilities is almost half at 35%.¹⁹ These data suggest that the poor are not receiving the benefits of this intervention. There is evidence that caesarean sections are being conducted unnecessarily, with 9.4% of women without any reported pregnancy or delivery complications undergoing caesarean sections.¹⁹ Distinct urban-rural differentials also exist in regard to the frequency of caesarean sections, with rates of 38% in urban vs. 18% in rural areas in 2014. Establishing clear national criteria for conducting caesarean sections and ensuring that these criteria are applied will be an important area of future policy work – as well as better reaching underserved populations. In this regard, there is a need to monitor caesarean sections, both in public and private sector facilities. The private sector is becoming increasingly involved in maternal newborn and child health (MNCH), however, there is a need to formally regulate their activities.

Expansion of the private sector:

In Bangladesh, the persistent service delivery constraints in the public health system have led to the development of the private sector. The increasing availability of private facilities has contributed to greater utilisation of health facilities, particularly for deliveries and caesarean sections. Between 2007 and 2011, the utilisation of private sector health facilities for delivery care increased by 91%, while that of public sector health facilities grew by only 49%.¹⁰ In 2011, just over half of the births which took place in a health facility were in private sector facilities.¹⁰ Low quality of care, inadequate supplies and human resources in public sector facilities underlies some of the increase in utilisation of the private sector. The Government supports increased engagement of the private sector in several ways, for example, by contracting privately owned information and service centres which are able to use telemedicine to increase access to services (e.g. for the referral and consultation of clinical cases), particularly among underserved populations.³⁷ The HPNSDP (2011–2016) sets out some of the Government's further aims: to collaborate with private providers; to incentivize service delivery in hard-to-reach areas; and to support improvements in service delivery through updating accreditation tools and establishing waste management systems in hospitals.⁷⁰ It is recognized that future policy efforts will need to ensure that private sector providers apply national and international practice standards and guidelines in order to limit unnecessary or expensive procedures.

Current/future efforts: Several efforts continue to be made to reduce some of the leading causes of maternal mortality namely, haemorrhage and eclampsia. To reduce the risk of haemorrhage, the Government has approved the distribution of misoprostol to all pregnant women prior to delivery and the utilisation of delivery mats for assessing blood loss during delivery. For the management of pre-eclampsia, the availability of magnesium sulphate is being ensured.¹⁸



Outcomes monitored using evidence



The Government of Bangladesh uses data generated from national surveys and the Health Management Information System (HMIS) to support the development of operational and/or strategic sector plans.⁷¹ There is a strong commitment to the collection and use of local research data in the areas of maternal and child health, and using data to inform policy and programme decision making. Efforts are ongoing to improve the collection and processing of data [Refer to spotlight under non-health sector initiatives].³⁷ Sub-national data are used to identify and tailor responses in specific geographical areas. Geographical information systems are used for disease surveillance and mapping service availability. Innovations in e-health allow routine data to be collected in the field and health statistics to be accessed by text messaging. Efforts are ongoing to ensure that information collected by different sources is aligned with the Bangladesh Health Information Systems Architecture. Coordination between the Ministry of Health and Family Welfare (MOHFW), BRAC University, the Bureau of Statistics and the Ministry of Local Government has allowed the development of a harmonised digital platform to serve as Bangladesh's vital registration system.

The Government has prioritised enhancing routine health information systems across the country. The first national policy on ICTs was adopted in 2002. In 2009 this was updated to fulfil the Government's Digital Bangladesh Vision for 2021 which plans to achieve an electronic records and information system for the Government health service by 2016.

In 2012, acting on this commitment and to establish universal electronic health records, all health facilities in rural regions, from the national level to the village/community level, were provided with wireless broadband internet and laptops. This included 12 527 Community Clinics and 4500 Union-level health centres across the nation. The Government's community health workers were also provided handheld tablet devices. An initiative has been piloted to track pregnant woman and children under 5 using eleven indicators established by the Commission on Information and Accountability (COIA). This plan will be expanded to all community level facilities across the country.²⁴

In 2006 the Government, in partnership with UNICEF, established a centralised online birth and death registration system. When the initiative started, only 10% of births were registered. Since then, over half of all children under 5 are now registered.⁷² This provides vital information for planning and monitoring and has large implications for child rights—particularly for health and education.

