

China: Policy and Practice of MCH Since the Early 1990s

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Abstract Since the socioeconomic reforms in China in the late 1970s the improvement of maternal and child health (MCH), which was once considered one of the great achievements of China after 1949, has slowed and some indicators show that the situation in some regions, especially in rural areas, is getting worse instead of better. This article will focus on policy and policy-related issues in the delivery of MCH services. It will cover historical changes in policy and their effects, especially in the financing of MCH. In addition, it will also touch upon new practices of MCH in the new cooperative medical scheme (NCMS) in present-day rural China.

Keywords Maternal and child healthcare · Health policy and practice · China · New cooperative medical schemes

Introduction

China made great progress in maternal and child health (MCH) in the years following the 1949 revolution. However, the progress has slowed recently and some indicators of MCH have been declining.

This article will focus on policy and policy-related issues of MCH in China. It will cover policy development and its effects, MCH financing, especially of the services in rural health of China and the new cooperative medical schemes (NCMS), which is the new system of rural health insurance being implemented since the collapse of the “barefoot doctors” movement in the 1980s, following introduction of the new economic reforms. It is important to note that current implementation of NCMS is not uniform throughout the current pilot areas, though there is some policy consistency.

We collected data from the following major sources including: the Chinese Periodical CNKI Digital Library (<http://www.cnki.net>), the largest Chinese literature database, covering almost all formal Chinese periodicals published in China; and Baidu (<http://www.baidu.com>) and Google (<http://www.google.com>) search engines. Key words used in the search included “healthcare”, “MCH”, “NCMS”, “maternal mortality” and “infant mortality”. We also browsed the official website of the Ministry of Health (MOH) of China (<http://www.MOH.gov.cn>).

We first describe the current situation of MCH to identify the reasons and barriers that have delayed continuous improvement. We then describe the development of MCH policy that reflects the government’s policy orientation. We also introduce some major national and international programs focusing on MCH. Practices related to MCH in the NCMS are also introduced. Possible policy recommendations that can enhance MCH services in China conclude this article.

His current research interests are focused on health management and policy, especially for rural health reform in China.

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Current Situation of MCH

Compared to other developing countries in transition, China has made major achievements in MCH. In 2003 the infant mortality was 25.5/1000 live births and maternal mortality was 51.3 per 100,000 live births. Compared to 1991 figures, there is a significant decrease in these two indicators. Infant mortality has decreased by 24.7/1000 (49.2%) live births and the maternal mortality has decreased by 28.7 per 100,000 live births (35.9%).

These achievements are generally attributed to widespread health system practices such as perinatal healthcare, systematic management of high-risk pregnant women, encouragement of hospital delivery and women's disease screening programs [1–4].

However, despite these achievements, new problems have recently emerged, which can be summarized as following:

Regional Disparity

According to the National Report on Children Development Status 2003/04, in 2003 China had 29 million citizens living under the absolute poverty line, accounting for 3.1% of its total population; 50% of them in Western China [5]. The differences in health indicators are more obvious. The maternal mortality in the remote Western region was 5.8 times as high as that of the affluent Eastern coastal region. At the same time, infant mortality in western China was 4.4 times as high as that of the Eastern coastal areas [6–8].

In 2006 in Shanghai, a highly developed and very large city in China, maternal mortality and infant mortality were 10.79 per 100,000 live births and 3.78/1000 live births, respectively [9]. These health indicators approach or even

outdo levels of some developed countries such as USA and Netherlands [10]. In the meantime, the infant mortality and maternal mortality rates in some Western regions of China are between two and four times higher than those of their Eastern coastal counterparts. Maternal mortality has remained above 100 per 100,000 live births in Tibet Autonomous Region (AR), and Qinghai, Xinjiang (AR), Guizhou and Gansu provinces [6, 11].

Urban–Rural Difference

According to data from the MOH (See Tables 1 and 2) MCH has different outcome patterns in urban and rural areas in China. In 1990, maternal mortality was 88.9 per 100,000 live births for the whole nation, while it was 45.9 per 100,000 live births for the urban population and 112.5 per 100,000 live births in rural areas. The ratio of urban to rural maternal mortality is 1:2.45. During all of the 1990s, maternal mortality has continuously decreased and the gap between urban and rural narrowed as well. The ratio has reached its lowest of 1:1.76 in 1994. Thereafter, however, these indicators in urban areas have continued to decrease while those in the rural regions have stagnated or gotten even worse, which results in widening gap between urban and rural areas. In 1998, maternal mortality for the whole nation decreased to 56.2 per 100,000 live births while the ratio between urban and rural increased to 1:2.59.

