



# 3

## MATERNAL AND CHILD HEALTH

## OVERVIEW

### Progress and achievements

China has made remarkable progress in maternal and child health (MCH) over the last few decades, and achieved the MDGs of reducing under-five mortality rate (U5MR) by two thirds and maternal mortality ratio (MMR) by three quarters by 2015 as compared with the numbers in 1990.<sup>1</sup>

Succeeding the MDGs, the United Nations 2030 Sustainable Development Agenda, launched on 1 January 2016, charted a new direction for national development and international cooperation. China achieved the following targets in health on the sustainable development agenda ahead of the 2030 timeline: by 2030, reduce the MMR to less than 70 per 100,000 live births (achieved in 1993), reduce the U5MR to at least 25 per thousand live births (achieved in 2004), and reduce the neonatal mortality rate (NMR) to at least 12 per thousand live births (achieved in 2006).<sup>2</sup>

In 2017, MMR, U5MR, infant mortality rate (IMR) and NMR in China further dropped to 19.6 per 100,000 live births, 9.1 per thousand live births, 6.8 per thousand live births and 4.5 per thousand live births, respectively.<sup>3</sup> To achieve greater progress, the Government has recently proposed more ambitious national goals, namely, MMR decreased to 12 per 100,000 live births, U5MR reduced to 6 per thousand live births and IMR reduced to 5 per thousand live births by 2030.<sup>4</sup>

Coverage of MCH services in China has increased gradually. In 2017, there were more than 3,000 MCH institutions across the country and about 350,000 professionals engaged directly in MCH services. An MCH service system has been well developed in China, with MCH institutions at the core, community-level health centers as the foundation and large and medium-sized health institutions and relevant research and teaching institutions as key technical supporters.<sup>5</sup> Based on these achievements, there are still opportunities for further reduction of China's child and maternal mortality, by improving staff quality, increasing financial support for poor families in rural areas, and improving the health status of women and children in the western region, rural areas and among migrant populations. Several provinces and cities have developed local policies to include migrant women in the systematic maternal care management mechanism. Central and local governments have also initiated services for migrant children and explored mechanisms to integrate them into the local child health care system.

### Maternal mortality

Since 2000, the great achievements in reducing maternal and neonatal mortality in China are largely attributed to the Government's policy and financial support for hospital delivery for rural pregnant women. The cornerstone 'Jiangxiao' Project or Reducing Maternal Mortality and Eliminating Neonatal Tetanus has been implemented since 2000, and paved the way for the national roll-out of subsidized hospital delivery for rural pregnant women in 2009. This special subsidy has reduced out-of-pocket expenditure for families, so that an increased number of rural pregnant women can seek safe delivery services at health institutions. The policy has also played a pivotal role in narrowing the urban-rural gap in maternal mortality.

The reduction in maternal mortality has also resulted from better public awareness of antenatal care and improved transportation and infrastructure conditions. On average, pregnant women between 2009 and 2013 took up 6.3 antenatal visits (7.4 visits for women in urban areas and 5.4 visits in rural areas), vis-à-vis five antenatal visits minimally required by China's systematic maternal care management.<sup>6</sup> Timely hospital delivery for the majority of pregnant women has helped to reduce the number and proportion of preventable deaths of mothers and newborns that occur at home.

The leading causes of maternal death are obstetric haemorrhage, amniotic fluid embolism, pregnancy-related hypertension, and heart disease. Along with lifestyle and behaviour changes, such as postponed age of first pregnancy, obesity, an increased number of people with non-communicable diseases, as well as climate change and environmental degradation, pregnant women are now facing increasingly more diverse health issues. In addition, following the recent universal second-child policy, there is a small upward trend of advanced maternal age and scarred-uterus pregnancies, triggering an increase in high-risk pregnancies. This proportion against overall pregnancies hit 25 per cent in 2016 from approximately 20 per cent between 2012 and 2014.<sup>7</sup> Therefore, complex pregnancies warrant special attention, and the management of high-risk pregnancies should be improved.

### Under-five mortality

Among all under-five child deaths in China, roughly three fourths occur during infancy, namely 12 months after birth, and half of them take place during the neonatal period (28 days after birth). In 2017, 71 per cent of neonatal deaths were

caused by preterm birth, intrapartum-related complications and congenital abnormalities.<sup>8</sup> As the main cause of under-five child death for both urban and rural areas, preterm birth has seen an increased incidence in recent years, which is closely linked to a number of determinants such as social risk factors, harmful environmental exposure, use of assistive reproductive techniques, increase in multiple births, and advances in perinatal technologies. In response, the coverage of premature birth interventions and techniques should be enhanced, so that preterm births can be reduced, preterm birth fatality can be decreased through better treatment and care, and the life quality of preterm infants can be improved.<sup>9</sup> The national pre-pregnancy physical examinations provided for free in all counties has effectively reduced the risk of birth defects. In addition, China has also been providing free folic acid supplements since 2009 for rural women before pregnancy and during the first trimester, as a vital measure to prevent birth defects. Thus, the incidence of neural tube defects has since been drastically reduced.<sup>10</sup>

It is essential for China to further scale up and universalize these high-impact child survival interventions. In particular, early essential newborn care (EENC) should be scaled up and the Neonatal Safety Project should be introduced in poor areas, with the aim of improving service accessibility and equity, and enhancing the survival and development of newborns. Specifically, the EENC package consists of interventions such as early contact, early breastfeeding initiation, kangaroo mother care, six-month exclusive breastfeeding, special care for small preterm/low birthweight infants and sick newborns.<sup>11</sup>

In 2017, 15.2 per cent of under-five deaths in rural areas were still untreated, with children died either at home or on their way to hospital. There was no significant improvement between 2008 and 2017,<sup>12</sup> indicating the ongoing need to enhance the accessibility of child health services.

### **Equalization of basic public health service package**

In response to the major health issues confronted by women and children, the Government has provided a series of policy and system support to further promote the equalization of relevant basic public services:

- In recent years, China has continued to deepen medical and health system reforms. During the Thirteenth FYP period, the Government aims to achieve progress in the tiered health care system, modernize hospital management, universalize health coverage, secure drug supplies and ensure integrated

supervision.<sup>13</sup> Overall, the goal of the health reform is to ensure the effective and well-regulated operation of the health care system, including in MCH services, with appropriate legal and policy frameworks, supervision and regulation.

- Since the implementation of the National Programme on Basic Public Health Services in 2009, the standards for per capita subsidies for basic public health services have been adjusted several times, steadily increasing from RMB 15 before 2011 to RMB 50 in 2017. Services included in the basic public health services package have gradually expanded from the original nine categories, including child health management, maternal health management and immunization, to 14 categories in 2017.<sup>14</sup>
- Both the Rural Cooperative Medical Scheme (RCMS)<sup>15</sup> and the Medical Financial Assistance Scheme provide further relief in rural areas, benefitting more and more rural residents, especially pregnant women. From January 2016, China started to promote the integration of basic medical insurance for urban residents and RCMS, aiming to establish a unified basic medical insurance system for urban and rural residents; diversify the health-care-seeking options of urban and rural residents; promote urban-rural equity; and improve the quality of public services. By the end of 2017, more than 80 per cent of prefectures had established a unified health insurance system for urban and rural residents, and the enrolment rate has remained stable at over 95 per cent.<sup>16</sup>
- In terms of laws, regulations, and policies, a relatively complete policy and legal framework on MCH has been established, with the *Law on Maternal and Infant Health Care* (1994) and the *National Programme of Action for Women and Children* (1990s, 2001–2010, 2011–2020), usually mentioned as the core components. Others include the national health development plan (*Health China 2030 Plan*, 2016) and special laws and regulations on MCH protection, such as those on the prevention of mother-to-child transmission of Human Immunodeficiency Virus (HIV), and others relating to financing, systematic health management and human resources for MCH services. However, the implementation of these frameworks relies heavily on the initiative, financing and capacity of local authorities. As a result, significant variations in the maternal and child mortality rates continue to exist among provinces.

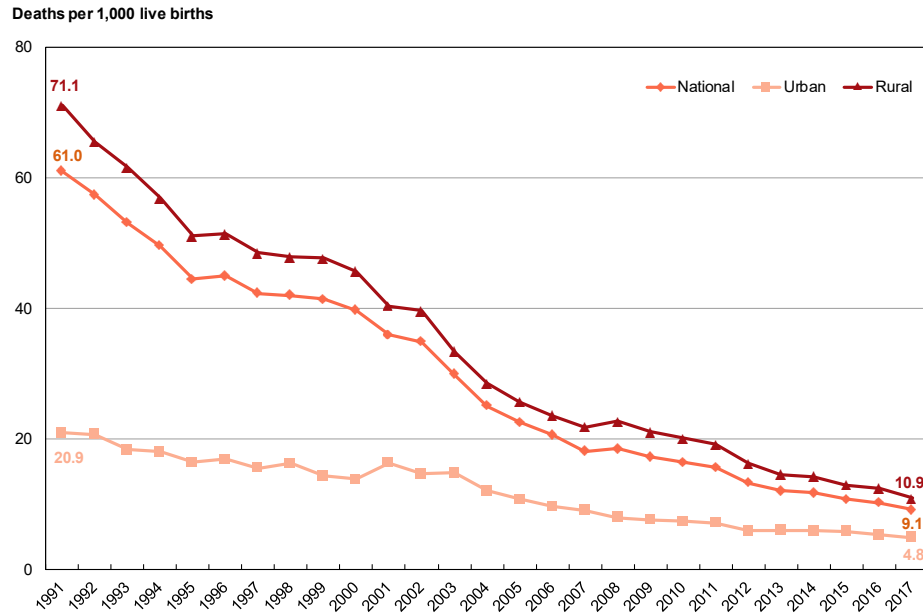
### Disparities and challenges

China's U5MR is relatively low nationally, ranking 131<sup>st</sup> globally in 2016. However, given the large number of children in China, the absolute number of under-five deaths was still very high, ranking sixth globally in 2016.<sup>17</sup> This means that China's further progress in the survival and development of women and children will greatly contribute to the global achievement of the SDGs. Much work remains to be done to improve MCH in China, in term of access, equity and quality:

- On the whole, China has made great progress in improving MCH. However, the national averages have, to some extent, masked the uneven development among regions and the disparities among sub-groups. In less developed areas, relevant indicators lag far behind the national averages, and major inequalities and disparities still exist, particularly between urban and rural areas, among eastern, central and western regions, and among different sub-groups. Indicators such as hospital delivery rate have neared universal coverage at the national level, across provinces and in both urban and rural areas. However, upon closer examination, disparities remain when the indicator is disaggregated by smaller administrative units, such as at the district and county levels. For example, less than 80 per cent of pregnant women in 39 counties in western China<sup>18</sup> delivered in hospital in 2015. Thus, disadvantaged populations in China have limited access to health services, and the quality of services is often inadequate.
- While the expansion of health insurance in both geographic and population coverage terms is impressive, attention paid to insuring young children, who are at the greatest risk of dying, is still insufficient. As shown by the fifth National Health Services Survey (NHSS)<sup>19</sup> in 2013, only 22 per cent of newborns in China were covered by health insurance. For infants between 1 and 11 months, the percentage stood at 60.7 per cent, much lower than the coverage for adults.<sup>20</sup>
- Shortly after the introduction of the Reform and Opening-up Initiative in 1979, the health financing system in China depended mainly on market-oriented service charges, supplemented by government subsidies. In this context, out-of-pocket expenditure continued to grow rapidly to reach a peak of 60 per cent in 2001, and by 2005 it still accounted for more than half of the total health spending. Due to the health reform, the health financing system shifted its main sources back to government investment and thus the share of out-of-pocket expenditure decreased gradually, dropping to below 30 per cent in 2015 for the first time and to 28.8 per cent in 2017.<sup>21</sup> However, the share of out-of-pocket expenditure in total health expenditure is still far above the 15–20 per cent threshold recommended by the World Health Organization (WHO), above which catastrophic expenditure can be incurred.<sup>22</sup>

Due to financial reasons, rural patients find it more difficult to pay out-of-pocket expenditure, thus limiting their access to high-quality MCH services. To respond to such urgent needs, the Government has implemented a health poverty alleviation campaign, conducting programmes including Nutrition Improvement for Children in Poverty Areas, New-born Screening for Poverty Areas, as well as Free Breast and Ovarian Cancer Screening. Moreover, preferential medical insurance has been provided for poor people identified and tracked through a poverty profile, and those who are impoverished due to disease are targeted with focused poverty alleviation interventions.<sup>23</sup> All of these measures are of great importance to ensure poor rural women and children's access to basic health care services, improve the life quality for vulnerable groups, advance the building of a Healthy China, prevent the emergence and re-emergence of poverty due to disease, and eradicate absolute poverty by 2020.

