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An evaluation of the policy on community health organizations in China: Will the priority of new healthcare reform in China be a success?

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ABSTRACT

Objectives: The objective of this paper is to assess historical and recent health reform efforts in China. We provide a brief history of the Chinese healthcare system since 1949 as context for the current healthcare; examine the factors that led to recent efforts to reestablish community-based care in China; and identify the challenges associated with attaining a sustainable and quality community healthcare system.
Methods: Based on literature review and publicly available data in China, the paper will present a historical case study analysis of health policy change of CHOs in China and provide policy evaluation, and the paper provided policy suggestions.
Results: We find that the government's recent efforts to emphasize the significance of community healthcare services in China have started to change patterns of healthcare use, but many problems still inhibit the development of CHOs, including unsustainable governmental roles, issues of human resource inadequacy and laggard GP practice, poorly designed payment schemes, patient's trust crisis and continue to inhibit the development of community-based primary care.
Conclusions: Additional policy efforts to help CHOs' development are needed. Recent government investments in public health and primary care alone are not sufficient and could not be sustainable. It will not until long-term self-sustaining mechanisms to relieve an omnipotent government are established, including competent community doctors (GP) system, supportive social insurance reimbursement, appropriate financial incentives to providers, better transparency and accountability, as well as a more regulated referral system, a legitimate, sustainable and quality community health system could be attained.

1. Introduction

For several years, China has been engaged in the process of reforming its healthcare system. A new healthcare reform plan, enacted by State Council of China, was released to the public in April 2009. A central feature of the reform plan was a call for the development of community health organizations (CHOs) and establishment of a stronger public health and primary care system. Despite regular efforts to expand them, development of CHOs in China has been erratic. Since the late 1970s, great changes in the healthcare system, along with other social–political and economic changes, have inhibited development of CHOs.

In this paper, we review the history of health policy change in China, with a particular focus on the evolving role of community-based primary care. We evaluate the

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feasibility of current plans to enhance the role of primary care in the Chinese system and suggest changes that may facilitate these efforts.

2. Framework for the analysis

We begin by reviewing the importance of community-based primary care for health outcomes and the performance of healthcare systems. The concept of primary care has received little attention in the Chinese language health policy literature, but we draw on large body of English language literature to review the importance of community-based primary care. Next, we review key government decisions designed to encourage the development of community-based primary care organizations in China, assess the current status of implementation, and evaluate whether China's current healthcare reform goals and implementation are likely to succeed.

3. Primary care and health system performance

The concept of primary care has a long history. In 1920, the Dawson Report in the UK argued that primary care is core element of any healthcare system. More recently, Starfield [1] developed a comprehensive definition of primary care. According to Starfield:

> Primary care is the means by which the two goals of health service system – optimization of health and equity in distributing resources – are balanced. It is the basic level of care provided equally to everyone. It addresses the most common problems in the community by providing preventive, curative, and rehabilitative services to maximize health and well-being. It integrates care when more than one health problem exists, and deals with the context in which illness exists and influences people's responses to their health problems. It is care that organized and rationalized the deployment of all resources, basic as well as specialized, directed at promoting, maintain, and improving health [p. 1365].

A large body of research concludes that primary care is crucial to the goals of equity and efficiency in healthcare [2]. An effective system of primary care can mediate the effects of other health determinants, reduce preventable deaths and improve the coordination and continuity of care in a health system [3–6]. The Commonwealth Fund asserts that greater reliance on primary care is one of the distinguishing characteristics of "high-performing" health systems [7].

A host of empirical studies provides evidence that primary care improves access to preventive healthcare services, reduces avoidable hospitalizations and improves overall health status and reduces health disparities. For example, the 2004 National Healthcare Disparities Report in the U.S. claimed that people receiving care in community health centers receive more of the indicated preventive services than the general population [8]. The supply of primary care providers is also correlated with higher life expectancy at birth and lower infant mortality [25], lower mortality from all causes [9,10], lower disease-specific mortality (Campbell et al.), lower rates of avoidable mortality ([11], lower rates of avoidable hospital conditions [12], and higher self-reported health status [6]. Furthermore, the number of primary care physicians per capita appears to reduce the adverse effects of income inequality on all-cause mortality, heart disease mortality, and cancer mortality [13,14]. The strength of the international evidence, the 2002 SARS outbreak, and more general dissatisfaction with the performance of its healthcare system encouraged the Chinese government to make primary care a central focus of its recent healthcare reform efforts. In the next section of the paper, we provide a brief overview of the events that set the context for the current reform debate.

