

# Executive Summary

## 1. Background

Over the past two decades China has made great strides in reducing maternal and child mortality. The Government has regarded the reduction of maternal and child mortality as an issue of prime importance, and has formulated several critical policies and programmes. However the progress of achievement in maternal and child mortality has began to slow down since the 1990s. It has been widely acknowledged that the country still has several critical challenges with regard to maternal and child health (MCH). Those include reduction in rural-urban, rich-poor, and regional disparities in maternal and child mortality, ensuring access to essential maternal and child health care services to people in the remote rural areas and poor migrant populations in urban areas, and improving quality of MCH services across the country.

In order to recommend effective strategies to overcome the existing challenges in maternal and child mortality reduction, and to contribute to the achievement of Millennium Development Goals (MDG), Ministry of Health (MOH), WHO, UNICEF and UNFPA to jointly undertook the review of MCH strategies in China. The data collection, analysis and report writing was done over a period of 12 months starting from May 2005. The present document is the analytical report, with systematic analysis of epidemiological situation, as well as analysis of the impact of interventions on maternal and child mortality. The report also includes critical strategic and policy recommendations to reduce maternal and child mortality in China.

## 2. Methodology

The review analysed the immediate, predisposing and underlying factors that affect maternal and child mortality in China. This conceptual framework also assess the impact of interventions and related institutional measures specifically related to health services, but also of policies affecting other areas, such as nutrition, family planning, water and sanitation, personal behaviour, education, the reduction of income disparities and poverty, on maternal and child mortality.

The epidemiological analysis covered nine years (1996-2004) and was based on existing quantitative data, and qualitative data collected on field visits during the review process. The quantitative data was obtained from the National Maternal and Child Surveillance (MCHS) (1996-2004), the 2003 National Health Service Survey (NHSS), the 2002 National Nutrition and Health Survey (NNHS), and the 2004 Comprehensive National Immunization Survey. In order to take into account China's different levels of development, the data was classified according to a composite development index in six areas: large cities, middle and small cities, and rural type I, II, III, and IV areas, where rural type I is the most developed area and type IV the least developed one. Weighing techniques were also used when deemed necessary. As part of the review several simulations of the British Medical Journal (BMJ)<sup>1</sup> and Lancet<sup>2</sup> models of maternal and child survival were done. These simulations assessed the impact on maternal and child mortality of achieving universal coverage with the most effective interventions, some of which are available in the country or can be easily implemented.

---

<sup>1</sup> British Medical Journal; 12 November, 2005; <http://bmj.com/cgi/content/full/331/7525/1107> accessed on 6 January 2006.

<sup>2</sup> The Lancet; Child Survival Series, Vol 361, June 28, 2003 & Neonatal Survival, March 2005.

### **3. Key Findings**

#### **3.1 Maternal and child mortality trends and immediate factors affecting maternal and child mortality**

During 1996-2004 there was a significant reduction in maternal mortality ratio (MMR), child mortality as well as in malnutrition in China. MMR has been reduced by 45% since 1990 and was 48.3 per 100,000 live birth in 2004, on track to achieve the MDG 5 target. Similarly, child mortality has reduced significantly, and is on track for achieving the MDG. Nevertheless, neonatal mortality has been reduced at a slower pace and now represents almost 60% of under-five mortality.

However, the national figures for maternal and child mortality and malnutrition mask large disparities between urban and rural populations, and between the different regions in China. For instance, while there has been progress in all areas, remote rural areas (i.e. type IV and type III areas) experienced much slower progress and mortality rates are 4-6 times higher than those in urban areas and progress has stalled. In addition, rural type II and III areas account for 70%-75% of all maternal and child deaths in China, with type IV area representing another 15%. Hence, a focused strategy for maternal, neonatal and child mortality reduction in rural type II and III areas, along with the current focus on rural type IV areas is essential to ensure maximum impact on reduction of maternal, neonatal and child mortality burden, as well as to increase equity in access to services.

The analysis showed that over 75% of all maternal and child deaths throughout China are caused by a few preventable or curable causes. Post partum haemorrhage is the leading cause of maternal deaths throughout China, followed by hypertension, embolism, ante partum haemorrhage and sepsis. Neonatal asphyxia and trauma, preterm delivery, low birth weight, injury and pneumonia, are the major causes of child deaths. Moreover, among all neonatal deaths, more than three quarters occur in the early neonatal period, and could be addressed by the same kind of strategies and staff as those used for reducing maternal deaths.