**Figure 3.1**  
Under-five mortality rate, 1991–2017

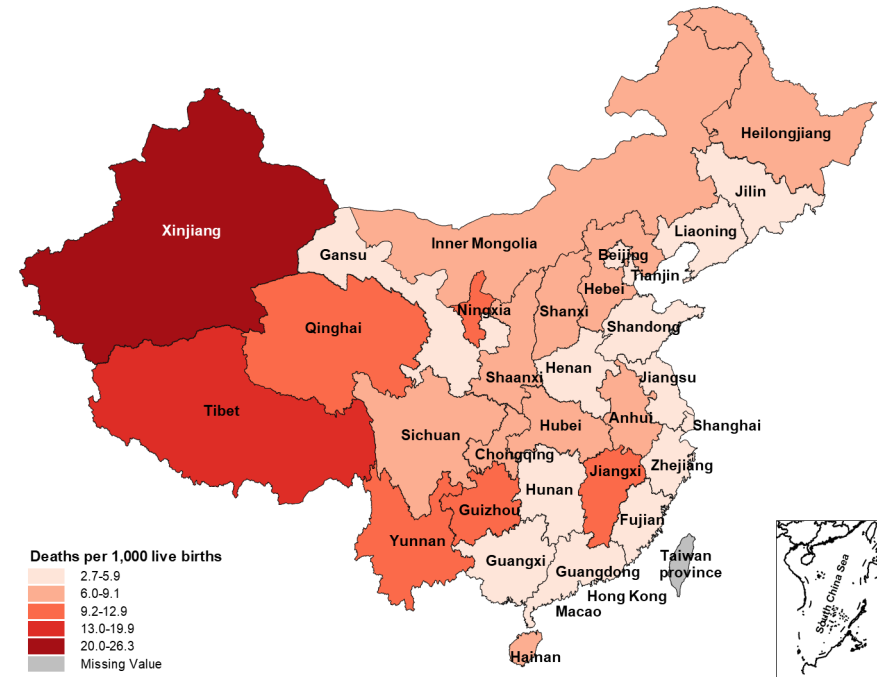


Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.1**

China's national U5MR<sup>24</sup> has declined by 85.1 per cent, from 61 per thousand live births in 1991 to 9.1 per thousand live births in 2017, with an average annual reduction of 7.1 per cent. During this period, the U5MR dropped by 77.0 per cent in urban areas and by 84.7 per cent in rural areas. In 1991, U5MR in rural areas was 3.4 times that of urban areas. By 2017, this ratio had decreased to 2.3 times, though still revealing a significant urban-rural gap.

**Figure 3.2**  
Under-five mortality rate, by province, 2016

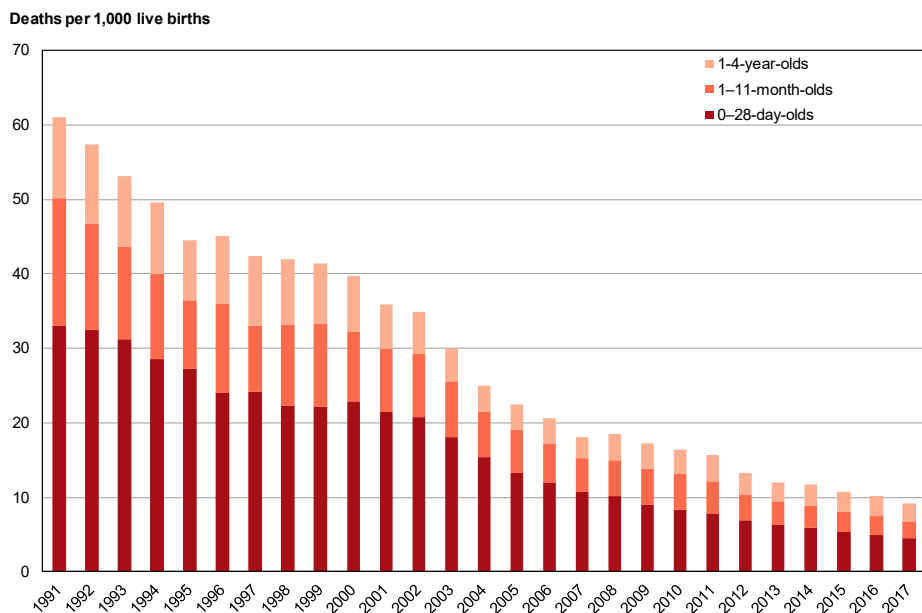


Source: National Office for Maternal and Child Health Surveillance, Provincial Maternal and Child Health Surveillance and Annual Reporting, 2017

**Figure 3.2**

Disparities in the U5MR exist among different provinces. In general, the U5MR is highest in western provinces and lowest in eastern provinces.

**Figure 3.3**  
Under-five mortality rate, by age, 1991–2017

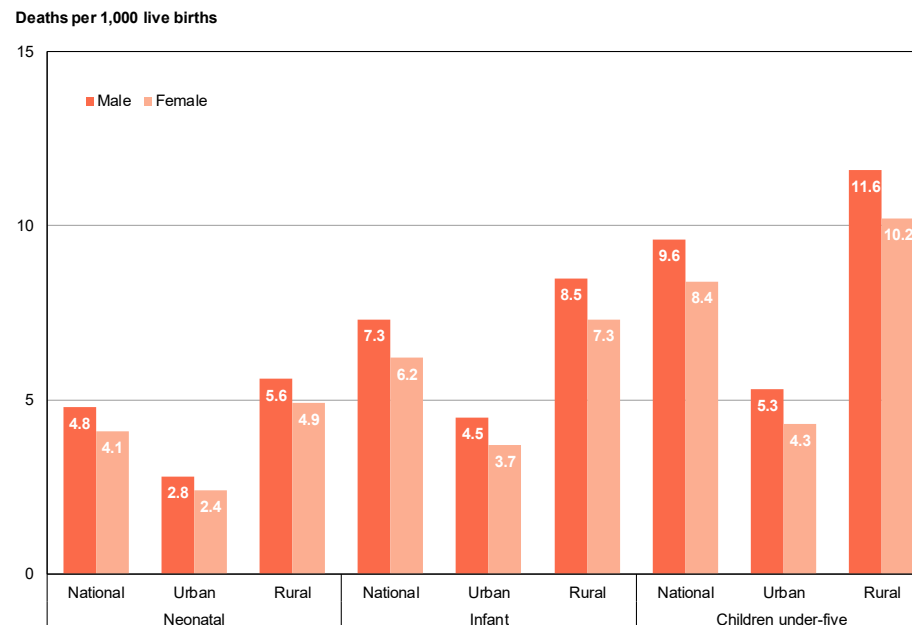


Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.3**

Between 1991 and 2017, the U5MR decreased steadily. In 2017, three fourths (74.8 per cent) of under-five mortality occurred during infancy (deaths before 12 months), while neonatal mortality (deaths during the first 28 days of life) accounted for half (49.5 per cent) of all under-five deaths. Many of these deaths were preventable.

**Figure 3.4**  
Under-five mortality rate, by urban-rural and sex, 2017

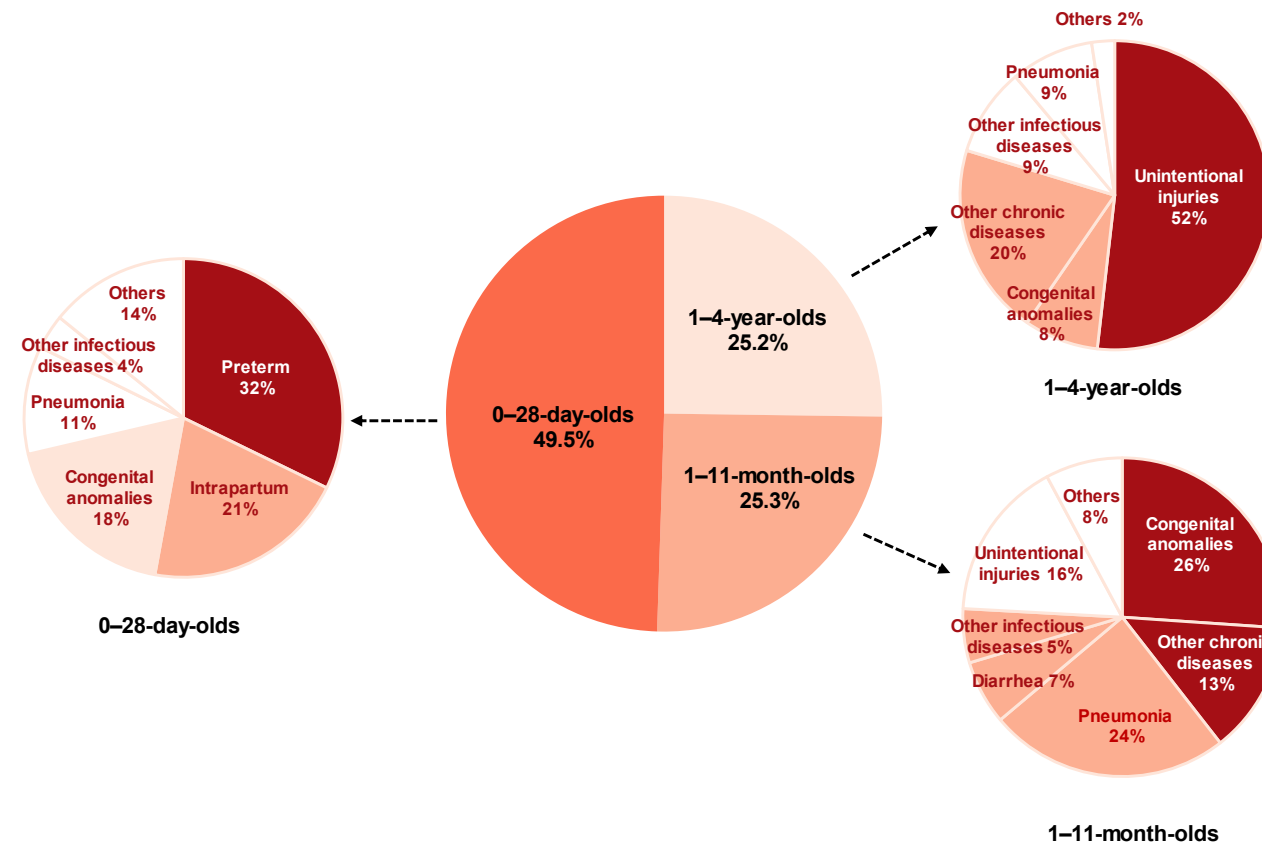


Source: National Health Commission, *Report on China's National Maternal and Child Health Information*, 2018

**Figure 3.4**

There is a gender discrepancy in mortality rates of children under five. Boys have a higher risk of death in both urban and rural areas.

