ACHIEVING MDGS 4 & 5: CHINA’S PROGRESS ON MATERNAL AND CHILD HEALTH

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Introduction

China has made great progress in improving maternal and child health (MCH). Starting from 1,500 maternal deaths per 100,000 live births and over 200 infant deaths per 1,000 live births in 1949, China reduced maternal deaths per live births to 120 per 100,000 and infant deaths to 49 per 1,000 by 1990. While China has made significant gains, building on the momentum of policies and programs initiated long before the MDGs were crafted, progress has slowed.

This note explores the actions China has taken to reduce child and maternal mortality, with a focus on policies and programs that have been implemented specifically since the 1990s.

Context

China is a lower-middle-income country with a per capita GNI of US$4,940 in 2011 and an average GDP growth rate of over 10 percent during 2000–11. As of 2010, China had a population of 1.3 billion and a population growth rate of 0.6 percent. Seventy-two percent of the population is in the working-age group (15–64), with an age dependency ratio of 11 percent. Nearly half the population—45 percent—lives in urban areas.

According to national data, 3 percent of the population—roughly 40 million people—live under the poverty line. As of 2009, the adult literacy rate was 94 percent and the adult female literacy was 91 percent, increasing from 78 percent and 68 percent, respectively, in 1990. Secondary school enrollment has also increased significantly for both boys and girls, increasing from 32 percent in 1990 to 83 percent in 2010 for girls and from 43 percent to 80 percent for boys.

Maternal and Child Health Policies

Provision of basic health services and prevention of illness were the cornerstone of earlier policy, with special attention to MCH. The government also focused on establishing standards and protocols for provision of MCH care to address quality of care issues.

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

China’s One Child Policy: Established in 1979, this policy has had a profound influence on both Chinese society and MCH. The policy aimed to reduce pressure on the country’s resources through controlling population growth, which had already reached 969 million by 1979. The policy contributed to the already declining fertility rate by further halving it from 2.8 to 1.9 births per woman between 1978 and 1998. The one-child policy has also had some unintended negative consequences, including a skewed gender ratio.
Maternal and Child Health Programs

Early Programs: In the early days of the People’s Republic of China, there was a focus on hygiene and scientific methods of delivery, and on mass immunizations.

Safe Motherhood Program: In 2000, China introduced the Program to Reduce Maternal Mortality and Eliminate Neonatal Tetanus, which aimed to reduce the risk of maternal and infant mortality by promoting hospital delivery. Initiated in 378 counties, it was expanded to 1,200 counties by 2007 and now covers the entire country.

The program provides subsidies to mothers in national poverty counties with a maternal mortality ratio (MMR) and neonatal tetanus incidence that are high compared to the average provincial rate. Obstetric experts from provincial tertiary hospitals are also assigned to primary maternal care centers for at least two weeks each year to build local capacity through direct support and training, and to facilitate communications and referral networks among the different tiers of service delivery. Effort has also been made to improve the specialized capacity of pediatric workers by sending experts to counties for on-site training, and conducting health education and social mobilization.

Between 2000 and 2006, facility-based births increased by 28 percent in counties where the program was implemented. During the same period, the overall MMR declined from just under 120 per 100,000 live births to approximately 60 per 100,000 live births. A decline was also observed in neonatal mortality, from approximately 20 per 1,000 live births in 2000 to just under 12 deaths per 1,000 live births in 2006. The incidence of neonatal tetanus also declined from 0.5 cases to 0.1 cases for every 1,000 live births. In 2012, the World Health Organization declared China free of maternal and neonatal tetanus.

Immunizations: In 1978, China’s Ministry of Health (MoH) established the Expanded Program for Immunization (EPI), which was introduced under the National Childhood Immunization Program to provide comprehensive immunization coverage. Routine immunizations were organized through the health system under the supervision of China’s Center for Disease Control (CDC). In 1992, the MoH added hepatitis B to EPI and later, in 2007, 15 additional immunizations were added to the EPI. To stimulate an increase in immunization rates, in 2007, the Chinese government took steps to address both demand- and supply-side constraints. On the supply side, it began to centrally fund the immunization/EPI program, which included vaccines, syringes, and allowances for health workers to encourage greater coverage in rural areas. On the demand side, EPI services were also made free. These efforts have helped increase immunizations, which are now nearly universal at 99 percent for both DPT and measles.