With regard to malnutrition as an indirect cause of child death, even if there has been an overall improvement, it still represents a significant problem in rural areas as stunting rates are still 29% in type IV rural areas. In particular, vitamin and mineral deficiencies are still prevalent throughout the country among children and women of reproductive age, with rates exceeding 25% for iron deficiency anaemia.

Currently, little data is available on the situation amongst the migrant population and ethnic minority groups in China. However, some studies suggest higher maternal and child mortality amongst these groups than the rest of the population. More research on maternal and child mortality amongst migrants and ethnic minorities is essential to find out document possible disparities and causes, and provide evidence for policies to reduce maternal and child mortality amongst them.

#### **3.2 Health services and other behaviour factors predisposing to maternal and child mortality**

In China, economic concerns, transportation and lack of quality and user-friendliness of care are the major factors affecting access to maternal and child healthcare services in rural areas. Access to essential obstetrical and neonatal care or the lack thereof, in turn explain most of the regional disparities in regards to maternal and neonatal mortality. However, even when women have access to a hospital delivery, in type II, III and IV rural areas, the capacity and quality of services below county level are inadequate to deal with life-threatening situations for obstetrical

and neonatal complications, and to provide adequate follow-up to newborns and postnatal women. Since the township hospitals are the primary providers of MCH services in rural type II, III and IV areas, these hospitals should be the priority focus of efforts to strengthen capacity for health service delivery. All township hospitals should be able to provide basic antenatal, essential obstetrical and neonatal care and qualified child healthcare.

A large proportion of women throughout the country are affected by an insufficient intake of essential vitamin and minerals, which could contribute to complications at delivery (e.g. post-partum haemorrhage and low birth weight). Furthermore, inadequate feeding, poor hygiene and caring practices do impact on child morbidity and malnutrition, and, in turn on mortality. In the longer run the lack of micro-nutrients may also affect the intellectual and physical development of children. The prevalence of certain diseases, such as tuberculosis and Hepatitis B, also appear to contribute to the deterioration of maternal and child mortality indicators. The data analysed in this review indicates that birth spacing and fertility levels in China are at levels similar to those of developed countries and do not seem to negatively affect maternal and child mortality.

The simulations using the BMJ and Lancet Models showed that if universal access to the most cost-effective interventions is provided to the underserved populations, the total number of maternal and child deaths could potentially be reduced by more than 52% and 34% respectively nationwide. In very remote areas, mortality could be reduced by up to 67% for maternal and 44% for child deaths. Reaching these targets would allow China to achieve MDG4 (Reduce Child Mortality) and 5 (Improve Maternal Health) and the targets stipulated in the 11<sup>th</sup> Five Year Plan.

### **3.3 Socio-economic and systemic factors underlying maternal and child mortality**

Maternal and child mortality trends and disparities are not solely affected by health related factors but also by, *inter alia*, socio-economic, individual, legal and institutional factors. Thus, the large disparities in maternal and child mortality in China could also be attributed to: poverty and inequities as demonstrated by a Gini coefficient of 0.46, and in disparities in access to basic social services. This exacerbates the vicious cycle of poverty and ill health. Furthermore, women's and girl's status and education as well as migration and cultural factors also contribute to the appearance of some of the predisposing factors.

Public funding for the provision of social services in poor, rural areas is insufficient to ensure the supply of a high quality an essential package of interventions. This is especially the case below county level, since an increasing share of public funds seems to be spent in hospital based curative care at county level. Thus the reduced number of qualified staff and installed capacity below county level hampers the delivery of quality services, care and follow-up. As a result, demand for basic health services in rural areas, including MCH, goes unmet, which in the long run will have a negative effect on China's economic and social development.

At present hospitals depend heavily on fees for drugs and expensive medical techniques to cover their costs. This creates a perverse incentive to prescribe unnecessary drugs and medical interventions, and in general to increase costs, thereby increasing risks for those able to pay and decreasing access to health services to the poor. Furthermore, this revenue generating approach has resulted in a shortage of the supply of public goods such as preventive care. This and other related problems will need to be overcome if success is to be achieved in ensuring universal coverage of essential MCH services throughout China.

China has many necessary policies to provide quality MCH services; however, some of these policies have not been implemented because of systemic weaknesses in the health sector. Adverse factors include the lack of adequate resources for public expenditure for health services

in poor areas (reflecting deeper structural weaknesses in budget management), distorted incentives and inefficiencies (highlighted by over-medicalization and soaring costs) arising from the manner in which the reforms in the health system have been implemented since liberalization.