4. Evolution of the Chinese healthcare system since 1949–2003: a brief overview

The last several decades have witnessed dramatic political, economic and socio-cultural changes in China. These changes influenced evolution of the country's healthcare system. Since 1949, the Chinese healthcare system has experienced three reform phases: (1) the equality-oriented approach during the planned economy phase; (2) the market-oriented approach from late 1980s until the SARS outbreak in 2003; and (3) the new healthcare reform efforts since that time, characterized by a desire to balance equality and efficiency. Although there was some development of public health and primary care during China's planned economy, community-based primary care organizations have always been one of the most under-developed and vulnerable components of the healthcare system.

Planning economy and first-level-hospital-based community healthcare: In the first phase (1949–1979), first-level hospitals (or basic hospitals)[1] functioned as community-based primary care organizations. There were two types of first-level hospitals during this period: government-owned and state-enterprises-owned ones. Government owned basic hospitals were fully subsidized by the level of government with which they were affiliated. This group was open to the general public, enforced welfare pricing (lower than marginal cost) and received full compensation from government. While hospitals owned by state enterprises were financed by Labor Medical Service system,[2] state-enterprise owned hospitals were only opened to the enterprises' employees and their families. During planned economy, these two categories of first level medical institutions played a significant role in providing primary care and public health services for local neighborhoods in urban China [15].

Before 1978, first level hospitals enjoyed social and political support. The Chinese government emphasized the

[1] According to traditional classification of medical institutions in China, there are three levels of hospitals: first level hospitals provide basic health care services to a community territory or an organization; second level hospitals are comprehensive hospitals with specialist services, but are relatively small scale; the third level hospitals (or the top level ones) are large scale comprehensive hospitals. It was not until the 1990s that the concept "community healthcare" was adopted in China. Today, the basic level has been re-named "community level" hospital to reflect this change.

[2] One of the two medical financing systems that were running in planned economy of urban China. The two systems are Free Medical Service for civil servants and Labor Medical Service for industrial employees.

guarantee of basic health services and use of cost-effective preventive approaches to deliver care to the population. The government had three primary goals for the health system: equality; prevention; and integration of Chinese traditional and western medicine. As a major component of the national comprehensive welfare network, healthcare services received financial subsidy from government.

The first level hospitals were the initial point of contact with the healthcare system for most people and they were responsible for addressing most basic health issues. Physicians usually served a defined group of patients, resulting in close physician–patient relationships. This facilitated information exchange, health monitoring, patient education, and reasonably coordinated care.

At the same time, use of traditional Chinese medicine helped to contain costs. Traditional Chinese medicines were usually less expensive and easy to attain. Traditional diagnostic techniques, treatment methods such as acupuncture, as well as some compounds that Chinese herbal medicine contain, were considered to be cost-effective. Despite the poor economic conditions and limited government investment in health resources, first level hospitals provided equitable access to primary healthcare. Along with government subsidies that helped to make care affordable for most citizens, first level hospitals contributed to the improved health status of the Chinese people. From the early 1950s until the end of 1970s, many fatal communicable epidemic diseases such as plague, cholera and smallpox were eliminated, and mortality rate of some disease such as diphtheria were kept at a low level. Life expectancy increased from 35 in the 1940s to 67.8 in 1981, and infant mortality decreased from 200% to 37.6% [16].

Economic reform and the healthcare *system*: The collapse of planned economy, and introduction of market mechanisms into healthcare system after 1978, undermined the economic and social foundation of the first level hospitals and diverted their original function within the healthcare system. The government reduced its subsidy to state-owned first-level hospitals, which were forced to become more self-reliant. State-owned enterprises withdrew from providing public health and primary healthcare services because of insufficient revenue. A number of first-level hospitals went bankrupt and those that survived turned to profitable medical services rather than emphasizing primary care and prevention. Between 1997 and 2001, the healthcare system saw an increase in higher level hospitals, which emphasize specialty care and high-tech services, but a large decrease in first level hospitals. Data from State Ministry of Health showed that number of basic level hospitals declined by 2892 from 51,535 in 1997 to 48,643 in 2001. During the same four-year time period, second and top level hospitals increased by 405 from 10,789 to 11,194 (Health Development Report in China between 1997 and 2001) [24]. Reforms since the early 1980s that separated local government's budgeting from that of central government further undermined investment in public health and primary and preventive care. Because local governments tend to emphasize economic development goals, they tend to place less emphasis on health than did the national government. Public health services became fee-for-service items and government's investment in public health declined significantly. The percentage of the government's health budget dedicated to public health declined from 12.4% in 1980 to 9.1% in 1990.