**Figure 3.5**  
**Causes of under-five mortality, 2017**

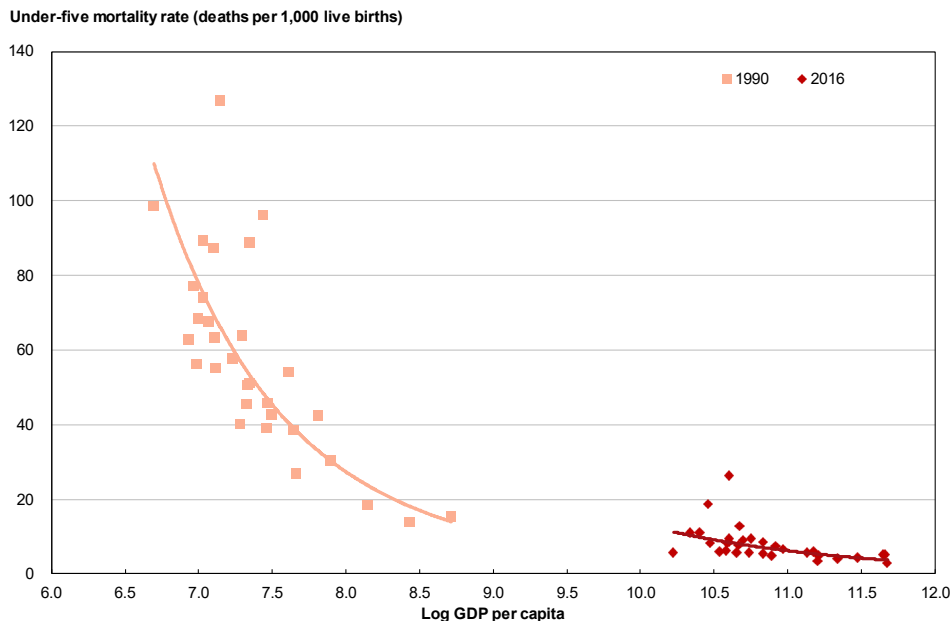


Source: National Health Commission, *Report on China's National Maternal and Child Health Information, 2018*

**Figure 3.5**

The distribution of the causes of under-five mortality varies among different age groups of children. Aligned with the WHO classification of causes of death in Global Burden of Disease, the leading causes of neonatal death are preterm birth (32.2 per cent), intrapartum-related complications (20.6 per cent) and congenital abnormalities (18.5 per cent). The leading causes of infant (1-11 months old) death are chronic diseases (39.5 percent, including congenital abnormalities and other chronic diseases), infectious diseases (36.4 per cent, including pneumonia, diarrhea and other infectious diseases) and unintentional injuries (16.3 per cent). Unintentional injuries are the leading cause of death for children between 1 and 4 years old (51.8 per cent), with chronic diseases and infectious diseases responsible for 27.9 per cent and 17.9 per cent, respectively. Increased efforts to prevent and manage premature and low birth weight infants will contribute to reducing under-five mortality, along with efforts to improve management of labour and neonatal resuscitation, prevent birth defects, improve treatment of common childhood infectious illnesses such as pneumonia and diarrhoea, and prevent child injury.

**Figure 3.6**  
**GDP per capita and under-five mortality rate, 1990 and 2016**

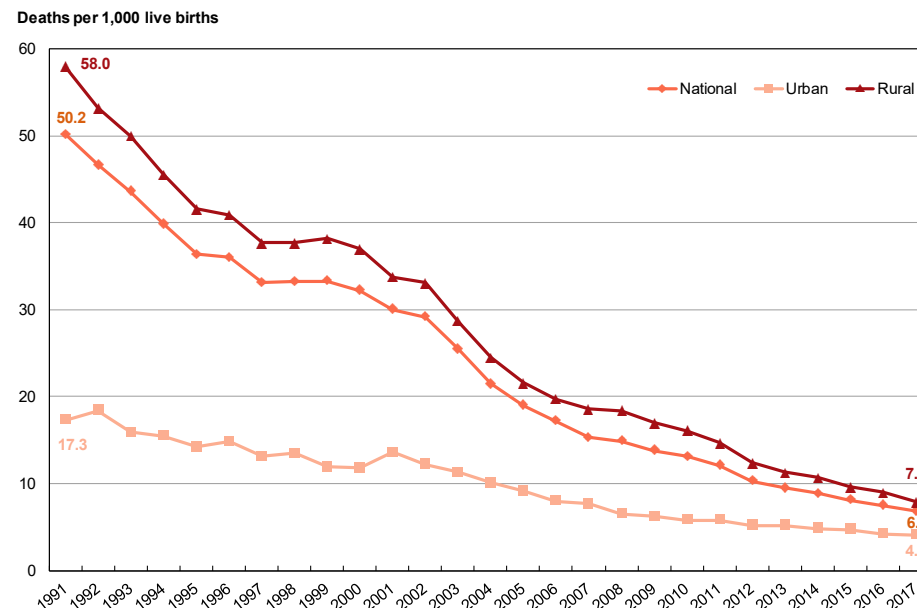


Sources: National Bureau of Statistics, *China Statistical Yearbook*, 1991 and 2017 (GDP per capita); National Bureau of Statistics, NPA Monitoring Statistics, 1991 (U5MR in 1990); National Office for Maternal and Child Health Surveillance, Provincial Maternal and Child Health Surveillance and Annual Reporting, 2017 (U5MR in 2016)

**Figure 3.6**

China has made remarkable progress on both economic and health indicators between 1990 and 2016. Along with the increase in per capita GDP, the U5MR of the poorest provinces in 2016 were similar to those of the wealthiest provinces in 1990. Under-five mortality in China has an inverse relationship with economic development. In general, despite some exceptions, provinces with a low GDP per capita have relatively high child mortality rates, and provinces with a high GDP per capita have relatively low child mortality rates. Eastern provinces have the highest GDP per capita and the lowest U5MR.

**Figure 3.7**  
**Infant mortality rate, 1991–2017**



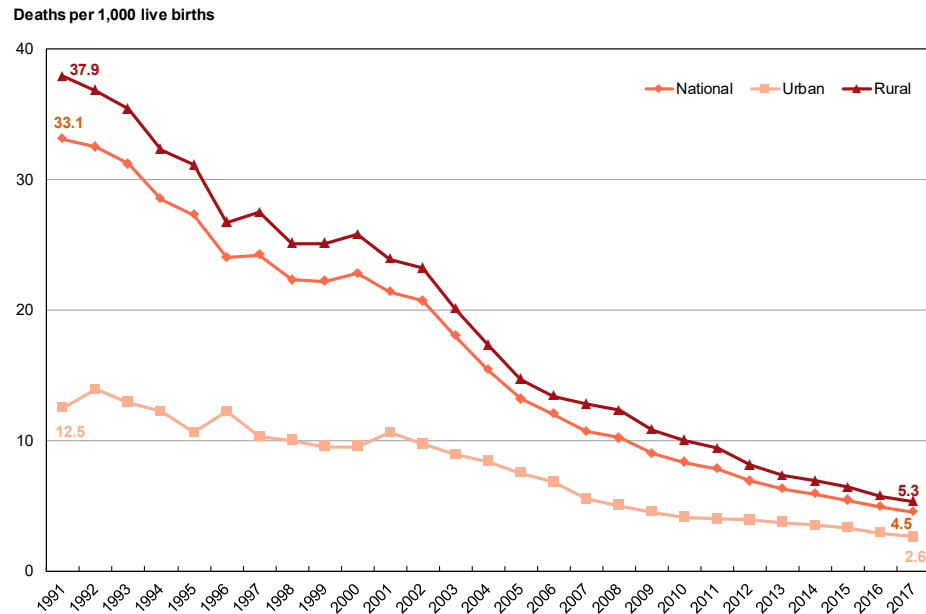
Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.7**

Since 1991, there has been a significant decline in the IMR.<sup>25</sup> Nationally, the IMR dropped 86.5 per cent from 50.2 per thousand live births in 1991 to 6.8 per thousand live births in 2017. Between 1991 and 2017, the IMR dropped by 76.3 per cent in urban areas and 86.4 per cent in rural areas. Again, significant disparities remain, as the IMR in rural areas in 2017 was 1.9 times that of urban areas.



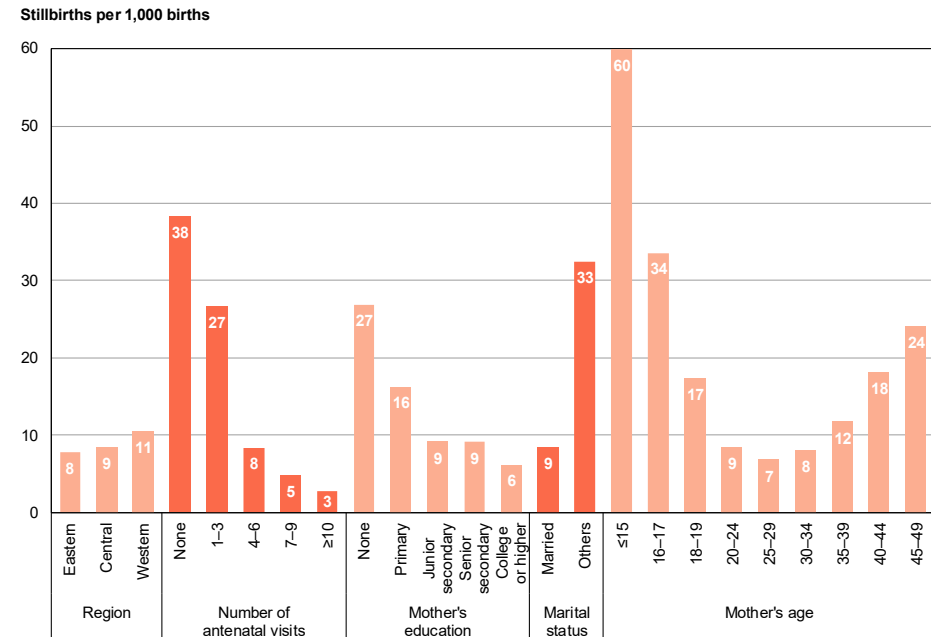
**Figure 3.8**  
Neonatal mortality rate, 1991–2017



Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.8**  
Since 1991, there has been a significant decline in the NMR.<sup>26</sup> China's NMR dropped from 33.1 per thousand live births in 1991 to 4.5 per thousand live births in 2017. In 1991, the NMR in rural areas was three times that of urban areas. In 2017, the NMR in rural areas was reduced to two times that of urban areas.

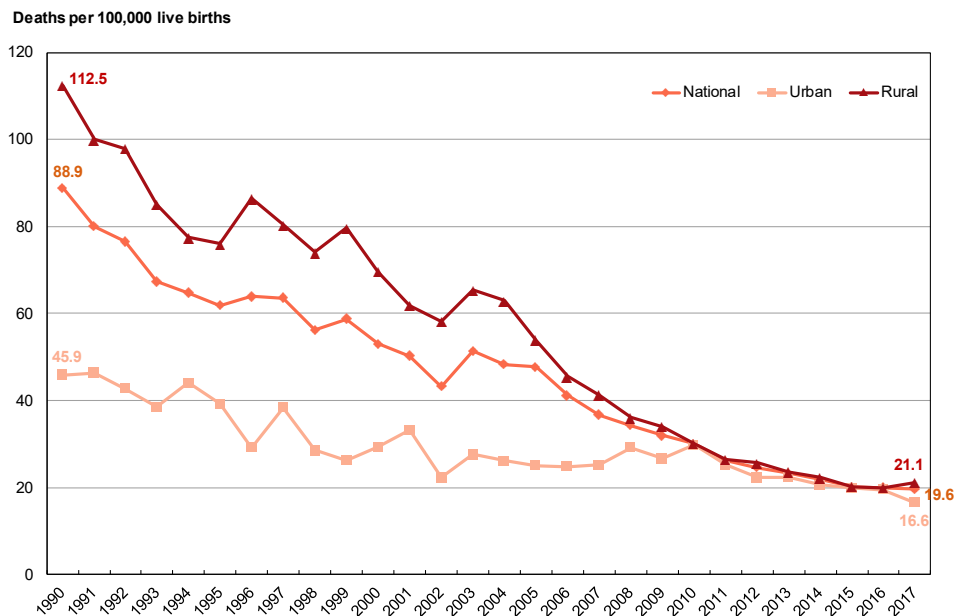
**Figure 3.9**  
Stillbirth rate, 2012–2014



Source: ZHU Jun, et al., 'Sociodemographic and Obstetric Characteristics of Stillbirths in China: A census of nearly 4 million health facility births between 2012 and 2014', *Lancet Global Health*, vol. 4, 2016, pp. 109–118