#### **4. Recommended actions**

On current trends China appears to be on track to achieve Millennium Development Goals (MDG) 4 and 5, and the child and maternal mortality targets set in the 11<sup>th</sup> Five Year Plan. However, this is based on the assumption that the current challenges to provide maternal and child health (MCH) services can be overcome, and that other MDGs that indirectly affect maternal and child mortality (e.g. MDG1- Reduction in Poverty and Hunger, and MDG7 -Ensure Availability of Safe Drinking Water and Access to Improved Sanitation) are also met. Therefore, it is important not to be complacent and recognize that in the recent past progress has tended to slow down (particularly in the case of maternal and neonatal mortality) and that there are still very large geographical disparities in mortality.

In order to achieve MDGs 4 and 5 and the 11th Five Year Plan targets, it is essential to strengthen MCH interventions, particularly in the rural areas, and to back this up with systemic reforms that ensure equal access to quality MCH services across the whole of China. Such measures should be viewed as key components of a strategy for operationalizing the Government's aim of building a "*new socialist countryside*" and promoting balanced development among regions in order to build a "*harmonious society*". In paying close attention to solving problems related to the vital interests of the people, the Government cannot over-emphasize the importance of ensuring access to quality MCH services, especially among the poorest households.

The delivery of an essential package of MCH services should focus on the geographical areas and population groups experience highest rates or burden of mortality and the major immediate causes of death. However, a series of institutional measures will be needed to ensure successful delivery of this package of MCH services and to achieve equitable coverage, particularly in the poorest areas of the country and among the poorest segments of the population. Hence, the recommendations below focus on the nature and targeting of the MCH services to be provided, and on the systemic reforms and capacity building that will be required to ensure success.

#### **The key recommendations put forward include:**

- ***Give priority to type II, III and IV rural areas and migrants in urban areas.*** Rural type II, III and IV areas should be the priority areas for interventions to reduce child mortality and maternal mortality. Migrants should be the priority target group in urban areas.
- ***Ensure universal access to an essential package of quality antenatal, obstetrical and neonatal care and integrated childhood care and development.*** The major strategy should be to provide access to an essential package of most cost-effective interventions and to ensure that these are accessible to all.
- ***Give priority to strengthening MCH interventions at township and village levels.*** To achieve the MDGs and the 11<sup>th</sup> Five Year Plan targets, it is vitally important to improve the service capacity of township hospitals. This strengthening of capacity at township level needs to be complemented by the strengthening of social mobilisation and basic service provision at village level, in the type IV areas with highly dispersed populations.
- ***Adapt the MCH service delivery package to the characteristics of different areas.*** It is necessary to design and deliver tailored packages of MCH interventions that take into account the specific characteristics of the different types of rural and urban areas. Different interventions should be implemented targeting different areas and groups of people.

- ***Reaffirm the public health positioning of MCH services through a strengthened policy and planning framework.*** MCH services should be clearly integrated as a top priority within the public health system, through a policy framework, planning processes and incentive structure that enable governments at all levels to fulfil their responsibilities to deliver the proposed essential package of MCH interventions.
- ***Increase funding for health services in poor areas.*** It is imperative for the central government to provide adequate financial support for the provision of public health and essential clinical services. Given the limited financial capacities of local governments and the large number of rural poor in the middle and western regions of China, especially in the type II, III and IV rural areas, a significant increase in government spending on healthcare, through larger fiscal transfers and improved budget management at provincial, county and township levels, should be a top priority in the ongoing public finance reforms.
- ***Improve the efficiency and effectiveness of health expenditure.*** It is vital to improve the accountability of local governments and service providers to the public, as well as to strengthen policy and planning capacity.
- ***Ensure full coverage of paid MCH services by the RCMS and provide subsidies for the poor.*** The financial economic to access of MCH services by poor families can be overcome through an adequate insurance system and safety net system (e.g. target subsidies and a health voucher systems) as well as by ensuring the essential package be reimbursed by the RCMS.
- ***Develop an effective strategy for human resource development.*** A long-term plan for human resource development for MCH professionals should be developed. This would need to address the composition and geographical distribution of the staff working in this field, along with basic and in-service training requirements, career paths, remuneration and reward systems, and supervision.
- ***Strengthen the MCH surveillance system.*** Data from the MCH Surveillance System provides important information for evaluating the trends in maternal and child health and thereby serves as the foundation for MCH policy development. However, the system needs further strengthening. For instance, it is necessary to further adjust the number of surveillance sites for better representation. This should make the data fully representative of the national situation, making it possible to monitor accurately China's progress in the effort to eliminate urban-rural, regional and gender disparities.