Telemedicine has been effective in helping to deal with shortages in healthcare personnel in Bangladesh, particularly for qualified doctors in rural areas. Rural health facilities are now supplied with laptops and the internet; this is helping to fill this gap. As the majority of these facilities are without any qualified doctor, telemedicine allows patients and health providers to consult with a qualified medical practitioner and will help improve patient management and quality of care.²⁴



Innovation and research

Bangladesh is recognized for its long-standing culture of using research to generate evidence for health policy and planning. The country produces exceptional research in developing health innovations, especially in the field of maternal, newborn and child health. The research institution ICDDR,B has pioneered many innovations, supported by research, including the development and scale up of ORS and zinc for the treatment of diarrhoea.^{53,54,73} It has also engaged in monitoring and evaluation of programmes to ensure effective implementation. The multi-country evaluation of IMCI, led by ICDDR,B, informed both national and international implementation and scale up of community and facility-based IMCI.⁷⁴



“The political parties are committed to improve the status of food, communication and female education. It plays an important role to reach goals of MDG.”

[Statement by respondent from key informant interviews]

6. Initiatives and Investments Outside the Health Sector

Several factors outside of the health sector have supported reductions in maternal and child mortality. The following key areas are summarized below: female education; women’s empowerment and equity; improved communication networks; nutrition; infrastructure, water supply and sanitation; poverty reduction; and NGO interventions.

Female education



Secondary schooling for females has expanded rapidly in Bangladesh since the 1990’s, particularly in rural areas. The country has maintained gender parity in secondary school enrolment since 2000 and, as of 2011, the gross enrolment of girls exceeded boys in both primary and secondary school.²¹ Promising trends include the halving of the proportion of mothers without any education since 2001 and doubling of those with secondary schooling. It is believed that these trends may be contributing to the increase in facility deliveries and deliveries conducted by skilled providers as well as care-seeking for obstetric complications.¹⁰

The use of stipends and poverty reduction schemes in Bangladesh provides financial compensation for school attendance and has contributed to these improvements. The Female Secondary School Stipend Project, established nationally in 1994,



“The government was conscious about female education. Now you may find at least one young woman in most of the households who can read.”

[Statement by respondent from key informant interviews]

aimed to increase the enrolment and retention of girls in secondary school, as well as delay marriage and childbearing.⁴⁶ The project operates by paying a stipend to all girls in rural areas on the basis that they attend at least 75% of school days, maintain a passing grade, and remain unmarried until they are 18 or have completed the secondary school certificate.⁷⁵

Between 1991 and 2011, the proportion of literate females aged 15–24 years increased from 38% to 80%.⁷⁶ Increased literacy has positive implications on improving health awareness and health seeking behaviour and practices. Although the direct impact on delaying marriage cannot be established, it has been noted that women completing secondary school got married nearly three years later than women with no education.¹⁰ Primary and secondary education is free for girls, but dropout rates still remain high; enrolment in higher secondary and tertiary education remains low. Despite gender parity nationally, regional disparities persist. Ongoing efforts are needed to achieve 100% literacy rate among 15–24 year olds. Challenges impeding further progress include: high primary education dropout rates, poor quality schools that do not use gender-balanced curricula and are not girl-friendly, and limited adult literacy programmes. Laws and policies promoting gender empowerment and equality need to be further strengthened, including laws and policies against child marriage and violence against women.

Women's empowerment and equity



Women's opportunities and public participation in Bangladesh have changed significantly in recent decades.

International and national focus on equal rights and opportunities for women saw the Government of Bangladesh establish the Ministry of Women and Children Affairs as early as 1978. This Ministry advocates for promoting quotas for women in the civil service, police and defence force and reserves seats in the national parliament. Supported by progressive national policies and government leadership on gender equality, the National Policy for Women's Advancement, formulated in 1997, provides an important general statement of commitment of the Government of Bangladesh to equality of women and men. The national action plan for Women's Advancement was adopted in 1998 with the strategy of mainstreaming gender in all government policies. Such commitment is also reflected in the National Strategy for Accelerated Poverty Reduction (NSAPR-II), which emphasizes the importance of women's rights and opportunities for progress in the battle against poverty.