Local government revenue as a percentage of first-level hospitals' total budgets shrank from about 50% in the early 1990s to 42% by 2002. This created significant financial hardship for first-level hospitals and further reduced their willingness and ability to provide socially beneficial public goods, such as immunization. To maximize profits, all first-level hospitals focused narrowly on increasing revenue rather than focus on broader healthcare system goals.

According to the Chinese Ministry of Health, the availability of preventive services was half its expected level by the early 1990s [16]. The differences in public health investment among regions were also dramatic. In 2001, spending on prevention and immunization per capita in Shanghai was 13.27 yuan compared with only 1.97 yuan in Chongqing.

SARS and a renewed interest in community healthcare: As a result of these changes, first-level hospitals became symbols of low-quality service and doctors serving in these institutions were regarded as less competent or professional than those working in larger hospitals [17]. The flaws in this system were exposed in 2002 during the Severe Acute Respiratory Syndrome (SARS) crisis.

Near the end of 2002, China faced a massive outbreak of SARS. Starting in the Guangdong Province in November 2002, SARS spread to Hong Kong, other provinces in China, and around the world. More than 5000 people were infected in China by the end of 2003 and 349 people died from the disease. Although the government initially denied the problem, its magnitude made it impossible for the government to ignore [18]. The SARS disaster led to the dismissal of the Health Minister and underscored the weaknesses of the existing public health and health system [19]. The alarm reinvigorated government and public attention to the need, not only for greater investment in public health infrastructure [20], but also in basic healthcare and prevention at community level.

China and the international system: Along with the SARS disaster of 2003, the WHO, 2000 international ranking of healthcare systems also generated renewed interest in the development of community-based primary care in China. According to the WHO, China's healthcare system ranked 188 out of 191 countries with regard to equity. This finding generated widespread discussion among Chinese officials, scholars and that public. The consensus in China was that this poor ranking was due largely to weak primary healthcare and prevention at the basic level. The poor ranking and subsequent public criticisms of the healthcare system spurred government action.

5. Policy evaluation: latest development and challenges

Recent years have witnessed greater attention to community-based primary healthcare by the Chinese government. During a State Council executive meeting, officials discussed and approved the plan to develop urban community health services ([21] State Council Guidance on Development Urban Community Health Services, also

known as State No. 10 Document, 2006). This was the first official document enacted specifically to encourage the development of community-based primary care. In this document, the Chinese government provided a definition of community health services:

> The community healthcare is the services that are affordable, accessible and equal to everyone and focus on primary care, integrating preventive, curative and rehabilitative services as well as Planned Parenthood and healthcare knowledge propagandizing for community members, aiming at promoting, maintaining and improving health" (Cited in State Council Guidance on Development Urban Community Health Services [State No. 10 Document, 2006]).

The State Council report called for three key policies to assist development of community-based primary care organizations. First, it created a standard definition of these organizations. Second, it specified criteria for the geographic distribution of, and resource allocation for community-based primary care organizations. Specifically, there should be one community health center for every 10,000 persons. Third, the report stated that governments of all levels should adopt policies to restructure first level hospitals as community health organizations. Finally, it highlighted development objectives for community-based primary care organizations.

The State Council document also called for addressing inequality and cost by: (1) strengthening community healthcare; (2) establishing a division of tasks between medical institutions and preventive institutions and; (3) adopting measures to coordinate care among these institutions, especially use of two-way referral between large hospitals and primary care.

The State Council urged local governments to establish a stable investment system for community-based primary care services. The central government allocated some funds toward building of these organizations western China, which is economically worse-off than the rest of the country. Pilot community-based primary care organizations were started in some selected cities. This pilot program had created three community health centers and 20 smaller "community health stations" throughout China. Two of these additional organizations were funded by businesses and three were supported by charity organizations. The others were all financed entirely by government [15].

Since 2007, restoring community-based primary care in China has been an important goal of health reform. The effort to reduce costs, improve efficiency, and improve access to care began with the adoption and implementation of the new health reform policy. By the end of 2007, the State Council established a working group involving 16 ministries. The working group solicited health reform plans from academics and international consulting groups. It then drafted an initial report that was subject to an active one-month public comment period and release of a final document.

In the final healthcare report enacted in 2009, the State Council highlighted the importance of developing community-based primary care recognized the fundamental role of these organizations for urban health systems. Despite the stated interest in community-based primary care, the new plan did not include a significant investment in the development of a primary care workforce, nor did it include a large increase in public funding for community-based primary care organizations. Without these changes, the development of a high quality system of primary care has been slow. Most patients remain skeptical of these organizations and rely on larger multi-specialty hospitals for their primary care. Nevertheless, the renewed interest and government support for primary care appear to have had some influence. National data show that the number of patients receiving care at community-based primary care organizations increased by 54% in 2007 compared to 2006, and increased by another 35% in 2008 (Ministry of health, Yearbook of Chinese Health statistics, Ministry of health, 2009).

