

## Achieving the Sustainable Development Goal of Eliminating Preventable Newborn Deaths — China in Action

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### THE GLOBAL VISION OF ENDING PREVENTABLE NEWBORN DEATH

Although remarkable progress has been made in recent decades to reduce the number of child deaths worldwide, too many newborns continue to die each year despite the availability of feasible, evidence-based solutions. Globally, it is estimated that 5.2 million children under 5 years died in 2019. Of all reported child deaths, 2.3 million occurred in the first month of life (1). If current trends persist, more than 60 countries will fail to meet the global targets for reducing neonatal mortality and the 2030 Sustainable Development Goal (SDG) for eliminating preventable newborn deaths.

More than 80% of all newborn deaths result from three preventable and treatable conditions: complications due to prematurity, intrapartum-related deaths (including birth asphyxia), and neonatal infections (2). High coverage of interventions before conception, as well as during and after pregnancy could save nearly 3 million women, stillbirths, and newborns by 2025 in 75 high-burden countries at an additional cost of 1.15 USD per capita (3). In 2014, a comprehensive, multi-partner initiative called the Every Newborn Action Plan (ENAP) was launched by the World Health Organization (WHO), United Nations Children's Fund, and a group of partners; these organizations called on all stakeholders to take action to improve access to services and the quality of care for all pregnant women and newborns (4). ENAP sets out recommendations for countries on how to reduce mortality and morbidity as well as close gaps in equity. In adopting the ENAP at the World Health Assembly (WHA) as resolution WHA 67.10 in 2014, 194 countries committed themselves to move the recommendations into action, including China.

### CHINA'S EXPERIENCE IN IMPROVING NEWBORN SURVIVAL AND DEVELOPMENT

Newborn, infant, and under-five mortality rates in China have decreased steadily over the last two decades, dropping to 3.9 per 1,000, 6.1 per 1,000, and 8.4 per 1,000 in 2018, respectively (5). Despite the significant improvements, neonatal deaths still account for around 50% of all under-five deaths and the absolute number of annual neonatal deaths is larger than other countries. China remains one of the WHO's high-priority countries for advancement in neonatal health. Therefore, in conjunction with the key objectives of the SDGs, China has been taking actions to further reduce neonatal mortality in order to guarantee child survival and optimal physical and mental development.

#### Policymaking and Legislation

Since the World Summit for Children in 1990, China has strengthened policy and legislation for improving the system for children's health. At the national level, the "Law on Maternal and Child Healthcare" and the "Measures for the Implementation of Law on Maternal and Child Healthcare" are used to provide general policy directions. Based on these two documents, the central government developed the "National Action Plan for the Development of Children (2011–2020)" to identify ten-year-objectives, main indicators, and the strategies for improving children's health, education, protection, and rights. In 2013, China collaborated with the Western Pacific Regional Office of the WHO to develop and adopt the Action Plan for Healthy Newborn Infants in the Western Pacific Region (2014–2020). This plan outlines an approach for implementing and scaling up a package of evidence-based Early Essential Newborn Care (EENC) interventions that have been

demonstrated to reduce newborn mortality from the three aforementioned most important conditions (6). In 2018, the National Health Commission (NHC) issued the “Maternal and Infancy Safety Action Plan (2018–2020)” and the “Healthy Child Action Plan (2018–2020)”. More detailed and specific strategies and activities on improving newborn survival and development were reflected in these two documents. Guided by these action plans, health facilities at all levels should provide continuous and high-quality maternal and child health services, with a focus on their health needs.

### Establishing and Strengthening the Newborn Healthcare Service System

There are more than 25,000 health facilities providing childbirth services across the mainland of China, and the hospital delivery rate has reached over 99% (5). After birth, a child is placed on the Systematic Healthcare for Children (SHC) program. SHC is carried out by 3,080 maternal and child healthcare facilities at all levels, around 35,000 community healthcare centers, and 37,000 township hospitals (7). Every child below 7 years old is to be brought to community healthcare centers in urban areas and township hospitals in rural areas at specific intervals for physical check-ups, disease screening, and growth monitoring or high-risk case management. The basic newborn healthcare services in SHC include newborn home visits, neonatal disease screening, vaccination, etc., and are provided free of charge for the child. Children at high risks who need referrals or medical consultations will be transferred from grassroots health facilities to higher level facilities for further diagnosis and treatment. Starting from 2011, first dose hepatitis B vaccination rate among newborns in China has reached and maintained 99%. The newborn home visit rate has also reached and maintained over 90% since 2018 (5).