Over the past two decades, women in Bangladesh have participated in the formal labour market due to the rapidly growing garment sector and microcredit revolution targeted towards women.⁷⁷ The garment industry has provided a large number of formal





sector jobs for women, and women comprise more than 90% of its labour force.⁷⁸ Increased female employment and income has important implications for female empowerment, including their position and status in their families and decision-making ability. Nevertheless, much progress is still needed in this area. Early marriage and motherhood impedes greater labour-force participation by women and with a third of women between the ages of 20-24 years

married by the time they are 15 years of age, the likelihood they would be engaged in any form of work is substantially reduced. Decision-making on health care and use of family income remains a major challenge. In 2011, only a third of women reported being able to independently decide how to spend their income. Women's decision-making power in Bangladesh increases with their level of education and household wealth.¹⁰

Improved communication networks

Transportation



Major improvements in the road and transportation network in Bangladesh have taken place over the last two decades. These advances have facilitated improved accessibility to health facilities, particularly in rural areas. Between 1991 and 2007, the number of paved roads increased from 9704 to 17 321. Bangladesh is a riverine country with over 24 000 km of waterways. Improved connectivity has also occurred through the construction of over 11 560 bridges between 1991 and 2006.⁷⁹



“Boats with motor engine in hard-to-reach areas and construction of new roads have played a significant role”

[Statement by respondent from development sector]

Information and Communication Technology (ICTs) – eHealth & mHealth

The proportion of households using mobile phones in Bangladesh increased from 35% in 2007 to 78% in 2010. Over the same period, coverage among rural households increased from 29% to 75%. This has dramatically improved the opportunity for health service delivery through mobile communication.⁶¹ A 24/7 mobile phone health service is being

provided in each of the country's 482 district and sub-district hospitals in rural areas. On-duty physicians equipped with a mobile phone at each facility are now accessible to communities via a toll free number. This initiative will be expanded further to government Community Health Care Providers based at community clinics.²⁴

Spotlight of a sector outside of health

INFORMATION AND COMMUNICATION TECHNOLOGY (ICTS)

Bangladesh is aiming for a fully digital government health service by 2016.⁸⁰ In 2012, all health facilities in rural areas were given wireless broadband and laptops, and government community health workers received tablet devices.²⁵ With NGO support, this enables the collection of quality health data on subjects such as pregnancy, children under 5 and birth and death.⁷²

Mobile phone and eHealth technology has been used to improve reporting, data collection, access to data, data storage and referrals. The Government's routine health information system (RHIS) has successfully piloted the use of electronic reporting at both the facility and community level. In pilot areas, this resulted in a

100% reduction in manually generated patient forms at sub-district facilities and 60% reduction in reports at the community level. Patients have benefited from new services, including a 24/7 mobile phone link for people in rural areas to an on-duty physician, and weekly text messages offering pregnancy advice to registered mothers.⁸¹ New technology now supports 28 telemedicine centres, with another 15 planned for 2014.²⁴

In education, school pupils are using the internet to hear online lectures from external teachers and to access eBooks online.⁸² In the agricultural sector, Grameen Intel Ltd. has begun providing farmers with customised information on seed selection, soil and fertilizers via mobile phone.⁸³





Nutrition



Nutrition has been the focus of a number of programmes and strategies in Bangladesh and is a sector with a dynamic and active policy environment.

The Bangladesh Integrated Nutrition Programme (BINP) was the first large-scale policy programme for nutrition (1995–2002). The BINP covered 61 sub-districts and almost 16% of the rural population. An evaluation of the Programme found a 5% reduction in malnutrition and a small increase in birth weights in the project area.⁴⁶ Through the BINP, the Government published the first significant nutrition policy document in the 1997 National Plan of Action for Nutrition which set out the country's goal to improve nutritional status and reduce malnutrition.²³ Specific areas of focus of the plan included: developing human resources, empowering communities to understand nutritional problems, ensuring food security, safety and quality, protecting, promoting and supporting breastfeeding, ensuring support for the socioeconomically deprived and nutritionally vulnerable, reducing micronutrient deficiencies, promoting nutrition advocacy, education, and community participation, and assessing, analysing and monitoring the nutritional status of the population.⁸⁴