New policies provide incentives for the public to go to community hospitals mainly through increasing the reimbursement rate of social medical insurance for community-based primary care and by eliminating the mark-up rate of drugs in sold by first level hospitals. The government plans to increase the subsidies available to community-based primary care organizations. If these subsidies are enacted, they could enhance the capacity of these organizations and encourage more patients use them.

Despite this modest success, a number of important barriers remain. Most importantly, the government needs to invest in developing the nation's primary care infrastructure. By the end of 2008, only 57% of communities in China had a community-based primary care organization. Financial incentives and encouragement from government officials are insufficient when more than 40% of the population does not have convenient access to a primary care center (Yearbook of Chinese Health statistics, Ministry of health, 2009).

Governing and Financing: As we mentioned above, most community-based primary care organizations in China are government-owned and operated. As government organizations, they do not have autonomy or flexibility with regard to governing arrangements. They are subject to government administration in terms of staffing, basic salary, and leadership appointments. This inflexibility undermines efficiency and makes it difficult to respond effectively to local conditions. Along with greater administrative flexibility, these centers need greater subsidies from the government, particularly for public health interventions that are unlikely to make a profit for these centers. Despite the announcements made in State Council report, government subsidies are still so limited that these centers have to survive by generating other sources of revenue. Specifically, there is still a heavy reliance on pharmaceutical revenue, leading to high costs and inappropriate treatment. Official data showed that 70–80% of the revenue for community-based primary care organizations in 2007 was from pharmaceutical mark-ups [22]. Of their five major sources of revenue: (1) out of pocket payments from patients; (2) profit from pharmaceutical mark-up; (3) health insurance reimbursement; (4) central or local government subsidies; (5) donations from other social groups, government subsidies only accounted for 9.6% of total revenue in 2007. Out of pocket payments, in contrast,

generated 89% of revenue—and social insurance generated about 1.5% (Yearbook of Chinese Health statistics, Ministry of health, 2009).

It is clear that current financing of community-based primary care in China is not consistent with the stated objectives of government. The new healthcare reform plan may elevate the status of these organizations, but without adequate funding, the long-term success of this effort is dubious. Because of limited funding most community-based primary care organizations are still reluctant to provide "unprofitable" public health services. Health education and promotion had almost disappeared during the past several decades. Instead of serving as a gate-keeper for community health, most community-based primary care organizations still act like small-scale hospitals. Rather than serving as complementary components of the healthcare system, as they do in many western healthcare systems, these organizations compete with larger hospitals in China for providers and patients. Unfortunately, they are at a competitive disadvantage because the long history of inferior care at first level hospitals discourages patients from using these centers. This exacerbates their financial problems and further discourages investments in public health and primary care. This is a spiral that the government has not yet reversed.

Health personnel, education and incentives: Well trained health professionals are essential for high quality care. Unfortunately, most general practitioners in China lack additional training after graduation from medical school. Most medical school graduates in China compete to join large hospitals, where their career opportunities and working environment are superior to those offered by community-based primary care organizations. In large hospitals of China, doctors not only receive higher salaries, they also enjoy a greater reputation and opportunities for career development. Thus, it is understandable that medical students are less motivated to engage in community health services. This creates a vicious cycle in China because lower ability of community physician reduces number of patients who are willing to receive care at these centers, which in turn undermined willingness of competent physicians to work in community-based primary care. Generally, the only doctors willing to work in these organizations are those with lower levels of education who cannot secure a position with a larger hospital. This pattern has undermined patient trust on these organizations and the physicians who choose to work in them. General practice as a discipline is newly developed in China, with limited students and educational experience. In addition to stabilizing the funding base for primary care, the government should invest in expanding education and training opportunities in this field (Table 1).

Inappropriate sources of primary care: In China, there has been a long-standing paradox that most patients would rather go directly to large hospitals, even for minor ailments like the common cold, even though they must endure long waits and higher prices. This has produced tremendous overcrowding in large hospitals. In 2008, there were three times as many visits to large hospitals than to community-based primary care organizations (Yearbook of Chinese Health statistics, Ministry of health, 2009).

Table 1
Comparison of different kinds of health professionals in community health organizations and hospitals according to academic degrees in the year 2005 (%).