Control of Childhood Diseases: In the 1990s, acute respiratory infections (ARI) and chronic diarrheal disease were identified as major causes of child ill health and mortality in China. To address this, the MoH introduced the National Children’s Respiratory Infection Control Program (1992–1995) and the Diarrheal Disease Control Program (1990–1994). The programs promoted the use of appropriate technology, systematic training, health education, management, and monitoring to prevent and manage illnesses, especially in rural areas. A follow-on program in 10 counties from Guangxi, Inner Mongolia, Qinghai, Shandong, Shanxi, Sichuan, Xinjiang, and Yunnan provinces targeted both health workers and mothers to reduce the incidence of mortality due to ARI and diarrheal disease.

Health System

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

In rural areas where maternal mortality was highest, the government established Maternal and Child Health (MCH) Stations, in addition to village clinics, to improve access and encourage facility-based clean deliveries following standardized protocols. In 1986, MCH stations received a further boost when the MoH and Ministry of Labor co-published standards for MCH service delivery. The role of MCH stations was expanded to include both primary and secondary levels of MCH services.

In addition, all counties were required to have MCH specialty hospitals, completing the three-tier MCH structure from village to county level. This has helped create a chain of command, linking all levels of service provision. Figure 1 provides health expenditures per capita in China during 1995–2011.
Health Insurance: In the rural areas, where major gaps in access to and provision of health services appeared in the 1980s, the Government of China reintroduced health insurance to reduce financial barriers to inpatient care in rural areas by subsidizing the cost of inpatient care. Although rural populations had previously been covered by the Rural Cooperative System, which provided free health care, with the collapse of the commune system, rural populations lost this coverage. Between 1988 and 2001, out-of-pocket payments rose significantly, increasing from 38 percent to 61 percent (see figure 2).

In 2003, the New Rural Cooperative Medical Scheme (NCMS) was piloted in some counties, and expanded to all rural counties by 2010. This program differs from its predecessor in that it is organized at the county level and enrollment is voluntary. It has been moderately successful in reducing catastrophic health expenditures. The NCMS includes a maternal health care benefits package, which varies by county. Subsidies under the NCMS helped reduce out-of-pocket costs, although at 14 percent of total household expenditure, they are still substantial for the poorest households, and the scheme has been criticized for its high deductibles and focus on hospital care. However, in the rural western provinces of China where MCH components are available, NCMS is associated with an increase in institutional deliveries—from 45 percent in 2002 to 80 percent in 2007.

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

Over time, the role of midwives in China has declined as greater emphasis has been placed on hospital-based deliveries. However, there are shortages of qualified staff. These shortages are more acute in rural and poor areas, because health workers have become concentrated in urban areas and higher-income counties, where they can earn more. While the Government of China has initiated training as part of its 2009 health sector reforms, there needs to be greater discussion on how to ensure that underserved areas are covered and whether trained birth attendants including midwives can fulfill this role.

Monitoring of Health Inputs and Outcomes: China has one of the largest networks of women’s and children’s health surveillance in the world. Several surveillance networks including the National Birth Defects Surveillance Network (1986), the National Maternal Mortality Network (1989), and the Under-five Child Mortality Surveillance Network (1991) were integrated into a single information system in 1996, to form this system.

There are four main information sources for MCH data in China that inform policy and programmatic direction: MCH annual reports, surveillance systems, the national health and household surveys, and the national census. Of these, the MCH reports, produced since the early 1980s, are most comprehensive and are collected from each county on various aspects of maternal, infant, and child mortality. In addition, data collected through the MCH information system and the national health services survey help to provide valuable information on demand and supply of services and on health outcomes.

To improve performance and enhance accountability, maternal death reviews were initiated in 2000 with the strong support and involvement of local governments.

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

Figure 3 provides a timeline of MDG 4 and 5 interventions in China.

Human Resources: An early focus was on building up a cadre of health personnel trained in Western medicine and on increasing staffing. At the rural level, “twinning” (that is, pairing urban and rural health workers and doctors for training) and the ability for mass organization through communes, production brigades, and production teams facilitated health personnel training. By the late 1970s, “barefoot doctors” had been deployed in every village to provide basic health services.
Creating an Enabling Environment

**Education:** After the Cultural Revolution, universal primary education in China was one of the major targets pursued by the government. Early efforts, which included mass adult literacy campaigns, helped reduce illiteracy from 80 percent in 1950 to 52 percent in 1964.