**Figure 3.9**  
Data analysis of nearly 4 million births in 441 health facilities, as recorded in China's National Maternal Near Miss Surveillance System between 2012 and 2014, suggests a stillbirth rate of 8.8 per thousand births. This analysis presents, for the first time, an empirical estimate of the stillbirth rate in a large sample that is representative of all facility births in China. Though the rate is much lower than those in much of Asia, it remains higher than those in high-income countries, despite excessively high caesarean section rates in China. Stillbirths are not monitored in most information systems. The Government needs to pay attention to stillbirths by systematically collecting and using relevant data. At the same time, as stillbirths are strongly correlated with the number of antenatal visits, special attention should be given to the most disadvantaged women and adolescent girls aged 15–19, as well as pregnant women that are younger, unmarried, and less educated.<sup>27</sup>

**Figure 3.10**  
Maternal mortality ratio, 1990–2017

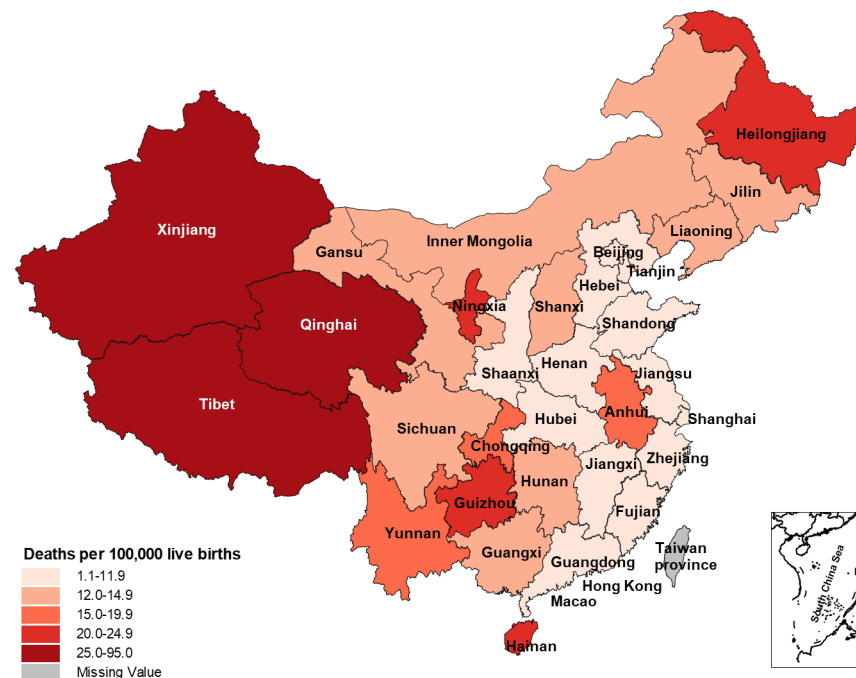


Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.10**

Since 1990, the MMR<sup>28</sup> has decreased significantly, and the disparities between urban and rural areas has also decreased. The MMR in rural areas was 2.5 times that of urban areas in 1990. In recent years, the MMR in rural and urban areas have stabilized at a similar level. This is mainly due to the significant decrease of MMR in rural areas, and the fact that maternal deaths among urban migrant women has been roughly static since 1998.

**Figure 3.11**  
Maternal mortality ratio, by province, 2017

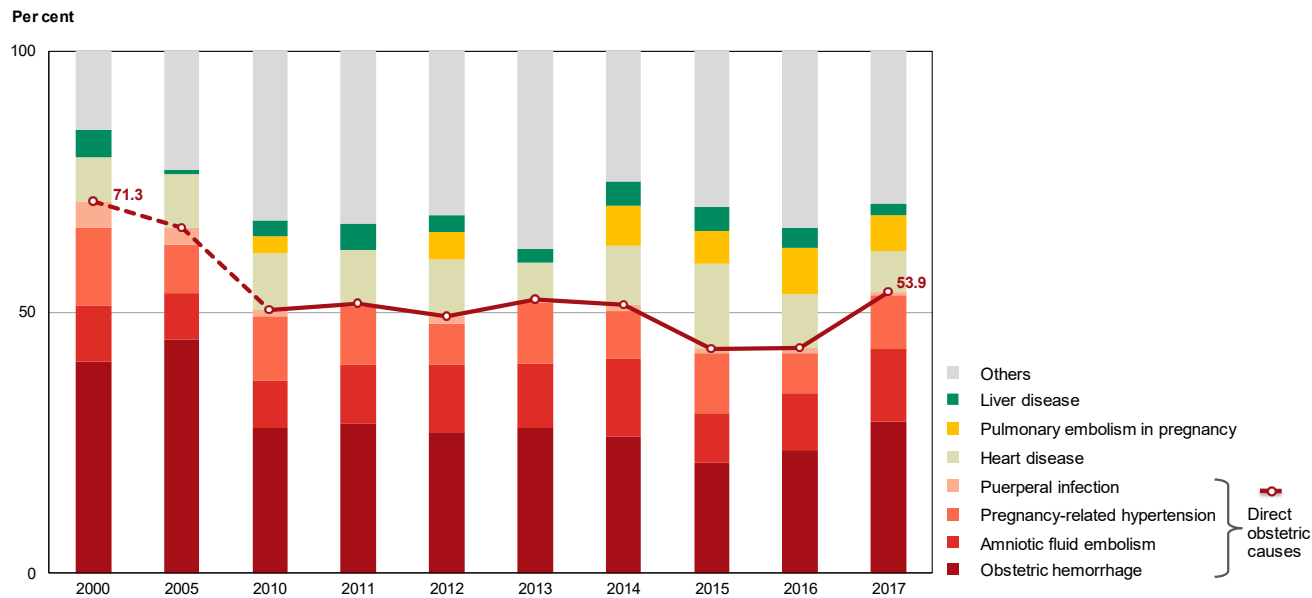


Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.11**

Significant disparities exist in MMR among China's provinces, with the same pattern observed in child mortality. MMR range from less than 10 per 100,000 live births in some coastal provinces, around 15 per 100,000 live births in central provinces, to above 25 per 100,000 live births in some western provinces.

**Figure 3.12**  
Causes of maternal mortality, 2000–2017



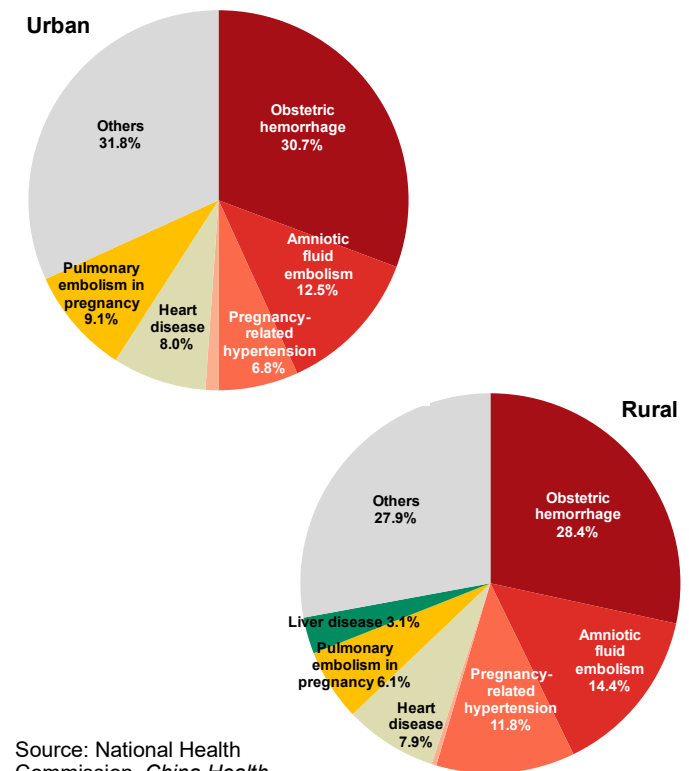
Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.12**

Obstetric haemorrhage, amniotic fluid embolism, and pregnancy-related hypertension were the three leading causes of maternal mortality in 2017. Although obstetric haemorrhage is still the leading cause of maternal mortality, it has declined from over 40 per cent of maternal deaths before 2005 to 28.6 per cent of maternal deaths in 2017. Before 2000, direct obstetric causes<sup>a</sup> accounted for over 70 per cent of maternal deaths. This proportion has decreased steadily during the 2000–2010 period, with some fluctuations around 50 per cent since then. During the 2015–2016 period, deaths brought about by direct obstetric causes were less than those as a result of indirect obstetric causes. However, in 2017, there was a rebound, when 53.9 per cent of maternal deaths were brought about by direct obstetric causes. Generally, over 75 per cent of maternal and neonatal deaths are preventable or can be treated by providing necessary obstetric services.<sup>29</sup>

<sup>a</sup> Direct obstetric causes normally include obstetric haemorrhage, amniotic fluid embolism, pregnancy-related hypertension, and puerperal infection; indirect obstetric causes normally include heart disease, liver disease, venous thrombosis and pulmonary embolism in pregnancy, pneumonia and other diseases.

**Figure 3.13**  
Causes of maternal mortality, by urban-rural, 2017

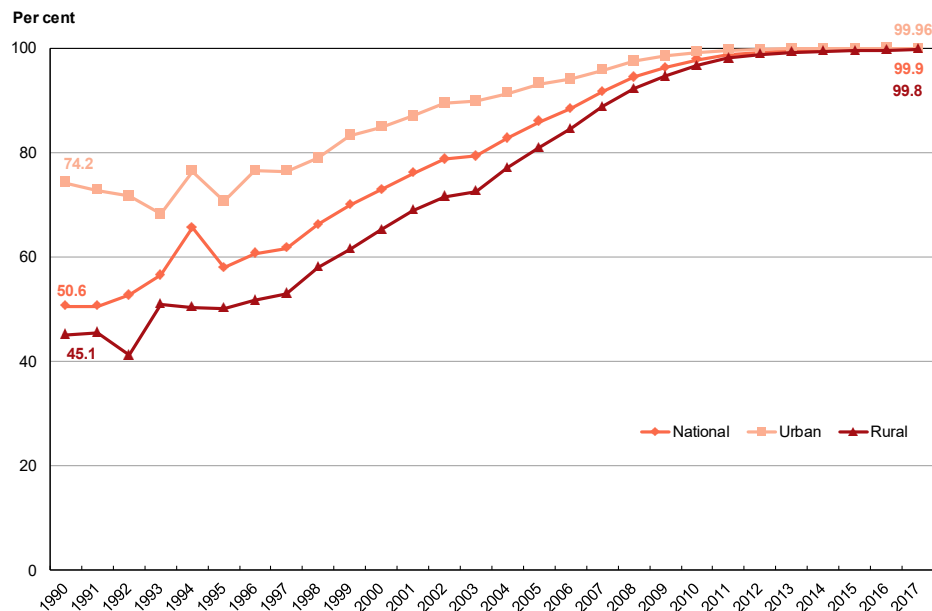


Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.13**

The distribution of causes of death shows that, in 2017, obstetric haemorrhage, pregnancy-related hypertension, amniotic fluid embolism and other direct obstetric causes led to 55 per cent of maternal deaths in rural China, taking a higher share than indirect obstetric causes. In urban areas, maternal deaths are caused mainly by indirect obstetric causes.

**Figure 3.14**  
Hospital delivery rate, 1990–2017

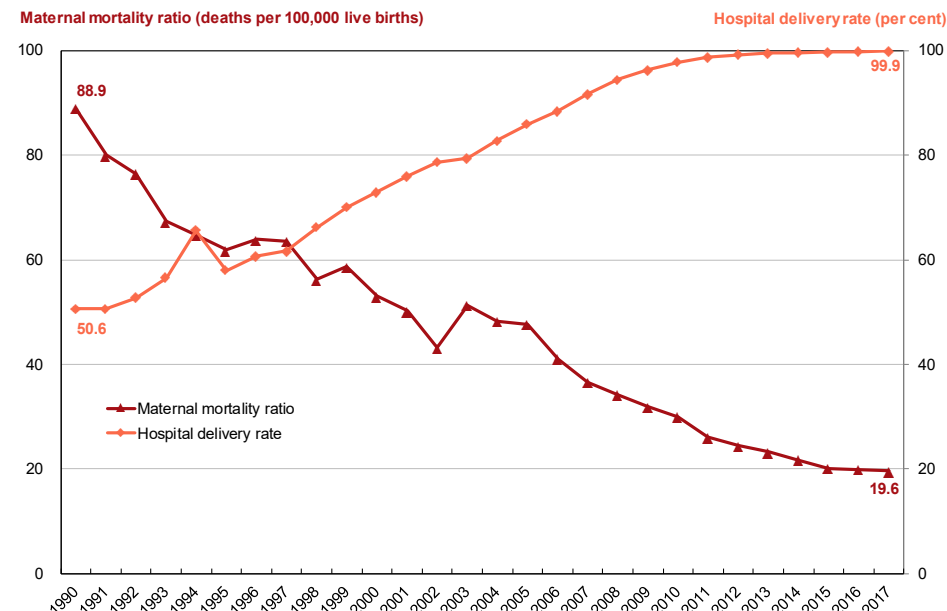


Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.14**

China's hospital delivery rate has increased steadily over the last two decades. The urban-rural disparity, which was obvious in the 1990s, no longer exists. The remarkable increase in hospital delivery in rural and urban areas has played a significant role in ensuring the safety of mothers and children and reducing maternal and neonatal mortality.