The BINP became the National Nutrition Programme (NNP). Between 2002 and 2011, activities were

implemented in a further 79 sub-districts before being rolled out nationwide. The NNP uses community-based nutrition services (such as supplementary feeding, nutrition, education and homestead gardening) to target malnourished women and children.⁸⁵ In 2006, the programme was integrated into HNPS. Under HNPS, there were two operation plans - the NNP and Micronutrient Supplementation (MNS). Limited facility-based services were provided through MNS and community-based services were undertaken through NNP-OP. The current sector-wide approach under HPNSDP is attempting to mainstream nutrition through one main operation plan – the National Nutrition Service (NNS) - which will deliver high impact, evidence-based nutrition services through health and family planning as well as community based services.²⁴

Since 1997, the MOHFW has streamlined nutrition and other health services at the community level through community clinics. In 2007, the Government also introduced the National Strategy for Anaemia Prevention and Control in Bangladesh. This strategy aims to improve maternal, infant and young child nutrition for the reduction of anaemia using a number of strategies, including micronutrient supplementation, dietary improvement and food fortification.

Infrastructure, water supply and sanitation



Infrastructure plays a significant role in promoting a country's growth and alleviating poverty. Between 1997 and 2002, the multi-donor supported Rural Electrification Programme in Bangladesh (which supported the objectives of the Rural Electrification Board to provide electricity across rural areas in Bangladesh by 2005) led to positive income effects and is estimated to have reduced infant and child mortality by approximately 5 per 1000 live births and 10 per 1000 live births, respectively.⁴⁶ Power consumption, measured by kilowatt hours per capita, increased from 48 in 1990 to 259 in 2011 (see Table 1: Key Country Indicators).

Bangladesh has made progress towards halving the proportion of population without sustainable access to safe drinking water and basic sanitation. Access to clean water increased from 76% in 1990 to 83% in 2011, and access to an improved sanitation facility from 38% in 1990 to 55% in 2011 (see Table 1: Key Country Indicators).⁵ In rural areas between 1990 and 2010, access to improved water sources and sanitation facilities increased from 75% to 79% and from 34% to 55%, respectively.⁷⁶ A study of child mortality inequalities and linkages with sanitation facilities in Bangladesh also highlighted that 'water supply and availability of sanitary facilities had a strong association with child mortality, even after controlling for the effects of socioeconomic and geographical variables'.⁸⁶



“Microcredit programmes of different NGOs, expansion of the garment industry, increased availability of overseas jobs - all of these have increased the buying capacity of people. It has influenced the improved care seeking practice.”

[Statement by respondent from key informant interviews]

Poverty reduction



Bangladesh experienced a steady annual decline of 1.7-1.8% in poverty rates between 2000 and 2010 with national level poverty rates dropping from 48.9% to 31.5%. The number of poor people fell from nearly 63 million in 2000 to 47 million in 2010. The country is also on track to meet its poverty MDG of halving the poverty headcount to 28.5%.²⁶

The Bangladesh Poverty Assessment by the World Bank showed that between 2000 and 2010 the two most important contributors to poverty reduction were growth in labour income and demographic changes. Labour income, both formal and informal, was the dominant factor in this improvement since it led to higher incomes and lower poverty rates. Fertility rates have been steadily dropping over the last several decades resulting in lower dependency ratios, thereby increasing income per-capita and reducing poverty. The potential to benefit from the demographic dividend will continue in the short to medium term.²⁶



Between 2005 and 2010 the proportion of households with access to safety nets doubled to 24%.

The microfinance sector has grown dramatically in Bangladesh with microfinance institutions providing to loans to around 34 million members in 2010, up from 8 million in 1996.²⁶

NGO Interventions

Bangladesh has one of the largest NGO sectors in the world and the initiatives of various NGOs have played an important role in achieving MDG 4 and 5a in Bangladesh. There has been strong mutual collaboration between the Government of Bangladesh and the NGO sector as well as other professional bodies, and development partners. Collaborations have supported the delivery of health services as well as several other development initiatives, including microfinance, education, social-safety net programmes, and water and sanitation.⁸⁷ The Government put policies in place that explicitly ensure that space and flexibility is provided to NGOs and the private sector organisations to deliver health services independently or under mutual collaboration with the government sector. This has facilitated widespread coverage of many health interventions. As described earlier, NGOs including BRAC, have mobilised over 100 000 Community Health Volunteers to deliver health services in rural areas and over 1000 public health clinics and delivery centres run by NGOs

exist throughout the country.⁸⁸ The supportive policy environment, evident from as early as 1978 in the 2 year national development plan (1978-1980), and the subsequent second 5 year plan (1980-1985), has clearly articulated that NGOs are collaborative partners of the government.³⁹ This has allowed rapid expansion of the NGO sector due to very few regulatory mechanisms and constraints. Almost 60% of all NGOs in Bangladesh provide health care related services - the second most common area of service activity after microcredit.⁸⁷ BRACs health workers, the Shasthya Shebikas, are now a key source of health care providing over 8% of antenatal care services to mothers across the country – slightly higher than what the Government's grass-roots CHWs are providing.¹⁹

NGOs have also created opportunities for rural women to engage in income-generating activities. Employment has empowered women, giving them a greater role in family life and decision-making.