Therefore, the ratio of urban to rural maternal mortality at first experienced a decrease and then an increase, mainly caused by stagnation of maternal mortality rates in the rural population [12]. Urban–rural differences are obvious and other authors also identify worsening maternal and infant mortality in rural areas, which influences the improvement of MCH at national level [13].

Table 1 Infant mortality (per thousand live births) 1991–2003

Year	1991	1992	1993	1994	1995	1997	1998	1999	2000	2001	2002	2003
Urban	17.3	18.4	15.9	15.5	14.2	13.1	13.5	11.9	11.8	13.6	12.2	11.3
Rural	58.0	53.2	50.0	45.6	41.6	37.7	37.7	38.2	37.0	33.8	33.1	28.7
National	50.2	46.7	43.6	39.9	36.4	33.1	33.2	33.3	32.2	30.0	29.2	25.5

Data source: State Council [14]; National Statistics Bureau [15]

Table 2 Maternal mortality (per 100,000 live births) 1990–2003

Year	1990	1991	1992	1993	1994	1995	1997	1998	1999	2000	2001	2002	2003
Urban	45.9	46.3	42.7	38.5	44.1	39.2	38.3	28.6	26.2	29.3	33.1	22.3	27.6
Rural	112.5	100.0	97.9	85.1	77.5	76.0	80.4	74.1	79.7	69.6	61.9	58.2	65.4
National	88.9	80.0	76.5	67.3	64.8	61.9	63.6	56.2	58.7	53.4	50.2	43.2	51.3

Data source: State Council [14]; National Statistics Bureau [15]

Table 3 Important legislation related to MCH care in China

Name of legislation	Date issued
1. Planning for Child Development in the 1990s	Feb. 1992
2. Law for MCH in the People's Republic of China	Oct. 1994
3. Planning for Women's Development, 1995–2000	Aug. 1995
4. Planning for Children's Development, 1995–2000	May 2001
5. Planning for Women's Development, 1995–2000	May 2001
6. Guidelines for Implementation of Law for MCH in People's Republic of China	Jan. 2001
7. Suggestions to Establish the New Cooperative Medical Schemes (Chinese State Council)	Jan. 2003

Infant mortality data also show the same pattern. Infant mortality in 2003 was 25.5/1000 live births for the whole nation, and 11.3/1000 and 28.7/1000 live births for the urban and rural population, respectively (see Table 1).

Therefore, it can be clearly recognized that the problem in MCH lies in rural areas, a factor which can affect health improvement for the whole nation as at least 80% of China's population is rural. A greater effort therefore must be made to strengthen rural healthcare.

The Progress of Policy Related to MCH

Societies worldwide put continuous efforts into improving MCH in the 1990s, and many important agreements were reached during this period such as the "World Declaration on the Survival, Protection and Development of Children in the 1990s" and the "Plan of Action for Implementing the World Declaration on the Survival, Protection and Development of Children in the 1990s" [16], and then the Millennium Development Goals were embraced [17].

In line with domestic and international requirements, the Chinese government put forth legislation and planning related to MCH [18]. Such important legislation and planning are documented in Table 3.

These regulatory documents roughly reflect the evolution of policy development related to MCH in China. They are significant in that they show the priority given by government to improve MCH, in that they: clarify the direction of MCH in the future; strengthen efforts to improve MCH; emphasize the combination of clinical services along with primary healthcare; consolidate a focus on human development; and set principles of serving people and preventive-care through public health policies [19]. This policy development parallels the improvements in MCH service and status.

Wang [20], head of the Department of MCH of MOH, gives an official explanation of the role of the 2001 Law of MCH. Its enactment clearly shows that government has

acknowledged the population's right to MCH and its commitment to provide it, and it strengthens the orientation to remote and relatively less developed regions.

Barriers to MCH Improvement

Insufficient Input to Healthcare

As a large transitional country, China's economic development is relatively unbalanced among its different areas with the urban and Eastern areas benefiting much more than rural and Western areas. Also, MCH has been under-financed for a long time, which has made it lag far behind economic development [21, 22].

Low Quality in Health Human Resources

Personnel in MCH fields have also been relatively poorly qualified compared with other healthcare areas. Also, many MCH facilities and institutions are under-equipped, unable to meet the increasing demand for their services [4, 19, 23].