**Figure 3.15**  
Hospital delivery rate and maternal mortality ratio, 1990–2017



Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.15**

There is an inverse relationship between China's MMR and hospital delivery rate. From 1990 to 2017, the hospital delivery rate increased from 50.6 per cent to 99.9 per cent. Over the same period, the MMR decreased from 88.9 per 100,000 live births to 19.6 per 100,000 live births.

**Figure 3.16**  
Hospital delivery rate, by province, 2017

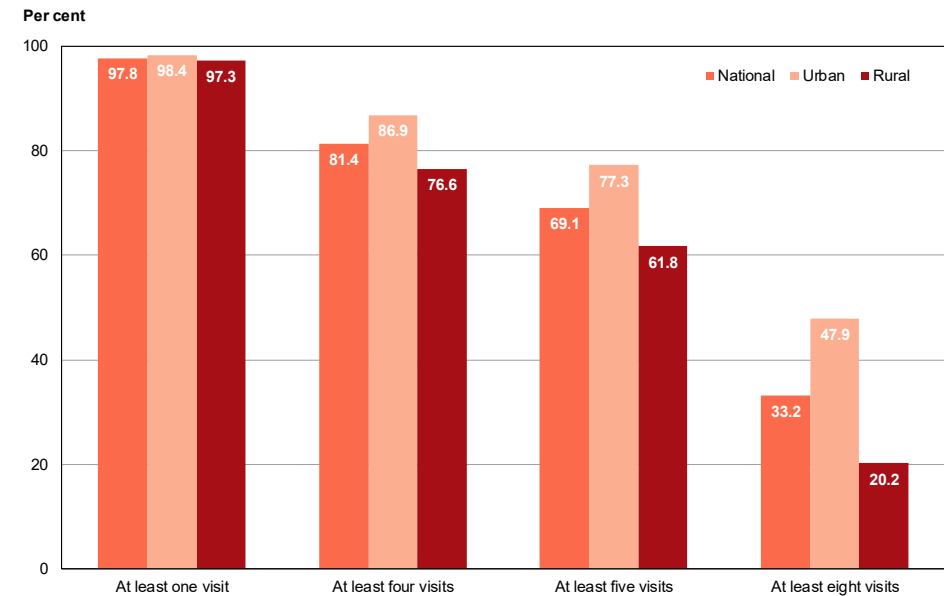


Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.16**

Overall, the hospital delivery rate is high across all provinces, but relatively low rates persist in some western provinces. Tibet has the lowest hospital delivery rate at 92.5 per cent.

**Figure 3.17**  
Antenatal care coverage, by number of visits, 2013

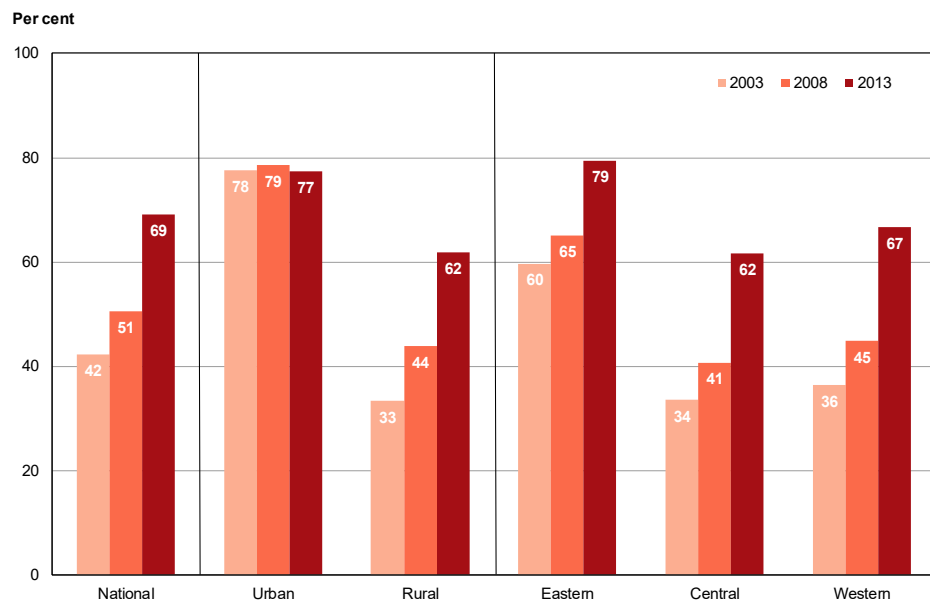


Source: National Health Commission (formerly the National Health and Family Planning Commission), National Health Services Survey, 2013

**Figure 3.17**

Women should receive antenatal care attended by skilled health personnel (e.g. doctors, nurses or midwives) during their pregnancy. UNICEF and WHO recommend a minimum of four antenatal care visits during pregnancy. The most recent recommendation by WHO is a minimum of eight antenatal contacts during pregnancy, to reduce perinatal death and improve women's experience of receiving health care during their pregnancy.<sup>30</sup> According to the requirements of China's systematic maternal care management, pregnant women are recommended to receive at least five antenatal care visits. The results of the NHSS show that antenatal care coverage of at least one visit was 97.8 per cent in 2013, without obvious disparity between urban and rural areas. However, with the increase in the recommended number of visits, coverage decreased rapidly, and the urban-rural gap also increased.

**Figure 3.18**  
**Antenatal care coverage: at least five visits, 2003, 2008 and 2013**

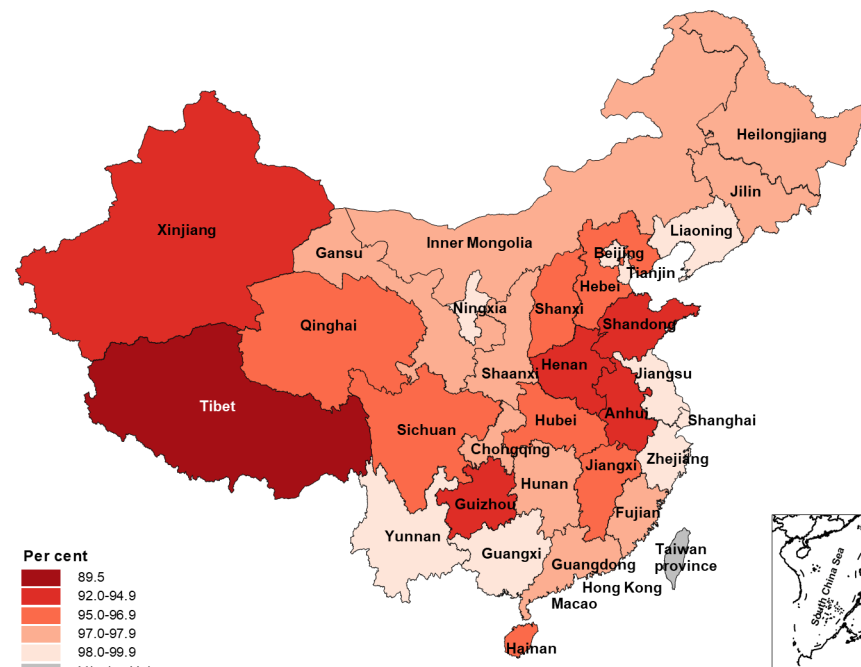


Sources: National Health Commission (formerly the National Health and Family Planning Commission), National Health Services Survey, 2003, 2008 and 2013

**Figure 3.18**

According to the requirements of China's systematic maternal care management, pregnant women are recommended to receive at least five antenatal care visits. The latest three rounds of NHSS show the coverage of antenatal care of five or more visits increased by 27 percentage points between 2003 and 2013 to reach 69.1 per cent. This increase was mainly attributed to progress in rural areas and in central and western provinces. However, there are still substantial gaps between urban and rural areas and among regions.

**Figure 3.19**  
**Antenatal care coverage: at least one visit, by province, 2017**



Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.19**

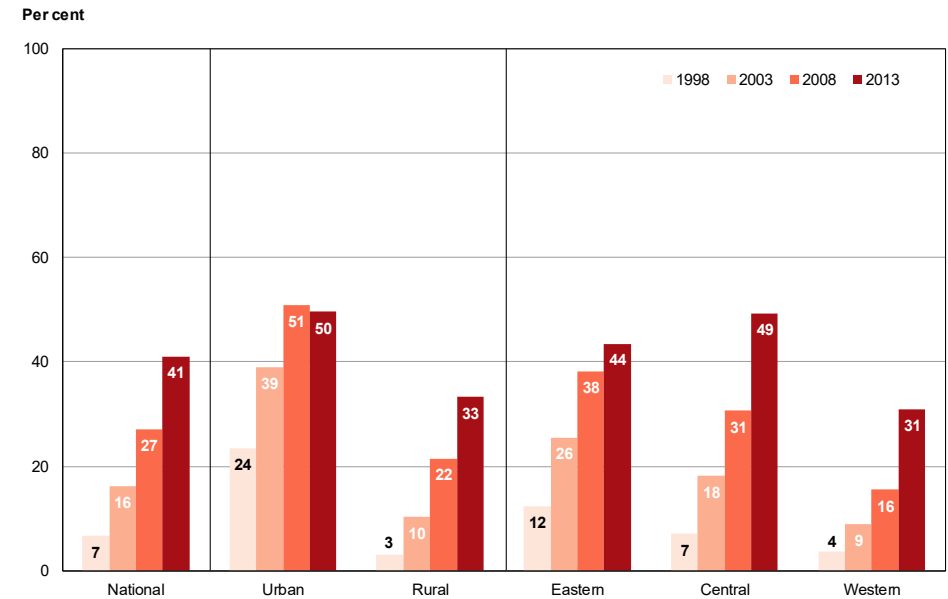
In China, the antenatal care coverage of at least one visit is high across all provinces, all above 92 per cent, apart from Tibet, which is lagging behind at 89.5 per cent.