To further improve education status, the Government of China introduced free compulsory education for the first nine years of schooling, with particular focus on poor and ethnic minority areas (The Compulsory Education Law of the People’s Republic of China, 1986). The government also set a target of “eliminating gender inequities in primary and secondary education by 2005.” The ratio of girls to boys enrolled (the Gender Parity Index) increased from 98 percent in 1991 to 106 percent in 2006; in 2007, net primary education enrollment ratios reached 99.52 percent for girls and 99.46 percent for boys.

**Gender Legislation:** While gender discrimination still exists, China legally recognizes men and women as equal. This is enshrined in several laws and the Constitution of the People’s Republic of China (1954). The Marriage Law of the People’s Republic of China (1949), which grants women equal rights in marriage, and the Electoral Law of the People’s Republic of China (1953), which gives women equal right to hold political office, have helped improve women’s status. Regarding employment rights, China has introduced a number of laws and regulations such as the Regulations Concerning the Labor Protection of Female Staff and Workers (1988), the Law of the People’s Republic of China on the Protection of Women’s Rights and Interests (1992), and the Measures for Implementation of the Law of the People’s Republic of China on Maternal and Infant Health Care (2001).

**Political Leadership:** Political leadership have marked the early directions taken in the health sector through a focus on hygienic and rural areas. Directives have also been important in the Chinese context, with its one-party rule in signaling policy directions. More recently, directives from the central government have focused and maintained attention on MCH in China. Programs to promote MDGs 4 and 5 have been successful in China due to strong support from the government.

Remaining/Future Challenges

Human resources for health are a challenge; the ratio of doctors and nurses to the population is still low, and human resources are unequally distributed in favor of urban and higher-income counties and provinces. The capacity of health workers also needs attention. Health sector reforms were initiated in 2009, which aim at addressing these challenges including training for health workers at the township and city levels and village doctors.

With facility-based births, one issue that has emerged is the high rate of cesarean sections, which are performed in 70 percent of births. This issue needs to be addressed through demand-side interventions such as information and education campaigns.

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

Migrant workers constitute a particular challenge since they do not have access to the urban medical insurance system or other basic services. Household registration in China, known as Hukou, determines where household members can access basic services such as health care and education, putting rural inhabitants who migrate to urban centers at a disadvantage. According to the United Nations Development Program’s China Human Development Report 2007–08, the maternal mortality rate among permanent urban residents is 25 per 100,000 births compared to 71 per 100,000 among migrant workers. Social services such as health and education are not easily accessible to these populations. Migrants who stay in urban areas face additional challenges because their children do not qualify for free public health services such as routine immunizations outside of their county of residence.
**Pre 1980–90**

**Early 1950s:** An effort was initiated to establish a health system infrastructure. In the early years, the focus was on barefoot doctors, and health services were provided through the commune system in rural areas.

**Patriotic Health Campaign with focus on hygiene**

**Mass immunization campaigns initiated**

**1965:** Mao issued the “June 26 Directive”

**1978:** China’s Ministry of Health integrated immunizations into the Expanded Program for Immunization (EPI)

**1979:** One-Child Policy

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

**1984:** Ministry of Health issued several routine operational standards for maternal health care

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

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

**1990–94 Diarrheal Disease Control Program**

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

**1994:** MCH department created; all counties required to have an MCH specialty hospital

**1996:** National Birth Defects Surveillance Network (1986), National Maternal Mortality Network (1989), and Under-five Child Mortality Surveillance Network (1991) were integrated into a single information system

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

**2000:** Maternal death reviews initiated

**2003:** NCMS to subsidize health care costs in rural areas and extended to all counties by 2010

**2011:** Implementation Guidelines of the Law on Maternal and Child Health
Selected References


The Health Nutrition and Population (HNP) Notes are quick reference 4-to-6 pagers on the essentials of specific HNP-related topics summarizing new findings and information. These might highlight an issue and key interventions proven to be effective in improving health, or disseminate new findings and lessons learned from the regions. For more information about this topic, go to: www.worldbank.org/health.