Unbalanced Development Among Areas

China is a very large and highly populous country. Its rural population accounts for more than 80% of the total, recently over 1.3 billion. Appropriate health infrastructure in rural areas is lacking. The average education in rural areas is also poor, people often have wrong ideas about health and traditional customs predominate, such as a preference for home delivery, all leading to poor health outcome. These factors together help explain the large differences between urban and rural areas [6, 24].

Lack of Government Awareness

Since 1978 the Chinese government has put more emphasis on economic development and healthcare and other social service reforms have lagged behind. The new economic structures of the 1980s brought great damage to health sector through the collapse of collective farms and the concomitant disappearance of the barefoot doctor oriented CMS, which had its whole structure based on that of the collective farm. Until most recently, awareness or concern of the country's leaders to the state of rural healthcare was shallow. Some authors argue that this awareness is the leading factor in determining the development of healthcare in China [25]. In the long period during the economic reforms since the late 1970s, the government neglected the

construction and improvement of especially the rural healthcare system. For many years, the health system has been separate from the economic system, leading to a serious lack of resources, which weakened its stability. Many doctors and nurses have left rural areas and the health system in general to now run businesses for profit [26].

Uncertainties

Health reform is now a high profile topic in China and the government has been reshaping its rural health system [27]. It is trying desperately to reestablish a new CMS, but positive results are slow in coming, mainly due to a serious lack of financial input. Currently, in China, public health expenditure only accounts for 2.0% of its GDP [28]. If MCH is included in the reestablished NCMS, it will greatly improve. If not, MCH may be further harmed in rural areas. However, there is no compulsive requirement for MCH service to be covered by the NCMS [29–31]. So, the impact of the NCMS on MCH is still uncertain.

Financing Options of MCH

Up to now, three main options concerning MCH have been present in China: public health services; special MCH fund; and MCH services in combination with family planning services, which are well established in almost all areas of the country by the Commission of Population and Family Planning (formerly called the State Family Planning Commission). A more detailed description of these three options follows:

Public Health Service

MCH had been included in public health services for a long time. But the whole public health system has been underfunded ever since the economic reforms in the late 1970s [32]. The situation for MCH is even worse because of its disadvantaged position within this system.

Around the late 1980s, fee-for-service and high co-payments were introduced into the public health system to try to solve the issue of under investment [33]. Financing for MCH, therefore, came from two major sources: public financial allocation and fees collected for services provided. In poor areas, there are two additional sources: county level anti-poverty funds and special funds allocated to MCH projects such as from the ‘Reducing pregnancy-related deaths and eliminating tetanus infection of newborn babies’ program

Table 4 Number of MCH institutions at different financial status in different regions (2002)

Financial status	At surplus	At balance	In deficit	Total
Eastern	24 (57.1%)	4 (9.5%)	14 (33.4%)	42
Central	27 (49.1%)	6 (10.9%)	22 (40.0%)	55
Western	34 (57.6%)	3 (5.1%)	22 (37.3%)	59
Total	85 (54.5%)	13 (8.3%)	58 (37.2%)	156

($\chi^2 = 1.9965$, $P = 0.7364$) Data source: Zhang et al. [34]

(R–E Project). However, such mechanisms have not been able to solve the problems arising from under investment.

In 2003, the Ministry of Health of China carried out a survey on the financial status of MCH institutions at county or district levels [34], and sampled 156 counties and districts all over China. Some of the results are shown in Tables 4 and 5.

Table 4 shows that more than one third of the MCH institutions in investigated counties are running in deficits and the differences among regions and among financial status are statistically insignificant.

Table 5 shows that MCH services at county or district levels rely heavily on fees collected for services, which accounts for over 80% of total revenues.

Healthcare facilities in general are now relying more and more on fee-for-service income. Such a pattern is not as desirable as its recommenders such as the World Bank [35] expected it to be. Furthermore, such a pattern also contradicts the ‘public interest’ principle of the Chinese public health system [36] and resulted in many adverse effects, mostly stemming from the lack of access to the healthcare system by more and more people [37].