**Figure 3.20**  
**Percentage of births attended by skilled health personnel, by province, 2016**



Source: National Health Commission (formerly the National Health and Family Planning Commission), *China Health and Family Planning Statistical Yearbook*, 2017

**Figure 3.21**  
**Caesarean section rate, 1998, 2003, 2008 and 2013**



Sources: National Health Commission (formerly the National Health and Family Planning Commission), National Health Services Survey, 1998, 2003, 2008 and 2013

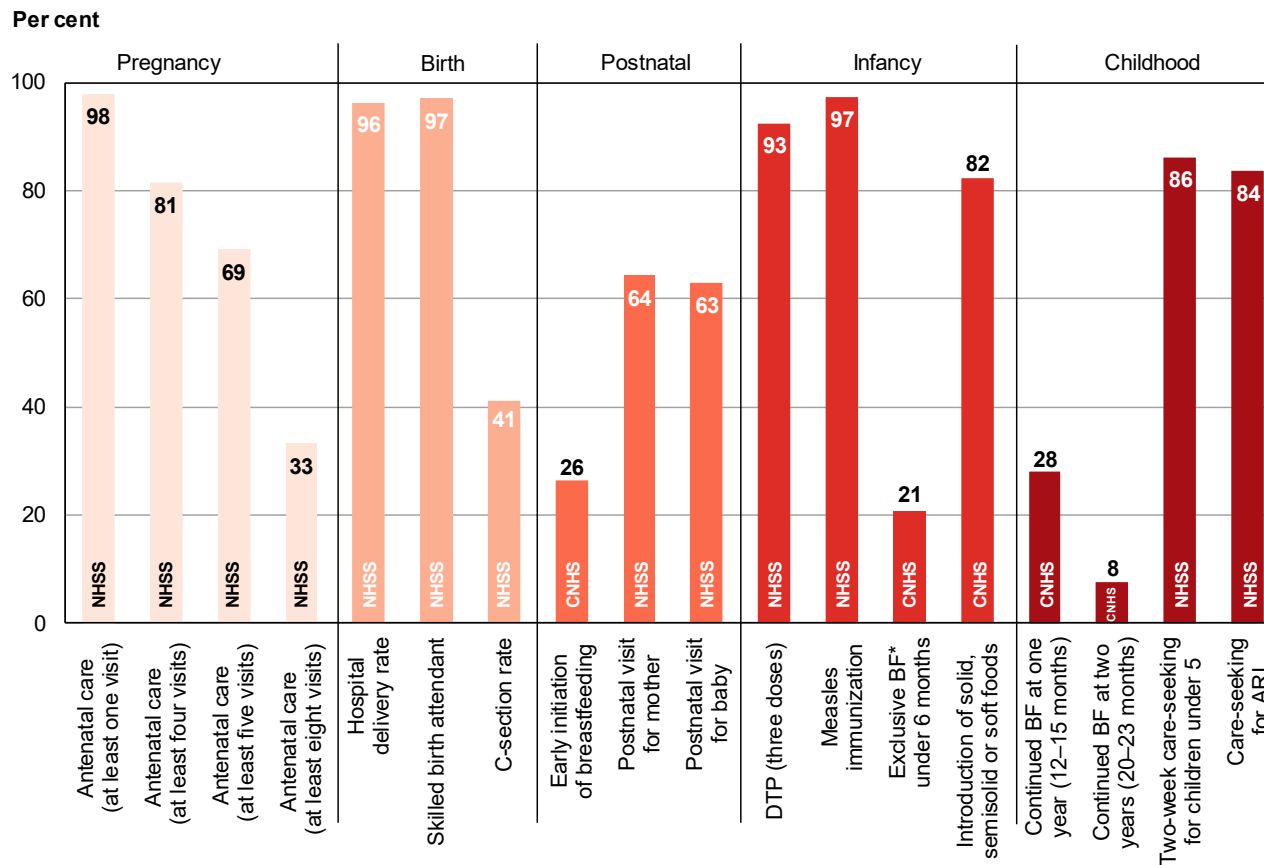
**Figure 3.20**

Overall, the percentage of births attended by skilled health personnel<sup>31</sup> is high across all provinces, but is slightly lower in western China and the lowest in Tibet (98 per cent).

**Figure 3.21**

Results from the latest four rounds of NHSS show a general increase in caesarean section rates both nationally and at the sub-national level, except for a slight decrease in urban areas during the 2008–2013 period. Caesarean section deliveries have reached numbers that exceed the clinical need.<sup>32</sup> Nationally, two in five women delivered by caesarean section in 2013, compared with less than one in ten in 1998. Although urban women continue to have the highest rates of caesarean section, rural areas and central and western provinces experienced a more significant increase in caesarean rates between 1998 and 2013.

**Figure 3.22**  
**Coverage of interventions**  
**across the continuum of**  
**care for maternal and child**  
**health, 2013**



\* BF stands for breastfeeding.

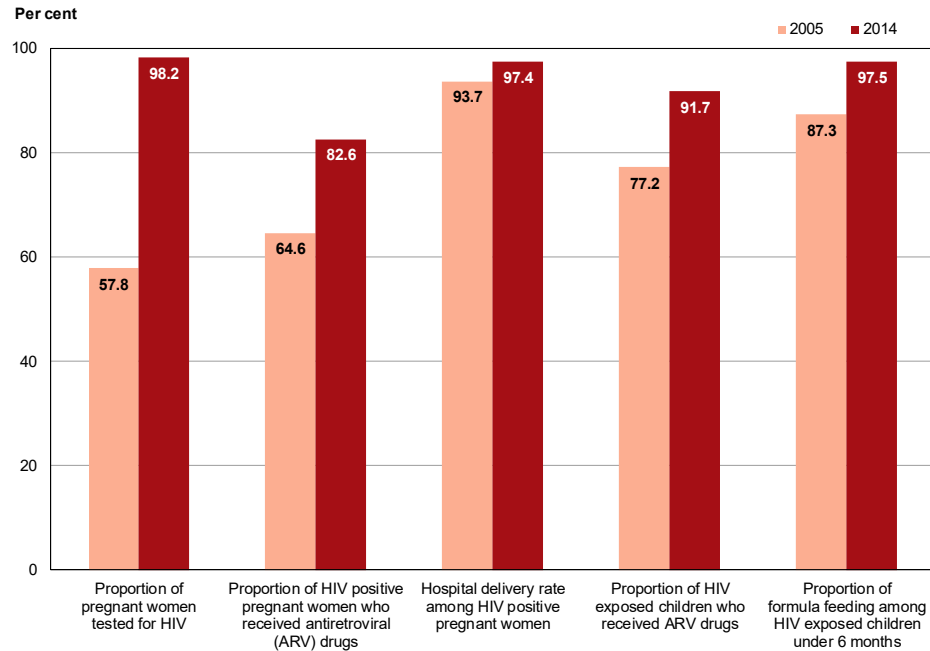
Sources: China CDC, China Nutrition and Health Surveillance (CNHS, data on infant and young child feeding), 2013; National Health Commission (formerly the National Health and Family Planning Commission), NHSS, other data, 2013

**Figure 3.22**

The coverage of interventions varies across the continuum of care. It reflects the advancements in maternal health care, such as in the case of antenatal care of at least one visit, hospital delivery, child immunization and care-seeking for pneumonia. Coverage lags behind for other key interventions, such as in the case of antenatal care that reaches the internationally recommended number of visits, postnatal care, and infant and young child feeding.



**Figure 3.23**  
Service coverage for prevention of mother-to-child transmission of HIV, 2005–2014

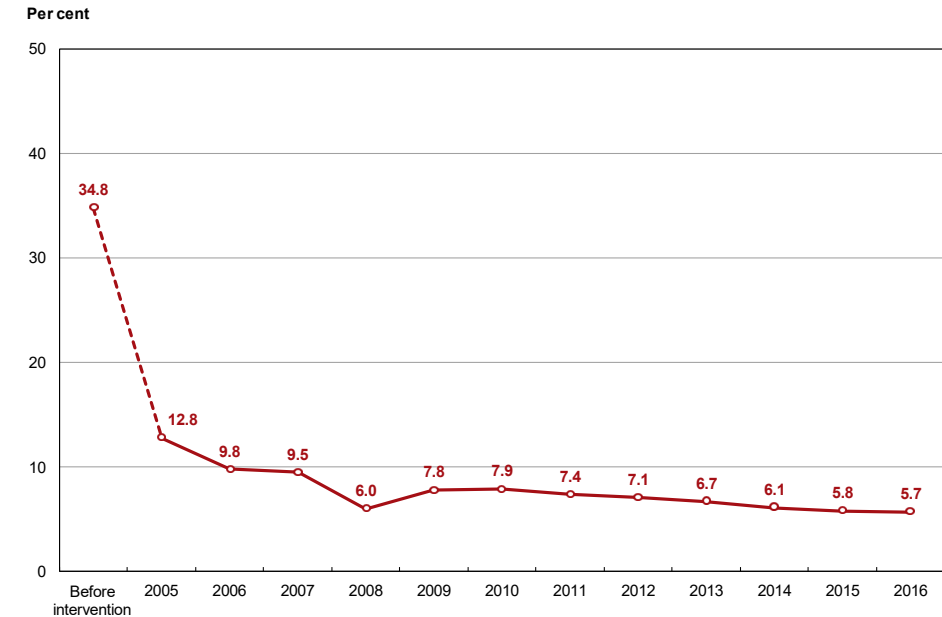


Source: National Health Commission (formerly the National Health and Family Planning Commission), 'China National Programme for Prevention of Mother-to-Child Transmission of HIV, Syphilis and Hepatitis B – Progress Report', 2015

**Figure 3.23**

China began to pilot prevention of mother-to-child transmission (PMTCT) of HIV in 2001 under its National PMTCT Programme, and gradually scaled up the interventions to more counties. In 2010, China developed the integrated PMTCT strategies for HIV, syphilis and hepatitis B.<sup>33</sup> By 2015, the integrated National PMTCT Programme covered all counties in China. In 2014, the proportion of pregnant women tested for HIV, syphilis and hepatitis B increased to 98.2 per cent, 99.5 per cent, and 98.9 per cent, respectively. This has significantly helped with identification, with comprehensive interventions implemented for pregnant women infected with HIV/AIDS. Between 2005 to 2014, the service coverage for all interventions in the chart has increased notably.

**Figure 3.24**  
Rate of mother-to-child transmission of HIV, 2005–2016

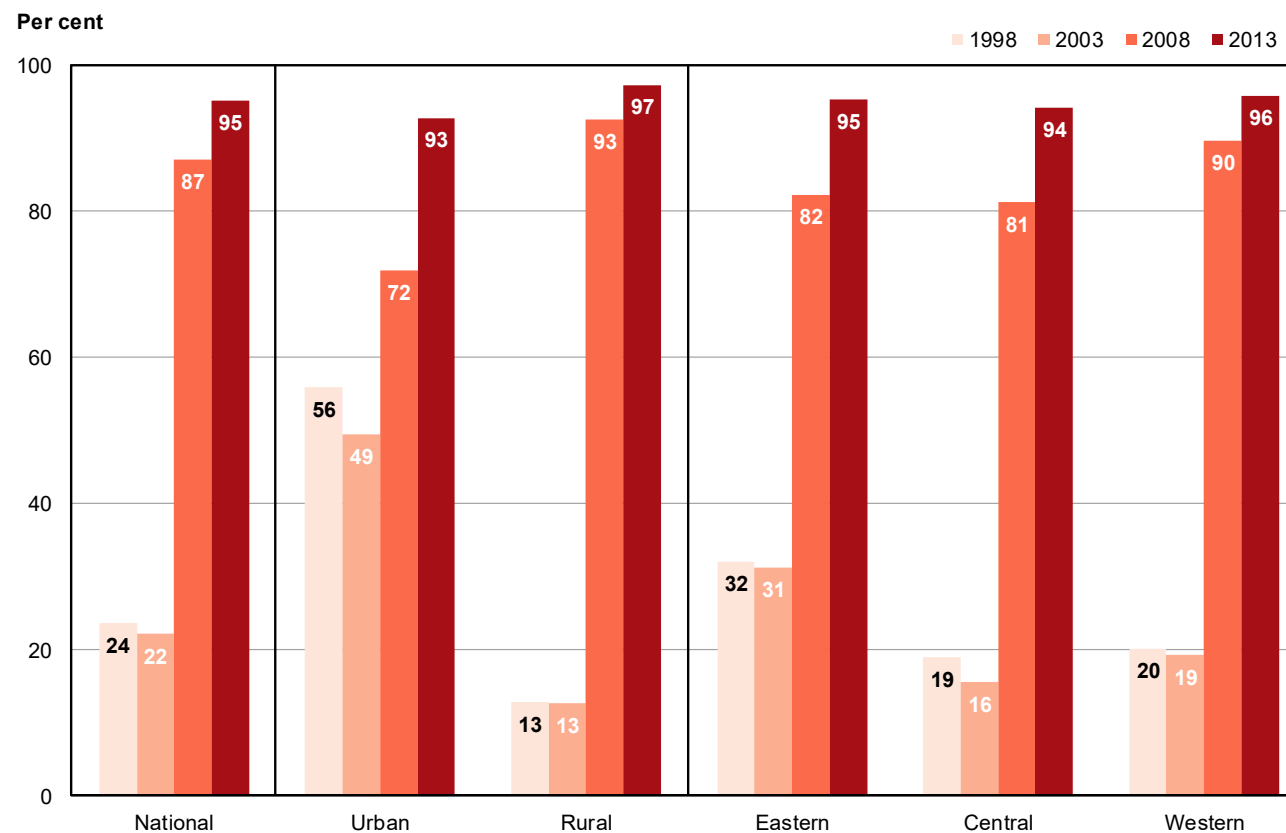


Sources: National Health Commission (formerly the National Health and Family Planning Commission), 'China National Programme for Prevention of Mother-to-Child Transmission of HIV, Syphilis and Hepatitis B – Progress Report', 2015 (data from 2014 and previous years); National Health Commission (formerly the National Health and Family Planning Commission), Management Information System for PMTCT of HIV, Syphilis and Hepatitis B (2015 and 2016 data)

**Figure 3.24**

In China, the rate of mother-to-child transmission of HIV has been reduced from 34.8 per cent before the initiation of the National PMTCT Programme to 5.7 per cent in 2016. Moreover, the proportion of mother-to-child transmitted infections against the annually reported new HIV infections and AIDS patients dropped from 1.6 per cent in 2005 to 0.5 per cent in 2016.<sup>34</sup> However, the National PMTCT Programme is still confronted with several challenges. Along with the large population in China and the fast-expanding coverage of the programme, an increasing number of pregnant women infected are detected each year. In addition, regional disparities still exist. The coverage, quality and utilization of MCH and PMTCT services need to be advanced in poor, remote and ethnic minority concentrated areas.