	Total		Assistant physician		Physician		Nursing		Pharmacist		Laboratory personnel/ examination personnel		Administrative personnel	
	CHOs	Hospitals	CHOs	Hospitals	CHOs	Hospitals	CHOs	Hospitals	CHOs	Hospitals	CHOs	Hospitals	CHOs	Hospitals
Ph.D.	0.0	0.5	0.0	1.2	0.0	1.4	–	–	–	0.0	–	0.1	–	0.1
Master	0.1	1.9	0.2	4.3	0.3	4.8	0.0	0.0	0.0	0.3	0.1	0.8	0.5	0.9
Bachelor	12.0	20.3	21.7	41.6	24.9	45.1	1.1	3.2	3.9	9.1	5.7	11.1	13.5	17.4
Junior college	30.6	31.4	38.6	32.2	39.6	30.8	22.6	31.8	21.7	27.1	27.6	34.1	38.5	36.7
Medical secondary school	45.9	38.3	31.6	17.6	28.8	15.3	67.0	57.7	47.2	42.3	53.0	43.7	25.3	22.2
high school	5.8	4.9	4.0	1.8	3.5	1.6	4.7	4.7	13.9	14.1	7.9	7.3	13.4	15.5
Middle school	5.5	2.7	3.9	1.2	2.8	1.1	4.6	2.7	13.2	7.0	5.8	2.9	8.9	7.1

Source: Yearbook of Health Statistics [26].

Although we do not have evidence that would allow us to assess appropriateness of large hospital visits, there is a strong consensus among medical and health policy experts that a substantial number of these patients could be treated more appropriately in primary care settings.

In addition to the limitations we described above, existing social insurance policies seemed to be slightly inconsistent with the policies in healthcare reform. For example, social insurance policies do not allow community-based primary care organizations to prescribe some of drugs included in the pharmaceutical reimbursement list. To receive these drugs, patients must go to a large hospital. Because availability of drugs is constrained in community-based settings, some patients may be discouraged from using them as a regular source of care. This reinforces the idea that community-based primary care organizations provide inferior quality care [23].

6. Conclusions and policy recommendations: toward sustainable and effective community health organizations

A well-functioning system of community-based primary care is a key to a sustainable, equitable and efficient healthcare system—and it is also a key to the success of the new healthcare reform in China. Restoring and improvement of community health in China will be an incremental process. The government has made it a priority of reform and formulated some encouraging policies, but the success of these policies will depend on their implementation and enforcement. However, some historical barriers and limits to existing policy continue to inhibit the implementation of the policies and improvement of community health. To overcome these barriers to establish a sustainable system of primary care, we propose several policy recommendations.

First, an under-investment will continue in public health and primary care services if healthcare organizations are forced to rely heavily on out of pocket payments as their primary source of revenue. The government should continuously enhance its support of community-based primary care, increasing the funding available to these organizations.

The second important policy goal is the development of general practice in China, both as a discipline in medical education, and an exclusive medical practice. To overcome the view that general practice is inferior to specialty care, it is important to provide education and training for GPs, enhance their opportunities for professional development and increase their salaries. General practice would also be enhanced if it established a professional association that would set standards for the professional and regulate its behavior. Although such an associate would benefit from government encouragement and support (perhaps through favorable tax status for the organization), providing it with independence would enhance its credibility.

Third, it would be helpful for the government to expand access to social insurance. Direct government investment in primary care is crucial, but expanding social insurance would provide a revenue base for community-based primary care organizations that currently does not exist. The government has taken some steps to increase the availability of social insurance and to increase reimbursement rates for community-based primary care, but efforts to date have been inadequate. The government should increase reimbursement rates, particularly for preventive services.

Fourth, as we discussed above, the government needs to do a better job of aligning the financial incentives of healthcare providers with the stated goals of health policy. Along these lines, it may be useful for the government to consider shifting away from traditional fee-for-service models and toward capitation and/or DRG payments. Although inadequate capitation payments are problematic, relying on fee-for-service has encouraged Chinese healthcare organizations to increase the number of services they provide, even if their patients do not benefit from these services.

Fifth, while some efforts have to be made to restore patients' trust on community-based primary care and GPs, a transparent medical information mechanism would facilitate this goal as would greater opportunities for patient participation. For example, it would be helpful if patients were given an opportunity to evaluate GP performance and provide feedback to the organizations for which they work.

Finally, the establishment of a two-way referral system that would encourage an exchange of patients between community-based care organizations and larger hospitals would enhance the performance of the entire system. At the moment, neither of these organizations has an incentive to cooperate with each other. Establishing this sort of collaboration may require government regulations or financial incentives.

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