MCH Funding Policy

With the decrease of government financial allocation to public health services, special MCH-funding policies have been widely suggested by experts and tried in some rural areas [38]. They can be divided into two major categories:

Table 5 Financial revenues for MCH services averaged by county in different regions (2002)

Revenues (1,000 RMB)	Public financial allocation	Special fund	Fee-for-service income	Total
Eastern	603 (8.8%)	370 (5.4%)	5,864 (85.8%)	6,838
Central	346 (19.0%)	31 (1.7%)	1,444 (79.3%)	1,820
Western	446 (24.1%)	41 (2.2%)	1,366 (73.7%)	1,853
Average per facilities	453 (14.2%)	12.6 (4.0%)	2,604 (81.8%)	3,184

Calculated from data of Zhang et al. [34]

one is linked to anti-poverty programs; and the other is based on individual contributions.

Some counties in China have carried out a comprehensive MCH intervention (as part of the World Bank financed Health Project VI) linked to anti-poverty programs. Each selected county is required (by the project) to set aside a special fund to help poor families access free MCH services or directly give subsidies to MCH service users. The objective of the fund is to improve the equity of healthcare service and decrease maternal and under-five deaths.

An evaluation of the special MCH fund programs has been conducted in provinces of Jiangxi, Guangxi (AR), Yunnan, Sichuan and Chongqing, where the trial program was implemented. As required by the project, the average fund-raising target was about 0.1 RMB per capita (currently, US\$ 1 roughly equals 7.6 RMB), but the actual fund acquired only about 10% of the requirement [39]. It concludes that such a program has limited effect in improving MCH; it cannot solve the problem of insufficient financial resources [39].

The individual contribution fund is based on money collected from individuals and has been widely used in relatively affluent regions. Chen et al. [40] report that individual contributions to the insurance fund pool vary greatly between 3 RMB and 22 RMB per participant. Eighty percent of the fund is allocated to curative services, 10% to preventive-care, 5% to a risk fund, 3% to a reserve fund and 2% to management costs. Two thirds of the preventive fund is used to cover perinatal care, children's systematic management and immunization. All perinatal care was free in this scheme.

While such an individual contribution strategy may be achieving some success in affluent regions, it will not be applicable to poor rural areas because individuals there are unable to afford such contributions, even though they are relatively very low.

Integration with Family Planning Services

A third option for solving the financial issues of MCH is to integrate it with already present and usually well developed family planning services. In China, family planning has been a policy priority for over 30 years and has demonstrated great impact.

The family planning system provides reproductive health services which generally overlap with MCH. The integration of MCH with family planning services is quite feasible and preferred by some top officials; there has been a lot of discussion and some local governments even tried it. However, no national regulation has been enacted on this issue [41, 42], though such integration would allocate

public finances more efficiently and avoid waste and duplication [43].

Therefore, many different financing options coexist in China and there is no clear evidence to judge which is superior. Such a situation will, unfortunately, exist for a long time.

Some Influential Programs Related to MCH in China

The improvement of MCH in China cannot be separated from direct or indirect international involvement. The Chinese government has made a commitment to improve MCH [44] and has been willing to encourage international involvement in health improvement programs. Here are some examples of recent influential programs.

Strengthening the MCH and Family Planning at Grassroots Level (MCH/FP) Program

An international cooperative program, with financial support from UNICEF and UNFPA, this program is implemented by the Chinese government in poor rural areas, covering 300 poor counties and more than 120 million persons since 1990. WHO is also involved [44].

The program focuses on strengthening service capacity levels of MCH services especially at the grass-roots level. The major activities include: awareness development of government officials; establishment of a management system which is headed by governors of provinces or counties; technical training which has now reached 240,000 village doctors; providing basic equipment, which has now reached 95.8 and 95.1% at the township and village levels, respectively; and scientific management including strict program supervision [18, 44–46].

After 6 years of program implementation significant change has been achieved in the targeted regions [45]. The maternal mortality rate was lowered by 55% from 202.4 to 91.6 per 100,000 live births. Maternal mortality from hemorrhage after delivery, which causes the most pregnancy-related deaths, was reduced by 48.6% from 90.9 to 46.7 per 100,000 live births. Under-five mortality has declined by 54.3% from 84.4 to 38.6/1000 live births, and infant mortality by 56.4% from 69.0 to 30.1/1000 live births. In addition, service capacity has been enhanced significantly. The average number of health professionals with education above secondary technical school has gone up from 5.8 to 25.7% at county level MCH facilities, from 1.9 to 3.0% at township levels and from 2.0 to 2.9% at village levels. Work conditions and equipment have also improved greatly [46].