**Figure 3.25**  
**Health insurance coverage,**  
**1998, 2003, 2008 and 2013**

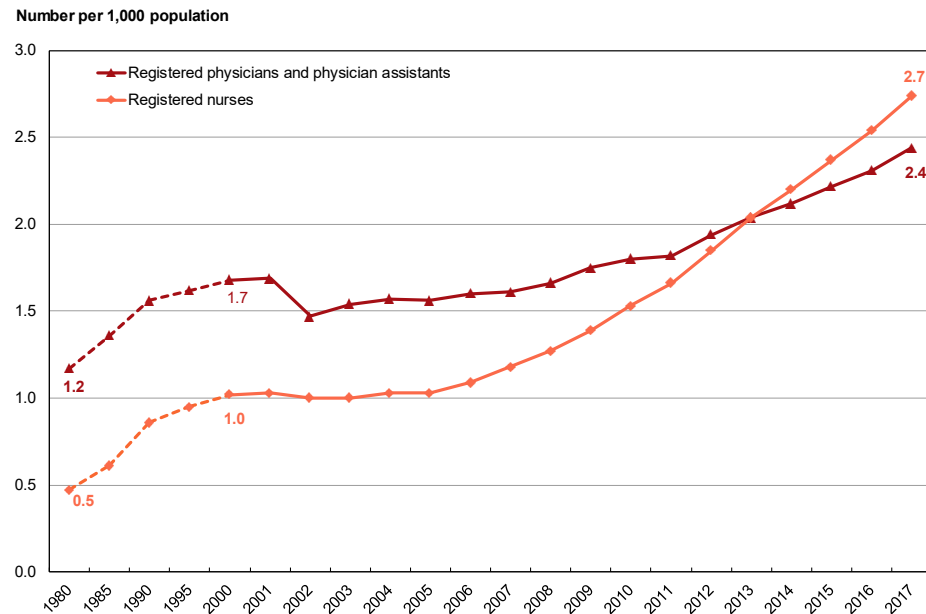


Sources: National Health Commission (formerly the National Health and Family Planning Commission), National Health Services Survey, 1998, 2003, 2008 and 2013

**Figure 3.25**

Health insurance coverage has increased steadily since 2003, both nationally and at the sub-national level. In 2013, 95 per cent of urban and rural residents were covered by health insurance nationally. The remarkable increase in health insurance coverage in rural areas was due to the introduction of the RCMS in early 2000. Health insurance coverage for 2008 and 2013 was high for rural areas compared with urban areas.

**Figure 3.26**  
Number of registered physicians/  
physician assistants and registered  
nurses, 1980–2017

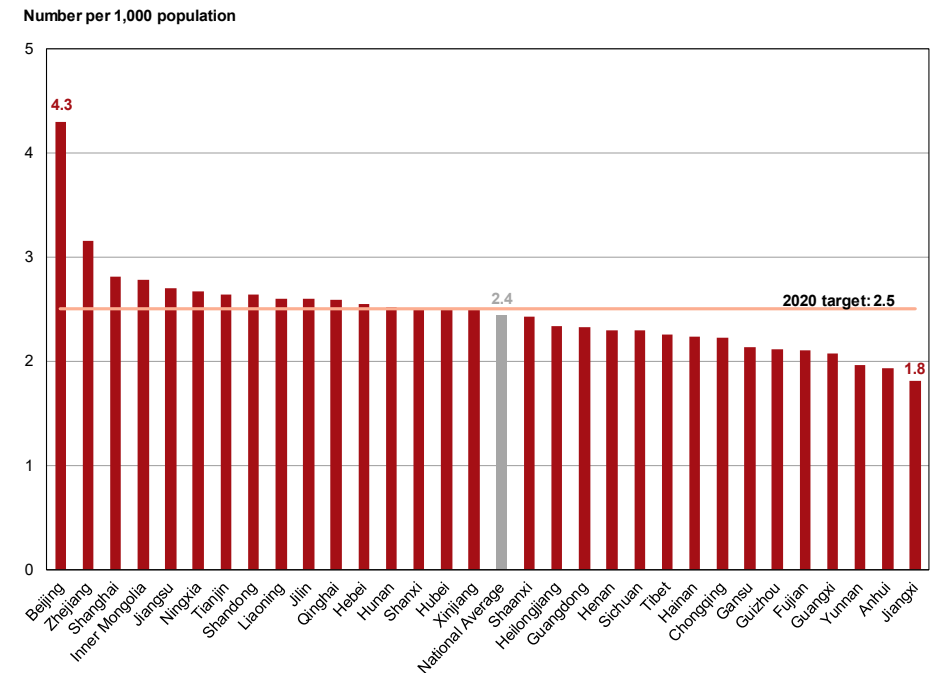


Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.26**

Over the last four decades, the number of registered physicians and physician assistants<sup>35</sup> has increased from less than 1.2 per thousand population to 2.4 per thousand population, and the number of registered nurses has increased from 0.5 per thousand population to 2.7 per thousand population. The drop observed between 2001 and 2002 is due to more restrictive definition of the competencies and qualifications required to become a health professional. According to the *Health China 2030 Plan*, the number of registered physicians and physician assistants should reach 2.5 per thousand population in 2020 and 3.0 per thousand population in 2030, and the number of registered nurses should reach 4.7 per thousand population in 2030.

**Figure 3.27**  
Number of registered physicians/  
physician assistants, by province, 2017

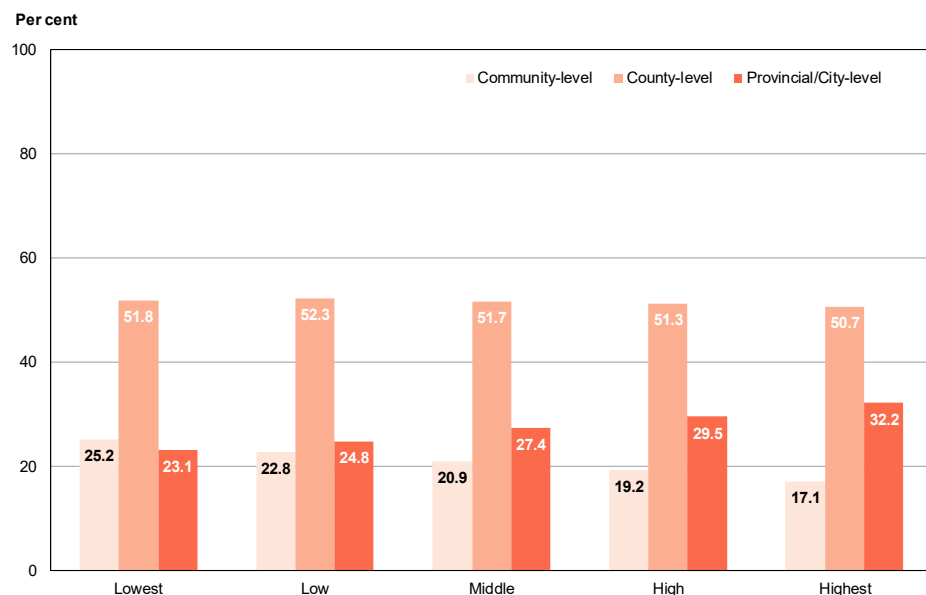


Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.27**

The number of physicians and physician assistants per thousand population varies among provinces. Beijing has the largest number, which was 4.3 physicians and physician assistants per thousand population. In 2017, 16 provinces reached the 2020 target of 2.5 per thousand population as set in the *Health China 2030 Plan*.

**Figure 3.28**  
Choice of health care provider for inpatient care,  
by income quintile, 2013

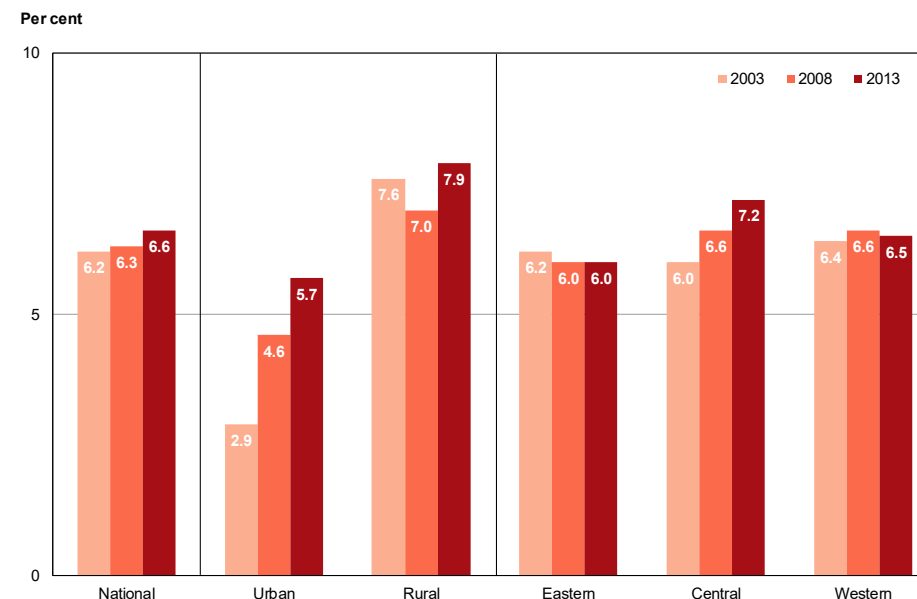


Source: National Health Commission (formerly the National Health and Family Planning Commission), National Health Services Survey, 2013

**Figure 3.28**

There are clear differences in the choice of health care provider among the richest, poorest and middle quintiles of the population. The richest quintile tends to favour provincial and city-level health facilities, which offer the most comprehensive care. In China, community-level clinics tend to offer health care at a lower price. As such, the poorest quintile is more likely than the middle or upper quintiles to use health care providers at the local level, where the quality of care they receive is relatively poor. Data in the chart also show that over half of inpatients chose county-level hospitals in 2013.