In 2017, the NHC issued the guideline on the “Construction of Critically Ill Newborn Treatment System,” which planned to establish a regional referral and treatment system using critically-ill newborn treatment centers at all levels to reduce neonatal mortality and disability. By end of 2019, 3,070 neonatal treatment centers (based on neonatal intensive care units, NICUs) were set up across the mainland of China, establishing the three-tier (county-municipal-provincial) critically ill newborn referral and treatment system. Over 90% of counties had at least 1

functioning NICU. Evidence on the importance of breastfeeding as the cornerstone of neonatal survival, nutrition and development, and maternal health continues to increase. Starting from 1992, the Chinese government responded with the global Baby Friendly Hospital Initiative (BFHI) to promote breastfeeding within healthcare facilities (8). In 2014, the NHC announced the Revisited BFHI, broadening the scope of breastfeeding to newborns delivered by cesarean section and into all other obstetric and neonatal care measures. By the end of 2015, there were 7,036 baby-friendly hospitals in China, where 66% of all newborns were born (5).

### Implementing Evidence-based Newborn Health Interventions and Programs

Effective interventions for improving survival and health of newborns form one component of the integrated health services for reproductive, maternal, newborn, child and adolescent health in China. The care packages with the greatest impact on ending preventable neonatal deaths include: care during labor, around birth and the first week of life, and care for underweight and sick newborns (9). The Chinese government introduced and/or developed evidence-based technologies in these priority areas, making adaptations according to China’s circumstances, conducting pilot programs to test the effectiveness and applicability, and developing guidelines for scaling up nationwide. These strategies cover newborn survival and development.

In order to reduce mortality and disability caused by neonatal asphyxia, the former Ministry of Health, now the NHC, launched a 15-year neonatal resuscitation program (NRP) in 2004 (10). The objective of the program was to ensure the presence of at least one trained and skilled attendant (midwife, obstetrician, pediatrician) for neonatal resuscitation for every delivery. The neonatal resuscitation training curriculum from the American Academy of Pediatrics was adapted and adopted into the Chinese NRP guidelines. The key component of the implementation of this plan was the training of trainers approach, with national and provincial instructors expanding training in a cascade. To promote the sustainability of the NRP in hospitals, the NHC issued a “red notice” in 2014 to regulate the newborn safety management in hospitals. The main regulation in this notice specified that at least 1 NRP-trained staff would be present at every delivery, medications and supplies would be readily

available, and the delivery room facilities would be well equipped to facilitate optimal neonatal resuscitation practice. This mandatory policy encourages every hospital to actively implement NRP (11). Since 2015, some other national training programs were implemented using a similar management model to China NRP, including pediatrician and obstetrician training programs in western provincial-level administrative divisions (PLADs), the breastfeeding consultation program, and the EENC piloting program. (12).

In order to prioritize newborn health and early development, the NHC also implemented several national programs, including neonatal disease screening, which is a special examination of congenital and genetic diseases that seriously endanger the health of newborns. Early diagnosis and treatment can minimize the impact of early diseases on children's long-term health. China's neonatal disease screening started from pilot studies in the early 1980s, and then continued to scale up nationwide by developing laws and regulations, strengthening the screening management system, and expanding screening to include more disease types (7). By the end of 2019, the screening rates of major neonatal genetic metabolic diseases [phenylketonuria (PKU) and congenital hypothyroidism (CH)] reached 97%, and newborn hearing screening rates reached 87%. Treatment rates of PKU and CH in children under one year old are now more than 90% (5).

The healthcare of premature babies is also a priority. In 2017, the NHC issued the Healthcare Regulation for Premature Infants to guide healthcare facilities at all levels to carry out standardized services for preterm babies. In 2019, two technical guidelines, the "Kangaroo Mother Care Guideline for Premature Babies" and the "Breastfeeding Guideline for Premature Babies," were developed and piloted in health facilities. These pilot programs have yielded significant increases in the breastfeeding rate and general health of preterm newborns.

## CHALLENGES AND PROSPECTS

After decades of efforts, China has established a relatively optimal maternal and child healthcare policy and management system. As a member state, China has committed to fulfill the 2030 Agenda for Sustainable Development and is actively innovating and investing in the field of neonatal health. However, there are still challenges that need to be solved. In many hospitals,

there is still a shortage of midwives, obstetricians, and pediatricians. The amount of healthcare professionals is insufficient, especially at lower-level health facilities.

In addition, China has significant geographic diversity. There are large gaps among PLADs in terms of economic development. Some health facilities in rural areas of western PLADs still lack basic newborn healthcare equipment, medicine, and supplies (13). These are influencing factors that might hinder the equitable and universal coverage of high impact interventions. In order to address these challenges, the Chinese government is actively trying to increase policy and financial support for promoting newborn healthcare services. Due to trying to promote equitable distribution of resources, more newborn healthcare programs are intended for grassroots, rural, and western areas.

Ensuring quality maternal and child healthcare is one of the core objectives of China's National Plan on the Implementation of the 2030 Agenda to ensure the health of future generations. Moreover, as one of the leading economic entities in the world, China has embarked on its Belt-and-Road initiative to strengthen intercontinental collaboration in various areas, including health. The positive impact would be enormous if China could accelerate its national scale up of newborn healthcare programs and share these experiences to a global audience.

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