Such activities will definitely make the MCH services better. The measures taken in this program have been comprehensive, though their positive effects cannot be attributed to any particular factor.

The Comprehensive MCH Project

This project, also known as Health VI program (1995–2002), is a comprehensive maternal health program funded by World Bank loans [47]. Its objective is to improve the capacity of service provision and increase utilization of health services at MCH institutions in poor areas. The final measurable outcomes include the decrease of the maternal mortality and incidence of diseases for children under five. The total project cost is estimated at about US\$139 million, of which US\$90 million (65%) was from the World Bank and the rest provided by the Chinese government.

Of the 879 counties in the seven provinces of Gansu, Guangxi, Jiangxi, Qinghai, Shaanxi, Sichuan and Yunnan, one municipal city of Chongqing Municipality and one autonomous region (AR) of Inner Mongolia, the project covers 282 (32%) of counties that are the most economically disadvantaged [48]. It is estimated to have benefited 100 million people among whom are nearly 20 million women of childbearing age [47].

Key activities included: project management; health education; training of MCH staff; poverty relief fund for medical services; and operational research.

The major achievements obtained from the project can be summarized as: support from government officials, which means the success of carrying out the program is defined as part of their responsibilities; multi-sectoral coordination and cooperation; consolidation and completion of a three-tiered MCH service network; allocation of match funds from governments; technical training; supervision and inspection; a poverty relief fund for medical assistance; operational research to provide ongoing scientific evidence for the implementation of the project; and remarkably strengthened project management [47].

Concrete implementation was different in different counties, though a special program office was usually set up at the counties of the program to manage and deal with affairs, and a comprehensive intervention package was defined, which usually contained technical training, healthcare infrastructure construction, and service quality surveillance [49].

After the implementation in some selected counties, the most obvious achievement was that access to maternal health at village level increased, in light of various identified problems [48, 50].

The R–E Project

The R–E project is aimed at reducing maternal mortality and eliminating tetanus infection of newborn babies. It has been recognized as the biggest investment in a single MCH project by the Chinese government. Total investment was 200 million RMB for year 2000–2001. This project was also related to the Strategy of Developing the Western Region of China. The first selected counties come from provinces of Gansu, Guizhou, Hunan, Jiangxi, Qinghai, Sichuan, Yunnan, and Chongqing (Municipal City), and Inner Mongolia (AR), Ningxia (AR), Tibet (AR), and Xinjiang (AR), all located in western China.

The strategies for this program emphasized systematic management of pregnant women. It required each pregnant woman to get perinatal care and give birth at a health institution at least above township level. The program also strengthened health education to help people accept new ideas about good health habits and healthy life styles.

Some results [51, 52] show that the program achieved great success in terms of enhanced MCH services. From 378 counties' statistics, maternal mortality decreased by 28.79% and the incidence of tetanus infection of newborn babies decreased by 55%.

The Central government ultimately decided to enlarge the project to cover 1,000 counties and the investment by both the Central and local governments doubled.

Yunnan Mother and Child Health Project

This is bilateral project funded by Canadian International Development Agency (CIDA), which applied results-based management to address problems such as poverty, lack of equipment, and shortage of trained personnel for carrying out mother and child health activities at the country level [53]. The total budget is \$6 million over 5 years (1996–2001).

Its goal is 'to improve the quality of village life and to promote the development of productivity and social prosperity in poor, ethnic minority counties in Yunnan Province'. And its purposes are: 'to improve the quality, accessibility, and timely availability of essential services for priority MCH problems; to support MCH staff and village doctors in instituting and maintaining dynamic relationships with rural women, village midwives, and other groups; and to better educate MCH trainers and trainees regarding the needs and priorities of rural women and children' [54].

The participatory and consultative approach is applied during the project design and implementation. The design team from the University of Ottawa Faculty of Health Services recommended that the project focus on strengthening

grassroots service delivery by improving the quality of village doctors through better training, training more female village doctors, providing better equipment, as well as targeting poor rural women for MCH education. A comprehensive training strategy that emphasized participatory, learner-centered approaches was developed. Key stakeholders, mainly other agencies working in the same region, were identified and recommendations about how best to coordinate efforts with them were made [54].

All in all, these programs had several common features including: government's deep and wide involvement; huge investment; and comprehensive intervention measures. Therefore, explaining the success, in terms of particular programs, is very difficult and complicated.