**Figure 3.29**  
Percentage of households with catastrophic  
health expenses, 2003, 2008 and 2013



Sources: National Health Commission (formerly the National Health and Family Planning Commission), National Health Services Survey, 2003, 2008 and 2013

**Figure 3.29**

According to NHSS data, during the 2003–2013 period, about 6.2 per cent to 6.6 per cent of households had catastrophic health expenses every year, which is defined as household expenditure on health exceeding 40 per cent of its income. Households in rural areas and western and central provinces were more likely to have catastrophic health expenses. Relatedly, households in rural areas and western and central provinces reported higher rates of self-discharge from hospital for financial reasons, and these households normally spent a higher portion of their income on health.<sup>36</sup>

**Figure 3.30**  
**Ratios of the poorest and the richest quintile for selected indicators, 2003, 2008 and 2013**

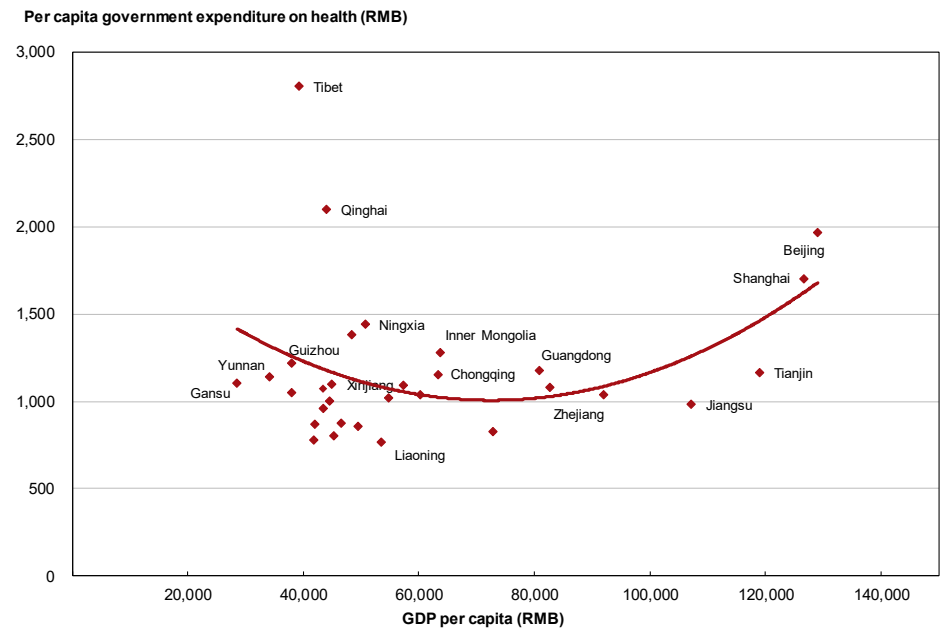
	2003	2008	2013
Antenatal care coverage (at least five visits)	0.72	0.90	0.88
Hospital delivery rate	0.87	0.95	0.98
Health insurance coverage	0.58	0.93	0.98
Outpatient utilization rate	0.88	0.92	1.14
Inpatient reimbursement rate	0.35	0.85	0.92
Proportion of households with catastrophic health expenses	3.79	4.72	5.34

Sources: National Health Commission (formerly the National Health and Family Planning Commission), National Health Services Survey, 2003, 2008 and 2013

**Figure 3.30**

Dramatic progress has been achieved for the first five indicators listed in this table, as seen by the narrowing gap between the poorest and richest quintiles. However, the gap between the highest quintile and the lowest quintile in catastrophic health expenses is still growing. In 2013, households from the poorest quintile were five times as likely as those from the richest quintile to experience catastrophic health expenses.

**Figure 3.31**  
**Per capita government expenditure on health and per capita GDP, by province, 2017**

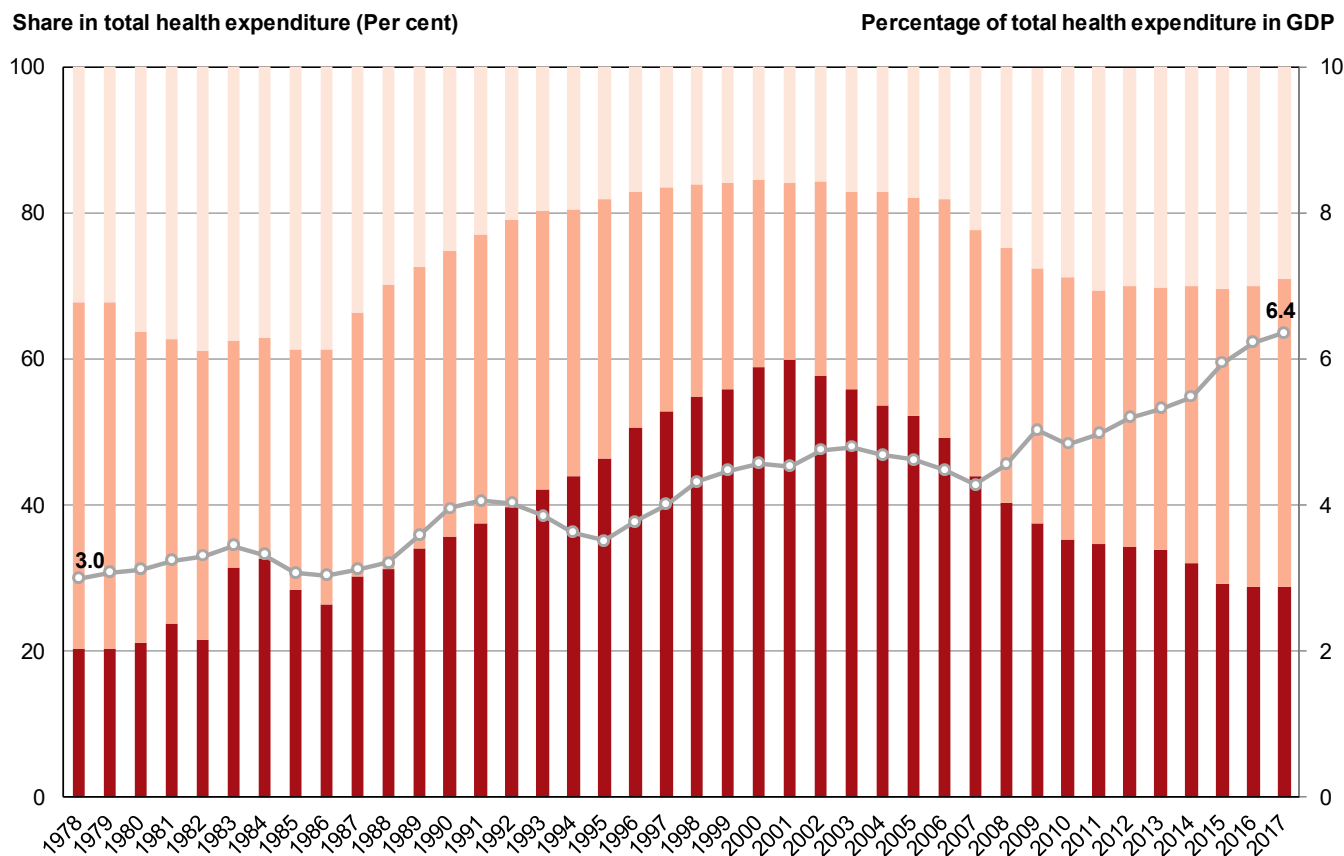


Source: National Bureau of Statistics, *China Statistical Yearbook*, 2018

**Figure 3.31**

Plotting the provinces by their respective per capita spending on health care and per capita GDP reveals a general pattern in which eastern provinces spent more on health than western provinces. However, the relationship is not linear. Some western provinces with a low GDP per capita may have similar levels of per capita expenditure on health care as some eastern provinces.

**Figure 3.32**  
**Government, social and out-of-pocket expenditure on health, 1978–2017**



Source: National Health Commission, *China Health Statistical Yearbook*, 2018

**Figure 3.32**  
 Over the past four decades, China has seen its total health spending increase from about 3.0 per cent to 6.4 per cent of its GDP in 2017. This increase was driven almost entirely by out-of-pocket expenditure until the mid-2000s. In recent years, the out-of-pocket share had decreased to 28.8 per cent in 2017. China aims to offer citizens better financial protection in health, by increasing the share of government health expenditure and reducing the share of out-of-pocket expenditure to around 28 per cent by 2020, a target set in the *Health China 2030 Plan*.

- Share of government health expenditure in total health expenditure
- Share of social health expenditure in total health expenditure
- Share of out-of-pocket expenditure in total health expenditure
- Percentage of total health expenditure in GDP

## Maternal and Child Health

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- <sup>6</sup> National Health Commission (formerly the National Health and Family Planning Commission), *Analysis Report of the 2013 National Health Services Survey in China*, 2015.
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- <sup>10</sup> National Health Commission (formerly the National Health and Family Planning Commission), UNICEF China, China CDC, *Strategy for the Survival and Development of Children Aged 0–6 in China: From evidence to action*, 2017.
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- <sup>15</sup> **The New Rural Cooperative Medical Scheme (RCMS)**, initiated under the principle of fundraising from multiple sources (with contributions from individuals, collective units and government at various levels) and voluntary participation of farmers, aims to improve rural health insurance through major support for farmers' in-patient hospital costs and assistance for certain out-patient medical expenses. Pilot trials of RCMS began in selected areas in 2003 before it was progressively scaled up in China (National Health Commission (formerly the Ministry of Health), 'Suggestion on Establishing Rural Cooperative Medical Scheme', 2003).
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<sup>20</sup> National Health Commission (formerly the National Health and Family Planning Commission), UNICEF China, China CDC, *Strategy for the Survival and Development of Children Aged 0–6 in China: From evidence to action*, 2017.

<sup>21</sup> National Health Commission, *China Health Statistical Yearbook*, 2018.

<sup>22</sup> WHO, *The World Health Report*, 2012.

<sup>23</sup> National Bureau of Statistics, *Poverty Monitoring Report of Rural China*, 2017.

<sup>24</sup> **Under-five mortality rate** – Probability of dying between birth and exactly 5 years of age, expressed per thousand live births (UNPD).

<sup>25</sup> **Infant mortality rate** – Probability of dying between birth and exactly 1 year of age, expressed per thousand live births (UNSD).

<sup>26</sup> **Neonatal mortality rate** – Probability of dying during the first 28 completed days of life, expressed per thousand live births (UNSD).

<sup>27</sup> ZHU Jun, et al., 'Sociodemographic and Obstetric Characteristics of Stillbirths in China: A census of nearly 4 million health facility births between 2012 and 2014', *Lancet Global Health*, vol. 4, 2016, pp. 109–118.

<sup>28</sup> **Maternal mortality ratio** – Annual number of deaths of women from pregnancy-related causes per 100,000 live births (UNSD).

<sup>29</sup> National Health Commission (formerly the National Health and Family Planning Commission), UNICEF China, China CDC, *Strategy for the Survival and Development of Children Aged 0–6 in China: From evidence to action*, 2017.

<sup>30</sup> WHO, *WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience*, 2016.

<sup>31</sup> **Births attended by skilled health personnel** – Percentage of live births attended by skilled health personnel (doctors, nurses or midwives) (WHO).

<sup>32</sup> MENG Qun, et al., 'Trends in Access to Health Services and Financial Protection in China between 2003 and 2011: A cross-sectional study', *The Lancet*, vol. 379, no. 9818, 2012, pp. 805–814.

<sup>33</sup> After the implementation of integrated PMTCT of HIV, syphilis and hepatitis B, screening for and management of pregnant women with syphilis infection was rapidly expanded. The proportion of pregnant women with syphilis infection receiving treatment increased from 48.0 per cent in 2011 to 68.1 per cent in 2014. The increasing trend in the number of congenital syphilis cases identified was reversed and continued to decline. In 2014, 9,252 congenital syphilis cases were reported, with an incidence rate of 61.6 per 100,000 live births, which was a 22 per cent decrease from 2011. Aside from routine immunization, hepatitis B immunoglobulin is provided for free to newborns of mothers tested positive for hepatitis B surface antigen (HBsAg) within 24 hours of birth. Results of the Seroepidemiologic Survey of Hepatitis B Virus Infections in 2014 showed that the carriage rate of HBsAg among children aged 1–4 years declined from 0.96 per cent in 2006 to 0.32 per cent in 2014 (National Health Commission (formerly the National Health and Family Planning Commission), 'China National Programme for Prevention of Mother-to-Child Transmission of HIV, Syphilis and Hepatitis B – Progress Report', 2015).

<sup>34</sup> China CDC, 'Update on the AIDS/STD Epidemic in China in December 2016', *China Journal of AIDS and STD*, vol. 23, no. 2, 2017, p. 93.

<sup>35</sup> **Number of physicians per 1,000 population** – Ratio of total number of physicians working in the country to the total population, expressed per 1,000 population (WHO).

<sup>36</sup> MENG Qun, et al., 'Trends in Access to Health Services and Financial Protection in China between 2003 and 2011: A cross-sectional study', *The Lancet*, vol. 379, no. 9818, 2012, pp. 805–814.