7. Key Actors and Political Economy

Support for the health of women's and children's health comes from both within and outside the formal health sector. Health services in Bangladesh are delivered through the government run public system and a large non-state sector consisting of private (for-profit) providers, NGOs and traditional and informal providers. Each of these groups plays a role in ensuring political support for women's and children's health. Effective policies need strong governmental support. In Bangladesh there is a recognition that improved participation of women is essential in the political process to ensure that important social and health issues are represented in policy. An increasing number of women participate in the highest levels of government in Bangladesh.

In 2010 women's participation in parliament was at 20%, up from 12% in 1991. At the time of the framing of the Bangladesh constitution in 1972, a gender-based quota system was introduced at the national government level as the route for women's entry into politics. The Bangladesh Parliament (*Jatiyo Sangsad*) has 300 seats. The 15th constitutional amendment passed in June 2011 increased the number of directly reserved seats for women from 45 to 50.²¹ It is hoped that in the long term, more female participation will ensure strong political support for women's and children's health both through direct health programming; and through indirect support for the rights of women at all levels.





8. Governance and Leadership

The Government of Bangladesh has a long-standing goal to upgrade Bangladesh from a lower income country to middle income country by 2021. Reducing maternal and child mortality is a priority of the Government. The main stewardship role of health service provision is performed by the MOHFW, and assisted by some regulatory functionaries.

Health services in Bangladesh are delivered through the government-run public system and a large non-state sector consisting of private (for-profit) providers, NGOs and traditional and informal providers. The public sector still remains the main source of care for the population. RMNCH programme activities are implemented by two directorates of the MOHFW: the Directorate General of Health Services (DGHS) and the Directorate General of Family Planning (DGFP).

The system is centralized, with program responsibilities divided between 32 line directors at the central level. Each line director develops an annual implementation plan and budget, and is responsible for implementing activities on the ground, through districts, upazilas (sub-districts), unions, and communities. The ministry also has indirect control over the healthcare system of NGOs and the private sector.

Centralization of the system has the advantage of ensuring that all activities are consistent with national policies, norms and standards, and may help to ensure that resources are allocated more equitably between different geographic areas.



9. Challenges and Future Priorities

Despite the significant progress made by Bangladesh towards achieving MDGs 4 and 5a, some key challenges to accelerating further progress remain.

Health workforce: Bangladesh is facing a critical health workforce crisis. In 2011, there was less than 1 health worker (doctors, nurses and midwives) per 1000 population. The figure recommended by the WHO to achieve 80% coverage for key essential interventions is 23 per 1000. There is a significant opportunity to increase access to quality health services by strengthening the number and capacity of doctors, nurses and midwives. There is a growing unqualified private sector, which is the first line of care for the majority of the rural population. Approaches to improving the quality of care provided by this sector, including improved monitoring and regulation, are needed.

Equity of service delivery: Socioeconomic and geographical inequities adversely affect health outcomes in Bangladesh. Improved equity in the delivery of health interventions and services presents an opportunity for Bangladesh to ensure continued progress in reducing child and maternal mortality. Disparities persist in coverage of interventions between urban and rural areas, poor and disadvantaged populations, and hard-to-reach areas of the country. Harnessing the opportunities provided by mobile phone technology and the ICT sector, as well continuing successful community-based approaches, may help reduce inequities.

Neonatal mortality: In Bangladesh, the proportion of neonatal deaths as a percentage of all child (under 5) deaths has increased persistently from 37% in 1990 to 47% in 2000 and 61% in 2014. Bangladesh is ranked 157 out of 163 countries in the global rank for neonatal deaths and 121 of 163 countries in the global rank for neonatal mortality rate. Improving the provision of early essential newborn care practices and interventions (immediate drying and wrapping, skin-to-skin contact with the mother, delayed cord clamping and clean cord care, delayed bathing and immediate breastfeeding) is of high priority and will require greater coverage of skilled delivery care and an emphasis on improving quality of delivery and immediate newborn care.