New Cooperative Medical Systems (NCMS)

In the 1960s the original CMS began in the form of "Barefoot doctors". These doctors were selected from young educated members of the community or medicine background families and normally received a half-year of professional training. They were equipped with basic drugs. They also took part in collective productive work [55]. Barefoot doctors played an important role in improving the health of the rural population and promoting agricultural production. It met the health demands of most peasants before the economic reforms. Such a system helped the Chinese to greatly improve their health with low resource input [56]. The barefoot doctor model became internationally renowned in public health and health development circles, and served as an inspiration for the World Health Organization's Primary Health Care initiative [57–60].

The collective farm system collapsed in most rural areas of China after the economic reforms and CMS lost its support and withered. Most of the rural population was then left with no or very limited access to health services. Poverty caused by catastrophic diseases happened frequently especially in poor rural areas, and bad health services became an obvious obstacle to socioeconomic development [56, 61]. In 1997, the Chinese government decided to establish a new CMS for the rural population [62], but implementation has been slow.

The principles for organizing the NCMS can be summarized as: (1) government accountability to organize and management it; (2) voluntary participation of farmers which means individuals have the right to decide take part in it or not; (3) multiple sources of funding, including financial contributions from individual farmers, collective organizations and governments; and (4) a risk-pooled fund for serious illnesses. The detailed requirements of the NCMS were put forth by the State Council [63].

The establishment of NCMS may provide a good opportunity for the improvement of MCH. According to the MOH, most rural pregnancy-related deaths happen on the way to hospitals or during home deliveries. Therefore, in order to decrease pregnancy-related deaths, MCH must be included in the NCMS. This will not likely impose a great burden upon the new system because hospital deliveries account for only 6% of the total NCMS fund [64].

The NCMS is currently a high government priority. It yet remains to have been seen if China can implement a rural health system to meet the needs of its majority population.

Policy Implications for Further Study

More Health and Financial Resources Directed to Poor Rural Areas

Poor health performance is always linked to bad conditions; the poorer the area, the worse the MCH. Due to unbalanced development among areas in China, it is very difficult for people to get adequate health services, especially in western China. Therefore, the Chinese government should allocate more resources to help poor areas build stronger capacity to carry out health system development including MCH/NCMS.

The barriers to improving MCH are usually intertwined. Poor health is often linked to poor quality of healthcare services. Poor quality of healthcare services is usually linked to inadequate health human resources, poor infrastructure and lack of appropriate financial inputs. Poor health is also linked to some traditional customs. All these factors together generally result in bad health system performance and poor health outcomes.

Willingness of Local Government to Participate

Judging by previous successful health intervention experiences, governments at all levels need to take active and constructive roles. Though the awareness of the importance of MCH by the government is increasing, its public expenditure on health expenditure is still very low, at just 2.0% of its GDP and less than almost all countries in the world [28]. Such low input cannot assure the commitment of 'Health by All' or the achievement of the Millennium Development Goals.

Another concern is about the consistency of policy. As stated previously, selected counties in special programs got great financial input and MCH improved. However, these programs usually lasted for only several years. What about the sustainability of MCH after these programs? Therefore,

it is very important for the government to keep policy consistent with continuous improvement of MCH [65].

The experience of previous successful programs indicates that senior officials need to be involved as the principal leaders of the programs, thereby assisting with collaboration among different government departments. Therefore, in order to obtain further achievements in MCH, the government officials must assume their responsibility in improving MCH.

Comprehensive Intervention Measures Designed for Better Results

From the experiences of successful programs in China, the intervention measures suggested and tried are always comprehensive strategies including technical support, manpower training, and health education and community mobilization and participation [66]. No one special measure is seen to dominate. The mechanisms of success are complicated and strategies must include comprehensive and multisectoral interventions and development measures with strong community and government support.

Integration with Family Planning Services

In addition, we propose that the integration of family planning with MCH services would bring favorable changes to both programs but there are still issues to be solved. First, there would be a need to rearrange the administrative architecture because these two systems follow different organizational lines within the Chinese government. There would likely be resistance from each. Secondly, the qualifications of both systems' staff are very low at the grass-roots level, especially in poor areas. A solution would be to deal with this issue by providing more on-site training. Some projects have already tried this strategy to enhance the service capacity of local health institutions [67] and there are new initiatives being planned to increase the skill set of family planning workers, including strategies of e-Learning [68]. Ultimately, there is still much work to do to realize such integration.

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