Skilled birth attendance, facility deliveries and caesarean sections: rates of facility deliveries remain low with over three quarters of mothers still delivering at home. Quality of care at public facilities needs to be ensured if any improvements are to be made. Caesarean sections have increased five-fold over a ten-year period particularly in the private sector and are a cause for concern. Strategies are needed to minimise unnecessary procedures.

Continuing efforts to improve nutrition: Rates of stunting, underweight and anaemia remain high, and continued attention is needed to improving delivery of key nutrition interventions, food security, and the availability and use of improved sanitation particularly in rural areas.

Health care for growing urban population: The urban population in Bangladesh has grown at an annual rate of 3.5% in recent years and is predicted to increase to 51 million by 2015. Basic primary care services that can cater and meet the demands of this escalating population, particularly the urban poor, are needed.

Adolescent health: The adolescent birth rate has only declined slightly over the past decade. Eliminating early marriage by enforcing and upholding laws should be addressed to curtail early pregnancies that are not only life threatening to the mother and newborn but limits their chances of an education.



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II. Acronyms

ANC	Antenatal Care	MR	Menstrual Regulation
ARI	Acute Respiratory Infection	NGO	Non Governmental Organization
BDHS	Bangladesh Demographic Health Survey	NID	National Immunization Days
BIGH	BRAC Institute of Global Health	NMR	Neonatal Mortality Rate
BINP	Bangladesh Integrated Nutrition Programme	NNP	National Nutrition Programme
CAAH	Centre for Child and Adolescent Health	NNS	National Nutrition Service
CDD	Control of Diarrhoeal Diseases	NPAN	National Plan of Action for Nutrition
CEmOC	Comprehensive Emergency Obstetric Care	NSAPR	National Strategy for Accelerated Poverty Reduction
CHW	Community Health Worker	OOP	Out-of-Pocket
CoIA	Commission on Information and Accountability	ORS	Oral Rehydration Salts
CSBA	Community-Based Skilled Birth Assistants	ORT	Oral Rehydration Therapy
DGFP	Directorate General of Family Planning	PHC	Primary Health Care
DGHS	Directorate General of Health Services	PMNCH	Partnership for Maternal Newborn and Child Health
EmOCs	Emergency Obstetrical Care Services	PNC	Postnatal care
EPI	Expanded Programme on Immunization	PPP	Public Private Partnership
FPAB	Family Planning Association of Bangladesh	RHF	Recommended Homemade Fluids
FWA	Family Welfare Assistant	RHIS	Routine Health Information System
FWC	Family Welfare Centre	RMNCH	Reproductive Maternal Newborn and Child Health
FWV	Family Welfare Visitors	SBA	Skilled Birth Attendant
GDP	Gross Domestic Product	SCANU	Specialized Newborn Care Units
GNI	Gross National Income	SMC	Social Marketing Company
HBB	Helping Babies Breathe	TFR	Total Fertility Rate
HDI	Human Development Index	THE	Total Health Expenditure
HMIS	Health Management Information System	THNPP	Tribal Health Nutrition Population Plan
HNPSP	Health Nutrition and Population Sector Programme	U5MR	Under 5 Mortality Rate
HPNSDP	Health Population and Nutrition Sector Development Programme	UHFWC	Union Health and Family Welfare Centre
HPSP	Health and Population Sector Programme	UN	United Nations
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh	UNDP	United Nations Development Program
ICT	Information and Communication Technology	UNFPA	United Nations Population Fund
IMCI	Integrated Management of Childhood Illness	UNICEF	United Nations Children's Fund
IYCF	Infant and Young Child Feeding	UP	Union Parishad
KMC	Kangaroo Mother Care	WHO	World Health Organization
LB	Live Births		
LMIC	Low- and Middle-Income Country		
MCWC	Maternal and Child Welfare Centres		
MDG	Millennium Development Goal		
MMR	Maternal Mortality Ratio		
MNCH	Maternal Newborn and Child Health		
MNS	Micronutrient Supplementation		
MOHFW	Ministry of Health and Family Welfare		

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